

# Independent Technical Report for the Manfo Gold Project, Ghana

Report Prepared for

**Pelangio Exploration Inc.**



Report Prepared by



SRK Consulting (Canada) Inc.

3CP011.005



# Independent Technical Report for the Manfo Gold Project, Ghana

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Cover: View from rare outcrop in the Subriso concession looking east towards Pokukrom West.

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# Executive Summary

## Introduction

The Manfo Project is a resource delineation stage gold exploration project, located in Ghana approximately 270 kilometres northwest of Accra, capital of Ghana. Pelangio Exploration Inc. (“Pelangio”) acquired the Manfo Project during 2010.

In May 2011, Pelangio commissioned SRK Consulting (Canada) Inc. (“SRK”) to visit the property, review available geological and exploration data to assess its merit and to prepare an independent technical report in compliance with Canadian Securities Administrators National Instrument 43-101 Standards of Disclosure for Mineral Projects (“National Instrument 43-101”) and Form 43-101F1.

This technical report, prepared following National Instrument 43-101 and Form 43-101F1 guidelines, summarizes the technical information available on the Manfo Project and demonstrates that the project has advanced beyond an early stage exploration project. The project is sufficiently advanced to conclude that exploration work completed to date by Pelangio has defined economically interesting gold mineralization with reasonable continuity in three dimensions. Ongoing drilling by Pelangio is delineating the gold mineralization in anticipation of defining a mineral resource. In the opinion of SRK, this property has merit warranting additional exploration expenditures. Recommendations are outlined for an exploration program comprising interpretation of airborne geophysical data, systematic geochemical soil sampling and Induced Polarization geophysical surveys, delineation and exploration core drilling, and geological and mineral resource modelling.

In accordance with National Instrument 43-101 guidelines, Mr. Robert Blair Hrabí, M.Sc., P.Geo. (APGO#1723) visited the Manfo Project on May 6 to 9 and May 16 to 17, 2011 accompanied by representatives of Pelangio. 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 Pelangio staff.

## Property Description and Location

The Manfo Project comprises three contiguous Prospecting Licences (Subriso, Twabidi and Sempekrom) covering an aggregate area of approximately 100 square kilometres (northeast corner located at two degrees fifteen minutes longitude west and six degrees fifty-two minutes thirty-three seconds latitude north). The tenements are located approximately seventy-five kilometres west northwest of the city of Kumasi and approximately 270 kilometres northwest of Accra, the capital of Ghana.

Pelangio’s rights to the three concessions have been acquired through definitive option agreements dated September 3, 2010. Under the terms of the Option Agreements reviewed by SRK, Pelangio may earn a ninety percent interest (the Ghanaian Government retaining the statutory ten percent carried interest) subject to payments totalling US\$435,000 and expenditures of US\$2,000,000. The Optionor is also entitled to a discovery bonus of US\$1,000,000 and US\$1.00 per ounce of proven and probable gold reserve set out in the first positive feasibility study and a 2.5 percent net smelter return royalty subject to a 1.0 percent repurchase by Pelangio.

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

The Manfo Project is located in the Brong Ahafo and Ashanti regions of Ghana. It is located approximately seventy-five kilometres west northwest of the city of Kumasi and approximately 270 kilometres northwest of Accra, capital of Ghana. The property can be accessed by vehicle from Accra on primary all-weather paved roads for 340 kilometres to Tepa, a regional centre, and from Tepa on secondary all-weather paved roads for 16.5 kilometres and finally on laterite roads for an additional 8.5 kilometres to the concession. Road access on unpaved roads and tracks can be difficult during the rainy season.

A number of small villages are found in and adjacent to the concessions. Tapa, the closest administrative centre has a population of approximately 16,500 people. A skilled workforce is available in Ghana, travelling from such larger centres as Accra, Kumasi and Obuasi.

The climate of Ghana is tropical with distinct wet and dry seasons. Dry seasons are from November to February and, in the south, briefly in August. Rainy seasons are from March to July and September to November. Annual rainfall ranges from 700 to 2,100 millimetres and daytime high temperatures range from twenty-seven to thirty-seven degrees Celsius. The topography in the project area consists of irregular low hills separated by relatively wide valleys ranging between 190 and 280 metres above sea level. Vegetation in this part of Ghana is characterized by semi-deciduous jungle forest. 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.

## History

Prior to Pelangio's involvement in the properties, the owner and previous operators conducted a variety of exploration programs. Small scale artisanal mining operations are also found within and adjacent to the concessions. Modern gold exploration on the Manfo concessions was primarily conducted by three groups: Hebron Exploration and Mining Company Ltd. ("Hebron") starting in 1996, Ashanti Goldfields Company Ltd. ("Ashanti") and its successor AngloGold Ashanti Ltd. ("AngloGold Ashanti") between 2003 and 2005, and Newmont Ghana Gold Limited ("Newmont") between 2005 and 2008. Poorly documented exploration activities are also reported to have been undertaken by Goldfields Ghana Ltd. ("Goldfields") on the Twabidi concession.

Hebron conducted reconnaissance mapping, stream sediment, soil and rock chip sampling over a Reconnaissance Licence area that includes all of the current Subriso, Sempekrom and some of the Twabidi concession plus additional areas that lie outside the concessions. Ashanti and AngloGold Ashanti conducted extensive soil, termite mound and rock sampling over a prospecting licence that includes the same areas. In addition, they conducted extensive trenching and reverse circulation ("RC") drilling programs that were concentrated in the eastern part of the current Subriso concession. In addition to regional regolith mapping and aeromagnetic interpretation that included the concessions, Newmont conducted stream sediment sampling, ground geophysical, trenching and RC drilling programs in the Subriso and Twabidi concessions. Trenching and RC drilling were concentrated in the current eastern Subriso concession.

The historic exploration work resulted in a number of prospective target areas, namely the Nfante East, Nfante West, Pokukrom East, Pokukrom West, and Sikafremogya/Odumase areas. These form a northwest-trending array in the eastern half of the Subriso concession and were the targets for most of the trenching and RC drilling conducted by AngloGold Ashanti and Newmont.

## Geological Setting and Mineralization

The concessions are located in southwest Ghana, within the Sefwi-Bibiani Volcanic Belt and in proximity to the Ahafo and Chirano 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 is associated with the eruption of the Birimian metavolcanic rocks and the 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 Manfo Project is located along the eastern edge of the Paleoproterozoic Sefwi-Bibiani Belt. Along this contact the belt is dominated by basalt and dolerite, with lesser gabbro, tonalite and diorite. Within the project area, the Sefwi-Bibiani Belt is underlain primarily by mafic metavolcanics, metasediments, volcanoclastics and granitoid rocks. A major northeast trending fault corridor, approximately three kilometres wide, traverses the east side of the property. This fault corridor serves as the regional contact between the greenstone volcano-sedimentary package to the west and a regional synvolcanic intrusive to the east. The geochemical targets identified to date lie within this fault corridor.

Mineralization at the Manfo project is localized along the major northeast-striking fault zone. Alteration and gold mineralization are closely related to increasing strain within strands of this fault system. Gold is associated with wide zones of pervasive to fracture-controlled quartz-sericite-carbonate-pyrite alteration overprinting an earlier phase of hematite alteration hosted predominantly in sheared and locally brecciated, altered granitoid rocks and to a lesser extent brecciated hematite-altered mafic metavolcanic rocks. Observations from drill core suggest higher grade gold mineralization is related to quartz-pyrite veins, stockworks and fracture systems generated during relatively late episodes of deformation.

## Deposit Types

The Manfo project was acquired by Pelangio for its potential to contain shear zone hosted gold mineralization associated with granitoid intrusions similar to the Ahafo and Chirano mines in the Sefwi-Bibiani belt. 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. A smaller group of these deposits, like the Chirano and Ahafo mines in the Sefwi-Bibiani belt, are hosted largely in tonalitic intrusions and the adjacent country rock. The gold mineralization is associated with major northeast-to north northeast-striking, five to forty metres wide graphitic, chloritic and/or sericitic fault zones and commonly is marked by pervasive silica, albite, carbonate and sulphide hydrothermal alteration. Differences between the dominant alteration and sulphide assemblages may be related to the predominant wall rock assemblages with which the hydrothermal fluids equilibrated.

On a broad regional scale, later reactivation of northeast striking fault zones is 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. In many areas such as Obuasi, 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. At Chirano, hematite and pyrite are more strongly associated with gold mineralization and arsenopyrite is less common.

The exploration model for a deposit at Manfo is based on the geology of the Chirano gold mine owned by Kinross Gold Corp. (“Kinross”) on the south edge of the Sefwi-Bibiani Belt approximately fifty-six kilometres south southwest of the project area and on Newmont’s Ahafo gold mine on the north edge of the Sefwi-Bibiani Belt approximately twenty-four kilometres north northwest of the project area. In these deposits, gold mineralization is concentrated where felsic intrusive rocks have intruded the Birimian supracrustal rocks, during relatively late episodes of deformation along regional northwest- to north northwest-striking fault zones associated with regional-scale shortening.

## Exploration and Drilling

Since acquiring the Manfo Project, Pelangio has started a comprehensive exploration program. The initial phase of exploration was conducted as part of the due diligence process prior to signing the option agreement to acquire the property. This consisted of focussed trenching and soil sampling to confirm the presence of gold anomalies in soil and saprolite at the most significant target areas at Nfante East, Nfante West, Pokukrom East and Pokukrom West.

Having successfully confirmed significant gold anomalies in these target areas, an airborne magnetic-electromagnetic-radiometric survey was undertaken across most of the project area to provide the basis for an integrated lithological and structural interpretation and provide additional exploration targets. A stream sediment sampling program (190 samples) across all the concessions, as well as additional soil geochemistry (588 samples), rock chip sampling (50 samples), auger sampling (80 samples) and trenching (1,061 samples) was undertaken at previously identified gold anomalies.

As of the end of June, 2011, Pelangio had drilled and received assays for a total of fifty-eight diamond drill holes in two phases of drilling. The first phase of drilling was designed to confirm certain of the historical exploration results while the second phase was designed to follow-up on successful first phase drilling and to test new targets. The drill holes from both phases are distributed between the four target areas as follows:

- Nfante West - Fourteen holes (2773.98 metres);
- Nfante East - Two holes (347.00 metres);
- Pokukrom East - Twenty-four holes (3966.24 metres); and
- Pokukrom West - Sixteen holes (2536.68 metres) plus two step out holes (334.98 metres) 600 and 1200 metres northeast of the main target area, respectively.

## Sample Preparation, Analyses and Security

Stream and soil samples collected by Pelangio were submitted to SGS Laboratory Services (Ghana) Ltd. (“SGS”) in Tarkwa. The SGS Tarkwa laboratory is not accredited under recognized accreditation. It is part of the SGS Group of laboratories that operates under a global quality management system in accordance with ISO 17025 and participates in international proficiency testing programs such as those managed by Geostats Pty Ltd. Samples were picked up by laboratory staff who transported them to the lab where they were dried, pulverised and homogenised before being assayed for Bulk Leach Extractable Gold (“BLEG”) (SGS method code BLL61N).

Rock, auger, trench and drilling samples collected by Pelangio were predominantly submitted to the ALS Ghana Ltd (“ALS”) laboratory in Kumasi for preparation and assaying, with a minor number submitted to SGS in Tarkwa. The ALS Kumasi laboratory is also not accredited under recognized accreditation. It is part of the ALS Group of laboratories that operates under a global quality management system in accordance with ISO 17025 and also participates in international proficiency testing programs such as those managed by Geostats Pty Ltd. Samples were picked up by laboratory staff who transported them to the lab. All samples were assayed for gold using a conventional preparation and standard fire assaying procedure with atomic absorption spectroscopy finish (ALS method code Au-AA26 or 24).

Pelangio has implemented external quality assurance and quality control programs at the Manfo Project consisting of a series of certified standards, field blanks and field duplicates. The rate and consistency of these measures varied between the soil sampling, stream sediment sampling, auger sampling, trenching, and drilling programs. In addition, both labs have internal quality control measures consisting of preparation blanks, duplicates and certified standards.

SRK considers that the sampling approach used by Pelangio did not introduce a sampling bias. In the opinion of SRK, the sampling preparation, security and analytical procedures used by Pelangio personnel are consistent with generally accepted industry best practices and are therefore adequate.

## Data Verifications

Pelangio undertook due diligence partly in recognition of the lack of quality control data from previous exploration programs. Pelangio monitors the quality control data results returned from the laboratories and reanalyses any submissions that have serious and unexplained quality control failures. Pelangio has also conducted limited check assays on composite samples and select high grade samples. No umpire laboratory program is in place.

In accordance with National Instrument 43-101 guidelines, SRK visited the Manfo Project on May 6 to 9 and May 16 to 17, 2011. The purpose of the site visit was to inspect the property, interview Pelangio personnel, witness the extent of exploration work carried out by Pelangio and previous operators on the property, assess logistical aspects relating to conducting exploration work in the area and ascertain the geological setting of the project.

SRK collected a series of duplicate samples to run verification analyses which confirmed the presence of gold in reasonable agreement with the original analyses. SRK aggregated the analytical results for the control samples produced by Pelangio in 2010-2011 for further analysis on time series plots, bias charts, quantile-quantile and relative precision plots. In general, the performance of analytical quality control samples used by Pelangio was acceptable. SRK concludes that the primary laboratories used by Pelangio delivered reliable assay results that do not show evidence for bias.

## **Mineral Processing and Metallurgical Testing**

No mineral processing or metallurgical testing has been undertaken on the Manfo Project.

## **Mineral Resource Estimates**

There have been no Mineral Resources calculated on the Manfo Project.

## **Adjacent Properties**

No immediately adjacent properties are relevant to the Manfo Project

## **Other Relevant Data and Information**

There is no other relevant data available about the Manfo Project.

## **Interpretation and Conclusions**

The Manfo Project is a resource delineation stage gold exploration property located in southwest Ghana. The project area is underlain by Birimian-aged rocks of the Sefwi-Bibiani Belt and transected by major shear zones related to the Chirano and Bibiani shear zones. The property consists of three contiguous prospecting licences, specifically the Subriso, Twabidi and Sempekrom concessions, covering a total of approximately 100 square kilometres and valid until October 8, 2011 (Sempekrom) and June 2, 2012 (Subriso and Twabidi). Each is eligible for renewal, and the renewal in respect of Sempekrom has been submitted and is in process.

The property was acquired for its potential to host orogenic gold mineralization similar to that of other Birimian-age volcano-sedimentary sequences. Review of available information suggests that the Manfo concessions are underlain by geology considered similar to that occurring at the Chirano gold mine. The reader is cautioned that the occurrence of gold mineralization at the Chirano gold mine does not necessarily indicate that gold mineralization exists at the Manfo Project.

Reconnaissance exploration work, completed by several operators between 1996 and 2008, included reconnaissance scale mapping, rock chip sampling, termite mound sampling, stream sediment sampling, soil sampling over most of the concessions. This work identified the Nfante, Pokukrom and Sikafremogya/Odumase target areas. These target areas were more intensively explored by AngloGold Ashanti and Newmont by trenching and RC drilling, which confirmed the presence of gold mineralization in bedrock.

Pelangio undertook a short program of trenching and soil geochemistry to corroborate the historical exploration results that successfully confirmed the presence of significant gold anomalies at Nfante East, Nfante West and Pokukrom East. Pelangio followed this up with regional programs of stream sediment sampling, as well as soil sampling on the Odumase target area, limited drilling at Nfante East and significant drilling at Nfante West, Pokukrom West and Pokukrom East. The drilling program was particularly successful



at identifying and delineating gold mineralization in three dimensions at Nfante West, Pokukrom West and Pokukrom East.

At Pokukrom East, a zone in excess of 660 metres and to a depth of 200 metres with broad intervals of moderate grade (1.0 to 2.0 gpt gold) occurs with a narrower high grade zone (3.0 to 5.0 gpt gold) that has been identified along 400 metres of the strike length. At Pokukrom West, near surface gold mineralization in saprolite has been identified over a strike length of 100 metres and is open along strike. The zone has been traced in bedrock as higher grade mineralization with 8.0 to 9.0 metres width (core length) to a depth of 110 metres along an interpreted steeply east-dipping shear zone that is open at depth. At Nfante West, a zone of gold mineralization that remains open along strike and at depth has been identified along a strike length in excess of 280 metres with widths up to 77.0 metres.

The exploration program has been successful in delineating economically interesting mineralization with reasonable continuity in three dimensions in saprolite and bedrock. On this basis, SRK concludes that this is a gold exploration property of merit warranting additional exploration investments.

## Recommendations

In the opinion of SRK, the character of the Manfo Project is of sufficient merit to recommend an exploration program designed with two objectives. The first is to characterize the geological and structural setting of the entire property, and identify and prioritize gold exploration targets to be investigated by trenching and drilling. The second objective aims at completing the delineation of Nfante East, Nfante West, Pokukrom East and Pokukrom West by drilling to support geological modelling and mineral resource evaluation. To accomplish these goals, a two phase exploration program is recommended.

The proposed Phase 1 exploration program consists of ground geophysical and geochemical surveying (Figure 19) to complete the acquisition of reconnaissance data over the entire Manfo Project with the objective of identifying and prioritizing additional drilling targets along the main auriferous trend, and identifying additional exploration targets along a second northeast trend west of the current target areas. The proposed Phase 1 drilling program aims at completing the delineation of the gold mineralization at the Nfante West, Pokukrom East and Pokukrom West targets to support geological modelling and mineral resource evaluation. SRK estimates that the drilling program will require approximately sixty-four core boreholes (15,600 metres). SRK also recommends that Pelangio consider conducting initial metallurgical and ABA testing, and topographic surveying in preparation for an initial mineral evaluation as part of Phase 1. SRK expects that the proposed Phase 1 exploration program will conclude with the preparation of an initial mineral resource statement for the Manfo Project.

Assuming the results from Phase 1 are positive, SRK recommends a Phase 2 program that will involve mostly infill and step-out drilling on the Nfante East, Nfante West, Pokukrom East and Pokukrom West targets to a depth of 300 metres along sections spaced at twenty-five metres. SRK estimates that the program will require approximately 200 boreholes (42,900 metres). In addition, the proposed Phase 2 drilling program includes a provision for 16,000 metres of parametric drilling to investigate targets identified during Phase 1 elsewhere on the Manfo Project. SRK recommends that the Phase 2 work program includes acquisition of induced polarization data across a strike length of six kilometres (105 line kilometres) over a prospective trend west of the main auriferous trend. SRK further recommends as part of Phase 2 that Pelangio initiate certain engineering studies aimed at evaluating, at a conceptual level, the viability of an open pit mine at the Manfo Project.

The total costs for Phase 1 are estimated at approximately CN\$4.6 million, including corporate social responsibility and exploration camp costs and a ten percent contingency cost. The costs for the proposed Phase 2 program are estimated at approximately CN\$14.7 million, also including corporate social responsibility and exploration camp costs and a ten percent contingency cost.

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# 1 Introduction and Terms of Reference

The Manfo Project is a resource delineation stage gold exploration project located in Ghana approximately seventy-five kilometres east northeast of the city of Kumasi and approximately 270 kilometres northwest of Accra, capital of Ghana. Pelangio Exploration Inc. (“Pelangio”) acquired the property in 2010 through an option agreement that allows Pelangio to acquire a 100 percent interest in the property (subject to the ten percent Government Interest).

In May 2011, Pelangio commissioned SRK Consulting (Canada) Inc. (“SRK”) to visit the property, review available geological and exploration data to assess its merit and to prepare an independent technical report in compliance with Canadian Securities Administrators’ National Instrument 43-101 Standards of Disclosure for Mineral Properties (“National Instrument 43-101”) and Form 43-101F1. The services were rendered between May and October 2011.

This technical report summarizes the technical information available on the Manfo Project and demonstrates that the Manfo Project has progressed beyond an “Early Stage Exploration Property” as defined by National Instrument 43-101. The project is sufficiently advanced to conclude that exploration work completed to date by Pelangio has defined economically interesting gold mineralization with reasonable continuity in three dimensions. Ongoing drilling by Pelangio is delineating the gold mineralization in anticipation of defining a mineral resource. In the opinion of SRK, this property has merit warranting additional exploration expenditures. An exploration work program is recommended including comprehensive soil sampling, systematic Induced Polarization geophysics surveys, delineation core drilling, and geological and mineral resource modelling.

## 1.1 Scope of Work

The scope of work, as defined in a letter of engagement executed on May 2, 2011 between Pelangio and SRK involves a site visit to ascertain the merit of three prospecting licence areas comprising the Manfo Project in Ghana, and assuming merit, recommendations for a work program and preparation of an independent technical report in compliance with Canadian Securities Administrators’ National Instrument 43-101 and Form 43-101F1 guidelines. This work typically involves an assessment of the following components of a mineral project:

- Topography, landscape, access;
- Regional and local geology;
- History of exploration work in the area;
- Review of exploration work completed on the project; and
- Exploration potential and recommendations for additional work.

## 1.2 Work Program

This technical report is a collaborative effort between Pelangio and SRK personnel. The exploration database was compiled and maintained by Pelangio, and was audited by SRK.

This technical report was prepared following the guidelines of the Canadian Securities Administrators National Instrument 43-101 and Form 43-101F1, and in conformity with generally accepted CIM “Exploration Best Practices” guidelines.

The work program involved a personal inspection of the Manfo Project conducted in May 2011. The technical report was assembled in Toronto between the months of June and October, 2011.

### 1.3 Basis of Technical Report

This report is based on information collected by SRK during a site visit performed between May 6 and 20, 2011 and on additional information provided by Pelangio throughout the course of SRK's investigations. Other information was 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:

- Discussions with Pelangio personnel;
- Inspection of the Manfo Project area, including outcrop and drill core;
- Review of historical exploration work conducted in the area as documented in public domain data in Pelangio's possession;
- Review of exploration data collected by Pelangio; and
- Additional information from public domain sources.

### 1.4 Qualifications of SRK and SRK Team

The SRK Group comprises over 1,000 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 fact 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.

The compilation of this technical report was completed by Mr. Robert Blair Hrabí, M.Sc., P.Geo. (APGO#1723), under the supervision of Dr. Jean-François Couture, P.Geo. (APGO#0197). By virtue of his education, membership in a recognized professional association and relevant work experience, Mr. Hrabí is an independent Qualified Person as this term is defined by National Instrument 43-101. Additional contributions were provided by Ms. Zoe Demidjuk and Mr. Dominic Chartier, P.Geo. (OGQ#874), both full time employees of SRK. Ms. Dimidjuk and Mr. Chartier have not visited the property.

Dr. Jean-François Couture, P.Geo. (APGO#0197), a Corporate Consultant with SRK, reviewed drafts of this technical report prior to their delivery to Pelangio as per SRK internal quality management procedures. Dr. Couture did not visit the project.

### 1.5 Site Visit

In accordance with National Instrument 43-101 guidelines, Mr. Blair Hrabí visited the Manfo Project on May 6 to 9 and May 16 to 17, 2011 accompanied by Mr. Sam Torkornoo, Exploration Manager, Mr. Ben Pullinger, Senior Project Geologist, and Mr. Francis Duku, Manfo Project Geologist, representing Pelangio.

The purpose of the site visit was to inspect the exploration asset, witness the extent of the exploration work completed to date, ascertain the geological and structural setting of the area, review exploration

procedures, examine drill core, interview project personnel and collect all relevant information for the compilation of a technical report.

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

## 1.6 Acknowledgement

SRK would like to acknowledge the support and collaboration provided by Pelangio personnel for this assignment. Their collaboration was greatly appreciated and instrumental to the success of this project.

## 1.7 Declaration

SRK's opinion contained herein and effective **June 30, 2011**, is based on information collected by SRK 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 may include technical information that requires 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, its subsidiaries 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.



## 2 Reliance on Other Experts

SRK has not performed an independent verification of land title and tenure as summarized in Section 3 of this report. SRK did not verify the legality of any underlying agreement(s) that may exist concerning the permits or other agreement(s) between third parties, but have relied on the client's solicitors, REM Law Consultancy of Accra, Ghana in an opinion dated October 28, 2011 regarding the ownership status of the Manfo Project and the underlying agreements pertaining to the Option Agreements between Pelangio and Hebron Exploration and Mining Company Ltd. ("Hebron"). The reliance applies solely to the legal status of the rights disclosed in Sections 3.1 and 3.2, below. A copy of the opinion is presented in Appendix A.

SRK was informed by Pelangio that there are no known litigations potentially affecting the Manfo Project.

### 3 Property Description and Location

The Manfo Project consists of three contiguous mineral concessions (Sempekrom, Subriso and Twabidi) covering a total of approximately 100 square kilometres. The tenements are located in the Ashanti and Brong Ahafo regions of Ghana, approximately seventy-five kilometres west northwest of the city of Kumasi and approximately 270 kilometres northwest of Accra, capital of Ghana (Figure 1).



**Figure 1: Location Map.**

(All Maps Use WGS84 Datum and UTM Zone 30 N Projection Where UTM Coordinates are Indicated).

### 3.1 Mineral Tenure

The Manfo Project consists of three contiguous concessions initially granted to Hebron (Table 1). The concessions have each been granted as a Prospecting Licence (“PL”) by the Minerals Commission of the Republic of Ghana as indicated in Figure 2, overleaf.

By granting these licences, the Government of Ghana (“Government”) retains a ten percent carried interest in each property, free of all charges. This participation right will in no case be diluted. A PL is granted for a period not exceeding three years and may be renewed for a maximum of two terms or for further periods of up to three years each. The mineral rights do not include surface rights.

The Subriso Concession (LVB No. 5745/97, No.1731/1997) is located in the Brong Ahafo and Ashanti regions of Ghana and was initially granted as a Reconnaissance Licence (“RL”) covering 125.74 square kilometres located in the Brong Ahafo and Ashanti regions on July 31, 1995. After a one year renewal, it was converted to a Prospecting Licence (“PL”) on March 20, 1997.

The PL has been renewed several times since, with fifty percent of the original area shed off on July 12, 2001 leaving 78.38 square kilometres. A further fifty percent was shed off on October 5, 2005 retaining the current area of 37.68 square kilometres. The PL has a current expiry date of June 2, 2012, with a right to renewal.

The Twabidi No. 2 Concession (LVB No. 16209 /07, No. 55/2007), also referred to simply as the Twabidi Concession in many documents, is located in the Brong Ahafo and Ashanti regions of Ghana and was initially granted as a PL covering 41.00 square kilometres on June 4, 2007 for a two year period and has been renewed for two subsequent one year periods. The PL has a current PL expiry date of June 2, 2012, with a right to renewal.

The Sempekrom Concession (LVB No. 17398/08, No. 89/2008), also spelled as the Sempekurom Concession in some documents, is located in the Brong Ahafo and Ashanti regions of Ghana and was initially granted as a PL covering 41.42 square kilometres on June 27, 2008. It was initially granted for a two year period and was renewed on September 2, 2010 for a one year period. The PL has a current expiry date of October 8, 2011, and is currently in the process of being renewed.

**Table 1: Mineral Tenure Information.**

Concession Name	Concession Type	Concession Number	Registration Number	Ownership	Granted Date	Expiry Date	Area km <sup>2</sup>
Subriso	Prospecting	LVB No. 5745/97	No.1731/1997	Hebron Exploration and Mining Company Ltd.	20-Mar-97	02-Jun-12	37.68
Twabidi No. 2	Prospecting	LVB No. 16209/07	No. 55/2007	Hebron Exploration and Mining Company Ltd.	04-Jun-07	02-Jun-12	41.00
Sempekrom	Prospecting	LVB No. 17398/08	No. 89/2008	Hebron Exploration and Mining Company Ltd.	27-Jun-08	08-Oct-11	21.42
<b>Total</b>							<b>100.10</b>

The boundaries of each permit are defined by corner posts positioned according to geographic coordinates (in WGS84 Datum as submitted by Pelangio to the Ghana Minerals Commission) as indicated on the land tenure maps (Figure 3 to Figure 5). The boundaries of each permit are not physically marked on the ground, and have not been legally surveyed.

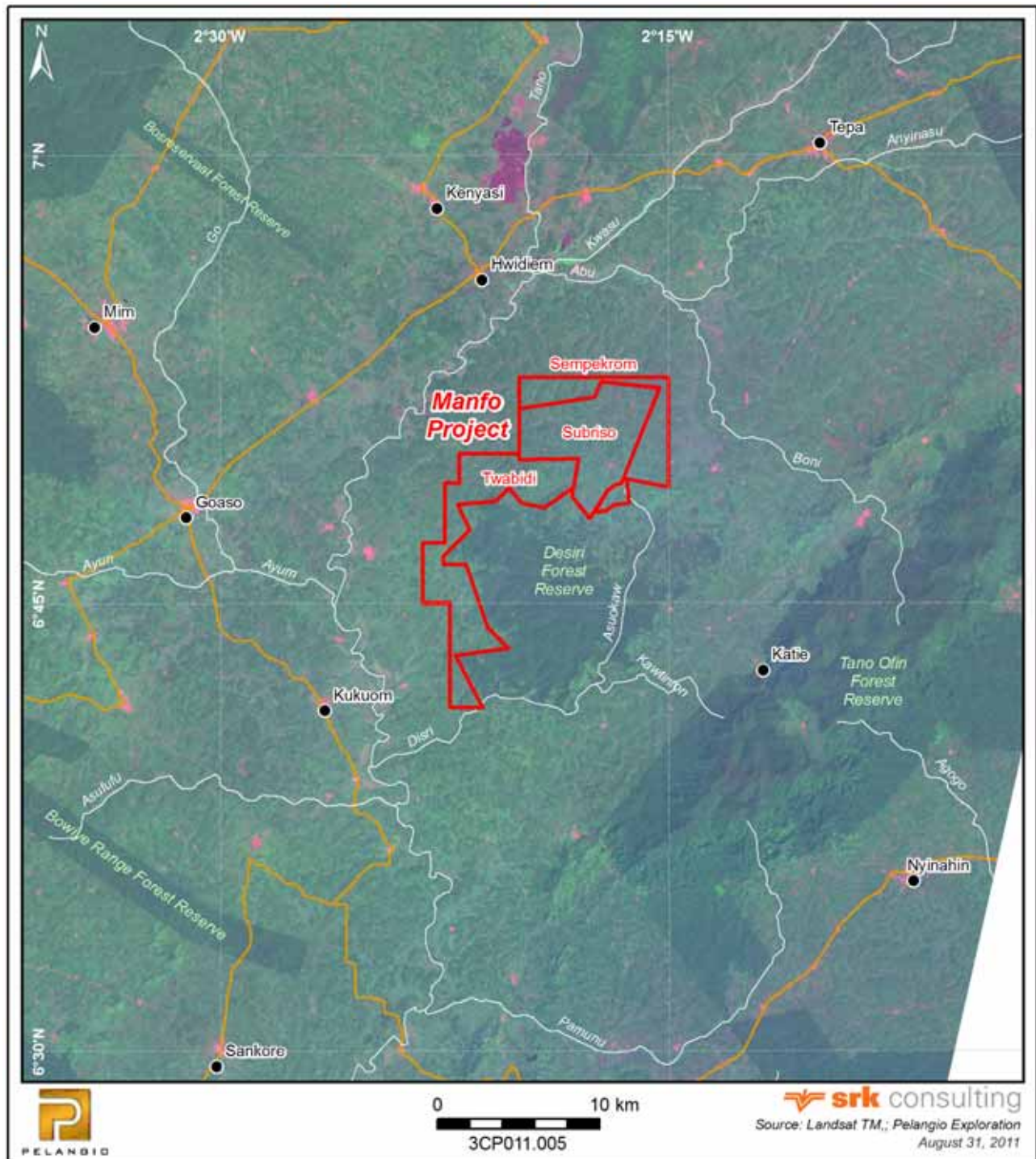
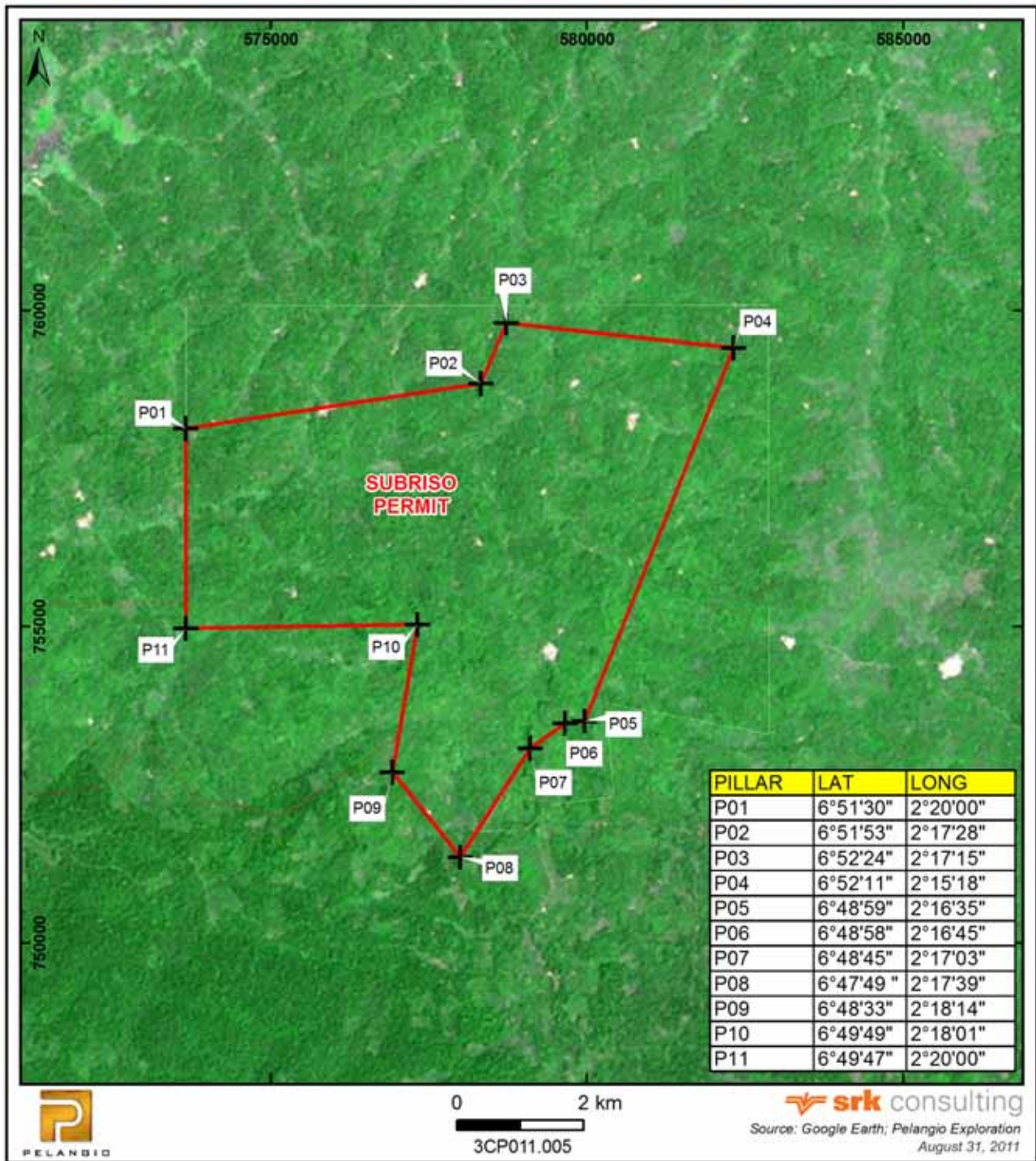
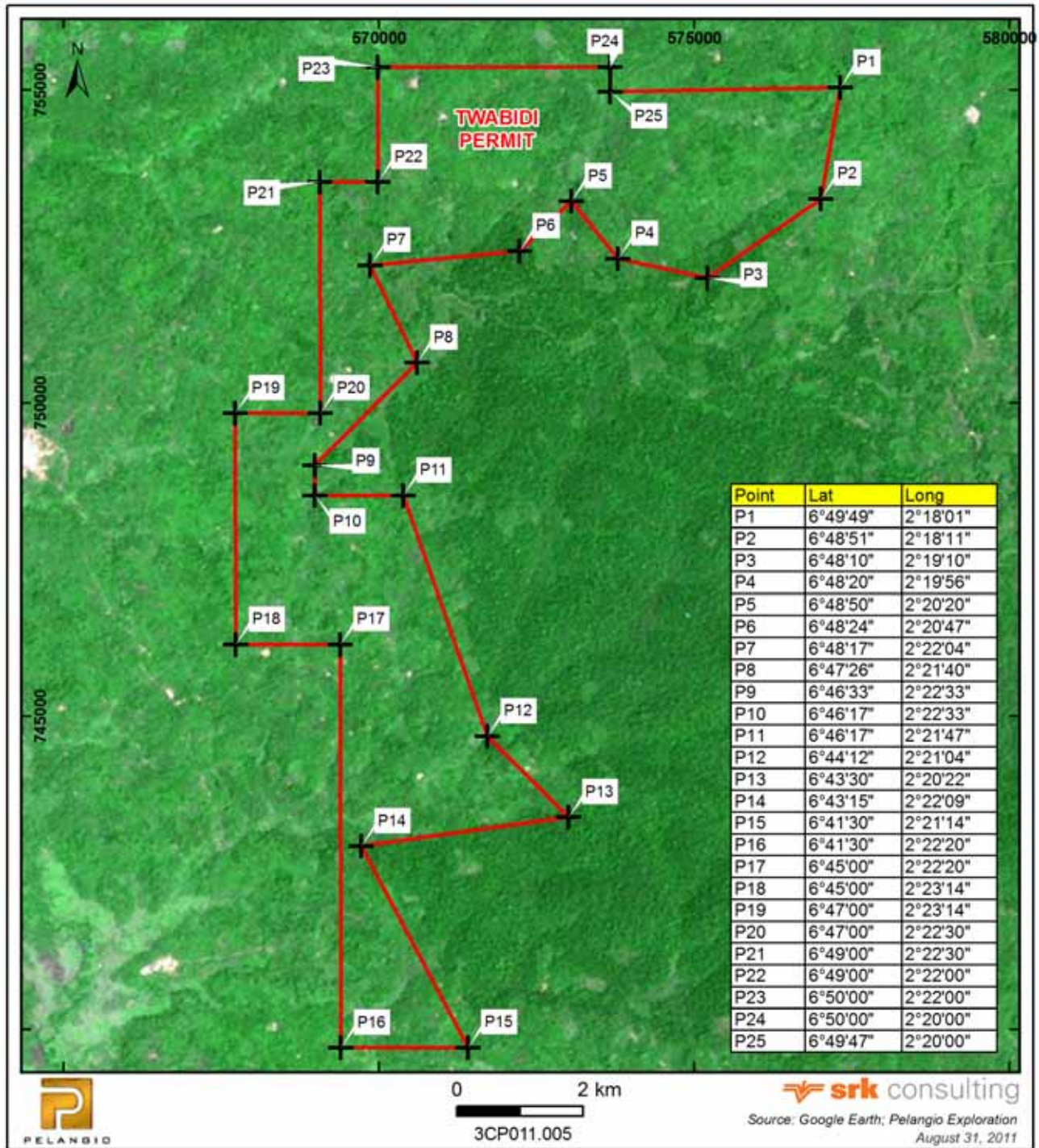


Figure 2: Land Tenure Map.



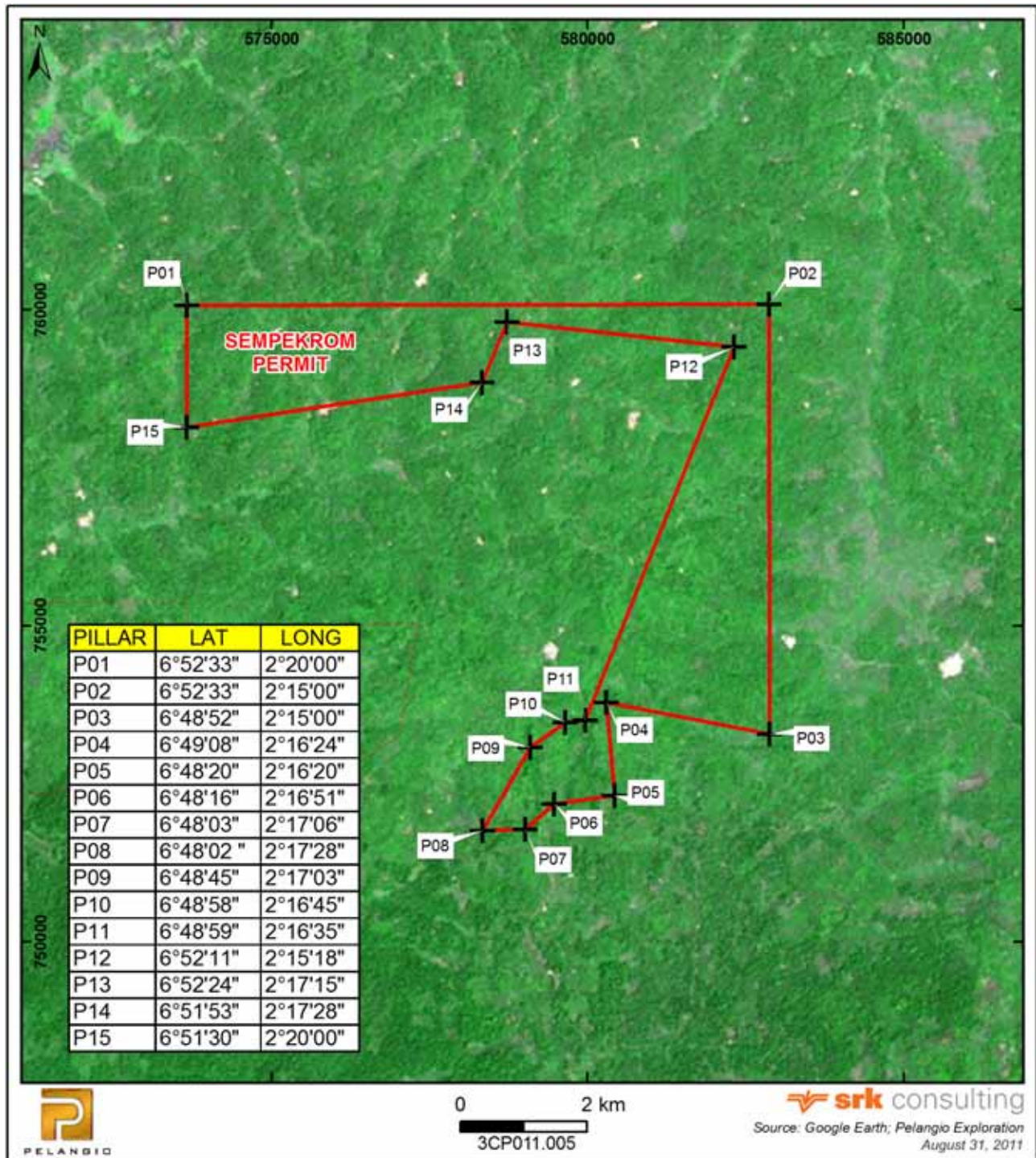
**Figure 3: Subriso Concession Tenement Map.**

Latitude is North and Longitude is West (Data from Pelangio Corresponding to Information on File with the Ghana Minerals Commission).



**Figure 4: Twabidi Concession Tenement Map.**

Latitude is North and Longitude is West (Data from Pelangio Corresponding to Information on File with the Ghana Minerals Commission).



**Figure 5: Sempekrom Concession Tenement Map.**

Latitude is North and Longitude is West (Data from Pelangio Corresponding to Information on File with the Ghana Minerals Commission).

The main gold mineralization of interest found to date are known as the Pokukrom East, Pokukrom West, Nfante East, Nfante West, Odumase North and Odumase South occurrences, all of which are located in the eastern part of the Subriso Concession.

In order to maintain the title in good standing, the owner must submit to the Mineral Commission of Ghana:

- Three copies of a comprehensive terminal report with results of exploration activities;
- A detailed financial report;
- Eight copies of the site plan indicating areas to be retained and those to be shed off;
- Evidence of annual ground rent payments; and
- An Environmental Permit from the Environmental Protection Agency (“EPA”).

In addition, yearly rents of GH¢2.52 (Ghana Cedis) on the Subriso Concession, GH¢8.20 on the Twabidi Concession and GH¢4.40 on the Sempekrom Concession, plus renewal fees of US\$15,000 per concession are payable to the Government. On July 25, 2011 the Bank of Canada website posted an exchange rate of one Canadian Dollar to 1.5992 Ghana cedis.

## 3.2 Underlying Agreements

SRK understands that Pelangio has acquired a 100 percent interest in the Manfo Project through various underlying agreements.

Pelangio entered into a letter of intent dated March 22, 2010, as amended and restated on June 29, 2010 (the “Manfo LOI”), with Hebron Exploration and Mining Company Limited (“Hebron”) in respect of three concessions totaling 100 square kilometres (the “Manfo Property”) located in the Brong Ahafo and Ashanti regions of Ghana, more particularly described as:

- The Subriso prospecting licence stamped as LVB 5745/97 and registered as No. 1731/1997 over an area of a 37.68 square kilometres (“Subriso”);
- The Twabidi prospecting licence stamped as LVB 162009/07 and registered as No. 55/2007 over an area of a 41.0 square kilometres (“Twabidi”); and
- The Sempekrom prospecting licence stamped as LVB 17398/08 and registered as No. 89/2008 over an area of a 21.42 square kilometres (“Sempekrom” and, collectively with Subriso and Twabidi, the “Manfo Concessions” or the “Manfo Project”).

The Manfo LOI provided for (i) a review period during which the Company could perform due diligence on the Manfo Property, and (ii) the framework of terms and conditions upon which a definitive option agreement in respect of each of the Manfo Concessions would be prepared if such due diligence was completed satisfactorily.

Following satisfactory completion of due diligence, on September 3, 2010, Pelangio Ahafo (G) Limited (“PAG”), an indirect 100 percent wholly owned subsidiary of Pelangio incorporated under the laws of Ghana, entered into definitive option agreements (the “Manfo Agreements”) with Hebron in respect of each of the Manfo Concessions.

Under the collective terms of the Manfo Agreements, PAG could earn a 100 percent interest (subject to the Government Interest) in each of the Manfo Concessions by:



- Paying Hebron aggregate cash consideration totaling US\$435,000 over a three year period, as follows:
  - US\$330,000 upon the fulfillment of certain standard legal and regulatory conditions (the “Manfo Date”);
  - US\$25,000 upon the first anniversary of the Manfo Date;
  - US\$35,000 upon the second anniversary of the Manfo Date; and
  - US\$45,000 upon the third anniversary of the Manfo Date;
- Expending a total of US\$2,000,000 on the Manfo Property over a three year period, as follows:
  - US\$400,000 prior to the first anniversary of the Manfo Date;
  - US\$600,000 prior to the second anniversary of the Manfo Date; and
  - US\$1,000,000 prior to the third anniversary of the Manfo Date; and
- Granting Hebron a 2.5 percent Net Smelter Return (“NSR”) royalty on the Manfo Property, subject to PAG’s right to repurchase one percent of the NSR for a payment of US\$4,000,000.

Additionally, PAG (or its successor or permitted assign) will pay Hebron a discovery bonus totaling the sum of (i) US\$1,000,000 plus (ii) US\$1.00 per ounce of proven and probable gold reserve set out in the first positive feasibility study published or released in respect of the Manfo Property. Pursuant to the Manfo Agreements, PAG held the right to accelerate payment of the cash consideration and complete its work commitments on the Manfo Property prior to the end of the third anniversary.

Subsequent to the Manfo Date, on September 1, 2011, Pelangio announced that PAG had completed all of the foregoing cash payments and work expenditures, granted the NSR to Hebron and provided notice to Hebron that it had exercised the options on the Manfo Concessions, thus acquiring a 100 percent interest in the Manfo Concessions (subject to the ten percent Government Interest). Subject to the approval of the Minister of Lands and Natural Resources of the Republic of Ghana, title to the Manfo Property will be transferred to Pelangio in due course.

### 3.3 Permits and Authorization

The Manfo Project is an exploration project. In addition to the PL, the only other permit required for exploration activities including trenching and drilling is an Environmental Permit for Mineral Exploration issued by the Ghana Environmental Protection Agency. These are currently being renewed by Pelangio in the ordinary course. Access rights must be negotiated with local inhabitants and it is customary to compensate local farmers for crop disturbances caused by surface exploration work.

### 3.4 Environmental Considerations

SRK is not aware of any environmental liabilities related to the Manfo Project.

The Manfo Project is a relatively early stage exploration project. Exploration work carried out on the property includes trenching, soil, stream and rock sampling, ground and airborne geophysics, diamond drilling as well as historical pitting and excavation of exploration adits.

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 physical cutting of lines and thus have minimal environmental impact. Airborne geophysical work does not disturb the environment. A moderate amount of

diamond drilling has been carried out using man-portable drills. SRK considers the environmental impact minimal.

Artisanal mining activity has occurred, particularly in the southern part of the Subriso Concession. These activities often leave shallow excavated pits and small rock dumps. Some old gold workings are reported to exist around Asikam, an area located about 1km SSW of Nfante. No documentation regarding these gold workings is available.

SRK has not conducted a detailed review of the environmental liabilities related to the three concessions. However, considering the relatively early stage of this exploration project and the limited extent of historical work, the potential environmental liabilities related to the Subriso, Twabidi and Sempekrom concessions are considered negligible.

## **3.5 Mining Rights in Ghana**

The following sections are excerpted and modified from the Ghana Minerals Commission website (Ghana Mining Portal, 2011).

### **3.5.1 Reconnaissance Licence**

A Reconnaissance Licence confers on the holder the right to search for a specific mineral (or commodity) within the licence area by geochemical and photo-geological surveys or other remote sensing techniques. Except as otherwise provided in the licence, it does not permit drilling, excavation or other sub-surface techniques.

The licence is normally granted for up to one year and may be renewed by the Minister from time to time for periods up to one year at a time upon application by the holder. The application for renewal must be made at least three months before the expiration of the licence. The size of the area over which a Reconnaissance Licence may be granted is limited to 5,000 contiguous blocks or 1,050 square kilometres.

### **3.5.2 Prospecting Licence**

A Prospecting Licence gives the holder the exclusive right to search for specific minerals (or commodities) by conducting geological, geophysical and geochemical investigations to determine the extent and economic value of any deposit within the licence area. Drilling, excavation or other sub-surface techniques are permitted under the prospecting licence. The initial grant of the licence is limited to three years and a maximum area of 750 contiguous blocks or 157.5 square kilometres.

A Prospecting Licence is granted for a period not exceeding three years and may be renewed for a maximum of two terms or for further periods of up to three years each. The holder of a Prospecting Licence shall, prior to or at the expiration of the initial term, surrender not less than half the number of blocks of the prospecting area so long as a minimum of one hundred and twenty five blocks or 26.3 square kilometres remain subject to the licence and the blocks form not more than three discrete areas each consisting of:

- A single block, or
- A number of blocks each having a side in common with at least one other block in that area.

### 3.5.3 Mining Lease

The grant of a Mining Lease gives the holder the right to mine, win or extract specified minerals (or commodities) within the lease area. The lease may be granted to the holder of a Prospecting Licence or any person who establishes to the satisfaction of the Minister that a mineral to which the lease relates exists in commercial quantities within the proposed lease area and can be mined at a profit. The lease is issued for up to thirty years subject to renewal for a further thirty-year term. The size of the area in respect of which a lease may be granted is limited to 300 contiguous blocks or sixty-three square kilometres for a single grant.

A person other than the holder of a Reconnaissance or Prospecting Licence may apply for a mining lease in respect of a mineral specified in the application over land that is not the subject of a mineral right for the same mineral applied for.

### 3.5.4 Restricted Licence or Lease for Industrial Minerals

Mineral rights governing the exploration and exploitation of industrial minerals and building materials are granted through the issuance of a Restricted Licence or Lease. A Restricted Licence may be granted as in the case of other minerals for the different stages of mineral operations (that is, reconnaissance, prospecting and production) in the form of a Restricted Reconnaissance Licence, a Restricted Prospecting Licence or a Restricted Mining Lease.

The Restricted Reconnaissance Licence is normally granted for up to one year and may be renewed by the Minister from time to time for periods up to one year. The Restricted Prospecting Licence is normally granted for a period not exceeding three years and may be renewed for a maximum of two terms or for further periods of up to three years. The Restricted Mining Lease is normally granted for a period not exceeding fifteen years and may be renewed for the same number of years.

Mineral rights for building and industrial minerals are reserved for Ghanaian citizens except where an exemption is made by the Minister, on the advice of the Minerals Commission, as being in the public interest. A local authority, owner or lawful occupier of any land is permitted to prospect for and mine, on any land owned or occupied by him, any building or industrial mineral for use in building, road making or agricultural purposes.

A person who is not a Ghanaian may apply for a mineral right in respect of industrial mineral provided the proposed investment in the mineral operations is US\$10,000,000 or above.

### 3.5.5 Small Scale Mining

The Small Scale Mining Licence governs winning, mining and production of minerals such as gold, diamonds, salt, kaolin, silica, sand, brown clay, aggregates and crushed rocks by an effective and efficient method and observe good mining practices, health and safety rules and pay due regard to the protection of the environment during mining operations.

A licence is granted to a person, a group of persons, a cooperative society or a company for a period not more than five years from the date of issue in the first instance and may be renewed on expiry for a further period that the Minister may determine.

The size of the area in respect of which a licence may be granted for small scale mining shall not exceed twenty-five acres (ten hectares). Only Ghanaians of at least eighteen years can be granted a Small Scale Mining Licence.

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

### **4.1 Accessibility**

The Manfo Project is located approximately seventy-five kilometres west northwest of the city of Kumasi and approximately 270 kilometres northwest of Accra, capital of Ghana (Figure 1).

Accra has daily jet service to several European cities, the United States and South Africa. Regional air service is available daily from Accra to Kumasi.

The area is accessed by vehicle from Accra on primary all-weather paved roads for 340 kilometres to Tepa, the administrative centre for the Ahafo Ano North District of the Ashanti Region. From Tepa, secondary all-weather paved roads lead south southwest through Akwasiase and Manfo to Akyena for 16.5 kilometres and laterite roads lead an additional 8.5 kilometres to the concession. Access within the concession is by a number of tertiary laterite roads, timber roads and footpaths which are accessible by vehicle during most of the year. In general, exploration work can be carried out year-round but field work can be challenging intermittently during the rainy season, especially where access is difficult.

### **4.2 Local Resources and Infrastructure**

The project area has a number of small villages found in and adjacent to the concessions. Tepa, the closest administrative centre has a population of approximately 16,500 people with infrastructure that includes a hospital, schools, telecommunication services and a connection to the national electricity grid. A skilled workforce is available in Ghana, travelling from such larger centres as Accra, Kumasi and Obuasi.

### **4.3 Climate**

The climate of Ghana is tropical and is characterized by distinct wet and dry seasons. During the dry season which typically extends from November to February, daytime temperatures range between twenty-seven and thirty-seven degrees Celsius while night time temperatures vary between twenty and twenty-four degrees Celsius. In the south, a brief dry season occurs in August and is typically cooler. The rainy seasons in the south extend from March to July and from September to October. Annual rainfall in Ghana ranges from about 700 millimetres to about 2,100 millimetres. A dry northeast wind known as the harmattan blows almost continuously in January and February.

### **4.4 Physiography**

The topography in the project area consists of irregular low hills separated by relatively wide valleys. Elevations range between 190 and 280 metres above sea level. The slopes of the hills are quite gentle. Outcrop is extremely limited and consists of a few isolated occurrences on the tops of hills. Vegetation in this part of Ghana is characterized by semi-deciduous jungle forest (Figure 6). 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. Farm lands are used to grow principally cocoa, oil palm, plantain, maize and cocoyam.



**Figure 6: Typical Landscape in the Project Area.**

- A. Looking northeast over the village of Subriso.
- B. Looking west from the collar of SPDD-084 in the Pokukrom West area.
- C. Landscape looking north from the Pokukrom East area.
- D. View from rare outcrop within project area looking east towards Pokukrom West.

## 5 History

### 5.1 Prior Ownership and Changes

Hebron was initially granted an RL for the Subriso area covering 125.74 square kilometres on July 31, 1995. After a one year renewal, it was converted to a PL on March 20, 1997. The PL has been renewed several times since, with fifty percent of the original area shed off on July 12, 2001 leaving 78.38 square kilometres and a further fifty percent shed off on October 5, 2005 retaining the current area of 37.68 square kilometres.

Anmercosa, a Ghanaian subsidiary of Anglo American, was granted the Bibiani Reconnaissance Licence in August 1998 allowing it to fly a regional airborne magnetic survey that included the Manfo concessions.

In January 2003, Hebron optioned the property to Ashanti Goldfields Company Ltd. (“Ashanti”). In April 2004, Ashanti merged with AngloGold Ltd, to form AngloGold Ashanti Ltd. (“AngloGold Ashanti”). The merged company inherited the option agreement until abrogated in December 2005. Newmont Ghana Gold Limited (“Newmont”) entered into a five year option agreement on July 25, 2007, which was abrogated in 2008.

The Twabidi No. 2 Concession was initially granted to Hebron as a PL covering 41.00 square kilometres on June 4, 2007. Newmont entered into a five year option agreement with Hebron on May 28, 2007, but opted out of the agreement on October 7, 2008.

The Sempekrom Concession was initially granted to Hebron as a PL covering 41.42 square kilometres on June 27, 2008.

Pelangio entered into an agreement dated March 22, 2010, as amended and restated on June 29, 2010, with Hebron in respect of the Subriso, Twabidi and Sempekrom concessions. The Manfo Letter of Interest provided for (i) a review period during which the Company could perform due diligence on the Manfo Project, and (ii) the framework of terms and conditions upon which a definitive option agreement in respect of each of the Manfo Concessions would be prepared if such due diligence was completed satisfactorily. Following satisfactory completion of due diligence, on September 3, 2010, Pelangio Ahafo (G) Limited (“PAG”), an indirect 100 percent wholly owned subsidiary of Pelangio, entered into definitive option agreements with Hebron in respect of each of the Manfo Concessions, which were approved by the Government on May 27, July 19 and July 22, 2011.

Under the collective terms of the Manfo Agreements, PAG could earn a 100 percent interest (subject to the Government Interest) in each of the Manfo Concessions by fulfilling a number of work and monetary commitments.

On September 1, 2011, Pelangio announced that PAG had fulfilled these commitments and had acquired a 100 percent interest in the Manfo Concessions (subject to the ten percent Government interest). Subject to the approval of the Minister of Lands and Natural Resources of the Republic of Ghana, title to the Manfo Property will be transferred to Pelangio in due course.

## 5.2 Previous Exploration Work

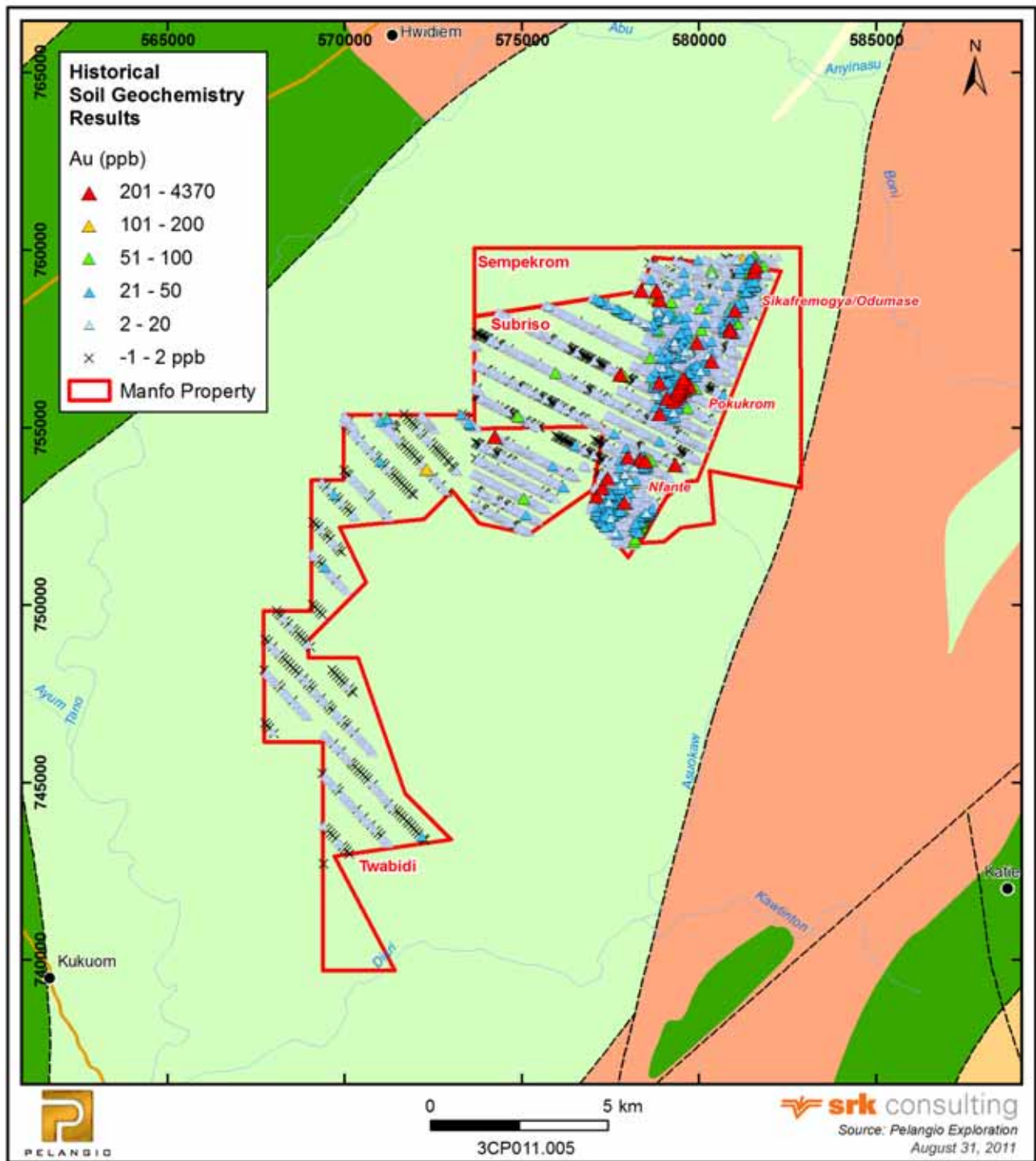
A series of reports and data documenting recent exploration work completed on the concessions under joint venture agreements and prior to the involvement of Pelangio in this area are available (AngloGold Ashanti, 2004, 2005; Ashanti, 2003, Dugbley, 1996; Newmont, 2008, 2009; Torkornoo, 2011a, 2011b). There is not complete documentation of all previous exploration work. SRK was given access to those reports and accompanying digital data for this review.

Modern gold exploration on the Manfo concessions was primarily conducted by three groups: Hebron starting in 1996, Ashanti and its successor AngloGold Ashanti between 2003 and 2005, and Newmont between 2005 and 2008. Poorly documented exploration activities are also reported to have been undertaken by Goldfields Ghana Ltd. (“Goldfields”) on the Twabidi concession.

Table 2 shows a summary of the type, amount and quantity of exploration work undertaken by previous owners and operators on the Manfo Project, and Figure 7 and Figure 8 show the distribution of the various exploration data.

**Table 2: Summary of Previous Exploration.**

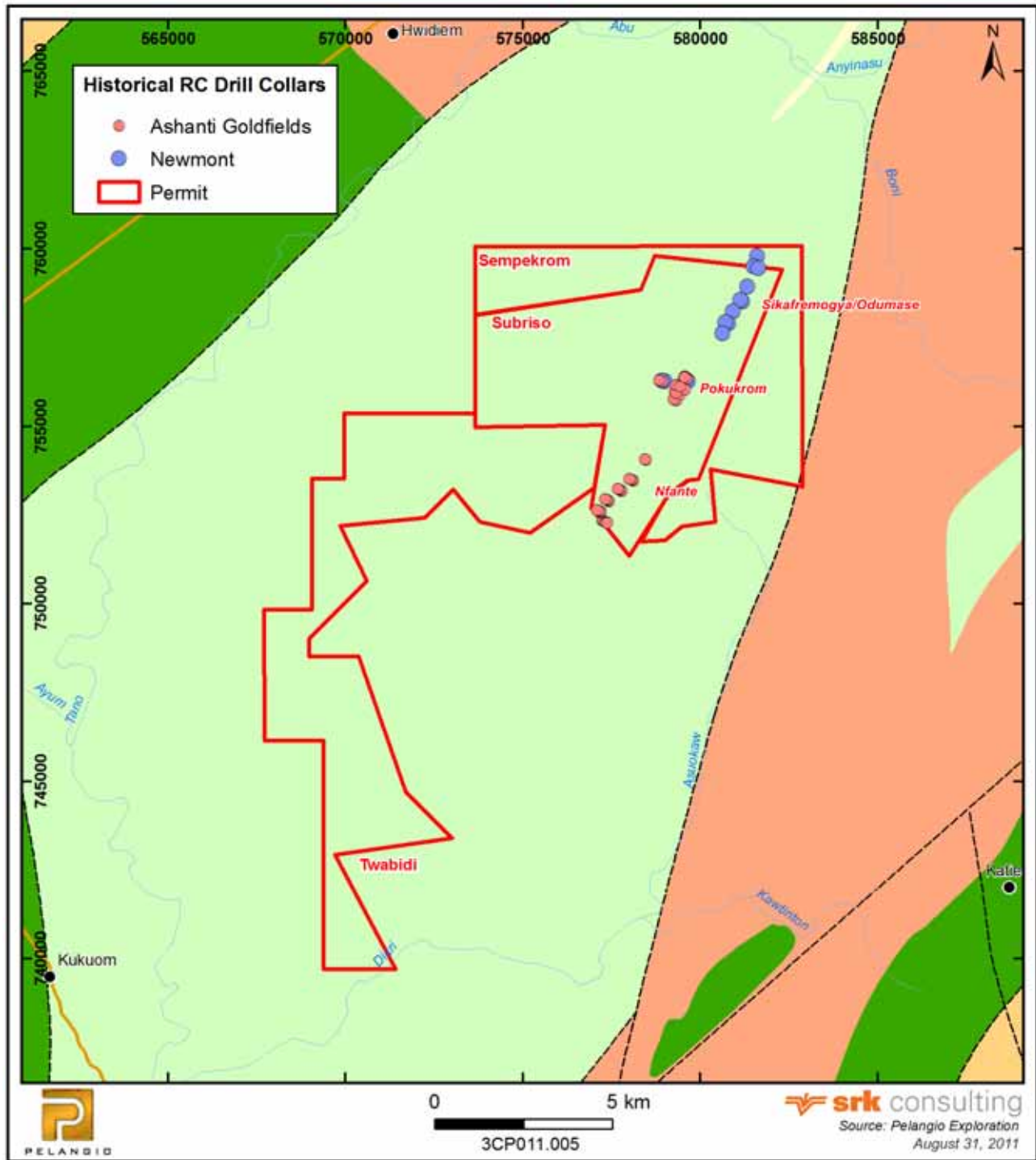
Year	Company	Work	Quantity	Location
1996	Hebron	Stream sediment sampling	436	Original Subriso RL
		Rock chip sampling	2	Original Subriso RL
		Reconnaissance mapping		Original Subriso RL
1998	Anmercosa	Aeromagnetic survey		Large area including all of Subriso, Twabidi, Sempekrom
unknown	Hebron	Soil sampling	>360 samples	Original Subriso RL
unknown	Gold Fields	Soil sampling	721 samples	Twabidi PL
2003	Ashanti	Soil sampling	5688 samples	Intermediate Subriso PL
		Termite mound and rock sampling	321 samples	
		Trenching	300m, 413 samples	
2004-2005	Anglogold Ashanti	RC drilling	38 holes totalling 1,850m, 2007 samples	
		Trenching	41 trenches, 2210m, 2378 samples	Intermediate Subriso PL
		Pitting	23 pits, 136 samples	
2005	Newmont	RC drilling	33 holes totalling 1,924m, 2164 samples	
		Aeromagnetic interpretation		Large area including all of Subriso, Twabidi, Sempekrom
		Regolith mapping		
2008	Newmont	BLEG Stream sediment	3 composite samples	Twabidi
		Gravity survey		Twabidi and Subriso
		Ground magnetic survey	28.3km	Subriso
		Ground IP/Resistivity survey	36.98km dipole-dipole, 121km gradient array	Subriso
		Trenching	62 samples	Subriso
		RC drilling	14 holes totalling 1,404m, 1404 samples	



**Figure 7: Historical Exploration Work on the Manfo Concessions.**

Datasets Are Clipped to the Concession Boundaries. Lithology Units Same As in Figure 12.





**Figure 8: Historical RC Drill Holes on the Manfo Concessions.**

Datasets Are Clipped to the Concession Boundaries. Lithology Units Same As in Figure 12.

The database inherited by Pelangio from Hebron and previous operators includes a total of 7,187 soil samples, eighteen trenches with 1246 samples and seventy-eight reverse circulation (“RC”) drill holes with 4811 samples. Trench and RC drilling is identified by company but the database does not identify which company collected individual soil samples.

Soil sampling covers all of the concessions, whereas trenching and RC drilling is largely confined to the Subriso concession (Table 3). A comparison of the database and figures from previous operators’ internal reports suggest some samples from within the current Sempekrom concession are not included in the database. Although SRK cannot verify the accuracy 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.

**Table 3: Summary of Previous Exploration Database.**

<b>Work</b>	<b>Location</b>	<b>No. Trenches /Drill Holes</b>	<b>No. Samples</b>
Soil Geochemistry	Subriso		3,246
	Twabidi		707
	Sempekrom		108
	Outside		3,126
	<b>Total</b>		<b>7,187</b>
Trenching <sup>1</sup>	Subriso	14	844
	Twabidi	0	
	Sempekrom	1	21
	Outside	4	381
	<b>Total</b>	<b>18</b>	<b>1,246</b>
RC Drilling <sup>1</sup>	Subriso	66	4,219
	Twabidi	0	0
	Sempekrom	2	69
	Outside	10	523
	<b>Total</b>	<b>78</b>	<b>4,811</b>

<sup>1</sup> Number of Trenches/Drill Holes based on collar or trench starting location.  
Number of Samples based on sample location. Some trenches and RC drill holes cross concession boundaries.

### 5.2.1 Ghana Geological Survey Department

Regional geological mapping was undertaken during an unspecified timeframe by the Geological Survey Department of Ghana. Minor prospecting for gold generally accompanied such mapping, and some gold workings were reported to exist around Asikam, an area located approximately one kilometre south southwest of Nfante. No documentation of these workings was available to SRK.

### 5.2.2 Exploration by Hebron

In September 1995, Hebron conducted an exploration program over the original 125.74 square kilometre Subriso RL area which includes all of the current Subriso and Sempekrom PL as well as the northern part of the Twabidi PL. The program consisted of reconnaissance scale mapping, minor rock chip sampling and stream sediment sampling.

The stream sediment sampling program consisted of 228 active stream samples and 218 pan concentrate samples. The stream sediments consisted of clay, silty clay or silt samples from dry stream beds, stream channel sides and stagnant pools. The pan concentrates consisted of five to six

kilograms of gravel from favourable sites within the channels. The gravel was hand panned down to a heavy mineral concentrate and analysed by fire assay with atomic absorption spectroscopy finish at SGS Laboratory Services (Ghana) Ltd. (“SGS”) in Accra.

The stream sediment samples returned very low values, ninety percent below 10 parts per billion (“ppb”) gold, with no pattern evident. The gravel concentrates, however, allowed the delineation of eleven northeast trending anomalies labelled A to K, which were later consolidated to five. The most interesting of these was anomaly K, which returned values greater than 500 ppb and was located parallel to the granite greenstone contact, near the eastern boundary of the concession.

Following up on the stream sediment sampling program, Hebron undertook a soil geochemistry program. Many details of the program are unavailable to SRK, including the year it was conducted. A subsequent report by Ashanti describes that the five stream sediment anomalies became the targets for the soil geochemistry program and were named Nfante, Pokukrom, Sikafremogya, Antokrom and Akyena.

Grids of 200 by 100 metres were established over the five target areas, with subsequent infill grids of 100 by 50 metres over Nfante, Pokukrom and Sikafremogya. A total of 360 soil samples were reported to have been sampled from the Nfante grid but the total number of samples from the other grids is unknown.

The soil samples were processed and gold analysis was performed by SGS Laboratories in Accra using 50 gram fire assay with atomic absorption spectroscopy finish. Gold values ranged up to 1,230 ppb at Nfante and 4,000 ppb at Pokukrom. At Nfante, a 300 metre strike length with values ranging from fifty to 300 ppb was defined.

### **5.2.3 Exploration by Ashanti and AngloGold Ashanti**

Ashanti and AngloGold Ashanti conducted a multi-phase exploration program between 2003 and 2005 on the Subriso concession. It consisted of a single phase of soil, termite hill and soil sampling, three phases of trenching and two phases of RC drilling.

#### **Soil, Termite Hill and Rock Geochemistry**

In Phase 1 of exploration during 2003, Ashanti undertook a systematic soil geochemistry program as well as termite hill sampling and rock chip sampling on the Subriso concession. Termite hills were sampled if they occurred within 100 metres of a soil grid. Chip samples were taken from any outcrops encountered during geological mapping and soil sampling. Two hundred and seventy-six termite hill samples and forty-five chip samples were collected. Results ranged up to 797 ppb gold in the termite hill samples and up to 270 ppb gold in the chip samples.

At the eastern half of the concession, a soil grid oriented at 030 degrees was established with cross lines initially cut at 400 metre intervals but later closed in to 100 metre spacing in selected areas that had returned anomalous soil values. The western half of the concession was investigated with 800 metre spaced cross lines. The detailed 100 metre by 50 metre grid was extended 700 metres south of the Nfante soil anomaly to probe for possible extensions of the anomalies. Soil samples were collected at fifty metre stations on the cross lines from a nominal depth of forty centimetres. In all, a total of 268.35 kilometres of lines were cut and 5,207 samples (excluding duplicates) were taken during the period.

During Phase 2 exploration in 2004, additional soil sampling was undertaken. A second grid with an initial density of 400 metres by 50 metres and an east-west oriented baseline was established in an area between the Pokukrom and the Sikafremogya prospects. The establishment of this grid was

triggered by the identification of a set of topographic lineaments interpreted as part of a prominent east northeast-striking extensional shear zone. The grid consisted of 37.1 kilometres of lines and an additional 672 samples.

Results of the soil sampling showed that background values are below a 10 ppb threshold. Anomalous soil values defined a moderate to high northeast trending main geochemical anomaly, separated into three zones by two areas along strike with seemingly background values. Other smaller geochemical anomalies of limited strike lengths were defined in addition to the main anomaly. Based on the clustering of the soil anomalies, three prospects were blocked out, representing from southwest to northeast the Nfante, Pokukrom and Sikafremogya prospects.

The most significant anomaly is located at the Pokukrom prospect. A coherent soil anomaly zone was defined by a 100 ppb soil gold contour with a strike length of 700 metres. The original 2000 by 400 metre Nfante Main anomaly based on a 10 ppb gold contour was extended an additional 700 metres to the south by the enlarged grid. The Nfante East anomaly was defined as a zone 700 by 400 metres in size based on a twenty ppb gold contour.

Soil assay results for the grid with an east-striking baseline between the Pokukrom and Sikafremogya prospect returned low gold results. The values range from below the detection limit of 1 ppb gold to a peak value of 429 ppb gold. No anomalous soil trends were defined.

### **Trenching**

During Phase 1 exploration, four trenches (300 metres) were excavated across selected soil anomalous zones for mapping and sampling. The purpose of the trenching was to obtain structural and geochemical information prior to drilling.

Phase 2 trenching consisted of twenty-four trenches (1,672.1 metres) and seven pits (thirty-two metres) which commenced after the Phase 1 RC drilling. The trenching program was designed to provide information on the regolith stratigraphies, lithology/structural settings and the sub-surface geochemistry across the broad soil anomaly trends in various parts of the concession. More drill targets were defined based on the Phase 2 trenching.

Phase 3 of the trenching program consisted of seven trenches, including three trenches to test the low order soil anomalies at the southern part of the Sikafremogya prospect.

Phase 1 trenches on three sectional profiles generally returned low gold values with 0.01 grams per tonne (“gpt”) gold background values. The results displayed a broad mineralized zone 100 metres wide, which hosts both low grade (0.5-1.0 gpt gold) and high-grade (>1.0 gpt gold) zones rarely exceeding ten metres width. Significant Phase 1 trench intersections are 16.0 metres at 1.55 gpt (including 8.0 metres at 2.20 gpt) and 8.0 metres at 1.42 gpt.

In the Phase 2 and 3 trenching, mineralized intercepts of 5.0 metres at 14.32 gpt gold were obtained from the hanging wall part of trench SFTR015 which earlier gave 19.0 metres at 4.03 gpt gold. Trenches SFTR014 and SFTR016 gave 5.0 metres at 1.84 gpt and 4.0 metres at 0.92 gpt respectively in the Nfante prospect. The mineralized intercepts coincide with silicified zones in the sericite schist that strike between 225 and 235 degrees with dips between fifty-five degrees and seventy degrees to the northwest. Low-grade gold results were obtained from three trenches that followed up some low order soil anomalies at the southern part of Sikafremogya prospect. The best intercept was 10.0 metres at 0.64 gpt gold.

There was insufficient information to determine if the reported intervals above represent true widths.

## RC Drilling

The Phase 1 RC drilling was concentrated at the Pokukrom prospect, with one or two sections drilled on the other prospects. The program consisted of drilling shallow 50 metre long inclined holes at 120 degrees azimuth. Samples were collected at one metre intervals into large plastic bags from a cyclone attached to the rig and processed through a three-tier riffle splitter to obtain five kilogram assay samples, which were assayed using a one kilogram bottle roll method with an atomic absorption spectrometry finish.

The Phase 2 RC drilling program was undertaken in 2004. The thirty-three hole (1,924 metres) program was completed at the Hebron-Subriso project in November 2004. The objectives of the Phase 2 drilling program were to test: a) for down dip improvements in grade/widths of previous drilling intercepts found in earlier RC drilling program; and b) areas of lower order gold-soil responses along the main mineralized trend, where transported overburden may be suppressing the local responses.

Five holes were drilled to undercut earlier mineralized holes at the Pokukrom prospect, and two holes at each of Pokukrom West and Sikafremogya Northwest were used to test the down dip extensions of some mineralized trench intercepts. Fences of shallow (up to forty metres) RC holes were also drilled on 400 metre sections along the 2.3 kilometre long of the Nfante Main soil anomaly. About 3.2 kilometres of access tracks and drill lines were cleared prior to drilling. Samples were taken for every metre drilled. Samples were on the whole analyzed for gold by Transworld Laboratory at Tarkwa using an unspecified method. Quality control samples, including duplicates, were inserted in every batch of 100 samples.

Encouraging results were obtained from the Phase 1 RC drilling which intersected gold mineralization on all five sectional profiles, covering 700 metres of strike length, at the Pokukrom prospects, and one of the two profiles drilled at the Nfante prospect. Significant intersections from the Pokukrom prospect are eight metres averaging 4.19 gpt gold, five metres averaging 2.43 gpt gold and seven metres averaging 3.06 gpt gold. Drill hole SFRC001 at the Nfante prospect intersected a wide zone of 24.0 metres averaging 1.25 gpt gold (including 3.0 metres at 2.89 gpt gold and 5.0 metres at 2.44 gpt gold). The relatively high-grade zones in drill holes coincided with sediments with some pyrite. There is insufficient information to determine if the reported intervals above represent true widths.

In the Phase 2 RC drilling, the deeper undercut holes intersected multiple alteration zones at all the three prospects. The altered zones are often sheared, characterized by strong silicification and contain some sulphides. The sulphides occur as disseminated crystals and amorphous shapes on fractures that sub-parallel the foliation. Foliated hornblende-rich, medium-coarse granitic rocks that intrude the metasedimentary rock were intersected by some drill holes near the mineralized zones in the Pokukrom prospect.

Fences of shallow holes drilled along the 2.3 kilometre long, low grade portion of the Nfante Main soil anomaly intersected a buried one to two metre thick ferricrete horizon in the anomalous area. The presence of this ferricrete layer indicates that the ferruginous soil may not be directly related to the underlying saprolite and that the gold in soil values may be suppressed. Sericitic, schistose metasediments with some quartz vein or veinlets and sulphides were intersected below the ferricrete.

Generally, low-medium gold grade results were returned with thirty-nine intervals grading more than 0.5gpt gold over two metres. Some notable intersections, such as six metres at 3.95 gpt gold (SFRC011), thirty-seven metres at 1.52 gpt gold (SFRC16), seventeen metres at 2.12 gpt gold (SFRC018) and twelve metres at 6.35 gpt gold (SFRC026). There is insufficient information to

determine if the reported intervals above represent true widths. The gold mineralization occurs in strongly sheared zones of silicification and sulphidation in sericite/hornblende schists and medium grained wacke.

## 5.2.4 Exploration by Goldfields

Soil geochemistry data, reportedly collected by Goldfields as part of earlier work in the Twabidi concession and inherited from Hebron by Newmont, is described in Newmont (2009). Seven hundred and twenty-one samples were reported to have been collected on an 800 by 100 metre grid covering the entire tenement. The historical soil geochemistry database inherited by Pelangio contains 707 samples within the concession. The grid was reduced to 400 by 100 metres in the northeast corner of the concession. The different orientation of this grid suggests that it is part of the AngloGold soil sampling conducted within the intermediate Subriso concession. The southwest corner of the intermediate Subriso concession was shed off in 2005 and was subsequently incorporated in the Twabidi concession.

Results for the soil geochemistry produced only spotty gold anomalies in the range of seventy-two to 158 ppb, with a maximum of 678 ppb gold in a possibly transported sample close to the granitoid-volcanic contact. No information on the sampling method, analytical technique or quality control procedures is available for these samples.

## 5.2.5 Exploration by Newmont

Exploration was conducted by Newmont in 2008 on the Subriso concession and in 2009 in the Twabidi concession. In 2005, Newmont, prior to optioning the concessions, conducted several regional studies consisting of a regional geological and structural interpretation of aeromagnetic data, a regional regolith mapping program and a regional gravity survey that included both of the concessions.

### Ground Magnetics and IP/Resistivity Surveys

In 2008, as a complement to the Goldfields soil geochemistry data, Newmont conducted a number of ground geophysical surveys. These consisted of 28.3 kilometres of ground magnetics, 36.98 line kilometres of pole-dipole and 121 line kilometres of gradient array induced polarization and resistivity surveys. Images of the resistivity and chargeability results are available in Newmont (2008) but few details of the survey methodology or interpretation of the results are found in the report.

### Trenching

Three old trenches originally dug by Ashanti at Nfante, Pokukrom and Sikafremogya (referred to as Odumase by Newmont), were re-opened to a three metre depth, sampled and mapped. Average dip of structures in the trenches was seventy degrees to the northwest. Sixty-two channel samples were taken from the three trenches. Thick but low grade intercepts were returned, including 24.0 metres at 0.95 gpt gold and 16.0 metres at 1.25 gpt gold. There is insufficient information to determine if the reported intervals above represent true widths. No details of sampling method, analytic method or the laboratory used are available. The only specific detail in the report is that samples contain between six and nine percent control samples consisting of blanks, duplicates and standards.

### RC Drilling

Newmont completed fourteen of a planned thirty-three hole RC drill program, primarily on lower priority targets in the north part of the Subriso concession near Odumase. Some thin and moderated grade mineralization was intercepted in three drill holes, the best result being 4.0 metres at 6.1 gpt gold in drill hole SBRC033 and 3.0 metres at 5.36 gpt gold in SBRC020. There is insufficient

information to determine if the reported intervals above represent true widths. A total of 1,404 samples are present in the digital data inherited by Pelangio. No details of sampling method, analytic method or the laboratory used are available.

### **BLEG Stream Sediment Geochemistry**

In 2009, Newmont conducted a small BLEG Stream Sediment Sampling program in and near the Twabidi concession. Three composite samples consisting of fines in the stream load were collected from a minimum of five multiple sites along a stream channel. Approximately four kilograms was sampled, dried and sieved to -600 microns before being sent to the Newmont laboratory in Perth, Australia for analysis. The samples were received and the whole fine fraction was leached and analysed for gold, silver and copper. No additional information on the quality control procedures is detailed. The samples returned 1.66 ppb, 2.28 ppb and 3.5 ppb gold.

## **5.3 Historical Mineral Resource and Mineral Reserve Estimates**

There are no historical mineral resources and/or mineral reserves estimates for the property.

## **5.4 Historical Production**

Although artisanal mining, known as galamsey mining in Ghana, has been active on the property it is impossible to determine the amount of gold extracted by galamsey miners.

## 6 Geological Setting and Mineralization

Ghana lies within the West African Precambrian craton which is composed of two Archean nuclei surrounded by extensive lower and middle Proterozoic volcanic and sedimentary rocks and an outer fringe of upper Proterozoic and Phanerozoic rocks (Figure 9).

The Liberian Archean nucleus and the surrounding Proterozoic rocks form the Man Shield. It is bounded to the east by Pan African orogenic belts and is overlain to the west and north by flat-lying sedimentary rocks of the Voltaic basin.

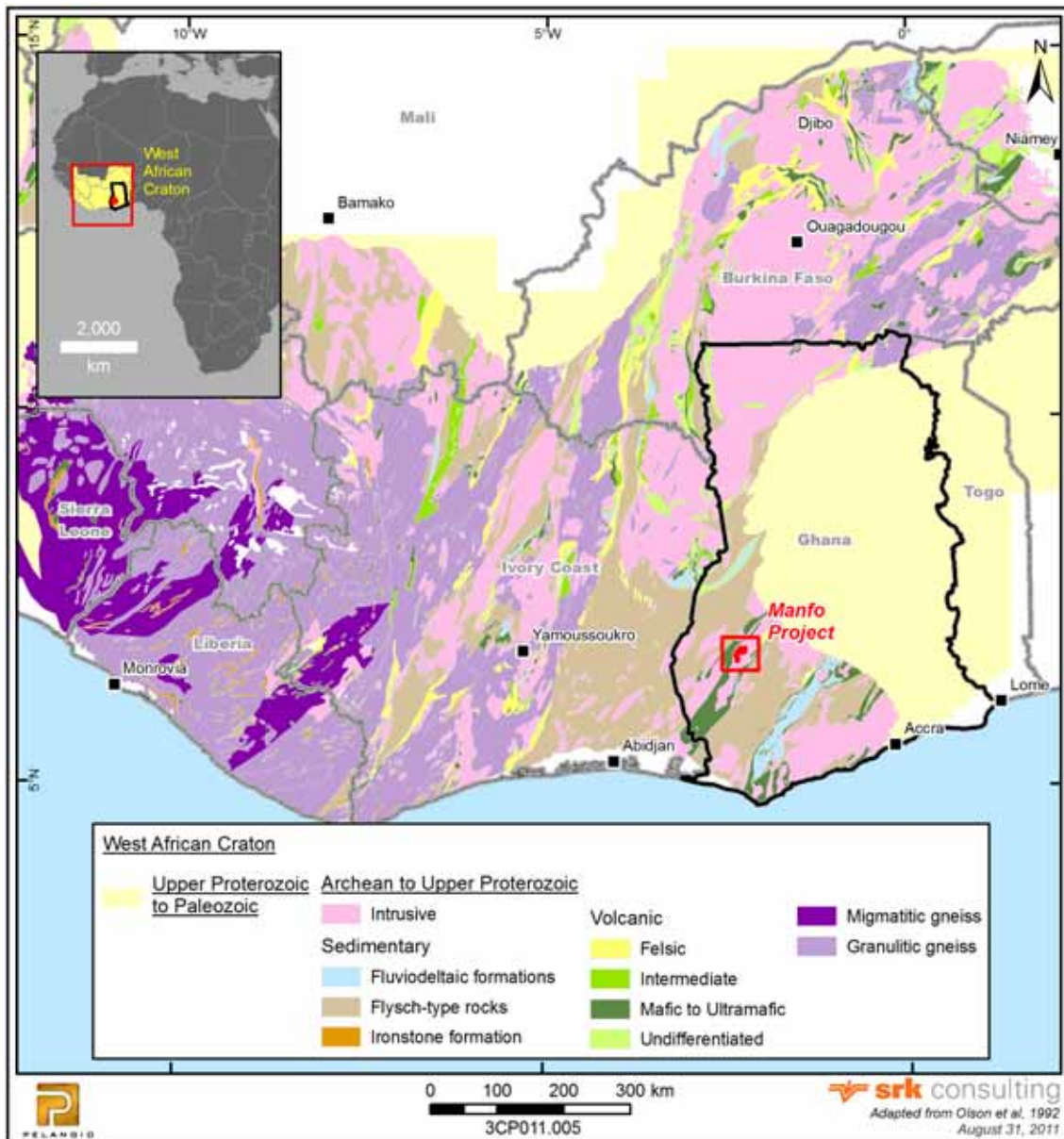


Figure 9: Geology of the West African Shield.



## 6.1 Regional Geology

The geology of southwest Ghana is dominated by the Birimian Supergroup, which consists of Proterozoic sedimentary and volcanic rock, along with sedimentary rock of the Tarkwaian Group, and various granitoid intrusions (Figure 10). 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 of Ghana is 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). The principal Birimian volcanic belts and intervening sedimentary basins in Ghana are: (from southeast to northwest) Kibi-Winneba Belt, Cape Coast Basin, Ashanti Belt, Kumasi Basin, Sefwi-Bibiani Belt, Sunyani Basin and Bui Belt. The three Pelangio concessions are situated in the north-central part of the Sefwi-Bibiani Belt (Figure 10).

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 11). 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. 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 11). 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 11). 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).

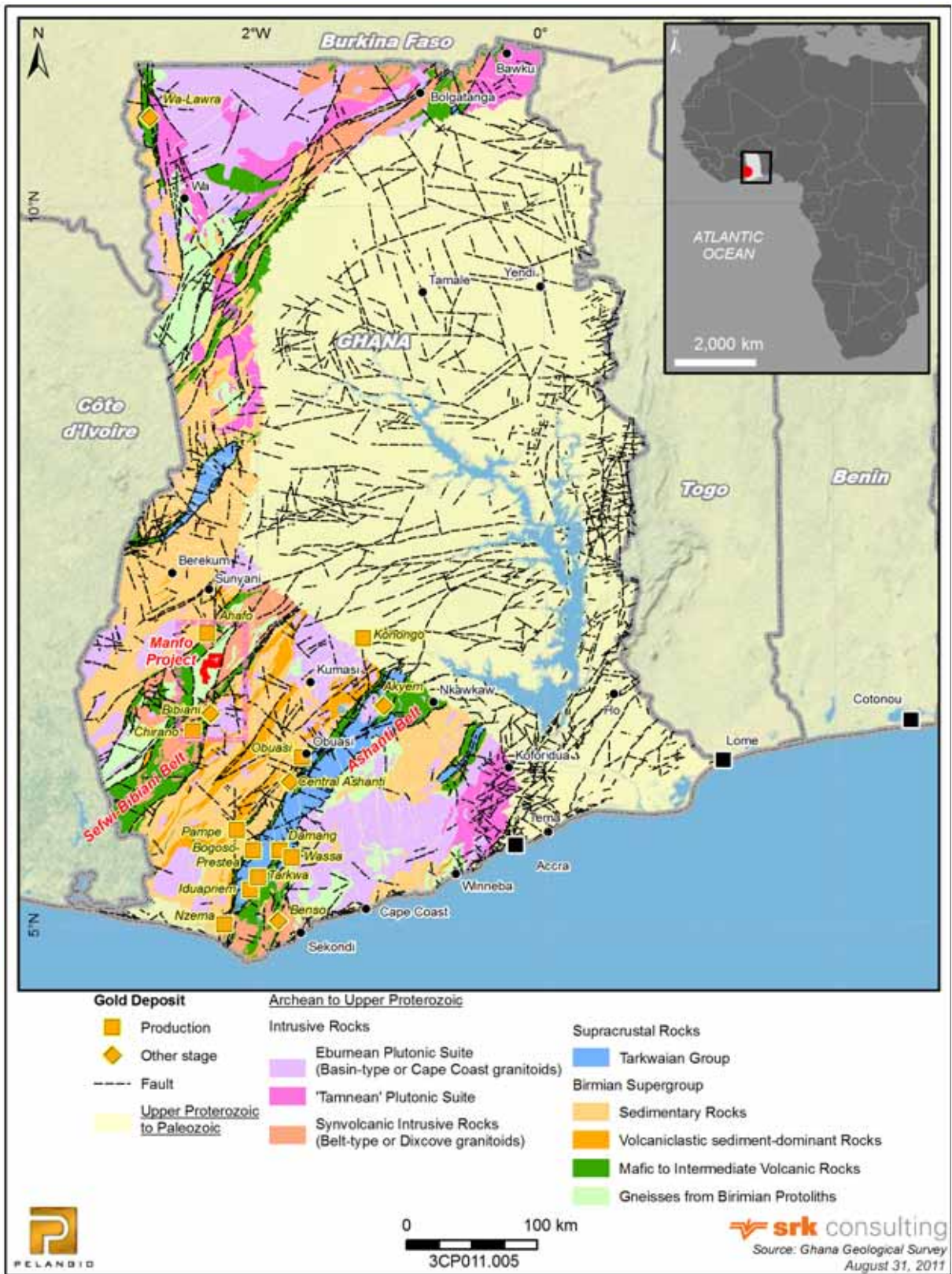


Figure 10: General Geology of Ghana.

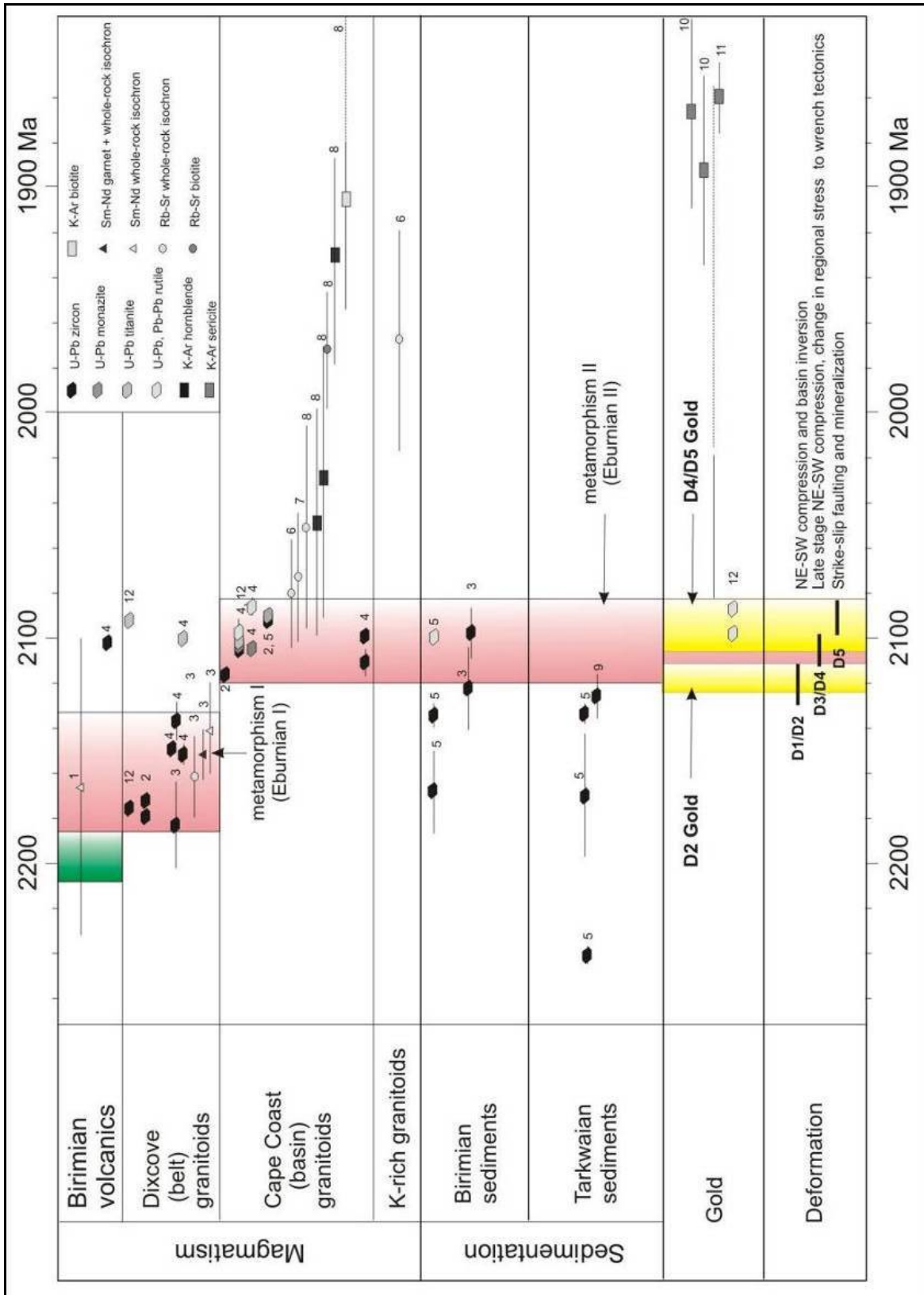


Figure 11: Geological Timeline for Southwest Ghana (modified from Allibone et al., 2002a).

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.

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.

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 Manfo Project is located along the eastern edge of the Paleoproterozoic Sefwi-Bibiani Belt. Along this contact, the belt is dominated by basalt and dolerite, with lesser gabbro, tonalite and diorite. Within the project area, the Sefwi-Bibiani Belt is underlain primarily by mafic metavolcanic, metasedimentary, volcanoclastic and granitoid rock, which is greatly simplified on the regional geological map of Ghana (Figure 12). A major north northeast-striking fault corridor, approximately three kilometres wide, traverses the east side of the property. This fault corridor serves as the regional contact between the greenstone volcano-sedimentary package to the west and a regional synvolcanic intrusive to the east. The geochemical targets identified to date lie within this fault corridor.

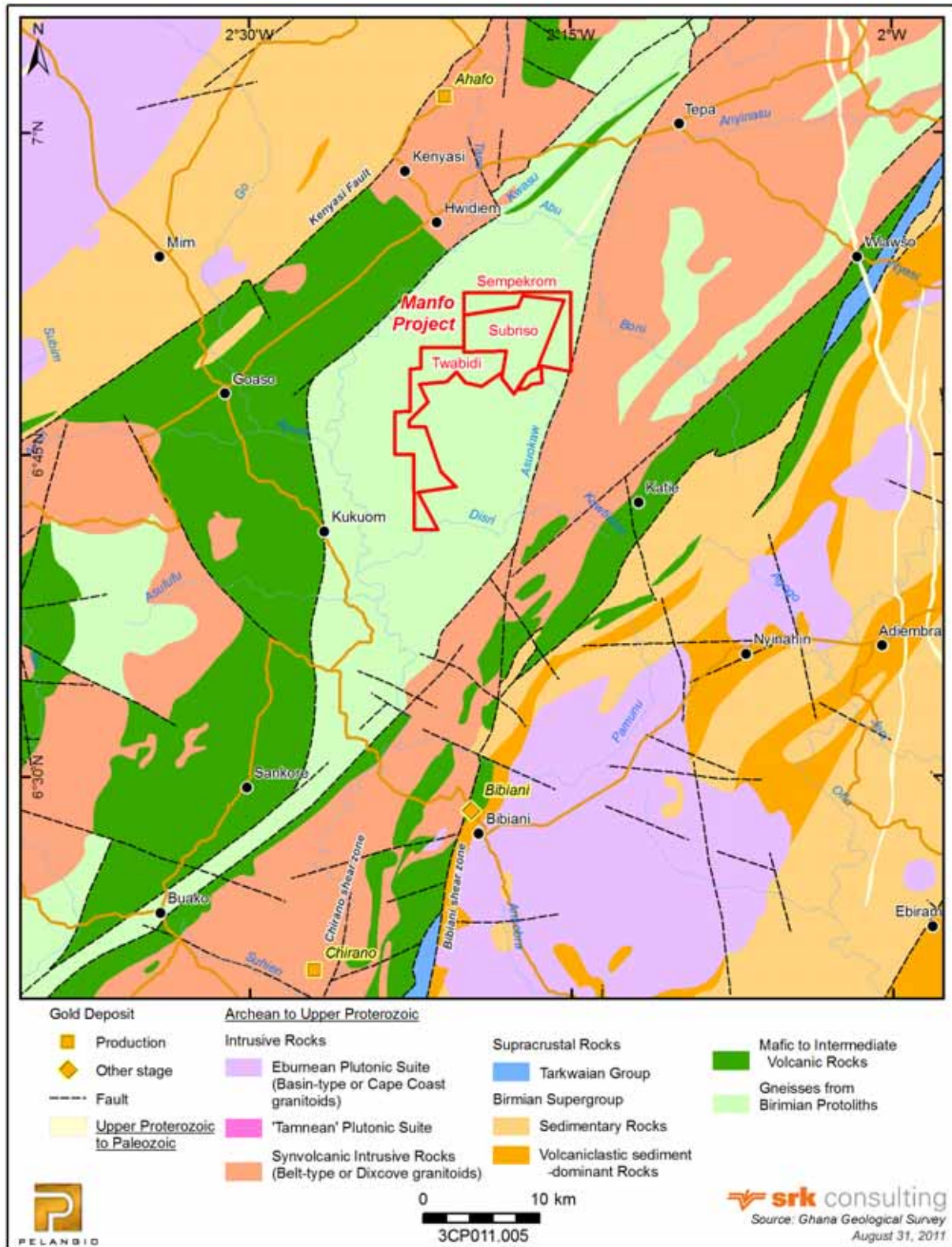
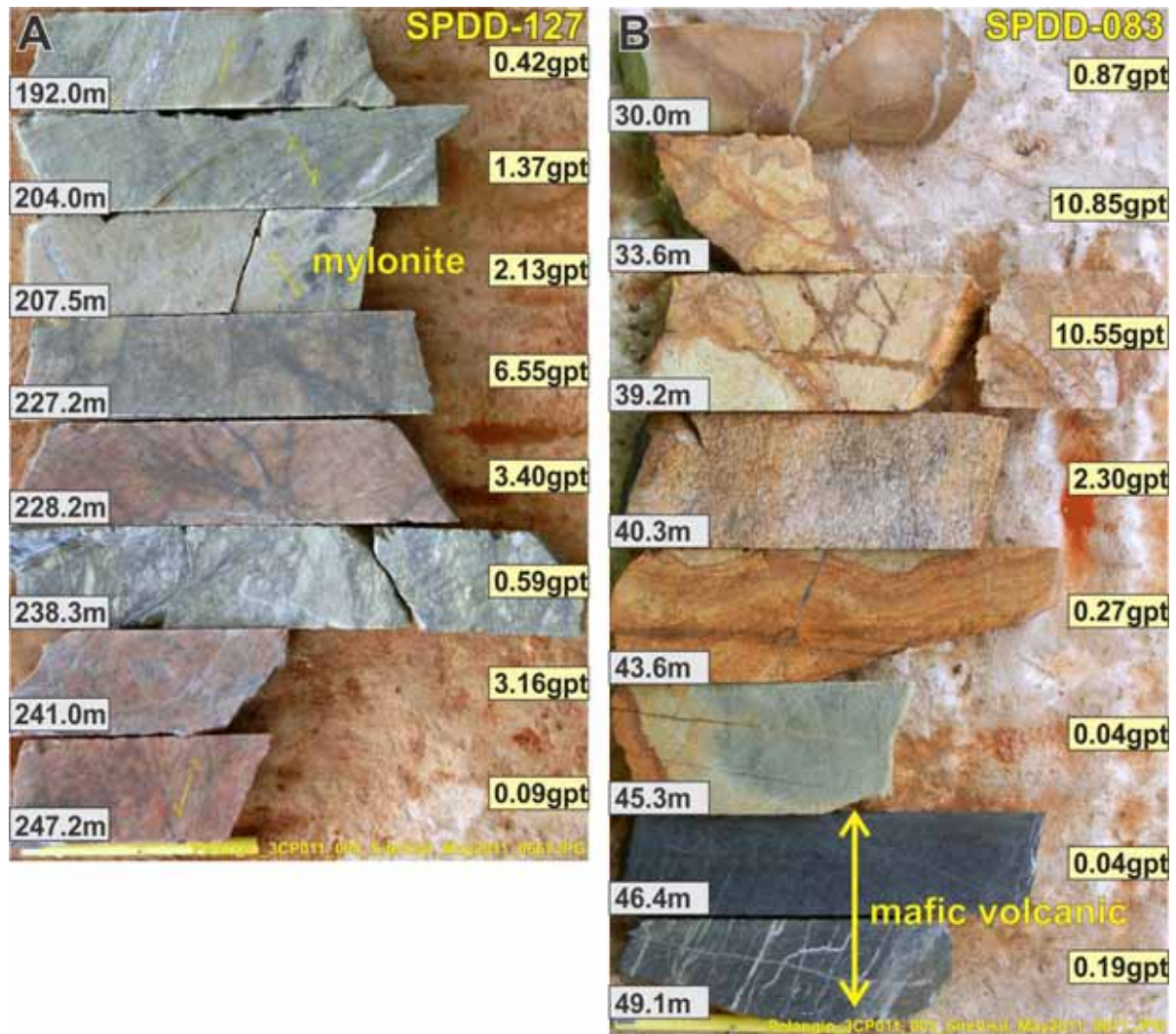


Figure 12: Local Geology Setting.

Mineralization at the Manfo project is localized along a major northeast-striking fault zone separating Sefwi-Bibiani belt supracrustal volcanic and sedimentary rocks to the west from a regional synvolcanic intrusive unit to the east. Alteration and gold mineralization are closely related to increasing strain within strands of this fault system. Gold is associated with wide zones of pervasive to fracture-controlled quartz-sericite-carbonate-pyrite alteration overprinting an earlier phase of hematite alteration hosted predominantly in sheared and locally brecciated, altered granitoid rocks and to a lesser extent brecciated hematite-altered mafic metavolcanic rocks. Observations from drill core suggest higher grade gold mineralization is related to quartz-pyrite veins, stockworks and fracture systems (Figure 13) generated during relatively late episodes of deformation. In outcrop, similar fracture systems were interpreted as late syn-kinematic features at structurally suitable sites such as bends in the high strain fault corridor.



**Figure 13: Representative Drill Core from the Manfo Project.**

A. Composite photograph of SPDD-127 showing strong sericite and hematite alteration and fine quartz veining associated with elevated gold values in altered granitoid rock. Gold mineralization is also associated with the increase in strain within the drill core.

B. Composite photograph of SPDD-083 with elevated gold mineralization in the weathered granitoid rock near the top of the hole. Strong iron carbonate, sericite and hematite alteration and fine fracturing and quartz remain recognizable.

Drilling at Pokukrom East has defined a zone with a strike length in excess of 660 metres on seven sections from section 49300 to section 50000 and a depth in excess of 200 metres. Significant gold mineralization, generally at bulk tonnage grades (1.0 to 2.0 gpt gold) on broad intervals (thirty to fifty metres) was intersected on most of the sections, along with a higher grade interval that has been identified on approximately 400 metres of the strike length to date. The higher grade interval generally occurs in ten to fifteen metre intersections grading between 3.0 to 5.0 gpt gold.

The gold mineralization at Pokukrom East is generally hosted within a quartz-carbonate-sericite-pyrite altered granitoid, with high-grade intervals (such as in SPDD-088 and -113) being hosted in a quartz-pyrite vein stockwork in quartz-sericite-pyrite schist.

Pokukrom West is located approximately 400 metres west of Pokukrom East. Drilling at Pokukrom West encountered saprolite from surface to depths of up to thirty-five metres and a transitional oxide zone to approximately forty to fifty metres depth. Below the saprolite and transitional oxide zone, drilling encountered quartz-pyrite-sericite schists with quartz-pyrite veinlets. Gold mineralization is hosted in sericite altered granitoid with one to three percent pyrite, in what is interpreted as a steep east-dipping, northeast-striking shear zone.

Nfante West is approximately four kilometres southwest of the Pokukrom West zone. The Nfante West zone is consistently mineralized with gold occurring in broad zones of hydrothermal silica-sericite alteration and pyritic stockwork containing fine grained sugary pyrite within a brecciated and sheared zone of granitoid.

Gold mineralization at Nfante West typically occurs in strong silicification and sericitization accompanied by disseminated sulphide and stockwork with limited quartz-pyrite veining. The style of mineralization and grade intercepted in the holes at Nfante West to date indicate the potential for bulk tonnage gold mineralization.

From limited drilling, the gold mineralization at the Nfante East target area is hosted in brecciated, hematite-altered mafic volcanic rock with five percent irregular quartz-pyrite stockwork.

## 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, 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, Ahafo and Chirano in Birimian rocks, Ghana; Contact Lake in the Trans Hudson orogen, Canada; Homestake, South Dakota; and Omai, 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 Manfo is based on the geology of the Chirano gold mine owned by Kinross Gold Corp. (“Kinross”) on the southeast edge of the Sefwi-Bibiani Belt approximately fifty-six kilometres south southwest of the project area and on Newmont’s Ahafo gold mine on the northwest edge of the Sefwi-Bibiani Belt approximately twenty-four kilometres north northwest of the project area (Figure 12). In these deposits, gold mineralization is concentrated where felsic intrusive rocks have intruded the Birimian supracrustal rocks, during relatively late episodes of deformation along regional northeast- to north northeast-striking fault zones associated with regional-scale shortening.

The Proterozoic-age orogenic-style gold mineralization at Ahafo is controlled by the northeast-striking Kenyasi thrust fault and its subsidiary structures. Ore is concentrated in the hanging wall of the fault, hosted predominantly by intrusive rocks and to lesser extent by metasedimentary rocks (Finn, 2011). The Chirano mine lies along the Chirano shear zone, a north northeast-striking thrust fault separating metavolcanic rocks to the west from Tarkwaian metasedimentary rocks to the east within a zone of altered and deformed rocks known as the Chirano lode horizon. The Chirano shear zone lies subparallel to the metavolcanic-belt bounding Bibiani shear zone. Most mineralization is hosted in tonalite intrusions and adjacent mafic metavolcanic rocks. Gold ore shoots plunge steeply to the north and gold mineralization is controlled by a ductile shear zone alternating from ductile to brittle regime leading to higher grade breccias (Kinross, 2011; Allibone et al., 2004).



## 8 Exploration

### 8.1 Exploration by Pelangio

Exploration by Pelangio has been conducted in two phases. The initial phase was part of the due diligence conducted between March 22 and September 3, 2010 under the Letter of Interest executed between Hebron and Pelangio. Pelangio recognized the lack of documentation of quality control measures in the historical data and undertook the due diligence program in part to confirm the presence and grade of gold mineralization at Manfo prior to committing to an option agreement.

The due diligence work consisted of a program of trenching and soil geochemistry sampling. Following the due diligence period, a comprehensive exploration program was initiated by Pelangio and consists of: rock grab sampling and geological mapping; additional soil geochemistry sampling; stream sediment sampling; auger sampling; ground geophysical surveys; and a detailed airborne magnetic and electromagnetic survey. Additional trenching and 9,177 metres of core drilling were also completed (Figure 14).



**Figure 14: Exploration, Trenching and Drilling Activities on the Manfo Project.**

- A. Concrete marker and plastic casing for drill hole SPDD-089.
- B. Looking northeast at the north wall of trench SUTR011 showing metre markers (small sticks in wall).
- C. Active drill site (SPDD-141) of drilling contractor Burwash Drilling.
- D. Pelangio's Manfo Project core logging and storage facility, north of Manfo village.

### 8.1.1 Rock Grab Sampling and Geological Mapping

Geological traverses of the area were conducted by Pelangio personnel along footpaths, hunter's trails and on the gridlines. Few outcrops are exposed within the area, although some well exposed outcrops on the tops of hills and along roads are present. Observations from both outcrop and core logging suggest the dominant rock types are moderately to strongly foliated to gneissic felsic intrusions and mafic volcanic rocks, intruded by deformed felsic to mafic dykes. The outcrop density, however, is not high enough to produce a detailed geological map from mapping alone. The regional geological map of Ghana (Figure 12) does not reflect the complex magnetic pattern evident in the regional aeromagnetic data available for the area, and an integrated interpretation of available core, outcrop and aeromagnetic data is required to produce a more detailed geological map.

Forty-one samples were taken in 2010 and nine were taken to the end of June, 2011, three of which were channel-samples. Two rock chips from trench SUTR001 returned gold grades of 2,230 ppb and 1,250 ppb over one metre intervals that may not represent true width. A boulder from a cottage in Pokukrom East returned a gold grade of 1,685 ppb, and an outcrop in a road about 150 metres north of Pokukrom returned a gold value of 2,670 ppb.

### 8.1.2 Soil Geochemistry Sampling

The first phase of soil geochemistry was done as part of Pelangio's due diligence process, which was intended to confirm the historical data collected by Ashanti and AngloGold Ashanti. This program consisted of three grids cut over the Pokukrom East and Nfante West and East target areas. A subsequent grid was cut near the southern boundary of the Odumase target area. A baseline of 1.6 kilometres and 10.2 kilometres of cross lines were cut on a 100 or 200 metre by fifty metre grids for the due diligence phase of the soil sampling program, and 700 metres of baseline and 9,425 metres of cross lines were cut for the subsequent phase. A total of 588 BLEG soil samples were taken. During due diligence and subsequent soil sampling, Pelangio confirmed the presence of five large geochemical anomalies that consistently returned values in excess of 40 ppb gold. The anomalous areas and their dimensions are described as follows:

- Nfante East (800 metres by 350 metres; open to the northeast and southwest);
- Nfante West (700 metres by 150 metres; open to the southwest);
- Pokukrom East (1,300 metres by 300 metres);
- Pokukrom West (200 metres by 150 metres); and
- Odumase South (two areas: 700 metres by 100 metres and 500 metres by 100 metres).

### 8.1.3 Stream Sediment Sampling

Following the due diligence phase, a stream sediment sampling program was undertaken in the Subriso, Sempekrom and Twabidi concessions and continues to the present. Proposed sample locations are predetermined and stored in a GPS prior to the stream sediment sampling. Up to the end of June 2011, 190 original samples plus nine duplicate samples had been collected and analysed. These are distributed between the three concessions as follows: Subriso – sixty-nine samples; Sempekrom – thirty-five samples; Twabidi – seventy-four samples. Twelve samples are located just outside the boundaries of the three concessions. Results from the stream sediment program have included seven samples having values greater than 100 ppb gold (Figure 15). Five of these are from the Subriso concession and have values of 380, 340, 220, 120 and 110 ppb gold. Two of the samples are from the Twabidi concession and have values of 150 and 110 ppb gold. Several of these samples

are immediately adjacent to known deposits such as Pokukrom and Odumase, but others are geographically distant from the known deposit areas and will require follow up work.

#### **8.1.4 Auger Sampling**

As a follow up to the soil geochemistry sampling, a deep auger sampling program was initiated in October 2010 on two selected lines to the north of Pokukrom East. This was designed to test the surface gold expression down into the saprock or saprolite zone. A total of 80 holes (262.8 metres) were drilled along two lines set 100 metres apart with samples taken at ten metre spacing. Most of the eighty samples collected returned values less than 0.05 gpt gold but one sample returned an average grade of 8.14 gpt gold across a hole length interval of 1.0 metre. This sample is directly along strike to the northeast of the soil geochemical anomaly defining the Pokukrom East target area but showed much lower gold values in the historical soil geochemistry results (Figure 16).

#### **8.1.5 Ground IP Survey**

During the site visit, Pelangio was in the process of cutting the grid for Gradient Array and Pole-Dipole induced polarization surveys. A baseline five kilometres long with cross lines spaced 100 metres apart and twenty-five metre stations were being prepared. Ninety kilometres of surveying in two blocks was conducted from June to July 2011. Final results are still outstanding.

#### **8.1.6 Airborne Magnetic and Electromagnetic Survey**

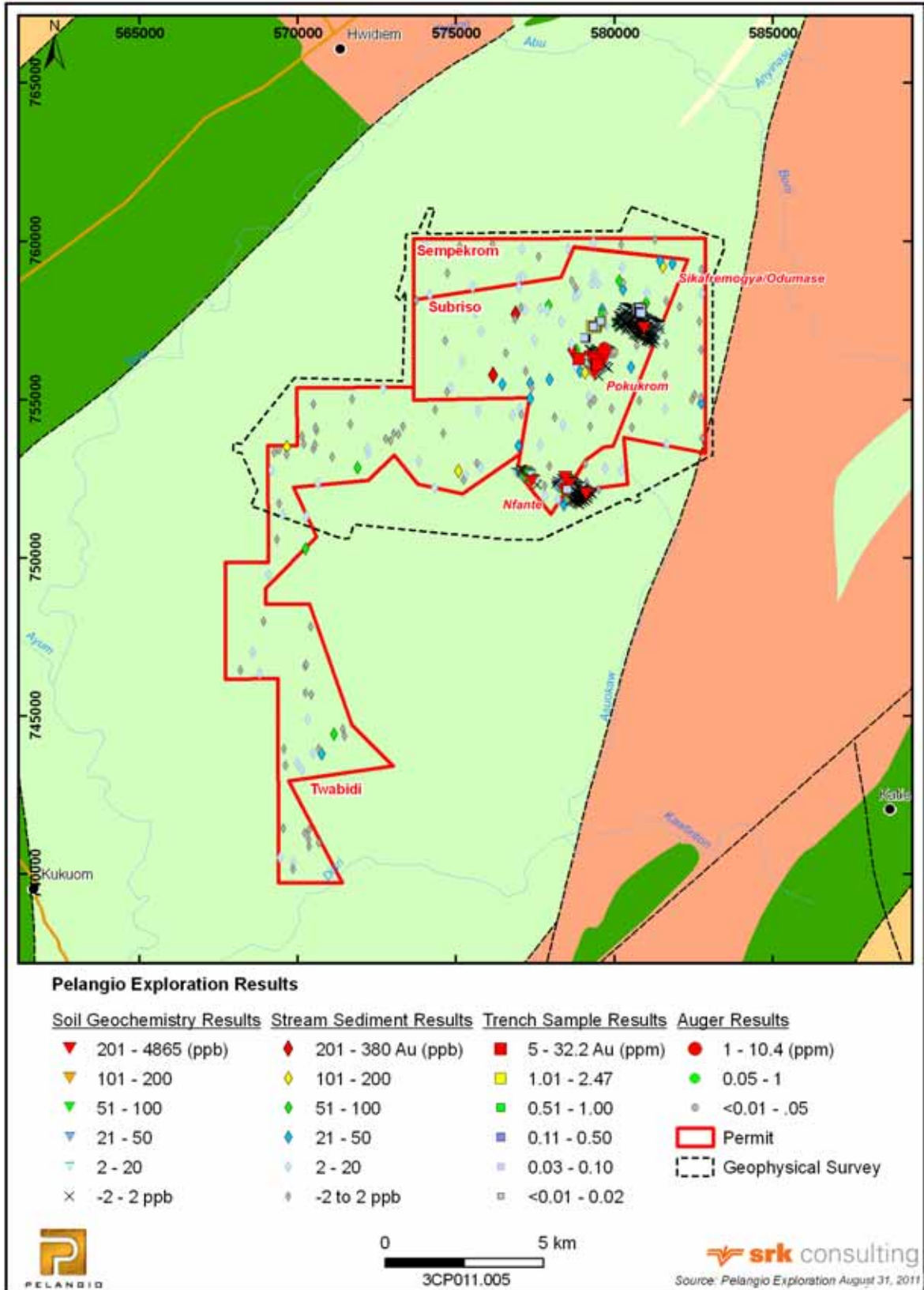
Pelangio awarded Geotech Airborne Limited (“Geotech”) of Aurora, Canada a contract to fly a helicopter-borne geophysical survey of approximately 1,173 line-kilometres over the Manfo Project, covering all of the Subriso and Sempekrom concessions and the northern third of the Twabidi concession (Figure 15).

The survey was completed in the fourth quarter of 2010. A total of 1,172.9 line kilometres of geophysical data was delivered by Geotech, with a nominal 100 metre line spacing oriented at 110 degrees with respect to UTM north. Tie lines were run at one kilometre spacing oriented at 020 degrees. All data was delivered with locations in WGS84 UTM Zone 30 North datum and projection.

The Geotech Versatile Time-Domain Electromagnetic (“VTEM”) geophysical system was used for this survey and comprised of the following main instrumentation:

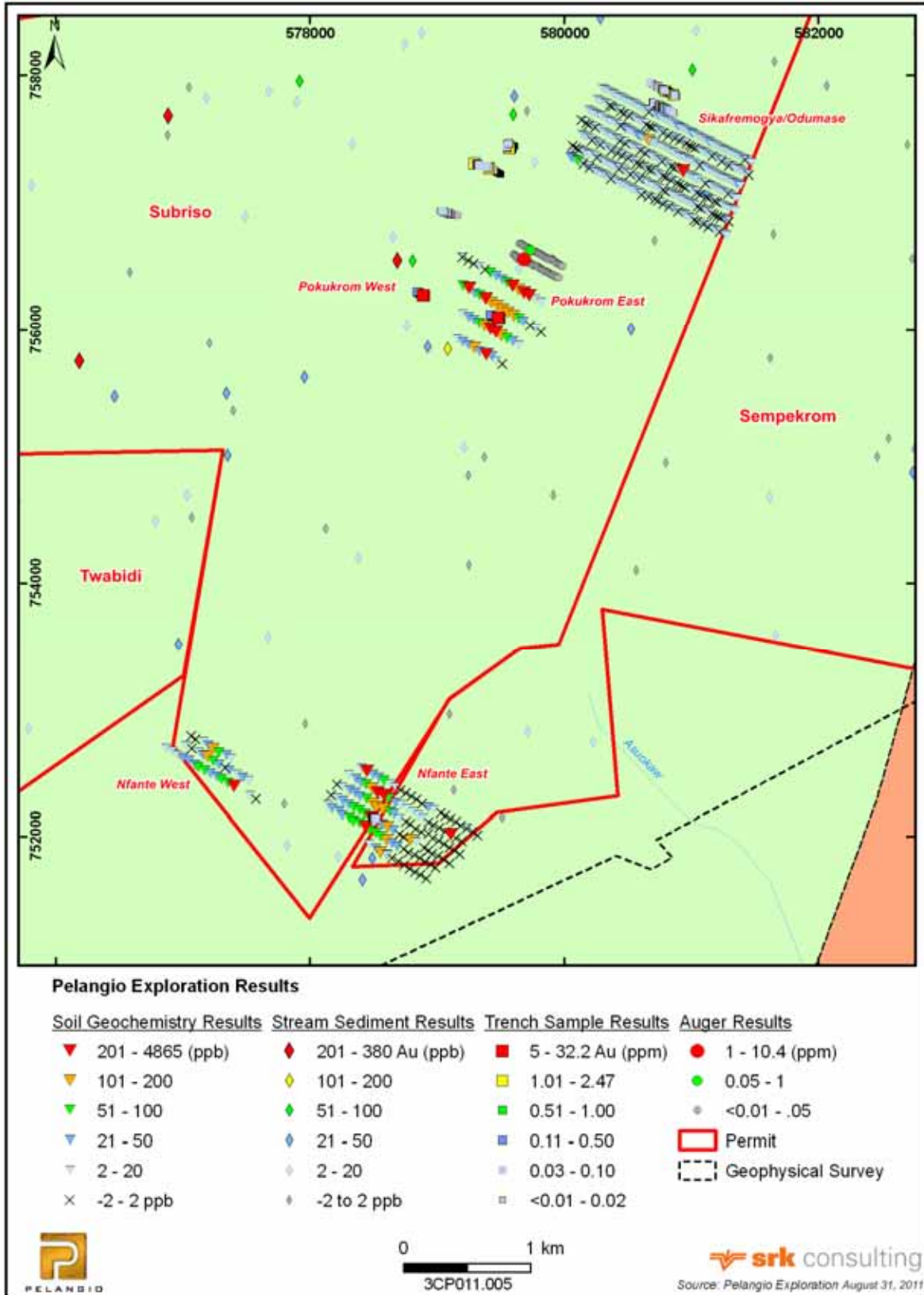
- The VTEM Time Domain EM system for locating conductive anomalies and mapping earth resistivity;
- A high-sensitivity cesium magnetometer for mapping geologic structure and lithology;
- A cesium magnetometer base station for diurnal correction;
- A radar altimeter with an accuracy of approximately one meter; and
- A real time GPS navigation system providing an in-flight accuracy up to three metres.

In addition to the usual magnetic and EM data, radiometric data was also acquired during the TEM survey. Ongoing processing and analysis of the magnetic and EM data is being undertaken by Condor Consulting, Inc. of Lakewood, Colorado, USA. The results of the airborne electromagnetic and magnetic survey are intended to provide both exploration targets within the Manfo project area and the basis for a better understanding of the geological and structural framework of the area.



**Figure 15: Compilation Map of Pelangio Exploration Data.**

Lithology Units Same As in Figure 12.



**Figure 16: Compilation Map of Pelangio Exploration Data in Current Target Areas.**  
 Lithology Units Same As in Figure 12.

## 9 Trenching and Drilling

### 9.1 Trenching

Trenching was undertaken in two phase on the Subriso Concession based on historical data and the results from the Pelangio soil sampling program. The first phase was part of the Pelangio due diligence process when four trenches were excavated, two at Pokukrom East and one at each of Pokukrom West and Nfante East. Following the due diligence period, an additional seven trenches were excavated, five along the northwest extension of Pokukrom West and two in the Odumase South target area.

Trench sites were located using hand held GPS. The trenches were nominally oriented at 117 degrees relative to true north using a hand compass. Lines were cut in order to facilitate the siting. All trenches were manually dug to a maximum vertical depth of 3.5 metres. After excavation, the ends of the trench were surveyed using hand held GPS. The trench bottom was carefully cleaned, photographed (where necessary), and mapped by a geologist who also marked the saprolite contact, sampling line and intervals. The southeast-trending trenches were mapped and sampled along the north wall with the start point on the western end. Trenches were mapped normally at a scale of one centimetre to one metre. Trench maps were produced to cover all the trenches excavated. Results of the analyses of the gold content of trench samples were put on trench maps.

To the end of June 2011, Pelangio had completed eleven trenches with a total length of 1,061 metres from which 1,061 samples were collected. From eleven trenches completed, one trench (SUTR001) at Pokukrom West and two trenches (SUTR002 and SUTR003) at Pokukrom East returned very long and significant intercepts. All significant intercepts are detailed in Table 4. These trenches followed up on Pelangio's soil sampling results and successfully confirmed historical trenching results of AngloGold Ashanti and Newmont.

**Table 4: Salient Assay Results from Trenching by Pelangio.**

Site	Trench	Gold (gpt)	Length* (metres)	Comments*
Pokukrom West	SUTR001	0.50	66.0	Including 1.39 gpt over 18.0 metres Due diligence – confirmed historical work
Pokukrom East	SUTR002	0.62	30.0	Including 32.20 capped at 2.00 gpt over 1.0 metre Due diligence – confirmed historical work
Pokukrom East	SUTR003	0.32	60.0	Due diligence – confirmed historical work
Pokukrom West extension	SUTR005	2.47	1.0	
Pokukrom West extension	SUTR007	1.86	1.0	
Pokukrom West extension	SUTR010	0.55	3.0	
Odumase South	SUTR009A	0.65	3.0	
Odumase South	SUTR001	0.36	8.0	

\* There is insufficient information to determine if the trench lengths represent true widths.

## 9.2 Drilling

As of the end of June, 2011, Pelangio had drilled and received assays for a total of fifty-eight core boreholes (Appendix B) completed in two phases of drilling. Drilling has been ongoing since that time, but only the results for the first fifty-eight core boreholes received by the end of June and made public are discussed here.

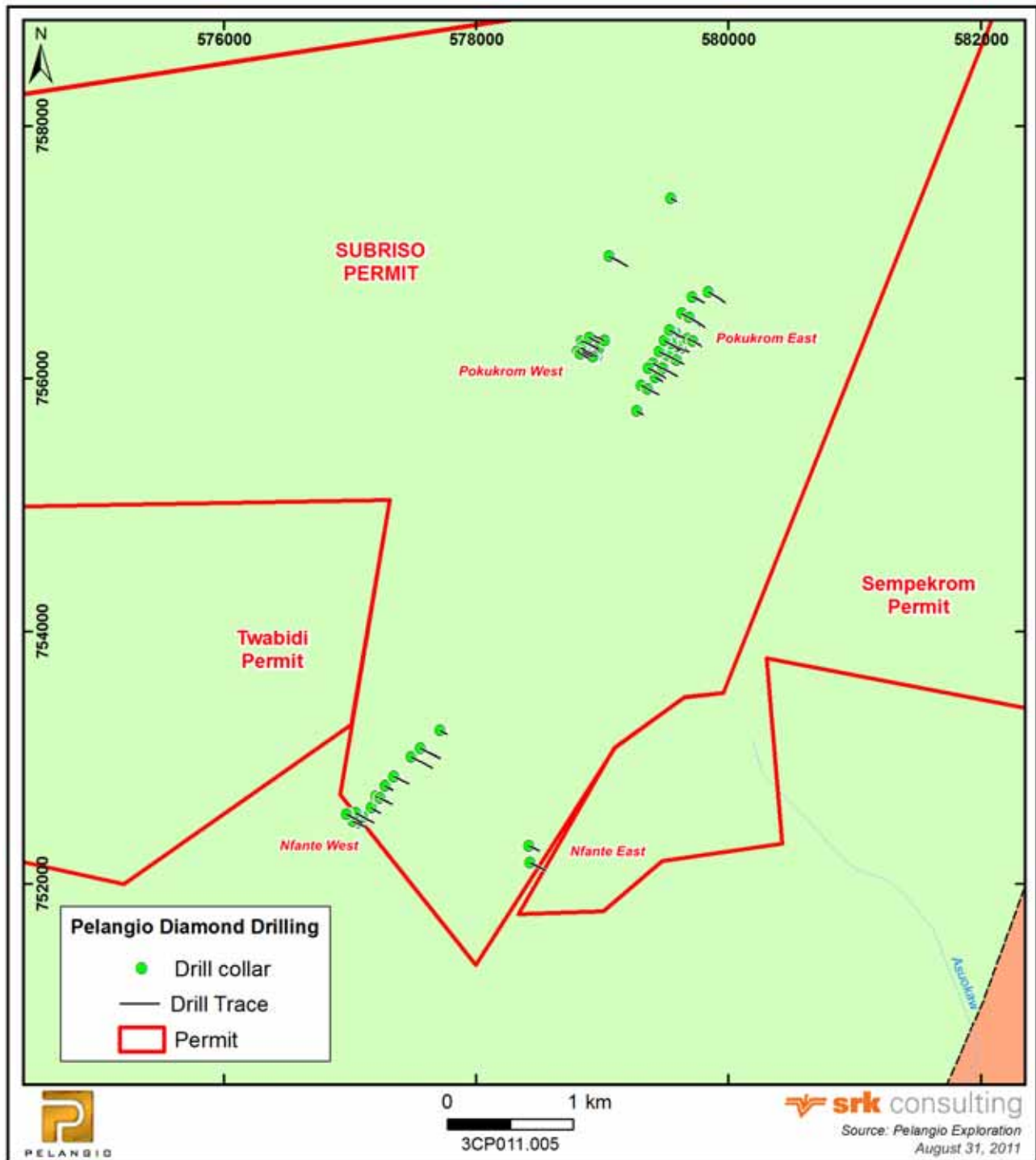
All boreholes are HQ sized, and are reduced to NQ2 at the bedrock interface. The drilling contractor for the 2010 and 2011 drilling programs was Burwash Contract Drilling of British Columbia, Canada. Collars were located in the field using a Garmin handheld GPS, short plastic casings were left in the hole and a cement monument placed around each collar for later Differential GPS (“DGPS”) survey pickup. Down hole surveys use Reflex Instruments’ EZ-Trac tool to determine variations in hole orientation.

The first phase of drilling was designed to confirm certain historical exploration results and to follow up on surveying and trenching results at Nfante West, Nfante East, Pokukrom West and Pokukrom East, while the second phase was designed to follow-up on successful first phase drilling as well as new targets generated by surface work and geophysical surveying.

The drill holes from both phases are distributed between the four target areas as follows:

- Fourteen holes (2,774 metres) at Nfante West;
- Two holes (347 metres) at Nfante East;
- Twenty-four holes (3,966 metres) at Pokukrom East; and
- Sixteen holes (2,537 metres) at Pokukrom West, plus two step out holes (335 metres) 600 and 1,200 metres northeast of the main target area, respectively.

The locations of the drill collars and traces are shown in Figure 17 and the salient assay results are presented in Table 5, Table 6, Table 7 and Table 8. A plan map and vertical sections for drilling over the main showings at Pokukrom East, Pokukrom West, Nfante West and Nfante East are compiled in Appendix C.



**Figure 17: Map Showing the Distribution of Pelangio Drilling.**

Lithology Units Same As in Figure 12.



**Table 5: Salient Assay Results at Pokukrom East from Diamond Drilling by Pelangio.**

Local Grid Section	Hole ID	From (m)	To (m)	Interval (m) <sup>1</sup>	Au (gpt) <sup>2</sup>	Gram-Metres	Hole Length (m)
49550	SPDD-085	4	16	12	0.25	3.0	246
		24	44	20	0.27	5.4	
		64	85	21	0.28	5.9	
		98	139	41	1.36	55.8	
	<i>inc.</i>	116	129	13	3.37	43.8	
49550	SPDD-086	1	59	58	0.58	33.9	180
	<i>inc.</i>	14	20	6	2.28	13.7	
49350	SPDD-087	15	36	21	0.43	9.0	170
		50	94	44	0.53	23.3	
49350	SPDD-088	1	28	27	0.62	16.7	144
		35	54	19	7.01	133.2	
				19 <sup>3</sup>	4.00 <sup>3</sup>	76.0 <sup>3</sup>	
	<i>inc.</i>	35	40	5	24.68	123.4	
				5 <sup>3</sup>	13.24 <sup>3</sup>	66.2 <sup>3</sup>	
49850	SPDD-089	56	102	46	1.03	47.4	141
49150	SPDD-105	22	52	30	0.31	9.3	
49450	SPDD-106	2	31	29	0.84	24.4	103
	<i>inc.</i>	15	29	14	1.31	18.3	
		41	54	13	3.47	45.1	
49500	SPDD-107	7	51	44	0.37	16.3	222
		64	135	71	1.15	81.7	
		<i>inc.</i>	77	134	57	1.37	
	<i>inc.</i>	116	127	11	3.53	38.8	
49650	SPDD-108	25	35	10	0.36	3.6	94
		54	60	6	0.63	3.8	
49650	SPDD-109	75	108	33	0.59	19.5	180
		114	121	7	0.28	2.0	
49650	SPDD-110	13	27	14	0.51	7.1	195
		70	107	37	0.33	12.2	
		117	133	16	2.14	34.2	
		148	161	13	0.62	8.1	
49650	SPDD-111	1	31	30	0.22	6.6	103
49750	SPDD-112	53	78	25	0.43	10.8	110
49750	SPDD-113	91	103	12	4.19	50.3	138
	<i>inc.</i>	96	101	5	9.49	47.5	
49750	SPDD-114	14	26	12	0.39	4.7	170
		38	47	9	0.84	7.6	
		132	148	16	0.40	6.4	
49750	SPDD-115	2	22	20	0.24	4.8	212
		56	76	20	0.33	6.6	
		102	149	47	0.61	28.7	
		<i>inc.</i>	118	131	13	1.02	
		169	187	18	0.49	8.8	
50250	SPDD-122				Not sampled		Abandoned at 44
50150	SPDD-123	125	126	1	10.15	10.2	176
50250	SPDD-124	221	225	4	4.52	18.1	248
50000	SPDD-125	145	154	9	0.66	5.9	249
		210	232	22	1.00	22.0	
50000	SPDD-126	114	124	10	0.28	2.8	209
		170	187	17	0.37	6.3	
		194	201	7	0.36	2.5	
49850	SPDD-127	161	246	85	0.89	75.7	248
		<i>inc.</i>	204	246	42	1.53	
49850	SPDD-128	62	78	16	1.59	25.4	188
49850	SPDD-129	5	59	54	0.81	43.7	103
		<i>inc.</i>	11	49	38	1.01	

<sup>1</sup> Intervals are core length, with true width estimated to be approximately 100 percent of intervals drilled at -45 degrees or -50 degrees (most drill holes), or 90% of intervals drilled at -65 degrees or -70 degrees (SPDD-127).

<sup>2</sup> Intersections are calculated with a 0.2 gpt cut-off and a maximum of 5.0 metres of internal dilution, unless otherwise indicated.

<sup>3</sup> Intersections containing high-grade intervals that have been cut to 30 gpt are stated following the uncut intervals.

**Table 6: Salient Assay Results at Pokukrom West from Diamond Drilling by Pelangio.**

Local Grid Section	Hole ID	From (m)	To (m)	Interval (m) <sup>1</sup>	Au (gpt) <sup>2</sup>	Gram-Metres	Hole Length (m)	
49450	SPDD-083	4	44	40	2.98	119.2	96	
	<i>inc.</i>	31	43	12	8.00	96.0		
49450	SPDD-084	27	39	12	8.60	103.2	90	
49400	SPDD-090	1	51	50	6.89	344.5	52	
		<i>inc.</i>	14	23	50 <sup>3</sup>	3.89 <sup>3</sup>		194.5 <sup>3</sup>
					9	36.21	325.9	
49450	SPDD-091			9 <sup>3</sup>	19.54 <sup>3</sup>	175.9 <sup>3</sup>	218	
		5	16	11	0.40	4.4		
		81	95	14	0.33	4.6		
	<i>inc.</i>	115	151	36	0.72	25.9		
49400	SPDD-092	140	148	8	2.27	18.2	77	
		<i>inc.</i>	4	25	21	4.20		88.2
	<i>inc.</i>	11	20	9	8.68	78.1		
49400	SPDD-116	33	55	22	0.53	11.7	167	
		113	124	11	0.75	8.3		
49400	SPDD-117				NSR		212	
49350	SPDD-118				NSR		141	
49350	SPDD-119	58	79	21	0.57	12.0	121	
49500	SPDD-130	66	85	19	2.60	49.4	146	
		<i>inc.</i>	69	77	19 <sup>3</sup>	2.48 <sup>3</sup>		47.1 <sup>3</sup>
					8	5.79	46.3	
					8 <sup>3</sup>	5.50 <sup>3</sup>	44.0 <sup>3</sup>	
49500	SPDD-131	91	117	26	0.18	4.7	173	
		110	122	12	0.32	3.8		
	<i>inc.</i>	130	139	9	11.06	99.5		
49450	SPDD-132	131	138	7	14.10	98.7	176	
		<i>inc.</i>	90	112	22	0.99		21.8
49375	SPDD-133	92	98	6	2.95	17.7	130	
		68	85	17	0.33	5.6		
49550	SPDD-134	93	95	2	1.95	3.9	130	
49550	SPDD-135				NSR		161	
49500	SPDD-136	10	60	50	1.00	50.0	108	
		<i>inc.</i>	34	45	11	2.52		27.7

<sup>1</sup>. Intervals are core length, true widths to be determined by additional drilling.

<sup>2</sup>. Intersections are calculated with a 0.2 gpt cut-off and a maximum of five metres of internal dilution, unless otherwise indicated.

<sup>3</sup>. Intersections containing high-grade intervals that have been cut to 30 gpt are stated in cells following the uncut intervals.

**Table 7: Salient Assay Results at Nfante West from Diamond Drilling by Pelangio.**

Local Grid Section	Hole ID	From (m)	To (m)	Interval (m) <sup>1</sup>	Au (gpt) <sup>2</sup>	Gram-Metres	Hole Length (m)
45400	SFDD-079	9	79	70	1.35 <sup>3</sup>	94.5	141
	<i>inc.</i>	26	44	18	3.02 <sup>3</sup>	54.5	
45400	SFDD-080	29	49	20	0.58	11.6	220
	<i>inc.</i>	61	103	42	0.52	21.8	
	<i>inc.</i>	87	98	11	1.03	11.3	
45250	SFDD-081	17	28	11	0.42	4.6	133
45250	SFDD-082	12	53	41	0.89	36.5	127
45300	SFDD-095	13	36	23	0.89	20.5	143
45300	SFDD-096	64	107	43	1.11	47.7	141
	<i>inc.</i>	85	101	16	2.03	32.5	
45250	SFDD-097	134	144	10	0.59	5.9	204
45500	SFDD-098	11	88	77	0.27	20.8	152
	<i>inc.</i>	96	114	18	0.42	7.6	
45600	SFDD-099	72	103	31	0.38	11.8	106
45500	SFDD-100	25	103	78	0.48	37.4	149
	<i>inc.</i>	29	51	22	1.11	24.4	
45700	SFDD-101	69	89	20	0.29	5.8	188
45900	SFDD-102				NSR		270
46000	SFDD-103				NSR		252
46200	SFDD-104	41	48	7	0.50	3.5	102

<sup>1</sup>. Intervals are core length, true widths to be determined by additional drilling.

<sup>2</sup>. Intersections are calculated with a 0.2 gpt cut-off and a maximum of five metres of internal dilution, unless otherwise indicated.

<sup>3</sup>. Includes substituted screened metallic fire assay results where available.

**Table 8: Salient Assay Results at Nfante East from Diamond Drilling by Pelangio.**

Local Grid Section	Hole ID	From (m)	To (m)	Interval (m) <sup>1</sup>	Au (gpt) <sup>2</sup>	Gram-Metres	Hole Length (m)
45700	SFDD-093				NSR		146
45550	SFDD-094	48	86	38	0.87	33.1	198
	<i>inc.</i>	71	85	14	1.33	18.6	

<sup>1</sup>. Intervals are core length, true widths to be determined by additional drilling.

<sup>2</sup>. Intersections are calculated with a 0.2 g/t cut-off and a maximum of five metres of internal dilution, unless otherwise indicated.

## 9.2.1 Pokukrom East

Pelangio has drilled twenty-three holes at Pokukrom East (4,966 metres).

Drilling at Pokukrom East has defined a strike length in excess of 660 metres on seven sections from section 49300 to section 50000, and a depth in excess of 200 metres (Appendix C). Significant gold mineralization, generally at bulk tonnage grades (1.0 to 2.0 gpt gold) on broad intervals (thirty to fifty metres) was intersected on most of the sections, along with a higher grade interval that has been identified on approximately 400 metres of the strike length to date. The higher grade interval generally occurs in ten to fifteen metre intersections grading between 3.0 to 5.0 gpt gold (Figure 18).

The gold mineralization at Pokukrom East is generally hosted within a quartz-carbonate-sericite-pyrite altered granitoid, with high-grade intervals (such as in SPDD-088 and -113) being hosted in a quartz-pyrite vein stockwork in quartz-sericite-pyrite schist.

## 9.2.2 Pokukrom West

As of the end of the period, Pelangio has drilled sixteen holes (2,537 metres) at Pokukrom West.

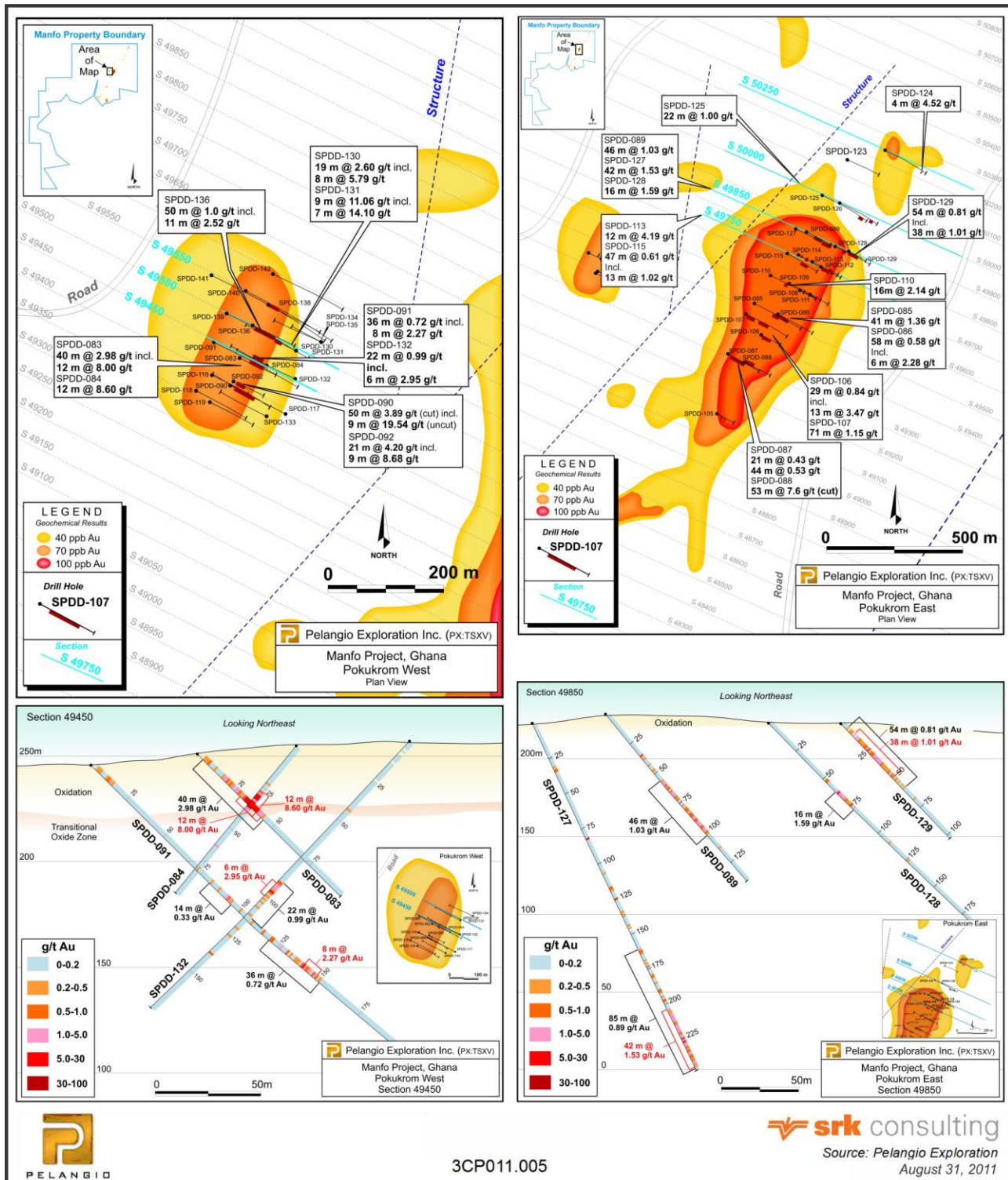
Pokukrom West is approximately 400 metres west of Pokukrom East and four kilometres northeast of the Nfante West zone. Drilling at Pokukrom West encountered saprolite from surface to depths of up to thirty-five metres and a transitional oxidized zone to approximately forty to fifty metres depth (Figure 18).

Below the saprolite and transitional oxide zone, drilling encountered quartz-pyrite-sericite schists with quartz-pyrite veinlets. Gold mineralization is hosted in sericite altered granitoid with one to three percent pyrite, in what is interpreted as a steep east-dipping, northeast-striking shear zone.

SPDD-083 and -084 intersected a high grade zone of gold mineralization on section 49450. The holes were scissored at azimuth 117 degrees and azimuth 297 degrees to test the dip of the mineralization at the anomaly. SPDD-091 and -132 were drilled as fifty metre step-backs from each of these holes to test the gold mineralization at depth (Appendix C).

Holes SPDD-090 and -092 at Pokukrom West were drilled on section 49400. SPDD-092 was collared approximately nine metres from SPDD-090 after the latter was abandoned due to poor drilling conditions. Drilling below these holes (SPDD-116 and -117) intersected anomalous mineralization, which may represent the periphery of a northeast-plunging zone (Appendix C).

SPDD-130, -131, and -136 and were drilled on section 49500 to test the northerly strike and plunge of the zone (Appendix C). Each of these holes intersected a significant zone of high grade mineralization. SPDD-131 was the deepest intersection of the high grade zone and was made in fresh (unoxidized) rock, indicating the potential for a significant high grade zone at the target. The holes confirmed the steep east dip of the high-grade zone, which remains open at depth.



**Figure 18: Maps and Cross-Sections Highlighting Results of Pelangio Drilling in Relation to the Soil Geochemistry Anomalies at Pokukrom West and Pokukrom East.**

### 9.2.3 Nfante West and Nfante East

Pelangio has drilled fourteen holes at Nfante West (2,327 metres). Drilling to date at Nfante West has defined gold mineralization in a zone with an open strike length in excess of 280 metres on four sections that remains open at depth (Appendix C).

The Nfante West zone is consistently mineralized with gold occurring in broad zones of hydrothermal silica-sericite alteration and pyritic stockworks containing fine-grained, sugary pyrite within a brecciated and sheared zone of granitoid. Gold mineralization at Nfante West typically occurs in strong silicification and sericitization accompanied by sulphide dissemination and stockworks with limited quartz-pyrite veining.

SFDD-099 and -101 were 200 metre step-outs, respectively, to the north of SFDD-98 and -100. Mineralization encountered in the bottom of SFDD-099 (0.38 gpt gold over 31.0 metres from 72.0 metres down-hole) and SFDD-101 (0.29 gpt gold over 20.0 metres from 69.0 metres) may indicate that the Nfante West zone continues east of these drill holes. The geology and alteration intersected in these holes is similar to the other holes drilled at Nfante West.

Pelangio has drilled two holes totalling 344 metres at Nfante East. During first phase drilling, SFDD-094 intersected a wide, gold mineralized zone approximately one kilometre east of the Nfante West discovery and four kilometres southwest of the Pokukrom East discovery.

SFDD-093 and -094 were drilled on sections approximately 150 metres apart, west of the strongest area of the Nfante East geochemical anomaly, the entirety of which measures approximately 800 metres by 350 metres (at a forty ppb level) and is open to the northeast and southwest.

SFDD-094 intersected 0.95 gpt gold over 33.0 metres (true width to be confirmed) from 53.0 metres down-hole (Appendix C). Mineralization in hole SFDD-094 is hosted in brecciated, hematite altered mafic volcanic rocks with five percent irregular quartz-pyrite stockworks.

## 9.3 Drilling Pattern and Density

Drill holes are generally oriented with a starting azimuth of 117 degrees relative to true north, with scissor holes oriented 297 degrees relative to true north.

Drilling to date on the Pokukrom East area has been mainly on sections spaced from fifty to 150 metres apart with some larger step outs. On sections with multiple drill holes, the drill holes are spaced from fifty to 150 metres apart. Drilling on the Pokukrom West area has been mainly on sections spaced fifty metres apart, with some larger step outs. On sections with multiple drill holes, the drill holes are spaced from fifty to 100 metres apart.

Drilling to date on the Nfante West area has been on sections spaced from fifty to 200 metres apart. On sections with multiple drill holes, the drill holes are spaced from fifty to 100 metres apart. The two holes drilled on Nfante East are on sections spaced approximately 150 metres apart and the drill holes are offset approximately seventy-five metres.

## 9.4 SRK Comments

In the opinion of SRK, the drilling by Pelangio to date has been oriented to intersect the targeted gold mineralization in an appropriate manner. The drill hole spacing to date is sufficient to demonstrate the lateral continuity of the relatively wide intersections of moderate grade across the sections drilled to date. The drilling has defined an economically interesting gold system in three dimensions with reasonable geological continuity established between drill holes and sections. Additional infill drilling will be required to assess gold distribution and support geological modelling and mineral resource evaluation.

## 10 Sample Preparation, Analyses, and Security

### 10.1 Sample Preparation and Analyses

#### 10.1.1 Rock Grab Sampling

Hard rock samples (1.5 to 3.0 kilograms in weight) were collected while undertaking mapping or soil sampling traverses. Sample locations were recorded using handheld GPS. Matchbox size pieces of scree, boulders or outcrops of interest were chipped using a geological hammer, and placed in a clean, labeled plastic sample bag. Ten to fifteen samples were packaged into larger shipment bags, sealed and stored in a secure facility until laboratory staff retrieved the sample shipment and transported it to the laboratory for preparation and assaying.

Sampling was performed by Pelangio staff. Initial samples were sent to SGS Laboratory in Tarkwa during the first half of 2010. Starting in the second half of 2010, samples were sent to ALS Ghana Ltd (“ALS”) laboratory in Kumasi. Both SGS and ALS laboratories are commercial laboratories and are independent from Pelangio.

The SGS Tarkwa laboratory is not accredited under recognized accreditation. It is part of the SGS Group of laboratories that operates under a global quality management system in accordance with ISO 17025 and participates in international proficiency testing programs such as those managed by Geostats Pty Ltd.

The ALS Kumasi laboratory is also not accredited under recognized accreditation. It is part of the ALS Group of laboratories that operates under a global quality management system in accordance with ISO 17025 and also participates in international proficiency testing programs such as those managed by Geostats Pty Ltd.

Grab samples generally did not have field duplicates, blanks or standards inserted with the samples, with a single field duplicate included with the fifty original samples.

All samples were assayed for gold using a standard fire assaying procedure and atomic absorption spectrometry on fifty gram sub-samples (SGS method code FAA505; ALS method code Au-AA26). The detection limit for both methods is 0.01 ppm. Method FAA505 includes the insertion of laboratory standards and blanks, and a duplicate analysis for approximately every ten samples. Method Au-AA26 includes the insertion of one laboratory standard for approximately every thirty samples, one blank for approximately every sixty samples and one duplicate analysis for approximately every twenty samples.

The laboratory process involved drying of the entire sample and crushing to a nominal two millimetre using a jaw crusher, then splitting approximately 1.5 kilograms using a Jones type riffle. The reject sample is retained in the original bag, temporarily stored at the laboratory and ultimately is returned to Pelangio. The split is pulverised to a nominal eighty-five percent passing seventy-five micrometres. A fifty gram sample was fire assayed using aqua regia digestion and an atomic absorption spectroscopy finish.



### 10.1.2 Soil Sampling

Baselines and sample lines for the soil sampling program were cut with a sighting compass and pegged at regular intervals. The baselines were oriented at 027 degrees relative to true north and the cross line were cut at 117 degrees to cut the interpreted stratigraphy as close as possible to a normal angle. In the Pokukrom East grid the cross lines were spaced 200 metres apart and samples collected every fifty metres (100 metre by fifty metre grid), whereas the Nfante East and West grids were cut with a 100 metre by fifty metre spacing. The subsequent Odumase grid was cut with a 100 metre by twenty-five metre spacing. GPS readings (UTM coordinates, datum WGS 84 Zone 30 North) were collected at regular intervals, plotted and any mistakes identified were corrected before the soil program commenced.

Each sample point was marked with a well-labelled wooden peg. Pillars were mounted on the baseline for future reference.

Samples were collected by teams consisting of labourers and technicians under the supervision of a Pelangio geologist. This involved using a Dutch hoe (“Soso”) to dig and collect approximately 2.5 kilograms of material from the “B” horizon at a constant depth of fifty centimetres from holes of about ten centimetres in diameter. Samples were collected and sealed into well labeled plastic bags with sample tags. The samples were then sealed in large sacks (fifteen samples per sack) for shipment to the laboratory. The topographical and geological descriptions of the sites and the samples such as colour, regolith type and land use were then logged on to a custom form carried to the field. Data were subsequently transcribed into a computer spreadsheet.

A duplicate sample was collected every twentieth sample and assigned a consecutive sample number. No blanks were inserted in the due diligence phase, but were subsequently inserted at a rate of approximately every fiftieth sample. In the due diligence phase, 206 original samples plus nine field duplicates were analyzed for gold. In the subsequent phase, 382 original samples plus twenty field duplicates and eight blanks were analysed for gold.

Soil samples were sent to the SGS Laboratory at Tarkwa, Ghana where they were dried, pulverised and homogenised before being assayed for Bulk Leach Extractable Gold (“BLEG”) (SGS method code BLL61N). The laboratory reanalyses one in every twenty samples as a duplicate. This method involves a bottle roll cyanide leach of a two kilogram-sized sample. The digestion period is twenty-four hours with a di-isobutyl ketone (“DIBK”) extraction and atomic absorption spectroscopy. The detection limit is 2.0 ppb.

### 10.1.3 Stream Sediment Sampling

At each proposed stream sediment sample location, the area was observed carefully by walking upstream in the basin looking for sources of contamination and checking whether the stream was in flood stage. Samples were not collected during periods of flood conditions. After walking upstream for at least 100 metres, a suitable sample site which was free from visible signs of contaminations, such as trash in the stream, culvert or slumping bank material around newly constructed bridges, was selected by walking back downstream close to the proposed location.

Fine stream sediments which were trapped within the streambed were sampled and the corresponding GPS location was also recorded. Debris and organic material were removed from the sediments before bagging. The weight of each sample ranged between 2.5 kilograms and 4.0 kilograms. Samples were collected into well-labeled plastic bags with sample tags. The samples were then sealed in large sacks for shipment to the laboratory. The topographical and geological

descriptions of the sites and the samples, such as stream characteristics, colour, grain size and number of gold grains, were then logged on to a custom form carried to the field. Data was subsequently transcribed into a computer spreadsheet.

Sampling was done by Pelangio staff. A duplicate sample was collected every twentieth sample and assigned a consecutive sample number. No blanks or standards were inserted in the sampling up to the end of June 2011. To the end of June 2011, 190 original samples plus nine duplicate samples had been collected and analysed. These are distributed between the three concessions as follows: Subriso – sixty-nine samples; Sempekrom – thirty-five samples; and Twabidi – seventy-four samples. Twelve samples were inadvertently collected just outside the boundaries of the three concessions.

Stream sediment samples were sent to the SGS Laboratory at Tarkwa where they were dried, pulverised and homogenised before being assayed for gold using a BLEG methodology. The laboratory reanalyses one in every twenty samples as a duplicate. This method involves a bottle roll cyanide leach of a two kilogram-sized sample. The digestion period is twenty-four hours with a DIBK extraction and atomic absorption spectroscopy. The detection limit is 2.0 ppb gold.

#### 10.1.4 Auger Sampling

Sampling was conducted by Pelangio staff. The procedure involved manually driving a locally made auger tool with extension rods to until the required depth is reach. A one metre sample was then taken from the saprolite or saprock zone at the bottom of each hole. To avoid any contamination, only dry samples were taken. All sampling sites were marked with a picket and an aluminum tag containing the sample identification and location information. Samples were sealed in heavy plastic bags and collected into larger sealed shipment bags and held for shipment. Laboratory staff retrieved the sample shipment and transported it to the laboratory.

For quality control, limited field duplicate, blank and standard samples were inserted in the sample sequence. A total of eighty auger soil samples plus one standard, one blank and two duplicate samples were analyzed for gold using fire assay and atomic absorption spectroscopy at the ALS laboratory in Kumasi.

All samples were assayed for gold using a standard fire assaying procedure and atomic absorption spectroscopy on a fifty gram sub-sample (method code Au-AA26). The detection limit is 0.01 ppm. Method Au-AA26 includes the insertion of one laboratory standard for approximately every thirty samples, one blank for approximately every sixty samples and one laboratory duplicate for approximately every twenty samples.

The laboratory process involved drying of the entire sample and crushing to a nominal two millimetre using a jaw crusher, then splitting approximately 1.5 kilograms using a Jones type riffle. The reject sample is retained in the original bag, temporarily stored at the laboratory and ultimately is returned to Pelangio. The split is pulverised to a nominal eighty-five percent passing seventy-five micrometres. A fifty gram sample was fire assayed using aqua regia digestion and an atomic absorption spectroscopy finish. Samples returning values greater than 5.0 gpt gold were re-assayed using the same method.

#### 10.1.5 Trench Sampling

Assay samples were collected from the trenches by technicians under the supervision of a Pelangio geologist. Samples were taken by excavating a horizontal groove in the saprolite with a geological hammer at the base of the trench along the north wall. If bedrock was encountered in the base of the trench, a channel sample was cut in the middle of the trench. 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. Duplicate field samples were coned and split on site. Soil samples taken for analysis were mainly from horizontal sections of the saprock. No vertical sections were sampled. Sample locations represent the midpoint of each one metre interval, interpolated from the start and end points of the trench.

Sampling was done by Pelangio staff. Duplicate samples were taken by cone and quartering of the samples. The initial seven trenches had minimal quality control samples consisting of two duplicate samples. Subsequent trenches have duplicate, blanks and standards inserted at regular intervals. The data for trenches SUTR008, SUTR009A and SUTR009B have duplicate samples inserted at a rate of 3 percent, blanks and standards at a rate of 1 percent. Current Pelangio protocol dictates that a duplicate sample should be inserted every twentieth sample, a blank sample every fortieth sample and a standard every fortieth sample.

Upon completion of the sampling of the trenches, the bagged samples were transported to the ALS Laboratory in Kumasi by laboratory personnel for gold assaying using the fire assay method on a fifty gram sub-sample (method Au-AA26). The detection limit is 0.01 ppm. Method Au-AA26 includes the insertion of one laboratory standard for approximately every thirty samples, one blank for approximately every sixty samples and one laboratory duplicate for approximately every twenty samples.

The laboratory process involved drying of the entire sample and crushing to a nominal two millimetre using a jaw crusher, then splitting approximately 1.5 kilograms using a Jones type riffle. The reject sample is retained in the original bag, temporarily stored at the laboratory and ultimately is returned to Pelangio. The split is pulverised to a nominal eighty-five percent passing seventy-five micrometres. A fifty gram sample was fire assayed using aqua regia digestion and an atomic absorption spectroscopy finish.

### 10.1.6 Core Drilling Sampling

Drill core samples are generally one metre in length and are irrespective of geological contacts. A maximum of 1.5 metres in homogeneous rock and minimum length of 0.3 metres in HQ core and 0.5 metres in NQ2 core is specified in Pelangio sampling procedures. Forty of the 8,873 sampling intervals have lengths other than one metre.

The core is logged and sample intervals are marked up by a Pelangio geologist. Metal tags with sample number and interval are stapled into the box at the bottom of every interval. Sample tags and bags are prepared before sampling begins, including the blank and standard samples. The core is cut lengthwise by diamond saw. Samples from NQ2 sized core are half-core and samples from HQ core are quarter core. Field duplicates from NQ2 core are quarter core from the remaining half and duplicates from HQ core are the already cut remaining quarter. Sampling of saprolite is done by slicing the core with a putty knife over a plastic sheet to prevent contamination of samples. Any remaining core is left in the core box and stored at a secure core storage facility located 1.5 kilometres north of Manfo village.

Tagged samples are placed in heavy plastic bags and sealed by technicians working under the guidance of a geologist and these are placed into larger sealed shipment bags. Laboratory personnel retrieve the samples and deliver them to the laboratory. Pulps and rejects are returned to the Pelangio core storage facility.

Upon completion of the sampling of a drill hole, the bagged samples were transported to the ALS Laboratory in Kumasi by laboratory personnel for gold assaying using the fire assay method and

atomic absorption spectroscopy on fifty gram sub-samples. The first submission used method Au-AA24 method with a 5.0 ppb detection limit, the second included a comparison between methods Au-AA24 and method Au-AA26 with a 0.01 ppm detection limit. All subsequent submissions used only method Au-AA24.

Method Au-AA24 includes the insertion of one laboratory standard for approximately every twenty samples, one blank for approximately every forty samples and one laboratory duplicate for approximately every eighteen samples. Method Au-AA26 includes the insertion of one laboratory standard for approximately every thirty samples, one blank for approximately every sixty samples and one laboratory duplicate for approximately every twenty samples.

The laboratory process involved drying of the entire sample and crushing to a nominal two millimetre using a jaw crusher, then splitting approximately 1.5 kilograms using a Jones type riffle. The reject sample is retained in the original bag, temporarily stored at the laboratory and ultimately is returned to Pelangio. The split is pulverised to a nominal eighty-five percent passing seventy-five micrometres. A fifty gram sample was fire assayed using aqua regia digestion and an atomic absorption spectroscopy finish.

Samples returning values greater than 5.0 gpt gold were re-assayed by fire assay with a gravimetric finish. Selected samples from higher grade intervals in the first drill hole (SFDD-079) were re-assayed using a screened metallics fire assay method on a 1000 gram sub-sample (ALS method Au-SCR22AA).

## 10.2 Quality Assurance and Quality Control Programs

Quality assurance and quality control programs are typically set in place to ensure the reliability and trustworthiness of exploration data. They include written field procedures and independent verifications 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 for 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-ups and monitor the voluntary or inadvertent contamination of samples. Assaying protocols typically involve regular duplicate and replicate assays and insertion of quality control samples. Check assaying is typically performed as an additional reliability test of assaying results. This typically involves re-assaying a set number of rejects and pulps at a secondary umpire laboratory.

Pelangio has implemented external quality assurance and quality control programs at the Manfo Project consisting of a series of certified reference materials (“CRM”) or standards, field blanks and field duplicates. However, the rate and consistency of these measures varied between the soil sampling, stream sediment sampling, auger sampling, trenching, and drilling programs. No umpire laboratory was used to verify assaying results obtained from the sample programs.

SRK compiled the analytical quality control data produced by Pelangio in 2010 and 2011. The quality control data are summarized in time series charts and bias and relative precision plots presented in Appendix D.

The control samples were inserted within batches of core, trench, auger, soil and stream sediment samples submitted for assaying. Standards were inserted approximately every fifty samples for core samples and every 100 samples for trench samples. Blanks were inserted approximately every fifty samples for core samples, every 100 samples for trench samples and every forty samples for soil samples. Duplicates were inserted approximately every twenty-five samples for core samples, every fifty samples for trench samples and every twenty samples for soil and stream sediment samples.

Core, trench and auger samples were analysed by the ALS Laboratory and soil and stream sediment samples were analysed by the SGS Laboratory in 2010 and 2011.

Pelangio used seven CRM prepared by Accurassay Laboratories (“Accurassay”), Canada and obtained from Accurassay in Thunder Bay, Ontario. CRM included three high grade (Au43, HGS3 and HGS2), two medium grade (GS04 and AuQ1) and two low grade (LGA2 and AuQ3) standards. Duplicates consisted of either HQ or NQ2 quarter core. Blanks consisted of a blank prepared by Accurassay (silica flour). The characteristics of the control samples used on the Manfo Project are presented in Table 9.

**Table 9: Control Samples used by Pelangio on the Manfo Project in 2010 and 2011.**

CRM	Source	Mean (gpt Au)	Std. Dev. (gpt Au)	Samples
AuQ1	Accurassay	1.330	0.114	40
HGS2	Accurassay	3.729	0.312	20
Au43	Accurassay	12.686	0.859	2
GS04	Accurassay	1.899	0.056	62
HGS3	Accurassay	4.009	0.250	22
AuQ3	Accurassay	0.446	0.025	19
LGA2	Accurassay	0.595	0.052	12

### 10.3 SRK Comments

In the opinion of SRK the sampling methodology and procedures used by Pelangio are appropriate. The rock and core samples were collected by competent personnel using procedures meeting generally accepted industry best practices. SRK concludes that the samples are representative of the source materials and there is no evidence of bias.

The quality control program for diamond drill core samples has uniformly exceeded industry best practices. The auger sample program also met industry best practices. The initial quality control programs for trench, stream sediment and soil sample programs did not meet the same industry best practices, particularly as they pertained to blank and standard samples, but were improved as the programs proceeded. Current Pelangio protocols for all sampling programs meet industry best practices.

In the opinion of SRK the sampling preparation, security and analytical procedures used by Pelangio are consistent with generally accepted industry best practices and are therefore adequate.

## 11 Data Verification

### 11.1 Verifications by Pelangio

Pelangio recognized the lack of quality control data from previous operators and this was one of the motivating factors for undertaking the due diligence work prior to optioning the property. Pelangio independently checked the locations all RC drill hole collars drilled by AngloGold Ashanti and Newmont that could be identified. The due diligence trenching and soil sampling was intended to verify the general existence of significant gold anomalies over the Pokukrom East, Pokukrom West, Nfante East and Nfante West target areas.

All drill hole collars were resurveyed by a qualified surveyor using a differential GPS.

Pelangio routinely monitors the results of quality control samples returned from assaying. If a serious failure of the quality control samples is indicated, the samples for that submission are reanalysed from the coarse rejects. This occurred once and all the samples from hole SPDD-115 were re-analysed. SRK recommends that specific criteria for assessing assay failures be developed and strictly adhered to.

Pelangio has conducted a number of check assays. Pelangio collected a composite sample of ten petrographic samples and had them assayed for gold at Activation Laboratories Ltd. (“ActLabs”) in Ancaster, Ontario. The Actlabs laboratory is accredited under ISO/EIC Guideline 17025:2005 by the Standards Council of Canada for various testing procedures including assaying of gold by fire assay with atomic absorption or gravimetric finish (method QOP AA – Au). The expected average of the composite sample from original assays was 2.0 gpt gold and the result was 3.01 gpt gold. In addition, Pelangio sent one 48.0 gpt high grade sample originally assayed at ALS in Kumasi to SGS in Tarkwa for re-assaying. Two separate pulps from a duplicate half core returned values of 47.6 and 45.7 gpt gold.

Pelangio did not use check assaying at an umpire laboratory.

### 11.2 Verifications by SRK

#### 11.2.1 Site Visit

In accordance with National Instrument 43-101 guidelines, SRK visited the Manfo Project between May 6 and 9 and on May 16 and 17, 2011. At the time of the visit, Pelangio had active stream sediment sampling, trench sampling and diamond drill programs underway and was preparing grids for geophysical surveying.

The purpose of the site visit was to inspect the property, witness the extent of exploration work carried out by Pelangio and previous operators on the property and assess logistical aspects relating to conducting exploration work in the area. SRK was given full access to project data. While on site, SRK interviewed project personnel regarding the exploration strategy and field procedures used by Pelangio.

During the visit, SRK personally visited the Pokukrom East, Pokukrom West and Nfante West target areas where the bulk of the Pelangio work was carried out. SRK inspected an operating drill site,

three completed Pelangio drill sites, RC collars from AngloGold Ashanti drilling, an open and recently sampled trench, a backfilled former trench and the grid being laid out for geophysical surveying. SRK also observed the logging and sampling of an active diamond drill hole (Figure 14).

SRK also mapped a large outcrop exposure close to Pokukrom West and inspected core from ten diamond drill holes from the Pokukrom East, Pokukrom West and Nfante West target areas, collecting a suite of six samples for verification assays.

## 11.2.2 Verifications of Analytical Quality Control Data

Pelangio made available to SRK external analytical control data in the form of Microsoft Excel spreadsheets and original assay certificates that contained the assay results for the quality control samples. After comparing over five percent of assay certificates to data in the Excel spreadsheets and finding no errors, SRK aggregated the assay results for the external analytical control samples for further analysis. Standards and blank data were summarised on time series plots to highlight the performance of the control samples. Paired data (field duplicates) were analysed using bias charts, quantile-quantile and relative precision plots. The analytical quality control data produced by Pelangio in 2010 and 2011 for the Manfo Project are summarised in Table 10 and presented in graphical format in Appendix D.

The analytical quality control data produced on this project represents approximately 7.40 percent of the total number of samples submitted for assaying (Table 10). This ratio is excellent and exceeds industry best standards.

In general, the performance of the analytical quality control data is acceptable. Spikes in field blanks are likely mislabelled standards. Spikes in standards are likely mislabelled standards, field blanks or original sample assays. However, HGS2 and GS04 reported high gold values with twenty-five percent and forty-two percent (respectively) of the assay values greater than two standard deviations above the expected value.

**Table 10: Summary of Analytical Quality Control Data Produced by Pelangio on the Manfo Project for 2010-2011 Sampling Programs.**

Sampling Program	Soil (%)	Stream Sediment (%)	Trench (%)	Auger (%)	Core (%)	Total (%)	Comment
Sample Count	558	142	847	80	8,873	10,500	
Field Blanks	8 1.43	0 0.00	3 0.35	1 1.25	183 2.06	195 1.86	
QC Samples	0 0.00	0 0.00	4 0.47	1 1.25	172 1.94	177 1.69	
AuQ1			2	1	37	40	Accurassay (1.330gpt Au)
HGS2					20	20	Accurassay (3.279gpt Au)
Au43					2	2	Accurassay (12.686gpt Au)
GS04			2		60	62	Accurassay (1.899gpt Au)
HGS3					22	22	Accurassay (4.009gpt Au)
AuQ3					19	19	Accurassay (0.446gpt Au)
LGA2					12	12	Accurassay (0.595gpt Au)
Field Duplicates	29 5.20	9 6.34	11 1.30	2 2.50	354 3.99	405 3.86	
<b>Total QC Samples</b>	<b>37 6.63</b>	<b>9 6.34</b>	<b>18 2.13</b>	<b>4 5.00</b>	<b>709 7.99</b>	<b>777 7.40</b>	
Check Assay	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	

AuQ3 reported low gold values with thirty-two percent of the assay values less than two standard deviations above the expected value (Appendix D). Paired (field duplicates) assay data show that gold grades are difficult to reproduce in soils and stream sediment samples. Rank half absolute difference (“HARD”) plots show that 56.8 percent (core), 45.5 percent (field duplicate), 34.5 percent (soil) and 34.5 percent (stream sediment) samples have HARD below ten percent (Appendix D).

### 11.2.3 Independent Verification Sampling

As part of the verification procedures, SRK collected six verification samples during the site visit. These samples replicate Pelangio core sample intervals using the same quarter core sampling procedure that Pelangio uses for duplicate samples. The verification samples were submitted to the SGS Mineral Services laboratory in Toronto, Ontario for independent assaying.

The SGS Toronto laboratory is accredited under ISO/EIC Guideline 17025:2005 by the Standards Council of Canada for various testing procedures including methods for gold assays. The laboratory is not accredited for the specific method used to assay the samples submitted by SRK (Precious Metals Analysis by Lead Fusion Fire Assay Atomic Absorption Spectroscopy; method FAA515).

Such a small sample collection cannot be considered representative to verify the gold grades obtained by Pelangio. The purpose of the verification sampling was solely to confirm that there is gold mineralization in the core samples assayed by Pelangio.

The verification samples collected by SRK confirm the presence of gold mineralization in the core samples drilled by Pelangio (Table 11). However, SRK was not able to replicate the results for the two highest grade samples. The assay certificate for the check assays is found in Appendix E.

**Table 11: Assay Results for Verification Samples Collected by SRK on the Manfo Project.**

Borehole ID	SRK Sample ID	Original Sample ID	From (metre)	To (metre)	Length (metre)	Original Au (ppm)	SRK Au (ppm)
SPDD-110	001	W 0082	61.00	62.00	1.00	0.15	0.20
SPDD-110	002	W 0118	95.00	96.00	1.00	1.23	0.66
SPDD-110	003	W 0150	125.00	126.00	1.00	4.48	1.61
SPDD-127	004	Y 0009	91.00	92.00	1.00	0.02	0.02
SPDD-127	005	Y 0086	162.00	163.00	1.00	0.72	0.70
SPDD-127	006	Y 0144	216.00	217.00	1.00	4.66	1.84



## **12 Mineral Processing and Metallurgical Testing**

No mineral processing or metallurgical testing has been undertaken on the Manfo Project.

## **13 Mineral Resource Estimates**

There are currently no Mineral Resources estimated for the Manfo Project.

## **14 Adjacent Properties**

There are no adjacent properties that are relevant to the Manfo Project.

## **15 Other Relevant Data and Information**

There is no other relevant data available about the Manfo Project.

## 16 Interpretation and Conclusions

The Manfo Project is a resource delineation stage gold exploration property located in southeast Ghana, close to the Ahafo Mine operated by Newmont and the Chirano Mine operated by Kinross. The project area is underlain by Birimian-aged rocks of the Sefwi-Bibiani Belt and transected by major shear zones related to the Chirano and Bibiani shear zones.

The property consists of three contiguous prospecting licences, specifically the Subriso, Twabidi and Sempekrom concessions, covering a total of approximately 100 square kilometres and valid until October 8, 2011 (Sempekrom) and June 2, 2012 (Subriso and Twabidi). Each is eligible for renewal. The renewal for Sempekrom has been submitted and is in process.

The property was acquired for its potential to host orogenic gold mineralization similar to that of other Birimian-age volcano-sedimentary sequences. Review of available information suggests that the Manfo concessions are underlain by geology considered similar to that occurring at the Chirano gold mine. The reader is cautioned that the occurrence of gold mineralization at the Chirano gold mine does not necessarily indicate that gold mineralization exists at the Manfo Project.

In this area of Ghana, only limited bedrock is exposed and generally is covered by alluvial and lateritic deposits. Reconnaissance exploration work was completed by several operators between 1996 and 2008. This includes reconnaissance scale mapping, rock chip sampling, termite mound sampling, stream sediment sampling and soil sampling over most of the concessions. This work identified the Nfante, Pokukrom and Sikafremogya/Odumase target areas. These target areas were more intensively explored by AngloGold Ashanti and Newmont by trenching and RC drilling, which confirmed the presence of gold mineralization in bedrock.

SRK reviewed the historical exploration data acquired by previous operators and concludes that, despite undocumented quality control data, the historical work is sufficiently reliable for assessing the exploration potential of the Manfo concessions.

During the due diligence period, Pelangio undertook a short program of trenching and soil geochemistry to corroborate the historical exploration results. This program was successful and confirmed the presence of significant gold anomalies at Nfante East, Nfante West and Pokukrom East. Pelangio followed this up with regional programs of stream sediment sampling, as well as soil sampling on the Odumase target area and substantial drilling at Nfante West, Pokukrom West and Pokukrom East. The drilling program was particularly successful at identifying and delineating gold mineralization in three dimensions at Pokukrom East, Pokukrom West and Nfante West.

Drilling at Pokukrom East has defined a strike length in excess of 660 metres on seven sections from section 49300 to section 50000 and to a depth in excess of 200 metres. Significant gold mineralization, generally at bulk tonnage grades (1.0 to 2.0 gpt gold) on broad intervals (thirty to fifty metres core length) was intersected on most of the sections, along with a higher grade interval (3.0 to 5.0 gpt gold) that has been identified on approximately 400 metres of the strike length to date occurring in ten to fifteen metre intersections (core length).

Drilling at Pokukrom West has defined near surface gold mineralization in saprolite and a transitional oxidized zone to approximately fifty metres depth over a strike length of 100 metres that is open along strike. Drilling below the saprolite into unoxidized rock has intersected high grade mineralization with widths of approximately eight to nine metres (core length) to a depth of

approximately 110 metres along what is interpreted as a steeply east-dipping shear zone that remains open at depth.

At Nfante West, gold mineralization has been identified on four sections over a strike length greater than 280 metres and to a depth of approximately 100 metres. The zone is generally wide with variable grade having intercepts up to 77.0 metres (core length) at grades ranging from 0.25 to 1.50 gpt gold. The auriferous zone remains open along strike and at depth.

SRK reviewed the methodology and results from the exploration work completed by Pelangio and concludes that the exploration work was conducted using procedures consistent with generally accepted industry best practices and that the results from that work are therefore reliable.

The exploration program has been successful in delineating economically interesting mineralization with reasonable continuity in three dimensions in saprolite and bedrock. On this basis, SRK concludes that this is a gold exploration property of merit warranting additional exploration investments.

## 17 Recommendations

In the opinion of SRK, the character of the Manfo Project is of sufficient merit to recommend an exploration program designed with two objectives. The first is to characterize the geological and structural setting of the entire property, identify and prioritize gold exploration targets to be investigated by trenching and drilling. The second objective aims at completing the delineation of Nfante East, Nfante West, Pokukrom East and Pokukrom West by drilling to support geological modelling and mineral resource evaluation. To accomplish these goals, a two phase exploration program is recommended.

The proposed Phase 1 exploration program consists of ground geophysical and geochemical surveying (Figure 19) to complete the acquisition of reconnaissance data over the entire Manfo Project with the objective of identifying and prioritizing drilling targets along the main auriferous trend and identify additional exploration targets along a second northeast trend west of the current target areas.

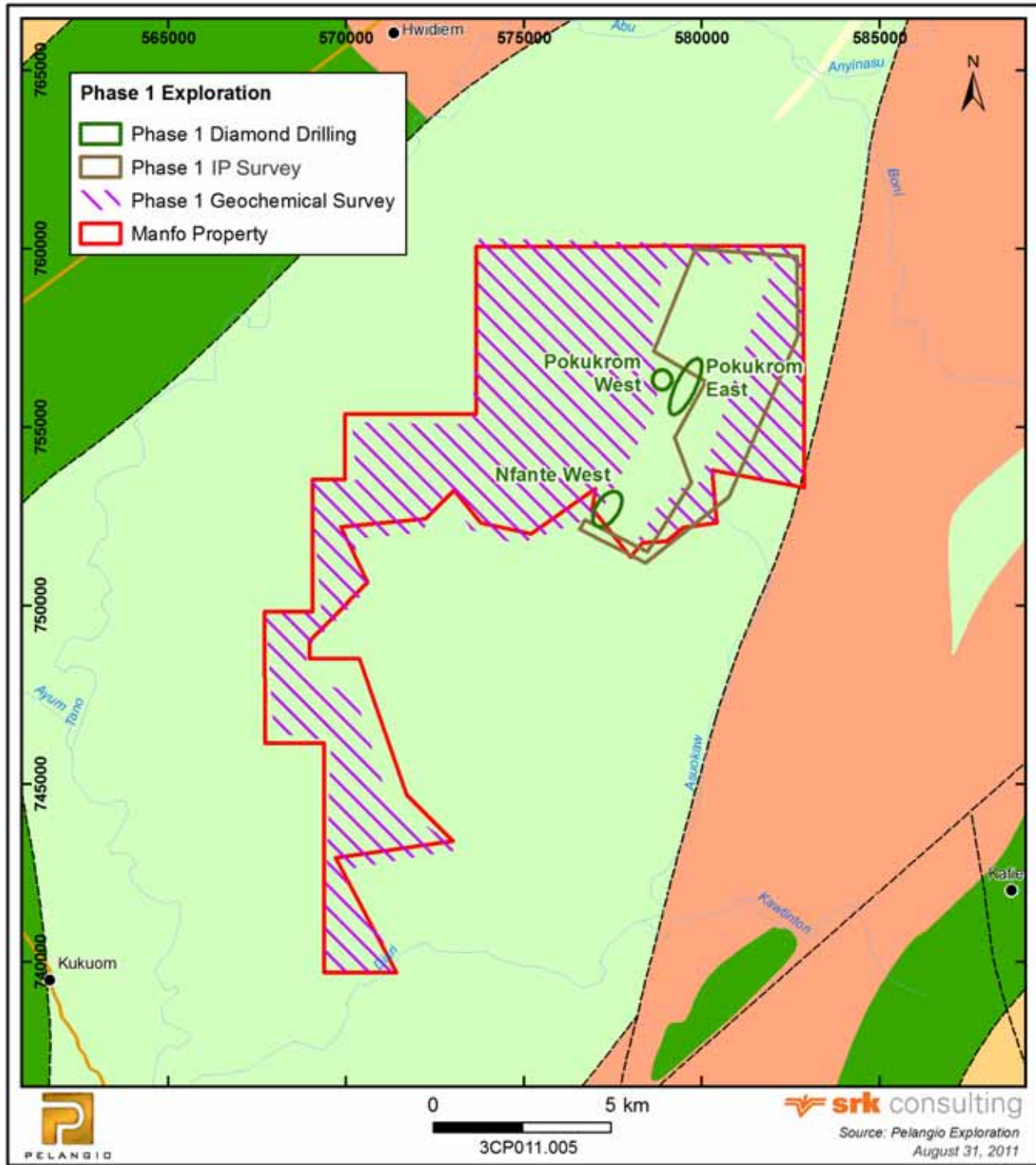
An integrated interpretation of the available detailed aeromagnetic, VTEM and radiometric data, combined with outcrop mapping and drill hole lithology should be completed. This will provide a detailed lithological and structural interpretation of the project area and guide target generation. The ground geophysical program will consist of a gradient array induced polarization survey on 100 metre spaced lines oriented 117 degrees, with a pole-dipole array induced polarization survey on lines every 500 metres. Approximately 350 kilometres of gradient and seventy kilometres of pole-dipole array surveying is recommended.

Previous geochemical sampling was completed by a number of operators with undocumented quality control measures. Historical sampling does not cover the entire project area. It is therefore recommended to collect soil samples across the entire property to provide consistent soil geochemistry data. The soil sampling should be carried at fifty metre intervals on lines spaced at 400 metres. All samples should be assayed using the BLEG method. SRK estimate that the program will entail collecting approximately 4,700 samples, including quality control samples.

The proposed Phase 1 drilling program aims at completing the delineation of the gold mineralization at the Nfante West, Pokukrom East and Pokukrom West targets to support geological modelling and mineral resource evaluation. All three targets should be investigated by drilling along sections spaced by fifty metre spacing, to a depth of 250 metres for Nfante West and Pokukrom East and 300 metres for Pokukrom West. SRK estimates that the drilling program will require approximately sixty-four core boreholes (15,600 metres).

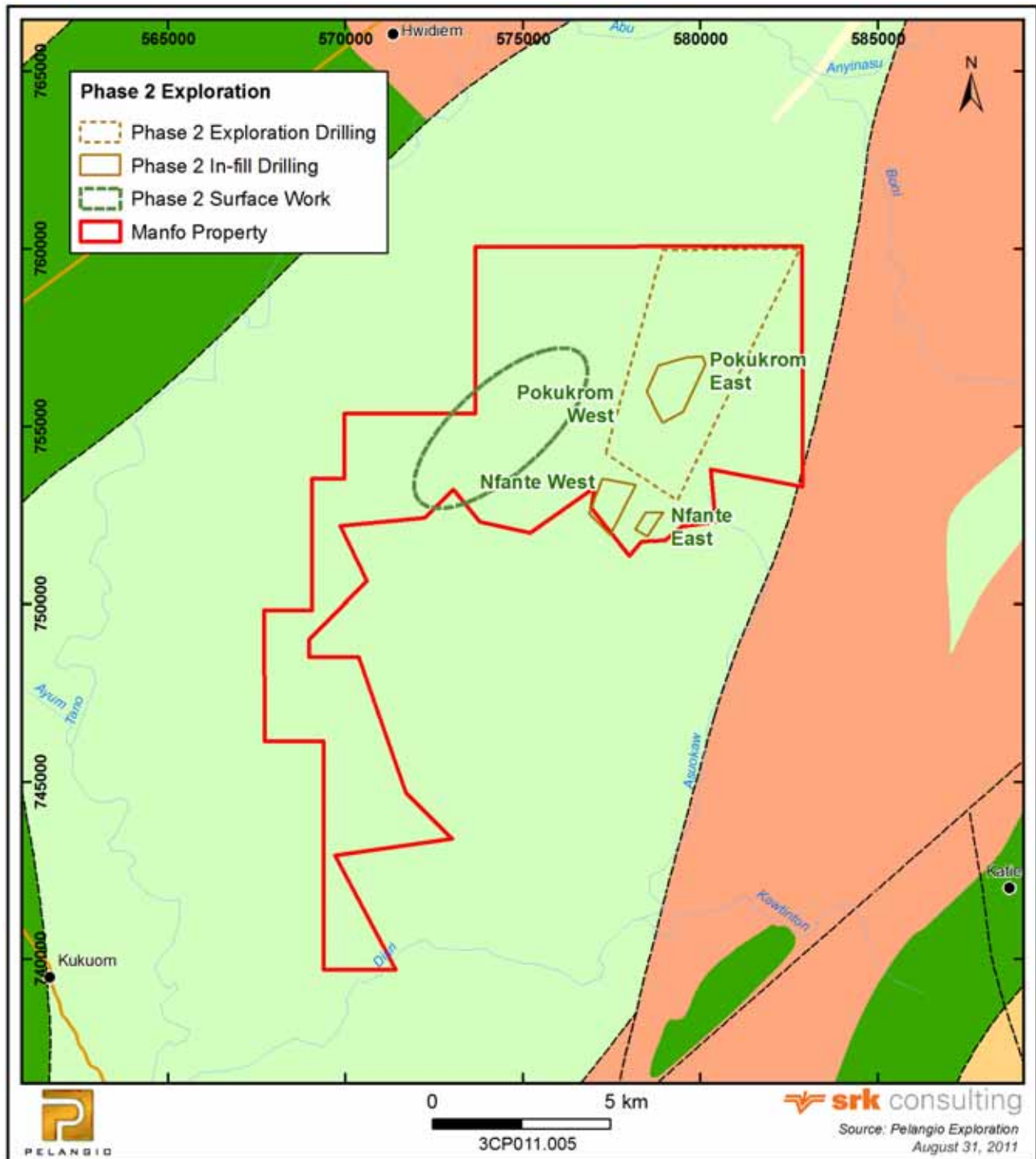
As part of Phase 1, SRK also recommends that Pelangio consider conducting initial metallurgical and ABA testing, and topographic surveying in preparation for an initial mineral evaluation. SRK expects that the proposed Phase 1 exploration program will conclude with the preparation of an initial mineral resource statement for the Manfo Project.

Assuming the results from Phase 1 are positive, SRK recommends a Phase 2 program that will involve mostly infill and step out drilling on the Nfante East, Nfante West, Pokukrom East and Pokukrom West targets along sections spaced at twenty-five metres to a depth of 300 metres. SRK estimates that that program will require approximately 200 boreholes (42,900 metres).



**Figure 19: Recommended Phase 1 Exploration Program.**

Lithology Units Same As in Figure 12.



**Figure 20: Recommended Phase 2 Exploration Program.**

Lithology Units Same As in Figure 12.

In addition, the proposed Phase 2 drilling program includes a provision for 16,000 metres of parametric drilling to investigate targets identified during Phase 1 elsewhere on the Manfo Project.

Exploration drilling should be completed along the main trend to test induced polarization anomalies, coincident with magnetic lows and gold geochemical highs. A provision for eighty holes averaging 200 metres (16,000 metres) is included for this program.

A second trend to the west has tentatively been identified by preliminary airborne magnetic results and wide 800 metre spacing geochemical soil sampling. SRK recommends that the Phase 2 work program includes acquisition of induced polarization data on lines oriented 117 degrees over a strike length of six kilometres (105 line kilometres).

SRK recommends that Pelangio initiate certain engineering studies aimed at evaluating, at a conceptual level, the viability of an open pit mine at the Manfo Project. To this aim, SRK recommends certain specific metallurgical, geotechnical, hydrogeology and environmental studies aimed at completing the characterization of the context of the project. Specifically, the proposed work program includes:

- Updating the mineral resource model after completion of recommended drilling;
- Acid Base Accounting (“ABA”) testing and geochemical characterization of sulphide and barren rocks;
- Collection of geotechnical data during future drilling program and review of existing information to determine if adequate to support selection of mine design criteria;
- Reviewing existing hydrology and hydrogeology data with the view of assessing any gap in the project data and recommending additional field work, if required;
- Commencement of initial environmental baseline studies to support the preparation of an Environmental Impact Assessment. This should include monitoring of water quality, wildlife habitats and other aspects for which long-term and seasonal data are required;
- Metallurgical test work on representative material from all resource domains to complete the characterization of the gold mineralization and to evaluate appropriate processing options; and
- Conceptual mine design work to evaluate which mining scenarios offer the best potential for economic return.

The total costs for Phase 1 are estimated at approximately CN\$4.6 million; including corporate social responsibility and exploration camp costs and a ten percent contingency cost (Table 12). The costs for the proposed Phase 2 are estimated at approximately CN\$14.7 million; also including corporate social responsibility and exploration camp costs and a ten percent contingency cost (Table 12).



**Table 12: Estimated Cost for the Phase 1 and 2 Exploration Program Proposed for the Manfo Project.**

Phase	Work Program	Units	Unit Cost CN\$	Cost CN\$
Phase 1	<b>Delineation Drilling (infill and step out)</b>			
	Diamond drilling (all inclusive)	15,600 metres	200	3,120,000
	<b>Sub-total</b>			<b>3,120,000</b>
	<b>Geological Studies</b>			
	Structural/Lithological Interpretation of Aeromagnetic Data			35,000
	Line cutting	388 kilometres		73,950
	Geochemistry	4,700 samples	12	56,400
	Geophysics, IP Survey	420 kilometres		122,500
	Topography Survey			15,000
	<b>Sub-total</b>			<b>302,850</b>
	<b>Resource Studies</b>			
	Metallurgical Testing Study			35,000
	Resource Study			50,000
	<b>Sub-total</b>			<b>85,000</b>
	<b>Related Costs</b>			
Corporate Social Responsibility			120,000	
Camp Costs and Supervision			570,000	
<b>Sub-total</b>			<b>690,000</b>	
<b>Total</b>			<b>4,197,850</b>	
	Contingency (10%)			419,785
<b>Total</b>			<b>4,617,635</b>	
Phase 2	<b>Delineation Drilling (infill and step out)</b>			
	Diamond drilling (all inclusive)	58,900 metres	200	11,780,000
	<b>Sub-total</b>			<b>11,780,000</b>
	<b>Geological Studies</b>			
	Line cutting	105 kilometres		15,750
	Geochemistry	1850 samples	12	22,200
	Geophysics, IP Survey	105 kilometres		30,600
	Topography Survey			25,000
	<b>Sub-total</b>			<b>93,550</b>
	<b>Engineering Studies</b>			
	Metallurgical Testing Study			55,000
	Pre-feasibility Study			150,000
	<b>Sub-total</b>			<b>205,000</b>
	<b>Related Costs</b>			
	Corporate Social Responsibility			500,000
Camp Costs and Supervision			684,000	
<b>Sub-total</b>			<b>1,184,000</b>	
<b>Total</b>			<b>13,262,550</b>	
	Contingency (10%)			1,326,255
<b>Total</b>			<b>14,588,805</b>	

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## **APPENDIX A**

### **Mineral Tenure Information and Legal Title Opinion**



# REM Law Consultancy

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Our Ref: REM11/P.5/100

October 28, 2011

**Pelangio Exploration Inc.**  
440 Harrop Drive, 2nd Floor  
Milton, Ontario  
L9T 3H2

McGovern, Hurley, Cunningham LLP  
Chartered Accountants 300-2005 Sheppard  
Avenue East Toronto, Ontario M2S 5B4

Dear Sirs,

**Re: Mining Interests Held in Ghana By:**

1. **Pelangio Adansi Gold (G) Limited;**
2. **Pelangio Adansi Asaasi (G) Limited;**
3. **Pelangio Kyereboso Mining (G) Limited; and**
4. **Pelangio Ahafo (G) Limited.**

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We are a law firm duly qualified, licensed and of good standing in the Republic of Ghana ("Ghana") and we act as legal counsel to (1) Pelangio Adansi Asaasi (G) Limited ("Pelangio K2"), (2) Pelangio Kyereboso Mining (G) Limited ("Pelangio K3"), (3) Pelangio Adansi Gold (G) Limited ("Pelangio Meduma") and (4) Pelangio Ahafo (G) Limited ("Pelangio Manfo") in respect of mining law matters in Ghana.

We have been requested by Pelangio Exploration Inc. ("Pelangio") to provide an opinion as to certain mining title matters in connection with the preparation by SRK Consulting (Canada) Inc. and filing of an independent technical report on the Manfo Property (comprising the Subriso Prospecting Licence, Subriso Prospecting Licence and Twabidi Prospecting Licence, as defined below) in compliance with National Instrument 43-101 – *Standards of Disclosure for Mineral Projects*.

We have examined:

1. The Meduma Prospecting Licence for gold and base metals dated 1<sup>st</sup> December, 1999 and registered as No. 3912/99 for a term of two (2) years subject to renewal/extension issued by the Government to Adansi Gold Mines Limited ("Adansi Gold") and renewed from time to time (the "Meduma Prospecting Licence").

**Location:**

No. 15 Kofi Annan Avenue, North Legon Residential Area, Accra.

2. The Kyereboso No. 2 Prospecting Licence for gold and diamonds dated 9<sup>th</sup> May, 2005 and registered as No. 1660/2005 for a term of two (2) years subject to renewal/extension issued by the Government initially to Adansi Asaasi Mining Company Limited (“Adansi Asaasi”) and renewed from time to time (the “Kyereboso No. 2 Prospecting Licence”).
3. The Kyereboso No. 3 Prospecting Licence for gold and diamonds dated 20<sup>th</sup> June 2005 Registered as No. 1661/2005 for a term of two (2) years subject to renewal/extension issued by the Government initially to Adansi Asaasi, and renewed from time to time (the “Kyereboso No. 3 Prospecting Licence”).
4. The Subriso Prospecting Licence for gold and diamonds dated 20<sup>th</sup> March 1997 and registered as No. 1731/1997 for a term of two (2) years subject to renewal/extension issued by the Government initially to Hebron Exploration and Mining Company Limited (“Hebron”) and renewed from time to time (the “Subriso Prospecting Licence”).
5. The Sempekrom Prospecting Licence for gold and diamonds dated 27<sup>th</sup> June 2008 and registered as No. 89/2008 for a term of two (2) years subject to renewal/extension issued by the Government initially to Hebron and renewed from time to time (the “Sempekrom Prospecting Licence”).
6. The Twabidi Prospecting Licence for gold and diamonds dated 4<sup>th</sup> June 2007 and registered as No. 55/2007 for a term of two (2) years subject to renewal/extension issued by the Government initially to Hebron and renewed from time to time (the “Twabidi Prospecting Licence”).
7. Letter agreement (the “Letter Agreement”) dated 23<sup>rd</sup> September, 2005 as amended by an amending letter agreement dated 18<sup>th</sup> November 2005 pursuant to which Adansi Gold, Adansi Asaasi and Adansi Terrex Goldfields Limited (collectively, the “Title Holders”) granted to Pelangio an exclusive right and option to acquire a 100% right, title and interest in the Meduma Prospecting Licence, Kyereboso No. 2 Prospecting Licence and Kyereboso No. 3 Prospecting Licence, respectively.
8. The definitive option agreement dated 3<sup>rd</sup> May 2006 (the “Adansi Gold Option Agreement”) made among Adansi Gold, Pelangio Meduma, Pelangio Adansi Gold (B) Inc. (“Pelangio Adansi Gold (B)”) and Pelangio Mines (B) Inc (“Pelangio B”) as amended by a letter agreement dated March 3, 2008 among the same parties to the Adansi Gold Option Agreement (collectively the “Adansi Gold Option Agreement”) pursuant to which Adansi Gold acknowledged and affirmed the option granted to Pelangio Meduma under the Adansi Gold Option Agreement which said agreement was subsequently approved by the Government.
9. The definitive option agreement dated 3<sup>rd</sup> May, 2006 (the “Adansi Asaasi KY2 Option Agreement) made among Adansi Asaasi, Pelangio K2, Pelangio B as amended by a letter agreement dated March 3, 2008 among the same parties to the Adansi Asaasi KY2 Option Agreement (collectively, the “Adansi Asaasi KY2 Option Agreement”) pursuant to which Adansi Asaasi acknowledged and affirmed the option granted to Pelangio K2 under the Adansi Asaasi KY2 Option Agreement, which said agreement was subsequently approved by the Government.

10. The definitive option agreement dated 3<sup>rd</sup> May, 2006 (the “Adansi Asaasi KY3 Option Agreement”) made among Adansi Asaasi, Pelangio K3, Pelangio Kyereboso Mining (B) Inc. (“Pelangio Kyereboso (B)”) and Pelangio B as amended by a letter agreement dated March 3, 2008 among the same parties to the Adansi Asaasi KY3 Option Agreement (collectively the “Adansi Asaasi KY3 Option Agreement”) pursuant to which Adansi Asaasi acknowledged and affirmed the option granted to Pelangio K3 under the Adansi Asaasi KY3 Option Agreement, which said agreement was subsequently approved by the Government.
11. Letter dated 15<sup>th</sup> April 2008 from Pelangio Adansi Gold (B) to Adansi Gold whereby Pelangio Adansi Gold (B) gave notice (the “Initial Option Exercise Notice”) that Pelangio Meduma had duly exercised the Initial Option pursuant to the terms and conditions set forth in the Adansi Gold Option Agreement and that Pelangio Adansi Gold (B) intended to exercise the Second Option under the said Adansi Gold Option Agreement. Consequently, as from the date of the Initial Option Exercise Notice and pursuant to the terms and conditions of the Adansi Gold Option Agreement, Pelangio subsidiary Pelangio Meduma was deemed to have acquired a 100% undivided title and beneficial interest in the Meduma Prospecting Licence, subject only to the Government Interest and to a 2% net smelter returns royalty (“2% NSR”) granted to Adansi Gold and Michael Hibbard under the royalty agreement dated May 3, 2006 relating to the Meduma Mineral Property (the “2% NSR Meduma Property Royalty”).
12. Letter dated 15<sup>th</sup> April 2008 from Pelangio Adansi Asaasi (B) to Adansi Asaasi whereby Pelangio Adansi Asaasi (B) gave the Initial Option Exercise Notice, that Pelangio K2 had duly exercised the Initial Option pursuant to the terms and conditions set forth in the Adansi Asaasi KY2 Option Agreement and further that Pelangio B intended to exercise the Second Option under the said Adansi Asaasi KY2 Option Agreement. Consequently, as from the date of the said Initial Option Exercise Notice and pursuant to the terms and conditions set forth in the Adansi Asaasi KY2 Option Agreement, Pelangio subsidiary Pelangio K2 was deemed to have acquired a 100% undivided title and beneficial interest to the Kyereboso No. 2 Prospecting Licence, subject only to the Government Interest and to a 2% NSR granted to Adansi Asaasi and Michael Hibbard under the royalty agreement dated May 3, 2006 relating to the KY2 Mineral Property (the “2% NSR KY2 Property Royalty”).
13. Letter dated 15<sup>th</sup> April 2008 from Pelangio Kyereboso (B) to Adansi Asaasi whereby Pelangio Kyereboso (B) gave the Initial Option Exercise Notice that Pelangio K3 had duly exercised the Initial Option pursuant to the terms and conditions of the Adansi Asaasi KY3 Option Agreement and further that Pelangio Kyereboso (B) intended to exercise the Second Option under the said Adansi Asaasi KY3 Option Agreement. Consequently, as from the date of the said Initial Option Exercise Notice and pursuant to the terms and conditions of the Adansi Asaasi KY3 Option Agreement Pelangio subsidiary Pelangio K3 was deemed to have acquired a 100% title and beneficial interest in the Kyereboso No. 3 Prospecting Licence, subject only to the Government Interest and to a 2% NSR granted to Adansi Asaasi and Michael Hibbard under the Royalty Agreement dated May 3, 2006 relating to the KY3 Mineral Property (the “2% NSR KY3 Property Royalty”).

14. Deed of Assignment dated 26<sup>th</sup> March 2009 (the “Meduma Property Assignment”) made between Adansi Gold and Pelangio Meduma pursuant to which Adansi Gold legally assigned and transferred all its 100% undivided title, right and beneficial interest in the Meduma Prospecting Licence to Pelangio Meduma, subject only to the Government interest and to the 2% NSR Meduma Property Royalty. The said Deed of Assignment was approved by the Government as required by law pursuant to a letter dated 11<sup>th</sup> January, 2011 from the Minister to Adansi Gold.
15. Deed of Assignment dated 7<sup>th</sup> October 2009 (the “K2 Property Assignment”) made between Adansi Asaasi and Pelangio K2 pursuant to which Adansi Asaasi legally assigned and transferred all its 100% undivided title, rights and beneficial interest in the KY2 Prospecting Licence to Pelangio K2, subject only to the Government Interest and to the 2% NSR KY2 Property Royalty. The said Deed of Assignment was approved by the Government as required by law pursuant to a letter dated 2<sup>nd</sup> December 2009 from the Minister to Adansi Asaasi.
16. Deed of Assignment dated 7<sup>th</sup> October 2009 (the “K3 Property Assignment”) made between Adansi Asaasi and Pelangio K3 pursuant to which Adansi Asaasi legally assigned and transferred all its 100% undivided title, rights and beneficial interest in the KY3 Prospecting Licence to Pelangio K3 subject only to the Government Interest and to the 2% NSR KY3 Property Royalty. The said Deed of Assignment was approved by the Government pursuant to a letter dated 2<sup>nd</sup> December 2009 from the Minister to Adansi Asaasi.
17. The definitive option agreement dated 3<sup>rd</sup> September 2010 (the “Subriso Option Agreement”) made between Pelangio Manfo and Hebron pursuant to which Hebron granted to Pelangio Manfo an exclusive right and option (the “Subriso Option”) to acquire a 100% right, title and interest in the Subriso Prospecting Licence. The said Subriso Option Agreement was approved by the Government pursuant to a letter dated 22<sup>nd</sup> July 2011 from the Minister to Hebron.
18. The definitive option agreement dated 3<sup>rd</sup> September 2010 (the “Sempekrom Option Agreement”) made between Pelangio Manfo and Hebron pursuant to which Hebron granted to Pelangio Manfo an exclusive right and option (the “Sempekrom Option”) to acquire a 100% right, title and interest in the Sempekrom Prospecting Licence. The said Sempekrom Option Agreement was approved by the Government pursuant to a letter dated 27<sup>th</sup> May 2011 from the Minister to Hebron.
19. The definitive option agreement dated 3<sup>rd</sup> September 2010 (the “Twabidi Option Agreement”) made between Pelangio Manfo and Hebron pursuant to which Hebron granted to Pelangio Manfo an exclusive right and option (the “Twabidi Option”) to acquire a 100% right, title and interest in the Twabidi Prospecting Licence. The said Twabidi Option Agreement was approved by the Government pursuant to a letter dated 19<sup>th</sup> July 2011 from the Minister to Hebron.
20. The Deed of Assignment dated September 3, 2010 (the “Subriso Property Assignment”) made between Hebron and Pelangio Manfo pursuant to which Hebron legally assigned and transferred all its 100% undivided title, right and interest in the Subriso Prospecting Licence to Pelangio Manfo, subject only to the Government Interest a 2.5% net smelter returns (the “2.5% NSR Subriso Property Royalty”) reserved in favour of Hebron.



21. The Deed of Assignment dated September 3, 2010 (the “Subriso Property Assignment”) made between Hebron and Pelangio Manfo pursuant to which Hebron legally assigned and transferred all its 100% undivided title, right and interest in the Sempekrom Prospecting Licence to Pelangio Manfo, subject only to the Government Interest and to a 2.5% net smelter returns royalty (“2.5% NSR Sempekrom Property Royalty”) reserved in favour of Hebron.
22. The Deed of Assignment (the “Twabidi Property Assignment”) dated September 3, 2010 made between Hebron and Pelangio Manfo pursuant to which Hebron legally assigned its 100% undivided title and interest in the Twabidi Prospecting Licence to Pelangio Manfo subject only to the Government Interest and a 2.5% net smelter returns royalty Twabidi Property Royalty”) reserved in favour of Hebron.
23. Copy of an official search report (the “Official Search Report”) dated October 25, 2011 issued by the Minerals Commission, which said report was issued in response to our official legal search (the “Official Search”) dated October 16, 2011 conducted to verify and confirm the legal status of the Meduma Prospecting Licence, the Kyereboso No. 2 Prospecting Licence, the Kyereboso No. 3 Prospecting Licence, the Subriso Prospecting License, the Sempekrom Prospecting License and the Twabidi Prospecting License. The Minerals Commission has confirmed in the said Official Search Report that the Meduma Prospecting Licence, the Kyereboso No. 2 Prospecting Licence, the Kyereboso No. 3 Prospecting Licence, the Subriso Prospecting Licence, the Sempekrom Prospecting Licence and the Twabidi Prospecting Licence all remain valid and in good standing as at October 25, 2011. The Minerals Commission also confirmed in the Official Search Report that the Minister has given regulatory approval to the Meduma Property Assignment, the Kyereboso No. 2 Property Assignment and the Kyereboso No. 3 Property Assignment and further that all the requisite consideration fees due to the Minerals Commission with respect to the said regulatory approvals have been paid. Copies of both the Official Search and the Official Search Report are attached hereto as **Appendix ‘A’** and **Appendix ‘B’**, respectively.
24. Section 35(4) of the Mining Law which provides that where a holder of a prospecting licence has made an application for an extension of the term of the licence and the term of the prospecting licence would, but for the said section expire, the prospecting licence shall continue in force in respect of the land that is subject to the application until the application is determined. Based on disclosures contained in the Official Search Report this section of the Mining Law would be applicable to the Sempekrom Prospecting Licence in respect of which an application for renewal of the licence has been made to the Minerals Commission.

We have also examined the original, or copies certified or otherwise, identified to our satisfaction, of such corporate records of Pelangio and its subsidiaries, as we have considered necessary for the purpose of this opinion. As to questions of fact material to this opinion we have, to the extent that such facts were not independently verified by us, relied upon other agreements, instruments, documents and certificates, including certificates of public officials and written confirmations of Pelangio as of the date hereof. In all such examinations we have assumed that genuineness and all signatures, the authenticity of all documents submitted to us as originals and the conformity to the original of all documents submitted to us as copies or facsimiles thereof. We have also considered such matters of law as we have considered necessary for the purpose of this opinion.

5

We are qualified to practice law only in Ghana. We have not made any independent examinations of the laws of a jurisdiction other than Ghana and we do not express or imply any opinion as to the laws of any other jurisdiction. To the extent that documents upon which we have relied are based upon any assumption or subject to any limitation qualification, our opinions rendered in reliance thereon are also based upon such assumptions and subject to such limitations and qualifications.

For purposes of this opinion, the following terms have the following meanings;

“Ghana” means the Republic of Ghana.

“Government” means the government of the Republic of Ghana.

“Government Interest” means the statutory options and rights conferred on the Government as fully set out in the Mining Law and each of the Meduma Prospecting Licence, the Kyereboso No. 2 Prospecting Licence, the Kyereboso No. 3 Prospecting License, the Subriso Prospecting License, the Sempekrom Prospecting License and the Twabidi Prospecting License.

“Kyereboso No. 2 Minerals Rights” means the Kyereboso No. 2 Prospecting Licence and related surface rights as described in the said licence.

“Kyereboso No. 3 Mineral Rights” means the Kyereboso No. 3 Prospecting Licence and related surface rights as described in the said licence.

“Meduma Mineral Rights” means the Meduma Prospecting Licence and related surface rights as described in the said licence.

“Minerals Commission” means the Minerals Commission of Ghana.

“Mining Law” means the Ghana Minerals and Mining Act 2006, Act 703.

“Minister” means the Ghanaian Minister responsible for Lands and Natural Resources.

“Sempekrom Mineral Rights” means the Sempekrom Prospecting Licence and related surface rights as described in the said licence.

“Subriso Mineral Rights” means the Subriso Prospecting Licence and related surface rights as described in the said licence.

“Twabidi Mineral Rights” means the Twabidi Prospecting Licence and related surface rights as described in the said licence.

## **Opinions**

Based upon and subject to the foregoing, we are of the opinion that:

1. Pelangio holds a 100% legal and beneficial title and interest in the Meduma Mineral Rights with good and marketable legal and beneficial title and interest thereto, subject to the terms and conditions of the Adansi Gold Option Agreement, the Meduma Property Assignment, the Government Interest and the 2% NSR Meduma Property Royalty.
2. The Meduma Mineral Rights are in good standing.

3. Pelangio's legal and beneficial title and interest in the Meduma Mineral Rights is subject only to the Government Interest and the 2% NSR Meduma Property Royalty.
4. Pelangio holds a 100% legal and beneficial title and interest in the Kyereboso No. 2 Mineral Rights with good and marketable legal and beneficial title and interest thereto, subject to the terms and conditions of the Adansi Asaasi KY2 Option Agreement, the KY2 Property Assignment, the Government Interest and the 2% NSR KY2 Property Royalty.
5. The Kyereboso No. 2 Mineral Rights are in good standing.
6. Pelangio's 100% legal and beneficial title and interest in the Kyereboso No. 2 Mineral Rights is subject only to the Government Interest and to the 2% NSR KY2 Property Royalty.
7. Pelangio holds a 100% legal and beneficial title and interest in the Kyereboso No. 3 Mineral rights with good and marketable legal and beneficial title and interest thereto, subject to the terms and conditions of the Adansi Asaasi KY3 Option Agreement, the KY3 Property Assignment, the Government Interest and the 2% NSR KY3 Property Royalty.
8. The Kyereboso No. 3 Mineral Rights are in good standing.
9. Pelangio's 100% legal and beneficial title and interest in the Kyereboso No. 3 Minerals Rights is subject only to the Government Interest and to the 2% NSR KY3 Property Royalty.
10. All corporate and regulatory approvals that are required under Ghana law to validate and give effect to Pelangio's 100% legal and beneficial title and interest in the Meduma Mineral Rights, the Kyereboso No. 2 Mineral Rights and the Kyereboso No. 3 Mineral Rights have been obtained.
11. Pelangio holds a valid a 100% title and interest in the Subriso Mineral Rights with good and marketable title and interest thereto, subject to the terms of the Subriso Option Agreement, the Subriso Property Assignment and other statutory rights and options that are fully set out in the Subriso Prospecting Licence and the Mining Law.
12. The Subriso Mineral Rights are in good standing.
13. Pelangio's 100% undivided title and interest in the Subriso Mineral Rights is subject only to the Government Interest the 2.5% NSR Subriso Royalty and the statutory rights and options conferred on the Government in the Mining Law.
14. Pelangio a 100% title and interest in the Sempekrom Mineral Rights with good and marketable legal title and interest thereto, subject to the terms of the Sempekrom Option Agreement the Sempekrom Mineral Property Assignment and other statutory rights and options that are fully set out in the Sempekrom Prospecting Licence and Mining Law.

15. The Sempekrom Mineral Rights are in good standing.
16. Pelangio's 100% undivided title and interest in the Sempekrom Mineral Rights is subject only to the Government Interest, the 2.5% NSR Sempekrom Mineral Property Royalty statutory rights and options conferred on the Government in the Mining Law.
17. Pelangio holds a 100% undivided title and interest in the Twabidi Mineral Rights with good and marketable title and interest thereto, subject to the terms of the Twabidi Option Agreement the Twabidi Property Assignment and other statutory rights and options that are fully set out in the Twabidi Prospecting Licence and Mining Law.
18. The Twabidi Mineral Rights are in good standing.
19. Pelangio's 100% title and interest in the Twabidi Mineral Rights is subject only to the Government Interest the 2.5% NSR Twabidi Property Royalty and other statutory rights and options conferred on the Government in the Mining Law.
20. All corporate and regulatory approvals that are required under Ghana law to validate and give effect to Pelangio Manfo's 100% title and interest in each of the Subriso Mineral Rights, Sempekrom Mineral Rights and Twabidi Mineral Rights, have been obtained, except for the approval required from the Minister under section 14 of the Mining Law in respect of the Subriso Deed of Assignment, Sempekrom Deed of Assignment and Twabidi Deed of Assignment (the "Ministerial Approval"). Given the fact that the Minister had previously approved the Subriso Option Agreement, the Sempekrom Option Agreement and the Twabidi Option Agreement and that all applicable fees and documents have been submitted to the Minerals Commission, the Ministerial Approval will not be unreasonably withheld or given upon unreasonable conditions in compliance with Section 14 of the Mining Law.
21. This opinion relates exclusively to the matters referred to above and is for the sole use and benefit of the persons to whom it is addressed. Accordingly, it cannot be relied upon by the other parties or used in other transactions without our express written consent.

Yours truly  
**REM Law Consultancy**



**Innocent Akwayena**  
**Managing Consultant**

## **APPENDIX B**

### **Summary Characteristics of Diamond Drill Holes on the Manfo Gold Project**

**Diamond Drill Holes Drilled by Pelangio in 2010 and 2011 to June 30, 2011.**

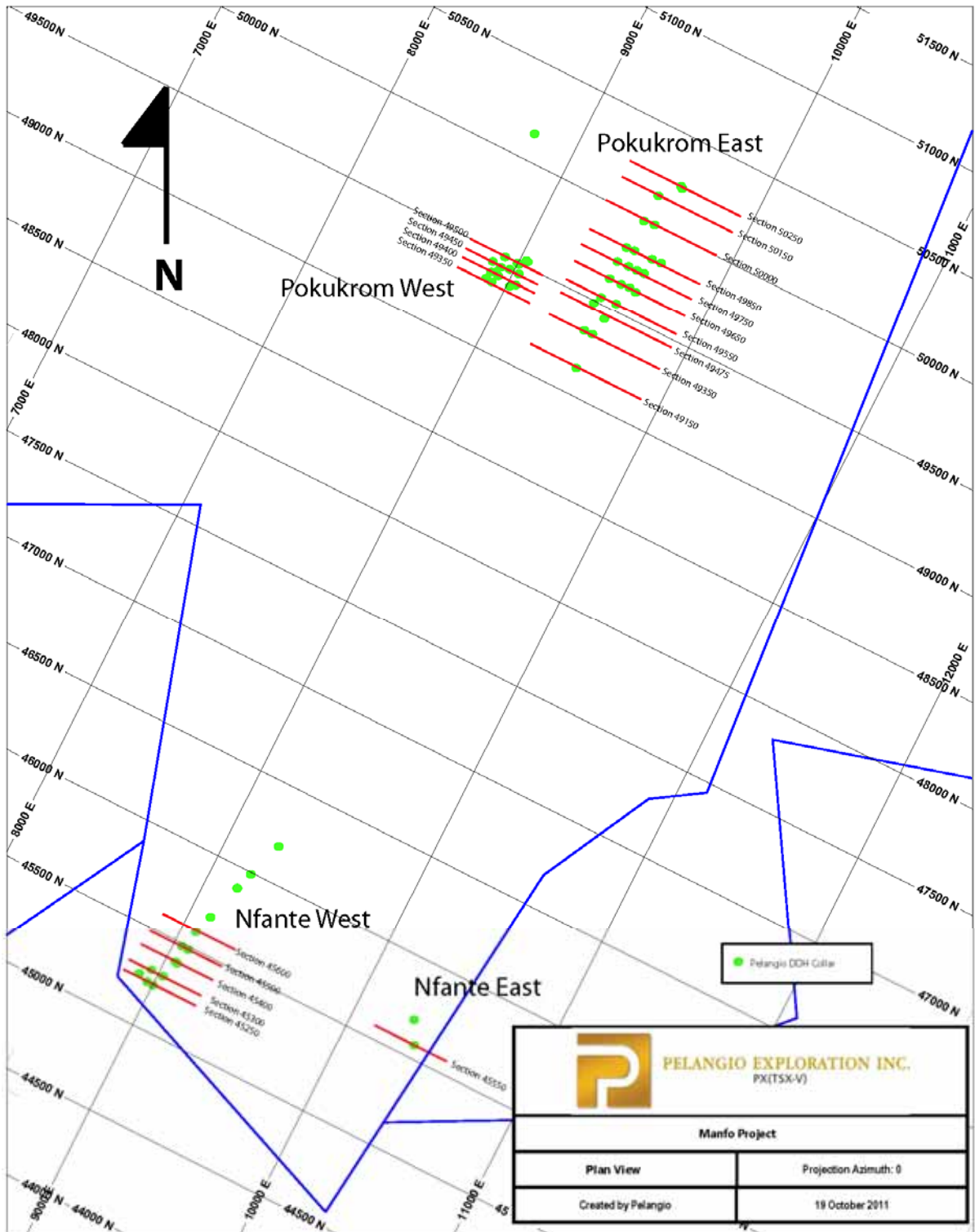
Hole ID	Target	Section <sup>1</sup>	Elevation (metre)	Length (metre)	Azimuth	Dip
SFDD-079	Nfante West	45400	265.6	141.10	117	-50
SFDD-080	Nfante West	45400	265.6	220.00	117	-70
SFDD-081	Nfante West	45250	259.6	133.00	117	-45
SFDD-082	Nfante West	45250	256.2	127.00	117	-45
SFDD-093	Nfante East	45700	266.6	146.00	117	-50
SFDD-094	Nfante East	45550	261.8	201.00	117	-50
SFDD-095	Nfante West	45300	262.0	142.65	117	-45
SFDD-096	Nfante West	45300	260.2	140.80	117	-45
SFDD-097	Nfante West	45250	256.7	203.46	117	-45
SFDD-098	Nfante West	45500	268.0	151.79	117	-45
SFDD-099	Nfante West	45600	270.0	106.07	117	-45
SFDD-100	Nfante West	45500	268.9	148.74	117	-45
SFDD-101	Nfante West	45700	271.0	188.37	117	-45
SFDD-102	Nfante West	45900	272.0	269.14	117	-45
SFDD-103	Nfante West	46000	271.2	252.38	117	-45
SFDD-104	Nfante West	46200	267.5	102.48	117	-45
SPDD-083	Pokukrom West	49450	251.1	96.00	117	-45
SPDD-084	Pokukrom West	49450	254.7	90.00	297	-50
SPDD-085	Pokukrom East	49550	267.2	246.00	117	-45
SPDD-086	Pokukrom East	49550	270.6	180.00	117	-45
SPDD-087	Pokukrom East	49350	260.3	170.00	117	-45
SPDD-088	Pokukrom East	49350	260.8	144.00	117	-45
SPDD-089	Pokukrom East	49850	243.1	141.00	117	-50
SPDD-090	Pokukrom West	49400	249.1	51.50	117	-50
SPDD-091	Pokukrom West	49450	246.8	220.00	117	-45
SPDD-092	Pokukrom West	49400	249.9	77.00	117	-45
SPDD-105	Pokukrom East	49150	252.4	93.80	117	-45
SPDD-106	Pokukrom East	49450	269.4	103.01	117	-45
SPDD-107	Pokukrom East	49500	276.7	222.00	117	-45
SPDD-108	Pokukrom East	49650	265.4	93.88	117	-45
SPDD-109	Pokukrom East	49650	266.1	180.22	117	-45
SPDD-110	Pokukrom East	49650	263.2	194.46	117	-45
SPDD-111	Pokukrom East	49650	263.6	103.02	117	-45
SPDD-112	Pokukrom East	49750	256.9	110.03	117	-45
SPDD-113	Pokukrom East	49750	257.1	138.38	117	-45
SPDD-114	Pokukrom East	49750	255.0	169.85	117	-45
SPDD-115	Pokukrom East	49750	254.3	211.84	117	-45
SPDD-116	Pokukrom West	49400	246.6	167.03	117	-45
SPDD-117	Pokukrom West	49400	257.5	212.74	297	-45
SPDD-118	Pokukrom West	49350	242.6	141.08	117	-45
SPDD-119	Pokukrom West	49350	245.6	121.49	117	-45
SPDD-120	Pokukrom West	50150	264.0	252.38	117	-45
SPDD-121	Pokukrom West	50750	251.0	82.60	117	-45
SPDD-122	Pokukrom East	50250	264.2	43.59	117	-50
SPDD-123	Pokukrom East	50150	255.3	176.00	117	-50
SPDD-124	Pokukrom East	50250	264.5	248.00	117	-50
SPDD-125	Pokukrom East	50000	239.3	249.33	117	-45
SPDD-126	Pokukrom East	50000	239.3	208.83	117	-45
SPDD-127	Pokukrom East	49850	239.6	247.61	117	-65
SPDD-128	Pokukrom East	49850	243.9	188.37	117	-45
SPDD-129	Pokukrom East	49850	242.7	103.02	117	-45
SPDD-130	Pokukrom West	49500	253.2	145.70	297	-45
SPDD-131	Pokukrom West	49500	253.2	173.13	297	-75
SPDD-132	Pokukrom West	49450	256.9	175.81	297	-45
SPDD-133	Pokukrom West	49375	255.5	130.46	297	-45
SPDD-134	Pokukrom West	49550	251.6	130.46	297	-45
SPDD-135	Pokukrom West	49550	251.6	161.40	297	-70
SPDD-136	Pokukrom West	49500	248.2	107.90	117	-45
<b>Total</b>				<b>9176.90</b>		

<sup>1</sup> SRK has reviewed and confirmed the coordinates of holes drilled by Pelangio. Hole locations are referenced in WGS84 Datum, UTM Zone 30 North Projection in the drill hole database.

## **APPENDIX C**

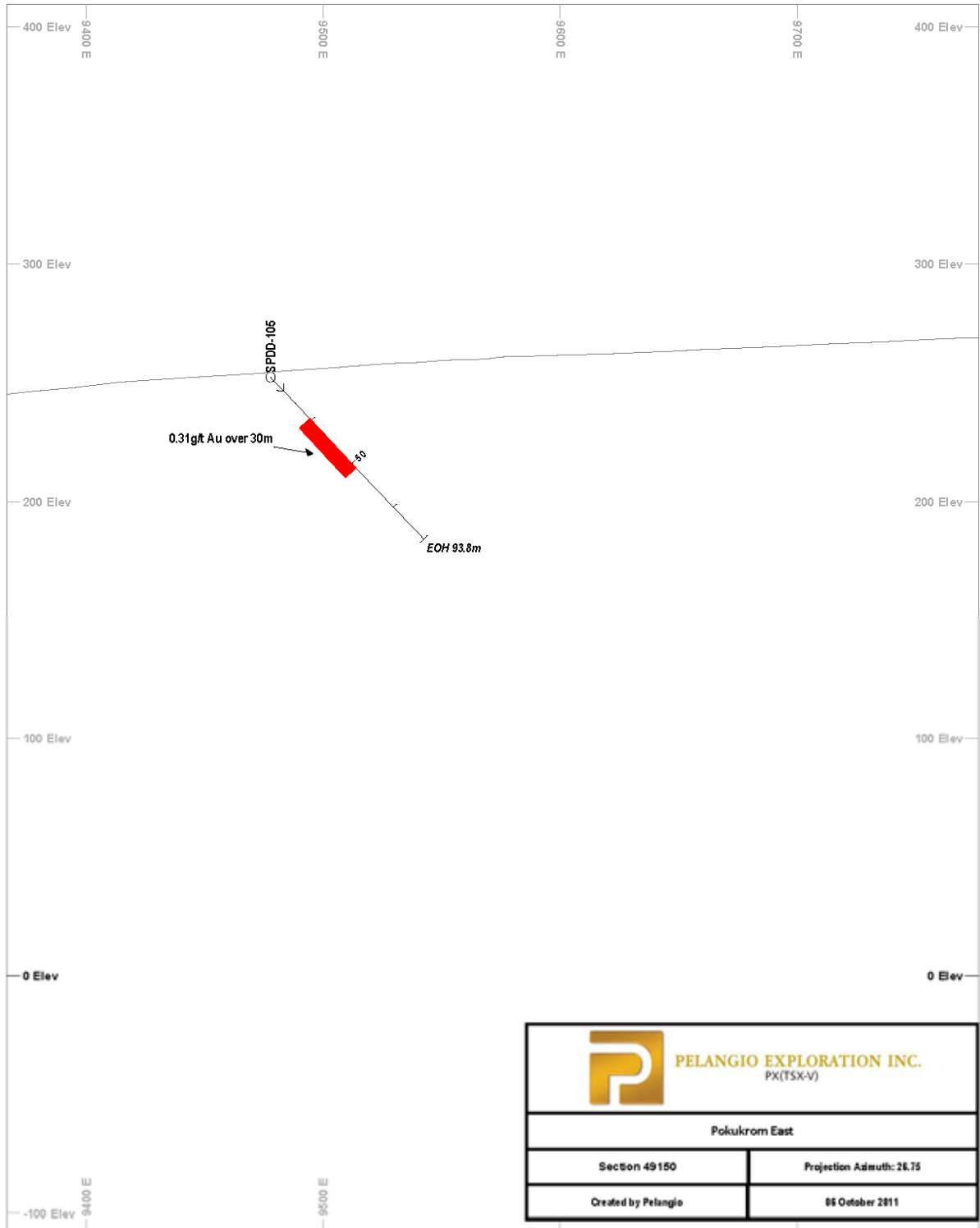
### **Location Map and Vertical Sections**

Location Map for Drill Holes and Vertical Sections at Pokukrom East, Pokukrom West, Nfante West and Nfante East.  
 Local grid in metres and oriented at 026.75 and 116.75 degrees.

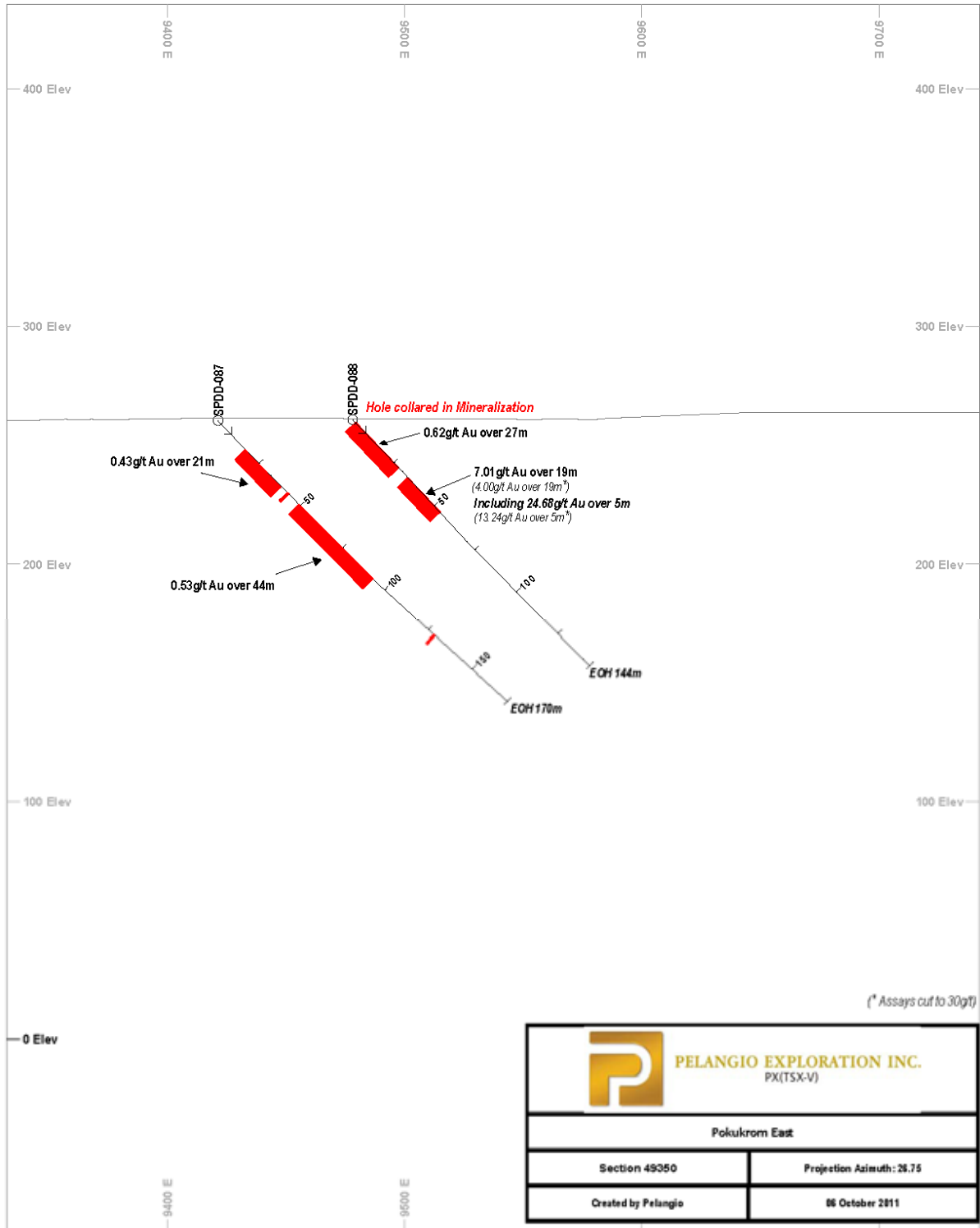




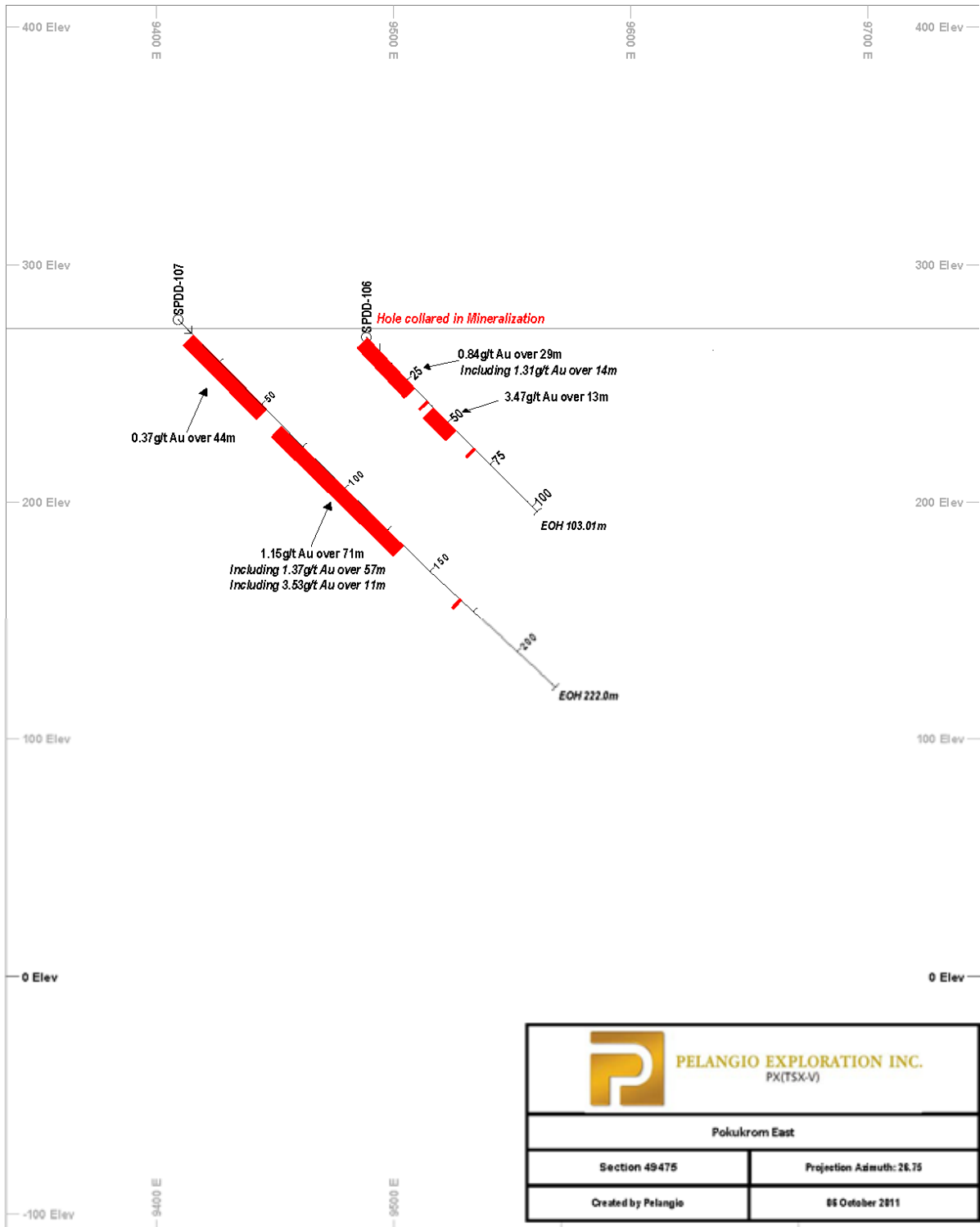
Cross section 49150 for drill hole SPDD-105, Pokukrom East.  
 Elevations and distances in metres. View looking towards 026.75 degrees.  
 Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.



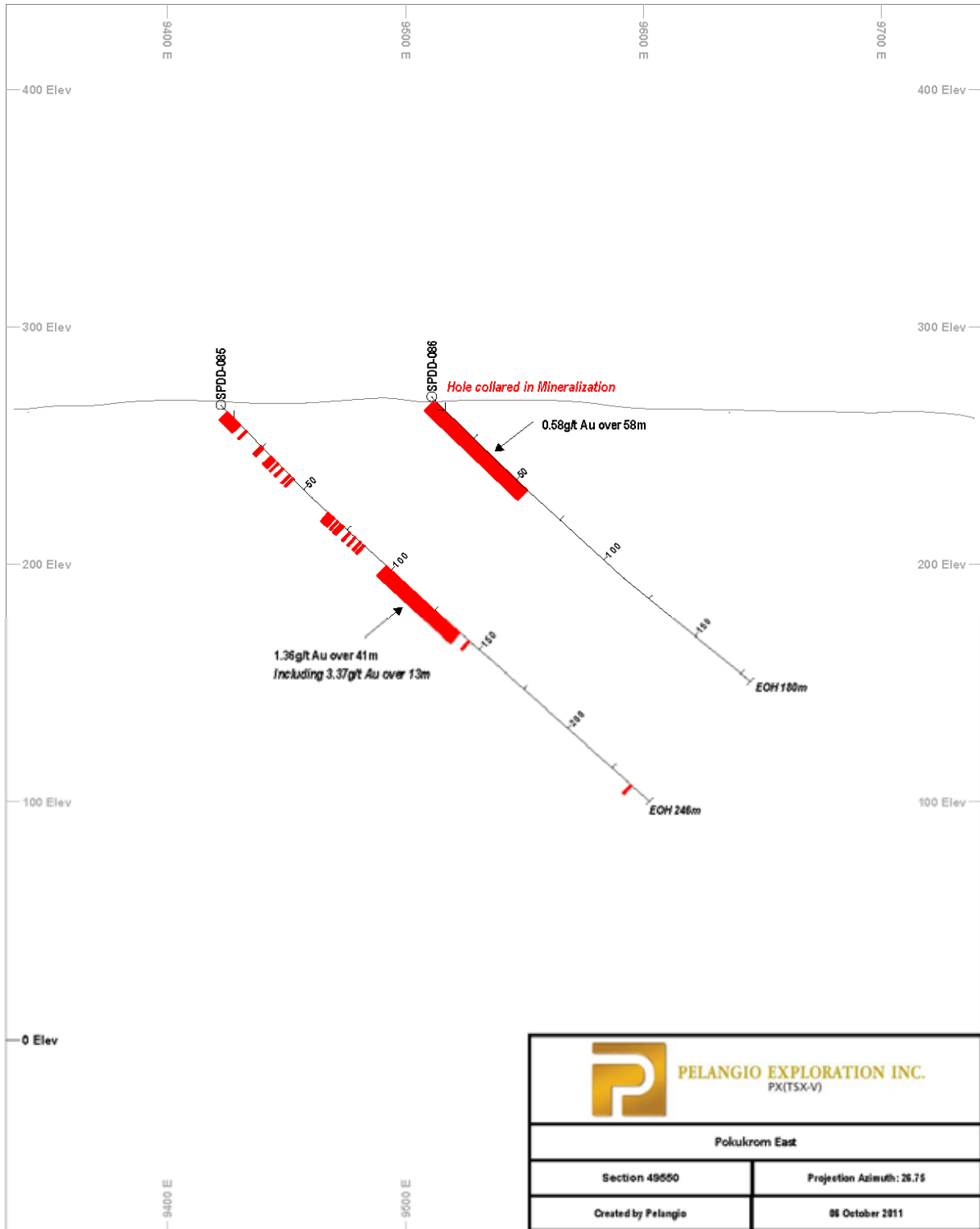
Cross section 49350 for drill holes SPDD-087 and SPDD-088, Pokukrom East.  
 Elevations and distances in metres. View looking towards 026.75 degrees.  
 Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.  
 Asterisks indicate intersections containing high-grade intervals that have been cut to 30 gpt gold.



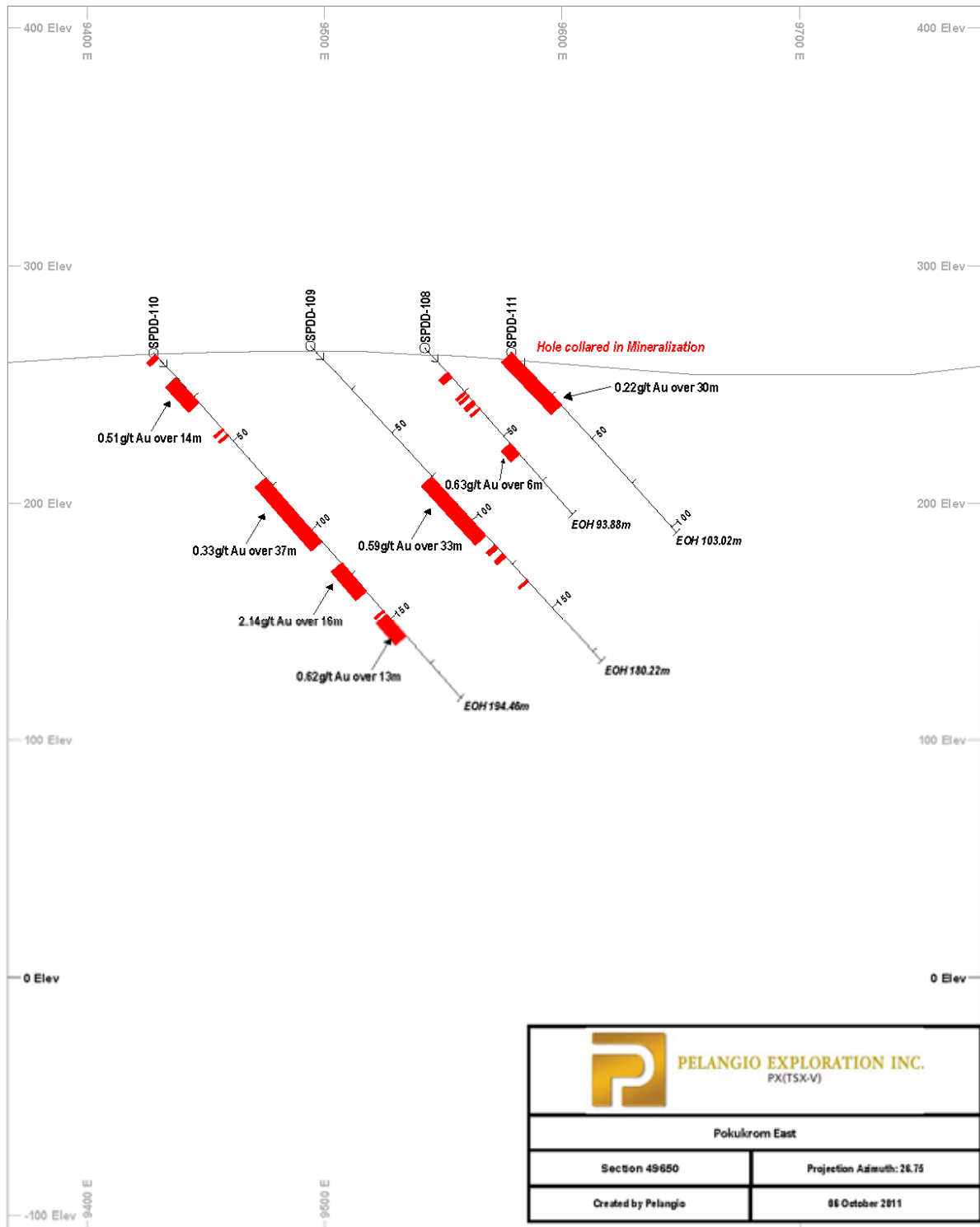
Cross section 49475 for drill holes SPDD-107 and SPDD-106, Pokukrom East.  
 Elevations and distances in metres. View looking towards 026.75 degrees.  
 Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.



Cross section 49550 for drill holes SPDD-085 and SPDD-086, Pokukrom East.  
 Elevations and distances in metres. View looking towards 026.75 degrees.  
 Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.



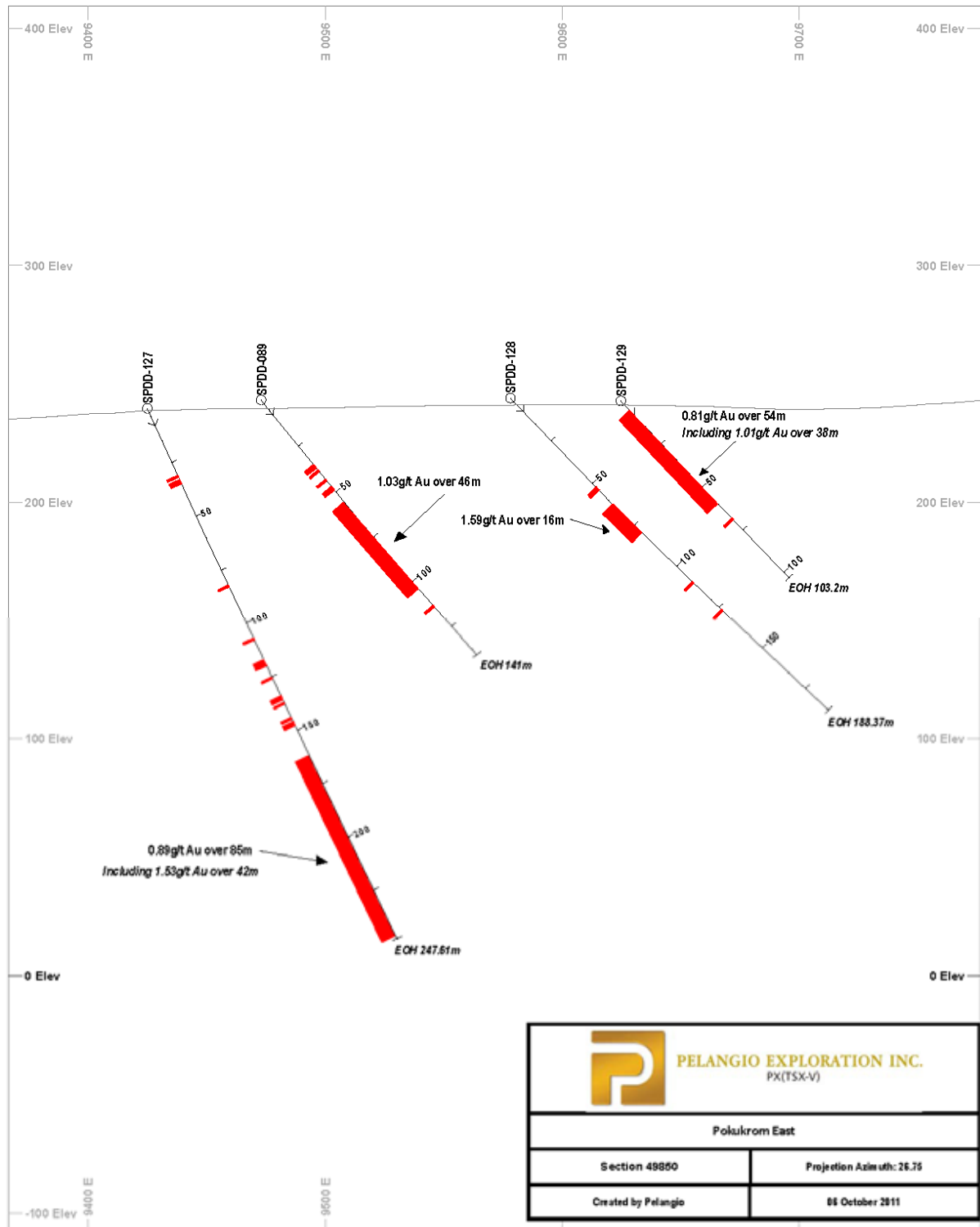
Cross section 49650 for drill holes SPDD-108, SPDD-109, SPDD-110 and SPDD-111, Pokukrom East. Elevations and distances in metres. View looking towards 026.75 degrees. Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.



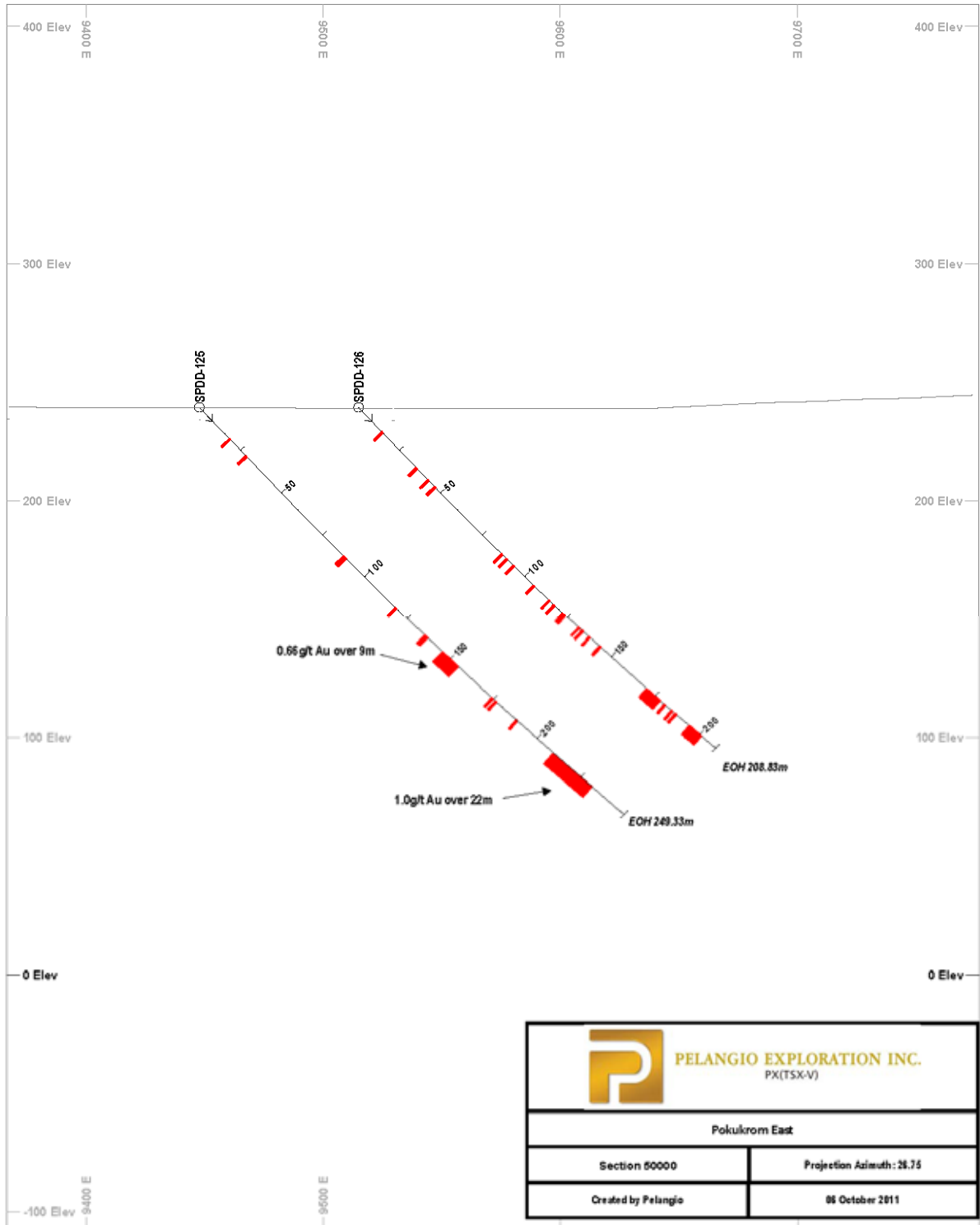
Cross section 49750 for drill holes SPDD-112, SPDD-113, SPDD-114 and SPDD-115, Pokukrom East. Elevations and distances in metres. View looking towards 026.75 degrees. Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.



Cross section 49850 for drill holes SPDD-089, SPDD-127, SPDD-128 and SPDD-129, Pokukrom East. Elevations and distances in metres. View looking towards 026.75 degrees. Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.

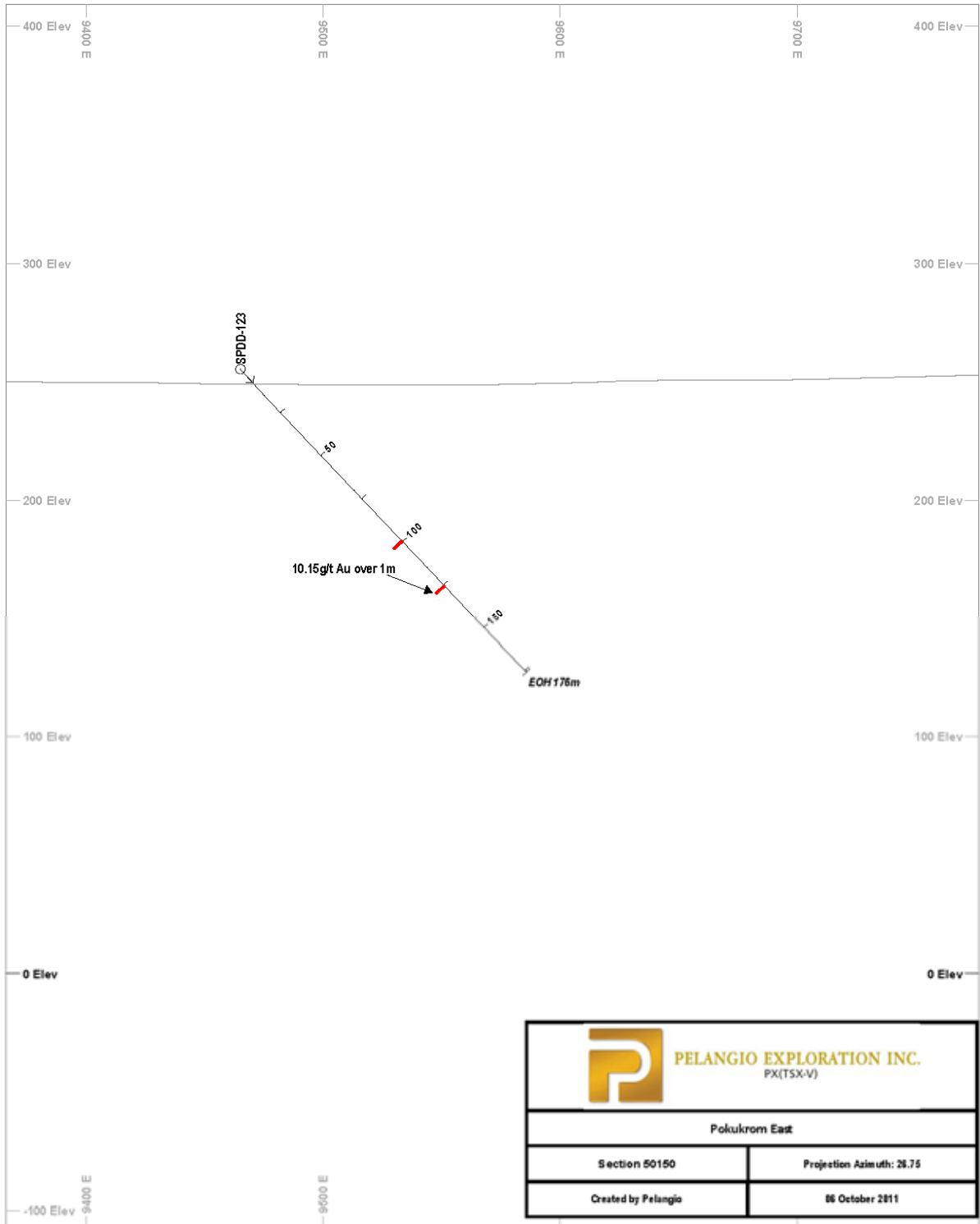


Cross section 50000 for drill holes SPDD-125 and SPDD-126, Pokukrom East. Elevations and distances in metres. View looking towards 026.75 degrees. Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.

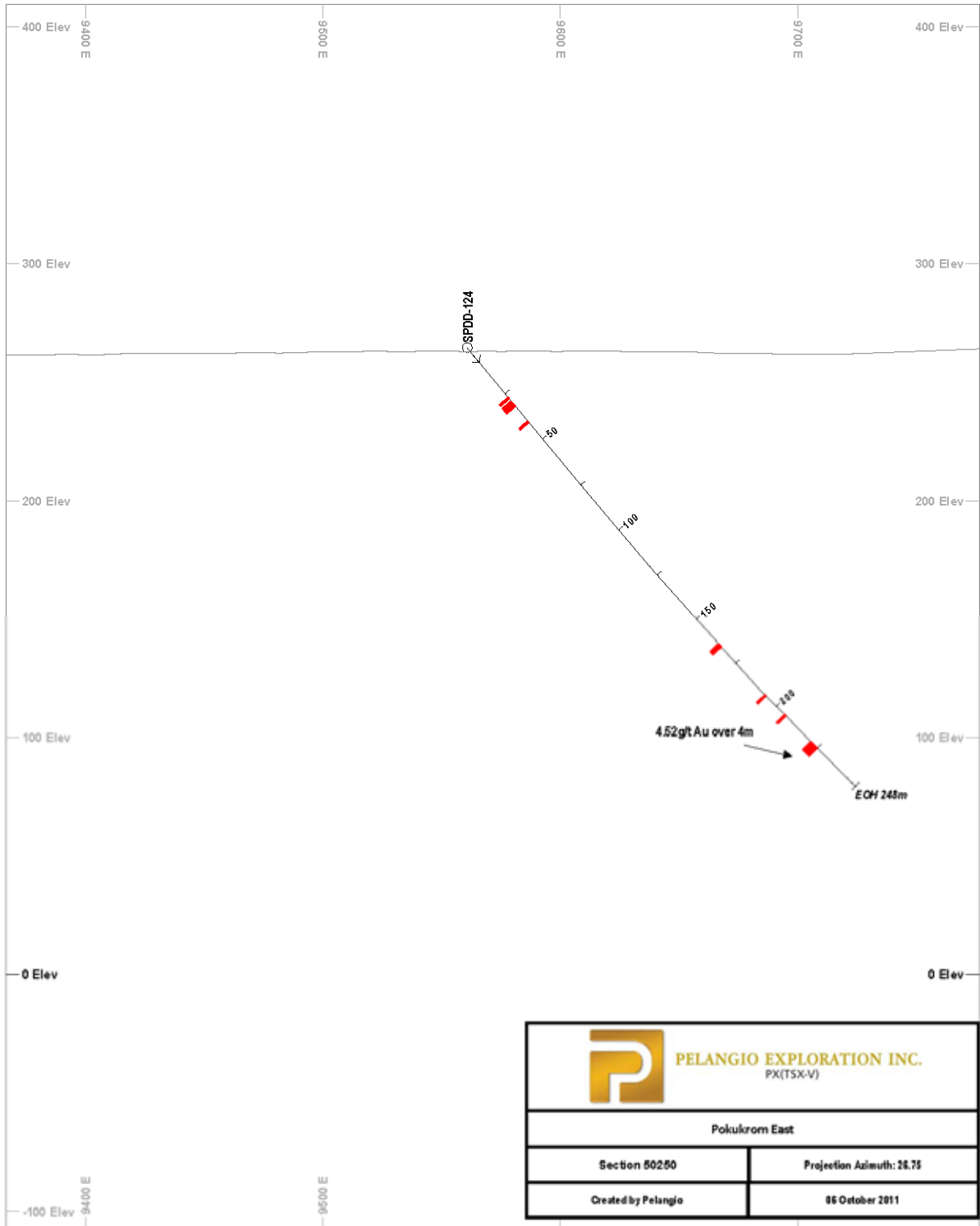




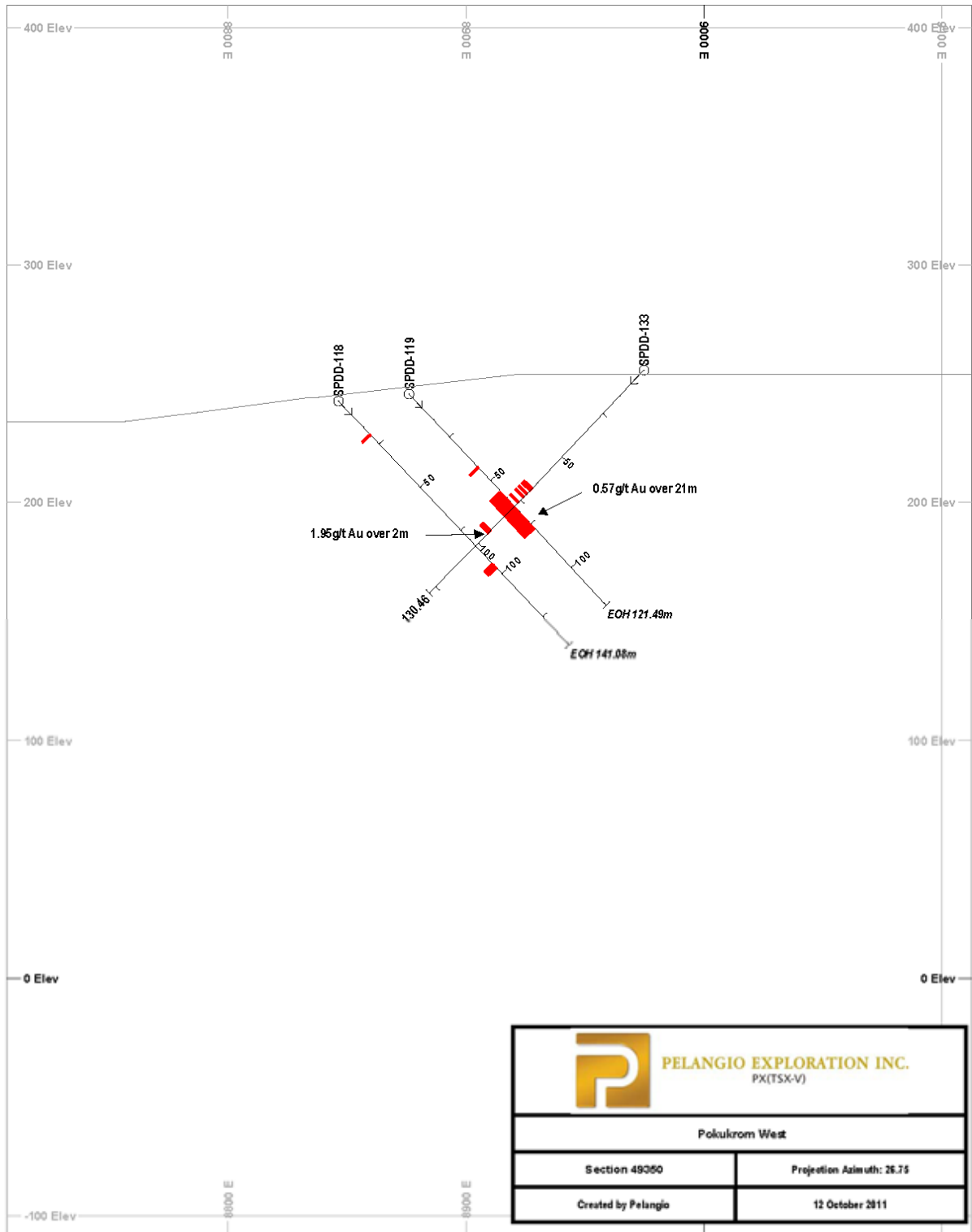
Cross section 50150 for drill hole SPDD-123, Pokukrom East.  
 Elevations and distances in metres. View looking towards 026.75 degrees.  
 Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.



Cross section 50250 for drill hole SPDD-124, Pokukrom East.  
 Elevations and distances in metres. View looking towards 026.75 degrees.  
 Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.



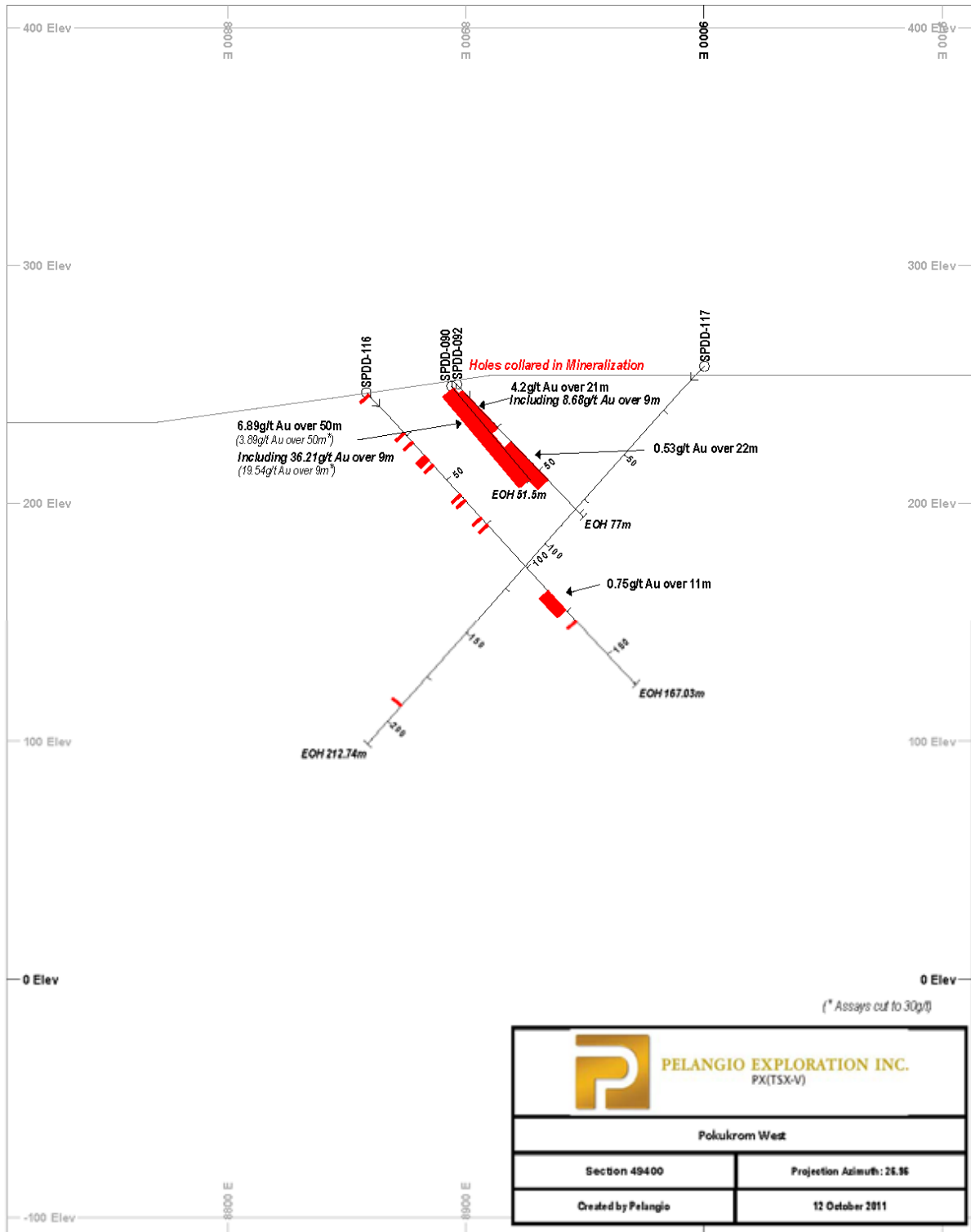
Cross section 49350 for drill holes SPDD-118, SPDD-119 and SPDD-133, Pokukrom West. Elevations and distances in metres. View looking towards 026.75 degrees. Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.



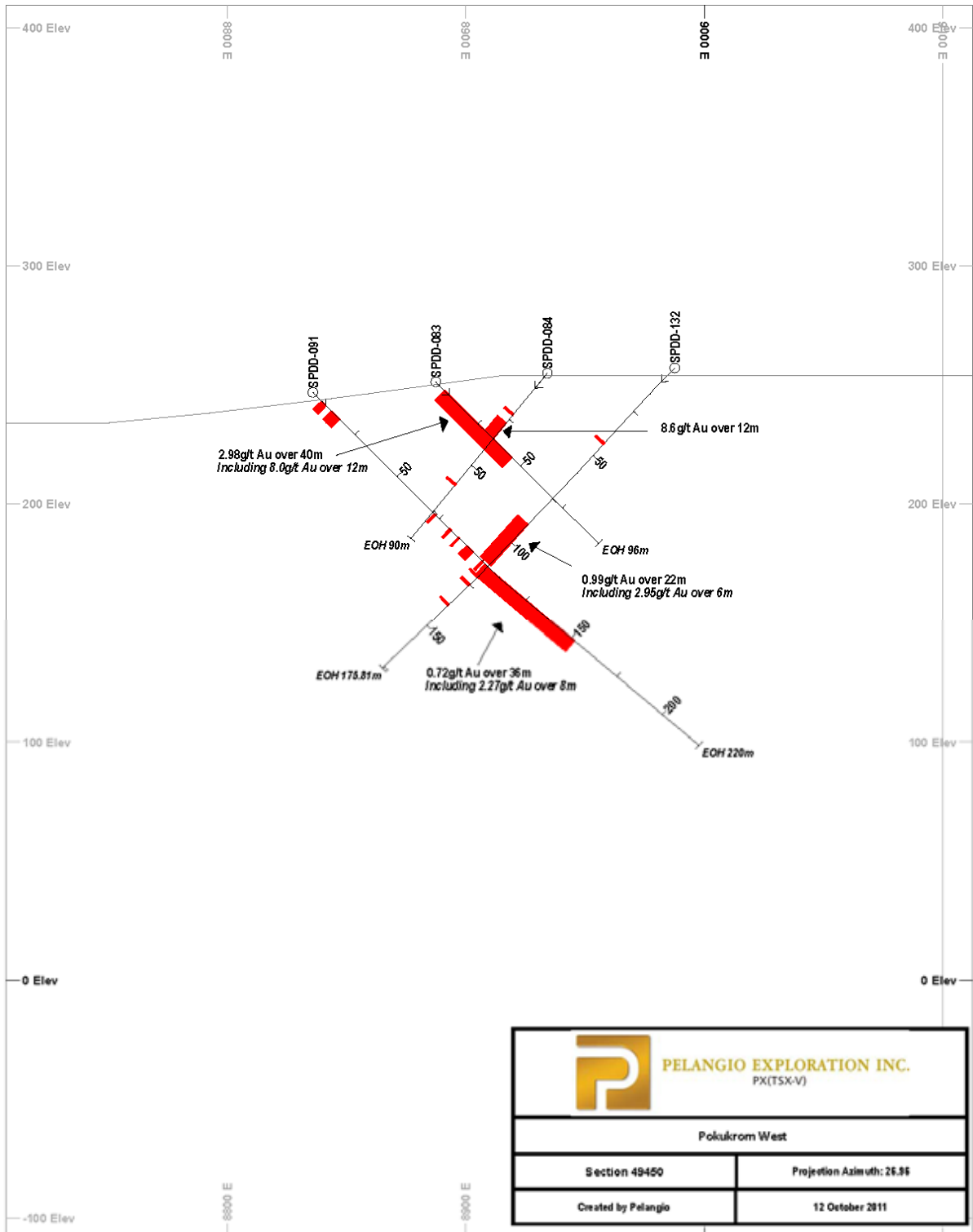
Cross section 49400 for drill holes SPDD-090, SPDD-092, SPDD-116 and SPDD-117, Pokukrom West. Elevations and distances in metres. View looking towards 026.75 degrees.

Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.

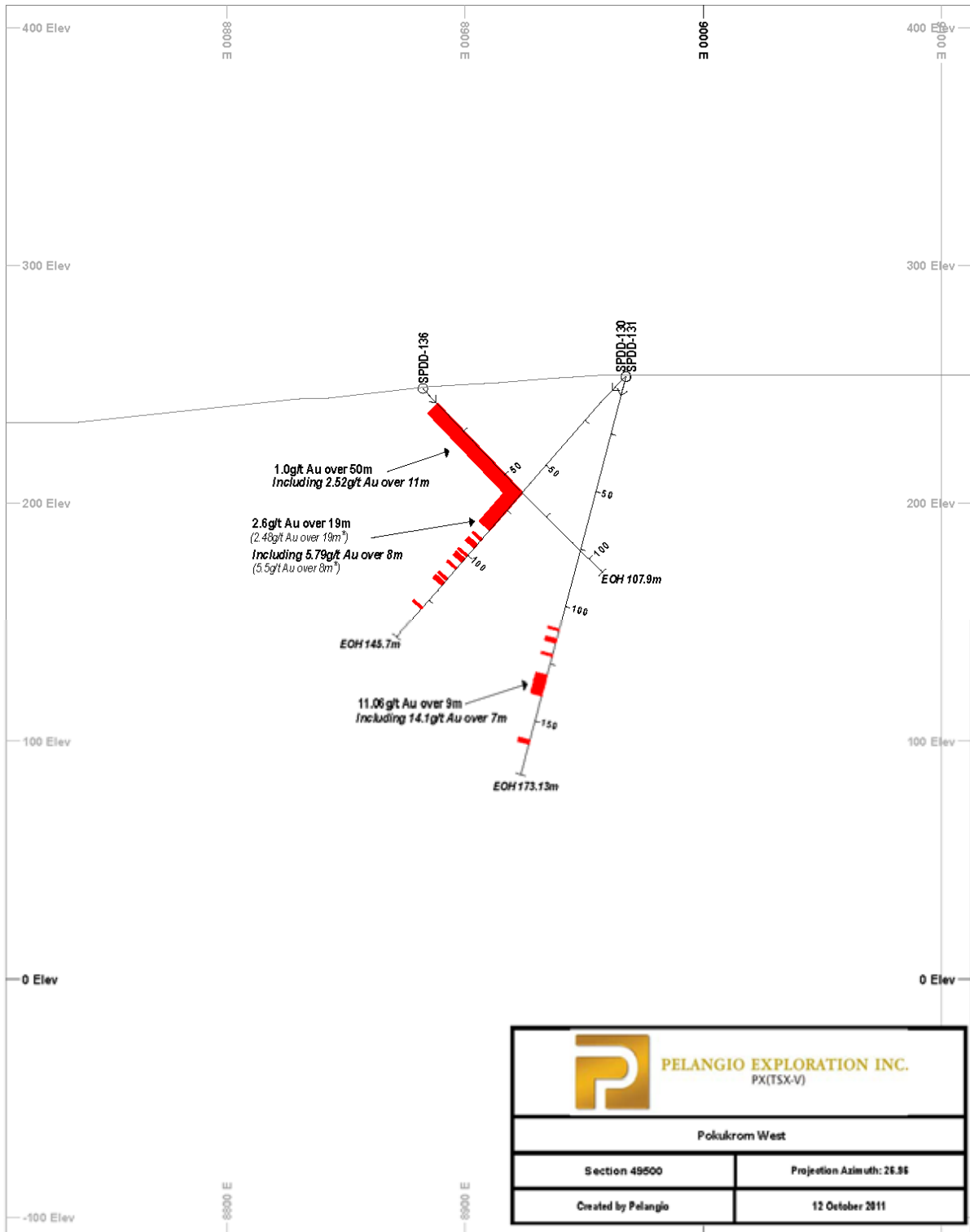
Asterisks indicate intersections containing high-grade intervals that have been cut to 30 gpt gold.



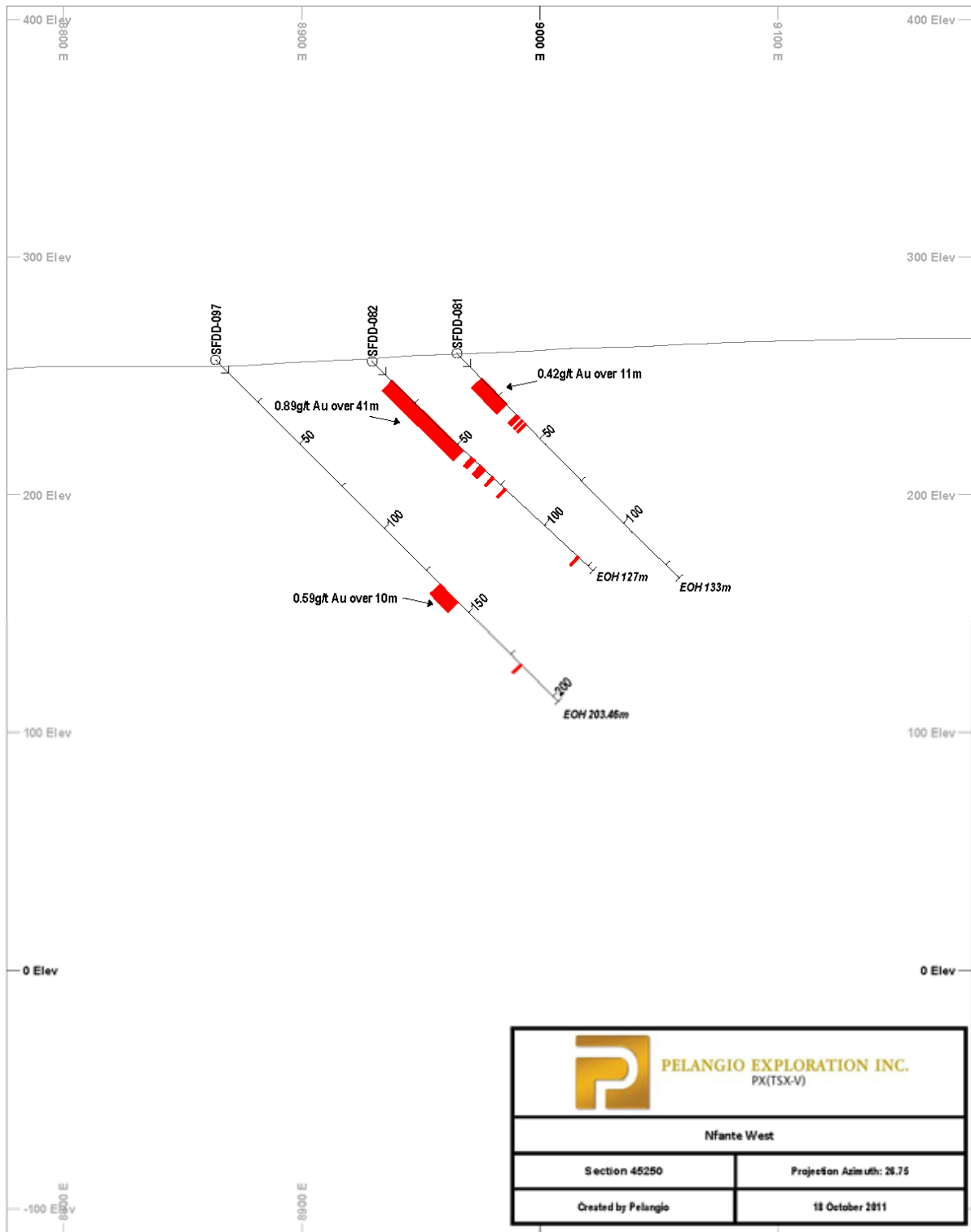
Cross section 49450 for drill holes SPDD-083, SPDD-084, SPDD-091 and SPDD-132, Pokukrom West. Elevations and distances in metres. View looking towards 026.75 degrees. Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.



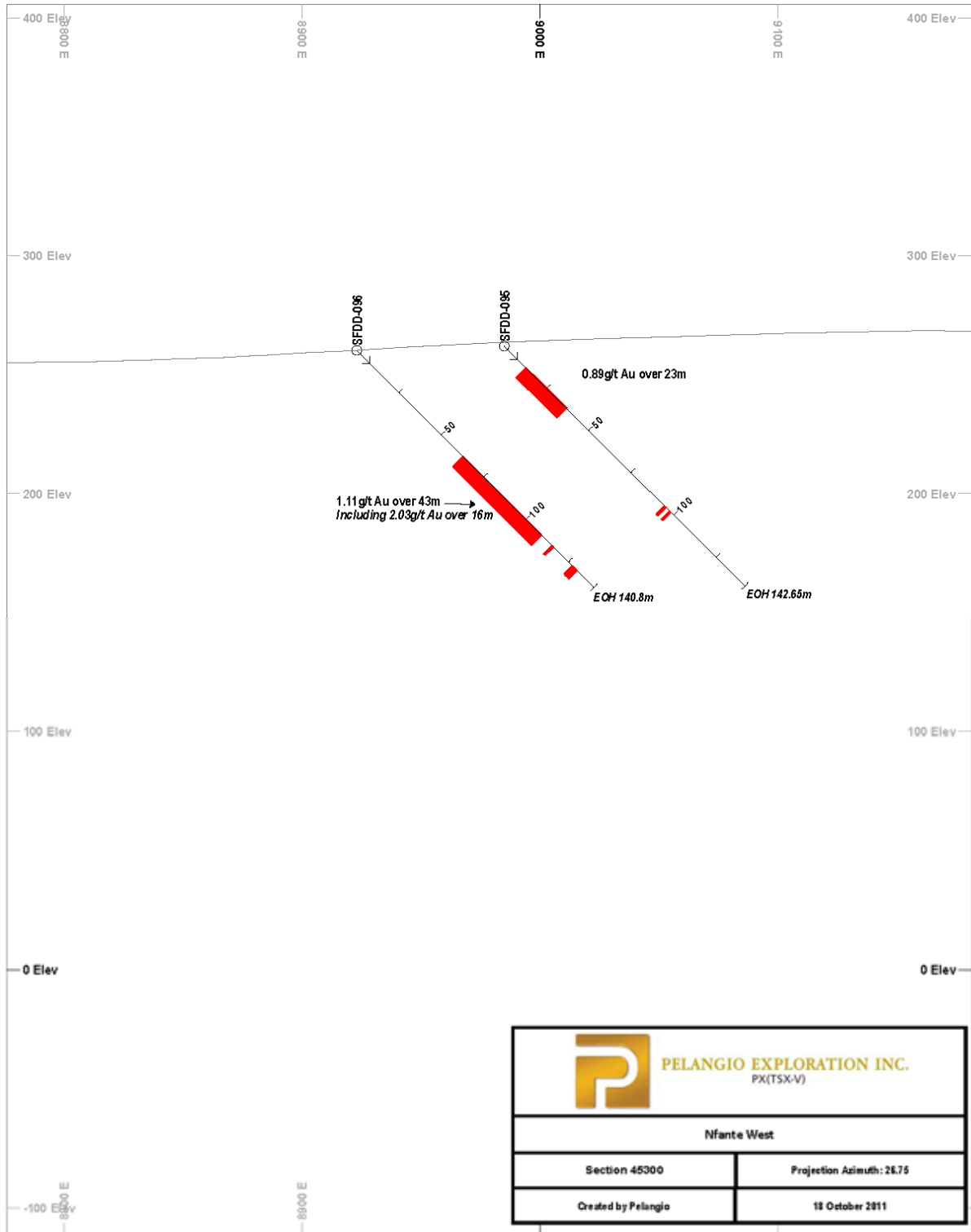
Cross section 49500 for drill holes SPDD-130, SPDD-131 and SPDD-136, Pokukrom West. Elevations and distances in metres. View looking towards 026.75 degrees. Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold. Asterisks indicate intersections containing high-grade intervals that have been cut to 30 gpt gold.



Cross section 45250 for drill holes SFDD-081, SFDD-082 and SFDD-097, Nfante West. Elevations and distances in metres. View looking towards 026.75 degrees. Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.

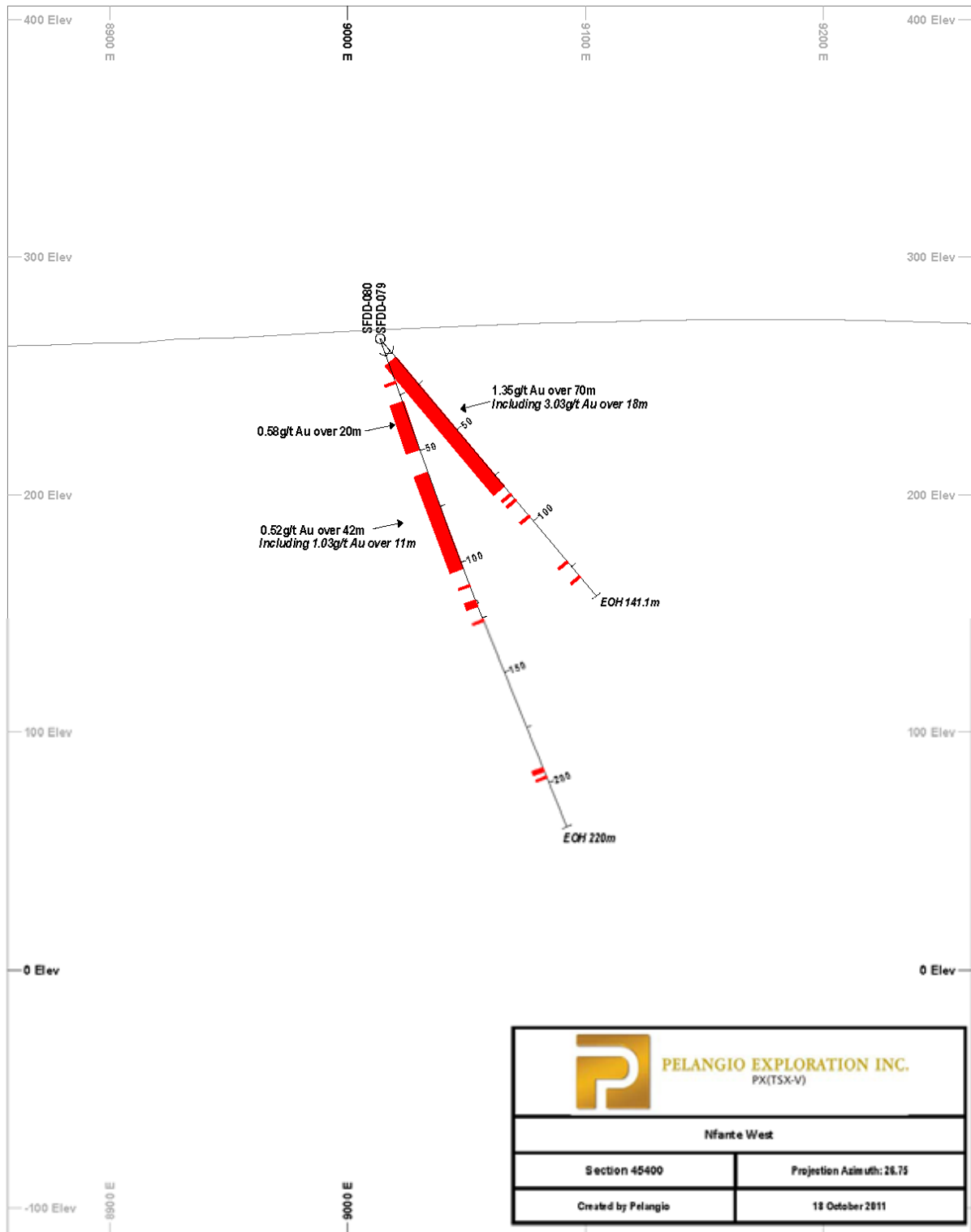


Cross section 45300 for drill holes SFDD-095 and SFDD-096, Nfante West.  
 Elevations and distances in metres. View looking towards 026.75 degrees.  
 Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.





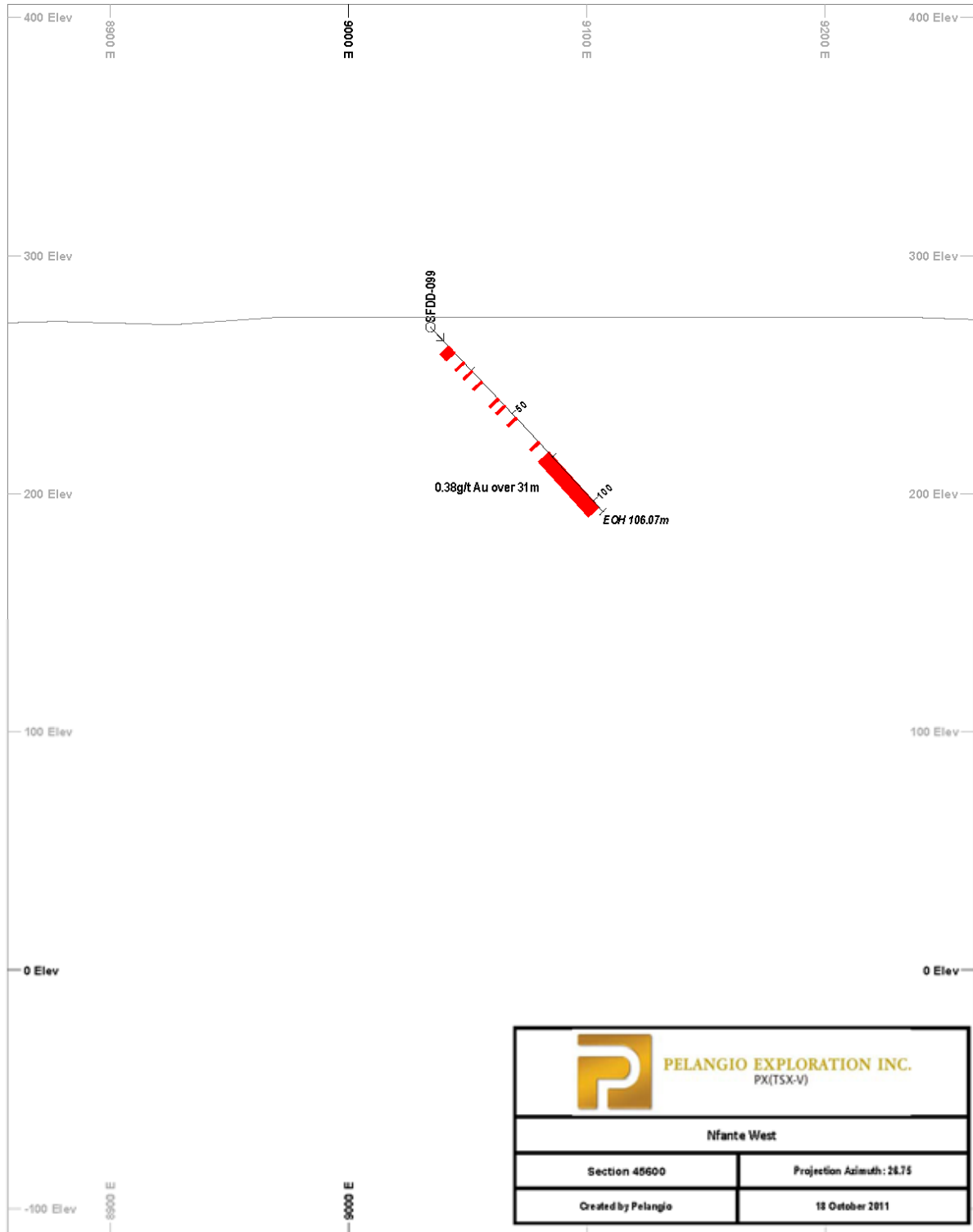
Cross section 45400 for drill holes SFDD-079 and SFDD-080, Nfante West.  
 Elevations and distances in metres. View looking towards 026.75 degrees.  
 Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.



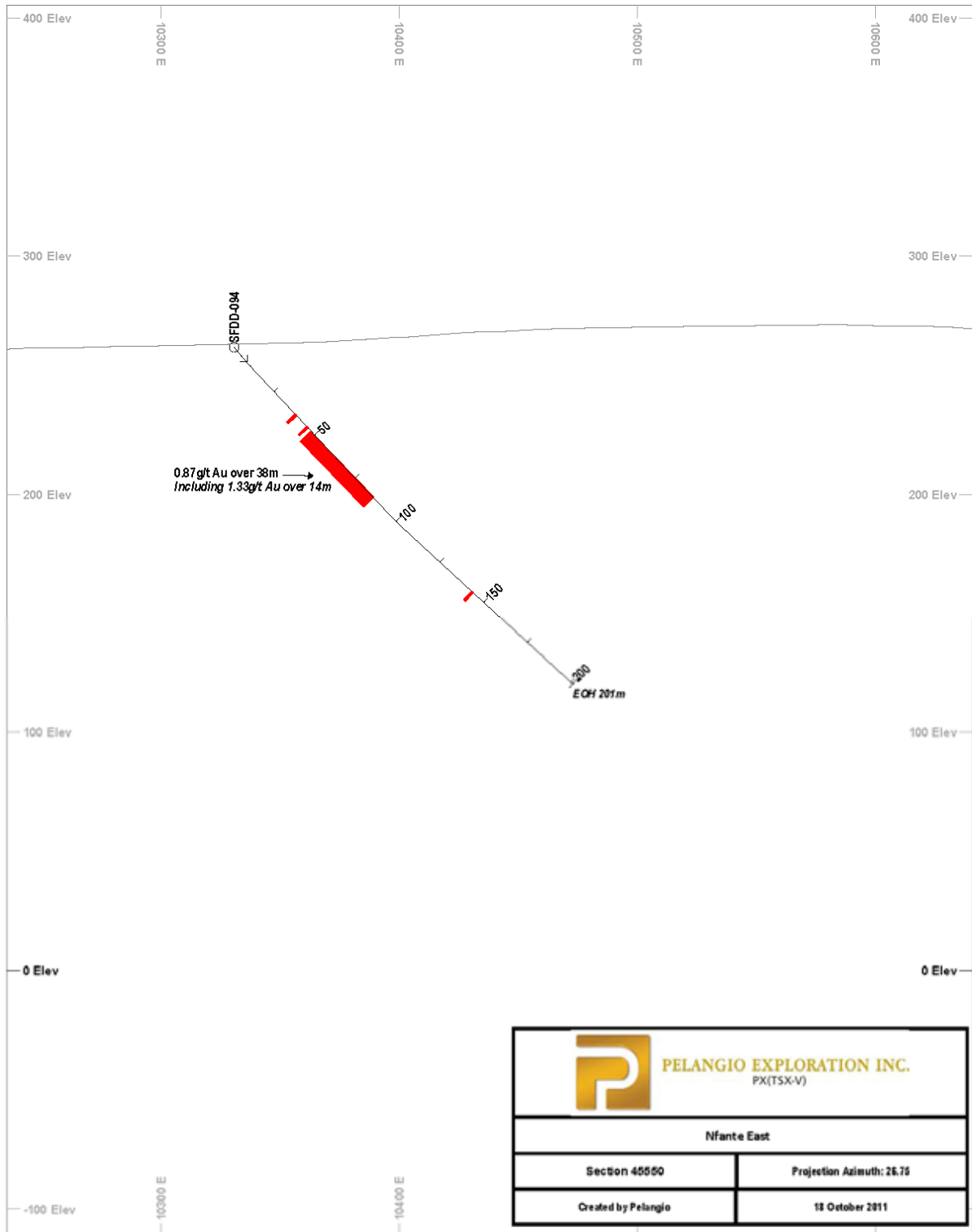
Cross section 45500 for drill holes SFDD-098 and SFDD-100, Nfante West.  
 Elevations and distances in metres. View looking towards 026.75 degrees.  
 Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.



Cross section 45600 for drill hole SFDD-099, Nfante West.  
 Elevations and distances in metres. View looking towards 026.75 degrees.  
 Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.



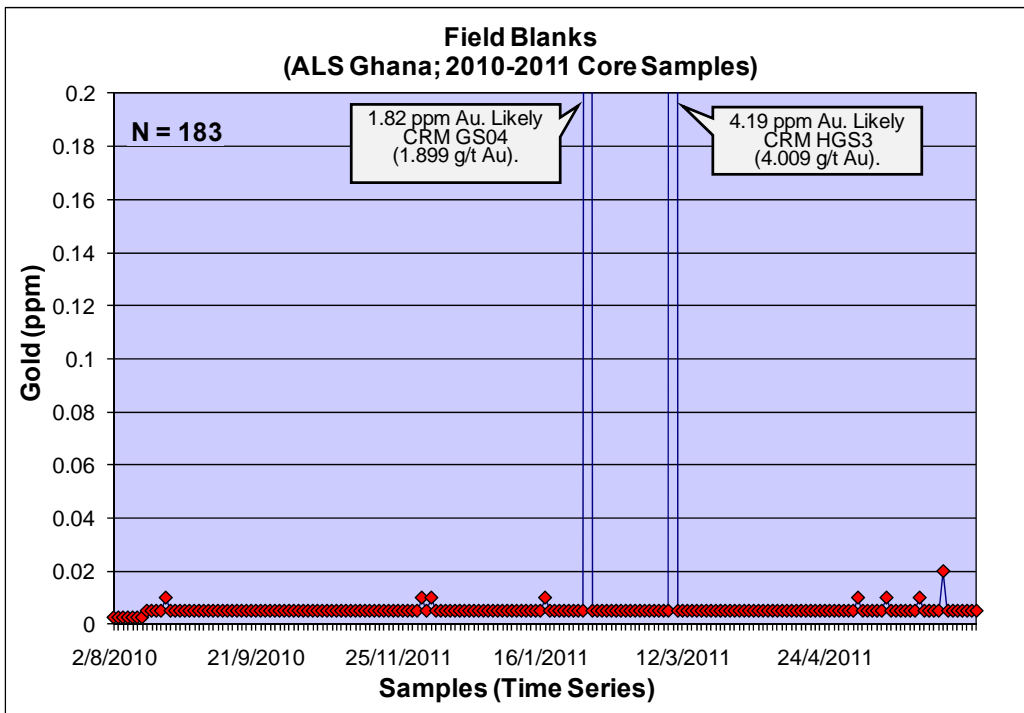
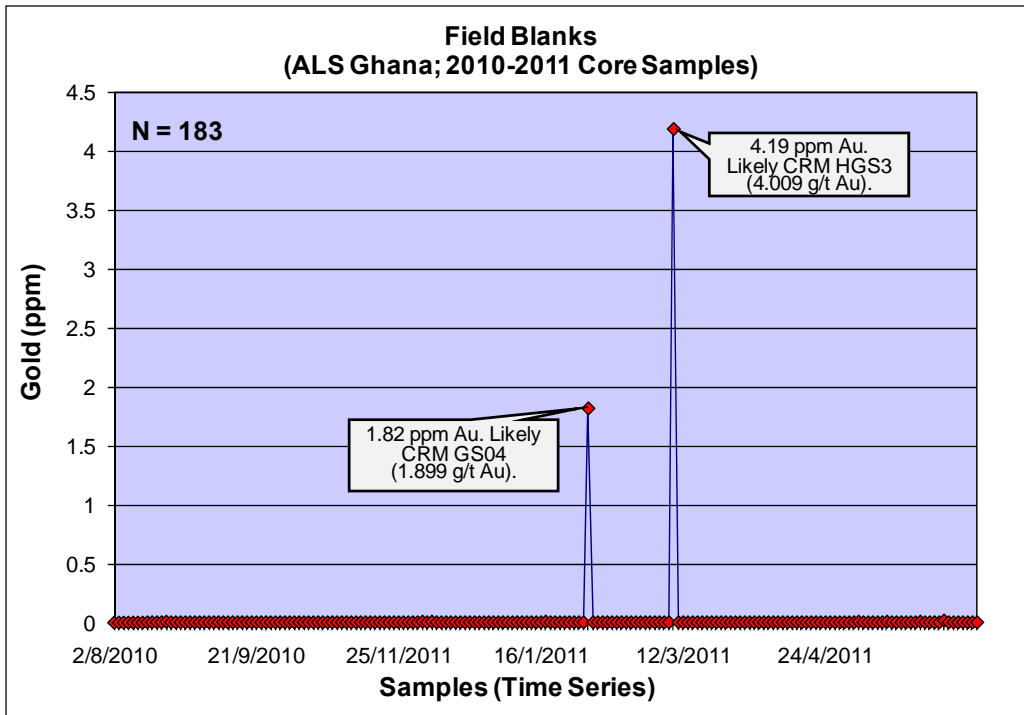
Cross section 45550 for drill hole SFDD-094, Nfante East.  
 Elevations and distances in metres. View looking towards 026.75 degrees.  
 Annotated red bars on drill traces indicate composited assays with a 0.2 gpt gold cut-off and a maximum of five metres internal dilution; red bars outside annotated zones indicate individual assays greater than 0.2 gpt gold.




## **APPENDIX D**

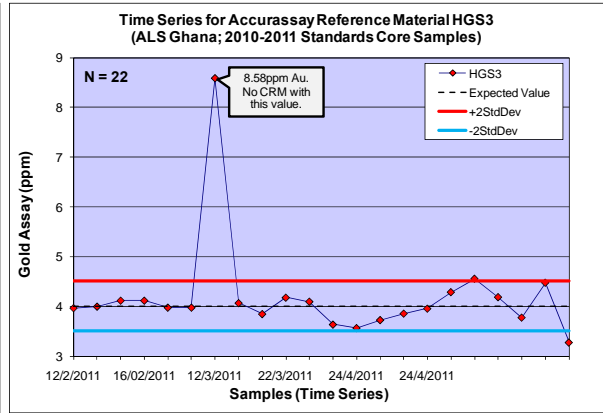
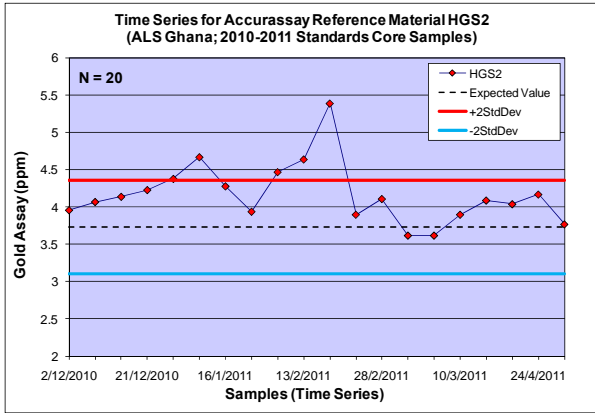
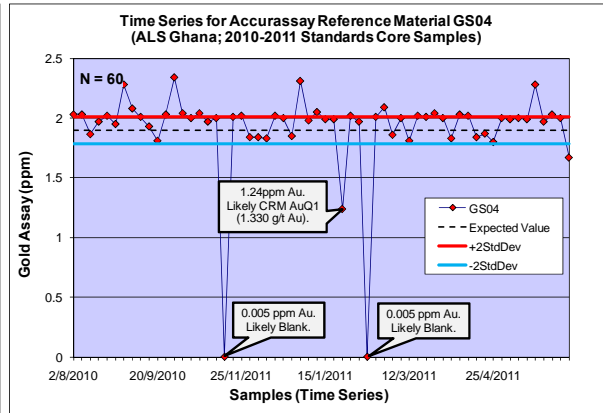
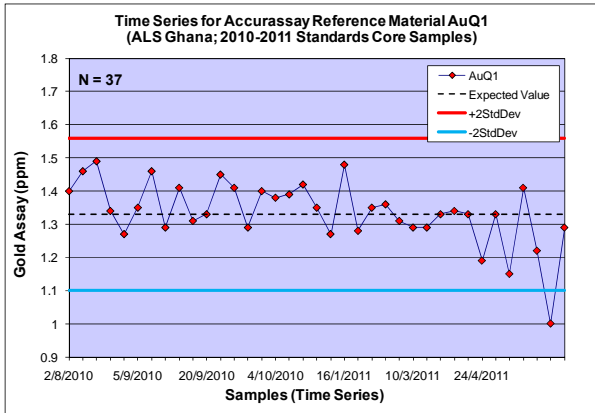
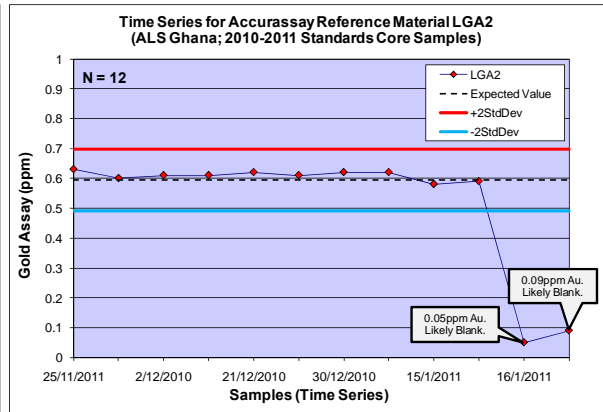
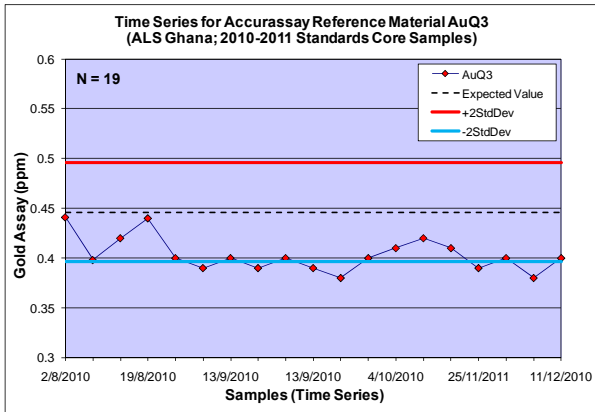
### **Analytical Quality Control Data and Relative Precision Charts**

Time series plots for Blank Samples Assayed by ALS Ghana Limited during 2010 and 2011 – Drill Holes.



Time series plots for Certified Reference Material Samples Assayed by ALS Ghana Limited during 2010 and 2011 – Drill Holes.

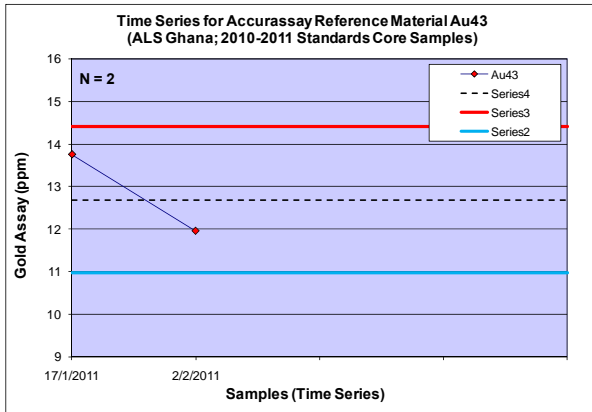
		<b>Statistics</b>						
		<b>AuQ3</b>	<b>LGA2</b>	<b>AuQ1</b>	<b>GS04</b>	<b>HGS2</b>	<b>HGS3</b>	
<b>Project</b>	Manfo	<b>Sample Count</b>	19	12	37	60	20	22
<b>Data Series</b>	2010-2011 Standards	<b>Expected Value</b>	0.446	0.595	1.33	1.899	3.729	4.009
<b>Data Type</b>	Core Samples	<b>Standard Deviation</b>	0.025	0.052	0.114	0.056	0.312	0.250
<b>Commodity</b>	Gold in ppm	<b>Mean</b>	0.403	0.519	1.34	1.909	4.170	4.195
<b>Laboratory</b>	ALS Ghana	<b>Outside 2StdDev</b>	32%	17%	3%	42%	25%	13.6%
<b>Analytical Method</b>	Fire Assay-AA/GRAV finish	<b>Below 2StdDev</b>	6	2	1	4	0	1
<b>Detection Limit</b>	0.005 ppm, 0.01 ppm, 1 ppm, 5 ppm	<b>Above 2StdDev</b>	0	0	0	21	5	2





<b>Project</b>	Manfo
<b>Data Series</b>	2010-2011 Standards
<b>Data Type</b>	Core Samples
<b>Commodity</b>	Gold in ppm
<b>Laboratory</b>	ALS Ghana
<b>Analytical Method</b>	Fire Assay-AA/GRAV finish
<b>Detection Limit</b>	0.005 ppm, 0.01 ppm, 1 ppm, 5 ppm

Statistics	Au43
<b>Sample Count</b>	2
<b>Expected Value</b>	12.686
<b>Standard Deviation</b>	0.859
<b>Mean</b>	12.850
<b>Outside 2StdDev</b>	0%
<b>Below 2StdDev</b>	0
<b>Above 2StdDev</b>	0

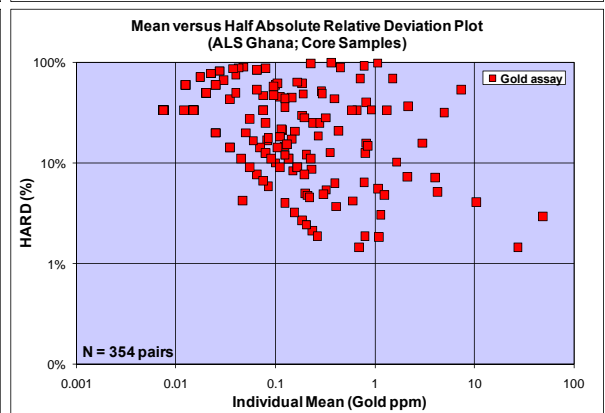
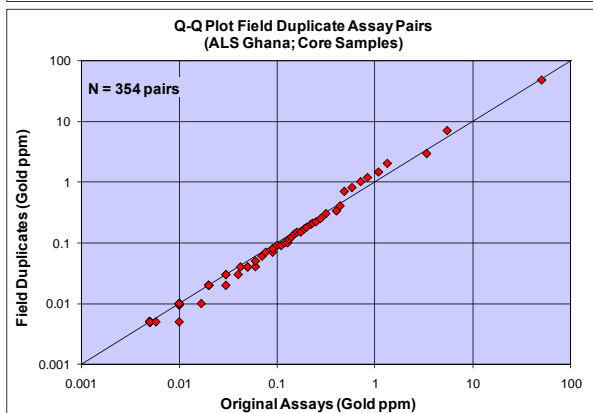
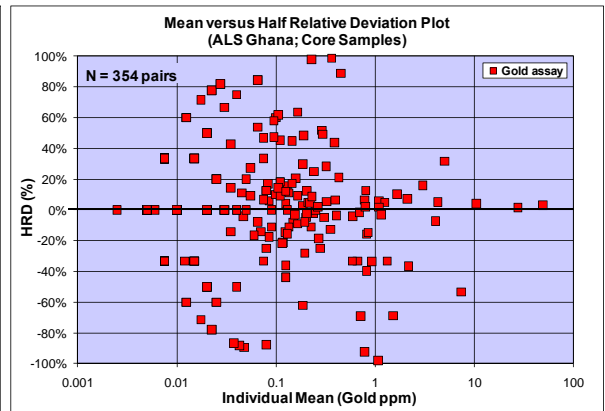
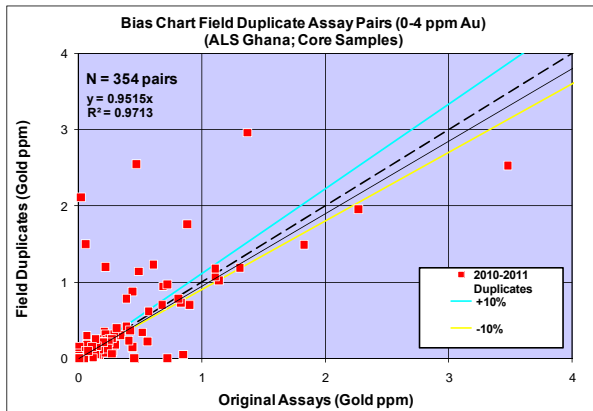
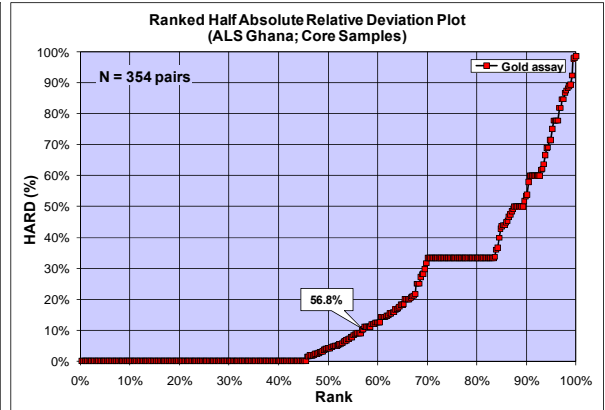
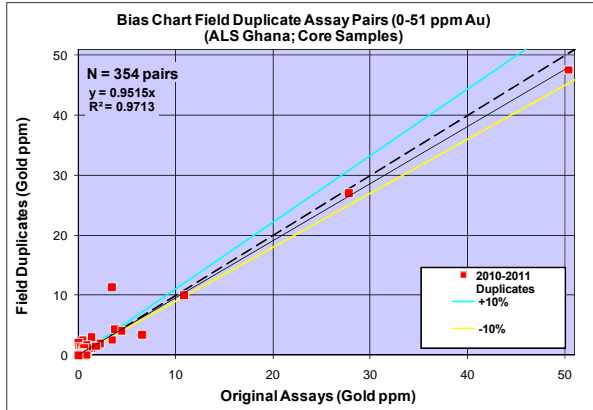




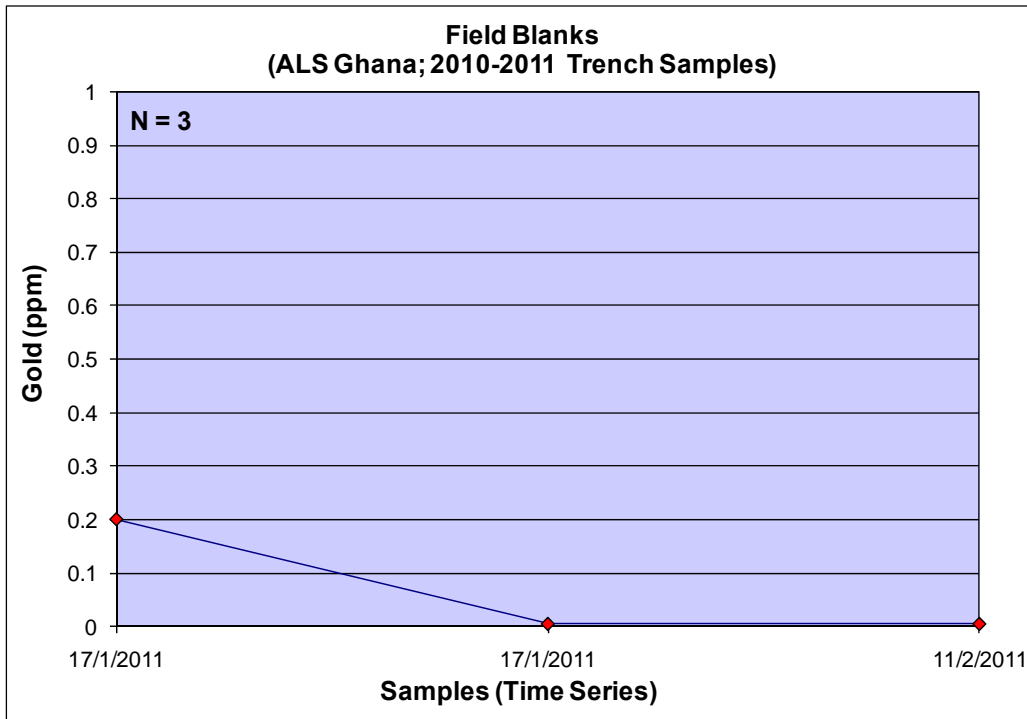
Bias Charts and Precision Plots for Original and Field Duplicate Samples Assayed by ALS Ghana Limited during 2010 and 2011 – Drill Holes.

<b>Project</b>	Manfo
<b>Data Series</b>	2010-2011 Duplicates
<b>Data Type</b>	Core Samples
<b>Commodity</b>	Gold in ppm
<b>Analytical Method</b>	Fire Assay-AA/GRAV finish
<b>Detection Limit</b>	0.005 ppm, 0.01 ppm, 1 ppm, 5 ppm
<b>Original Dataset</b>	Original Assays
<b>Paired Dataset</b>	Field Duplicates

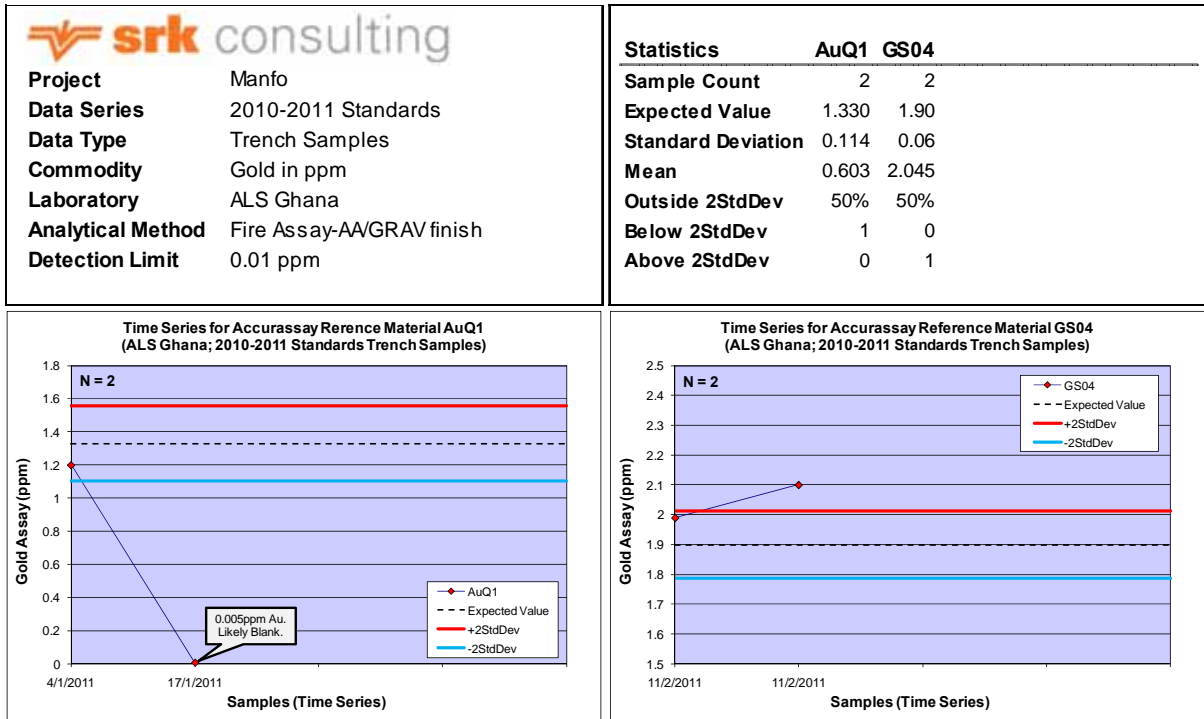
Statistics	Original	Duplicate
<b>Sample Count</b>	354	354
<b>Minimum Value</b>	0.0025	0.0025
<b>Maximum Value</b>	50.40	47.50
<b>Mean</b>	0.42	0.44
<b>Median</b>	0.01	0.01
<b>Standard Error</b>	0.17	0.16
<b>Standard Deviation</b>	3.15	3.03
<b>Correlation Coefficient</b>	0.9856	
<b>Pairs ≤ 10% HARD</b>	56.8%	




Time series plots for Blank Samples Assayed by ALS Ghana Limited during 2010 and 2011 - Trenches.

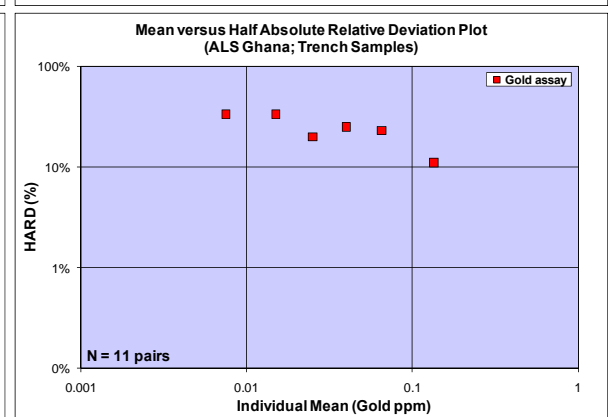
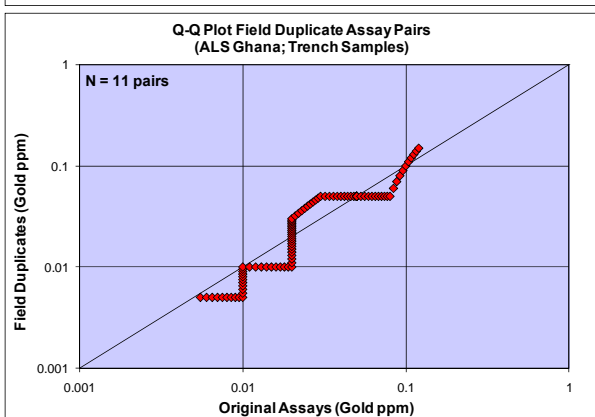
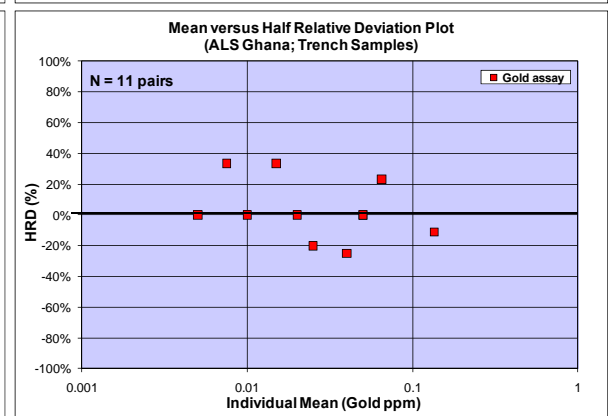
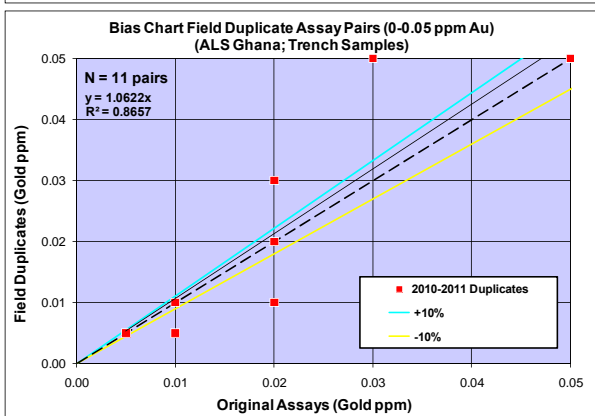
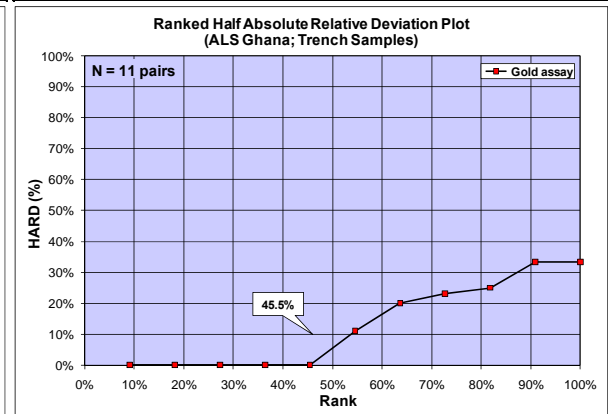
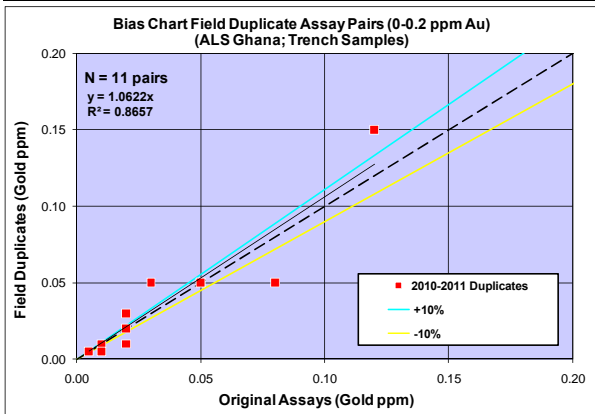


Time series plots for Certified Reference Material Samples Assayed by ALS Ghana Limited during 2010 and 2011 - Trenches.

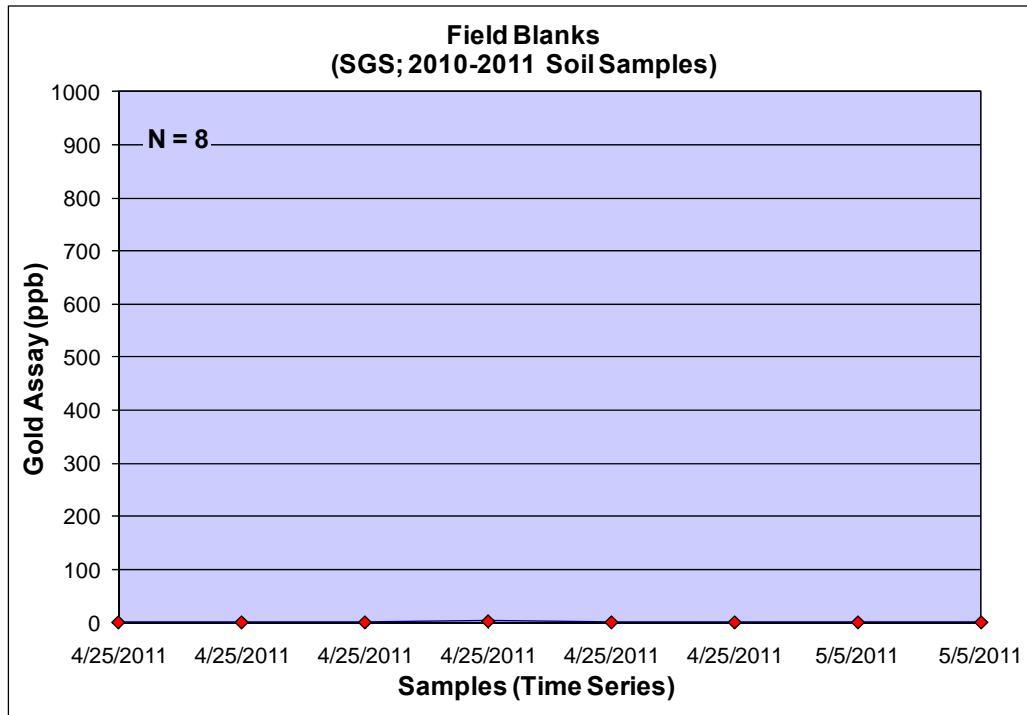


Bias Charts and Precision Plots for Original and Field Duplicate Samples Assayed by ALS Ghana Limited during 2010 and 2011 - Trenches.

		<b>Statistics</b>	<b>Original</b>	<b>Duplicate</b>
		<b>Sample Count</b>	11	11
<b>Project</b>	Manfo	<b>Minimum Value</b>	0.005	0.005
<b>Data Series</b>	2010-2011 Duplicates	<b>Maximum Value</b>	0.12	0.15
<b>Data Type</b>	Trench Samples	<b>Mean</b>	0.04	0.04
<b>Commodity</b>	Gold in ppm	<b>Median</b>	0.02	0.03
<b>Analytical Method</b>	Fire Assay-AA/GRAV finish	<b>Standard Error</b>	0.01	0.01
<b>Detection Limit</b>	0.01 ppm	<b>Standard Deviation</b>	0.04	0.04
<b>Original Dataset</b>	Original Assays	<b>Correlation Coefficient</b>	0.9312	
<b>Paired Dataset</b>	Field Duplicates	<b>Pairs ≤ 10% HARD</b>	45.5%	



Time series plots for Blank Samples Assayed by SGS Laboratory Services Ghana Ltd during 2010 and 2011 - Soil.

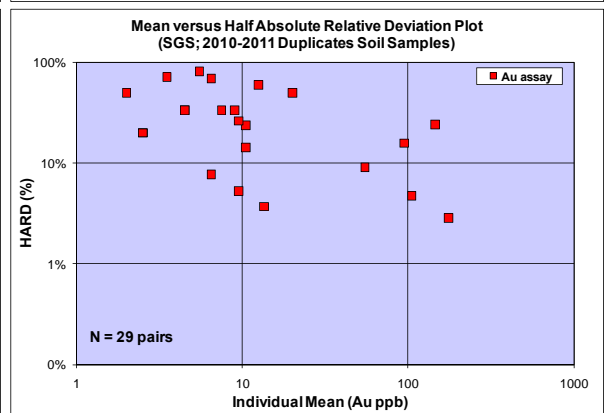
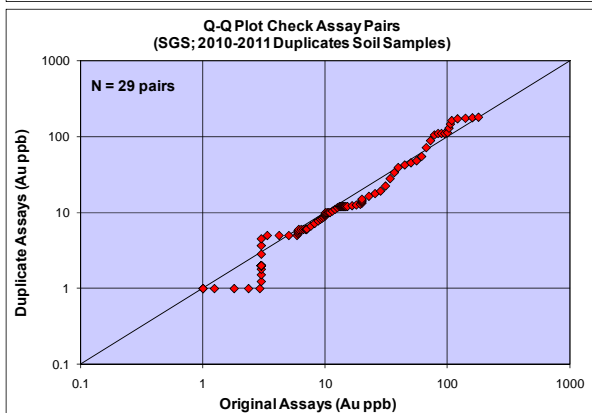
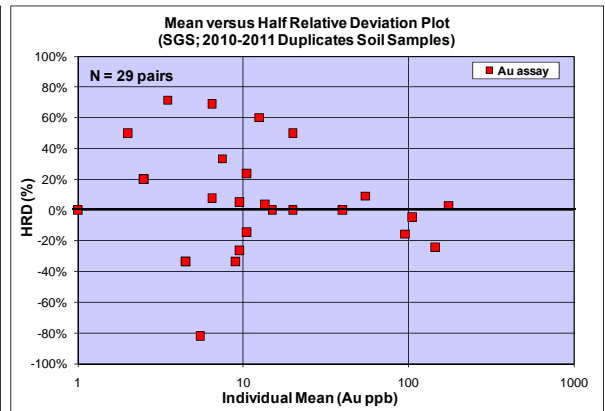
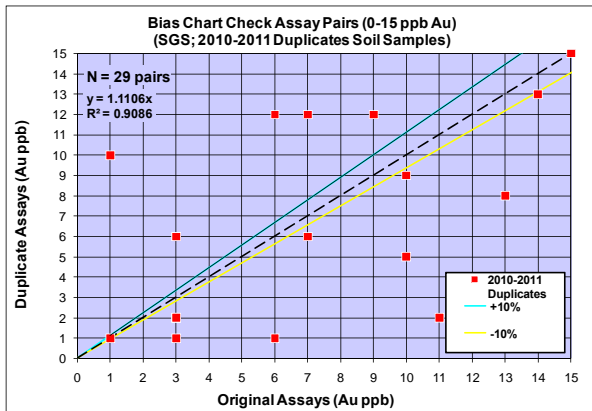
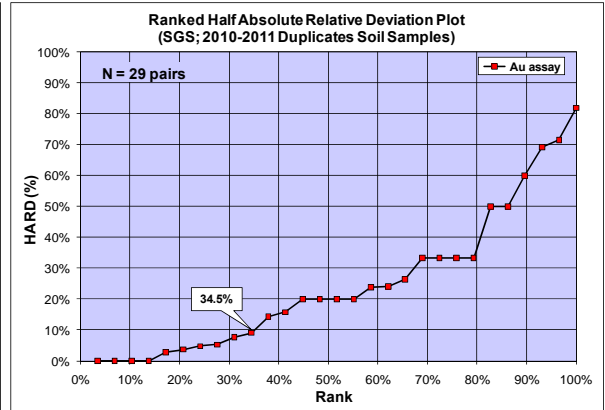
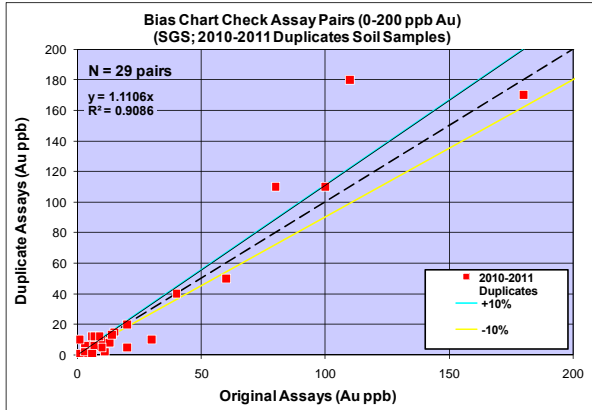


Bias Charts and Precision Plots for Original and Field Duplicate Samples Assayed by SGS Laboratory Services Ghana Ltd during 2010 and 2011 - Soil.

**srk consulting**

**Project** Manfo  
**Data Series** 2010-2011 Duplicates  
**Data Type** Soil Samples  
**Commodity** Au in ppb  
**Analytical Method** BLEG and Fire Assay-AAS finish  
**Detection Limit** 2 ppb and 10 ppb  
**Original Dataset** Original Assays  
**Paired Dataset** Duplicate Assays

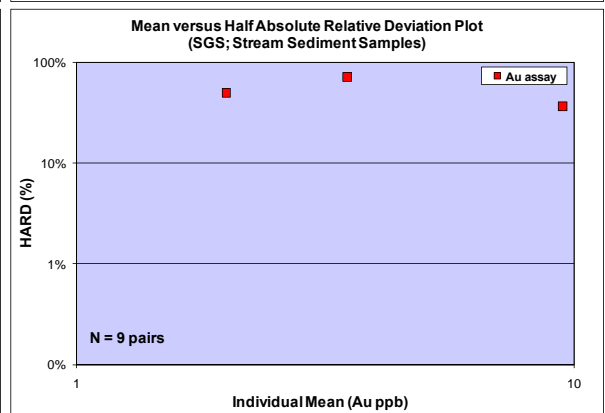
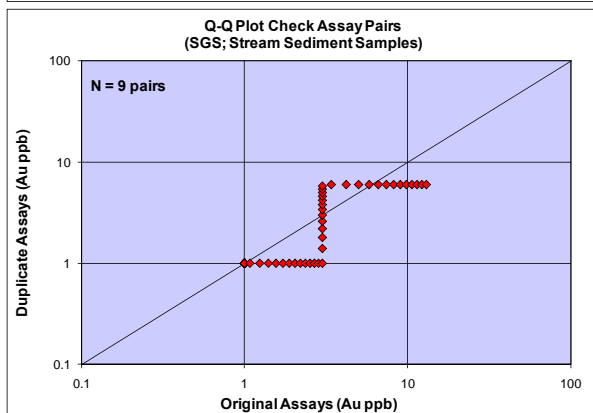
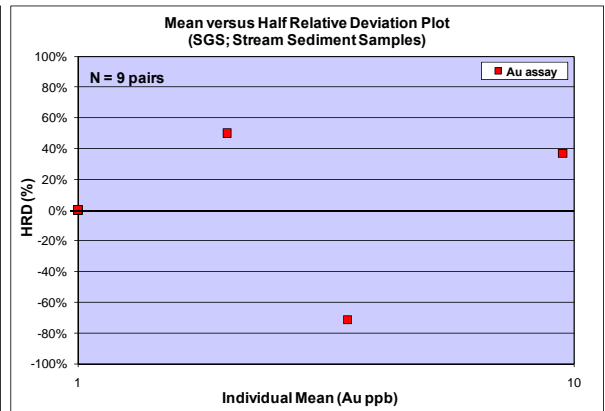
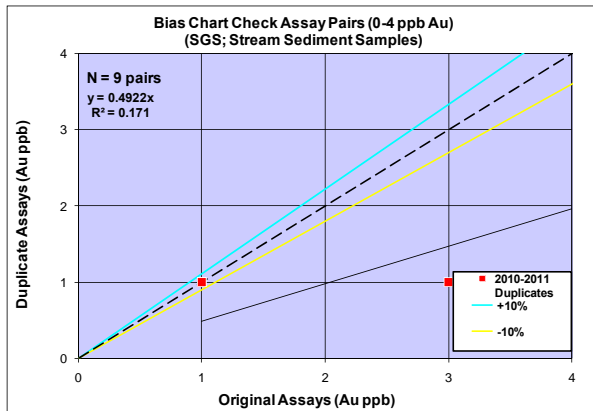
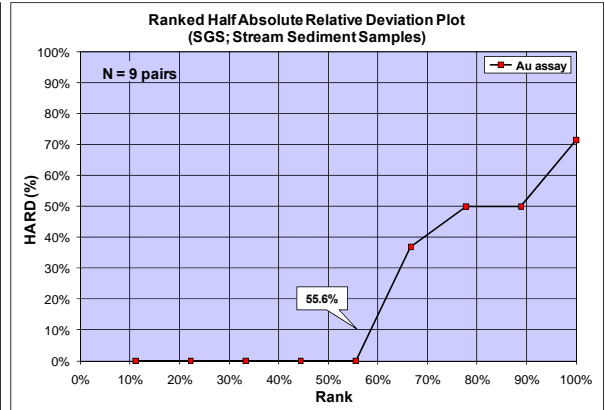
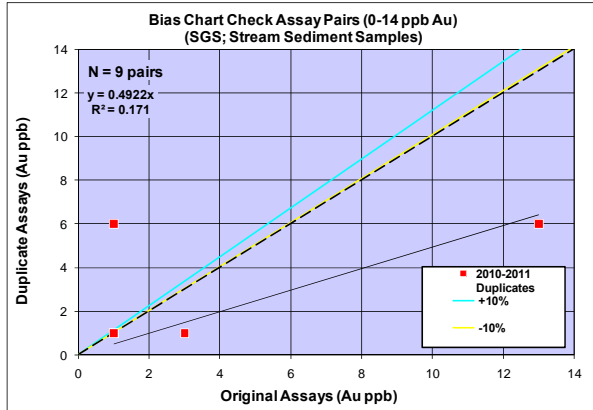
Statistics	Original	Duplicate
Sample Count	29	29
Minimum Value	1.00	1.00
Maximum Value	180.00	180.00
Mean	26.59	28.34
Median	10.00	9.00
Standard Error	7.73	9.15
Standard Deviation	41.63	49.30
Correlation Coefficient	0.9537	
Pairs ≤ 10% HARD	34.5%	



Bias Charts and Precision Plots for Original and Field Duplicate Samples Assayed by SGS Laboratory Services Ghana Ltd during 2010 and 2011 – Stream Sediment.

<b>Project</b>	Manfo
<b>Data Series</b>	2010-2011 Duplicates
<b>Data Type</b>	Stream Sediment Samples
<b>Commodity</b>	Au in ppb
<b>Analytical Method</b>	BLEG
<b>Detection Limit</b>	2 ppb
<b>Original Dataset</b>	Original Assays
<b>Paired Dataset</b>	Duplicate Assays

Statistics	Original	Duplicate
<b>Sample Count</b>	9	9
<b>Minimum Value</b>	1.00	1.00
<b>Maximum Value</b>	13.00	6.00
<b>Mean</b>	2.78	2.11
<b>Median</b>	1.00	1.00
<b>Standard Error</b>	1.31	0.73
<b>Standard Deviation</b>	3.93	2.20
<b>Correlation Coefficient</b>	0.6091	
<b>Pairs ≤ 10% HARD</b>	55.6%	



# **APPENDIX E**

## **Analytical Results for SRK Verification Samples**





### Certificate of Analysis

Work Order: TO114835

To: **Blair Hrabi**  
**SRK Consulting Canada**  
25 Adelaide Street West  
Suite 2100  
TORONTO  
ON M5C 3A1

Date: Jun 03, 2011

P.O. No. : -  
Project No. : -  
No. Of Samples : 6  
Date Submitted : May 26, 2011  
Report Comprises : Pages 1 to 2  
(Inclusive of Cover Sheet)

**Distribution of unused material:**  
Return to client:

Certified By :   
Lawrence Ng  
Regional Business Manager (GEOCHEM)

*SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at <http://www.scc.ca/en/programs/lab/mineral.shtml>*

Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result  
\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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Member of the SGS Group (Societe Generale de Surveillance)



Final : TO114835 Order:

Page 2 of 2

Element	WtKg	Au
Method	WGH79	FAA515
Det.Lim.	0.001	5
Units	kg	ppb
001	1.008	204
002	1.094	657
003	1.222	1610
004	1.093	22
005	1.076	702
006	1.124	1840
*Rep 002		604

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## CERTIFICATE AND CONSENT

To Accompany the report entitled: Independent Technical Report  
for the Manfo Gold Project, Ghana, dated November 1, 2011.

I, Robert Blair Hrabi, residing at 39 Wayland Avenue, Toronto, Ontario do hereby certify that:

- 1) I am a Senior Consultant (Geology) with the firm of SRK Consulting (Canada) Inc. (“SRK”) with an office at Suite 2100, 25 Adelaide Street East, Toronto, Ontario, Canada;
- 2) I am a graduate of the McMaster University, Hamilton, Ontario in Geology in 1987 where I obtained a B.Sc. (Hons.) degree. I obtained an M.Sc. in Geology from Queen’s University, Kingston, Ontario in 1993. I have practiced my profession continuously since 1993. From 1993 to 2003, I conducted regional mapping programs in the Precambrian Shield of Canada. From 2004 to 2008, I was a senior exploration geologist conducting regional exploration programs for orogenic lode gold deposits in Precambrian terranes. Since 2008 I have been a consulting geologist specializing in the structural control of orogenic gold, VMS and magmatic nickel deposits in Canada, United States and West Africa. I have contributed to several independent technical reports on precious metal exploration projects in Canada;
- 3) I am a Professional Geoscientist registered with the Association of Professional Geoscientists of the province of Ontario (APGO#1723);
- 4) I have personally inspected the subject project on May 6 to 9 and May 16 to 17, 2011;
- 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;
- 6) I am the principal author of this report and accept professional responsibility for this technical report;
- 7) I, as a qualified person, am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
- 8) I have had no prior involvement with the subject property;
- 9) I have read National Instrument 43-101 and confirm that this technical report has been prepared in compliance therewith;
- 10) SRK Consulting (Canada) Inc. was retained by Pelangio Exploration Inc. prepare a technical report for the Manfo project in accordance with National Instrument 43-101 and Form 43-101F1 guidelines. The preceding report is based on a site visit, a review of project files and discussions with Pelangio Exploration Inc. personnel;
- 11) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Manfo Project or securities of Pelangio Exploration Inc.;
- 12) That, as of the date of this technical report, 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;
- 13) I consent to the filing of the technical report with any stock exchange and other regulatory authority and any publication for regulatory purposes, including electronic publication in the public company files on their websites accessible to the public of extracts from the technical report; and
- 14) I confirm that I have read the news release dated November 1, 2011 in which the findings of the technical report have been disclosed publically and have no reason to believe that there are any misrepresentations in the information derived from the report or that the press release dated November 1, 2011 contains any misrepresentations of the information contained in the report.

\_\_\_\_\_  
Toronto Canada  
November 1, 2011

["signed and sealed"]  
Robert Blair Hrabi, M.Sc., P.Ge.  
Senior Consultant (Geology)

Project number: 3CP011.005

Toronto, November 1, 2011

To:

Securities Regulatory Authorities  
Alberta Securities Commission (ASC)  
B. C. Securities Commission (BCSC)  
Nova Scotia Securities Commission (NSSC)  
Ontario Securities Commission (OSC)  
Toronto Stock Exchange (TSX)  
TSX Venture Exchange

### **CONSENT of AUTHOR**

I, Robert Blair Hrabı, do hereby consent to the public filing of the technical report entitled “Independent Technical Report for the Manfo Gold Project, Ghana” (the “Technical Report”) and dated November 1, 2011 and any extracts from or a summary of the Technical Report under the National Instrument 43-101 disclosure of Pelangio Exploration Inc. and to the filing of the Technical Report with any securities regulatory authorities.

I further consent to the company filing the report on SEDAR and consent to press releases made by the company with my prior approval. In particular, I have read and approved the press release of Pelangio Exploration Inc. dated November 1, 2011 (the “Disclosure”) in which the findings of the Technical Report are disclosed.

I also confirm that I have read the Disclosure and that it fairly and accurately represents the information in the Technical Report that supports the Disclosure.

Dated this 1<sup>st</sup> day of November 2011.

A handwritten signature in blue ink, appearing to read 'R. Blair Hrabı', is written over a light blue circular stamp.

Robert Blair Hrabı, M.Sc., P.Geo.  
Senior Consultant (Geology)