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# INDEPENDENT TECHNICAL REPORT FOR THE MALIGONGA EAST GOLD PROJECT

**Kéniéba –Mali West – West Africa**

**PREPARED FOR**

## WARABA GOLD LIMITED

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**Vancouver, BC, Canada**
**V6C 1H2**

**by**

## BIRIMA GOLD RESOURCES CONSULTING

## <u>Report for NI 43-101</u>

**Qualified Person:**

**Olufemi Ajayi (MAIG)**

**Effective Date: 18th November, 2022**

# QUALIFIED PERSON DECLARATION

I, Olufemi Ajayi, in the capacity of Qualified Person of this NI43-101 Technical Report, do hereby certify that:

1. To the best of my Knowledge, information and belief, the Report contains all scientific and technical information required to to be disclosed to make the report not misleading.
2. The facts presented in this report are correct to the best of my knowledge.
3. The analyses and conclussions are limited only by the reported forecasts and conditions
4. I have no present or prospective interest in the subject property or asset.
5. My compensation, employment or contractual relationship with the Commissioning Entity is not contingent on any aspect of the Report.
6. I have no bias with respect to the assets that are the subject of the Report or the parties involved with the assignment.

Yours Faithfully

*/S/ Signed and Sealed Olufemi Ajayi*

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# SUMMARY

## 1.1. EXECUTIVE SUMMARY

The Maligonga-East gold project consists of an exploration license for gold and associated minerals covering a surface area of 100 km² in the Kedougou-Kenieba Inlier of Western Mali – West Africa.

The Malian Ministry of Mine granted the Maligonga –East license to Fokolore Mining Sarl on October 11th 2019 by decree No 2019-3557/MMP-SG.

On December 20th 2020. Fokolore Mining Sarln 1273795 BC Limited and Gonka Mali Sarl entered into an agreement to

- Establish Gonka Gold Mali Sarl as a joint venture between 1273795 BC Limited (holding 75% of the issued share capital) and Fokolore (holding 25% of the issued share capital) and
- Transfer Fokolore's interest in the Maligonga East-gold property to Gonka Gold Mining Sarl.

On August 17th 2021, the permit was transferred to Gonka Gold Mali Sarl by decree No 2021-3047/MMEE/MG-SG.

On January 6th 2021, Waraba Gold Limited (formerly Zenith Exploration Inc.) entered into a three-cornered amalgamation agreement pursuant to which 1278820 BC Limited (wholly owned by Waraba Gold Limited) and 1273795 BC Limited were amalgamated into a new wholly owned subsidiary of Waraba Gold Limited named 1285074 BC Limited.

On January 24th 2022 the permit was renewed by decree No 2022-028/MME-SG-DU for a further two-year period.

Pursuant to the transactions noted above, Gonka Gold Mali Sarl is now a joint venture between Waraba Gold Limited and Fokolore Mining Sarl. Waraba Gold Limited holds 75% of the issued share capital (through a wholly owned subsidiary, 1285074 BC Limited) and Fokolore Mining Sarl holds 25% of the issued share capital.

Fokolore Mining Sarl (Fokolore) is a Malian private limited exploration and development company focused primarily on mining, mine development and exploration in Mali. The company is based in Bamako, Mali. Fokolore is represented by Mr. Amadou Baouro Cisse, General Manager.

Waraba Gold Limited is a Canadian public exploration and development company listed on the CSE and OTC and is based at 789 West Pender Street, Suite 1080, Vancouver, British Colombia, Canada. Waraba trades on the CSE under the symbol "WBGD" and the OTC under the symbol "WARAF". The company is represented by Carl J. Esprey, Chief Executive Officer and Director.

This Independent Technical Report NI 43 101 summarizes the available technical information on the Maligonga-East gold project. This report concludes that the Maligonga-East property has high potential to host economic gold mineralization and therefore, merits and warrants additional exploration expenditures. An exploration work program is recommended, which comprises of Reverse Circulation (RC) and Air Core drilling programs, to assess the gold potential resources and reserves of the project. These recommended work programs will advance the project to a resource estimation and a Preliminary Economic Assessment (PEA) stage. BGR-Consult believes that Waraba can deliver the recommended work programs prior to the expiry of the Maligonga-East license.

Birima Gold Resources Consulting (BGR-Consult) has been mandated by Waraba to prepare an Independent Technical Report on the Maligonga-East gold project consistent with the Canadian Securities Administrators National Instrument 43-101, Companion Policy 43-101CP, and Form 43-101F1 ("NI 43-101"). The Qualified Person responsible for the preparation of this report is Mr. Olufemi Ajayi, (MAIG), Consulting Geologist with BGR-Consult, the main author and responsible for the overall preparation of this Independent Technical Report. Mr. Ajayi visited the Maligonga-East gold project from September 26 to October 2, 2021.

## 1.2. CONCLUSIONS

The Maligonga-East gold project consists of an exploration license covering a surface area of 100 km² in the Kofi Formation of the Daléma Basin, Western Mali – West Africa. Successive exploration works completed by BGRM (1987-1002), Ressources Robex Inc (2007-2008), Cluff Gold Plc (2012) and Fokolore Mining Sarl (2015-2018) were professionally managed and procedures were consistent with generally accepted industry best practices. The exploration data from termite mounds, soils and rock-chip geochemistry sampling, geophysical survey, trenches and drilling are sufficiently reliable to confidently allow interpretation of the gold mineralization in the Maligonga-East property and planning of an extensive drilling program over existing gold deposits and in areas that have not been drill-tested.

Early termite mounds geochemistry survey and trenches from BRGM in 1992, geophysical survey and RC drilling south of the Mamadouya target zone completed by Robex between 2007 and 2008, infill termite mounds geochemistry sampling, geophysical survey and extensive RC drilling by Cluff in the Mamadouya zone in 2012 and geological and structural mapping and interpretations, Auger and RC drilling completed by Fokolore between 2015 and 2018 resulted in the identification of the Mamadouya gold mineralization of the Maligonga-East property and numerous others anomalous zones of gold mineralization targets. Drilling programs completed by Cluff and Fokolore intercepted high grade gold mineralization over the Mamadouya mineralization including 8m@8.99g/t Au, 15m@5.06g/t Au, 6m@16,43/t, 7m@6,06g/t Au, 7m@4,51g/t Au and 13m@2,7g/t Au.

Additional geological and structural interpretations by BRG-Consult in 2020 determined the geological and structural setting of the area and the style of the gold mineralization, established a conceptual geological and structural model for the gold mineralization and identified the Mamadouya brittle-ductile shear zone that has a strong spatial correlation with the gold mineralization. The NNE-striking and steeply ENE-dipping reverse-sinistral strike-slip shear zone system controls the gold mineralization of the Mamadouya gold mineralization and is identical to structures that host the nearby Siribaya (Iamgold Corp.), Kabaya (Roscan), Soro and Seko (Oklo Resources) gold deposits.

Geological and structural interpretations by BRG-Consult demonstrated that the Mamadouya gold mineralization is hosted in faulted and sheared contact between sedimentary successions of sandstone and siltstone of the Daléma Basin and suggested that the gold mineralization is structurally controlled and occurs in deformed zones of large and highly hydrothermally altered, NNE-striking, ENE-steeply-dipping, structural corridors that contain a complex network of extensional dilation fracture systems. New high-grade gold mineralization (including 8m@8.99g/t Au and 15.0m@5.06g/t Au) in RC drilling by Fokolore in 2018 over the Mamadouya mineralization show a possible northern extension of the deposit over 800 meters.

SAGAX AFRIQUE S.A carried out Induced polarization and Resistivity survey in the Mamadouya and Kabafing area of the permit and identified some anomalous zones which correlate with already identified structures and is good indication for mineralization.

The Maligonga-East permit is part to the Paleoproterozoic rocks of the Daléma Basin of the Kedougou-Kenieba Inlier, in the Birimian Super group of West Africa that hosts several multi-million-ounce gold deposits (examples include Tabakoto, Gounkoto, Fekola, Diakha and Siribaya, Kabaya, Sory and Seko gold deposits). Geological and structural relationships demonstrate that the Mamadouya gold mineralization is a Mesothermal shear-zone-controlled, Intrusive related, Orogenic-type gold mineralization, hosted in greenstone folded and faulted sedimentary successions. The deposit structural evolution and the gold mineralization style is identical to the nearby Siribaya (Iamgold Corp.), Kabaya (Roscan), Soro and Seko (Oklo Resources) gold deposits. The Maligonga-East property can therefore, be considered as very prospective terrane to host economic gold deposit, considering that aggressive additional exploration works including extensive drilling programs will continue to further define and delineate additional gold mineralization.

Based on BGR-Consult's site visit and subsequent review of available historical exploration information, BGR-Consult offers the following general comments and conclusions:

- Historical exploration results on the Maligonga-East property indicate the presence of significant, near-surface gold mineralization with potential for economic gold discovery higher than previously expected. The Mamadouya gold mineralization is the highest priority exploration target within the Maligonga-East concession. Additional drilling and geochemical analysis are required to evaluate the resource and the economic potential of the prospect.
- The assessment of and conclusions made in this report on the exploration potential of the Maligonga-East property is based on the historical exploration results, particularly the gold results obtained from historical geochemistry sampling and the RC and Auger drilling programs from BGRM, Robex, Cluff and Fokolore.
- BGR-Consult concludes that the type of and amount of historical exploration works completed by BGRM, Robex, Cluff and Fokolore and data generated by this work for the Maligonga-East property provides an adequate basis for the review and assessment of exploration potential provided in this technical report, and the recommendations made herein.
- Any significant variations of the reported historical results could impact the conclusions and work recommendations made in this report.
- The normal risk associated with exploration project exists, so there is no guarantee that the proposed exploration work will identify economically viable gold mineralization on the property.

## 1.3. RECOMMENDATIONS

The Maligonga-East property is a relatively advanced exploration project and significant detailed works have led to the identification of the Mamadouya gold mineraliation with potential for containing an economic gold mineralization. BGR-Consult considers that the character and extent of the gold mineralization delineated is of sufficient merit to warrant additional exploration expenditures. BGR-Consult recommends an exploration work program that - if implemented - will advance the project to a resource and reserve estimations and a pre-feasibility study stage.

The following recommendations for additional exploration work on the Maligonga-East property are proposed. Phase I Reverse Circulation (RC) and Air Core (AC) drilling programs and Phase II Reverse Circulation (RC) and Air Core (AC) drilling programs are recommended to advance the project and to test new anomalies identified by the Induced Polarization and Resistivity survey in areas that have not been test drilled previously in the Mamoudouya and Kabafing areas respectively. The budget is estimated for each drilling phase and is for the proposed field and administrative costs, logistics and contractors, but do not include any corporate management fees.

## 1.3.1. DRILLING

### 1.3.1.1. Recommended Phase I Drilling Program

#### a. RC Drilling Program

The detailed structural, geological interpretation and modelling on the Mamadouya gold mineralization resulted in a coherent and comprehensive new geological and structural model that gives a better understanding of the structural setting and the style of the gold mineralization. This has formed the basis for to re-orient further drilling programs. The proposed Phase I RC drill program will test and expand the Mamadouya gold mineralization and its immediate northern extension. It will also test the interpreted structural and geological model of the mineralization. The recommended Phase I RC Drilling Program in relation to the modelled ore zone is shown in Figure 1.1 to 1.3.

The objectives are therefore, to:

- Test the proposed geological and structural model of the gold mineralization
- Test a strike length of 2.3 km over the interpreted mineralized structure
- Define and delineate the lateral and down dip dimensions of the gold mineralization within the interpreted structure
- Drill 178 holes cutting across 19 cross sectional lines across the mineralized zone, amount to 21,360m of drilling in total
- Holes to be drilled with Azimuth = 90$^{o}$, Dip = 90$^{o}$ and an average depth of 120 meters.

#### b. Air Core Drilling Program

The Phase I Air Core drilling program is based on the positive termite mounds geochemistry results. These anomalies appear to be aligned with interpreted structures in the area and have not been test-drilled in previous drilling programs. The objectives of the Air Core drilling Program will be to enable high confident in-situ anomalies and to identify additional target zones of gold mineralization which may warrant further drilling programs.

BGR-Consult recommends 206 Air Core drill holes with an average of 20m depth making a total of 4120m to be drilled at 90$^{o}$ dip.

### 1.3.1.2. Recommended Phase II RC and AC Drilling Program

The Phase II RC and AC drilling program is a follow up on identified targets that have been picked up by geochem and the recently concluded Induced Polarization and Resistivity surveys over the Kabafing area of the Gonka Gold Permit. It is aimed at testing the newly identified un-tested anomalies, to develop potential zones of gold mineralization, resource expansion and discovery of new deposits beyond the Mamoudouya area.

The RC drilling in phase II would be 27 drill holes across 8 cross sectional lines with an average depth of 120m making a total of 3350m.

152 Air Core drill holes are recommended to test the chargeability and resistivity anomalies from the Induced Polarization and Resisitivity survey across 8 cross sectional lines at an average depth of 20m and 90$^{o}$ dip angle. A total of 3040m depth is targeted at this phase.

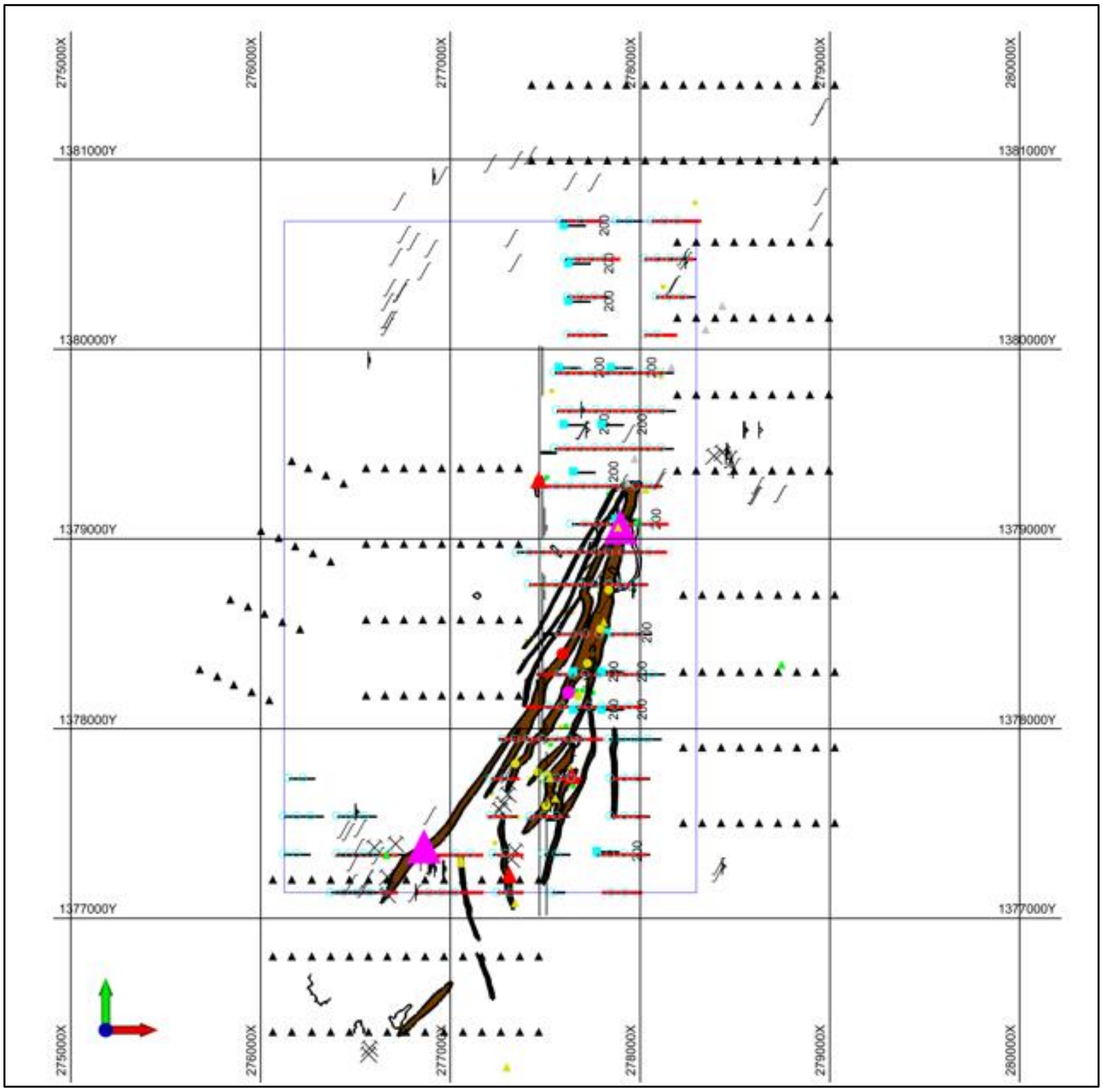



**Figure 1.1: Recommended Phase 1 RC drill program in Mamoudouya gold mineralization**

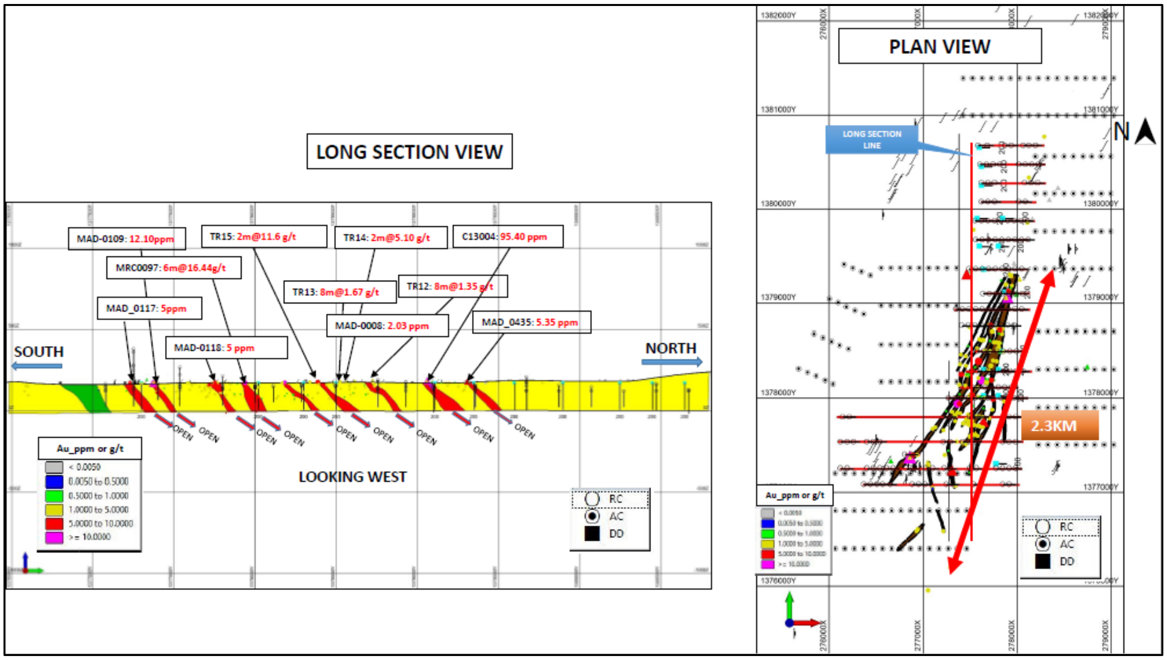



**Figure 1.2: Long section view of Recommended Phase I RC drilling Mamodouya gold mineralization**

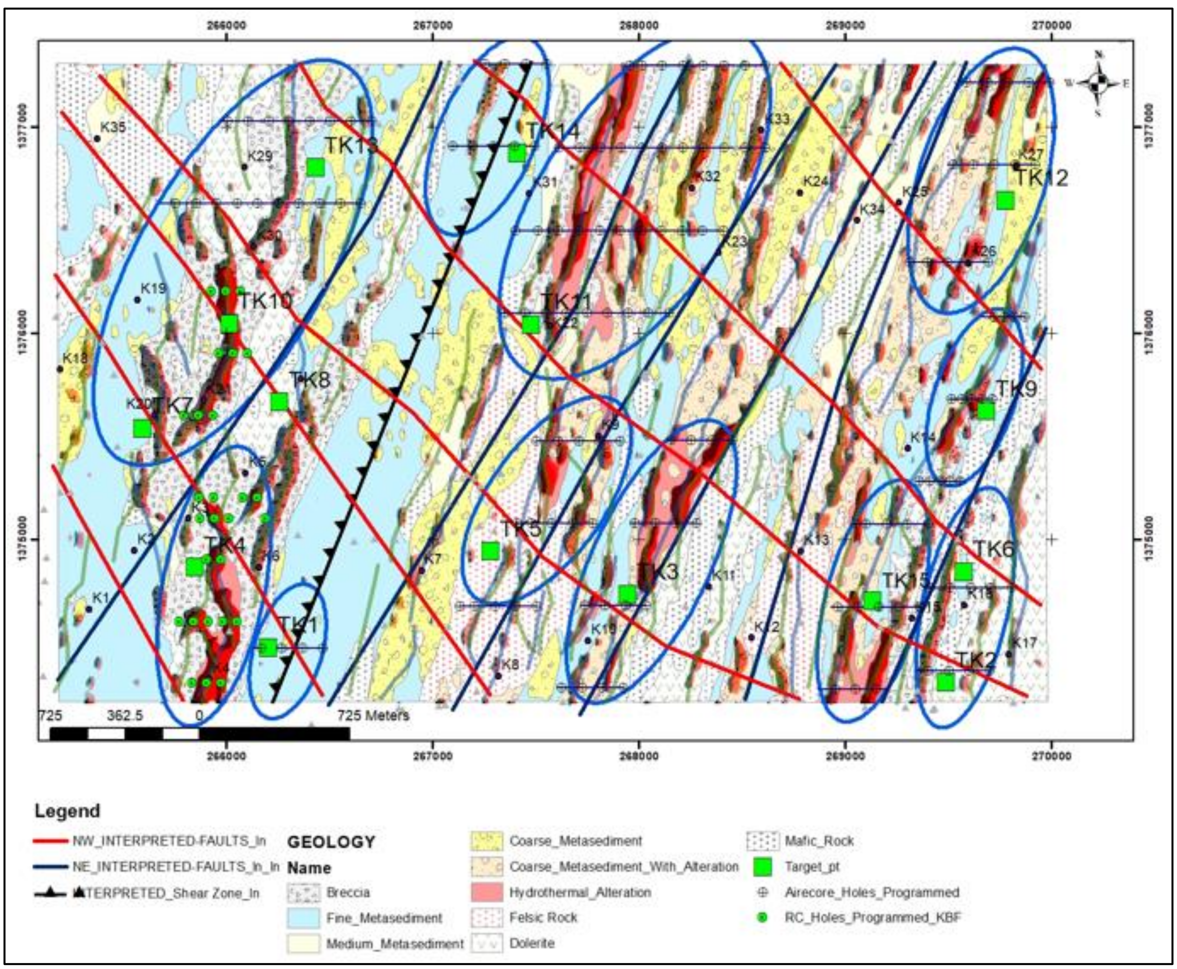



**Figure 1.3: Recommended Phase II drill program in Kabafing prospect**

### 1.3.2. RECOMMENDED BUDGET

Detailed costs were provided by Waraba and were applied to the various categories in the estimated budget in Table 1.2. BGR-Consult considers these costs to be reasonable and in line with current costs in the region. Costs for the recommended work program are based on an estimated completion time of 12 months.

An approximate 1-year recommended exploration budget of approximately 3M US$ is outlined in the following Table based on a systematic exploration program as recommended above.

| Table 1.1<br>Exploration Budget | | | |
|---|---|---|---|
| **Item** | **Phase 1: (US$)** | **Phase 2: (US$)** | **TOTAL (US$)** |
| RC | $1,602,000 | $243,000 | $1,845,000 |
| Air Core | $144,200 | $106,400 | $106,400 |
| Sample Analysis (Including QA/QC) | $359,600 | $88,630 | $448,230 |
| Staff salary, accomodation & logistics | $327,600 | $80,743 | $408,343 |
| **Total:** | $2,433,400 | $518,773 | $2,952,173 |

**Table 1.1: Recommended Exploration Budget for the Maligonga-East permit**

# 1.4. TECHNICAL SUMMARY

## 1.4.1 PROPERTY LOCATION

The Maligonga-East property is located within the Region of Kayes, in the southwest of the Republic of Mali (Figure 1.3). The Region of Kayes shares borders with Senegal to the west and Guinea to the south

The property is located approximately 50 km south of the city of Kéniéba, the southernmost sections of the Region of Kayes. It is approximately 400 km west of Bamako, Mali's capital city.


**Figure 1.4: Location of the Maligonga-East gold property in southwest Mali, West Africa**

## 1.4.2. PROPERTY DESCRIPTION AND LAND TENURE

The Maligonga-East property consists of an exploration license for gold and associated minerals covering a surface area of 100 km² within the Kéniéba prefecture of the Kayes Region, some 400 km west of Bamako, the capital of Mali (Figures 1.3). The center point of the project area is at approximately 275000mE, 1378000mN (WGS84, UTM Zone 29 N). The Malian State is the owner of all mineral rights in the country, and the mines minister has responsibility for the administration of mining and exploration activities.

On June 10th 2016, The Malian State granted the Maligonga-East permit to Fokolore Mining Sarl by decree N° 2016-2006/MM-SG. The Permit covered a surface area of 109 km². On October 11st 2019, the Maligonga-East permit was renewed by decree N° 2019-3557/MMP-SG for a further two-year period. The Permit area was reduced at 100 km² (Appendix 1).

On December 1st, 2020, Waraba Gold Limited signed a joint-venture earn-in agreement with Fokolore to acquire 75% interest in the Fokolore's Maligonga-East property. On August 17th 2021 the permit was transferred to Gonka Gold Mali Sarl by decree No 2021-3047/MMEE/MG-SG. On January 24th 2022 the permit was renewed by decree No 2022-0028/MMEE-SG-DU for a further two-year period.

### 1.4.3. REGIONAL GEOLOGY

The Maligonga-East gold project is located in southern Mali within the Leo-Man Shield of the West African Craton. At a regional scale, the property is hosted within the Kofi Series of the Kedougou-Kenieba Inlier (KKI). The stratigraphy of the KKI from west to east consists of: 1) bimodal volcanic intruded by numerous plutonic complexes in the Mako Volcanite Belt; 2) detrital sedimentary rocks of the Dialé-Daléma basin, which are intruded by the Saraya batholith; 3) calc-alkaline volcaniclastic rocks of the Faleme Volcanites Belt (FVB) and; 4) siliciclastic sediments of the Kofi Series, unconformably overlain by Neoproterozoic sedimentary rocks to the east (Figure 1.4).

The plate-scale NS-trending Senegal-Mali Shear Zone separates the Kofi Series from the FVB (Figure 1.4). The Kofi Series is made up of detrital sediments dominantly wackes, with end member sandstone (rare) and argillite (common). The igneous rocks that intruded the Kofi Series include dolerite to monzodiorite dykes and small stocks of quartz feldspar porphyry. The age of deposition in the Kofi Series is constrained by detrital zircons and intrusive plutonic rocks by Pb-Pb at 2093 ± 7 Ma (Boher et al., 1992).

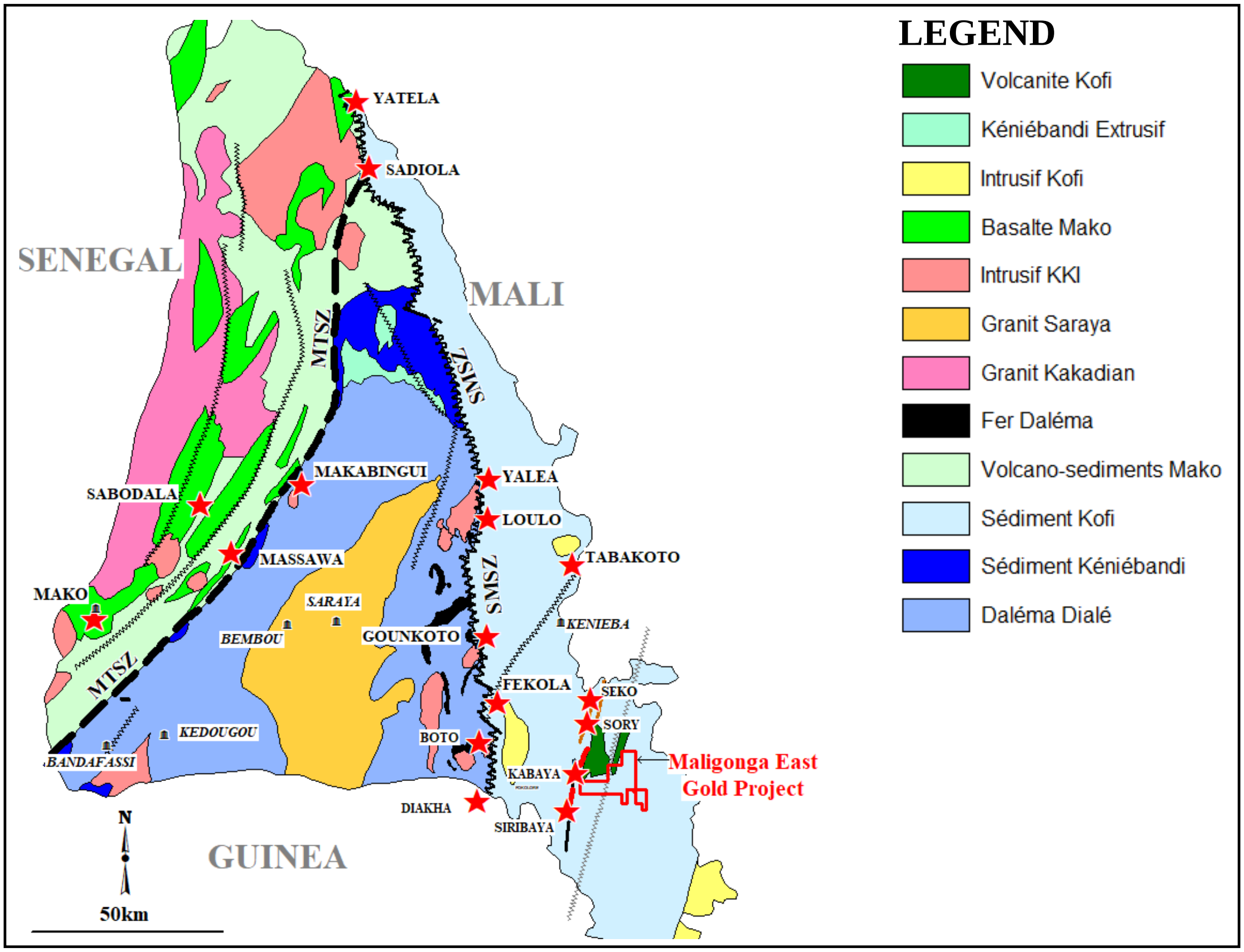



**Figure 1.5: Regional geology map of the KKI showing the location of the Maligonga-East gold project**

### 1.4.4. PROPERTY GEOLOGY

Interpretation of the drill sections and the integrated geophysical lineaments, the geological and structural modeling of the Mamadouya gold mineralization (Figure 1.5) suggest that the area is composed of three lithological units:

(1) Early Paleoproterozoic greenschist facies turbidite sedimentary sequences belonging to the Kofi Formation and composed of:

- alternating layers of sandstone (greywacke) and siltstone that hosts the gold mineralization, locally interbedded with graphitic shales to the west
- alternating layers of siltstone and argillite to the east (Figure 1.5)

The turbidite sequence forms the main component of the sedimentary rocks. The rock is generally quite massive and composed of alternating centimetric to metric coarse-grained sandstone (greywacke) and fine-grained siltstone layers but show penetrative foliation and fractures in zone of deformation.

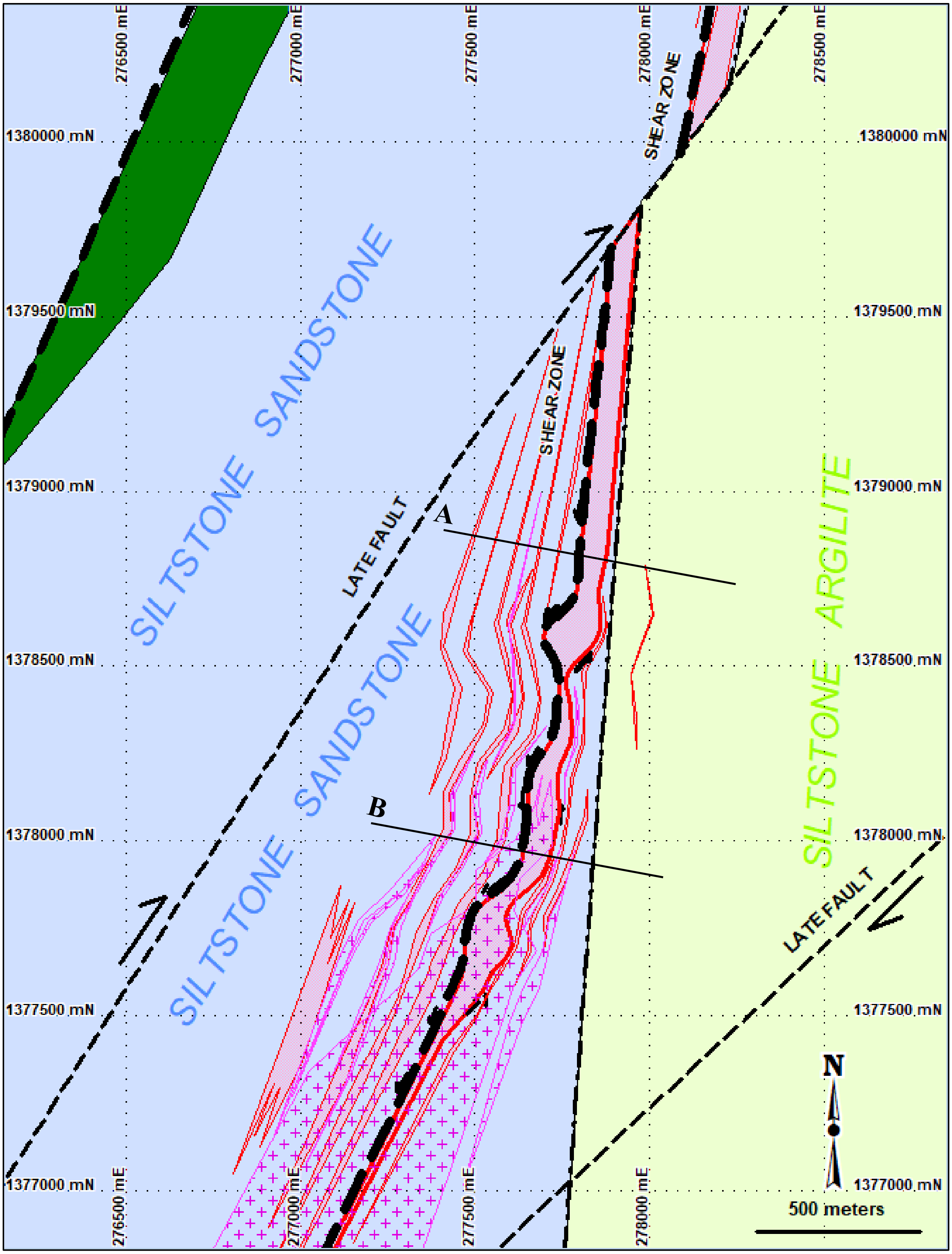
(2) Concordant Eburnean NNE-striking, Steeply ENE-dipping (80-85$^0$) pink granite intrusive dykes intruding the Early Paleoproterozoic sedimentary rocks (Figure 1.5). The intrusive dyke is interpreted as granodiorite of felsic to intermediate in composition. The rock seems to be a pink granodiorite with abundant pink frequent feldspar phenocrysts as well as amphibole pheno's in a fine-grained ferromagnesian groundmass. The granodiorite has locally a heterogeneous texture reflecting a compositional heterogeneity due to hydrothermal alteration.

(3) Late dolerite dikes form a swarm crosscutting all previous rocks. They are undeformed, strike north-north-east, are concordant to the main direction of the sedimentary unit and form a prominent high relief in the northern portion of the Maligonga-East permit (Figure 1.5). The dolerite dikes are interpreted to extrude the Basin during the Mesozoic at ca. 200 Ma and are probably related to far field tectonic events during global-scale rifting and breakup of the Pangea supercontinent leading to opening of the Atlantic Ocean.

### 1.4.5. STRUCTURES

The major structure within the project area is the Senegal-Mali Shear Zone (SMSZ). The SMSZ is a regional-scale reverse-sinistral brittle-ductile shear zone that forms a 1-10 km wide NS trending corridor of varying deformation styles, and separates the Kofi Series from the Faleme Volcanite Belt (FVB). Secondary and higher order splays off the SMSZ host the major Au deposits in the Kofi Series, including Gara, Yalea, Sadiola, Tabakoto Fekola Segala Yatela and Gounkoto. Field relationships suggest that gold mineralization in the region is probably coeval with latter stages of shear zone development. Major gold deposits are spatially associated with generally NE-SW subsidiary structures splaying off the main SMSZ.

The main structure that controls the gold mineralization in the Mamadouya prospect is interpreted as a splay off the SMSZ. It strikes NNE, steeply dips ENE and is concordant with the trend of the lithological bedding. The structure deformed both the intrusive rocks and the sedimentary unit. The gold mineralization is contained into the hanging-wall side of the fault structure and occurs in zone extensional and dilation fracture systems.


276500 mE
277000 mE
277500 mE
278000 mE
278500 mE
1380000 mN
1379500 mN
1379000 mN
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1378000 mN
1377500 mN
1377000 mN
SHEAR ZONE
SHEAR ZONE
SILTSTONE SANDSTONE
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A
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SILTSTONE ARGILITE
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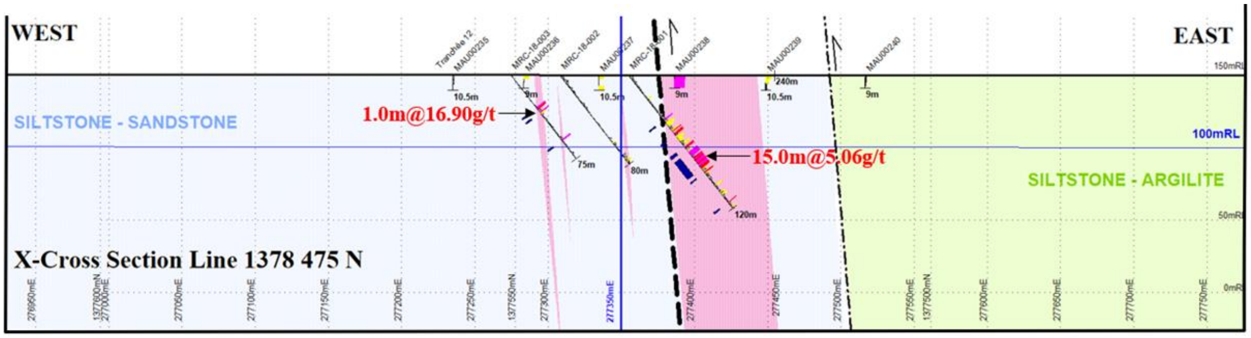
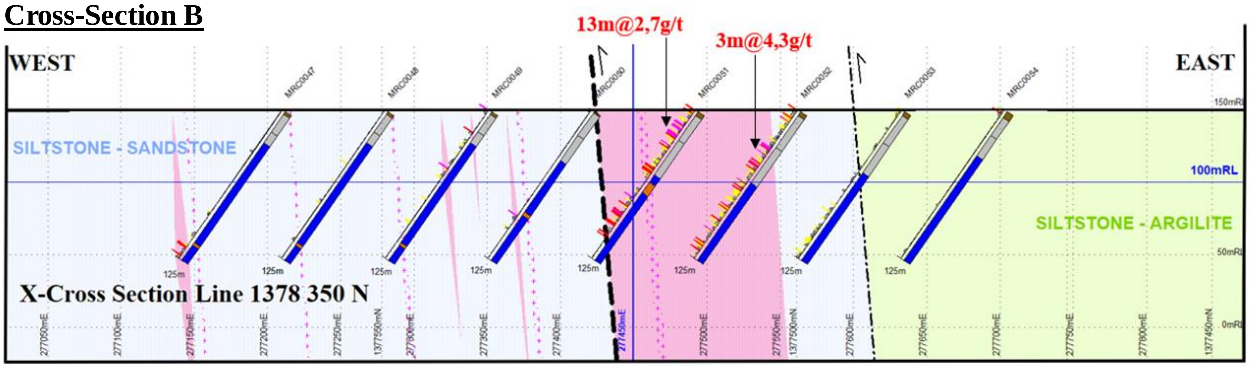
**Cross-Section A**




**Cross-Section B**



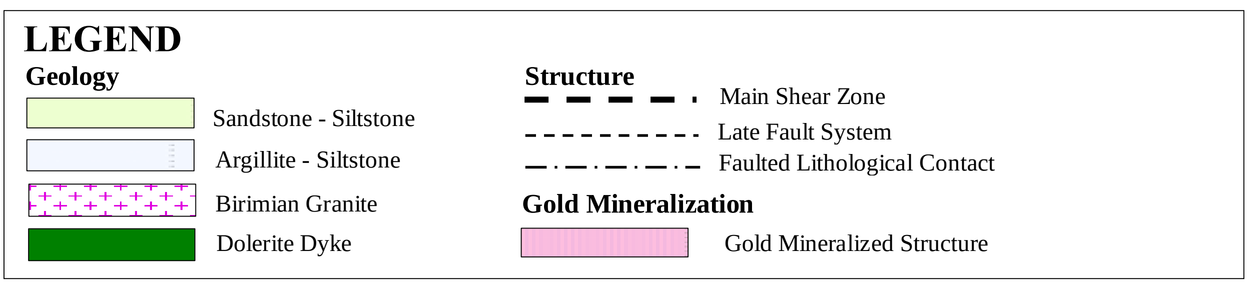




**Figure 1.6.: Interpreted Geological and Structural Map of the Mamadouya Gold mineralization showing geological units, structural elements and the interpreted gold mineralized structure.**

## 1.4.6. MINERALIZATION

Gold mineralization at Maligonga-East is a mesothermal, shear-zone-controlled, intrusive-related, orogenic -type mineralization, hosted in greenstone folded and faulted sediments, consistent with the majority of Proterozoic terrains, including the Birimian Series of West Africa. This style of mineralization is generally associated with regionally metamorphosed and deformed terrains. As such, the gold mineralization is structurally, rather than lithologically controlled. At Maligonga East, gold is developed along a high-angle NNE-striking, steeply ENE-dipping sinistral-reverse fault (Figure 1.5) and preferentially hosted in the more permeable, coarser-grained greywacke rocks and in a lesser extend in the siltstone and the granodiorite rocks. Gold occurs in deformed zones of large and hydrothermally altered, structural corridors that contain a complex network of extensional dilation fracture systems (Figure 1.5). Gold occurs as dissemination into the host rocks and is associated with pyrite, pyrrhotite, and arsenopyrite. Key alteration associated with the gold mineralization are silicification, calcite and chlorite suggesting low temperature formation during gold deposition typical of shear zone type orogenic gold mineralization in greenstone belts.

### 1.4.7. EXPLORATION HISTORY

Successive exploration works were completed by BGRM, Resources Robex Inc, Cluff Gold Plc and Fokolore Mining Sarl between 1987 to 2022 in the Maligonga-East property. The following Table summarizes exploration works competed in the Maligonga-East permit from 1987 to 2018.

| PROGRAM | | BRGM | | Robex | Cluff | Fokolore | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| | | 1 987 | 1 992 | 2005 - 2006 | 2 012 | 2 016 | 2 017 | 2 018 | |
| Regional Soil Sampling Survey | | 440 | | 473 | | | | | **913** |
| Infill Termite Sampling Survey | | | | | 4 828 | | | | **4 828** |
| Rock chips Sampling | | | | | | 98 | | | **98** |
| Geophysical Survey | | | | Ground Induced Polarization (IP) | Ground Induced Polarization (IP) | | | | |
| Trench | Num | | 6 | 1 | | | | | **7** |
| | Meters | | 1 410 | 150 | | | | | **1 560** |
| Auger Drilling | Num | | | | | 586 | | | **586** |
| | Meters | | | | | 4 748 | | | **4 748** |
| RC Drilling | Num | | | 17 | 99 | | | 61 | **177** |
| | Meters | | | 1 614 | 12 276 | | | 4 920 | **18 810** |

**Table 1.2: Exploration works completed in the Maligonga-East permit from 1987 to 2018**

#### 1.4.7.1. Exploration Programs Completed by BRGM between 1987 and 1992

In 1987, BGRM completed the first regional termite mounds survey on the Maligonga-East permit. The sampling grid covered the southern and eastern portion of the permit. A total of 440 termite mounds samples were collected. Results of this sampling program outlined a pronounced gold anomaly in the Mamadouya zone extending up to 5 km long and trending NNE. In 1992, BRGM completed 6 trenches in the Mamoudouya zone totaling 1410 m. Best results included: 14m@1.07g/t Au, 8m@1.39g/t Au, 12m@2.13g/t Au, and 24m@2.35g/t Au.

#### 1.4.7.2. Exploration Programs Completed by Ressources Robex Inc. between 2005 and 2007

The first exploration works including drilling and geophysical survey on the Maligonga-East permit were carried out by Ressources Robex Inc. in the Wili Wili gold concession that encompassed the south portion of the Maligonga-East permit. Exploration works carried out by Robex from 2006 to 2007 consisted of a ground Induced Polarization (IP) geophysical survey over the Mamoudouya anomaly zone followed by a program of reverse circulation drilling (RC). 17 RC holes totaling 1,614 m were drilled in the Mamoudouya target: Results of this first drilling program in the Mamoudouya anomaly zone were not encouraging

#### 1.4.7.3. Exploration Programs Completed by Cluff Gold Plc in 2012

In 2012, Cluff Gold Plc completed a follow-up termite mounds geochemical survey focused on the Maligonga-East permit. The program covered most of the permit on a grid pattern of 200x50m. A total of 4858 termite mounds samples were collected. Results of this infill sampling survey delineated a strong gold anomaly centered on the Mamadouya target, extending up to 10 km and trending in the north-north-east direction. Many other clusters of gold anomalies were also outlined throughout the permit.

Following positive results from the follow-up geochemical survey, Cluff contracted Terra Tec to complete a ground IP (Induced Polarization) geophysical survey on the Maligonga-East permit. The survey covered the Mamadouya anomaly zone. The objective of the ground Induced Polarization and Resistivity survey was to investigate the geological structures in the Mamoudouya target that control the gold mineralization. A strong IP anomaly trending in the north-north-east direction and spatially associated with the surface gold anomaly was defined.

Cluff, completed a RC drilling program consisting of 99 RC holes totaling 12,276 m on a grid pattern of 100x60m centered on the Mamadouya gold target. The objectives were to test the large Mamadouya gold anomaly. Holes were inclined -55° with an azimuth of 280°. RC holes were 125 to 60 meters deep. Best results of the RC drilling program included: 3m@8,77g/t Au, 4m@5,37g/t Au, 4m@1,52g/t Au, 13m@2,66g/t Au, 3m@4,31g/t Au, 7m@6,06g/t Au, 4m@3,58g/t Au, 5m@3,11g/t Au, 7m@4,51g/t Au, and 6m@16,43g/t Au.

#### 1.4.7.4. Exploration Programs Completed by Fokolore from 2015 to 2018

In 2016, Fokolore carried out a detailed compilation, analysis, and interpretation of previous exploration data. Fokolore completed a detailed field geological, structural and regolith mapping over the Mamadouya gold target and a litho-geochemistry sampling. 98 rock chip samples were collected and analyzed. The results of the grab sampling program were considered as encouraging by Fokolore. A black shale sample containing quartz stockwork veins returned results of 95 g/t Au (with visible gold grains). 10 others samples returned high gold grades with values > 0.5 g/t Au including 3,5g/t Au, 3,84g/t Au, 1,18g/t Au, 1,23g/t Au, 1,37g/t Au, and 1,19g/t Au.

Fokolore completed an extensive Auger drilling program consisting of 586 holes totaling 4,748 m on a grid pattern of 200x50m. Auger drill holes were vertical and depth varying from 10 to15 m. The objectives were to test the lateral and depth extensions of the gold anomalies at surface and the gold mineralization in rock chip samples. Best results from the Auger drilling included 1.5m@6.77g/t Au and 9.0m@2.39 g/t Au.

Following positive results from detailed structural and geological field mapping, Auger drilling program, lithogeochemistry sampling and the detailed data compilation and re-interpretation completed in the Maligonga-East permit between 2016 and 2017, Fokolore completed in 2018, 4,920 meters RC drilling program totaling 61 RC holes. RC holes were drilled with various azimuth and inclined -50° with depth varying between 50 and 120 meters, 5,725 samples were collected. The objectives were to test the spatial close relationships between the surface gold anomalies and interpreted shear zone systems in the area.

The drilling results was encouraging and confirmed the depth and lateral extension of the mineralization previously intercepted by Cluff. The RC drill holes intercepted large zones of alteration that affect the sediments that generally contain abundant stockwerk of quartz veins. The best gold values intercepted in drill holes included: 15m@5.06 g/t Au (Incl. 4m@15.40g/t Au), 8.0m@8.99 g/t Au, 2m@5.04 g/t Au., 3.0m@20.97 g/t Au, 3.0m@4.51 g/t Au and suggested a possible northern extension of the Mamadouya deposit over 800 meters.

The first-pass exploration works carried out by BGRM, Resources Robex Inc, Cluff Gold Plc and Fokolore Mining Sarl in the Maligonga-East permit returned encouraging results and suggests that the permit has high potential to host very significant gold deposits. Gold mineralization is hosted within highly prospective, Birimian-deformed metasedimentary rocks. This potential should be subjected to future exploration works to outline and delineate gold resources that can be mined with profit

# 2 INTRODUCTION

## 2.1. Preparation

This Independent Technical Report has been prepared at the request of Waraba Gold Ltd. This report has been prepared in conformance with the Canadian Securities Administrator National Instrument 43-101, Companion Policy 43-101CP and form 43-101F1 (NI 43101) for the Maligonga-East gold project in the Kéniéba prefecture and the Kayes Region of western Mali, West Africa.

The Qualified Person responsible for the preparation of this report is Olufemi Ajayi, the main author and responsible for the overall preparation of this report. Mr. Ajayi is a consulting geologist with 13 years' experience in the mining sector. Mr. Ajayi is a registered member of the "The Australian Institute of Geoscientists" (MAIG 7790).

The Qualified Person of this report does not have any material interest in Waraba Gold Ltd or related entities or interests. His relationship with Waraba Gold Ltd is solely one of professional association between client and independent consultant. This report is prepared in return for fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report,

## 2.2. Purpose of the Report

Significant exploration work has been completed on the Maligonga-East property by different companies since 1987. Early soil geochemistry survey and trenches from BRGM in 1992, geophysical survey and RC drilling south of the permit completed by Robex between 2007 and 2008, geophysical survey and extensive RC drilling by Cluff in 2012 and Auger and RC drilling completed by Fokolore between 2017 and 2018 resulted in the identification of the Mamadouya gold mineralization and numerous others clusters of gold mineralization targets. Additional geological and structural interpretations and modelling by BRG-Consult in 2020 determined the geological and structural setting of the area and the style and control of the gold mineralization, established a conceptual geological and structural model for the gold mineralization and demonstrate that the Maligonga-East property is a very prospective terrane and has a high potential for hosting an economic gold mineralization.

The purpose of this report is to compile and update all the technical information in a text format compliant to the NI43-101 of the Canadian Commission Securities in order to evaluate the gold potential in the Maligonga-East gold property and to provide recommendations for future exploration works.

## 2.3. Source of Information and Data

Information in this report was provided to BGR-Consult by Waraba Gold Ltd. The data set consists of company information, exploration results and associated assays, company exploration reports along with information collected by BGR-Consult during a site visit from September 26 to October 02, 2021. BGR-Consult has no reason to doubt the reliability of the information provided by Waraba Gold Ltd. The following are sources of information:

- Discussions with Mamadou Coulibaly, Exploration Manager for Waraba Gold Ltd in Mali

- Inspection of the Maligonga-East property during the site visit. The purpose of the visit was to confirm the local geological setting and identify any factors which might affect the project.
- Review of exploration data including technical reports from BRGM, Robex, Cluff and Fokolore
- Additional information from Waraba Gold Ltd's public domain sources
- The Legal opinion issued to Waraba Gold Limited by SCPA JFC Avocats Mali, dated 27 April 2022.

BGR-Consult has reviewed the data provided and utilized it to develop independent opinions and interpretations. The author has been diligent in checking and verifying much of the data through field studies. No discrepancies or significant errors have been identified; therefore, BGR-Consult assumes and believes the rest of the project data provided is similarly accurate and correct and is therefore relied upon for preparation of this report.

BGR-Consult's interpretations and opinions expressed in this report are based on the original information from the company's exploration, trenching, drilling and sampling programs along with his extensive experience in West Africa and, in particular in Mali. In addition, the author spent 3 days on site inspecting artisanal mining activities, geological and structural relationships on outcrops and RC chipboard from recent drilling programs.

# 3. RELIANCE UPON OTHER EXPERTS

This report has been prepared by BGR-Consult for Waraba Gold Ltd. The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to BGR-Consult at the time of preparation of this report,
- Assumptions, conditions, and qualifications as set forth in this report,
- Data, reports, and other information supplied by Waraba Gold Ltd including several internal technical exploration reports and datasheet prepared by BRGM in 1992, Robex between 2007 and 2008, Cluff in 2012 and by Fokolore between 2017 and 2018 and Excel spreadsheet assay results from the SGS, PROSLAB and Analab laboratories in Mali,
- Tenure documents were provided by Mamadou Coulibaly, Exploration Manager for Waraba Gold Ltd in Mali, and
- The Legal opinion issued to Waraba Gold Limited by SCPA JFC Avocats Mali, dated 27 April 2022.

For the purpose of this report, BGR-Consult has relied on ownership information, both historical and recent, provided by Waraba Gold Ltd. BGR-Consult has not researched property title or mineral rights for the Maligonga East project and expresses no opinion as to the ownership status of the property. BGR-Consult has not independently investigated the legal title of the license and reclamation status of the property.

The author visited the Maligonga-East Property from September 26 to October 2, 2021. This site visit was undertaken to obtain independent observation of the geological and structural setting of the permit and to locate evidence of the historical exploration drilling and trenching activities completed by various exploration companies. The author did not take any samples during the site visit

# 4. PROPERTY DESCRIPTION AND LOCATION

## 4.1. Location

The Maligonga-East project is located within the Region of Kayes, in the southwest of the Republic of Mali (Figure 4.1). The Region of Kayes shares borders with Senegal to the west and Guinea to the south. The property is located approximately 50 km south of the city of Kéniéba, in the prefecture of Kéniéba, the southernmost Cercle in the Region of Kayes. It is approximately 400 km west of Bamako, Mali's capital city.


**Figure 4.1: Location of the Maligonga-East gold property in southwest Mali, West Africa**

## 4.2. Property Description and Ownership, Ownership Obligations. Government Participation, Royalties and Encumbrances

The Maligonga-East property consists of an exploration license ("Permis de Recherche Minière") for gold and associated minerals covering a surface area of 100 km² in western Mali (Figures 4.1). The center point of the project area is at approximately 275000mE and 1378000mN (WGS84, UTM Zone 29 N) (Figure 4.2). The Malian State is the owner of all mineral rights in the country, and the mines minister has responsibility for the administration of mining and exploration activities. The Malian Ministry of Mine granted the Maligonga-East license to Fokolore Mining Sarl on October 11 2019 by decree N° 2019-3557/MMP-SG.

On August 17th 2021, the permit was transferred to Gonka Gold Mali Sarl by decree No 2021-3047/MMEE/MG-SG.

On January 24th 2022 the permit was renewed by decree No 2022-0028/MMEE-SG-DU for a further two-year period.

Pursuant to agreements dated December 20th 2020 and January 6th 2021(as described above) Gonka Gold Mali Sarl is a 75:25 joint venture between Waraba Gold Limited (through its wholly owned subsidiary,1285074 BC Limited) and Fokolore Mining Sarl.

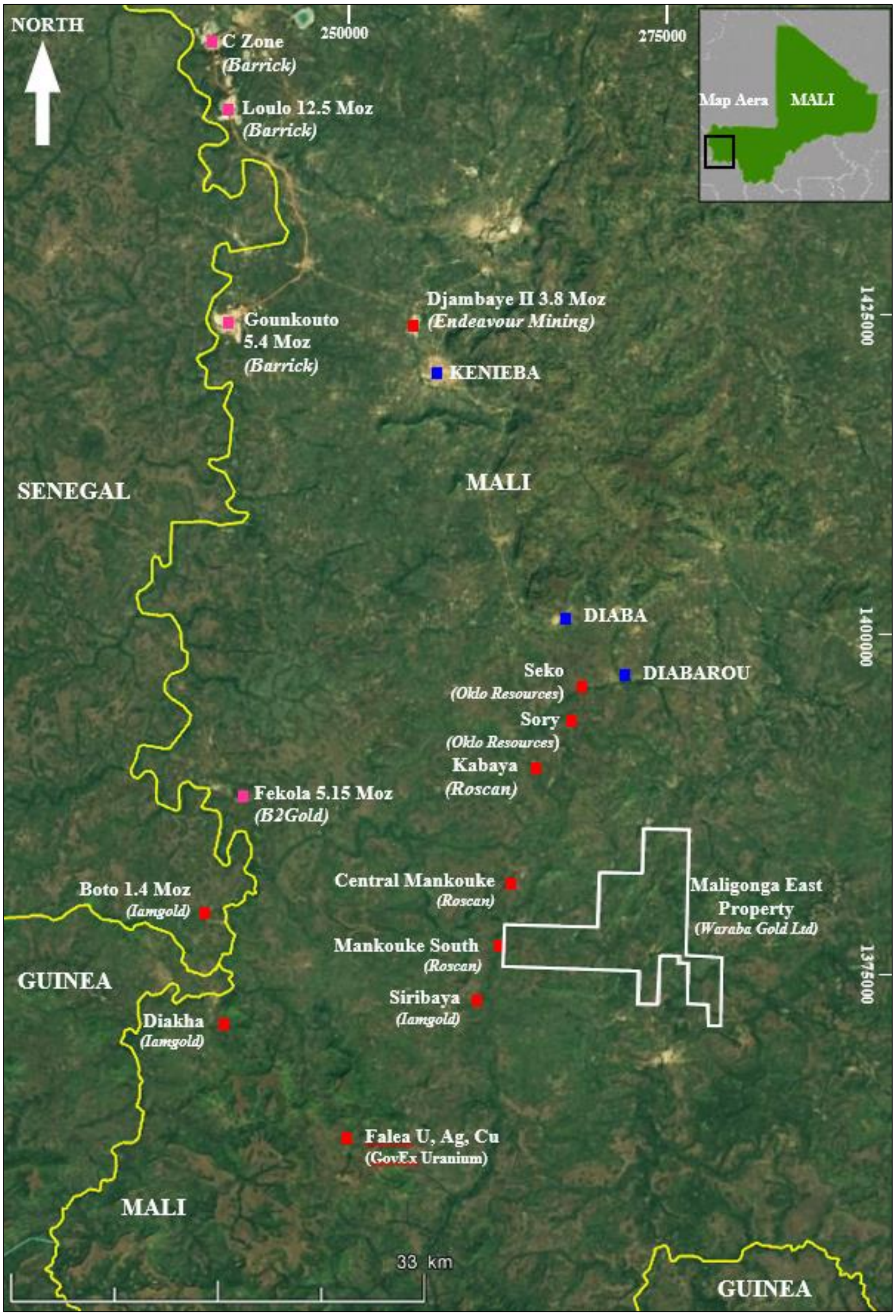



**Figure 4.2: Maligonga-East permit (white outline) in southwest Mali and existing mines and advanced projects**

**Issuer's title to/interest in the property**

According to Waraba Gold Limited and the shares certificate of Gonka Gold Mali Sarl, the shareholding of the Maligonga-East permit is as follows:

- 75% to 1285074 BC Limited (a wholly owned subsidiary of Waraba Gold Limited)
- 25% to Fokolore Mining Sarl

Since acquisition Waraba Gold Limited spent 804 445 USD in exploration expenditure on the property.

Details of the exploration expenditures are shown on the following table.

| Description | Expenditure (CAD$) |
|---|---|
| Human resources and Administration | 194 834 |
| Accomodation and Logistics | 184 873 |
| Sample tools and Analysis | 201 241 |
| Geophysics aeromagnetics survey | 78 352 |
| IP SurveyPhase_1 | 91 037 |
| Data Compilation and interpretation | 54 109 |
| **Total** | **804 445** |

Table 4.1: Summary of exploration expenditure on the property by Waraba Gold Limited

In order to maintain the Maligonga East Permit, Gonka Gold Mali Sarl is required to submit

- Work program and budgets for the permit within thirty days of the granting of the exploration permit and yearly before 1 December for the following year;
- Brief quarterly reports must be submitted in the first two weeks of the quarter, detailing the previous quarter's activities;
- An annual report, submitted in the first quarter of the following year, detailing the year's completed exploration activities; and
- Details of the reporting structure on exploration activities and reporting of sampling and exploration results are given in the Arretes.

No further payments are required to maintain the Maligonga East Permit other than periodic surface taxes snd additional consideration payable to Folkore Mining Sarl contingent upon results of exploration. A production royalty (1.5% of the gross sales price of product sold) has also been granted by Gonka Gold Mali Sarl to African Minerals Exploration Resources-Mali Sarl, its services and logistic contractor/partner in Mali.

The Maligonga-East Permit was granted under the 2012 Mining Code adopted to supercede the 1999 Mining Code and regulate all prospecting, exploration and mining activities. And subsequently superceded by the 2019 Mining code (enacted into the Malian law by way of a Government ordinance No 2019-022/P-RM dated 27$^{th}$ September 2019. Published in the Malian official Gazette on 30$^{th}$ October, 2019, the "Mining Code)

The key changes introduced by the 2019 Mining code include

- Reduction of the initial validity period of large-scale exploitation permits from 30 to 10 years.
- Reduction of tax and customs stability period granted to exploitation title holders from 30 years to 10 years to reflect the new initial validity period of large-scale exploitation permit.
- More stringent obligations in relation to the protection of the environment (in particular during the exploration phase) and local content.
- Obligation for exploitation titleholders to contribute to 2 newly created mining funds, namely a Local Development Mining Fund and a Fund for the Financing of Geological and Mining Research.
- Removal of the prospection authorization and a new distinction between small scale exploitation permit versus large scale exploitation permit (instead of exploitation authorization of small mines versus exploitation permits under the previous mining legislation).
- The ability for the Government to launch tenders for the issuance of exploration permits.

On the tax and customs front, the 2019 Mining Code introduced a number of provisions which increase the mining company's financial burden, among those:

- Capital gains tax applicable to direct and indirect transfers of mining titles or shares.
- Progressive royalty in case of a significant increase in the sale price of mining commodities.
- The reduced tax rate of 25% on industrial and commercial profits and corporate tax would only apply for 3 years after production starts (instead of 15 years under the previous mining legislation).
- Removal of the 3-year VAT exemption for exploitation titleholders.

An Exploration Permit (Permis de recherche Minière) may be granted under the Mining Code by order of the Minister of Mines and covers an area of up to 250 km$^2$ for specified commodities with an initial period of up to three years. The permit may be renewed twice for two years, with a final renewal period of up to one year to finalize a feasibility study (eight years in total). Permit holders are obliged to report regularly to the Department of Mines on their exploration programs. An Exploration Permit grants its holder the exclusive right to explore for the commodity group specified within the boundary of the permit and to unlimited depth. In the event of the discovery of minerals not specified on the permit, the holder may request the extension of the permit providing it is free of any mining permit relating to this mineral.

AS regards relationship between mining title holders and land owners, according to the Mining Code:

- No research or exploitation rights deriving from mining titles are valid without the consent of the owner of the land with regard to activities involving the surface or having an effect on it.
- The title holder of a mining title and owner(s) of the land are free to agree the terms and conditions of occupation or use of the land necessary from mining activities (including research) as well as

the terms and conditions of passage over the land, but in the absence of reaching such an agreement regulations in force from time to time prescribe the "fair and prior" compensation which must be paid to the land owner(s) in return for which the land owner(s) must allow mining activities to proceed without interference. Accordingly, there are no circumstances in which Gonka Gold can be excluded from the land subject to the Maligonga East Permit.

- After completion of mining activities, the title holder of a mining title is required to restore the land under cultivation to its previous state, restoring topsoil and roads.
- The holder of a mining title shall identify the person concerned and determine the nature and extent of his right to the land whose occupation or use is envisaged in accordance with procedures specified by a joint order of the Minister responsible for Mines and the Minister in charge of land regulation.

An Exploration Permit may be awarded to any applicant that can provide proof of the technical and financial capacity to complete the exploration and meet with health, safety and environmental standards. The application must include the commodities to be explored for and a report detailing the proposed exploration program and budget. A Mining Permit (Permis d'exploitation Minière) may be granted for 30 years and is renewable for further periods of ten years until the mineral reserves have been exhausted.

A Mining Permit may be granted to the holder of an Exploration Permit or a Prospecting License. Holders of a Mining Permit are required to enter an agreement referred to as a "Convention d'Établissement" or "Mining Convention Agreement" with the Malian government prior to the commencement of exploration or mining activities and must begin work within three years.

A Mining Permit grants the holder the exclusive right to mine the specified commodities within the perimeter of the permit and to an unlimited depth. Proof of a mineable deposit must be provided by submission of a feasibility study. In addition, community development and mine closure plans must be submitted. A license can be transferred to third parties by inheritance or cession under certain conditions established by the Code.

In the event of the subsequent granting of an *"operating license*" to the holder of an Exploration Permit, the Malian State have the right to a priority dividend (once the company is profit making) and have the right to acquire an equity participation of up to 10% subject to payment in cash for such additional participation.

#### 4.2.1. Exploration Permit

The Maligonga-East permit was part of the Wili-Wili permit which, was first granted to Malian Goldfield Ltd Sarl for gold and associated minerals by decree N°05-2159/MMEE/SG on August 14$^{th}$, 2005. The permit covered a surface area of 112 km² and was valid for two years renewable. In 2006, Malian Goldfield Ltd Sarl signed an agreement with Ressources Robex Inc to finance mineral exploration on the Wili-Wili project. This agreement lasted for two years at which time Robex withdrew from the partnership. Malian Goldfield Ltd Sarl maintained 100% ownership of the Wili-Wili Permit but relinquished the northern portion of the permit.

On May 9th 2011, the relinquished northern portion of the permit area was extended to 109 $km^2$ and granted as a new permit (Maligonga-East permit) to Cluff Gold Plc by Arrete No. 2011-1696/MM-SG. The Permit was renewed twice for two consecutive terms of two years each.

On June 10th 2016, The Malian State granted the Maligonga-East permit to Fokolore Mining Sarl by decree Nº 2016-2006/MM-SG. The Permit covered a surface area of 109 km². On October 11st 2019, the Maligonga-East permit was renewed by decree Nº 2019-3557/MMP-SG for a further two-year period. The permit area was reduced to 100 km². As of the date of this report, this license is valid and is renewable for another period of three years. On December 1st, 2020, Waraba Gold Limited signed a joint-venture earn-in agreement with Fokolore to acquire 75% interest in the Fokolore's Maligonga-East property. On August 17th 2021 the permit is transferred to GONKA GOLD MALI Sarl by decree No 2021-3047/MMEE/MG-SG.

The Maligonga-East permit is valid and its correct outline is recoded on the "Direction Nationale de la Géologie et des Mines's Mineral Cadastral of the Ministry of Mines under registration Nº PR 15/797 1BIS-Permis de recherche de Maligonga-East (Cercle de Kéniéba).

Table 4.2 and Figure 4.3 show the corner points of the permit as of the effective date of this report.

| Points | Lat/Long Coordinates | | | | | | UTM Coordinates WGS 84 | |
|---|---|---|---|---|---|---|---|---|
| | Longitudes | | | Latitudes | | | UTM-X | UTM-Y |
| | Degrees | Minutes | Seconds | Degrees | Minutes | Seconds | | |
| Point A | 11° | 10' | 02" | 12° | 27' | 03" | 264426 | 1377368 |
| Point B | 11° | 05' | 54" | 12° | 27' | 03" | 271952 | 1377368 |
| Point C | 11° | 05' | 54" | 12° | 29' | 28" | 271952 | 1381764 |
| Point D | 11° | 04' | 00" | 12° | 29' | 28" | 275396 | 1381764 |
| Point E | 11° | 04' | 00" | 12° | 31' | 27" | 275396 | 1385395 |
| Point F | 11° | 02' | 00" | 12° | 31' | 27" | 279048 | 1385395 |
| Point G | 11° | 02' | 00" | 12° | 26' | 00" | 279048 | 1375316 |
| Point H | 11° | 00' | 20" | 12° | 26' | 00" | 281950 | 1375316 |
| Point I | 11° | 00' | 20" | 12° | 23' | 02" | 281950 | 1369823 |
| Point J | 11° | 00' | 51" | 12° | 23' | 02" | 281014 | 1369823 |
| Point K | 11° | 10' | 51" | 12° | 23' | 57" | 281014 | 1371520 |
| Point L | 11° | 01' | 48" | 12° | 23' | 57" | 279304 | 1371520 |
| Point M | 11° | 01' | 48" | 12° | 25' | 42" | 279304 | 1374760 |
| Point N | 11° | 02' | 13" | 12° | 25' | 42" | 278574 | 1374760 |
| Point O | 11° | 02' | 13" | 12° | 26' | 00" | 278574 | 1375319 |
| Point P | 11° | 03' | 05" | 12° | 26' | 00" | 277007 | 1375319 |
| Point Q | 11° | 03' | 05" | 12° | 23' | 52" | 277007 | 1371397 |
| Point R | 11° | 04' | 00" | 12° | 23' | 52" | 275396 | 1371397 |
| Point S | 11° | 04' | 00" | 12° | 25' | 16" | 275396 | 1373992 |
| Point T | 11° | 10' | 02" | 12° | 25' | 16" | 264426 | 1373992 |

**Table 4.2: Corner coordinates for the Maligonga-East gold project (Coordinates are expressed in UTM-WGS 84 Map Datum Zone 29 North)**

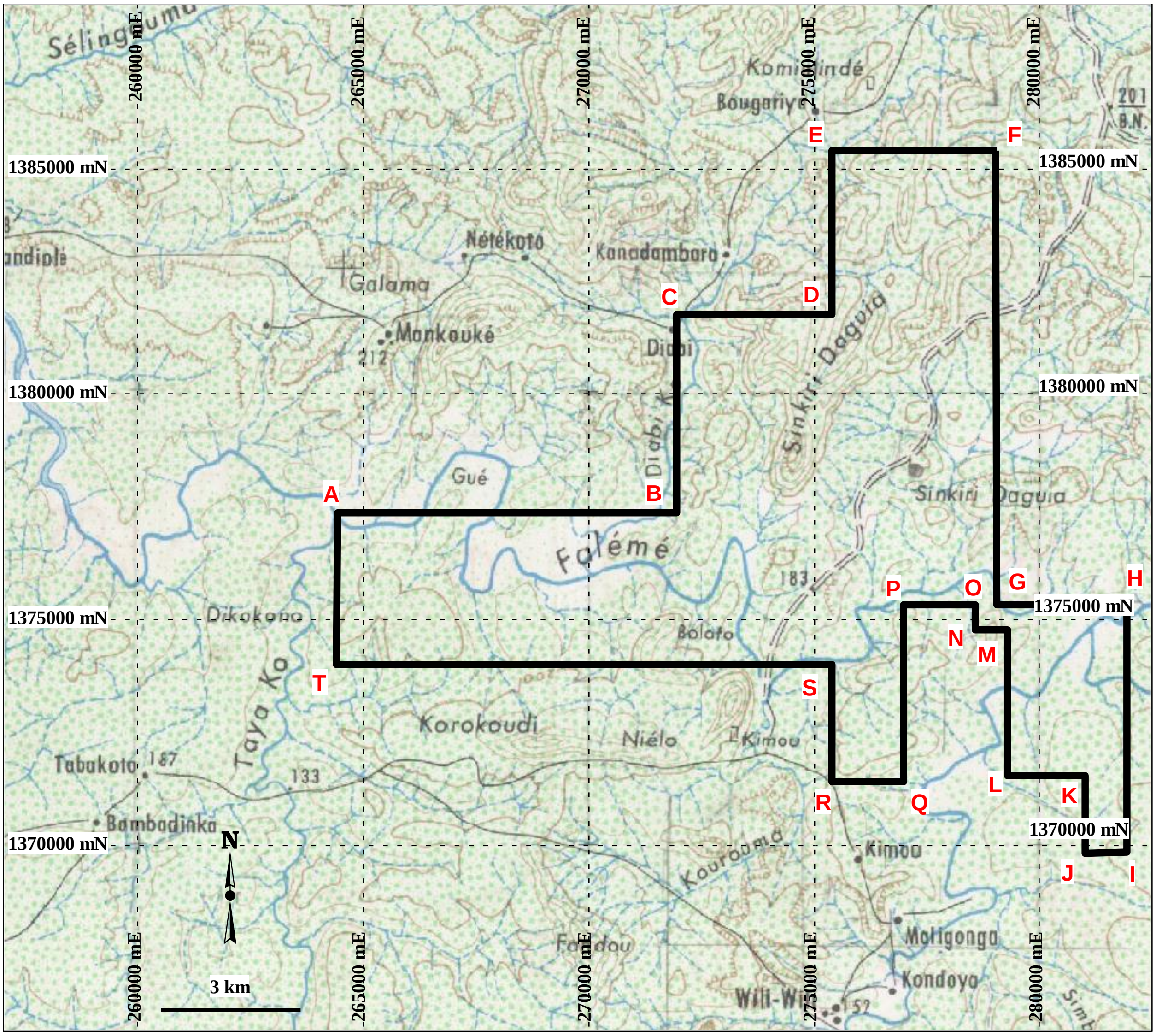



**Figure 4.3: Maligonga-East "Permit de Recherche Minière" (black outline) as displayed in the Mining Cadastral records. UTM-WGS 84 Map Datum Zone 29 North**

## 4.3 Environmental Liabilities

There are no known environmental liabilities relating to the Maligonga-East permit.

## 4.4 Other significant factors and risks

There is no reason to believe that there are any factors or risks that may affect the title, or the ability to perform work on the property. Access to the Maligonga-East property is sometimes difficult during the months of August and September, at the height of the rainy season, However, access is generally possible as there are no rivers or streams on or near the property that are subject to major flooding during the rainy season.

# 5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

## 5.1. Accessibility

The Maligonga-East property is located within the Kéniéba District, an administrative sub-area of the Kayes Region, approximately 400 km by road west of Bamako, the capital of Mali and 80 km from the town city of Kéniéba (Figure 5.1). The Permit is located in the Dabia district prefecture. It can be easily accessed year-round by following the main paved highway connecting Bamako –Kita– Kéniéba (National Highway 7 or RN 7) or by air (aerodromes by Kéniéba and Dabia). From Bamako, Dabia can be reached in approximately 7 hours. From Diaba, the area is accessible by various bush and gravel roads passable to 4WD vehicles. Kéniéba has its own regional airport while a private airstrip, which can be used for emergency purposes, lies mid-way between Dabia and Diabarou.

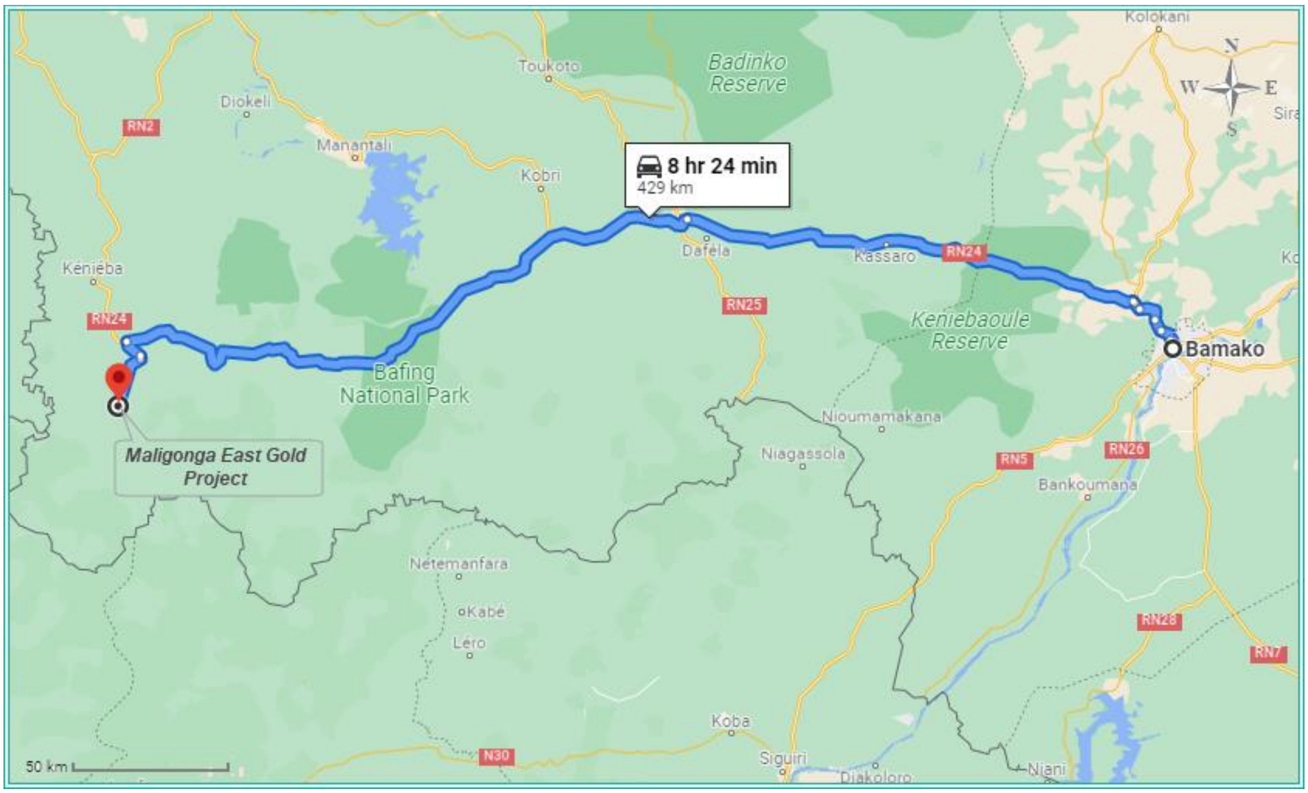
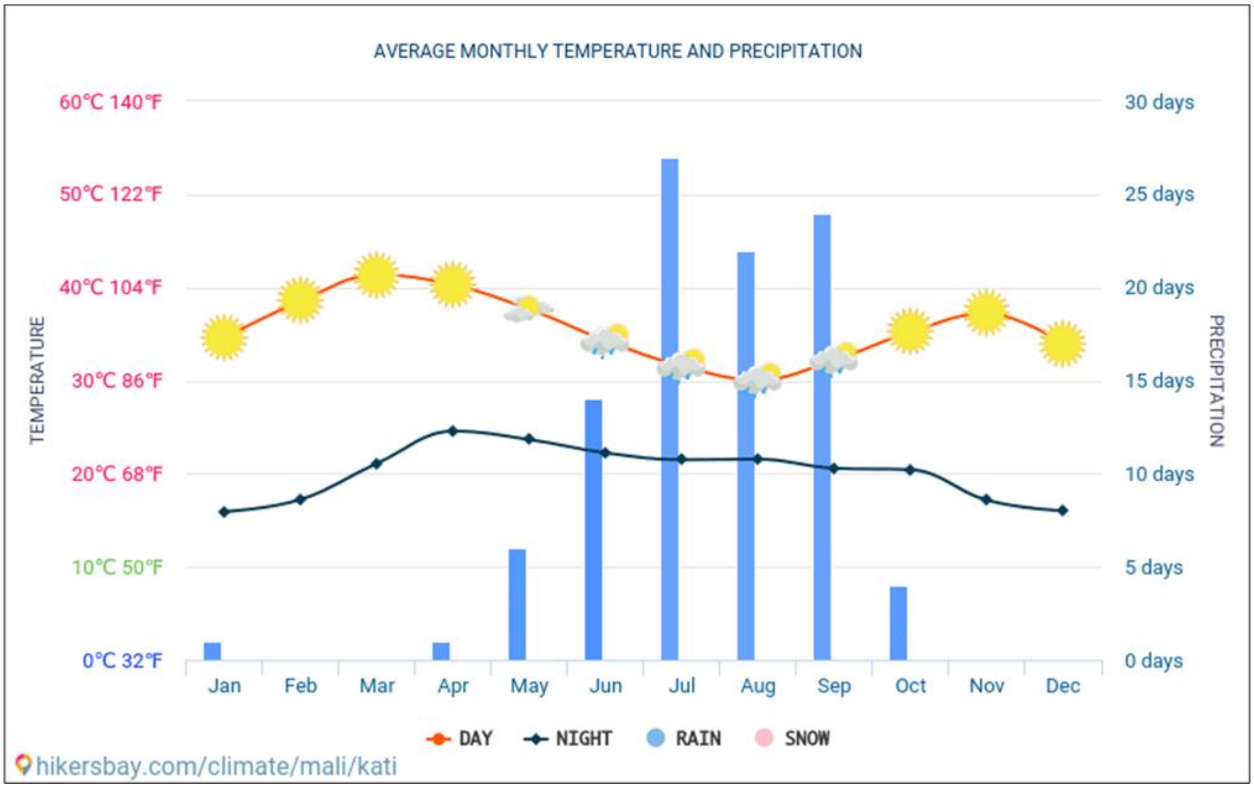



**Figure 5.1: Main Access Road from Bamako to the Maligonga-East Gold Project**

## 5.2. Climate

The Maligonga-East property is located in the Soudan-Sahel climatic region and has a continental subtropical climate characterized by two distinct seasons: a rainy season from July to October and a dry season from October to June. It is generally hot and dry from February to June (35°C to 45°C), humid and hot from June to November (30°C to 40°C), and relatively mild and dry from December to February (20°C to 25°C) (Figure 5.2). The annual Harmattan is a dry wind that blows from the north during the dry season. The average temperature is 28.6°C (83.5°F). Average monthly temperatures vary by 7.4°C (13.3°F). This indicates that the continentality type is hyperoceanic, subtype barely hyperoceanic. Total annual precipitation averages 1152.5 mm (45.4 inches) which is equivalent to 1152.5 Liters/m² (28.27 Gallons/ft²). Kéniéba has a tropical wet and dry/ savanna climate with a pronounced dry season in the low-sun months, no cold season, wet season is in the high-sun months.

Drilling is generally not possible during the rainy season, due to high rainfall creating impassable rivers and roads. General fieldwork tasks tend to be restricted to the period from July to late October.




*Source: https://cdn.hikb.at/charts/meteo-average-weather/Kenieba-meteo-average-weather.png*

**Figure 5.2: Average monthly temperatures and Average yearly precipitation at Kenieba, Mali**

### 5.3. Local Resources

The local population are essentially “orpailleurs” (artisanal gold miners) (Photo 5.1), shopkeepers, motorcycle repair mechanics and subsistence farmers who raise cattle and goats and carry out dry land grain, vegetable (including gourds) and fruit tree (mango) farming. The cultivation of gourds is for both cooking and gold panning activities, which is the principal economic activity in west and southwest Mali.

A large, experienced pool of local labor and a certain amount of heavy equipment is available in the nearby Dabia village. Heavy equipment such as bulldozers and trucks are available in Kéniéba, a further 27 km northwest along the RN24 and modern telephone communications, government offices, wholesalers and a small regional airport are also available there. Diabarou village hosts two mobile phone mast stations (Orange and Malitel), a primary school, a Community Health Centre (Centre de Santé Communautaire de Diabarou) and a pharmacy plus many mechanical workshops and several small trader stalls.

**Artisanal mining location looking east from 277911E, 1379076N**

**Mechanized artisanal mining site looking west from 277900E, 1379100N**

**Figure 5.3: Typical artisanal mining area over the Maligonga-East property (photos taken during September 2021 site visit)**

## 5.4. Infrastructure

Local infrastructure in the Kéniéba District is poor, with few supplies or support services available. There is some gravity-fed public water supply in Kéniéba and the surrounding villages are supplied by boreholes.

Mines are responsible for their own water supplies. There is no available national electrical power grid near the permit area and mines are responsible for their own power supply. Electricity is supplied by diesel power generators in many of the villages. The closest potential source of hydro-electrical power is the Manantali Dam located about 100 km to the northeast of the property on the Bafing River, a tributary of the Senegal River which flows northwest to the Atlantic Ocean.

The power produced is split between Mali, Senegal and Mauritania and is very unreliable. The state telephone company, SOTELMA, operates a telephone service in the village of Kéniéba. Cellular telephones are connected to the national grid and communication around the permit is possible by cellular phones. Health services are poor with the nearest basic health services found in Kayes and Kéniéba with more advanced services limited to Bamako. Serious medical conditions would require evacuation to Europe. Other than the Project will rely on use of the existing road infrastructure.

## 5.5. Physiography

The relatively low-lying and gently rolling countryside is made up of several plateau or erosional peneplains, which are capped with in-situ lateritic crusts or carapaces, while some deposits of eroded laterites also occur. The high clay content of the termite mounds provides a suitable substrate for retaining any gold that may be present in the soil profile. The permitted region is generally flat and characterized by gentle, flat-topped to gently-rolling laterite hills.

The Falémé river flows from east to west at, or close to the boundary with the southern permits and drains to the northwest where it forms a natural border with Senegal. Numerous moderately well-developed rivers and drainage channels are fed in the wet season by run-off from the lateritic plateaus. The Permit area is situated in a relatively low-lying savannah cut by intermittent streams. Elevations within the project ranges from 340 m ASL (above sea level) along the flood basins of the main rivers to 811 m ASL in the northwestern corner of the permit which is the summit of late dolerite dikes intrusion

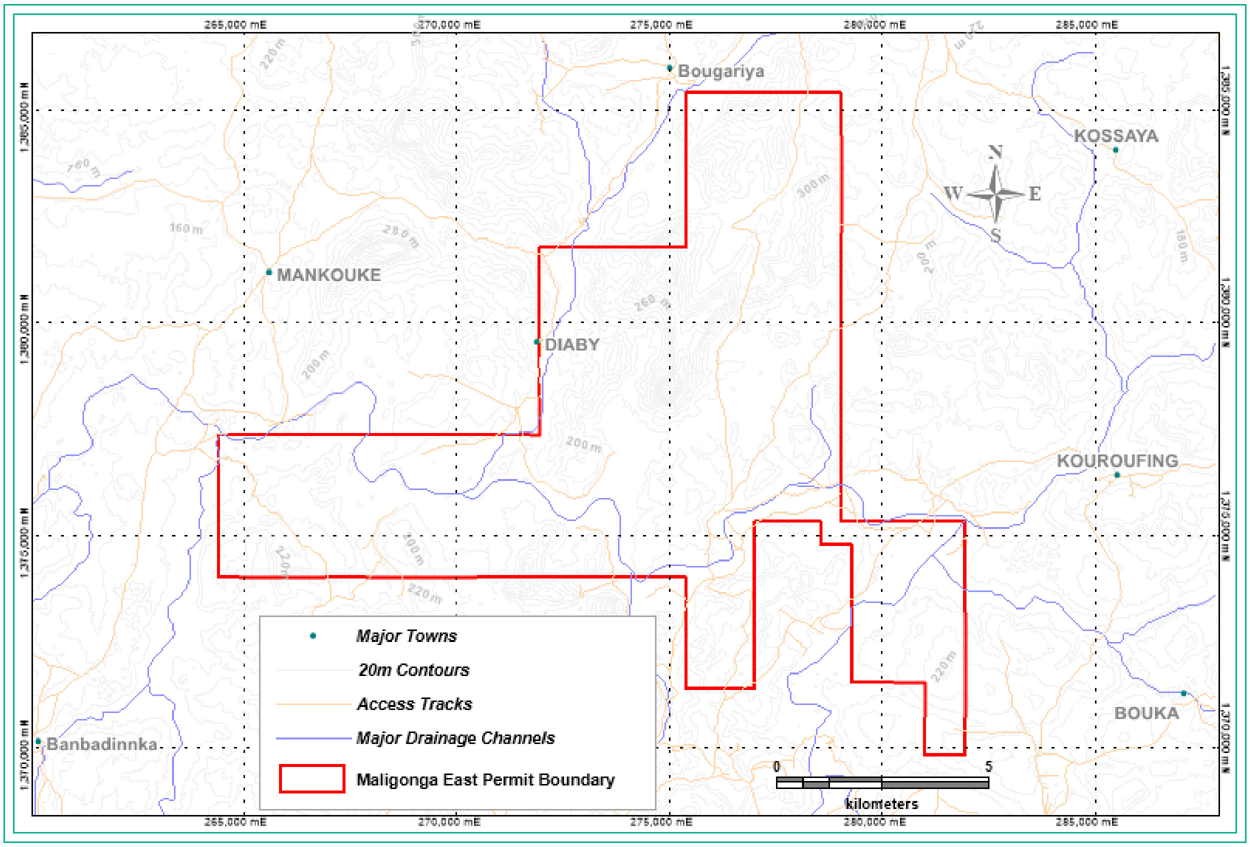



**Figure 5.4: Summary of Project Physiography**

The vegetation is generally composed of open grasslands (savannah-type) with arable fields, and large areas of open woodland consisting of small trees and shrubs (acacia, shea, ficus, baobab). Larger trees are found closer to drainages areas (palm trees and liana) and flood plains (bombax, mango trees). There is very little local wildlife, but the region has warthogs, monkeys, antelopes and snakes (vipers, mambas).

**Access road into the permit area showing surrounding vegetation at 278621E, 1379406N**

**Typical vegetative cover within permit**

**Figure 5.5: Typical Vegetation within the Maligonga-East Permit (photo taken during September 2021 site visit)**

# 6. HISTORY

## 6.1 Summary of the gold exploration history in the Maligonga-east permit from 1992 to 2018

The Maligonga-East gold project is situated in a region that is well known for artisanal mining for decades. There is visible evidence of artisanal mine workings throughout the permit and mainly along paleo-placers. Gold panning has been practiced for centuries in the Kéniéba area. The French colonizers were only able to develop the mineral resources of the area from the turn of the century by starting dredging in the Faleme.

Between the period 1230 and 1600, extensive artisanal mining in western Mali supported the Kanka Moussa Empire. Nowadays it is the main revenue for thousands of orpailleurs (artisanal miners). Their non-mechanized production is estimated at some 2 tonnes of gold per year.

Dredging in Mali dates back to 1910 when the Compagnie des Mines de la Falémé exploited gold on the Falémé River from the years before the First World War up to 1955 (McLane, 1977). Concessions at the time included 100 m of bank on either side of the river. Today Chinese alluvial miners continue this practice west of the ford, which crosses the Falémé River in the south of the Maligonga-East permit. Artisanal mining has been historically conducted on alluvial, lateritic soils and quartz vein deposits in the area with evidence of artisanal mining from immediately west of Dabia village at the north of the permits to the far west at the crossing of the Falémé River.

In the 1960s, SONAREM undertook a vast exploration campaign, especially alluvial, in western Mali. From 1960 to 1996 regional exploration program were carried out over the larger Kéniéba area by the French Bureau de Recherches Géologiques et Minières (BRGM) in cooperation with the DNGM, a department of the Ministry of Mines (BRGM, 1978 and 1982). These program targeted gold and base metal mineralization in the Paleoproterozoic and consisted of satellite image interpretation (Landsat) and regional geological field mapping and outcrop sampling, combined with regional soil geochemistry surveys. In the early to mid-2000’s detailed exploration work was focused on the Medinandi permit, 40 km southwest of Kéniéba.

From mid-1970 the Syndicat or (BRGM + Government of Mali) undertook a regional geochemical survey of western Mali. This geochemical survey was carried out at a 1600 x 500 m grid pattern, combined with geological mapping at a scale of 1: 50,000 over a large part of the Kéniéba region including the Maligonga-East permit. By the 1980s Klockner, with Funds from the European Union, undertook a large geochemical sampling which led to the discovery of the Sadiola and Yatéla gold deposits in western Mali. The same year, BRGM carried out a regional airborne geophysical survey combining magnetism and radiometry. BRGM's work led to the discovery of the Medinandi-Fekola deposit. In the early 1990s, several other junior companies explored in the province of Kéniéba, and near Maligonga-Est.

From 2001 to 2006 the SYSMIN program, with technical the assistance from Kevron / ECL, Fugro and BRGM / Map Geosystems, carried out airborne electromagnetic and radiometric surveys at a scale of 1/200,000 mapping the Malian Birimian. The Wili-Wili eluvial-alluvial place which extended for more than 1.5 km just south of the Maligonga-East permit has been described. The gold is localized in quartz veins, in meta-sediments containing sulphides (box works). Finally, several geological prospecting studies (trenches, regolith mapping, and RC drilling) had previously been carried out in this field by several companies. In 1987, BGRM completed the first regional termite mounds survey on the Maligonga-East permit. The sampling grid covered the southern and eastern portion of the permit. A total of 440 termite mounds samples were collected. Results of this sampling program outlined a pronounced gold anomaly in the Mamadouya zone extending up to 5 km long and trending NNE. In 1992, BRGM completed 6 trenches in the Mamoudouya zone totaling 1410 m. Best results included: 14m@1.07g/t Au, 8m@1.39g/t Au, 12m@2.13g/t Au, and 24m@2.35g/t Au.

The first exploration works including drilling and geophysical survey on the Maligonga-East permit were carried out by Ressources Robex Inc. in the Wili Wili gold concession that encompassed the south portion of the Maligonga-East permit. Exploration works carried out by Robex from 2006 to 2007 consisted of a ground Induced Polarization (IP) geophysical survey over the Mamoudouya anomaly zone followed by a program of reverse circulation drilling (RC). 17 RC holes totaling 1,614 m were drilled in the Mamoudouya target: Results of this first drilling program in the Mamoudouya anomaly zone were not encouraging

In 2012, Cluff Gold Plc completed a follow-up termite mounds geochemical survey focused on the Maligonga-East permit. The program covered most of the permit on a grid pattern of 200x50m. A total of 4858 termite mounds samples were collected. Results of this infill sampling survey delineated a strong gold anomaly centered on the Mamadouya target, extending up to 10 km and trending in the north-north-east direction. Many others clusters of gold anomalies were also outlined throughout the permit. Following positive results from the follow-up geochemical survey, Cluff contracted Terra Tec to complete a ground IP (Induced Polarization) geophysical survey on the Maligonga-East permit. The survey covered the Mamadouya anomaly zone. Cluff, completed a RC drilling program consisting of 99 RC holes totaling 12,276 m on a grid pattern of 100x60m centered on the Mamadouya gold target. The objectives were to test the large Mamadouya gold anomaly. Best results of the RC drilling program included: 3m@8,77g/t Au, 4m@5,37g/t Au, 4m@1,52g/t Au, 13m@2,66g/t Au, 7m@6,06g/t Au, 5m@3,11g/t Au, 7m@4,51g/t Au, and 6m@16,43g/t Au.

In 2016, Fokolore carried out a detailed compilation, analysis, and interpretation of previous exploration data. Fokolore completed a detailed field geological, structural and regolith mapping over the Mamadouya gold target and a litho-geochemistry sampling. 98 rock chip samples were collected and analyzed. The results of the grab sampling were encouraging. A black shale sample containing quartz stockwork veins returned results of 95 g/t Au (with visible gold grains). 10 others samples returned high gold grades with values > 0.5 g/t Au including 3,5g/t Au, 3,84g/t Au, 1,18g/t Au, 1,23g/t Au, 1,37g/t Au, and 1,19g/t Au. Fokolore completed an extensive Auger drilling program consisting of 586 holes totaling 4.748 m on a grid pattern of 200x50m. Best results from the Auger drilling included 1.5m@6.77g/t Au and 9.0m@2.39 g/t Au. Following positive results, Fokolore completed in 2018, 4.920 meters RC drilling program totaling 61 RC holes. The drilling results was encouraging and confirmed the depth and lateral extension of the mineralization previously intercepted by Cluff. The RC drill holes intercepted large zones of alteration that affect the sediments that generally contain abundant stockwerk of quartz veins. The best gold values intercepted in drill holes included: 15m@5.06 g/t Au (Incl. 4m@15.40g/t Au), 8.0m@8.99 g/t Au, 2m@5.04 g/t Au., 3.0m@20.97 g/t Au, 3.0m@4.51 g/t Au and suggested a possible northern extension of the Mamadouya mineralization over 800 meters.

The following table summarizes historical exploration works competed in the Maligonga-East permit.

| Program | | BRGM | | Robex | Cluff | Fokolore | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | | 1 987 | 1 992 | 2005 - 2006 | 2 012 | 2 016 | 2 017 | 2 018 | |
| Regional Soil Sampling Survey | | 440 | | 473 | | | | | **913** |
| Infill Termite Sampling Survey | | | | | 4 528 | | | | **4 528** |
| Rock chips Sampling | | | | | | 98 | | | **98** |
| Geophysical Survey | | | | Ground Induced Polarization (IP) | Ground Induced Polarization (IP) | | | | |
| Trench | Num | | 6 | 1 | | | | | **7** |
| | Meters | | 1 410 | 150 | | | | | **1 560** |
| Auger Drilling | Num | | | | | 586 | | | **586** |
| | Meters | | | | | 4 748 | | | **4 748** |
| RC Drilling | Num | | | 17 | 99 | | | 61 | **177** |
| | Meters | | | 1 614 | 12 276 | | | 4 920 | **18 810** |

**Table 6.1 Exploration works completed in the Maligonga-East permit from 1987 to 2018**

## 6.2 Exploration Programs Completed by BRGM (1987 - 1992)

### 6.2.1 Soil sampling geochemical survey in 1987

BGRM completed the first regional soil survey on the Maligonga-East permit, between January and July 1987, on an irregular grid pattern (Figure 6.1). The sampling grid covered the southern and eastern portion of the Maligonga-East permit. A total of 440 soil samples were collected on this grid (Figure 6.1). The samples were analyzed by SGS Laboratory in Bamako, Mali.

Samples collected from termite mounds returned assay values ranging between below detection limit of 0.001 ppb to 1600 ppb gold (Figure 6.2). Gold values > 0,045 ppm generally define continuous zones that trend NE to NNE and are co-linear with the main Mamadouya orpaillage zone (Figure 6.2). Higher soil values tend to be relatively spotty in distribution. The gold anomalies at Mamadouya suggests that the mineralized gold structure may extend up to 10 km long (Figure 6.2)

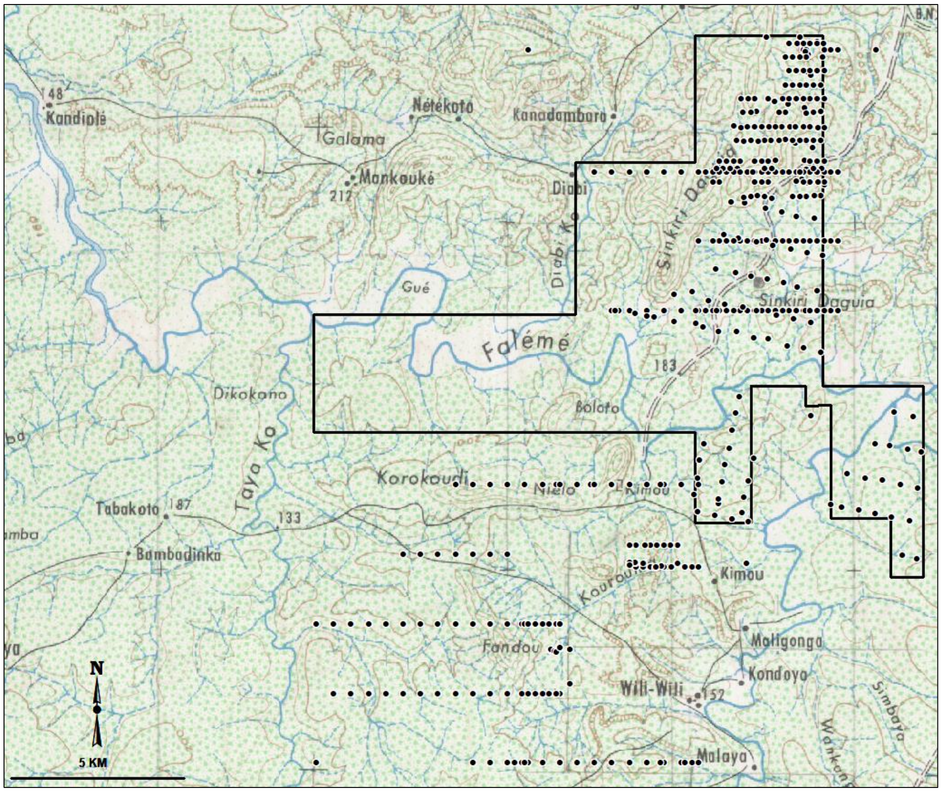



Figure 6.1.: Regional soil geochemical sampling within the Maligonga-East permit in 1987

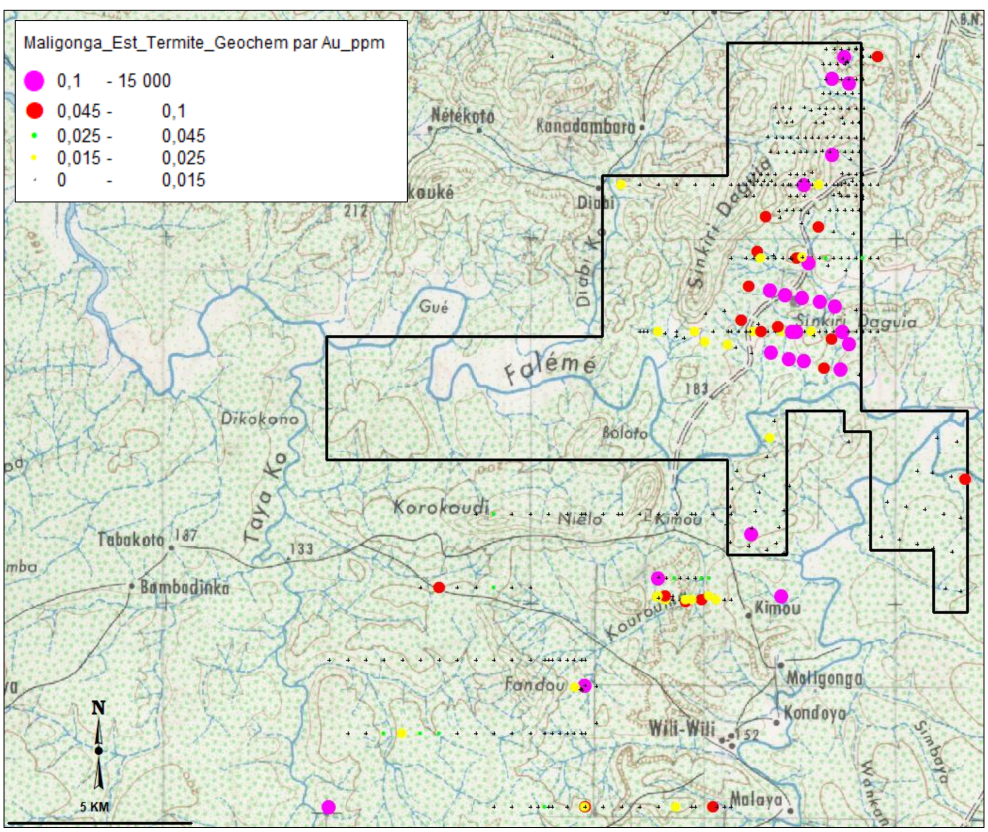



Figure 6.2: Regional soil geochemical sampling results within the Maligonga-East permit in 1987.

### 6.2.2. Trenches Completed by BRGM in 1992

BRGM completed 6 trenches in the Mamoudouya zone totaling 1410 meters (Table 6.2). The following table illustrate the location and technical parameters of the trenches

| Hole ID | X-UTM | Y-UTM | X-UTM2 | Y-UTM2 | Azimuth | Dip | Depth |
|---|---|---|---|---|---|---|---|
| Trench 12 | 277643 | 1378796 | 277979 | 1378723 | 110 | 0 | 240 |
| Trench 13 | 277597 | 1378596 | 277982 | 1378510 | 110 | 0 | 300 |
| Trench 14 | 277555 | 1378401 | 277801 | 1378345 | 110 | 0 | 180 |
| Trench 15 | 277558 | 1378209 | 277757 | 1378159 | 110 | 0 | 140 |
| Trench 16 | 277224 | 1377857 | 277712 | 1377745 | 110 | 0 | 388 |
| Trench 17 | 277430 | 1377613 | 277627 | 1377574 | 110 | 0 | 162 |

**Table 6.2: Location and technical parameters of the trenches completed by BRGM in 1992**

The location map of the trenches completed by BRGM in 1992 is shown in Figure 6.3.

Best results from the trenches included:

- Trench 12: 1.37 g/t Au over 8 meters,
- Trench 13: 1.07 g/t Au over 14 meters,
- Trench 14: 1.39 g/t Au over 8 meters,
- Trench 15: 2.13 g/t Au over 12 meters,
- Trench 16: 2.30 g/t Au over 6 meters,
- Trench 17: 2.35 g/t Au over 24 meters.

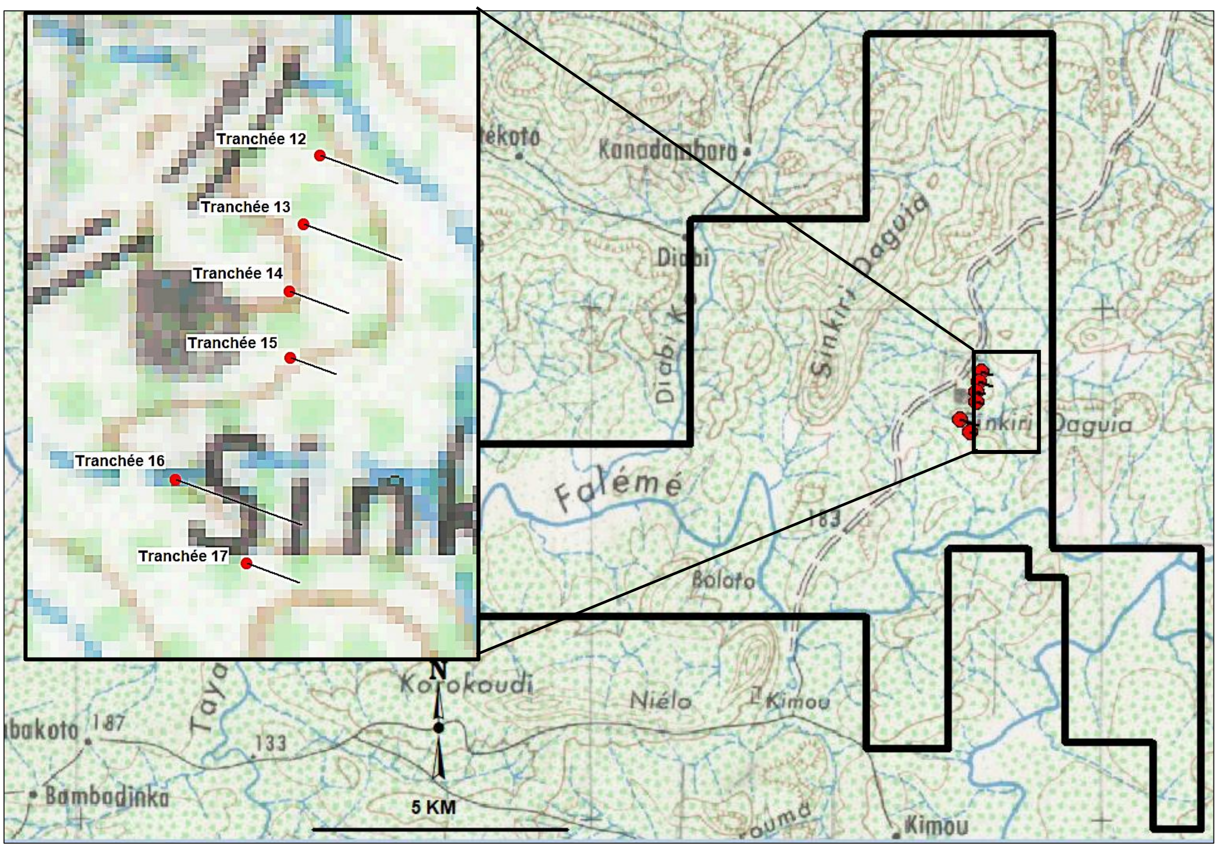



**Figure 6.3: Location of the trenches completed by BRGM in the Maligonga-East permit in 1992**

## 6.3 Exploration Programs Completed by Ressources Robex Inc. (between 2005 and 2006)

The first exploration works including drilling, trenching and geophysical survey on the Maligonga-East area were carried out by Ressources Robex Inc. and Malian Goldfield Ltd Sarl on the Wili Wili gold concession that encompassed the south portion of the Maligonga-East permit.

### 6.3.1. Exploration programs completed from September 2005 to September 2006

Exploration work on the Wili Wili permit in 2005 were focused on data compilation on existing termite mounds geochemistry surveys, processing and interpretation of regional magnetic and radiometric airborne geophysical data from the entire area in order to characterize the geology and outline important structures. Robex processed a Landsat-TM image for topographical, geomorphological and regolitic interpretation.

#### 6.3.1.1. Geomorphology / regolith

Geomorphological and regolith mapping by Robex covered the entire Wili Wili permit on a grid pattern of 40km x 35km using regional aerial ortho-photos and satellite images to assess the relevance of existing surface geochemistry surveys and to acquire a topographical background of the permit. This mapping covered the southern portion of the actual Maligonga-East permit. The geomorphology and regolith mapping in the Wili Wili permit identified by four main types of regolith (Figure 6.4).

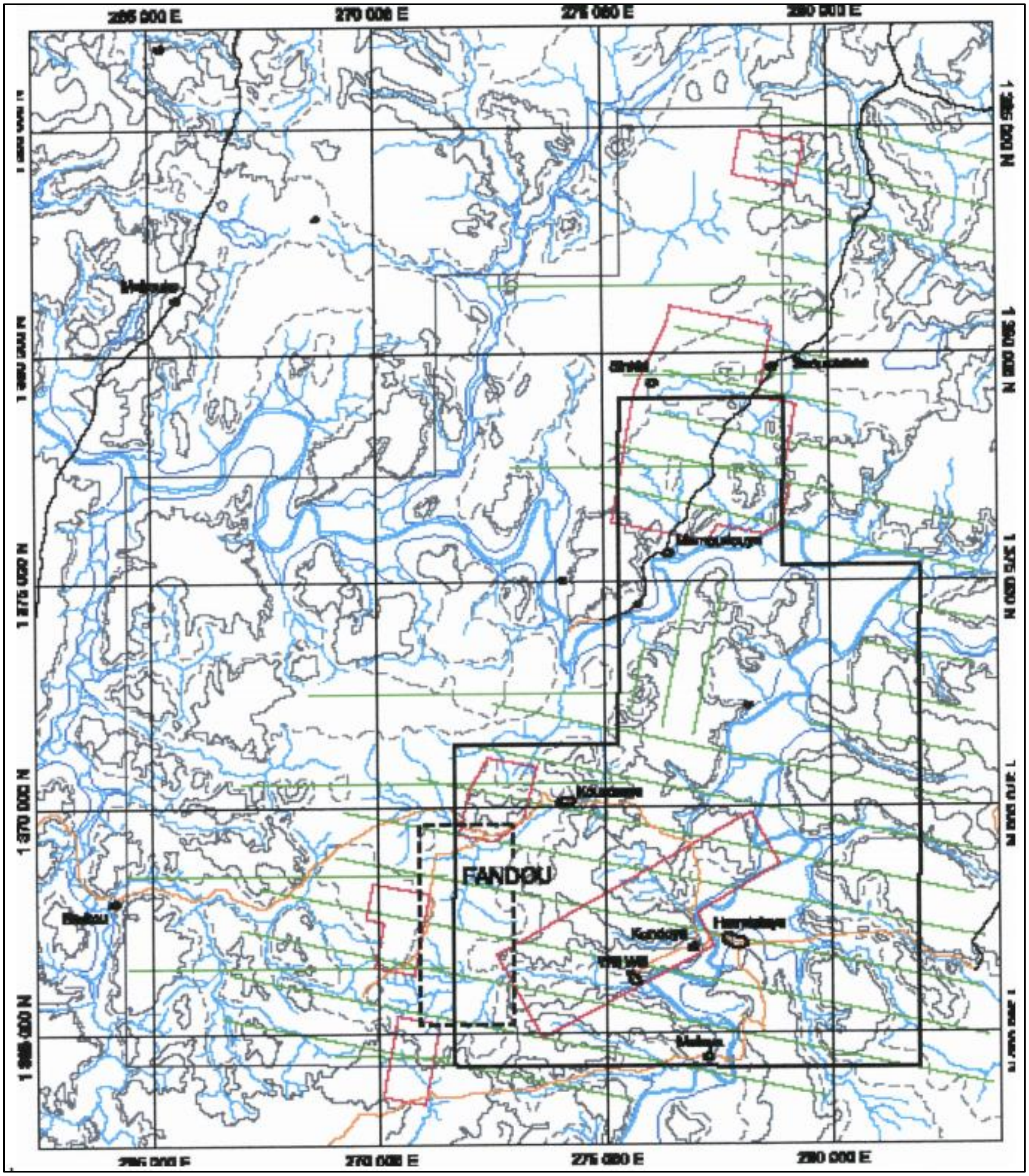



**Figure 6.4: Geomorphological and regolith mapping and soil sampling survey of the Wili Wili Permit**

- The lateritic plateaus (called TF) cover nearly 40% of the permit. The lateritic plateaus have a shallow dipping and are composed of consolidated, ferrugenized and homogeneous materials. They are generally thick and show evidence of transported materials that covers the underlying lithological units. The material shows evidence of proximal transportation over a short distance.
- The second type of regolith, (called “TA’) fairly widespread on the permit is composed of alluvial plain of the Falémé River. It is composed of very thick layers of fine distal sediments. The alluvial plain completely masks the geochemistry of the underlying rock. It represents about 20% of the permit area.

- The third major regolith are the plateau slope and low hill areas. These, called "E", constitute zones of active erosion and residual units in place (mottled-zone and possibly saprolite). These areas, which are very favorable for soil sampling, are however quite narrow and only cover 10% of the permit area.
- The last significant regolith type in the area, known as "CP", is made up of small and inhomogeneous plains between the high and low lateritic plateaus zones. The latter generally consist of an incomplete lateritic profile with layer of variable thickness of proximal origin. These facies are good sampling medium and represents approximately 25 to 30% of the permit area.

Robex reconsidered the relevance and significance of the pre-existing soil surveys completed in this area and interpreted the BRGM strategic soil survey of 1987 (1000m x 500m) as unreliable. Robex suggested that many anomalies outlined by BRGM strategic soil survey and subsequently re-sampled in detail, are clearly associated with placers located in low alluvial zones.

Robex explained that most of the exploration works carried out by BRGM subsequent to the soil sampling results, namely pits, trenches and boreholes returned negative results and proposed a new, more selective and targeted regional soil geochemistry program.

#### 6.3.1.2. Pits sampling

Following these positive results from the soil sampling, a dozen exploration pits was completed in order to verify the gold geochemistry of the underlying rocks. Pit samples were collected at one-meter intervals from the side of the wells between depths of 2 to 7 meters. Pit sampling returned positive results. Almost all of the samples returned gold values close to or greater than 1g/t Au. Gold values derived from silicified and sericitized metasediments and locally associated with important networks of quartz veins.

### 6.3.2. Exploration programs completed from September 2006 to September 2007

Exploration works carried out by Robex from September 2006 to September 2007 consisted of:

- An Induced Polarization (IP) ground geophysical survey over the Mamoudouya zones,
- A program of reverse circulation drilling (RC) in the Mamoudouya areas.

#### 6.3.2.1. Geophysical surveys

Two Gradient IP geophysical surveys were completed on March 6, 2007 on the Mamoudouya areas of the Wili Wili property. These ground geophysical surveys of IP/resistivity gradient were carried out with lines spacing of 100 meters and covered an area of 1.5 km by 3.0 km (linear distance of 48 km) in the Mamoudouya area (Figure 6.5).

The IP Resistivity gradient survey on the Mamoudouya Zone (Figure 6.5) shows a very structured set of resistive axes-oriented N15° with sub-axes oriented from NS to N45°, probably linked to secondary faults oriented N45°. This set of resistive axes is framed on each side by two very clear conductive zones, oriented N15°, the direction of which coincides with those of the major regional structures.

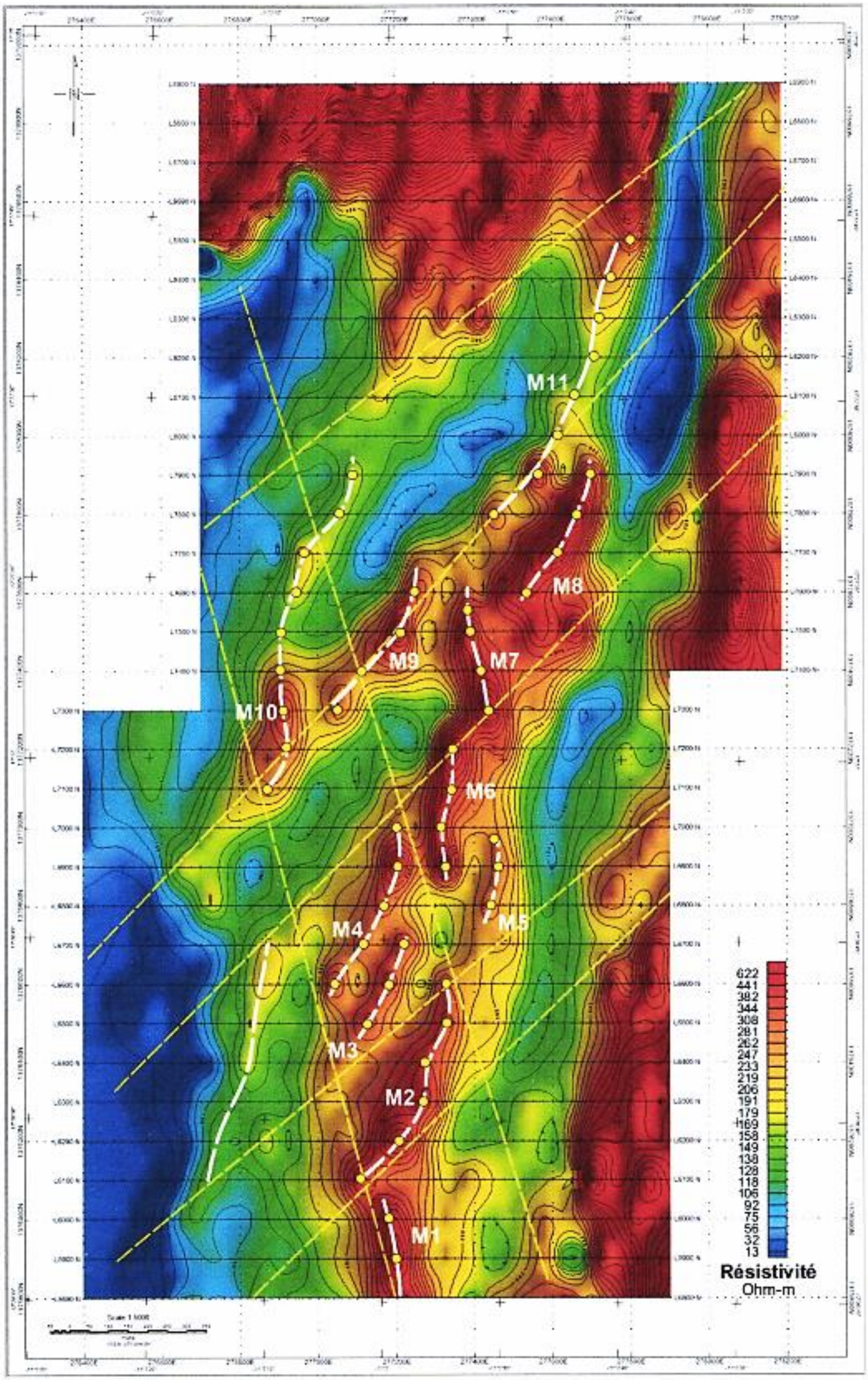



**Figure 6.5.: Geophysical IP resistivity survey on the Mamoudouya zone by Robex from 2006 to 2007**

#### 6.3.2.2. Drilling

4,245 meters RC drilling program was carried out at Wili-Wili from April 20 to May 25, 2007. The drilling was completed over the Mamoudouya gold zones (Figures 6.6): 17 holes totaling 1,614 meters were drilled at Mamoudouya (Tables 6.3 and 6.4, Figures 6.6 to 6.9).

The objective was to test gold anomalies in soil geochemistry. The RC holes were inclined at -50°. Deviation tests were performed at the end of the holes. The RC drill samples, collected by metric interval, were analyzed in three-meter composites and representative samples of 1.5 to 3 kg were sent to Analab Laboratory in Kayes, Mali, where they were analyzed by Fire Assay. The detection threshold was 0.005 g/t Au. The Table 6.3 shows the location and technical parameters of the RC Drill holes.

| Hole ID | X-UTM | Y-UTM | Z-UTM | Azimuth | Dip | Depth | Source | Type | Year |
|---|---|---|---|---|---|---|---|---|---|
| WR122 | 277278 | 1377685 | 400 | 110 | -50 | 102 | Robex | RC | 2007 |
| WR123 | 277344 | 1377661 | 400 | 110 | -50 | 102 | Robex | RC | 2007 |
| WR124 | 277410 | 1377637 | 400 | 110 | -50 | 96 | Robex | RC | 2007 |
| WR125 | 277476 | 1377613 | 400 | 110 | -50 | 102 | Robex | RC | 2007 |
| WR126 | 277541 | 1377589 | 400 | 110 | -50 | 96 | Robex | RC | 2007 |
| WR127 | 277607 | 1377565 | 400 | 110 | -50 | 96 | Robex | RC | 2007 |
| WR128 | 277673 | 1377541 | 400 | 110 | -50 | 96 | Robex | RC | 2007 |
| WR129 | 276886 | 1377402 | 400 | 110 | -50 | 90 | Robex | RC | 2007 |
| WR130 | 276952 | 1377378 | 400 | 110 | -50 | 96 | Robex | RC | 2007 |
| WR131 | 277018 | 1377354 | 400 | 110 | -50 | 84 | Robex | RC | 2007 |
| WR132 | 277084 | 1377330 | 400 | 110 | -50 | 90 | Robex | RC | 2007 |
| WR133 | 277150 | 1377306 | 400 | 110 | -50 | 90 | Robex | RC | 2007 |
| WR134 | 277215 | 1377282 | 400 | 110 | -50 | 102 | Robex | RC | 2007 |
| WR135 | 277281 | 1377258 | 400 | 110 | -50 | 102 | Robex | RC | 2007 |
| WR136 | 277347 | 1377234 | 400 | 110 | -50 | 90 | Robex | RC | 2007 |
| WR137 | 277413 | 1377210 | 400 | 110 | -50 | 90 | Robex | RC | 2007 |
| WR138 | 277478 | 1377187 | 400 | 110 | -50 | 90 | Robex | RC | 2007 |

**Table 6.3: Location and technical parameters of the RC Drill Holes completed by Robex in 2007**

The main lithology encountered in the drill holes is a medium to coarse-grained granite. It is generally grayish to pinkish locally epidotized and greenish. A few passes of chloritized aplite, less than 10 m, were intercepted. Sediments were intersected east of the north profile and west of the south profile. They are greywackes, graphitic shale, silts and shales. Gold is associated with quartz veins. A large N010° striking shear zone located immediately east of the drill hole appears to control the gold mineralization. Results of the first drilling campaign at Mamoudouya were not encouraging. The best gold intersects from the RC drilling program in the Mamoudouya Zone are presented in the following Table.

| Hole ID | From | To | Interval | Au ppb |
|---|---|---|---|---|
| WR125 | 24 | 33 | 9 | 401 |
| WR130 | 0 | 39 | 39 | 413,7 |
| WR130 | 63 | 81 | 18 | 555,7 |
| WR131 | 6 | 21 | 15 | 555,3 |
| WR132 | 39 | 75 | 36 | 261,5 |
| WR135 | 12 | 24 | 12 | 554,7 |
| WR136 | 0 | 18 | 18 | 489,6 |

**Table 6.4: Best gold intersects from the RC drilling program in the Mamoudouya Zone by Robex in 2007**

The location of the RC Drill holes is shown in Figure 6.6.

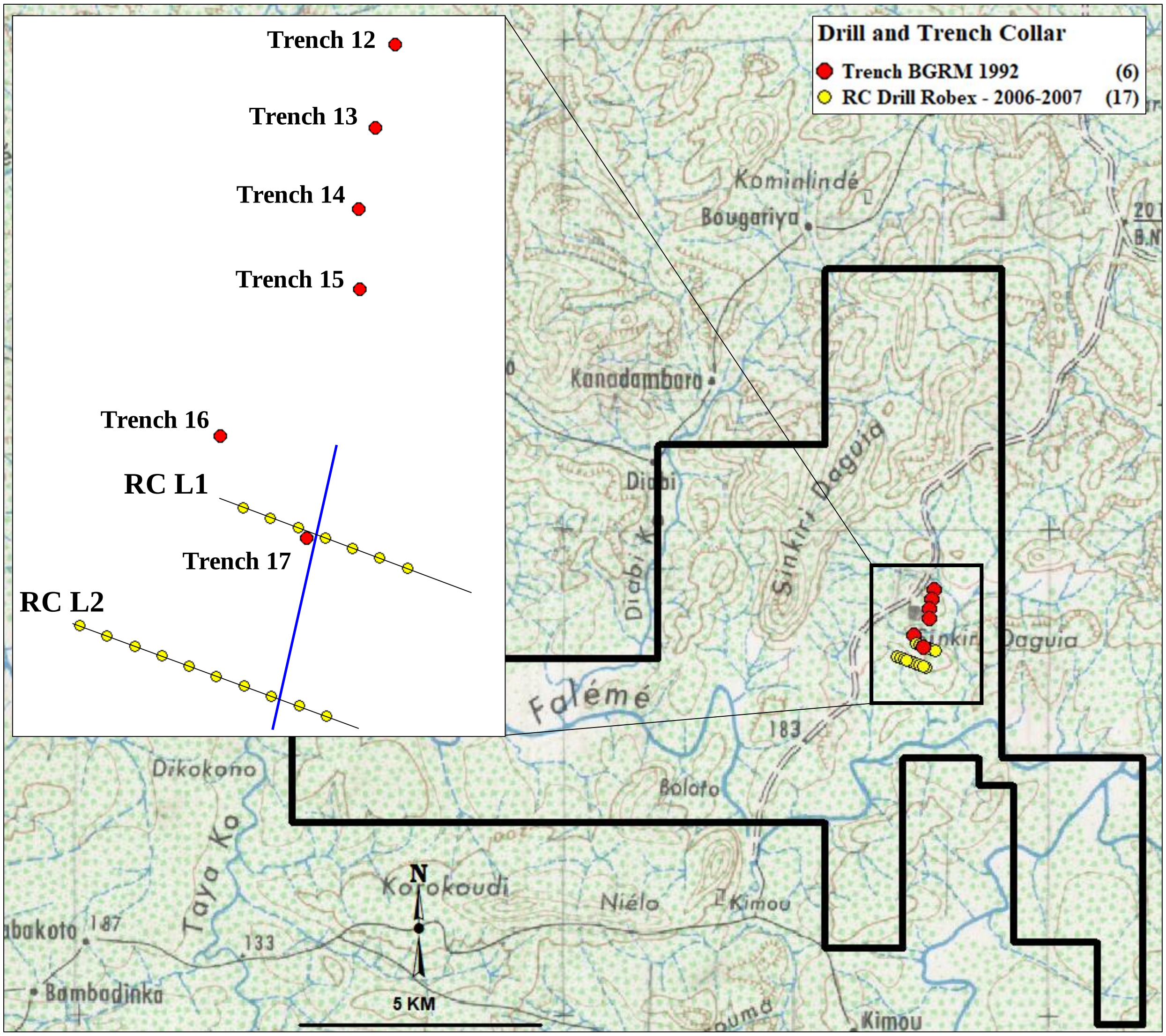



**Figure 6.6: Location map of the RC Drill holes completed by Robex in the Mamadouya zone in 2007**

The RC drill geological cross-sections are presented in Figures 6.7 and 6.8.

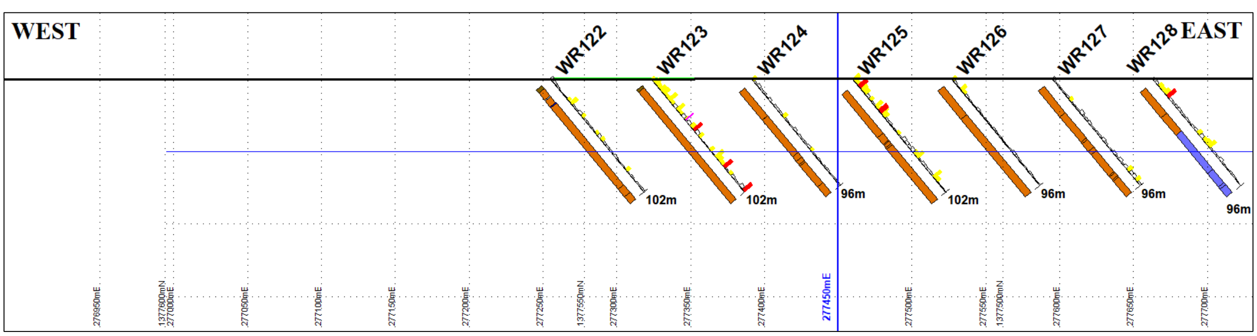



**Figure 6.7: Cross-section L1 of the RC Drill holes completed by Robex in the Mamadouya zone in 2007**

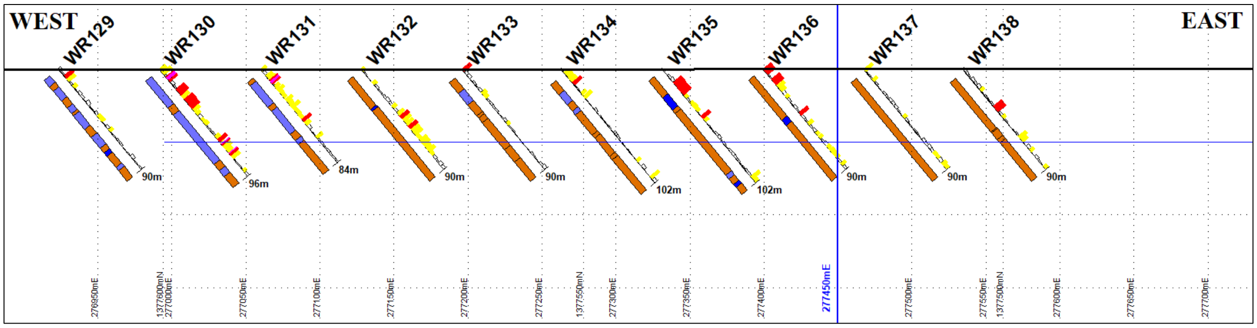



**Figure 6.8: Cross-section L2 of the RC Drill holes completed by Robex in the Mamadouya zone in 2007**

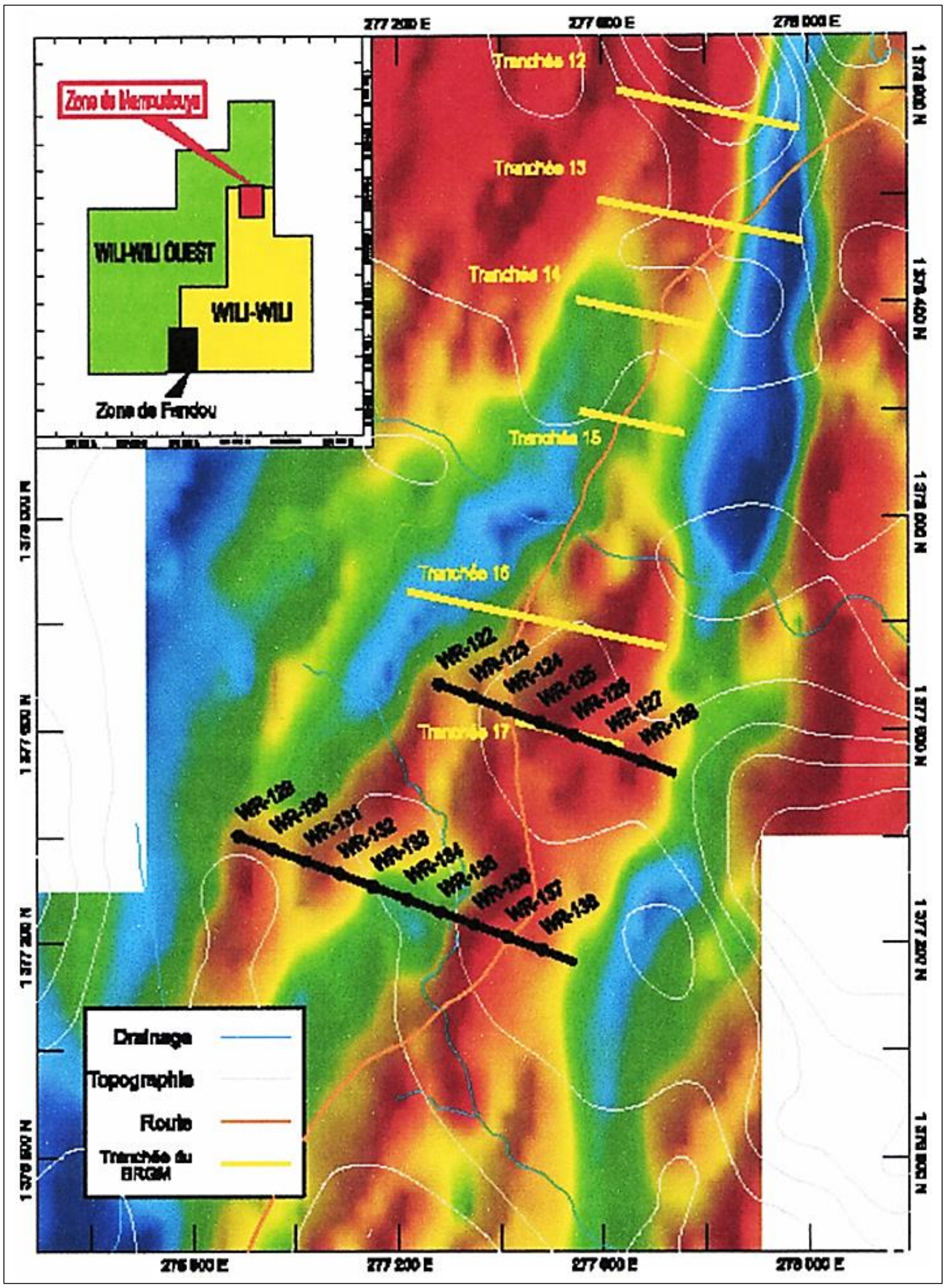



**Figure 6.9: Geophysical IP resistivity survey on the Mamadouya zone showing trenches and drilling location.**

#### 6.3.2.2.1. Conclusion

The exploration work carried out at Wili Wili from September 2006 to September 2007, consisting of geophysical surveys, trenching and drilling, convinced Robex of the significant gold potential of this permit. The drilling intersected many mineralized zones and allowed Robex to better understand the geological, structural and metallogeny context of this property.

## 6.4 Exploration Programs Completed by Cluff Gold Plc in 2012

### 6.4.1. Follow-up termite mounds geochemical survey

Cluff Gold Plc completed a follow-up termite mounds geochemical survey focused on the Maligonga-East permit (Figure 6.10). The program covered most of the permit on a grid pattern of 200x50m. A total of 4858 samples of termite mounds were collected (Figure 6.10).

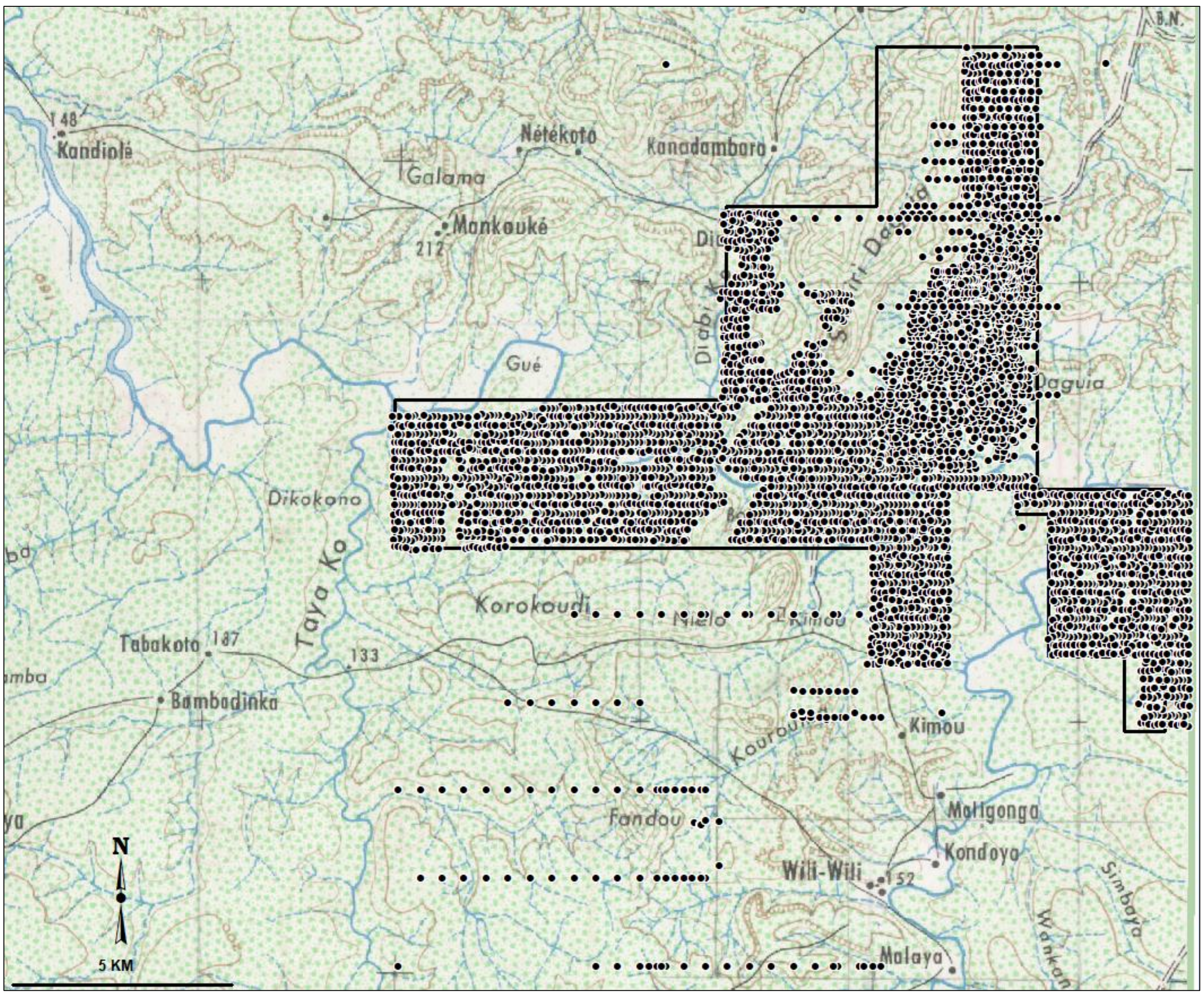



**Figure 6.10: Follow-up termite mounds geochemical survey within the Maligonga-East permit in 2012**

### 6.4.2. Results of the Follow-up geochemical survey

Termite mound samples ranged in grade from below detection limit to 7.5 parts per million (ppm) gold. Gold values > 0,045 ppm generally define continuous zones that trend NE to NNE and are co-linear with the main Mamadouya orpaillage zone. Higher soil values tend to be relatively spotty in distribution. The gold anomalies at Mamadouya suggests that the mineralized gold structure may extend up to 10 km long (Figure 6.11). The survey program revealed many other clusters of gold anomalies throughout the permit.

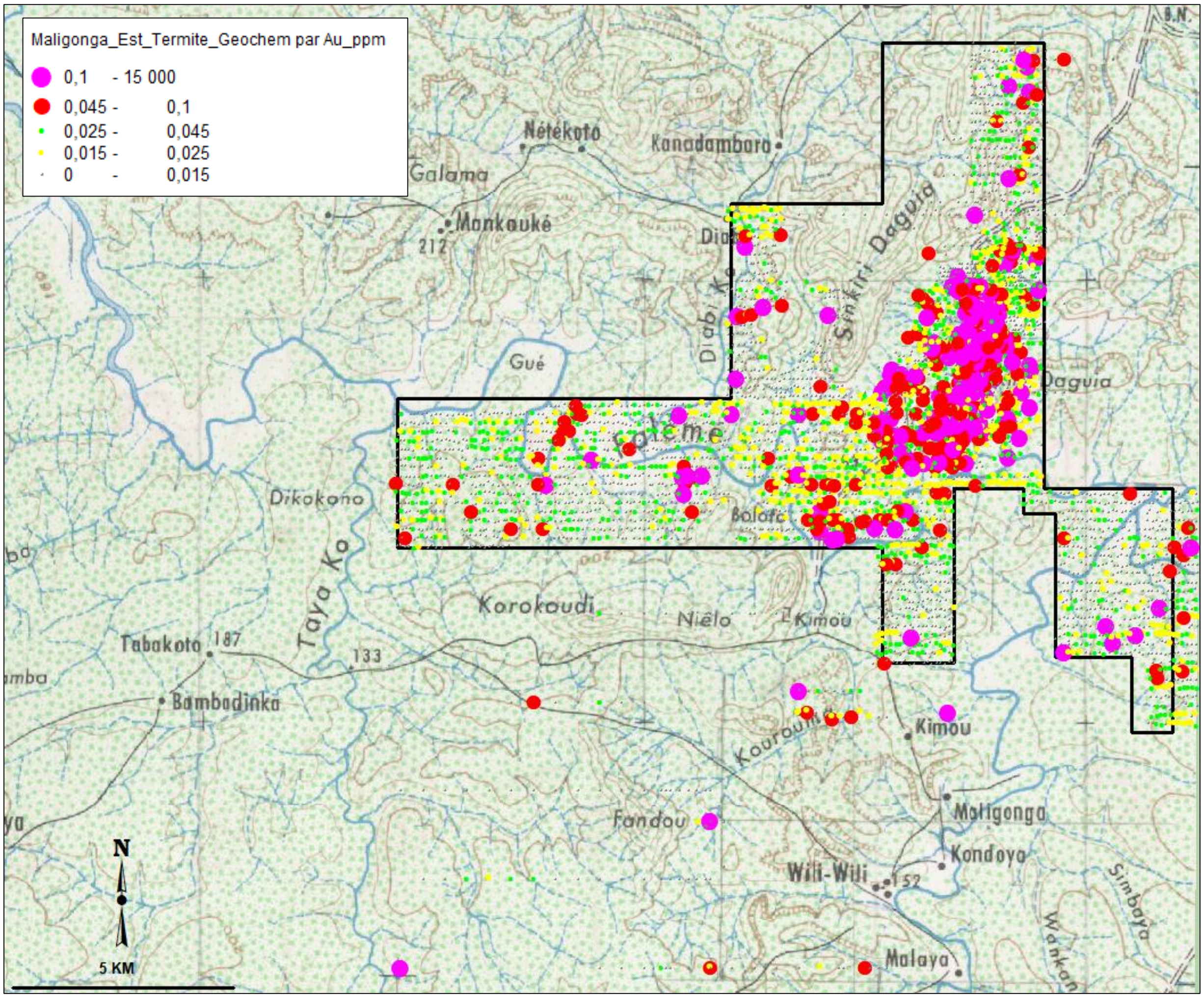



**Figure 6.11: Follow-up termite mounds geochemical results within the Maligonga-East permit in 2012**

### 6.4.3. Geophysical Survey

Cluff contracted Terra Tec to complete an IP (Induced Polarization) and Resistivity geophysical survey on the Maligonga-East permit. The survey covered the Mamadouya anomaly zone (Figure 6.12) revealed from the previous geochemical sampling. The objective of the ground Induced Polarization and Resistivity survey was to investigate the geological structures in the Mamoudouya zone that control the gold mineralization. The field work was performed in two campaigns, the first started on the 16/07/11 with the arrival of the terra tec team in the field and ended on the 04/08/201. The second campaign started on the 16/11/2011 and ended on the 09/12/11.

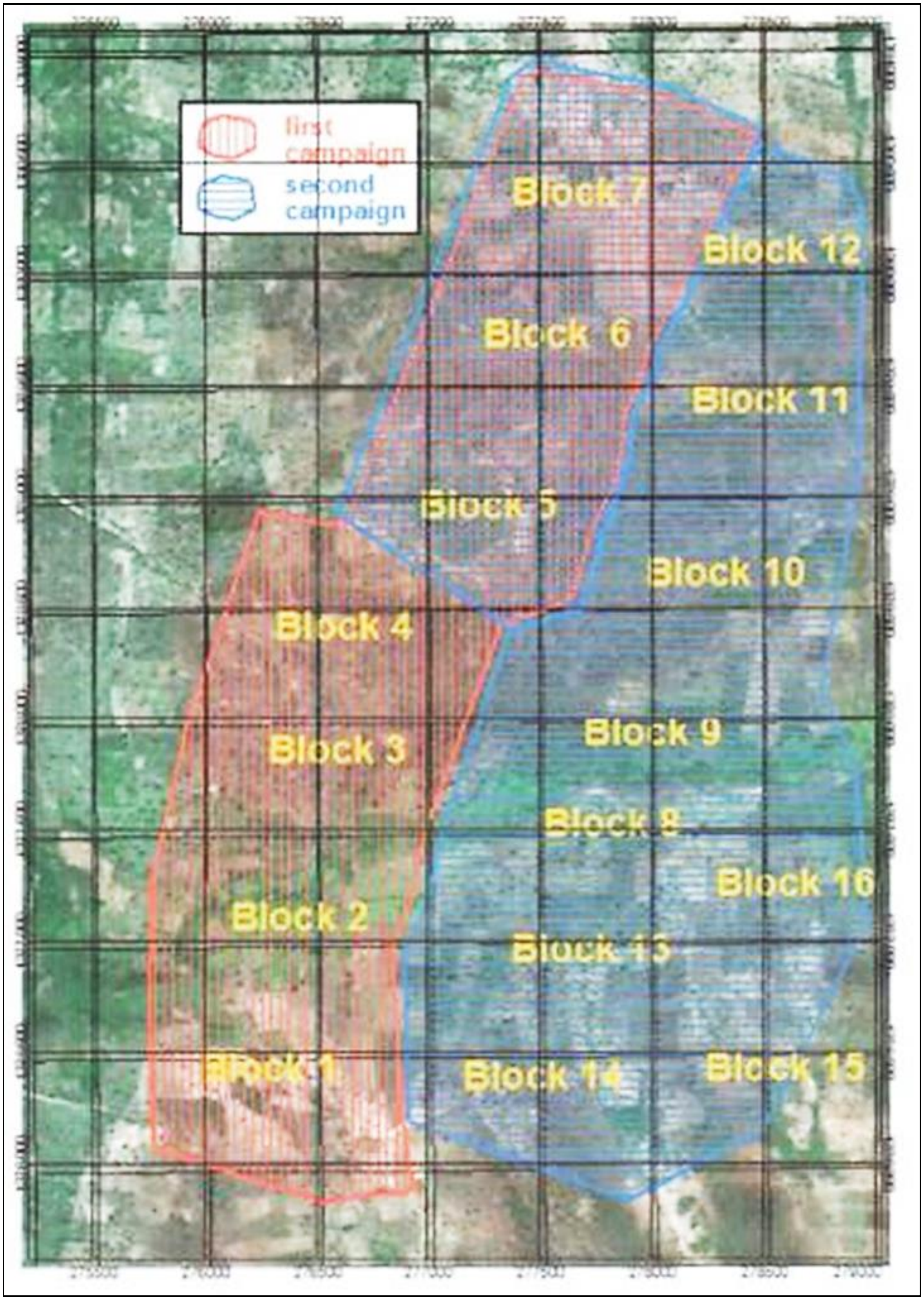



**Figure 6.12: Sitemap - Aera of investigation. The red outlined area was measured in the first campaign and the data recorded in the second campaign are outlined blue.**

#### 6.4.3.1. Gradient Array

For the Gradient survey a line distance between 100 m line lengths between 450 m and 1275 m AB spacing between 2600 -3300 m and a RX dipole spacing of 50 m (point-to- point distance 25m) were fixed. The gradient measurements were performed on ENE-WSW orientated lines. Two-time domain induced polarization receiver (Elreo 6 and GDD Grx8-3I) were used parallel to acquire the data.

#### 6.4.3.2. Gradient Resistivity

Low to intermediate resistive areas with a larger areal extent occur in the south-west, the south-east and in the north-eastern part of the surveyed grid. A broad high resistive zone can be seen in the middle of the grid (Figure 6.13). This zone strikes with approx. 17 degrees in the south and turns to approx. south-north-direction with a strike of about 5 degrees. That Resistivity zone visible in the east of Block 1, Block 2, Block 3 and partly in Block 4 shows a good correlate to the bordering Blocks 14, 13, 8 and Block 9.

Further to the north the highest resistivity values can be found, in the west of Block 10 and Block 11 (Figure 6.13) between a northing of 1378435 and 1379731 but cannot be confirmed in the east of Block 4.5 and 6 (Figure 6.13). The very hilly area, especially the positioning of the injection point in relation to the surveyed lines, embedded in a very complex geological environment could be one possible explanation. A sharp increase from very low resistivity values in the east of Block 9. 10 and 11 (Figure 6.13) to extreme high values in the west of Block 9, 10 and 11 are observable. Due to the sudden increase these very high resistivity anomaly could be possibly interpreted as a surface near laterite /lateritic unit plateau.

#### 6.4.3.3. Gradient Chargeability

Contours of the chargeability anomalies are also plotted on the interpretation map (Figure 6.13). The limits of the different chargeability anomaly levels were fixed using the statistics of the measured chargeability.

IP data situation is very poor, which makes interpretation very difficult. It is remarkable that in low resistivity dominated areas mostly negative IP value were observed. Negative Chargeability anomalies have not been considered in the Chargeability Map (Figure 6.13). The intermediate between the northern of 1378140 and 1378800 corresponding to the high resistivity axis could be interpreted as a laterite effect.

#### 6.4.3.4. Gradient Interpretation maps

On the interpreted map, the gradient resistivity is shown in color zones (Figures 6.14 to 6.16) with the following limits

- conductive < 750 Ohm *m
- intermediate 750 -1750 Ohm*m
- resistive 1750 3500 Ohm*m
- high resistivity >3500 Ohm*m

The anomalous areas and axes of the gradient chargeability are plotted on the simplified resistivity Map (Figures 6.14 to 6.16)

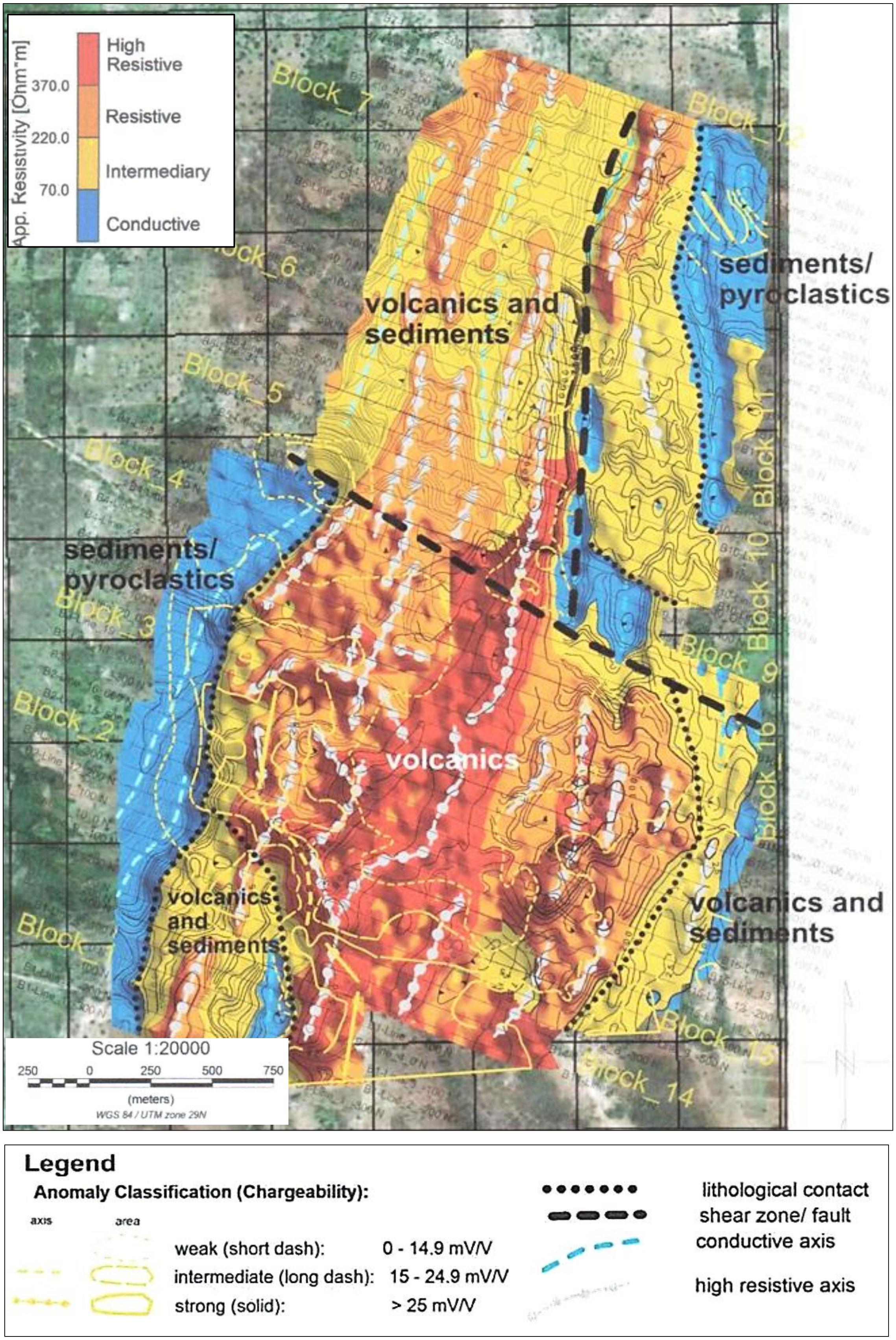



**Figure 6.13: Gradient Chargeability Interpretation Map showing geological and structural elements**

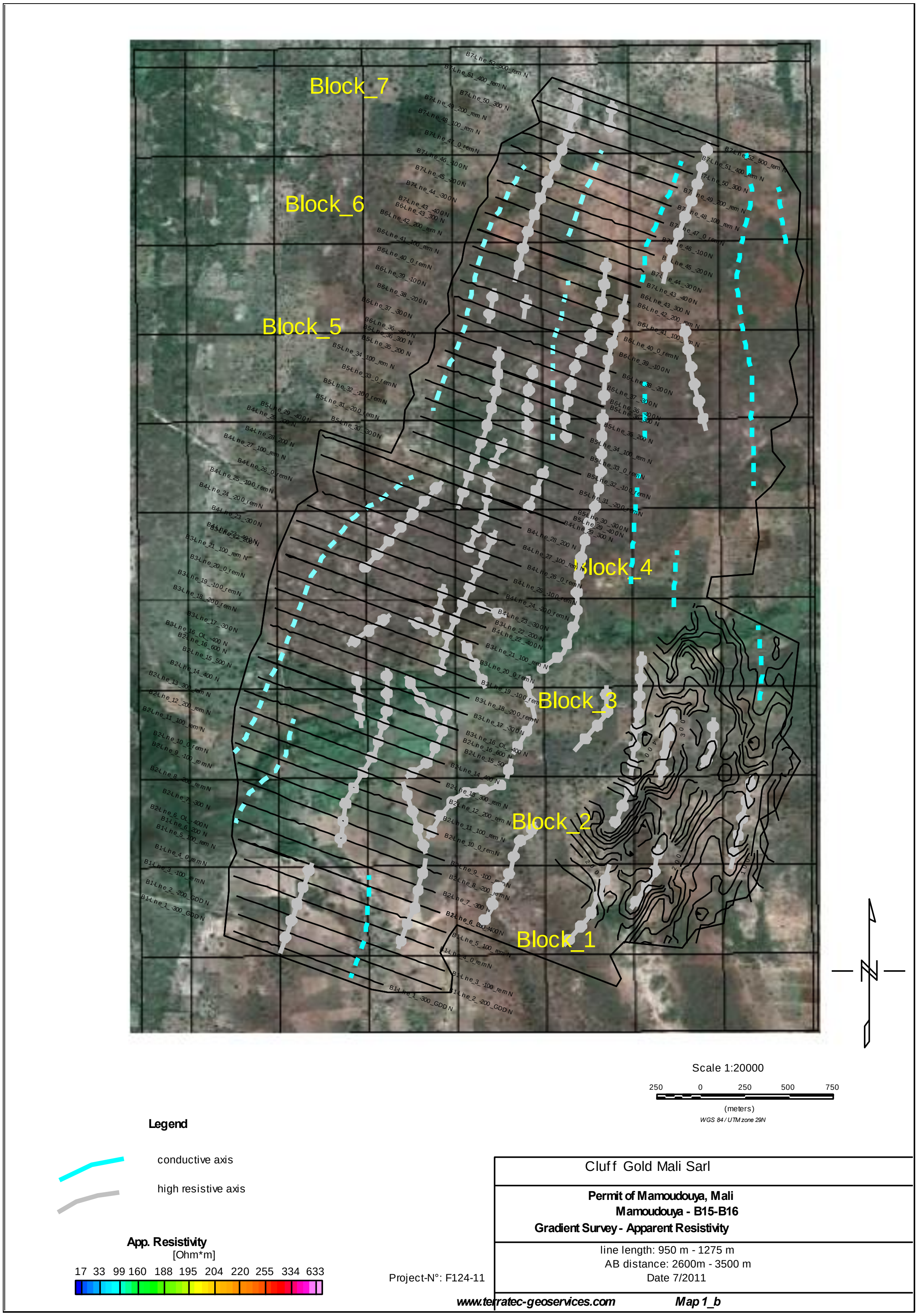



**Figure 6.14: Interpreted structures from the Gradient Survey-Apparent resistivity**

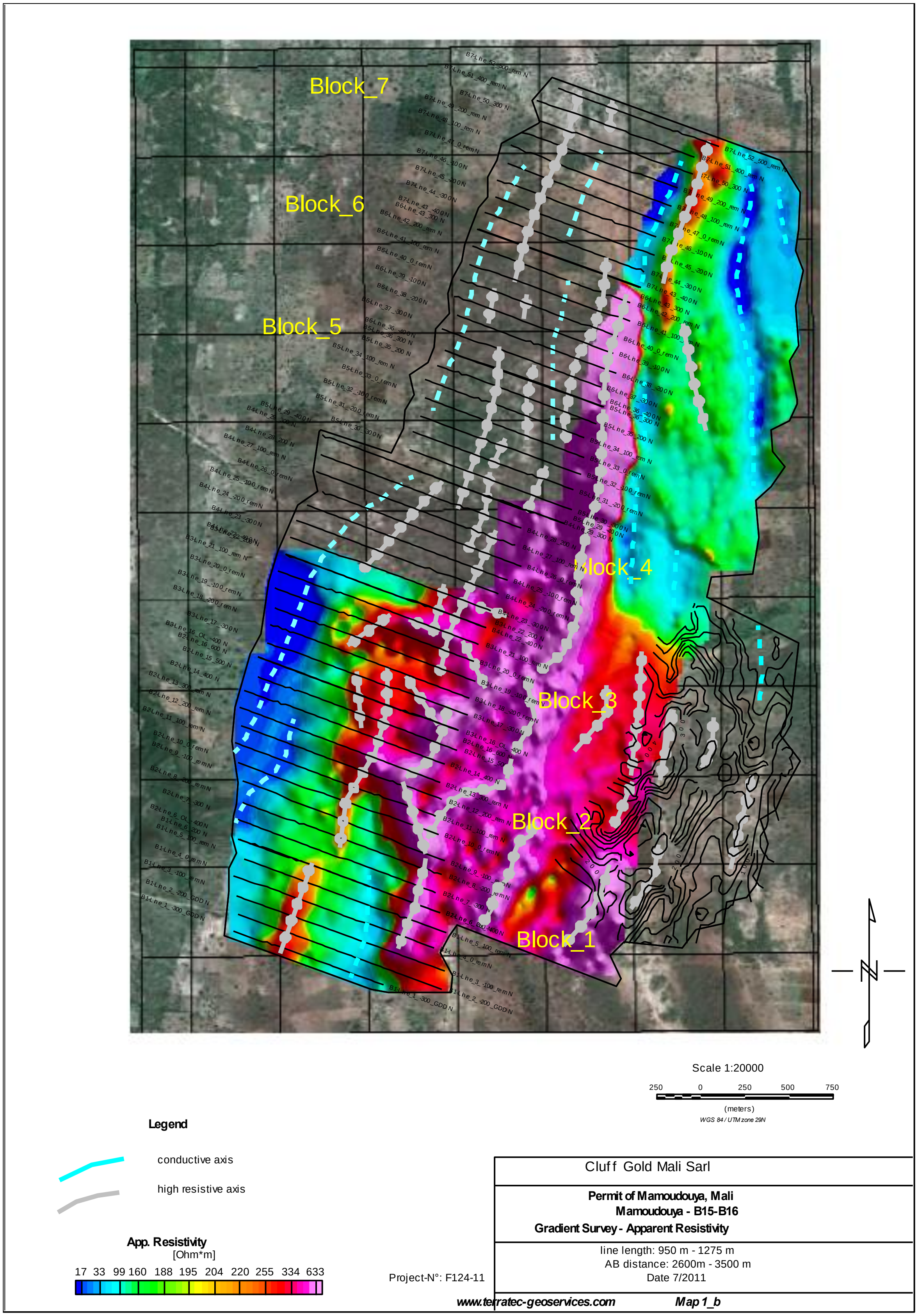



**Figure 6.15: Gradient Survey-Apparent resistivity Map showing structural elements**

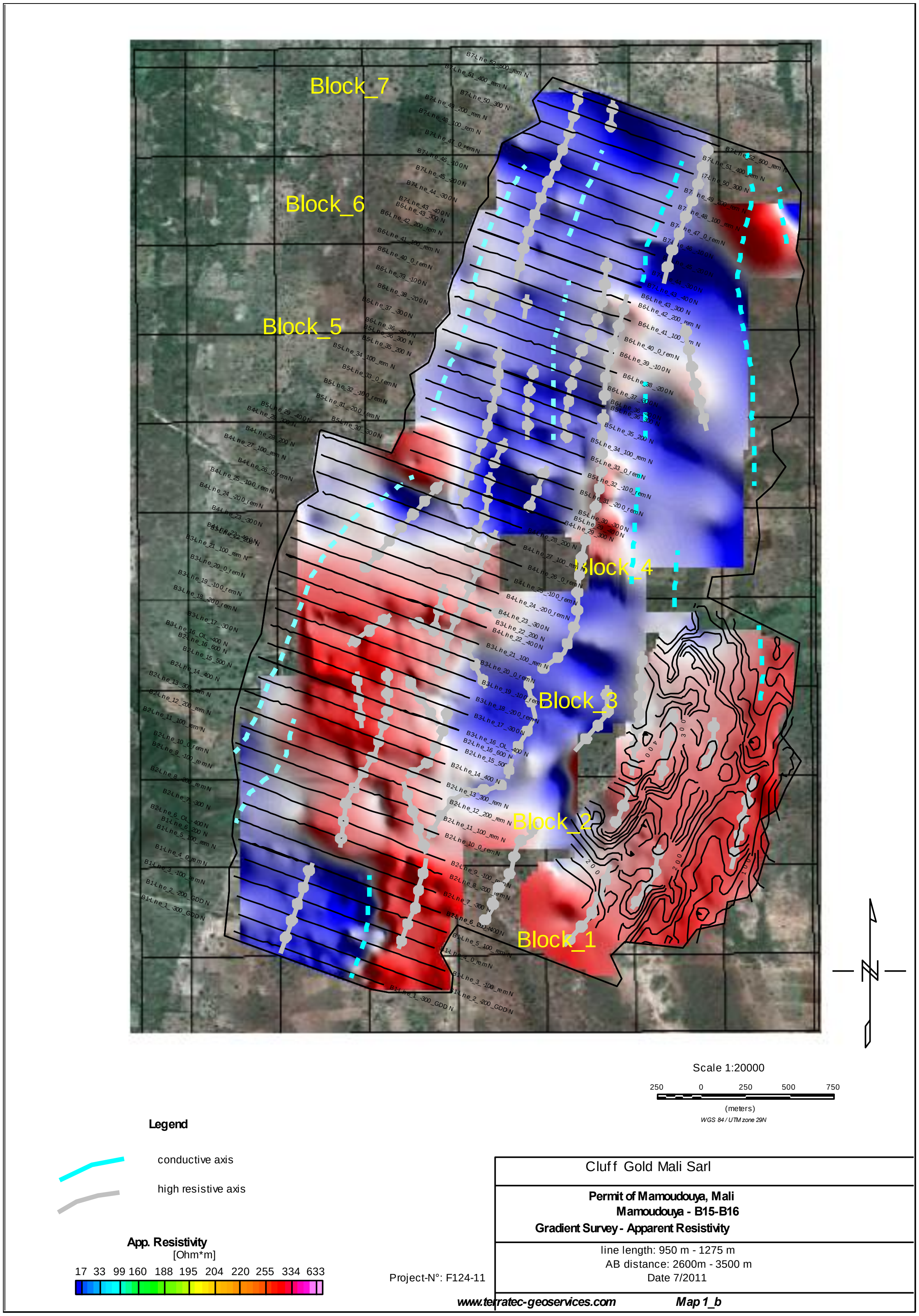



**Figure 6.16: IP Map showing structural elements**

### 6.4.4. RC Drilling Program

In 2012, Cluff, completed 99 RC holes totaling 12,276 meters on a grid pattern of 100x60m in the Mamadouya zone (Figure 6.17). The objectives were to test the large Mamadouya gold anomaly.

Holes were inclined -55° with an azimuth of 280° (Figure 6.17). RC holes were 125 to 60 meters deep. Samples were sent to SGS Laboratory in Kayes for gold geochemical analysis by Fire Assays (FAA505) over 50 g pulp with a detection limit of 0,01 ppb

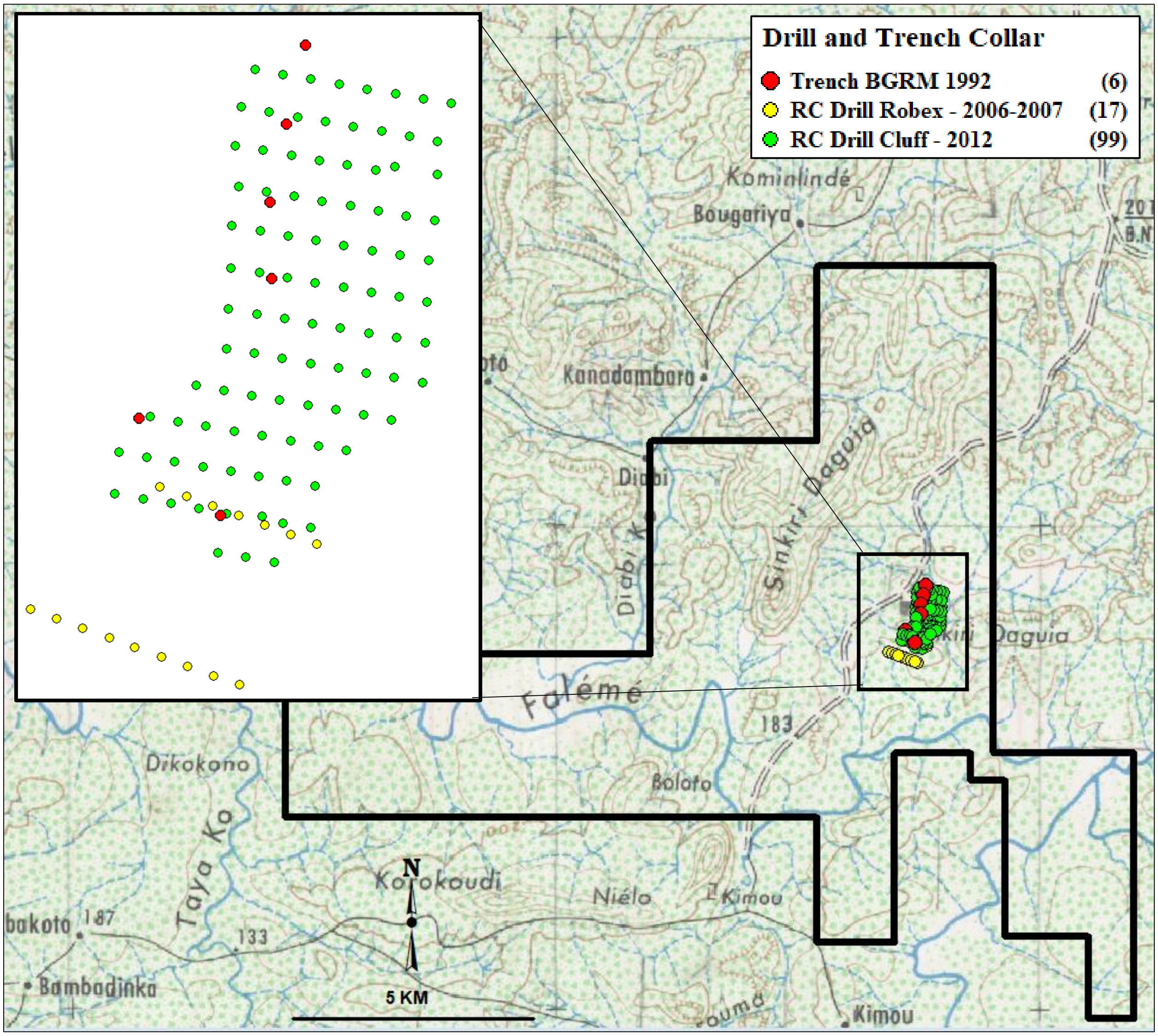



**Figure 6.17: Location of the RC drill holes completed by Cluff in the Mamoudouya zone in 2012**

The location and technical parameters of the RC drilling program are shown in the following Table

| Hole ID | X-UTM | Y-UTM | Z-UTM | Azimuth | Dip | Depth | Source | Type | Year |
|---|---|---|---|---|---|---|---|---|---|
| MRC0001 | 277445 | 1378032 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0002 | 277515 | 1378020 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0003 | 277586 | 1378007 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0004 | 277656 | 1377995 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0005 | 277727 | 1377983 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |

| Hole ID | X-UTM | Y-UTM | Z-UTM | Azimuth | Dip | Depth | Source | Type | Year |
|---|---|---|---|---|---|---|---|---|---|
| MRC0006 | 277797 | 1377971 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0007 | 277867 | 1377959 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0008 | 277938 | 1377946 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0009 | 277944 | 1378047 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0010 | 277873 | 1378059 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0011 | 277803 | 1378071 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0012 | 277732 | 1378084 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0013 | 277662 | 1378096 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0014 | 277591 | 1378108 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0015 | 277521 | 1378120 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0016 | 277450 | 1378133 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0017 | 277457 | 1378235 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0018 | 277528 | 1378223 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0019 | 277598 | 1378210 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0020 | 277669 | 1378198 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0021 | 277739 | 1378186 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0022 | 277809 | 1378174 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0023 | 277880 | 1378162 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0024 | 277950 | 1378149 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0025 | 277953 | 1378255 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0026 | 277882 | 1378267 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0027 | 277812 | 1378279 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0028 | 277741 | 1378292 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0029 | 277671 | 1378304 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0030 | 277600 | 1378316 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0031 | 277530 | 1378328 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0032 | 277459 | 1378341 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0033 | 277475 | 1378440 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0034 | 277545 | 1378427 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0035 | 277616 | 1378415 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0036 | 277686 | 1378403 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0037 | 277757 | 1378391 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0038 | 277827 | 1378378 | 150 | 280 | -55 | 123 | Cluff | RC | 2012 |
| MRC0039 | 277898 | 1378366 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0040 | 277968 | 1378354 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0041 | 277820 | 1378482 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0042 | 277749 | 1378494 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0043 | 277679 | 1378506 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0044 | 277608 | 1378519 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0045 | 277538 | 1378531 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0046 | 277467 | 1378543 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0047 | 277483 | 1378640 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0048 | 277553 | 1378627 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0049 | 277624 | 1378615 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0050 | 277694 | 1378603 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0051 | 277765 | 1378591 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0052 | 277835 | 1378579 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0053 | 277906 | 1378566 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0054 | 277976 | 1378554 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0055 | 278011 | 1378649 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0056 | 277940 | 1378661 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0057 | 277870 | 1378673 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0058 | 277799 | 1378685 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0059 | 277729 | 1378697 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0060 | 277658 | 1378710 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0061 | 277588 | 1378722 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0062 | 277517 | 1378734 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0063 | 277975 | 1378470 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0064 | 277869 | 1378489 | 150 | 280 | -55 | 93 | Cluff | RC | 2012 |
| MRC0065 | 277579 | 1377902 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0066 | 277650 | 1377890 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0067 | 277720 | 1377878 | 150 | 280 | -55 | 60 | Cluff | RC | 2012 |
| MRC0068 | 277676 | 1377788 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0069 | 277606 | 1377800 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0070 | 277535 | 1377813 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0071 | 277465 | 1377825 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0072 | 277456 | 1377723 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0073 | 277527 | 1377711 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0074 | 277424 | 1377519 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0075 | 277494 | 1377507 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0076 | 277565 | 1377495 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0077 | 277658 | 1377582 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0078 | 277587 | 1377594 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0079 | 277535 | 1377611 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0080 | 277597 | 1377699 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0081 | 277668 | 1377687 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0082 | 277747 | 1377776 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0083 | 277791 | 1377865 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0084 | 277861 | 1377853 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |

| Hole ID | X-UTM | Y-UTM | Z-UTM | Azimuth | Dip | Depth | Source | Type | Year |
|---|---|---|---|---|---|---|---|---|---|
| MRC0085 | 277446 | 1377618 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0086 | 277376 | 1377630 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0087 | 277305 | 1377643 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0088 | 277235 | 1377655 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0089 | 277164 | 1377667 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0090 | 277174 | 1377772 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0091 | 277245 | 1377760 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0092 | 277315 | 1377748 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0093 | 277386 | 1377735 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0094 | 277394 | 1377837 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0095 | 277324 | 1377849 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0096 | 277253 | 1377861 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0097 | 277368 | 1377939 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0098 | 277439 | 1377927 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |
| MRC0099 | 277509 | 1377914 | 150 | 280 | -55 | 125 | Cluff | RC | 2012 |

**Table 6.5: Technical parameters of the RC Drill Holes completed by Cluff in the Mamoudouya zone in 2012**

The drill holes cross-sections showing the mineralized zones are shown in the following figures.

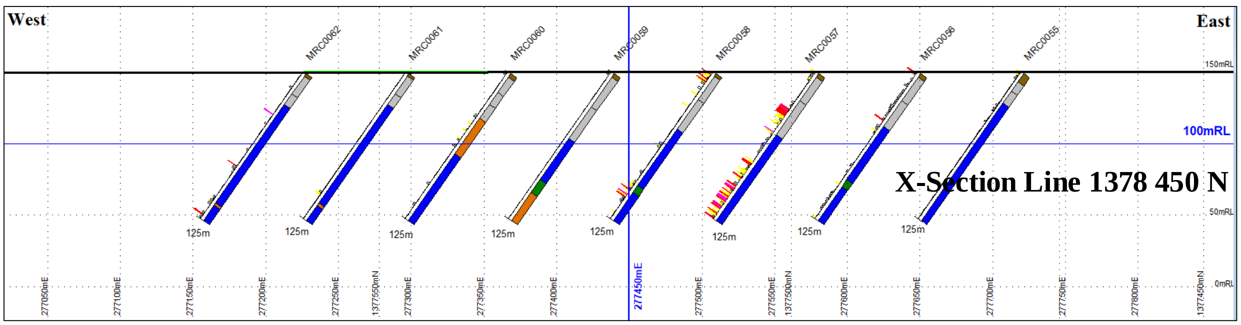



**Figure 6.18: Geological Cross-section of Cluff RC Drill holes Line 1378 450 N**

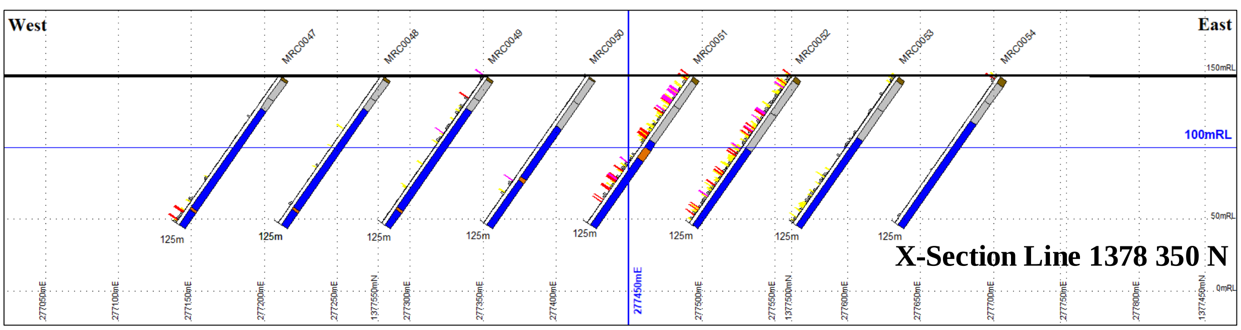



**Figure 6.19: Geological Cross-section of Cluff RC Drill holes Line 1378 350 N**

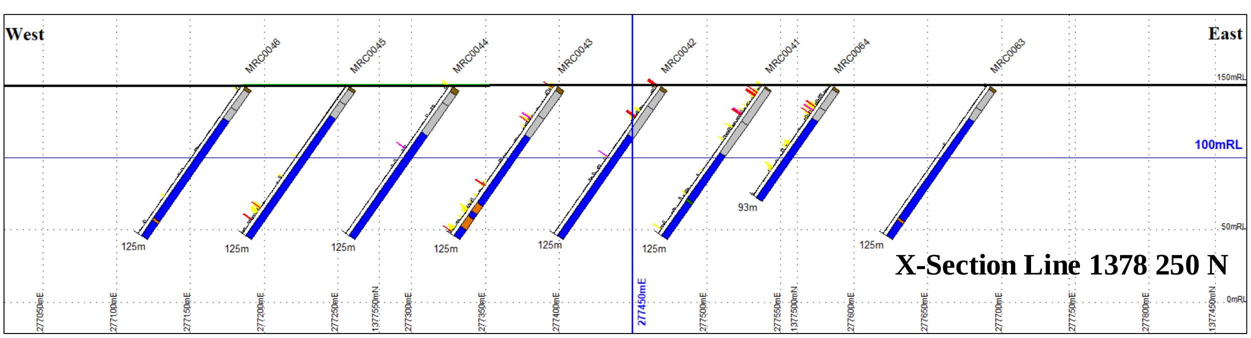



**Figure 6.20: Geological Cross-section of Cluff RC Drill holes Line 1378 250 N**

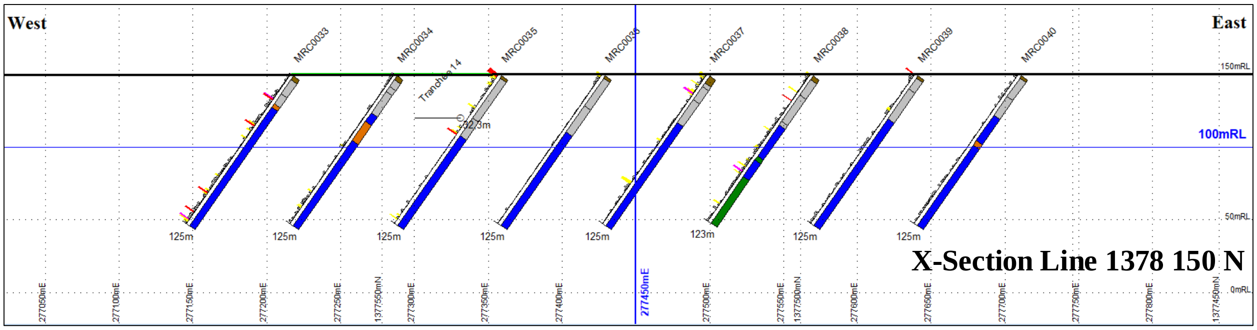



Figure 6.21: Geological Cross-section of Cluff RC Drill holes Line 1378 150 N

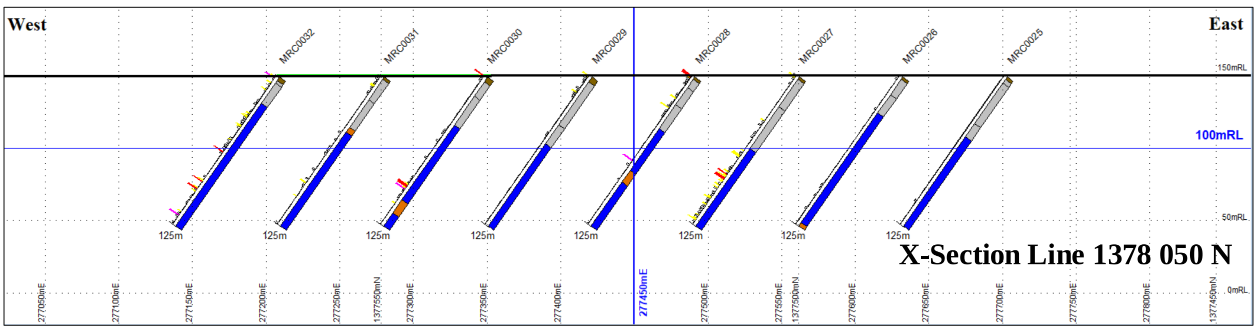



Figure 6.22: Geological Cross-section of Cluff RC Drill holes Line 1378 050 N

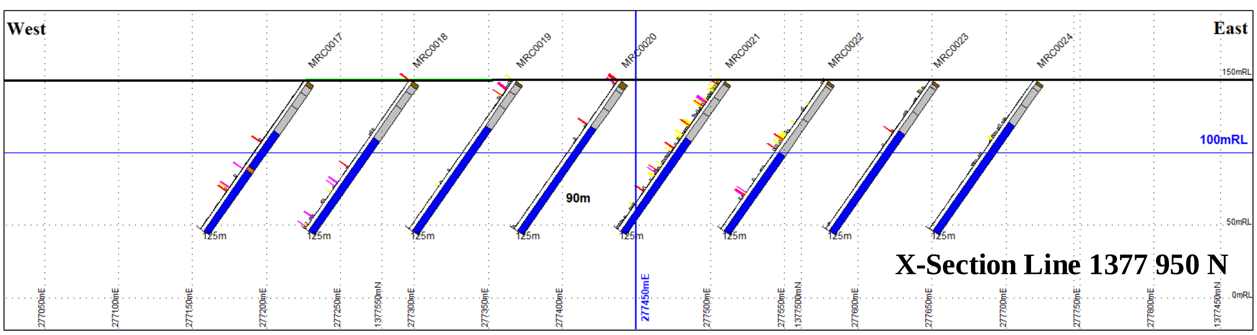



Figure 6.23: Geological Cross-section of Cluff RC Drill holes Line 1377 950 N

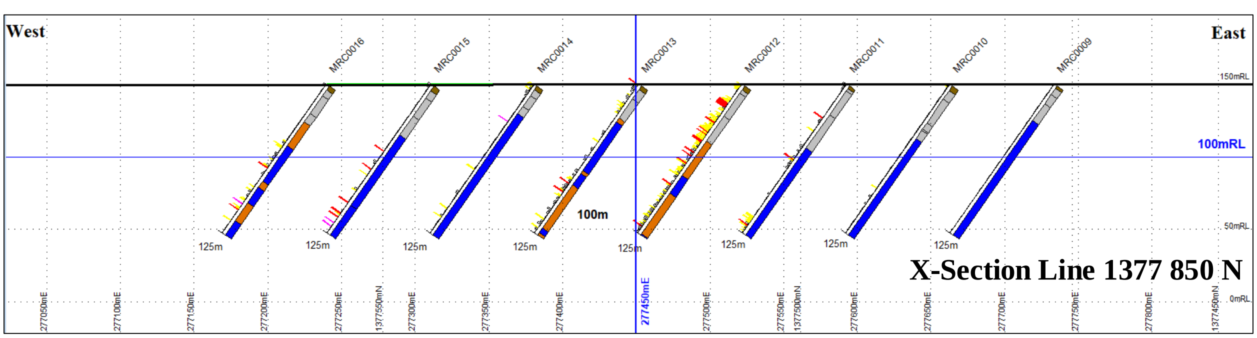



Figure 6.24: Geological Cross-section of Cluff RC Drill holes Line 1377 850 N

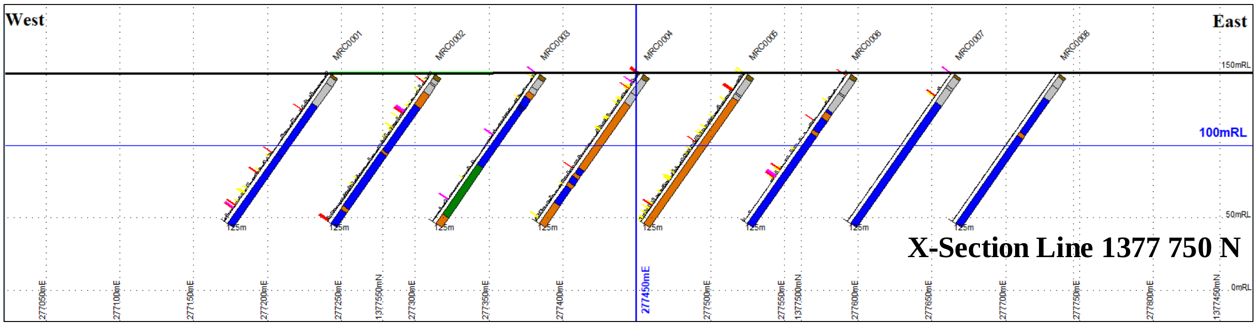



**Figure 6.25: Geological Cross-section of Cluff RC Drill holes Line 1377 750 N**

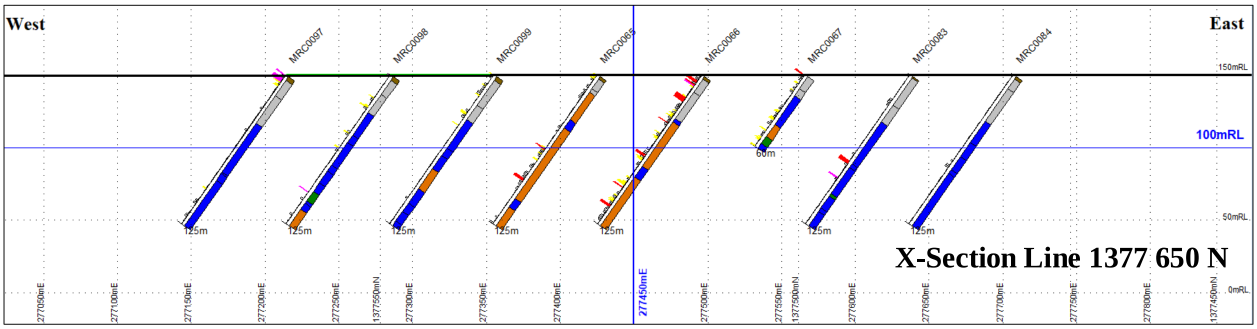



**Figure 6.26: Geological Cross-section of Cluff RC Drill holes Line 1377 650 N**

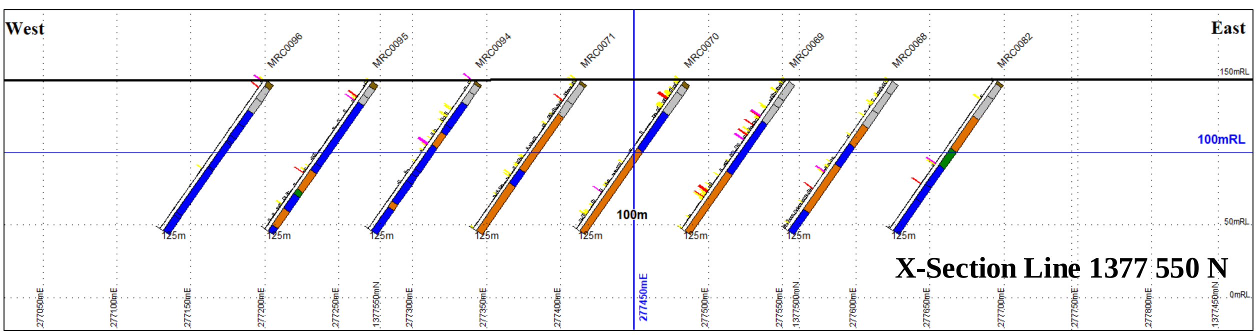



**Figure 6.27: Geological Cross-section of Cluff RC Drill holes Line 1377 550 N**

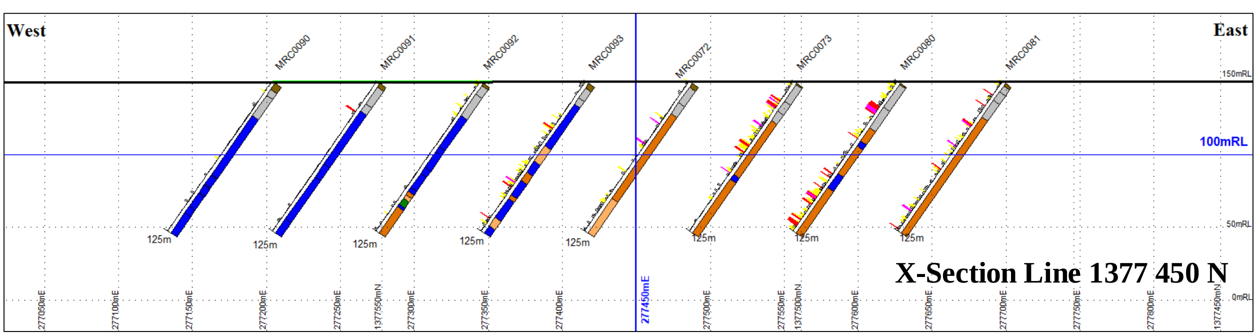



**Figure 6.28: Geological Cross-section of Cluff RC Drill holes Line 1377 450 N**

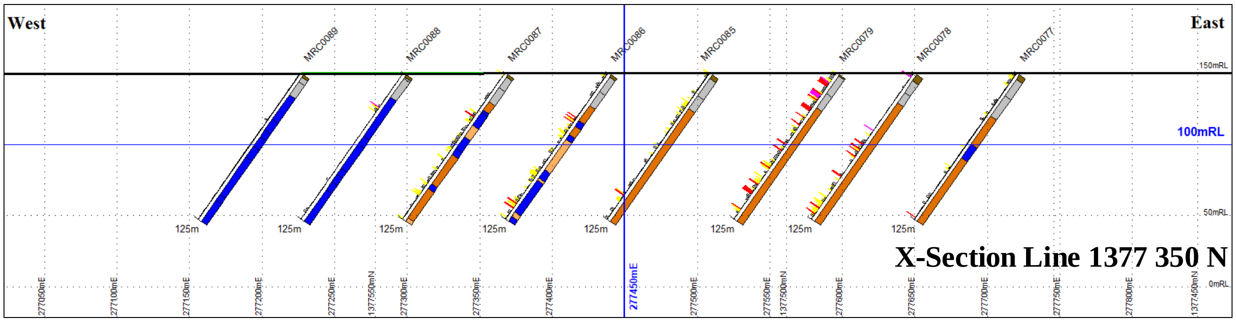



**Figure 6.29: Geological Cross-section of Cliff RC Drill holes Line 1377 350 N**

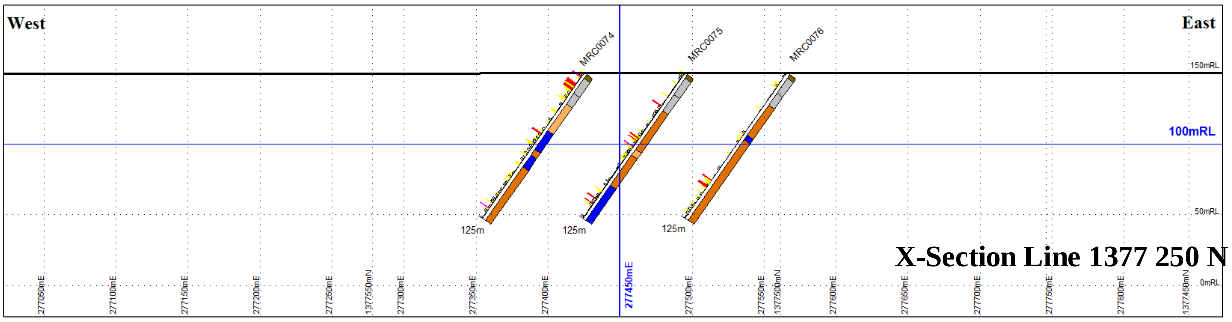
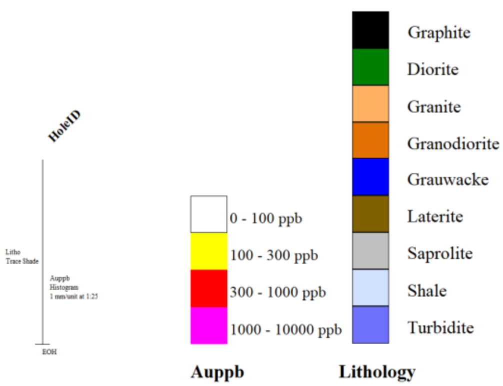



**Figure 6.30: Geological Cross-section of Cliff RC Drill holes Line 1377 250 N**

**LEGEND**




### Interpretation of the RC Drilling Results

To the south, holes MRC0074, MRC0079 and MRC0080 intercepted the mineralization respectively 6m@0.48g/t Au from 9m: 4m@3.58 g/t Au from 8m, 5m@3,11g/t Au from 19m and 7m@4.51g/t Au from 21m following the NW direction which remains open to the south. This mineralized zone occurs in zone of active gold washing by orpailleurs

To the North, holes MRCO051 and MRCO058; MRC0052 and MRCO057 intercepted the gold mineralization respectively 13m@2.66g/t Au and 5m@0.79g/t Au: 3m@4.31 g/t Au and 3m@1,13g/t Au following the direction N15 to N20 which remains open to the North,

In the West, holes MRC0001, MRCO015, MRCO017, MRC0018, MRCO030 and MRC0047 intercepted the gold mineralization respectively 4m@0.61g/t Au, 4m@0.97g/t Au: 4m@5.37 g/t Au, 4m@0.81 g/t Au, 2m@3.37g/t Au; 2m@0.52g/t Au.

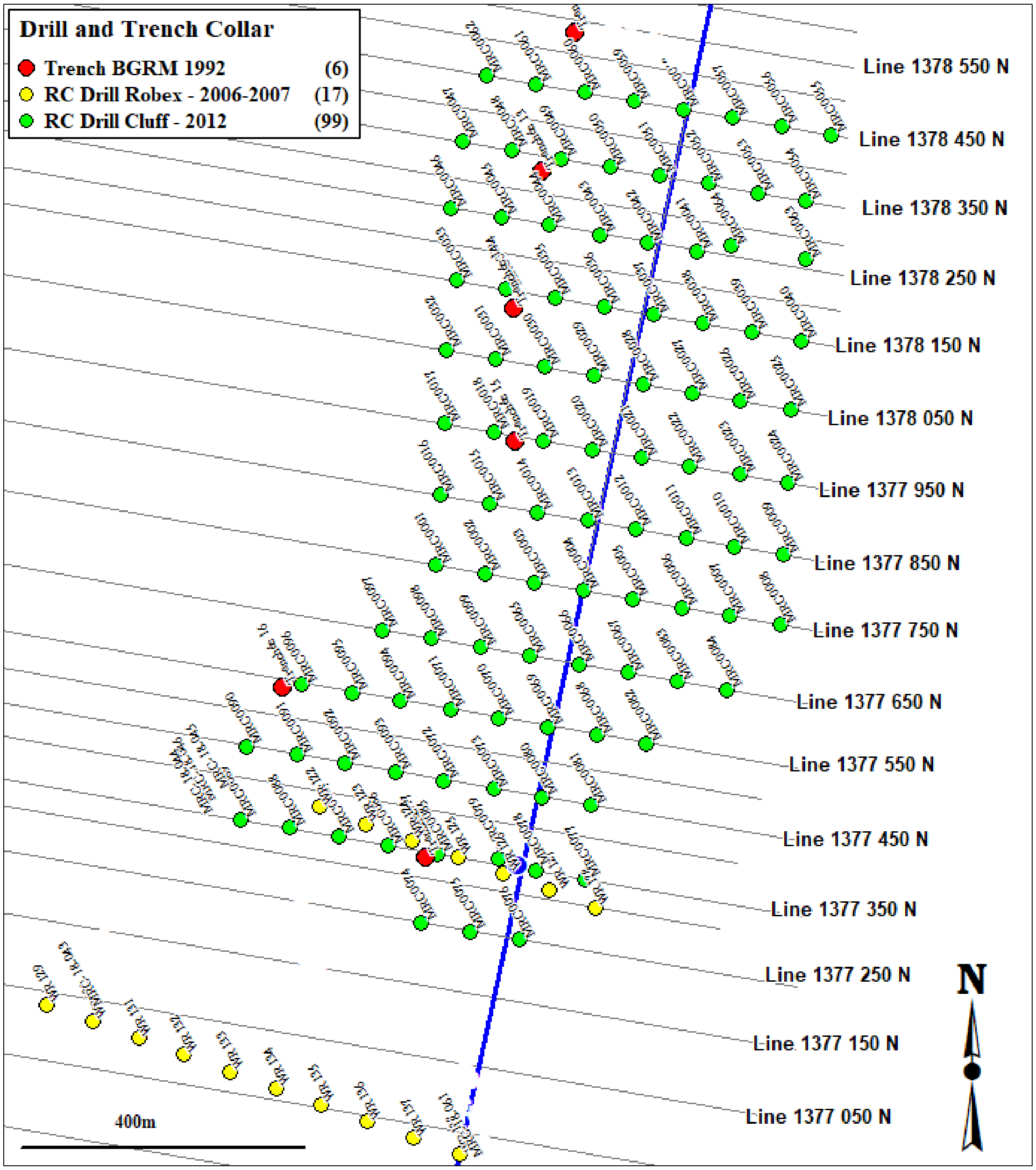



**Figure 6.31: Location Map of the RC Drill Line in the Mamadouya target**

The best results of the RC drilling program are shown in Table 6.6. The most significant gold mineralization is intercepted in hole MRC0051 (12m@2.66g/t Au) and MRC0097 (6m@16.43g/t Au). Gold mineralization seems to be associated with the greywacke sedimentary sequence associated with graphite shales probably linked to a fault and shear zone.

The following table shows the significant gold intersections obtained from the RC drilling completed in the Mamadouya target.

| Hole ID | From | To | Interval | Au ppm | Gold Intercepts (Au g/t Au) |
|---|---|---|---|---|---|
| MRC0001 | 111 | 115 | 4 | 0,61 | 4m@0,61g/t |
| MRC0002 | 32 | 35 | **3** | **2,71** | **3m@2,71g/t** |
| MRC0002 | 123 | 125 | 2 | 0,56 | 2m@0,56g/t |
| MRC0004 | 0 | 2 | 2 | 0,4 | 2m@0,4g/t |
| MRC0005 | 14 | 16 | 2 | 0,51 | 2m@0,51g/t |
| MRC0006 | 86 | 89 | **3** | **8,77** | **3m@8,77g/t** |
| MRC0015 | 116 | 120 | 4 | 0,97 | 4m@0,97g/t |
| MRC0017 | 90 | 94 | **4** | **5,37** | **4m@5,37g/t** |
| MRC0018 | 86 | 90 | 4 | 1 | 4m@1g/t |
| MRC0019 | 7 | 9 | **2** | **4,5** | **2m@4,5g/t** |
| MRC0020 | 0 | 4 | 4 | 0,59 | 4m@0,59g/t |
| MRC0021 | 18 | 20 | 2 | 5,99 | 2m@5,99g/t |
| MRC0021 | 76 | 79 | 3 | 0,86 | 3m@0,86g/t |
| MRC0022 | 94 | 98 | 4 | 0,82 | 4m@0,82g/t |
| MRC0028 | 0 | 2 | 2 | 0,41 | 2m@0,41g/t |
| MRC0030 | 92 | 96 | 4 | 0,81 | 4m@0,81g/t |
| MRC0033 | 20 | 22 | **2** | **3,37** | **2m@3,37g/t** |
| MRC0035 | 0 | 3 | 3 | 0,44 | 3m@0,44g/t |
| MRC0041 | 24 | 26 | 2 | 0,86 | 2m@0,86g/t |
| MRC0043 | 28 | 32 | **4** | **1,52** | **4m@1,52g/t** |
| MRC0047 | 115 | 117 | 2 | 0,52 | 2m@0,52g/t |
| MRC0051 | 13 | 26 | **13** | **2,66** | **13m@2,66g/t** |
| MRC0051 | 49 | 54 | 5 | 0,45 | 5m@0,45g/t |
| MRC0051 | 88 | 91 | 3 | 0,77 | 3m@0,77g/t |
| MRC0051 | 96 | 98 | 2 | 0,48 | 2m@0,48g/t |
| MRC0052 | 7 | 11 | 4 | 0,64 | 4m@0,64g/t |
| MRC0052 | 32 | 35 | **3** | **4,31** | **3m@4,31g/t** |
| MRC0052 | 45 | 52 | 7 | 0,46 | 7m@0,46g/t |
| MRC0057 | 33 | 38 | 5 | 0,79 | 5m@0,79g/t |
| MRC0057 | 78 | 80 | 2 | 0,71 | 2m@0,71g/t |
| MRC0057 | 99 | 111 | **12** | **0,77** | **12m@0,77g/t** |
| MRC0057 | 114 | 117 | 3 | 1,04 | 3m@1,04g/t |
| MRC0058 | 104 | 107 | 3 | 1,13 | 3m@1,13g/t |
| MRC0064 | 18 | 25 | 7 | 0,43 | 7m@0,43g/t |
| MRC0065 | 87 | 89 | 2 | 0,79 | 2m@0,79g/t |
| MRC0066 | 6 | 10 | 4 | 0,99 | 4m@0,99g/t |
| MRC0066 | 19 | 23 | 4 | 0,51 | 4m@0,51g/t |
| MRC0066 | 109 | 111 | 2 | 0,64 | 2m@0,64g/t |
| MRC0069 | 30 | 32 | 2 | 1,01 | 2m@1,01g/t |
| MRC0069 | 93 | 95 | 2 | 0,4 | 2m@0,4g/t |
| MRC0070 | 15 | 17 | 2 | 0,4 | 2m@0,4g/t |
| MRC0073 | 16 | 23 | **7** | **6,06** | **7m@6,06g/t** |
| MRC0073 | 53 | 55 | 2 | 0,43 | 2m@0,43g/t |
| MRC0074 | 9 | 15 | 6 | 0,48 | 6m@0,48g/t |
| MRC0079 | 8 | 12 | **4** | **3,58** | **4m@3,58g/t** |
| MRC0079 | 19 | 24 | **5** | **3,11** | **5m@3,11g/t** |
| MRC0079 | 30 | 33 | 3 | 0,47 | 3m@0,47g/t |
| MRC0080 | 21 | 28 | **7** | **4,51** | **7m@4,51g/t** |
| MRC0080 | 96 | 99 | **3** | **1,28** | **3m@1,28g/t** |
| MRC0081 | 36 | 38 | 2 | 0,92 | 2m@0,92g/t |
| MRC0083 | 72 | 75 | 3 | 0,67 | 3m@0,67g/t |
| MRC0094 | 53 | 55 | 2 | 1,54 | 2m@1,54g/t |
| MRC0095 | 14 | 18 | **4** | **1,51** | **4m@1,51g/t** |
| MRC0097 | 0 | 6 | **6** | **16,43** | **6m@16,43g/t** |

**Table 6.6: Significant gold intercepts from the Cluff RC drilling program in 2012**

## 6.5. Exploration Programs Completed by Fokolore from 2016 to 2018

### 6.5.1. Exploration Programs Completed by Fokolore in 2016

In 2016, Fokolore carried out the following work:

- Compilation, analysis, processing, and interpretation of data from previous exploration works including interpretation of geophysics, satellite images, ground geochemistry, and drilling data.
- Sampling and description of local gold mining areas “orpaillage zones”.
- GPS prospecting of gold mining sites along the main Mamadouya anomalous zone.
- Field mapping of geological structures along the main Mamadouya shear zone
- Field visit and location of pre-existing RC drill holes.
- Field monitoring of the gold intercepts resulting from previous drilling.
- Rock chips sampling coupled with geological and regolith mapping of the main anomalous zone.
- GPS survey and visits to historic trenches.
- Completion of an Auger drilling program totaling 4,748 meters, 586 holes and 1,620 samples.

Fokoloré used expertise of independent geological consultants based in Mali for a geological audit of the project in order to generate new potential zones that can warrant to further exploration works.

#### 6.5.1.1. Geological and structural mapping of the Mamadouya gold anomaly

The Mamadouya gold anomaly was the subject of detailed mapping in 2016. Outcrops was scarce or even absence in many places along the main anomaly zone (except rock fragments from the orpaillage pits where few units of intrusive and sedimentary rocks could be observed). This mapping made it possible to understand the geological setting of the region and to measure existing geological and structural elements.

The structural analysis of the Maligonga-East sector revealed the existence of fault structures in the southern portion of the permit that are supposed to be of same age as the Senegal-Malian Shear Zone (SMSZ) located further west of the permit. Second-order structures striking north-east and north-west were mapped. These faults appear to control the gold mineralization. The intersections of these faults with the north-south-striking structures appear to be potential zones for hydrothermal fluid circulation and gold mineralization.

The last group of faults strike east-west and others in various directions. These faults are not significant in the region, but they are interpreted to play a key role in the formation of the gold mineralization. They are spatially associated with the formation of schistosity and breccias zones and a permeability favorable for mineralized hydrothermal fluids flow and alteration.

Geomorphology and regolith mapping were completed in the most promising anomalous zones of the permit. Different regolith regimes were identified including: the lateritic, erosional, residual, alluvial and depositional regimes.

The northern portion of the permit, which had not been previously sampled and detailed mapped, was covered during this phase on a grid pattern of 500x100 m. This area has a good potential associated with several occurrences of extensive orpaillage activities in the sedimentary units containing numerous stockwerks of quartz veins. Gold occurrence in this area demonstrated that the main structure at

Mamadouya could extend over 1,200 km northward. The Figure 6.32 shows the geological and structural map interpreted from drill holes and geological units mapped during the field mapping.

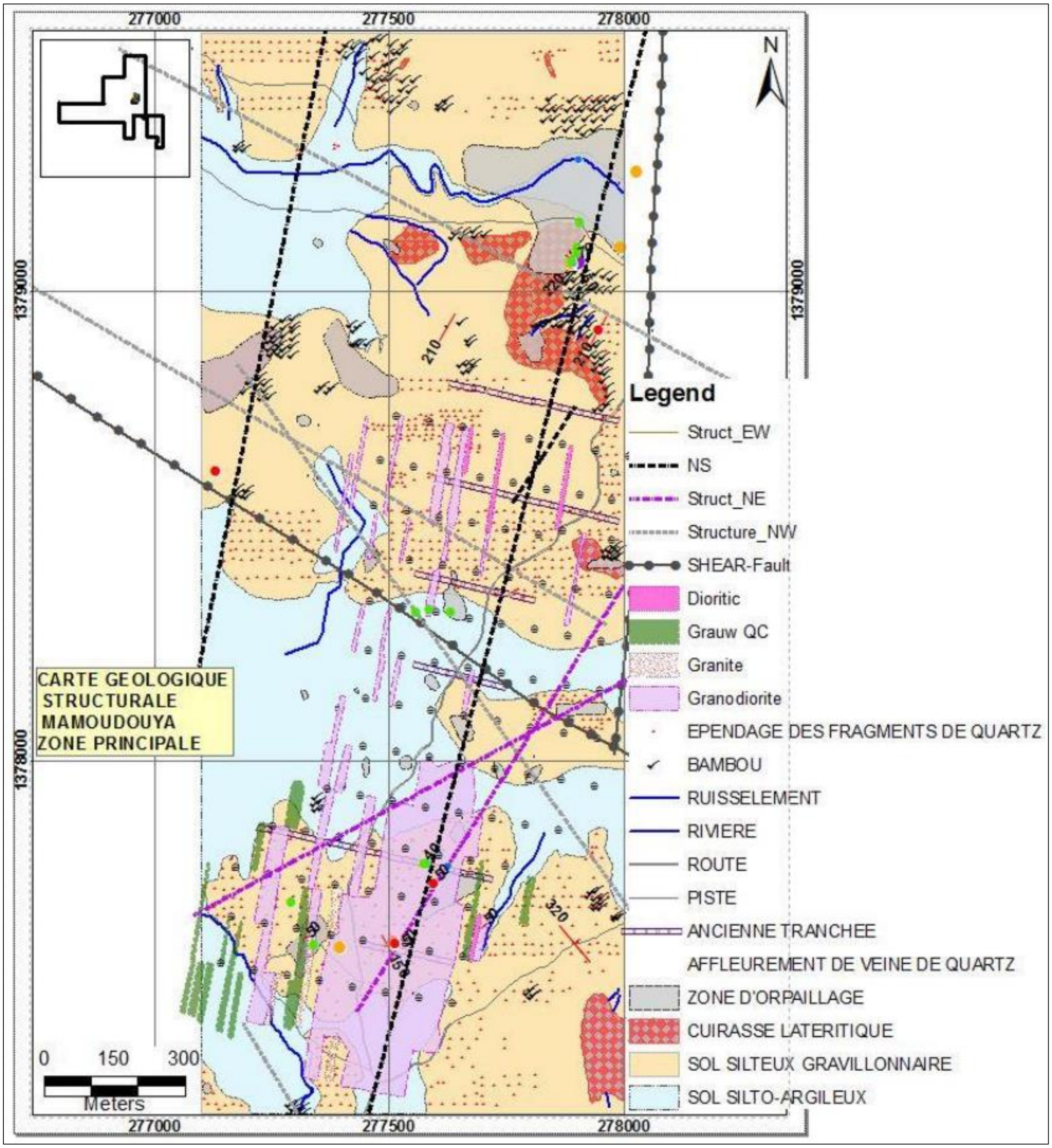



**Figure 6.32: Geological and structural map of the Mamadouya target of the Maligonga-East permit**

The targeted areas are those located to the north, south and west of the main anomaly zone. Analysis of geophysical data (Induced Polarization, Resistivity and Magnetic) helped outline conductive, resistive and magnetic areas as well as those related to hydrothermal alteration and delineate intrusion zones associated with silicification. From these geophysical anomalies, major structural systems (faults and shears) of various directions (with dextral or sinistral slip movements) could be interpreted.

The Figure 6.33 illustrates the resulting interpreted structural map.

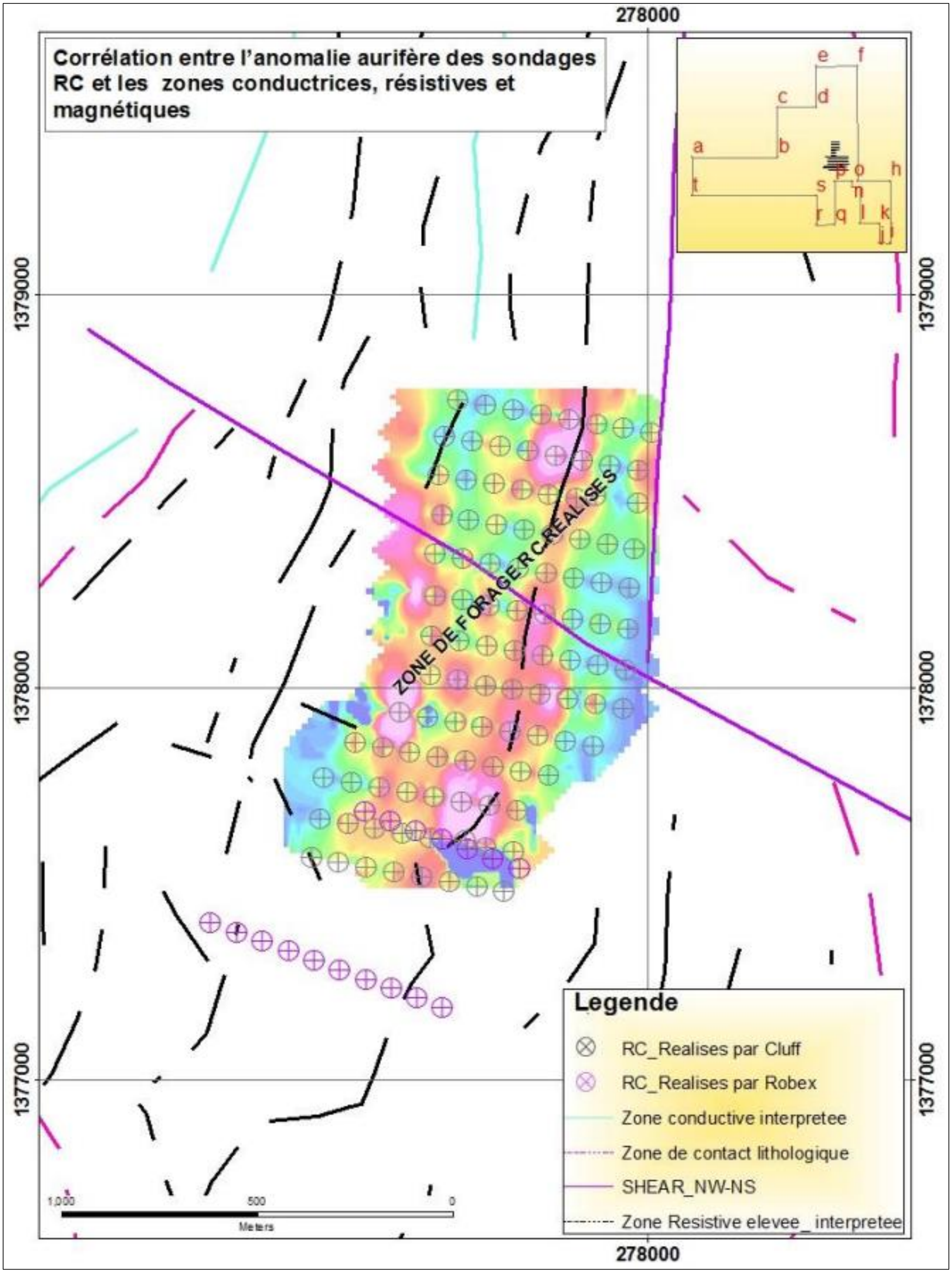



**Figure 6.33: Correlation between RC anomaly, conductive, resistive and magnetic zones**

### 6.5.1.2. Auger Drilling Program

Results obtained from the geological and structural field mapping and interpretations were encouraging and justified the implementation of an Auger drilling program. The objective was to test the depth and lateral extensions of the gold anomalies at surface and the gold mineralization in rock chip samples.

Service (TSM), a specialized Auger Drilling Company in Mali - was contacted by Fokolore to carry out this program. Auger drill holes were vertical and depth varied from 10 to15 meters in the saprolite or the fresh rock. 586 Auger holes totaling 4,748 meters were drilled on a grid pattern of 200x50m. In some places, drill holes were spaced 25 meters apart. Drill lines were oriented east-west (Figure 6.34).

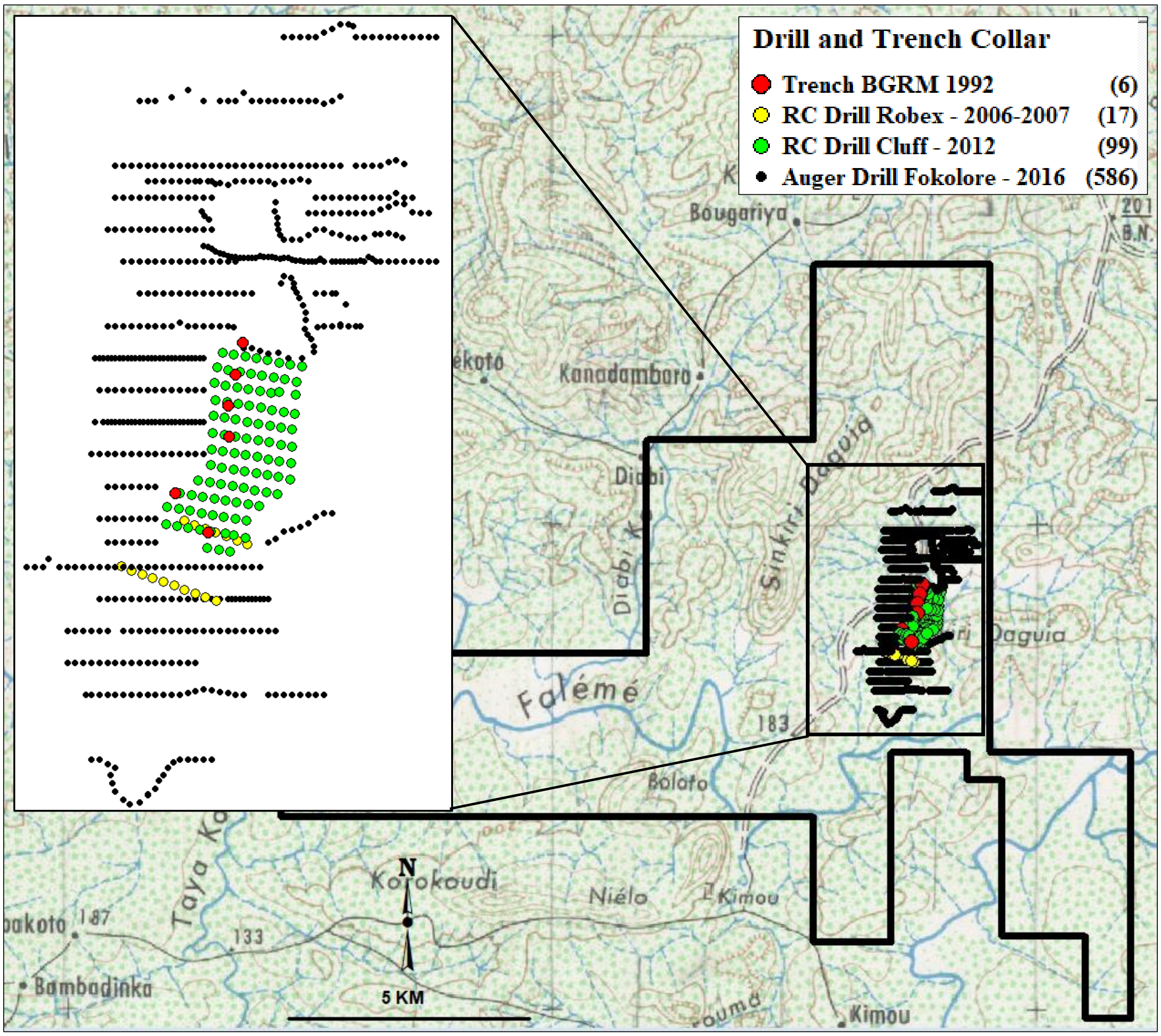



**Figure 6.34: Location Map of the Auger Drill holes completed by Fokolore in the Mamadouya target in 2016**

Results of the Auger drilling program were encouraging and suggested continuity of the main gold anomaly identified in the Mamadouya target. Best results included 1.5m@6.77g/t Au and 9.0m@2.39 g/t Au (Table 6.7).

The best mineralized intersections from the Auger drilling program are reported in the following Table.

| #Tarière | De | A | Intervalle | Au (g/t) | Intersection Minéralisée | UTM_X | UTM_Y | ELEV |
|---|---|---|---|---|---|---|---|---|
| MAU00011 | 0 | 3 | 3 | 0.1 | 3.0m @ 0.10 Au_ppm | 278000 | 1379900 | 118.5228 |
| MAU00065 | 0 | 3 | 3 | 0.28 | 3.0m @ 0.28 Au_ppm | 277450 | 1379380 | 118.5228 |
| MAU00112 | 7.5 | 9 | 1.5 | 0.11 | 1.5m @ 0.11 Au_ppm | 278450 | 1379701 | 117.0456 |
| MAU00114 | 0 | 3 | 3 | 0.39 | 3.0m @ 0.39 Au_ppm | 278500 | 1379700 | 118.5228 |
| MAU00122 | 0 | 3 | 3 | 0.14 | 3.0m @ 0.14 Au_ppm | 278100 | 1379700 | 118.5228 |
| MAU00123 | 3 | 6 | 3 | 0.1 | 3.0m @ 0.10 Au_ppm | 277600 | 1379301 | 117.0456 |
| MAU00125 | 0 | 3 | 3 | 0.11 | 3.0m @ 0.11 Au_ppm | 277500 | 1379300 | 118.5228 |
| MAU00130 | 3 | 7.5 | 4.5 | 0.13 | 4.5m @ 0.13 Au_ppm | 277250 | 1379301 | 117.0456 |
| MAU00152 | 0 | 3 | 3 | 0.1 | 3.0m @ 0.10 Au_ppm | 277700 | 1379100 | 118.5228 |
| MAU00159 | 0 | 3 | 3 | 0.11 | 3.0m @ 0.11 Au_ppm | 278034 | 1378985 | 118.5228 |
| MAU00166 | 4.5 | 7.5 | 3 | 0.19 | 3.0m @ 0.19 Au_ppm | 277900 | 1379211 | 115.5684 |
| MAU00167 | 0 | 10.5 | 10.5 | 0.26 | 10.5m @ 0.26 Au_ppm | 277880 | 1379167 | 118.5228 |
| MAU00177 | 3 | 7.5 | 4.5 | 0.14 | 4.5m @ 0.14 Au_ppm | 278200 | 1379901 | 114.8298 |
| MAU00196 | 0 | 3 | 3 | 0.86 | 3.0m @ 0.86 Au_ppm | 277585 | 1378890 | 118.5228 |
| MAU00197 | 7.5 | 9 | 1.5 | 0.1 | 1.5m @ 0.10 Au_ppm | 278640 | 1379451 | 115.5684 |
| MAU00236 | 0 | 3 | 3 | 0.15 | 3.0m @ 0.15 Au_ppm | 277700 | 1378760 | 118.5228 |
| MAU00237 | 0 | 3 | 3 | 0.14 | 3.0m @ 0.14 Au_ppm | 277750 | 1378743 | 118.5228 |
| MAU00237 | 7.5 | 10.5 | 3 | 0.16 | 3.0m @ 0.16 Au_ppm | 277750 | 1378744 | 117.0456 |
| MAU00238 | 0 | 9 | 9 | 2.39 | 9.0m @ 2.39 Au_ppm | 277800 | 1378726 | 117.0456 |
| MAU00239 | 0 | 6 | 6 | 0.13 | 6.0m @ 0.13 Au_ppm | 277866 | 1378736 | 117.0456 |
| MAU00252 | 0 | 1.5 | 1.5 | 1.94 | 1.5m @ 1.94 Au_ppm | 277550 | 1379780 | 119.2614 |
| MAU00252 | 4.5 | 9 | 4.5 | 0.27 | 4.5m @ 0.27 Au_ppm | 277550 | 1379780 | 118.5228 |
| MAU00253 | 0 | 4.5 | 4.5 | 0.23 | 4.5m @ 0.23 Au_ppm | 277500 | 1379790 | 117.7842 |
| MAU00288 | 4.5 | 9 | 4.5 | 0.16 | 4.5m @ 0.16 Au_ppm | 277400 | 1378100 | 118.5228 |
| MAU00303 | 3 | 4.5 | 1.5 | 0.39 | 1.5m @ 0.39 Au_ppm | 277100 | 1377701 | 117.0456 |
| MAU00306 | 0 | 3 | 3 | 0.17 | 3.0m @ 0.17 Au_ppm | 277000 | 1377550 | 118.5228 |
| MAU00317 | 3 | 6 | 3 | 0.12 | 3.0m @ 0.12 Au_ppm | 277450 | 1377401 | 117.0456 |
| MAU00318 | 3 | 6 | 3 | 0.13 | 3.0m @ 0.13 Au_ppm | 277400 | 1377401 | 117.0456 |
| MAU00328 | 7.5 | 9 | 1.5 | 0.13 | 1.5m @ 0.13 Au_ppm | 277350 | 1377401 | 117.0456 |
| MAU00330 | 1.5 | 3 | 1.5 | 6.77 | 1.5m @ 6.77 Au_ppm | 277250 | 1377400 | 117.7842 |
| MAU00334 | 0 | 3 | 3 | 0.11 | 3.0m @ 0.11 Au_ppm | 277050 | 1377400 | 118.5228 |
| MAU00336 | 0 | 4.5 | 4.5 | 0.18 | 4.5m @ 0.18 Au_ppm | 276950 | 1377400 | 117.7842 |
| MAU00337 | 0 | 6 | 6 | 0.18 | 6.0m @ 0.18 Au_ppm | 276900 | 1377400 | 118.5228 |
| MAU00338 | 0 | 1.5 | 1.5 | 0.14 | 1.5m @ 0.14 Au_ppm | 276850 | 1377400 | 119.2614 |
| MAU00363 | 0 | 3 | 3 | 0.12 | 3.0m @ 0.12 Au_ppm | 277200 | 1377000 | 118.5228 |
| MAU00365 | 3 | 6 | 3 | 0.13 | 3.0m @ 0.13 Au_ppm | 277100 | 1377001 | 117.0456 |
| MAU00366 | 0 | 3 | 3 | 0.11 | 3.0m @ 0.11 Au_ppm | 277100 | 1377000 | 118.5228 |
| MAU00366 | 6 | 7.5 | 1.5 | 0.27 | 1.5m @ 0.27 Au_ppm | 277100 | 1377001 | 113.3525 |
| MAU00367 | 3 | 6 | 3 | 0.17 | 3.0m @ 0.17 Au_ppm | 277000 | 1377001 | 117.0456 |
| MAU00387 | 0 | 3 | 3 | 0.12 | 3.0m @ 0.12 Au_ppm | 277125 | 1378300 | 118.5228 |
| MAU00421 | 6 | 7.5 | 1.5 | 0.6 | 1.5m @ 0.60 Au_ppm | 277250 | 1376601 | 113.3525 |
| MAU00427 | 7.5 | 10.5 | 3 | 0.53 | 3.0m @ 0.53 Au_ppm | 276950 | 1376602 | 111.1367 |
| MAU00444B | 1.5 | 4.5 | 3 | 1.36 | 3.0m @ 1.36 Au_ppm | 277050 | 1375981 | 117.0456 |
| MAU00518 | 9 | 10.5 | 1.5 | 0.11 | 1.5m @ 0.11 Au_ppm | 278100 | 1380301 | 115.5684 |
| MAU00549 | 3 | 6 | 3 | 0.39 | 3.0m @ 0.39 Au_ppm | 277500 | 1377201 | 115.5684 |
| MAU00553 | 1.5 | 4 | 2.5 | 0.13 | 2.5m @ 0.13 Au_ppm | 277050 | 1377200 | 117.2918 |
| MAU00557 | 4.5 | 6 | 1.5 | 0.14 | 1.5m @ 0.14 Au_ppm | 277250 | 1377201 | 114.8298 |
| MAU00558 | 1.5 | 3 | 1.5 | 0.1 | 1.5m @ 0.10 Au_ppm | 277300 | 1377200 | 117.7842 |
| MAU00565 | 3 | 6 | 3 | 0.1 | 3.0m @ 0.10 Au_ppm | 277000 | 1376801 | 115.5684 |
| MAU00575 | 1.5 | 3 | 1.5 | 0.4 | 1.5m @ 0.40 Au_ppm | 276850 | 1376800 | 117.7842 |

**Table 6.7: Best gold intercepts from the Fokolore Auger drilling program in 2016**

**Interpretation of the Auger drilling results and the intercepted gold mineralization:**

Analysis of the Auger drilling results and the intercepted gold mineralization in the Maligonga-East permit identified different gold corridors-oriented NW, NE and possibly EW. This corroborates that the mineralization is structurally controlled. Second-order structures probably those faults striking north-east, north-west and east-west are present in the permit and appear to control the gold mineralization. The intersections of these faults with structures striking north-south seem to be structural site favorable for hydrothermal fluid flow and gold mineralization.

The Auger drilling results map was superimposed with the regolith map with the aim of placing each sample in its geological context in order to understand the relations between mineralization and the geological units. The gold anomaly correlates with resistivity and magnetic anomalies. According to the results obtained, the anomaly in the north and south areas is open while the one in the west remained to be better defined.

### 6.5.1.3. Gold panning

A systematic gold panning of a few rock chip samples was completed by Fokolore in order to understand the type of gold in the area and to avoid any nugget effect. 2 to 3 kg of rock sample were collected at 1-meter interval and washed (photos from left to right). Samples containing visible gold are scored as positive. This sample was then panned and the reject was crushed and grounded to 1 mm and finally paned.

The gold was weighed and its g/t Au equivalent calculated. This slice was observed under the microscope,

The gold panning results were plotted on the resistive geophysical map (Figure 6.36). The map shows that the high gold grades are coincident with areas of high resistivity.

Three anomalous zone have been outlined as shown on the following map.

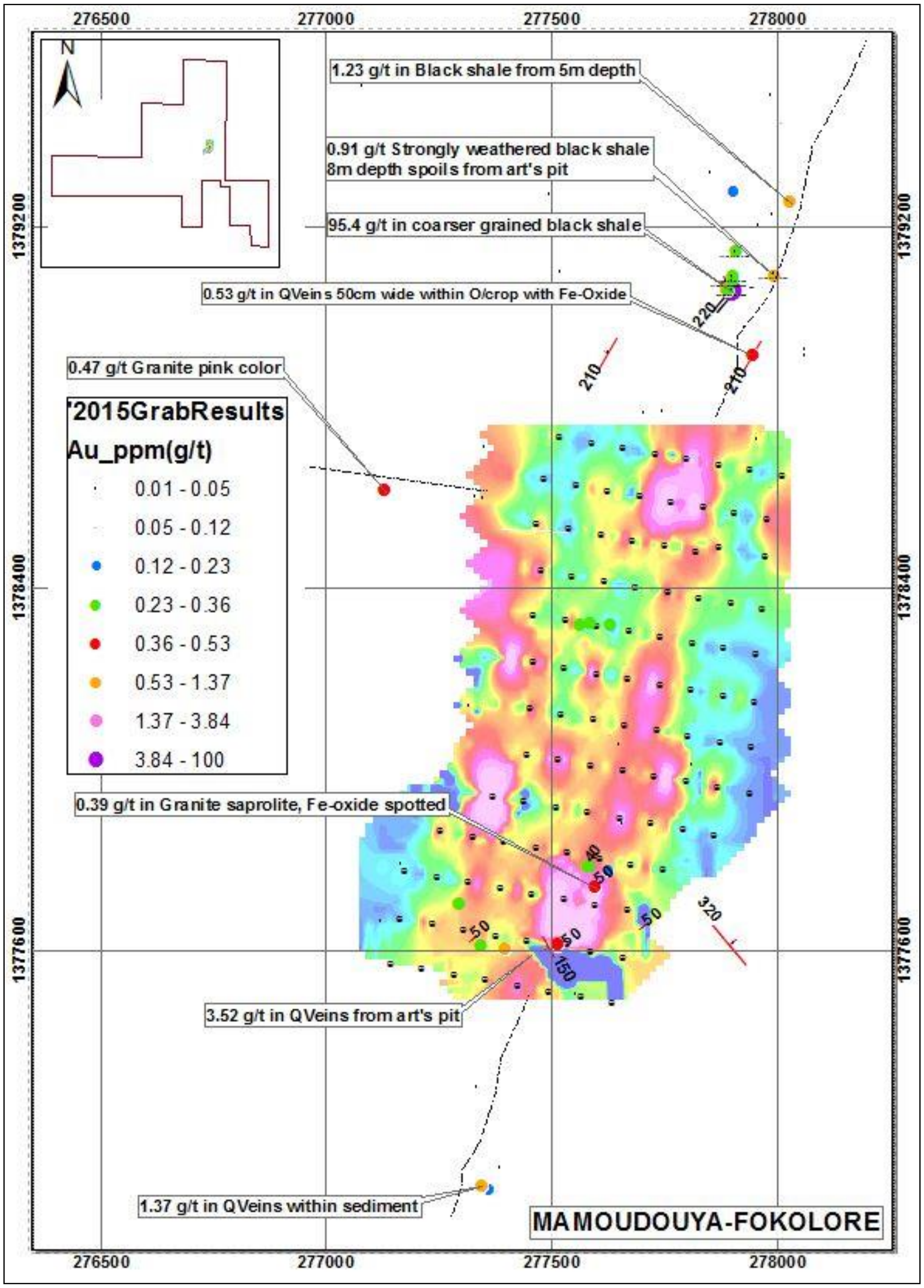



**Figure 6.35: Grab sampling results on the Maligonga-East permit**

#### 6.5.1.4. Rock chips sampling

98 rock chip samples were collected and analyzed. The results of the grab sampling were encouraging. Sample C13004 returned gold value of 95.4 and 100 ppm (Figure 6.35). In addition, other anomalous values have been obtained as indicated in the table below (Table 6.8). A black shale sample containing quartz stockwork veins returned results of 100 g/t Au (with visible gold grains) in the quartz float and in the artisan pits. Ten (10) samples returned high gold grades with values > 0.5 g/t Au from the 98 samples (Table 6.8).

| Sample Number | Au g/t | Descriptions |
|---|---|---|
| C13004 | **100** | Black sediment (shale) with quartz-stockwork veins |
| C13010 | **0,91** | Saprolite of black sediment (shale) from an orpaillage pit |
| C13012 | **3,52** | Quartz veins from an orpaillage pit |
| C13013 | **3,84** | Quartz veins in contact with sediment |
| C13014 | **1,18** | Quartz veins in contact with a felsic intrusive rock |
| C13477 | **1,23** | Altered and oxidized black sediment (shale) with quartz-stockwork veins |
| C13482 | **1,37** | Sediment with quartz-stockwork veins and Kaolinite alteration |
| C13487 | **1,19** | Sediment with quartz-stockwork veins |
| C13494 | **0,85** | Oxidized smoky quartz veins |
| C13498 | **0,53** | Quartz veins |

**Table 6.8: Grab sample descriptions and analytical results**

Complete results from the rock chips sampling are illustrated in the following Table

| Sample | UTM-X | UTM-Y | Au-ppm | Comments | Year |
|---|---|---|---|---|---|
| C13001 | 277899 | 1379060 | 0,26 | Yellow saprolite ferruginous, within QV (NE strike) vuggy and oxide taints | 2015 |
| C13002 | 277900 | 1379060 | 0,19 | Vuggy and oxide taints along, QV, NE strike, subvertical | 2015 |
| C13004 | 277900 | 1379062 | **95,4** | Bleached, mottled coarser grained shale with crosscutting stringer QV | 2015 |
| C13005 | 277900 | 1379080 | 0,29 | Pinkish saprolite from artisanal shaft | 2015 |
| C13008 | 277900 | 1379093 | 0,35 | Black shale, N220°stricke | 2015 |
| C13009 | 277908 | 1379148 | 0,31 | Black shale, N220°stricke | 2015 |
| C13010 | 277994 | 1379092 | **0,91** | Strongly weathered black shale from 8 m depth of artisanal pit | 2015 |
| C13012 | 277514 | 1377611 | **3,52** | QV in artisan pit | 2015 |
| C13013 | 277514 | 1377611 | **3,84** | QV, contact with sediment | 2015 |
| C13014 | 277514 | 1377611 | **1,18** | QV, contact with sediment and felsic dyke, large open pit | 2015 |
| C13016 | 277514 | 1377611 | 0,43 | Altered felsic dyke, crosscutting by QV, strongly silicified and kaolinitised, from artisan pit | 2015 |
| C13017 | 277627 | 1377777 | 0,23 | Altered felsic dyke with Fe stains, within QV (15 m depth) | 2015 |
| C13018 | 277627 | 1377777 | 0,15 | Vuggy and smoky QV spoils from artisanal pit, some Fe-oxide stained | 2015 |
| C13024 | 277577 | 1377783 | 0,3 | Reddish saprolite from historic trench (T16), pinkish granite/granodiorite? | 2015 |
| C13027 | 277130 | 1378617 | 0,47 | Saprolite of granite arena, pink color, some coarser quartz veins | 2015 |
| C13030 | 277582 | 1377783 | 0,34 | Saprolite of granodiorite/granite with QV stockwork, | 2015 |
| C13031 | 277773 | 1378300 | 0,1 | Intermediate small termite mound, with Fe-oxide, medium grained, at hill slope | 2015 |
| C13032 | 277631 | 1378318 | 0,28 | Diorite and little QV | 2015 |
| C13033 | 277560 | 1378318 | 0,35 | Saprolite of granodiorite/granite with QV, oxidized near art's pits | 2015 |
| C13034 | 277586 | 1378323 | 0,28 | Intermediate termite mound, wet, pink color | 2015 |
| C13044 | 277292 | 1377700 | 0,26 | QV, within chlorite stains | 2015 |
| C13046 | 277341 | 1377610 | 0,36 | Laterite with QV fragments from art's scratching (2 m depth) | 2015 |
| C13049 | 277486 | 1377605 | 0,1 | Pink granite saprolite with stringer Quartz veinlets from historic trench (T 17) | 2015 |
| C13456 | 277525 | 1377602 | 0,1 | QV N50°/70°E, 5 cm wide within saprolite of granite | 2015 |
| C13459 | 277596 | 1377740 | 0,39 | N50°/70°E QV within granite saprolite and quartz fragments, Fe-oxide taints | 2015 |
| C13465 | 278011 | 1379430 | 0,1 | Intermediate yellow brown termite mound located on hill slope (east) | 2015 |
| C13466 | 278000 | 1378615 | 0,12 | QV (E-W) contact with granodiorite | 2015 |
| C13474 | 277905 | 1379281 | 0,16 | Sediment black shale, alluvium, Fe-oxide, coarser grain | 2015 |
| C13477 | 278029 | 1379255 | **1,23** | Black shale at 5 m depth, pisolite and Fe-oxide | 2015 |
| C13479 | 277364 | 1377070 | 0,19 | QV, granodiorite and sediment contact (working area) | 2015 |
| C13482 | 277344 | 1377077 | **1,37** | QV and sediment, black and white color in artisan terrain | 2015 |
| C13486 | 277894 | 1379059 | 0,21 | Bedded black shale, with Fe oxide Quart veinlets, | 2015 |
| C13487 | 277889 | 1379060 | **1,19** | Saprolite sediment with QV stockwerk, face to south, in Mamadouya art's | 2015 |
| C13488 | 277892 | 1379060 | 0,2 | Saprolite sediment with QV stockwerk, face to west, in Mamadouya art's | 2015 |
| C13489 | 277891 | 1379062 | 0,26 | Saprolite sediment with QV veinlets stockwerk, face to west, in Mamadouya art's | 2015 |
| C13490 | 277890 | 1379064 | 0,29 | Saprolite sediment with QV stockwerk, face to west, in Mamadouya art's | 2015 |
| C13492 | 277890 | 1379068 | 0,11 | 3 cm wide QV, N70°/50°W, contact with strongly chloritized sediment | 2015 |
| C13493 | 277890 | 1379075 | 0,12 | QV in lateritic saprolite, face west, in Mamadouya art's | 2015 |
| C13494 | 277398 | 1377602 | 0,85 | Smoky QV, Fe-oxide from artisan pit | 2015 |
| C13498 | 277947 | 1378917 | 0,53 | 50 cm wide QV hillock with Fe-oxide in cuirasse plateau slope | 2015 |
| G0014 | 277854 | 1379742 | 0,11 | Yellow, rich limonite intermediate termite mound, hill slope | 2015 |
| G0018 | 276538 | 1376618 | 0,1 | Yellow green intermediate termite mound | 2015 |
| G0028 | 277020 | 1376195 | 0,1 | Red Intermediate termite mound | 2015 |
| G0037 | 277725 | 1376574 | 0,73 | Weathered black shale, spoils from art's shaft | 2015 |
| G0041 | 277521 | 1379523 | 0,21 | Undifferentiated sediment along N200°/70°W quartz veins, Fe-oxide stains | 2015 |
| G0043 | 278175 | 1380312 | 0,34 | Outcrop sediment weathered, Fe-oxide stains | 2015 |
| G0044 | 277764 | 1378900 | 0,46 | Cuirasse plateau (scratching area) | 2015 |
| G0045 | 277830 | 1378968 | **3,98** | Termite mound on laterite plateau | 2015 |
| G0046 | 277819 | 1379082 | 0,1 | Cuirasse with quartz veins on plateau | 2015 |

**Table 6.9: Grab sample Descriptions and analytical results**

#### 6.5.1.5. Conclusions

These encouraging results, the prospective geological and structural settings of the permit and the trend of the surface gold anomaly that is parallel to known anomaly trends in the Kédougou-Kéniéba window demonstrate that the Maligonga-East permit has a significant potential for economic gold discovery. Fokolore recommended additional work to improve understanding of the permit geological and structural setting and the style of the gold mineralization. Fokoloré decided to continue exploration on the Maligonga-East permit. For the central zone that was previously drill-tested by Cluff gold plc, Fokolore objective was to test the lateral and deep extension of the gold mineralization. Fokolore proposed:

- RC drilling to test the deep extension of the gold structure.
- Drilling to test fault intersection in areas that have a good potential for high grade gold mineralization.
- Drilling intrusion zones that are interpreted to be associated with the gold mineralization.
- Drilling interpreted fold zones.

Previous results shown that high gold grades in soil and termite mounds are located in the center, northern and southern portion of the permit. The potential of the area to the west remains to be determined.

### 6.5.2. Exploration Programs Completed by Fokolore in 2017

Works carried out by Fokolore during the 2017 exploration program consisted of:

- Detailed RC drilling planning followed by a field visit from April 10 to 15, 2017.
- Assessment of the locations of the proposed RC drill holes

A work program was established during the reconnaissance field visit and location of the proposed RC drill holes. Approximately, 70 RC drill holes with depths varying between 50 to 160 meters were planned and their feasibility verified in the field in the first quarter of 2017. This planned drill program (approximately 5,000 meters of drilling) has not been executed that year due to road and field access conditions.

Previous exploration data processing and compilation works were carried out on the permit resulting in the definition of an Auger program for the coming year. Exploration works completed by BRGM and Cluff were re-interpreted resulting in a better understanding of the geological and structural settings and their relations with the surface gold anomalies. 75 Auger drilling holes were planned totaling 450 linear meters. The proposed Auger drilling based on previous results that identified different gold corridors striking NW, NE and EW.

Fokolore suggested that the mineralization was open to the north and south of the deposit and indicated that that gold is disseminated in porous units such as the carbonate sandstones and / or the quartz veins located within the granodiorite intrusive unit. Gold occurs as disseminations associated with pyrite, pyrrhotite, arsenopyrite and a strong silicification alteration.

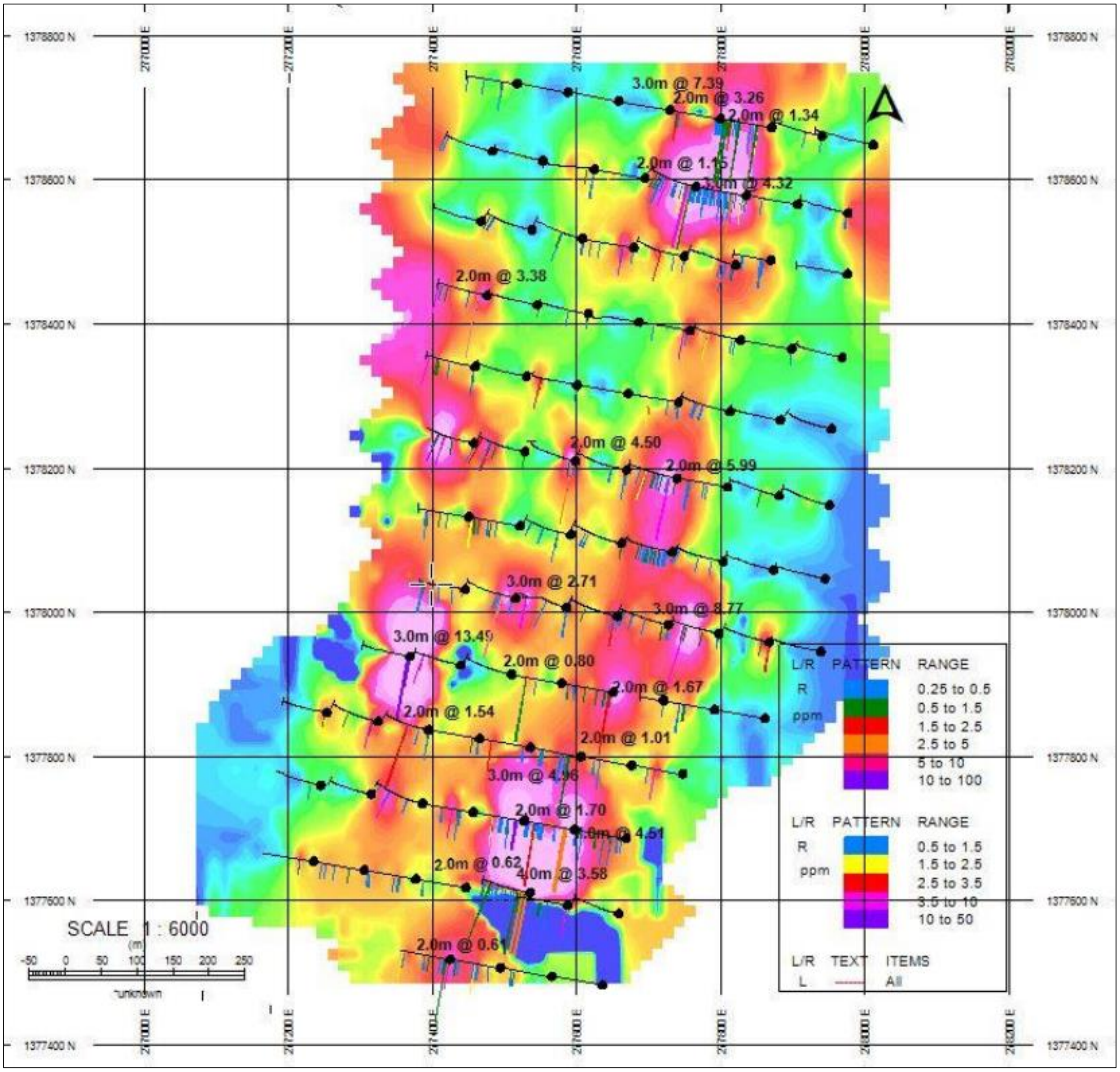



**Figure 6.36: Interpretation by Fokolore of the gold mineralization intercepted in RC drill holes**

### 6.5.3. Exploration Programs Completed by Fokolore in 2018

Following recommendations from detailed structural and geological field mapping, Auger drill results, grab sampling and detailed data compilation and re-interpretation completed in the Maligonga-East permit between 2016 and 2017, Fokolore and DCS MALI Drilling SERVICE (Drilling contractor) completed in 2018, 4,920 meters RC drilling totaling 61 RC holes (Figure 6.37). RC holes were drilled with various azimuth and were inclined -50$^{o}$ with depth varying between 50 and 120 meters, 5725 samples were collected and analyzed by PROSLAB CONSULTING in Bamako, Mali.

The objectives of the RC drilling program were to test the spatial close relationships between the surface gold anomalies and interpreted shear zone systems.

The location and technical parameters of the RC drilling program are shown in the following Table

| Hole ID | X-UTM | Y-UTM | Z-UTM | Azimuth | Dip | Depth | Source | Type | Year |
|---|---|---|---|---|---|---|---|---|---|
| MRC-18-001 | 277771 | 1378744 | 184 | 120 | -50 | 120 | Fokolore | RC | 2018 |
| MRC-18-002 | 277725 | 1378758 | 185 | 120 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-003 | 277694 | 1378778 | 176 | 120 | -50 | 75 | Fokolore | RC | 2018 |
| MRC-18-004 | 277654 | 1378875 | 183 | 120 | -50 | 100 | Fokolore | RC | 2018 |
| MRC-18-005 | 277963 | 1379145 | 167 | 300 | -50 | 75 | Fokolore | RC | 2018 |
| MRC-18-006 | 277951 | 1379179 | 153 | 215 | -50 | 90 | Fokolore | RC | 2018 |
| MRC-18-007 | 277932 | 1379153 | 150 | 215 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-008 | 277888 | 1379201 | 156 | 120 | -50 | 84 | Fokolore | RC | 2018 |
| MRC-18-009 | 277834 | 1379235 | 155 | 120 | -50 | 90 | Fokolore | RC | 2018 |
| MRC-18-010 | 277590 | 1379274 | 167 | 120 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-011 | 277548 | 1379301 | 168 | 120 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-012 | 277506 | 1379325 | 166 | 120 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-013 | 277456 | 1379349 | 169 | 120 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-014 | 277418 | 1379375 | 169 | 120 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-015 | 277909 | 1379306 | 170 | 120 | -50 | 100 | Fokolore | RC | 2018 |
| MRC-18-016 | 277560 | 1379769 | 197 | 120 | -50 | 110 | Fokolore | RC | 2018 |
| MRC-18-017 | 277521 | 1379784 | 189 | 120 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-018 | 277476 | 1379810 | 184 | 120 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-019 | 278075 | 1379873 | 161 | 120 | -50 | 120 | Fokolore | RC | 2018 |
| MRC-18-020 | 278020 | 1379902 | 163 | 120 | -50 | 90 | Fokolore | RC | 2018 |
| MRC-18-021 | 278124 | 1379837 | 160 | 120 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-022 | 278226 | 1379790 | 172 | 300 | -50 | 97 | Fokolore | RC | 2018 |
| MRC-18-023 | 278281 | 1379998 | 175 | 300 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-024 | 278320 | 1379966 | 174 | 300 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-025 | 278350 | 1380169 | 178 | 300 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-026 | 278383 | 1380146 | 180 | 300 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-027 | 278295 | 1380198 | 175 | 300 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-028 | 278255 | 1380223 | 177 | 300 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-029 | 278175 | 1380294 | 177 | 120 | -50 | 75 | Fokolore | RC | 2018 |
| MRC-18-030 | 278136 | 1380321 | 175 | 120 | -50 | 75 | Fokolore | RC | 2018 |
| MRC-18-031 | 278091 | 1380349 | 183 | 120 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-032 | 278053 | 1380376 | 176 | 120 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-033 | 278217 | 1380807 | 191 | 120 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-034 | 278258 | 1380785 | 120 | 120 | -50 | 85 | Fokolore | RC | 2018 |
| MRC-18-035 | 278296 | 1380770 | 188 | 120 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-036 | 278335 | 1380746 | 174 | 120 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-037 | 278331 | 1380751 | 174 | 215 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-038 | 277284 | 1377461 | 164 | 215 | -50 | 70 | Fokolore | RC | 2018 |
| MRC-18-039 | 277259 | 1377426 | 154 | 215 | -50 | 72 | Fokolore | RC | 2018 |
| MRC-18-040 | 277272 | 1377427 | 159 | 90 | -50 | 70 | Fokolore | RC | 2018 |
| MRC-18-041 | 276984 | 1377444 | 161 | 215 | -50 | 72 | Fokolore | RC | 2018 |
| MRC-18-042 | 276956 | 1377407 | 168 | 215 | -50 | 90 | Fokolore | RC | 2018 |
| MRC-18-043 | 276945 | 1377395 | 170 | 270 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-044 | 277103 | 1377672 | 120 | 215 | -50 | 75 | Fokolore | RC | 2018 |
| MRC-18-045 | 277126 | 1377708 | 166 | 215 | -50 | 75 | Fokolore | RC | 2018 |
| MRC-18-046 | 277106 | 1377688 | 168 | 90 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-047 | 277117 | 1377061 | 164 | 215 | -50 | 75 | Fokolore | RC | 2018 |
| MRC-18-048 | 277093 | 1377024 | 152 | 215 | -50 | 75 | Fokolore | RC | 2018 |
| MRC-18-049 | 277094 | 1377024 | 151 | 90 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-050 | 277253 | 1376595 | 169 | 215 | -50 | 75 | Fokolore | RC | 2018 |
| MRC-18-051 | 277239 | 1376576 | 168 | 215 | -50 | 90 | Fokolore | RC | 2018 |
| MRC-18-052 | 277240 | 1376587 | 171 | 270 | -50 | 75 | Fokolore | RC | 2018 |
| MRC-18-053 | 276972 | 1376640 | 151 | 215 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-054 | 276955 | 1376612 | 161 | 215 | -50 | 75 | Fokolore | RC | 2018 |
| MRC-18-055 | 276935 | 1376585 | 169 | 215 | -50 | 75 | Fokolore | RC | 2018 |
| MRC-18-056 | 276935 | 1376587 | 167 | 90 | -50 | 80 | Fokolore | RC | 2018 |
| MRC-18-057 | 277069 | 1375980 | 161 | 215 | -50 | 70 | Fokolore | RC | 2018 |
| MRC-18-058 | 277068 | 1375981 | 161 | 270 | -50 | 50 | Fokolore | RC | 2018 |
| MRC-18-059 | 277515 | 1377235 | 161 | 215 | -50 | 70 | Fokolore | RC | 2018 |
| MRC-18-060 | 277500 | 1377208 | 162 | 215 | -50 | 70 | Fokolore | RC | 2018 |
| MRC-18-061 | 277489 | 1377180 | 120 | 215 | -50 | 50 | Fokolore | RC | 2018 |

**Table 6.10: Location and technical parameters of the RC Drill holes completed by Fokolore in 2018**

The location of the RC holes is shown in the following figure

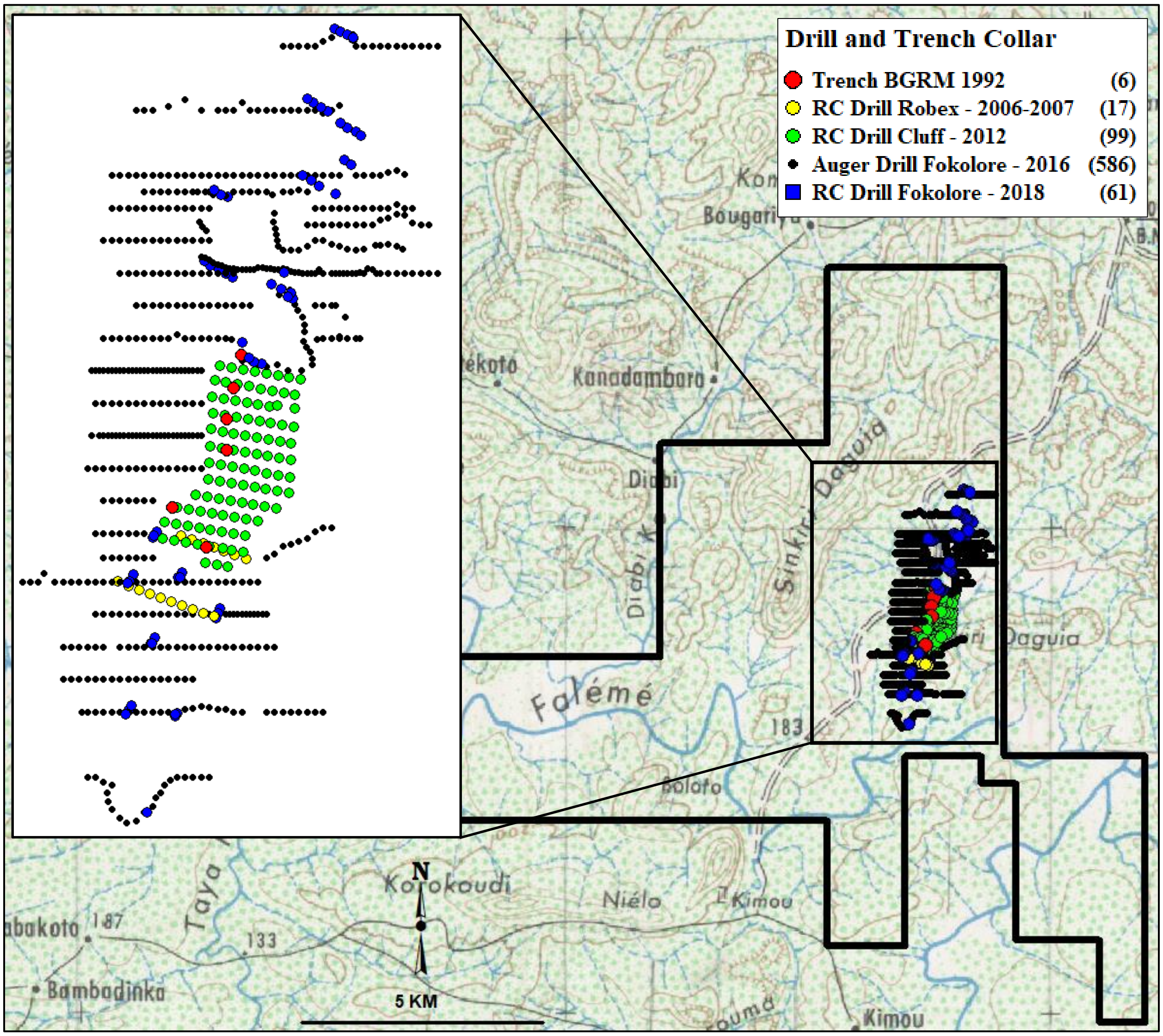



**Figure 6.37: Location map of the RC Drill holes completed by Fokolore at Mamadouya in 2018**

The RC holes encountered the sedimentary units intruded by granodiorite rocks. From this drilling program Fokolore outlined numerous regional structures and local deformation zones and interpreted them to be associated with the gold mineralization.

Interpretation of the RC drilling results indicated that the mineralization remained open laterally and at depth. The drilling results was encouraging and confirmed the depth and lateral extension of the gold mineralization previously intercepted by Cluff. The RC drill holes intercepted large zones of alteration (mainly silicification) that affect the sedimentary units (locally interbedded with black graphite units) that generally contain abundant stockwerk of quartz veins. The most promising gold values were intercepted in drill holes MRC-18-001 (15m@5.06 g/t Au Incl. 4m@15.40g/t Au) and MRC-18-007 (8m@8.99 g/t Au and 2m@5.04 g/t Au).

The best results from the RC drilling program are shown below:

MRC-18-052 : 3.0m @ 4.51 g/t Au
MRC-18-043 : 3.0m @ 20.97 g/t Au Incl. 2.0m @ 31.25g/t Au - MRC-18-017 1.0m @ 3.22 g/t
MRC-18-003 : 1.0m@3.24 g/t Au - MRC-18-009 : 1.0m@3.50 g/t Au - MRC-18-015 : 1.0m@3.88 g/t Au
MRC-18-031 : 1.0m@4.12 g/t Au - MRC-18-054 : 1.0m@4.30 g/t Au - MRC-18-047 : 1.0m@4.56 g/t Au
MRC-18-038 : 1.0m@5.17 g/t Au - MRC-18-015 : 1.0m@4.70 g/t Au - MRC-18-003 : 1.0m@6.94 g/t Au
MRC-18-003 : 1.0m@7.60 g/t Au - MRC-18-003 : 1.0m@16.90 g/t Au

The sections below show the best results in the northern portion of the permit

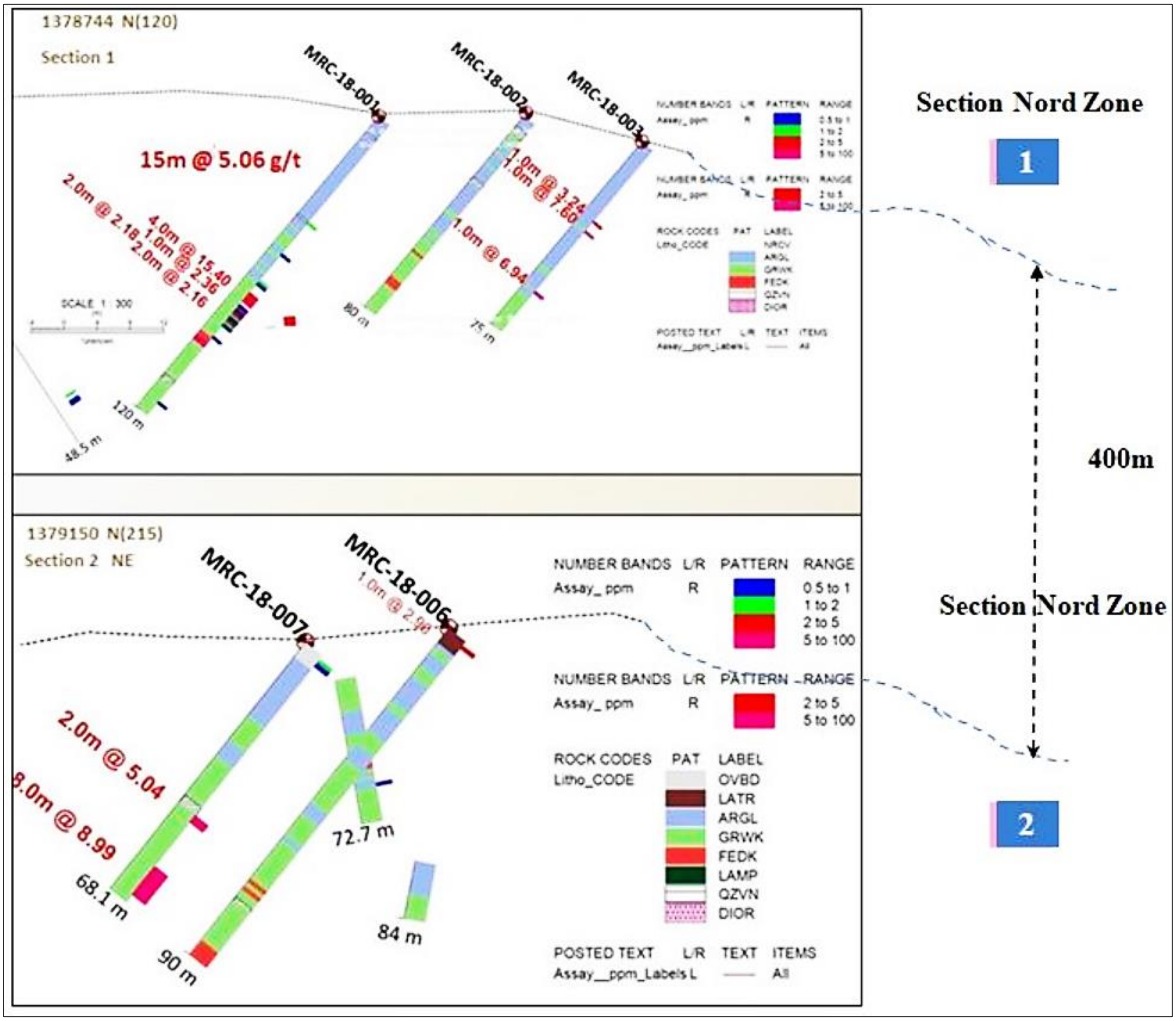



**Figure 6.38: Best results in the northern portion of the permit (Sections 1378744N (120) et 1379150 N (215))**

The Figure 6.39 shows the location map of the Fokolore RC drilling program and the most significant results in the northern portion of the permit.

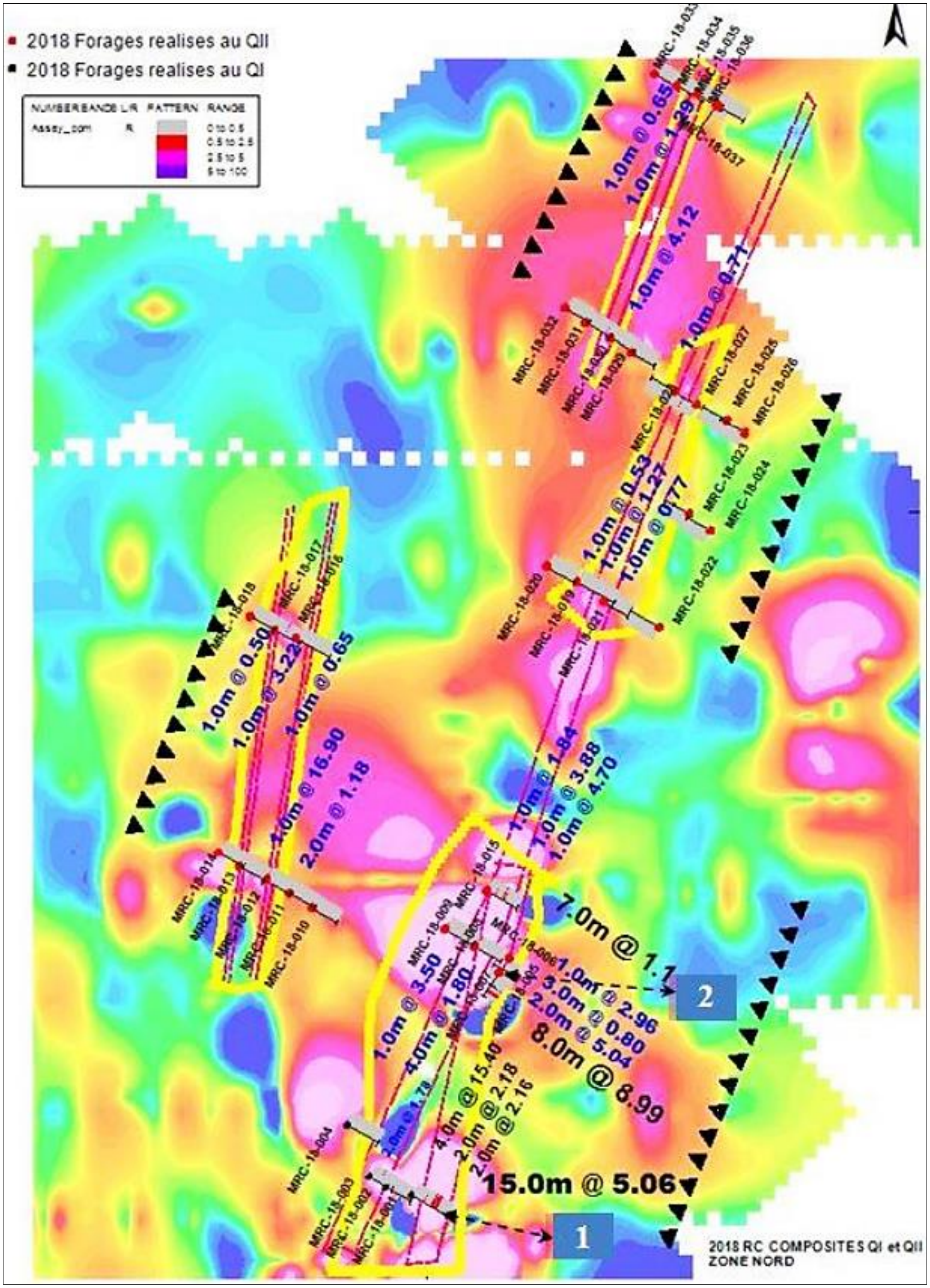



**Figure 6.39: Location map and the best results of the Fokolore RC drilling program in the northern part of the permit**

In the southern zone, the RC drilling program shows a very significant intersection 3.0m@20.97 g/t Au Incl. 2.0m@31.25g/t Au). Figures 6.40 and 6.41 show the location section and map of the Fokolore RC drilling program and the most significant results in the southern portion of the permit.

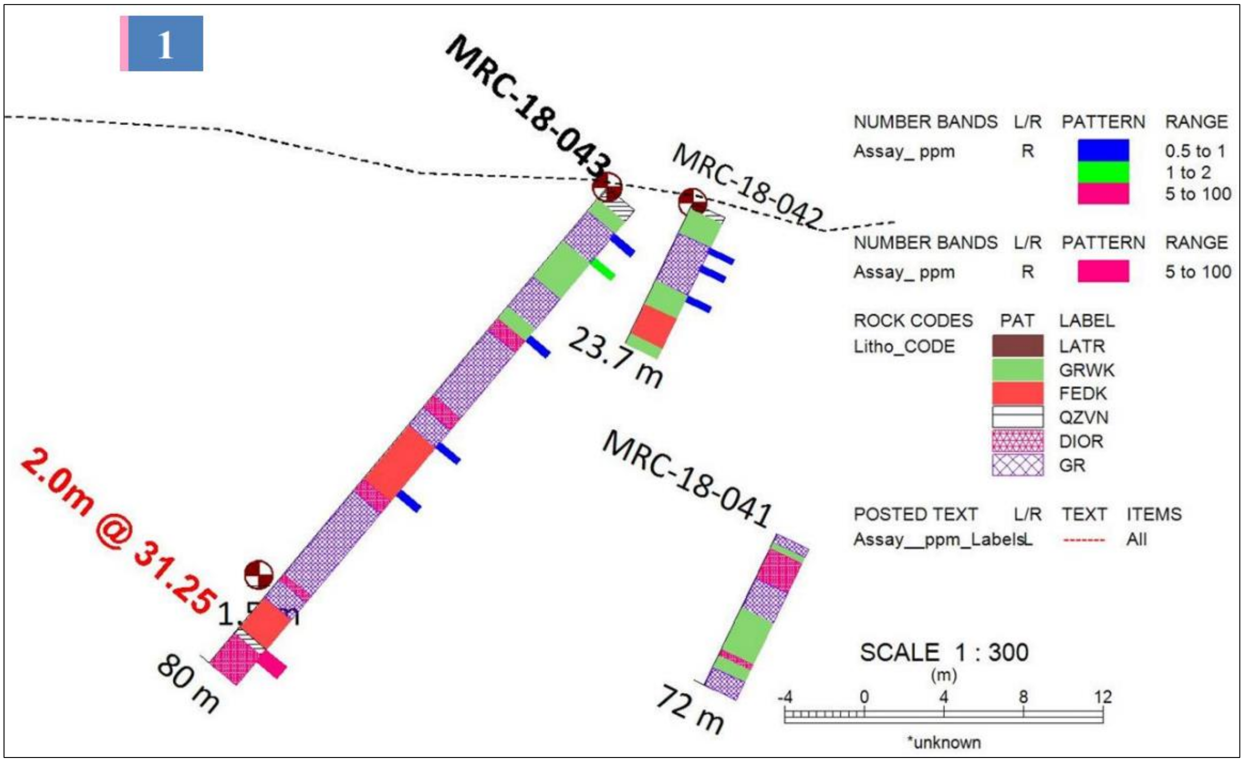



**Figure 6.40: Best results in the southern portion of the permit (Section 1377407N (EW)**

The various lithologies observed in the RC drilling program are summarized as follows:

- Metric to pluri-metric thick Intrusive dyke of granodiorite to felsic diorite in composition.
- Sedimentary units (siltites and greywackes) intruded by the intrusive dyke.
- Abundant stockwork of quartz veins associated with the sedimentary rocks.
- Lateritic formations and alluvium at the surface.

Mineralized units are associated with disseminated sulphides including pyrite and arsenopyrite (1% up to 15% locally). Occasionally, fine gold grains are visible disseminated in the deformed and altered rock.

Interpretation of the gold mineralization intercepted in the RC drill holes demonstrated that the main structure that control the mineralization in the Mamadouya prospect is NNE (Figure 6.41) and extends over 3 km.

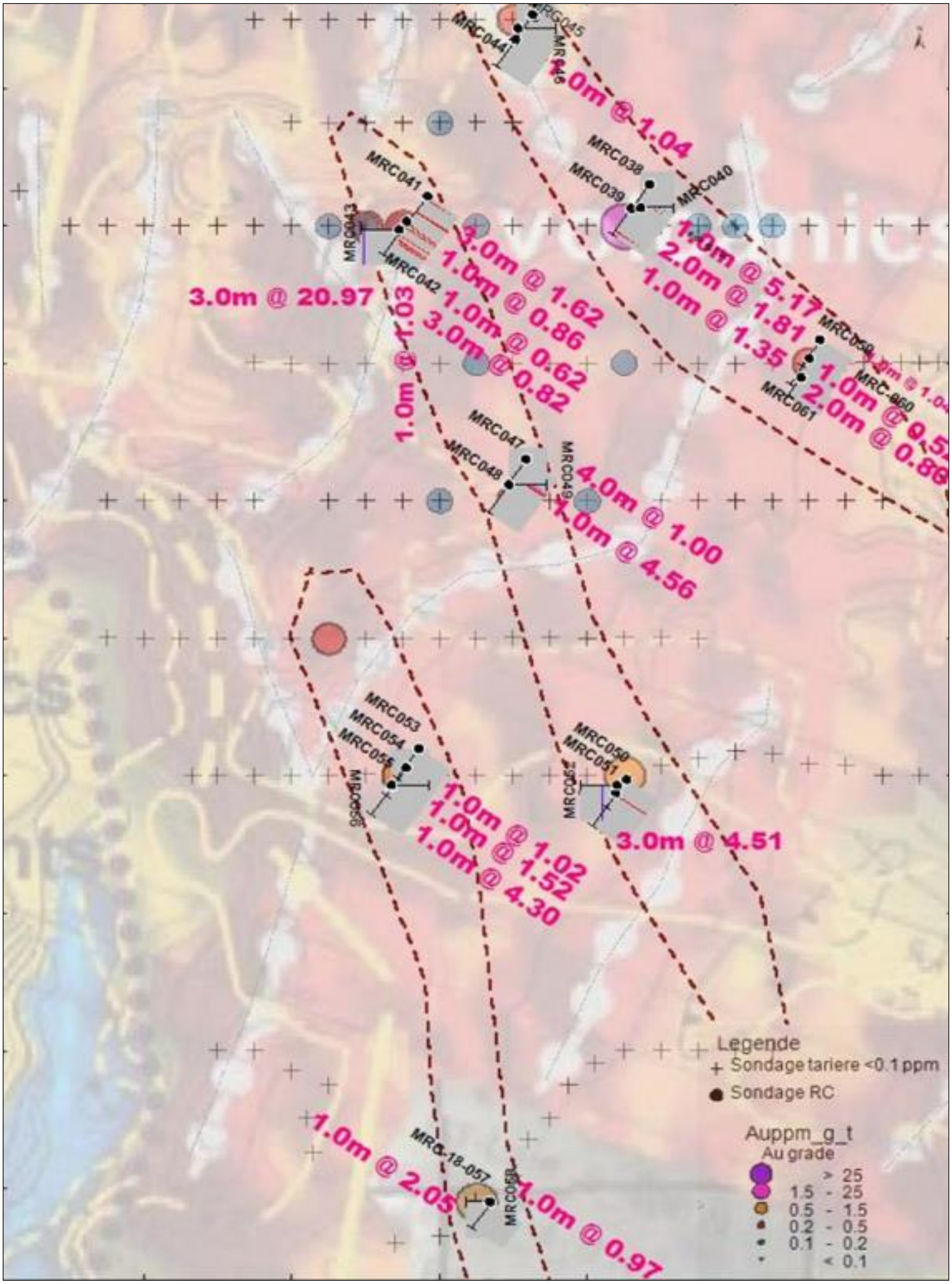



**Figure 6.41: Map showing the location and the best results of the Fokolore RC drilling program in the southern part of the permit**

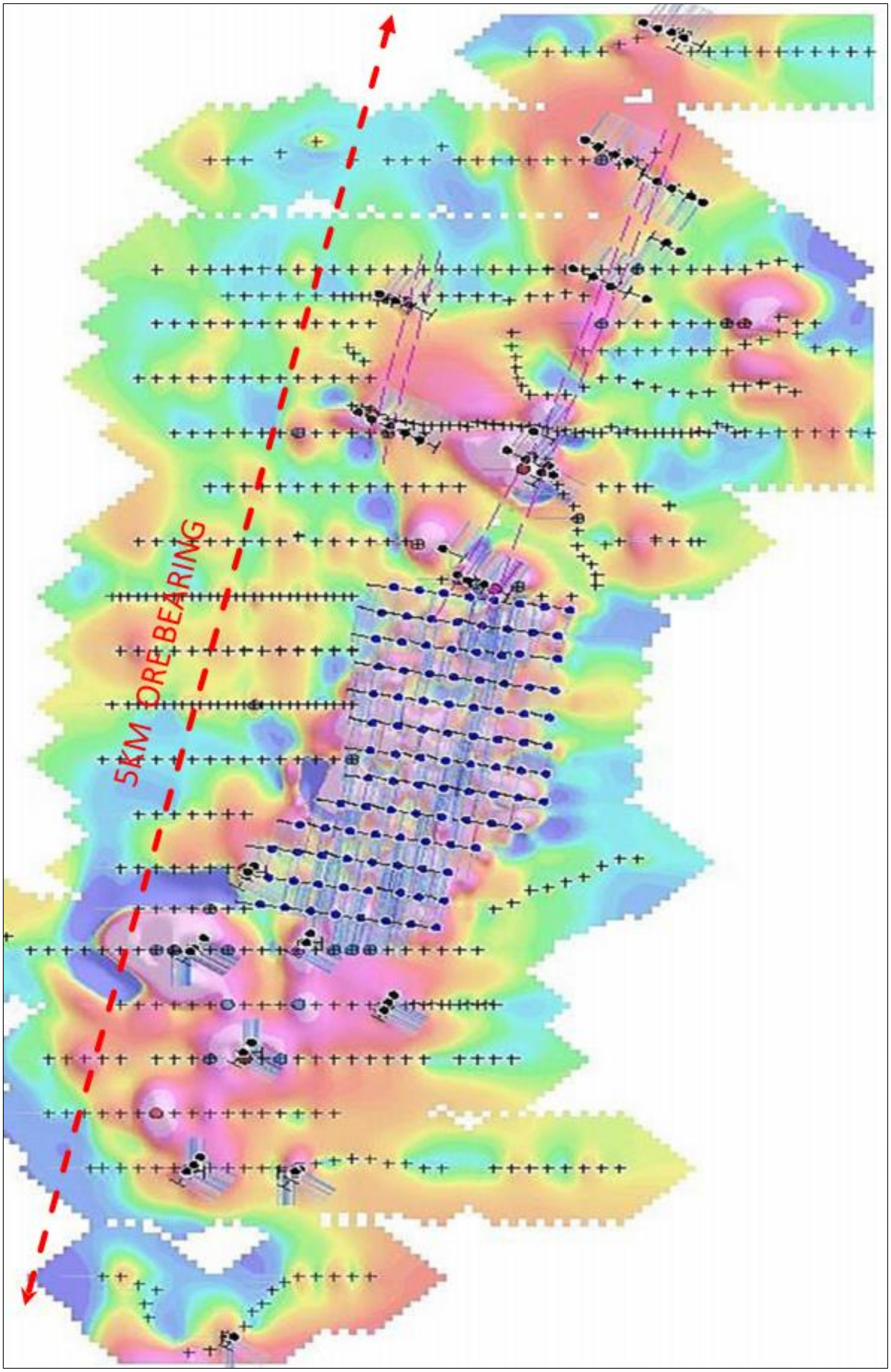



**Figure 6.42: Map showing the gold contours interpreted from the Fokolore and Cluff RC drilling**

## 6.6. Historical drilling descriptions

In 2012, Cluff Gold Plc. Completed a RC drilling program of 12,276 meters totaling 99 RC holes and 13,648 samples in the Maligonga East permit.

In 2018, Folkolore Mining Sarlcompleted two drilling programs. An Auger drilling program totaling 4,748 meters, 586 holes and 1,620 samples in 2016 and and a RC drilling program of 4,920 meters making a total of 61 holes.

The location, azimuth and dip of these drill holes are shown.

The supervision and training of personel involved with drilling, sampling and logging routines was undertaken by experienced personel with many years experience, in drilling procedures. Direct supervision for the onsite drilling operations was conducted by Malian national geologists who remained with their assigned rigs at all times.

### 6.6.1. Reverse Circulation (RC) Drilling

Fokolore completed the RC drilling program under contract to DSC Mali Drilling Service, utilizing a KWL880H drill rig that have universal (RC drilling) capacity. This rig is equipped with a standard air capacity of 350 psi, complemented by an auxiliary booster providing 750 psi. RC drilling is undertaken on two 12 hour shifts. The rig was operated by experienced drillers while the remaining crew was comprised of experienced Malian national personel. RC drilling was compled using a 4.5' diameter rod string, fitted with a 5.25' diameter face sampling hammer to maximize sample volume and limit the potential for contamination.

1 meter samples were collected using via cyclone passing through a 12.5% rotating splitter before collection into sample bags. The cyclone was manually cleaned at the completion of each six meter rod and more thoroughly cleaned at the completion of each hole.Folkolore drilled with an irregular drill pattern targeting the most promiosing gold anomaly zone and fault intersections. During this drill program, RC holes were drilled with various azimuth (between 90$^o$ and 300$^o$) and inclined at -50$^o$ with depth varying between 50 and 120 meters. Cluff drilled wityh a drill pattern of 100m x 60m holes which were inclined -55$^o$ with an azimuth of 280$^o$ typically typically to a depth of 60 to 125 meters.

### 6.6.2. Folkolore Auger Drilling

Folkolore completed the Auger program under contract by TSM (Travaux de Sondage Mali) using truck mounted Houllote mounted rig with onboard 9 bars compressor capacity. Drilling was done on a 10 hour single shift daily under the supervision of experienced drillers and executed by trained Malian national trained geologists.

Samples were collectred at 1 metrer intervals downhole via a cyclone mounted on the side of the rig. Composited of 3m were systematically sampled for gold analysis. Auger holes were vertical varying from 1.5m to 1.65m. All holes were logged and sampled by national geologists under the supervision of experienced geologists.

### 6.6.3. Drilling Quality

Current drilling practices at the Maligonga – East property can be considered to be of a high quality, broadly consistent with international industry standards. Drilling services are also benefitting from closer supervision of more experienced exploration management, complimented by periodic review of the exploration procedures. The quality of drilling can be considered as excellent.

All drill holes completed in the Maligonga-East property were planned to intersect the mineralized structures at right angles but in some situations, this was not possible due to field condition leading to some holes to have not been drilled with the most optimum dip or azimuth.

Samples were collected systematically every meter in all RC drill and 3meters composite in the Auger drill.

Some technical parameters of the drill operation are recording by the on-site geologist. These include:

- Verify that the rig is aligned properly (drill collar, azimuth, inclination are correct.)
- Measurement of the position of the collar using high precision GPS.

Materials required by the geologist during drilling operation include:

- Compass (with clinometer) corrected for magnetic declination
- GPS for positioning the drill collar (1- minute average measurement if field model is available)
- 3 meter long metallic measuring tape (metric) and felt marker
- Logging Forms: Field transport, daily drilling report, driller instruction, induction form

### 6.6.4. RC and Auger drill hole logging

Once homogenized to some degree by splitting, a representative sample is collected from each one-meter and wet screened to provide to provide chips for logging by national geologist.

Representative one-meter washed chips from each RC and Auger drill samples are stored in partitioned and consecutively numbered hard plastic chip trays which are stored to provide a permanent record of the geology of the hole for later reference.

Logging is recorded directly into Excel software on handheld recording device by geologist

- Hole number
- Interval (depth)
- Sample number
- Lithology
- Color
- Fabric style (texture and structures)
- Alteration mineralogy style and intensity
- Quartz veining and fracturing
- Sulphide mineralization if present
- Oxidation state (saprolite, transition or fresh rock)

Figure 6.43: One-meter interval screened chips for logging

These data are directly downloaded or transferred into an Excel database by national geologists and validated by the senior geologist manager before being accepted into the Excel Master Driller Database to await analytical results from the Laboratory

### 6.6.5. Logging Quality

All logging was conducted within within suitable industry standards. Similar to the system set up used regularly in the major gold exploration companies.

# 7.0 GEOLOGICAL SETTING AND MINERALISATION

## 7.1. REGIONAL GEOLOGICAL AND STRUCTURAL SETTING

The Maligonga-East gold project is located in southern Mali within the Leo-Man Shield of the West African Craton (Figure 7.1). At a regional scale, the property is hosted within the Birimian Supergroup of the Baoulé-Mossi Domain. Gold mineralization in southern Mali is restricted to rocks of the Birimian Supergroup of this domain. The Birimian Supergroup is also a significant host for gold mineralization in Burkina Faso, Côte Ivoire and Ghana.

### 7.1.1. Geology of the Birimian of West Africa

The West African Craton (WAC) consists of Archaean and Paleoproterozoic terranes; stable since ~2 Ga, they provide a valuable record of crustal growth processes and contain notable mineral wealth. The WAC is divided into three domains (Figure 7.1): 1) The Reguibat Rise in northern Africa; 2) The Leo-Man Rise in sub-Saharan West Africa and, 3) The Kayes and Kédougou-Kéniéba Inliers in the Sahel region, North West of the Leo-Man Rise. The Reguibat and Leo-Man rises both share contacts with Archaean continental nuclei and are collectively referred to as the Baoulé-Mossi Domain.

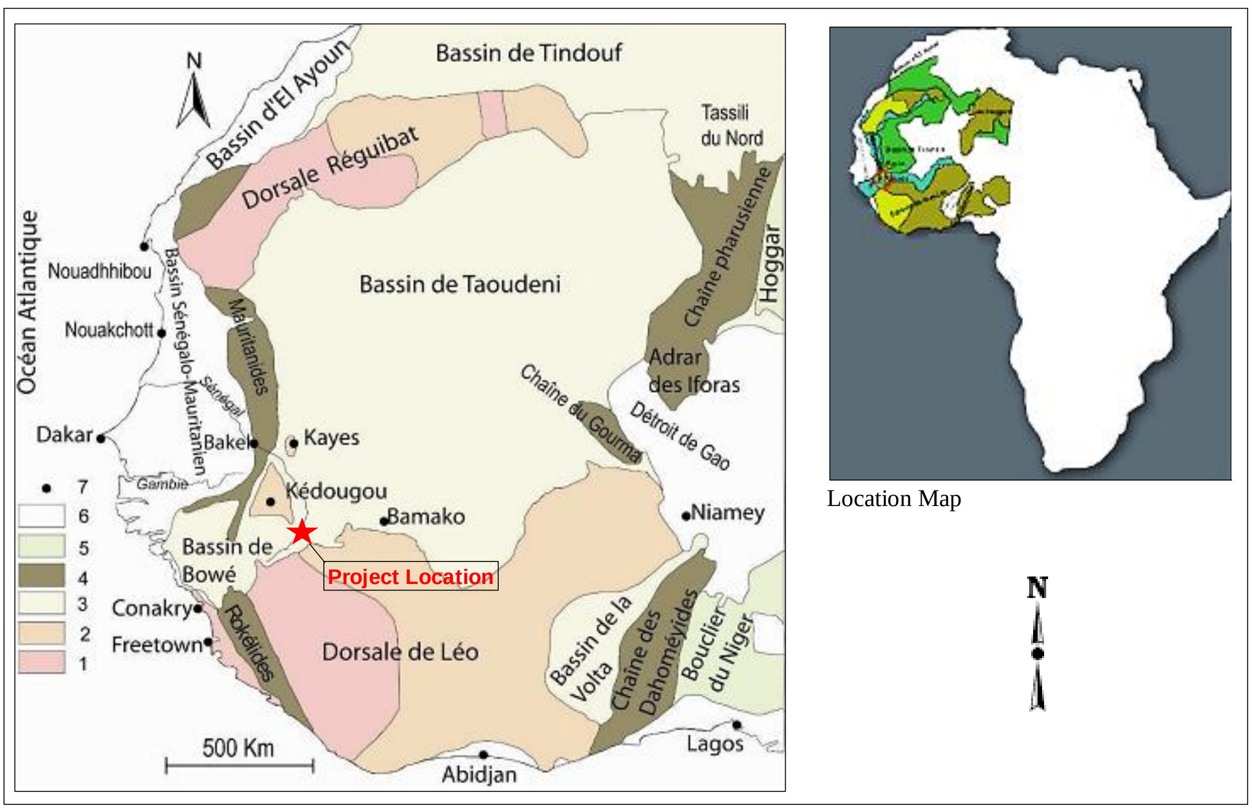



**Figure 7.1: Geological Map of the West African Shield showing location of the Maligonga-East permit and the main litho-structural domains. 1. Archean, 2. Birimian, 3. Late Paleoproterozoic Basins, 4. Mobile zones, 5. Neoproterozoic terranes, 6. Post Paleoproterozoic terranes, 7 Towns. (*Modified from Dabo, 2014)***

The Birimian terranes consist of narrow, linear to arcuate, N to NNE trending volcanic belts, separated by broad sedimentary basins (Figure 7.2). The volcanic rocks are interpreted to be the base of the sequence, with coeval to slightly younger metasedimentary rocks (Roddaz et al., 2007). The terranes were accreted and cratonised during a period of SE to NW directed crustal shortening, metamorphism and magmatic accretion from 2120 to 2080 Ma known as the Eburnean orogeny (Feybesse et al., 2006). Peak metamorphic conditions are widely reported as amphibolite facies (500–600°C; 4–6 kbar), although greenschist facies assemblages are dominant across the region (Hirdes et al., 1996). The volcanic belts consist of tholeiitic lavas and associated mafic intrusions interbedded with minor sequences of immature sedimentary, volcaniclastic and carbonate rocks. The sedimentary basins comprise isoclinally folded and deformed sequences of greywacke, argillite and arkose with calc-alkaline volcanic sequences. Extensive suites of plutonic rocks have intruded both units, and range in composition from tholeiitic gabbro to high-K calc-alkaline granite (Hirdes et al., 1992).

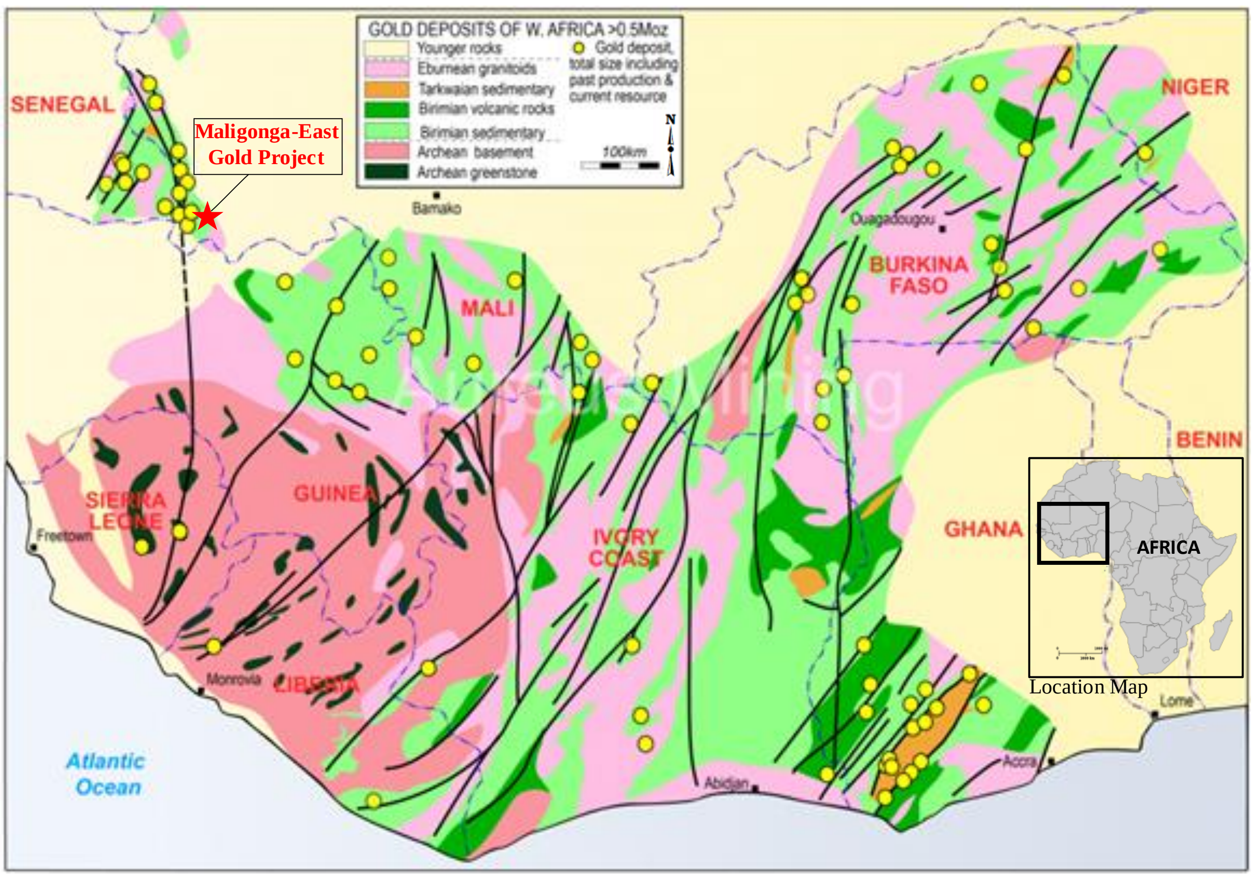



**Figure 7.2: Simplified geological map of West African craton showing settings of main gold deposits (yellow dots) and location of the Maligonga-East Gold Project**

The Birimian terranes formed over a period of ~180 Ma, between 2266 and 2088 Ma (White et al., 2014). In South western Ghana the Eburnean I (2266-2150 Ma) precede the Eburnean II (2216-2088 Ma) (Allibone et al., 2002). In northern Ghana, the earlier event is referred to as the Eoeburnean (2195–2150 Ma) and the latter as the Eburnean (2148–2090 Ma) (de Kock et al., 2011). In Burkina Faso the Eburnean (2130 – 1980 Ma) is preceded by the Tangaean event (2170-2130 Ma) (Tshibubudze et al., 2009). Broadly speaking, the earlier event, in each case, consists of volcanism, granitoid emplacement and fold, thrust tectonics. This is followed by emplacement of younger granitoids, strike-slip deformation and mineralization in the latter event. U-Pb zircon ages show that the Eburnean I encompass early volcanism, between 2266 ± 2 and 2132 ± 3 Ma (Loh et al., 1999), and early plutonism, from 2213 ± 3 to 2151 ± 7 Ma (Gueye et al., 2007). U-Pb dating of detrital zircons shows that sedimentation was coeval with magmatism in the volcanic belts, from 2135 ± 5 Ma in Ghana (Davis et al., 1994). Though there are variations, models for crustal growth in the Birimian largely involve the development of juvenile volcanic arc magmas in an oceanic setting (Dia et al., 1997; Pawlig et al., 2006). Recent P-T-t reconstructions in metasedimentary rocks record blueschist-facies metamorphic conditions diagnostic of subduction environments (Ganne et al., 2011).

### 7.1.2. Lithostratigraphy of the Kedougou-Kenieba Inlier (KKI)

The stratigraphy of the KKI from west to east consists of: 1) bimodal volcanics intruded by numerous plutonic complexes in the MVB; 2) detrital sedimentary rocks of the Dialé-Daléma basin, which are intruded by the Saraya batholith; 3) calc-alkaline volcaniclastic rocks of the FVB and; 4) siliciclastic sediments of the Kofi Series, unconformably overlain by Neoproterozoic sedimentary rocks to the east.

#### 7.1.2.1. The Mako Volcanic Belt (MVB)

The MVB is an NNE trending ~20-40 km wide band of bimodal volcanic rocks which crop out in the west of the KKI (Figure 7.3). They are overlain to the west by the Pan-African Mauritanides belt. The Main Transcurrent Shear Zone (MTZ) marks the eastern edge of the MVB, with the Dialé-Daléma basin to the east. The lowermost units in the west consist of thick flows of massive and pillowed tholeiitic basalt. These are associated with dolerites and gabbros and intercalated with thin felsic tuffs, pyroclastites, rhyolites and minor clastic and carbonaceous sedimentary rocks (Dioh et al., 2006), which become more prominent to the east. The age of the Mako tholeiitic basalts is poorly constrained. Dia (1988) reported a whole-rock Pb-Pb age of 2195 ± 118 Ma. Given this large error, the upper age limit for the Sandikounda amphibolite-gneiss complex is interpreted to be the younger age limit for their eruption as it intrudes the lava sequences. The volcanic sequence is capped by andesitic lava, tuff and pyroclastic rocks (Ngom et al., 2009). An andesite flow in the east of the MVB yielded a Sm-Nd whole-rock age of 2160 ± 16 Ma (Boher et al., 1992).

The MVB is intruded by a plutonic complex known as the Kakadian batholith (Gueye et al., 2007). The batholith is composed of three units in the north (Figure 1); 1) the Sandikounda amphibolite-gneiss complex (SAG); 2) the Sandikounda Layered Plutonic Complex (SLPC); and 3) the Laminia-Kaourou Plutonic Complex (LKPC). The south of the batholith is known as the Badon batholith. The SAG consists of tonalitic to dioritic gneiss containing amphibolite enclaves. This is the oldest unit in the north of the batholith. The SLPC crystallised between 2171 ± 9 (Dia et al., 1997), and is composed of layered hornblende-gabbro, diorite, migmatite and hornblendite, with xenoliths of wherlite and pyroxenite. Elements of the SLPC intruded the SAG (Gueye et al., 2008). The LKPC consists of the Laminia and Kaourou plutons. Tonalite and granodiorite of the Laminia pluton were emplaced at 2138 ± 12 (Gueye et al., 2008).

The porphyritic monzogranite of the Kaourou pluton is younger at 2079 ± 6 Ma (Pb-Pb zircon data; Dia et al., 1997). Both plutons contain xenoliths of Mako volcanic rocks and the SLPC (Dia et al., 1997). The Badon batholith is composed of biotite-granodiorite; magmatic emplacement occurred at a similar time to the SAG at 2198 ± 2 Ma (Gueye et al., 2007). To the south east of the Badon batholith, the Mako belt was intruded by the Soukouta granite-granodiorite complex at 2142 ± 7 Ma (Delor et al., 2010).

The minor Mamakono and Tinkoto plutons intruded the MVB at 2076 ± 3 Ma and 2074 ± 5 Ma, respectively (Gueye et al., 2007). Ar-Ar and K-Ar studies on hornblende by Gueye et al. (2007) showed that the SAG and Tinkoto plutons cooled to ~550 °C by 2112 ± 12 Ma and 2051 ± 16 Ma, respectively. The Badon batholith cooled to below ~300°C at 2098 ± 20 Ma (Gueye et al., 2007).

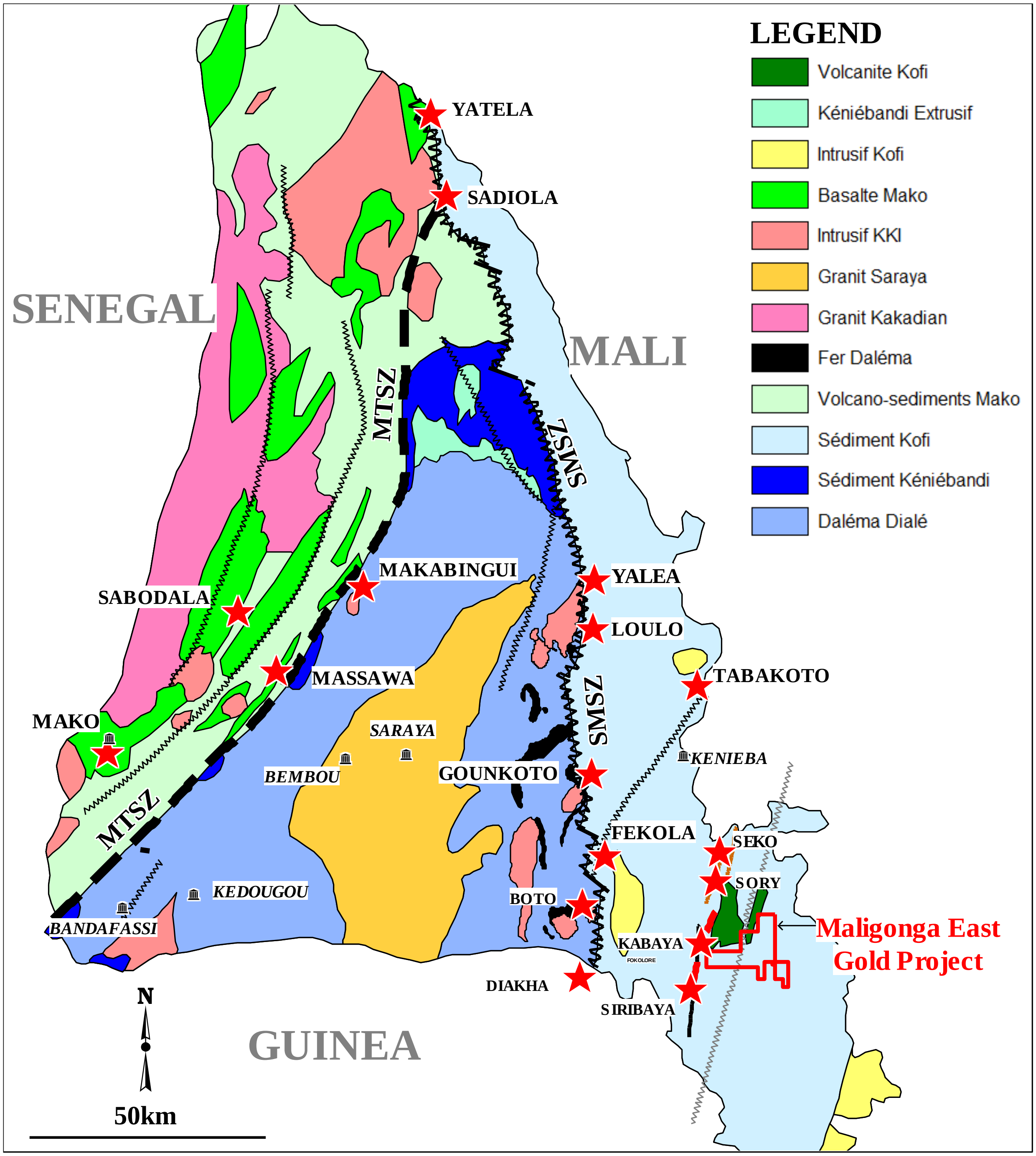



**Figure 7.3: Geological and structural map of the Kedougou-Kenieba Inliers showing the location of the Maligonga-East gold project and the major gold deposits**

#### 7.1.2.2. The Dialé-Daléma series

Cropping out to the east of the MVB, the Dialé-Daléma series consists of a thick sequence of isoclinally folded volcanoclastic, siliciclastic and minor carbonate rocks centrally intruded by the Saraya Batholith (Gueye et al., 2008). The dominant volcanoclastic component of the Dialé-Daléma sediments suggests that they represent a lateral facies equivalent of the MVB. Subordinate basalts are interbedded in the westernmost sequence (Diallo, 2001), where the youngest detrital zircons yield a maximum U-Pb age of 2165 ± 0.9 Ma (Hirdes and Davis, 2002). The Saraya batholith consists of several plutonic bodies, composed of biotite-muscovite-adamellite granite. These bodies were emplaced between 2079 ± 2 Ma and 2061 ± 15 Ma and place a lower limit on sedimentation in the Dialé-Daléma Basin (Delor et al., 2010).

#### 7.1.2.3. The Falémé Volcanic Belt

The Falémé Volcanic Belt crops out to the east of the Daléma basin (Hirdes and Davis, 2002). The FVB is a ~16 km wide NNE trending belt of volcanic and intrusive rocks. Outcrop is dominated by plutonic rocks, consisting of two plutonic complexes: 1) the Balangouma pluton in the north; and 2) the Boboti pluton in the center and south of the belt. Several smaller plutons crop out in the southern and eastern regions of the FVB, including the South Falémé (Hirdes and Davis, 2002) and Garaboureya plutons. The volcanic sequences comprise pillowed andesite flows, subordinate rhyodacite lavas and pyroclastic rocks. These are interbedded with volcanoclastic rocks, wackes and carbonate rocks (Schwartz and Melcher, 2004). Magnetite skarn deposits are hosted in several of the smaller plutons and carbonate rocks (Schwartz and Melcher, 2004). U-Pb zircon ages date a several volcanic and sub-volcanic rhyolite units at 2099 ± 4 Ma, 2082 ± 8 Ma and 2064 ± 30 Ma, with inheritance at 2155 ± 34 Ma (Hirdes and Davis, 2002).

#### 7.1.2.4. The Kofi Series

The Senegal-Mali Shear Zone (SMSZ) is a sinistral brittle-ductile shear zone that forms a 1-10 km wide NS trending corridor of varying deformation styles, and separates the Kofi Series from the FVB. Secondary and higher order splays off the SMSZ host the major Au deposits in the Kofi Series, including Gara, Yalea, Sadiola, Yatela and Gounkoto (Lawrence et al., 2013a). The Kofi Basin is made up of detrital sedimentary and carbonate rocks and breccias intruded by minor mafic dykes and small intermediate to felsic stocks. The sedimentary rocks in the Kofi Series are dominantly wackes, with end member sandstone (rare) and argillite (common). Wackes and argillites are typically interbedded on a small scale (10s cm), although both rock types occur as thicker units, with gradational changes from quartz wacke through to argillite common. The siliciclastic component of wackes varies between quartz and feldspar rich, with clasts showing a large range in size and shape. Certain packages of quartz wacke, particularly in the west of the series have been intensely tourmalinised (Lawrence et al., 2013a), while others have been albitised.

The Kofi Series is carbonate-rich to the west, with proximity to the Falémé Volcanic Belt. These carbonate rocks are dominantly dolomitic marls. Silicic clasts are composed of fine grained and sub angular quartz and feldspar. All sedimentary lithologies in the Kofi Series show poly-phase deformation generated during the Eburnean orogeny (Dabo and Aïfa, 2010). The igneous rocks that intruded the Kofi Series include dolerite to monzodiorite dykes and small stocks of quartz feldspar porphyry. Two larger plutons of monzogranite composition also intruded the Kofi Series, namely the Gamaye and Yatea plutons. The age of deposition in the Kofi Series is constrained by detrital zircons and intrusive plutonic rocks. Tourmalinized quartz wacke at the Gara deposit are dated by Pb-Pb at 2093 ± 7 Ma (Boher et al., 1992). An older, deltaic deposit on the margin of the FVB yields an age of 2125 ± 27 Ma (Boher et al., 1992), though it is unclear whether this belongs to the Kofi Series or the FVB. The Gamaye pluton has been dated at 2045 ± 27 Ma, providing a broad lower age limit for sedimentation (Bassot and Cean-Vachette, 1984).

### 7.1.3. Structural Setting of the Kedougou-Kenieba Inlier

The West Africa shield was affected by a polycyclic deformation resulting of a compressional tectonism $D_1$ followed by a transcurrent deformation $D_2$ and $D_3$ described as regional senestral and dextral shears zones postdating eburnean granitoids (Milesi et al., 1992). The first phase of deformation $D_1$ was compressive followed by a later transcurrent movement and deformation $D_2$-$D_3$. (Dabo et Aïfa, 2010) Major crustal shear zones regionally bound, and influence the overall north-northeast lithologic grain in the region. These include a north-northeast trending shear zone that forms a boundary between the Mako and Diale-Dalema groups called the Main Transcurrent Shear Zone (MTZ) (Pons et al., 1989; Gueye et al., 2008).

The MTZ converges with, and may join to the north in Mali with the major northerly trending Senegal-Mali Shear Zone, which is spatially associated with several major gold deposits, including Sadiola and Loulo in Mali. The structures wrap around major intrusions, and NW trending linking structures between major shear zones are also present, all of which form potentially prospective sites for gold deposit. The transcurrent deformation has been interpreted as being synchronous with the gold mineralization and the emplacement of several calc-alkaline granites. The regionally developed foliation trending 030° appears to be related to folding on all scales throughout the KKI during the Eburnean Orogeny (Ledru et al. 2002). Field relationships suggest that gold mineralization in the region is probably coeval with latter stages of shear zone development. Major gold deposits including Yalea, Gounkoto, Tabakoto, Segala and Fekola are spatially associated with generally NE SW subsidiary structures splaying off the main SMSZ.

### 7.1.4. Metamorphism of the Kedougou-Kenieba Inlier

Regional greenschist metamorphism has also been interpreted as being associated with both compressive and transcurrent phases of deformation. The regional metamorphism within the Kedougou-Kenieba Inliers is of lower greenschist facies conditions whereas contact metamorphism of hornblende-hornfels occurs near the intrusions. Higher-grade rocks form a small domain within the Mako volcanic belt and are referred to as the ‘complexes amphibole-gneissic de Sonfara-Sandikounda’ (Gueye et al. 2007, 2008).

### 7.1.5. Regional Surficial Geology of the Kedougou-Kenieba Inlier

Lateritic weathering combined with duricrust formation is active in the region. Apart from local hills and resistant lithologies, much of the terrain is covered by laterite and ferricrete resulting in limited rock outcrop. Oxidation depth in the region is highly variable, but is generally several tens of meters. Thick soils and colluvial materials cover large land. Close to the Faleme River lenses of lateritized alluvial deposits can be observed.

## 7.2. Permit Geological and Structural Setting

The Project is hosted in early Proterozoic Birimian metamorphic rocks bordered to the east and southwest by late Proterozoic generally unmetamorphosed clastic sedimentary rocks. The Birimian rocks of the project area belong to the Kofi Formation, which generally trends north-northeast. According to Lawrence et al. (2013), the Kofi Formation comprises a sequence of shelf carbonates and calcareous clastic rocks, turbiditic sedimentary rocks, tourmalinized quartzwackes, feldspathic sandstones, and calcareous greywackes with argillite intercalations.

In the project area, the general strike is around N025°E with a steep dip of about 70° to 80° eastward. Rocks of the region have experienced regional brittle and ductile strike-slip deformations and have been metamorphosed to greenschist facies with development of chlorite, calcite, albite, sericite, and epidote (Milési et al., 1989; Dommanget et al., 1993; Feybesse et al., 2006).

Within the Maligonga-East project area (Figure 7.4), the Paleoproterozoic supracrustal metasedimentary rocks strike predominantly NNE and dip steeply eastwards. These sediments include:

- Flyshoïd formation dominated fine sediment (argillites and siltites) with intercalations of feldspathic sandstone and quartzites (Figure 7.4)
- Siltites formation and epiclastic sandstone, with intercalations of dacites and coarse-grained sandstone
- Conglomerates, coarse-grained sandstone and pelite with abundant intercalations of carbonatous sandstone and/or carbonates, volcanites et intermediaries epiclastic sandstone, and acids volcanites. Meta-greywacke Formations

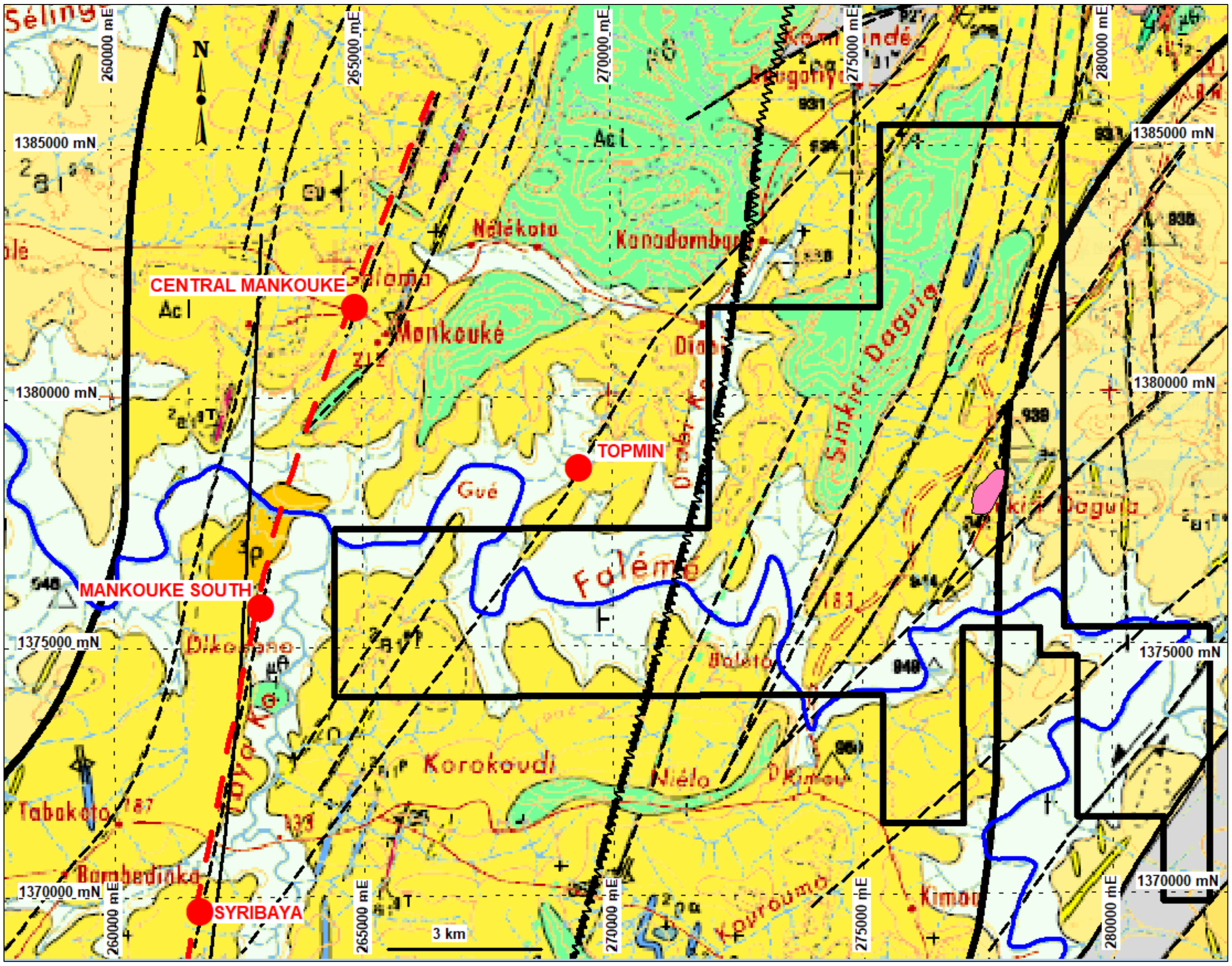
This sequence is intruded by concordant Birimian granitoid stocks comprising:

- Granit and/or monzonitic granite with biotite concordant to stratification (Figure 7.4).
- Dacites (lava – pyroclastites)

Late Mesozoic dolerite dikes and beds intersect all lithological units and appear interfere with pre-existing structures (Figure 7.4). These dolerite dykes cross cut all lithologies in the KKI and show no clear evidence of deformation or hydrothermal alteration. These are more continuous than the Birimian dykes and vary in thickness from 2 to 200 m.

Quaternary alluvium formations occur along the main river

The structural framework, interpreted from regional geological and geophysical maps, includes three major directions of lineaments in the Maligonga-East permit (Figure 7.4): north-east, north-northeast and north-south. The north-northeast trending faults are similar to the Siribaya major shear zone structure and appear to be second order Fault systems and the most prospective structures for controlling the gold mineralization in the permit.




**LEGEND**

**Recent Formations (Quaternary)**

F — Alluvium

**Mesozoic**

μΘ — Dolerite

**Paleoproterozoic Formations**

***Intrusive rocks***

Granit and/or monzonitic Granit with biotite

Dacites (lava – pyroclastites)

Feldspathic Sandstone

***Supracrustal Metavolcano-sedimentary Birimian Formations***

Flyshoïd Formation dominated fine sediment (argillites and siltites) with intercalations of feldspathic sandstone and quartzites

Siltites Formation and epiclastic sandstone, with intercalations of dacites and coarse-grained sandstone

*Discordance*

Conglomerates, coarse-grained sandstone and pelite with abundant intercalations of carbonatous sandstone and/or carbonates, volcanites et intermediaries epiclastic sandstone, and acids volcanites. metagrauwackes Formations

**STRUCTURES**

Major crustal-scale Fault system

Second Ordre Fault systems

Faulted Lithological Contact

Siribaya Structure

River

Gold deposits

**Figure 7.4: Geological map of the Maligonga-East permit showing the main lithological units, the structural elements and the gold deposits**

## 7.3. GOLD MINERALISATION

Primary gold mineralization within the Paleoproterozoic Birimian terrain has been sub-divided by Milési et al. (1992) into pre-orogenic, syn-orogenic, and late-orogenic. The late orogenic gold mineralization is typically associated with brittle-ductile deformation and is associated with Au, B, W, As, Sb, Se, Te, Bi, Mo, with traces of Cu, Pb, Zn. Gold commonly occurs as native gold or as fine inclusions within the sulphides or the gangue, which consists of quartz, albite, carbonate, muscovite, pyrite, and tourmaline.

Gold mineralization at Maligonga-East is a mesothermal shear-zone-controlled, intrusive related, orogenic -type mineralization, hosted in greenstone folded and faulted sediments, consistent with the majority of Proterozoic terrains, including the Birimian Series of West Africa. This style of mineralization is generally associated with regionally metamorphosed and deformed terrains. As such, the gold mineralization is structurally, rather than lithologically controlled. At Maligonga East, gold is developed along a high-angle NNE-striking, steeply ENE-dipping sinistral-reverse fault (Figure 7.5) and preferentially hosted in the more permeable, coarser-grained greywacke rocks. Gold occurs in deformed zones of large and hydrothermally altered, structural corridors that contain a complex network of extensional dilation fracture systems. Gold is dissemination into the host rocks and associated with pyrite, pyrrhotite, and arsenopyrite. Key alteration associated with the gold mineralization are silicification, calcite and chlorite suggesting low temperature formation during gold deposition typical of the shear zone type orogenic gold mineralization.

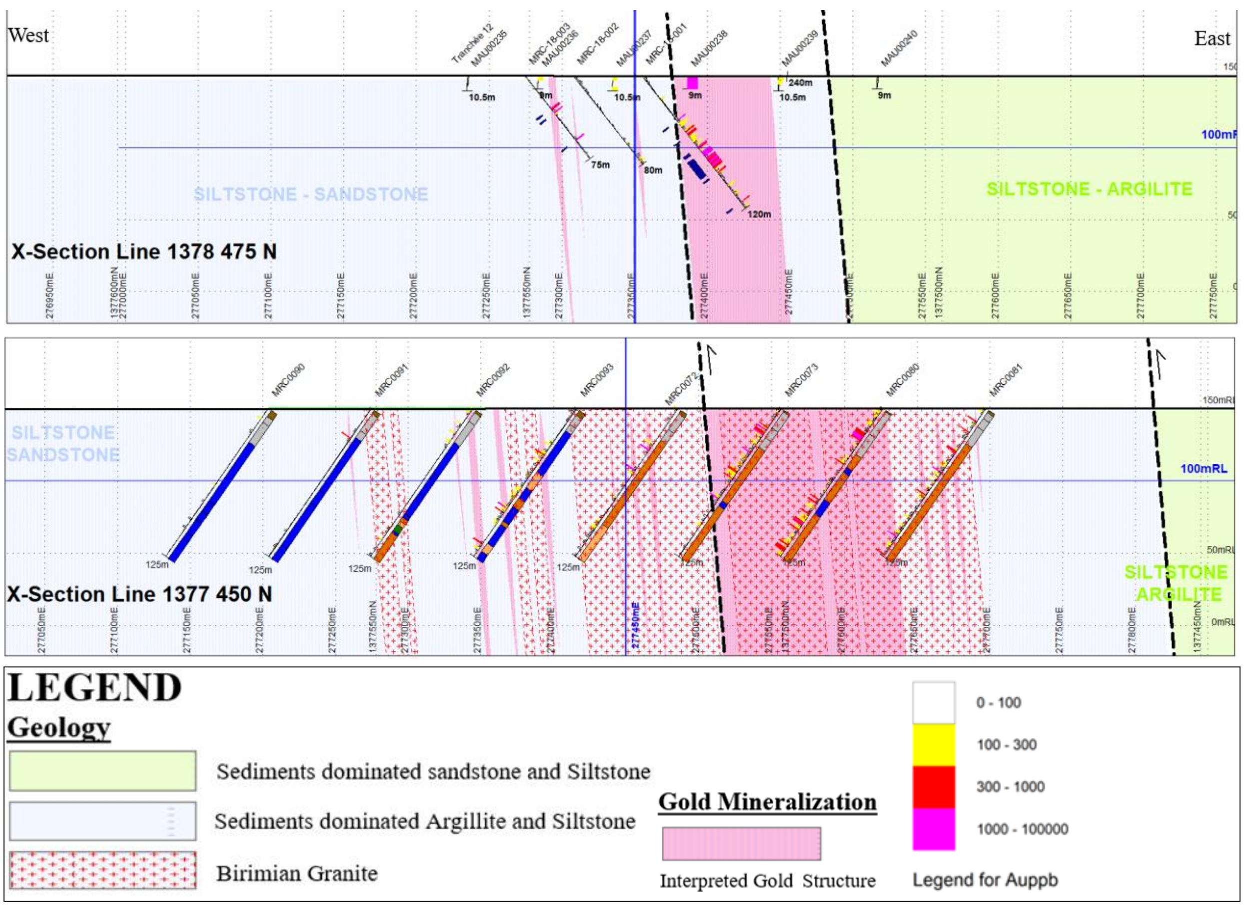



**Figure 7.5: Geological and structural section of the Mamadouya gold mineralization showing the relationship between geology, structures and gold mineralization in the Maligonga-East property**

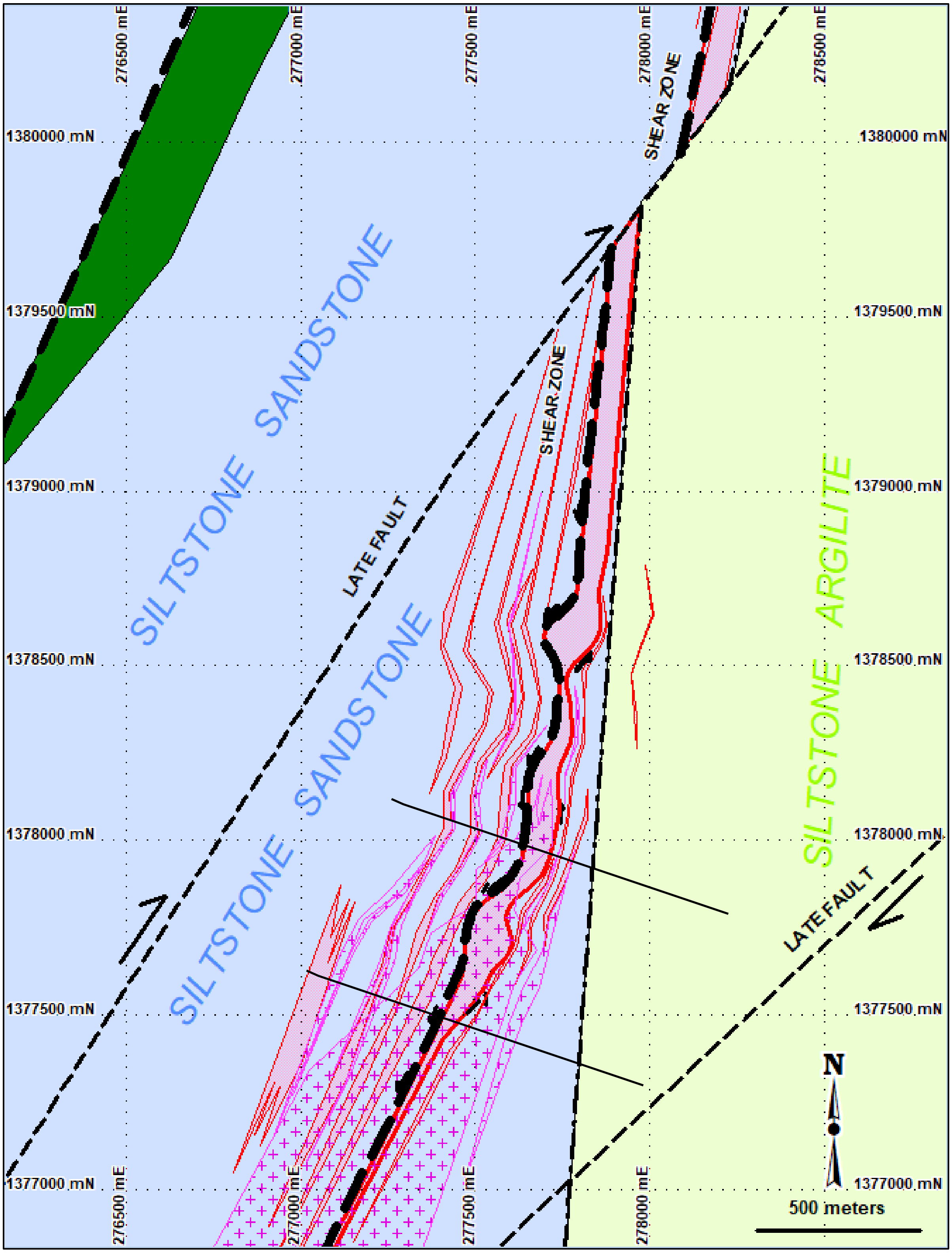



**Figure 7.6: Interpreted geological and structural Map of the Mamadouya Gold mineralization showing geological units, structural elements and the interpreted gold mineralized structure.**

# 8. DEPOSIT TYPES

The deposit type identified in western Mali region is a Mesothermal shear-zone hosted orogenic-type gold deposits that are a distinctive class of gold deposit and form an integral part of the tectono-metamorphic evolution of the West African Shield. Orogenic gold deposits are almost exclusively associated with auriferous quartz-carbonate veins indicating veining in the presence of supra-lithostatic fluid pressures (Ridley and Diamond, 2000). Quartz veining testifies to the structurally controlled fluid infiltration over a broad range of upper- to mid-crustal pressures and temperatures, between about 200 - 650°C and 1-5 kbar (Goldfarb et al., 2001) emphasizing the significance of deformation, most commonly in the form of shear zones. These structures control fracture-controlled fluid-flow and gold mineralization, focusing large volumes of hydrothermal fluids required for an economic-grade mineralization (Sibson and Scott., 1998).

Formation of mesothermal orogenic-type gold deposits involves structural and regional tectonic conditions that allow the accumulation of fluids over-pressured to near-lithostatic values and their intermittent release through fault-valve action (Sibson and Scott, 1998). The deformation of rocks creates regional hydraulic gradients that may trigger fluid migration. Fluid movement in the largely impermeable wall-rocks is largely determined by fracture permeability. Veining is recorded over a wide range of metamorphic conditions, but is favored under brittle-ductile and commonly greenschist-facies conditions (Goldfarb et al., 2005). The relationship between deformation in brittle-ductile terrains and fluid flow explains the close spatial association between auriferous vein systems and shear zones in volcano-sedimentary terrains (Robert and Poulsen, 2001). Fluid flow and mineralization are commonly localized around second- and higher-order shear or fault zones adjacent to first-order structures (Groves et al., 1998). These structures developed late in the overall tectono-metamorphic evolution of the host terrain and commonly involve a compressional or transpressional component. High-angle reverse faults are regarded as particularly important targets (Sibson and Scott, 1998), favoring the development of temporarily supra-lithostatic fluid pressures leading to fracturing and associated destabilization of gold complexes from the hydrothermal fluid.

Gold mineralization at Maligonga-East is associated with mesothermal shear-zone hosted gold mineralization, entirely consistent with the majority of Proterozoic terrains worldwide, including the Birimian Series of West Africa. This style of mineralization is generally associated with regionally metamorphosed terrains that have experienced considerable deformation. As such, the deposits are invariably strongly structurally, rather than lithologically controlled.

At Maligonga-East, gold mineralization is preferentially developed in the more permeable, altered, coarser grained sediments successions, within north northeast trending structures. Mineralization is localized by a combination of lithological and structural controls and, the latter is predictably the more dominant. In the project area the dip and strike of mineralized zones, and to a lesser extent the style of mineralization, varies considerably between deposits. Generally, gold is dominantly associated chlorite-quartz–carbonate–sulphides assemblage, stockwork of quartz-carbonate-sulphide veinlets, or skarn magnetite-epidote-pyrite and arsenopyrite mineralization. Deep weathering of primary shear-hosted gold mineralization enhanced the economic viability of some of the gold deposits currently being mined in West Africa.

# 9. EXPLORATION

## 9.1. Exploration Programs Completed by Waraba Gold Limited in 2021

Works carried out by Waraba Gold Limited during the 2021 exploration program consisted of:

- A compilation and interpretation of existing termite mound and soil geochemistry data
- A geomorphological mapping of the entire permit at a scale of 1/10000
- A lithogeochemistry sampling of altered outcrops during field mapping
- A detailed geological and structural mapping

### 9.1.1. Compilation and interpretation of existing termite mound and soil geochemistry data

In 2021, Waraba Gold Limited undertook a reinterpretation of the surface geochemistry survey data and a lineament interpretation map from geological and structural data over the Maligonga-East Permit. Overlay of the geochemical values greater than 25 ppb with the structural lineaments delineate five gold targets that formed the basis for Waraba further exploration works (Figure 9.1).

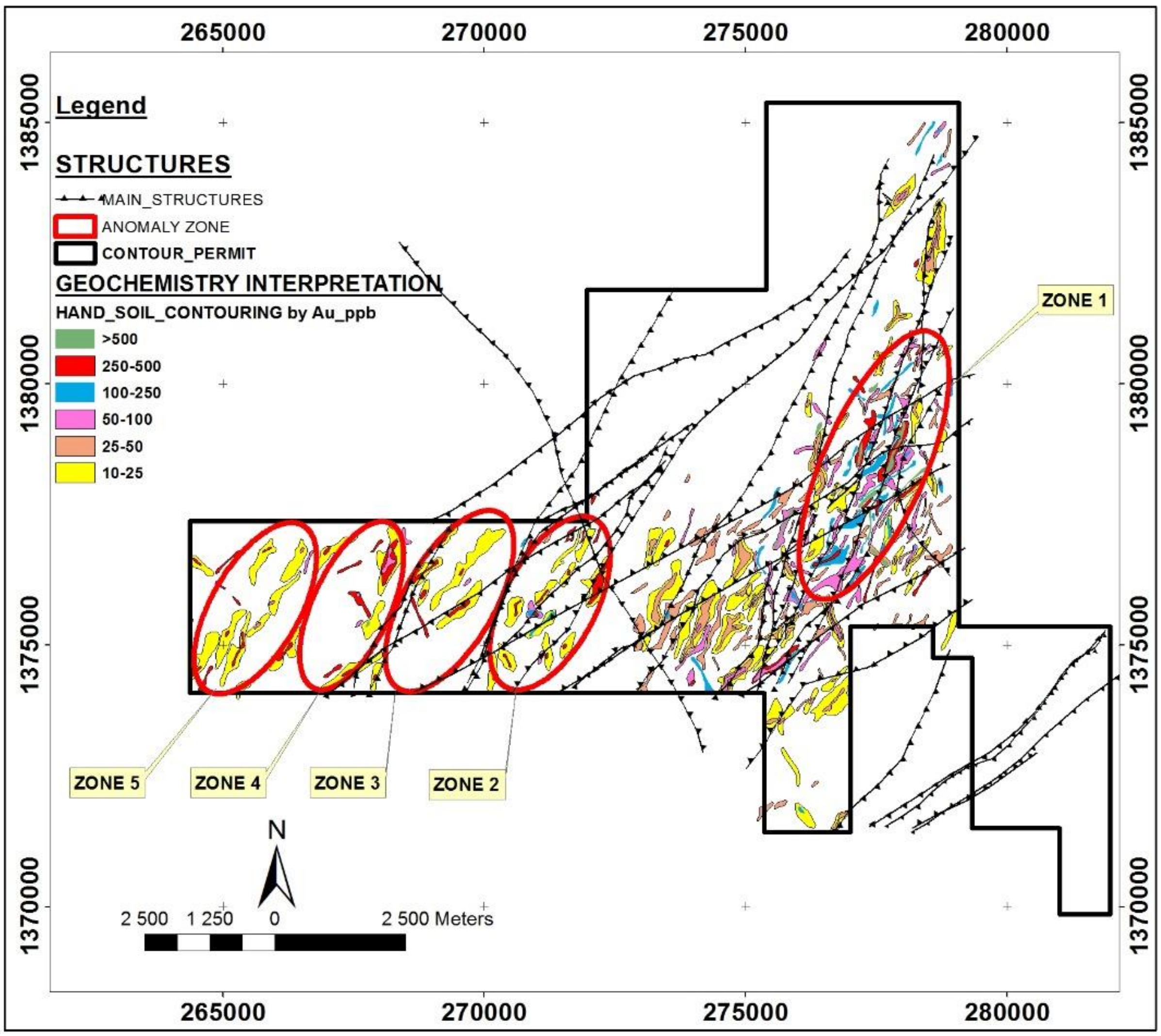



**Figure 9.1: Overlay of the geochemical values greater than 25 ppb with the structural lineaments**

### 9.1.2. Geomorphology / Regolith Mapping

Waraba Gold Limited completed a geomorphological and regolith mapping campaign that covered the entire permit. (Figure 9.2). The mapping indicates that the permit area is covered by more than 70% of laterite formation. Laterites develop by intensive and prolonged weathering of the underlying parent rock. Laterization is a process of chemical weathering which produces a wide variety in the thickness, chemistry and mineralogy of the resulting soils. Laterites are rusty-red colored and composed of clay and iron hydroxides minerals. The regolith mapping revealed the occurrence of 4 types of regoltith units:

#### 9.1.2.1. High Laterite plateau

High plateaus are the oldest laterite formation and are characterized by plateaus and hilltop carapaces formed from ferricrete with little overburden. The high lateritic plateaus cover nearly 10% of the permit. The laterite is brown or light brown, porous and more permeable, usually vermicular. In places it can be massive embedding pisolites. This High plateau is present in the southern part of the mapped area (Figure 9.2).

#### 9.1.2.2. Low Laterite plateau

The Low plateau are fairly widespread in the Maligonga-East Permit and presents some features of an evident tranport. It is essentially made up of lateritic crusts, locally bearing a poorly developed silty-clay soil enclosing some laterite rock chip pebbles and blocks. It is very hard, dark consisting mainly of hematite and goethite and composed of pisolites with abundant rounded rock fragments. The low lateritic plateau nearly covers 20% of the permit (Photo 3, Figure 9.2).

#### 9.1.2.3. Erosional regime

These are areas where rocks outcrop and are generally the plateau slope and low hill areas. The origin of the regolith materials in this regime is in-situ. These areas constitute zones of active erosion and residual units in place (mottled-zone and possibly saprolite). These areas, which are very favorable for soil sampling, are however quite narrow and only cover 10% of the permit area (Figure 9.2).

#### 9.1.2.4. Depositional regime of alluvium and colluvium

Alluvium occurs along main rivers and is composed of fine-grained white to gray clayey material. The alluvium unit is fairly widespread in the permit and is composed of alluvial plain along major and secondary rivers. It is composed of thick layers of fine distal sediments. The alluvial plain completely masks the geochemistry of the underlying rock.

Colluvium accumulate at the base of plateau slope by mass wasting or sheet erosion. It represents about 60% of the permit area (Figure 9.2)

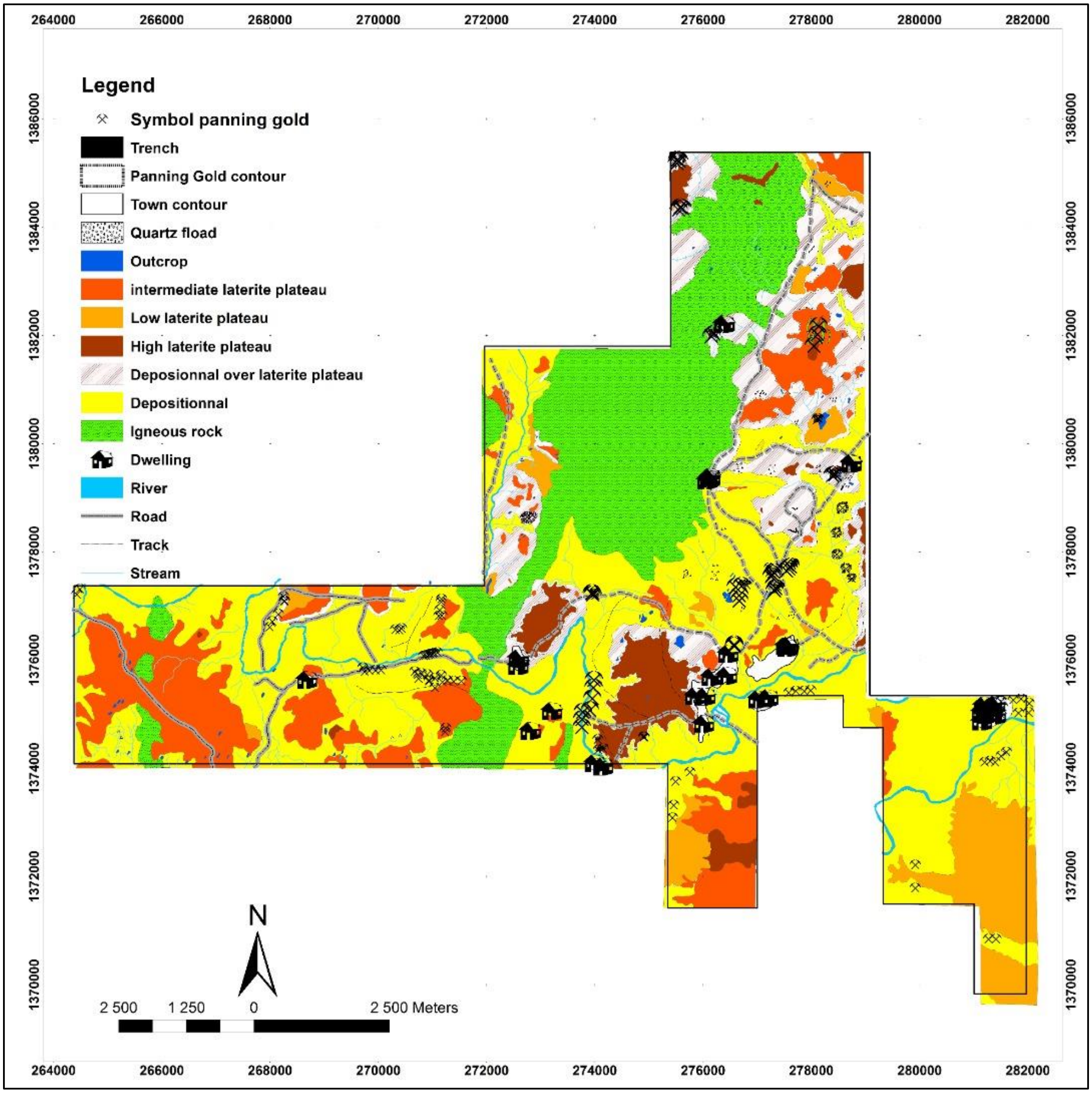



**Figure 9.2: Regolith map of the Maligonga-East Permit showing the main regolith units**

### 9.1.3. Lithogeochemical sampling

Waraba Gold Limited initiated a field mapping program to create litho-geomorphological maps at a scale of 1/5,000. The survey involved east - west traverses over the areas on 200m spaced lines using handheld GPSs set to UTM co-ordinates WGS84, zone 29N datum. Twenty-six traverse lines were completed and 564 samples of 2.5 to 3 kg weight collected of which 176 were rock chip samples, 95 samples collected from abandoned artisanal mining pits and 25 from channel samples over exposed bedrock. The samples were packaged in plastic bags on which the sample numbers are marked. Samples were sent to the SGS laboratory for analysis. Thirty of the rock chip samples returned values greater that 400 ppb (Table 9.1).

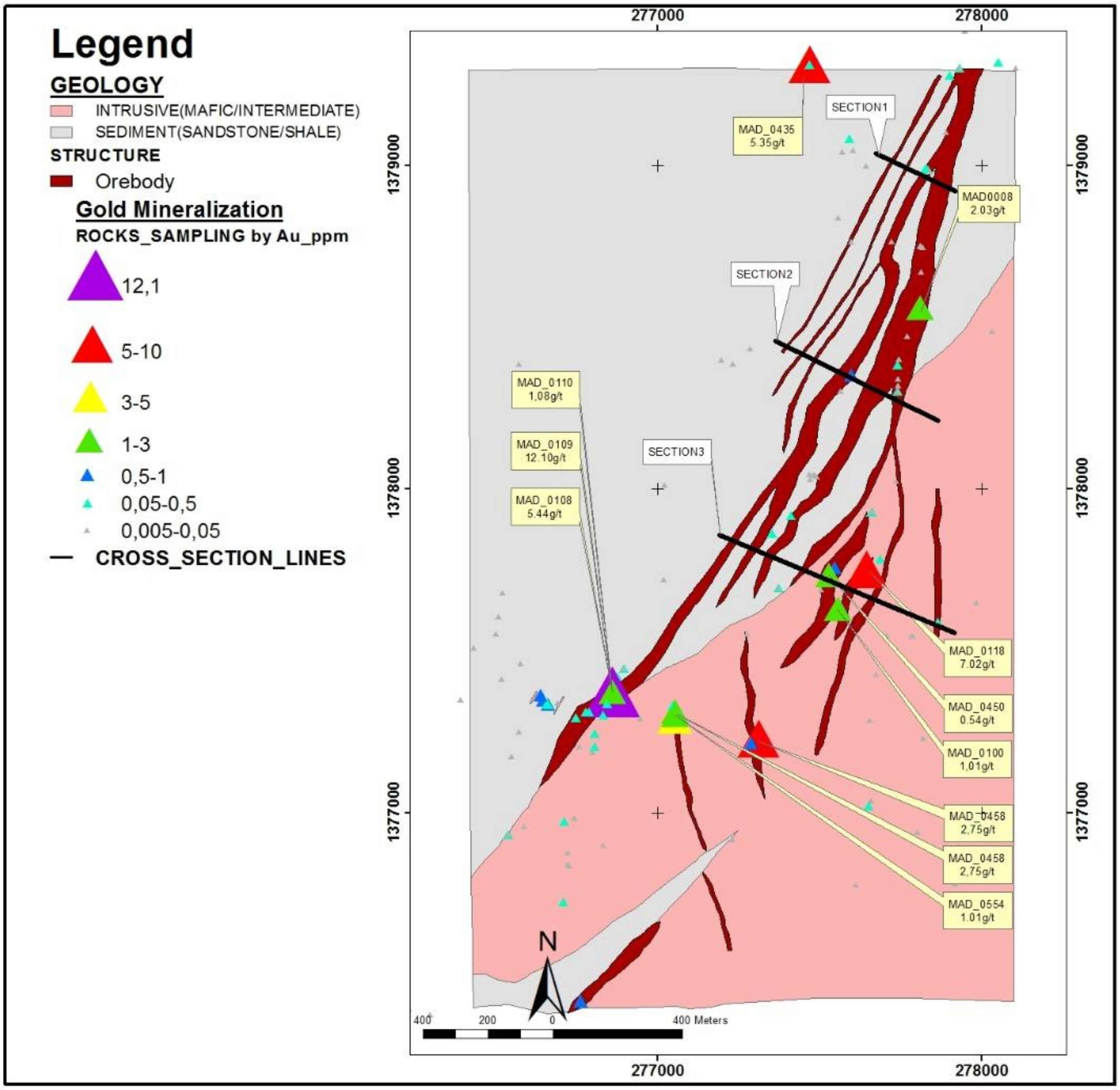



**Figure 9.3: Interpreted geological and structural map of the Mamadouya Prospect showing the main geological units, the structural elements, the lithogeochemical sampling results and, the interpreted structures that control the gold mineralization**

The following table show the best results returned from the lithogeochemical sampling

| Sample ID | X-UTM | Y-UTM | Au ppm | Au ppm Rpt | Descriptions |
|---|---|---|---|---|---|
| MAD_0008 | 277812 | 1378560 | **2,03** | 1,41 | meta-pelite intensely sheared |
| MAD_0018 | 278052 | 1379319 | 0,41 | - | artisanal pit depth 4m in the sap-siltstone |
| MAD_0056 | 275846 | 1374858 | **1,05** | 0,83 | meta-sediments + QV+sulphide |
| MAD_0090 | 276663 | 1377336 | 0,96 | 1,41 | orpaillage pit |
| MAD_0096 | 276648 | 1377348 | 0,62 | - | quartz vein in the metagraywacke depth about 18 or 20m |
| MAD_0099 | 277308 | 1377222 | 0,49 | - | Metagraywacke with sulphide, contact with granodiorite |

| | | | | | |
|---|---|---|---|---|---|
| MAD_0100 | 277557 | 1377629 | **1,01** | 0,96 | fragment of gold panning |
| MAD_0108 | 276858 | 1377389 | **5,44** | 5,82 | metapelite breccia, matrices silicified (quartz) |
| MAD_0109 | 276862 | 1377374 | **12,10** | 14,3 | greywacke with fragments of quartz, sample of gold panning |
| MAD_0110 | 276862 | 1377374 | **1,08** | - | fragments of gold panning |
| MAD_0116 | 277312 | 1377229 | **1,29** | - | graphitous pelite |
| MAD_0117 | 277312 | 1377229 | **5,00** | 4,91 | quartz veins with pelite in the zone excavation (traditional excavation) |
| MAD_0118 | 277646 | 1377751 | **7,20** | 6,15 | QV length about 20m in the zone excavation (traditional excavation) |
| MAD_0125 | 278747 | 1378331 | 0,93 | - | sandstone with quartz |
| MAD_0206 | 271070 | 1375382 | 0,70 | 1,06 | |
| MAD_0396 | 278235 | 1380845 | 0,80 | | SLT + QV |
| MAD_0435 | 277470 | 1379310 | **5,35** | | zone de shear N90/78 |
| MAD_0447 | 277600 | 1378350 | 0,61 | | zone de shear |
| MAD_0449 | 277548 | 1377756 | 0,85 | | + QV |
| MAD_0450 | 277528 | 1377735 | 0,55 | | |
| MAD_0451 | 277528 | 1377735 | **1,74** | | + QV |
| MAD_0454 | 277058 | 1377276 | 0,68 | | Intrusive + SLT |
| MAD_0456 | 277055 | 1377291 | **4,05** | | QV + Intrusive |
| MAD_0458 | 277054 | 1377313 | **2,75** | | SLT + QV |
| MAD_0508 | 277300 | 1376210 | **1,62** | | |
| MAD_0509 | 277300 | 1376210 | 0,66 | | |
| MAD_0547 | 276765 | 1376419 | 0,87 | | 4 m; AZ:115 |
| MAD_0549 | 276639 | 1377364 | 0,51 | | 4 m; AZ:270 GWK shale |
| MAD_0551 | 277290 | 1377215 | 0,66 | | 4 m; AZ:270 |
| MAD_0554 | 277054 | 1377303 | **1,01** | | 2 m; AZ:270 graphite |

**Table 9.1.: Best gold values from pits litho-geochemical sampling**

### 9.1.4. Geological and structural mapping

Waraba Gold Limited cross-checked and verified the existing geological and structural information from previous works with physical observations during the field visit. Location and technical parameters of boreholes on the ground were in conformity with data in the Excel Spreadsheet database. Rock types, structures, alterations and mineralization were also consistent.

Two major types of rock are mapped in the permit area (Figure 9.4):

- A dominant sedimentary unit host rock
- a granitic intrusive rock

The granite is locally foliated extending over 800m by 400m with significant kaolinite alteration

The sediments vary from coarse-grained greywackes to the west to fine-grained pelite (blue shale and organic sediments) to the east of the permit area. The fine-grained sediments show in places small tight disharmonic folds.

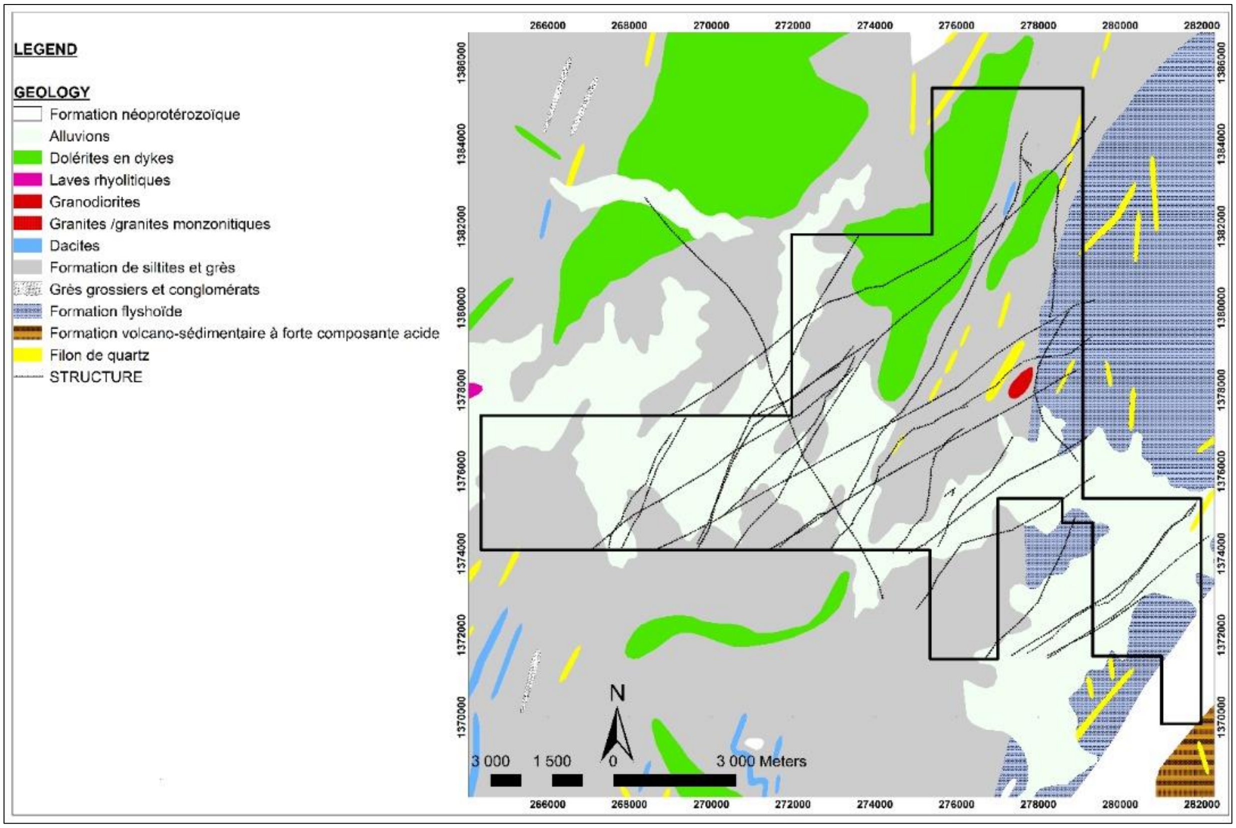



**Figure.9.4: Interpreted geology and structural map of the Maligonga-East permit**

### 9.1.4.1. Quartz veins in shear

Both the sediments and the granitic rocks are affected by a shearing deformation complained with a network of quartz veinlets. The mineralization can be classified as shear-type associated with an anastomosed network of quartz veinlets. The shear-type geological model seems to be most consistent with this style of mineralization. The shear corridor is affected by thin anastomosed quartz structures more or less discontinuous with various direction forming stockwerks.

### 9.1.4.2. Stereographic representation of structures:

Figure 9.6 displays the stereographic projection images using the ``Dips"software of the structures identified in the Mamoudouya target.

The points and structural data measurements are presented in the table below:

| Coordinates UTM E_29N_WGS84 | UTM N29N_WGS84 | Dip | Direction | Dip Direction |
|---|---|---|---|---|
| 277312 | 1377846 | 40 | 228 | 318 |
| 277371 | 1377876 | 30 | 214 | 304 |
| 277420 | 1377901 | 70 | 218 | 308 |
| 277536 | 1378047 | 40 | 217 | 307 |
| 277510 | 1378080 | 58 | 226 | 316 |
| 276719 | 1377308 | 40 | 185 | 275 |
| 276751 | 1376410 | 80 | 26 | 116 |
| 277817 | 1379150 | 64 | 210 | 300 |
| 277902 | 1379090 | 55 | 200 | 290 |

| | | | | |
|---|---|---|---|---|
| 277937 | 1379111 | 70 | 195 | 285 |
| 277961 | 1378720 | 80 | 210 | 300 |
| 277856 | 1379121 | 85 | 280 | 370 |
| 277878 | 1378652 | 50 | 185 | 275 |
| 277727 | 1378766 | 70 | 210 | 300 |
| 277643 | 1377746 | 85 | 55 | 145 |
| 277818 | 1378774 | 65 | 197 | 287 |
| 277816 | 1378670 | 75 | 200 | 290 |

**Table 9. 2: Points and structural data measurements within the Mamadouya prospect**

### a) Stratification

The bedding is located at the limit between two different lithological formations: coarse-grained sedimentary rock (greywackes) and the argillite with graphite intercalation. The figure 9.6. shows that the stratification is inclined towards the west suggesting a monoclinal structural pattern in contact with the granitic intrusive rock.

### b) Lithological contact

The contact structures in the region that play a key role in the mineralization system are preferentially located between the sedimentary sequence and the intrusive granitic rock. These lithological contacts are preexisting structural weak zones that can be easily deformed providing pathways for hydrothermal mineralizing flow circulation.

### c) Schistosity-foliation

The general foliation is subparallel to the stratification and strikes NS. It dips steeply to the east or the west. This might be affected by isoclinal folding.

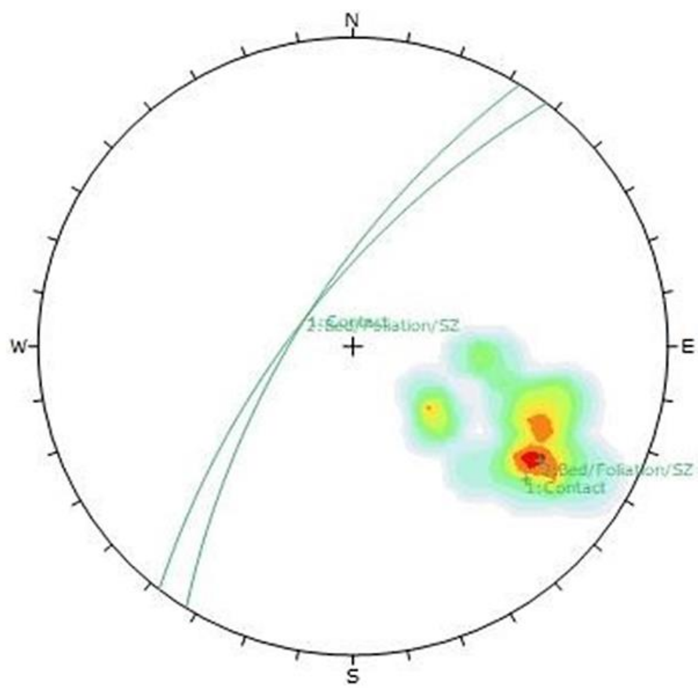



**Figure 9.5: Profile of the stereonet of all pole: bedding, contact, foliation and shear at Mamoudouya**

#### 9.1.4.3. Fault description

**a. Reverse faults**

These faults are the most important in the mapped area. They affect the meta-sedimentary rocks at the contact with the massive intrusive rocks. In places, these reverse faults intersect shears zones to form fish breccias (Figure 9.7). These breccias display graphitic and silicified surfaces. Reverse faults are interpreted as the main conduit for hydrothermal mineralizing fluids.

**b. The overlap faults**

These faults strike N220° to 230° and a dip 30° to 45° W, SW and NW. These faults affect the sediments in contact with the intrusive felsic rocks. Mineralization is often hosted within these structures.

**c. Vertical to subvertical faults**

These structures postdate previous faults and affect both the metasediments and the intrusive rocks. These faults have an NS strike and dip vertically. They are marked by normal slip movement and can also be interpreted as sigmoid structures. These are fish-shaped structures that individualize in shear bands (Figure 9.6)

**d. Transforming faults (detachment)**

These are late structures that strike N155 ° to N350 ° and a dip 80° SW to 90° SE. These faults across-cut and displace previous structures with both sinistral and dextral movements separation.

This directional diagram or "Rose des Vents" (Figure 9.8) shows the preferred direction of these structures: The diagram displays three main directions in the Mamoudouya north area.

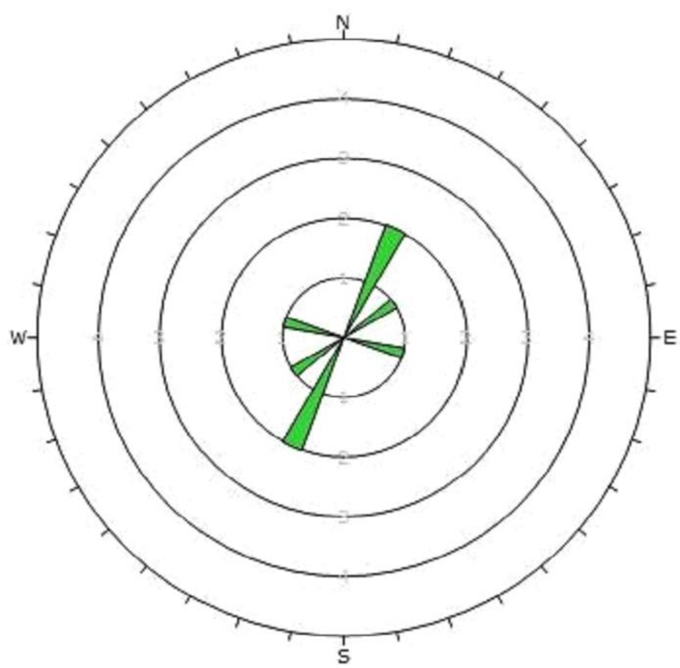



**Figure 9.6: Pink diagram of all the faults in Mamoudouya**

**e. Fish breach**

Fish breach are found along vertical structures that postdate reverse faults (Photo 9.1) and along parallel micro shears and schistosity. The size of blocks varies from a few centimeters to a meter. The blocks are of different nature, consisting of competent sedimentary fragments, quartz veins and ductile materials. Blocks are locally laminated, fusiform, lenticular, sausage or sigmoid in form. Breccias are good host for gold mineralization and are highly oxidized at the surface. These rocks are mainly located between the hanging wall and the footwall of the main fault systems that control the gold mineralization.

**f. Diaclases**

These are discontinuities late mafic rocks that crosscut all previous rocks and structures in this area.


**Figure 9.7: Granodiorite-Metasediment contact, brecciated fault fishand shear structures**

### 9.1.4.4. Interpreted geological and structural sections of the northern part of Mamoudouya.

Field observations and structural mapping suggest that the control of the gold mineralization is mainly structural but not lithological. There is a strong spatial relationship between gold, structures and intrusive rocks indicating that the intrusive rocks may have played a key role in the mineralization process in the Mamoudouya gold target.Gold mineralization corridors are located along shear and fault structures associated with syntectonic intrusive rocks.

Figures 9.8 to 9.11 show various interpreted cross-sections across the Mamadouya gold prospect.

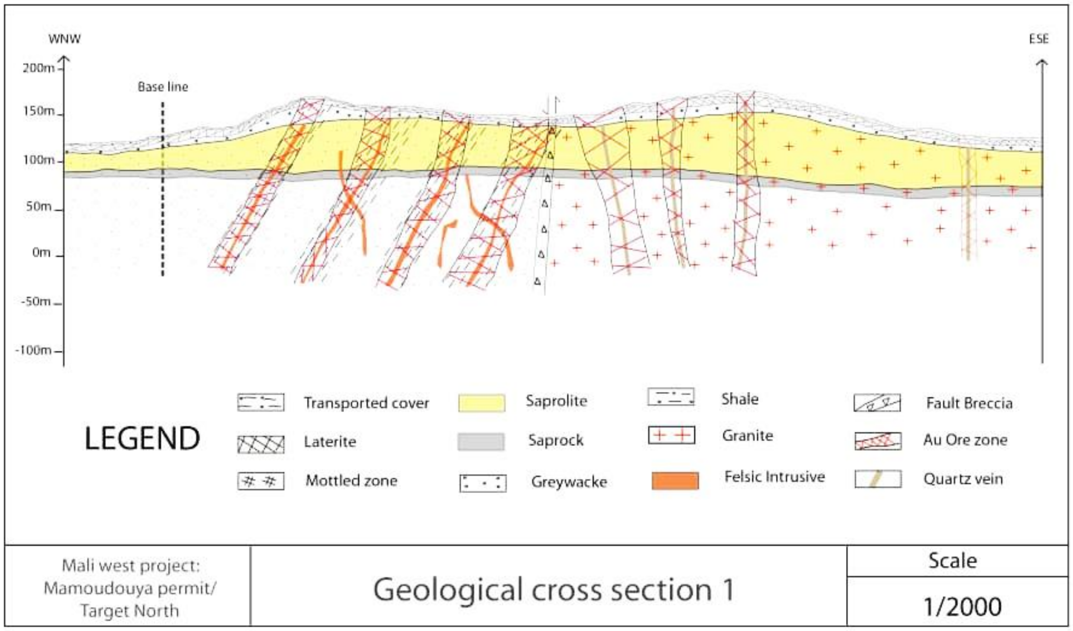



**Figure 9.8: Geological cross section in target 1 north of Mamoudouya**

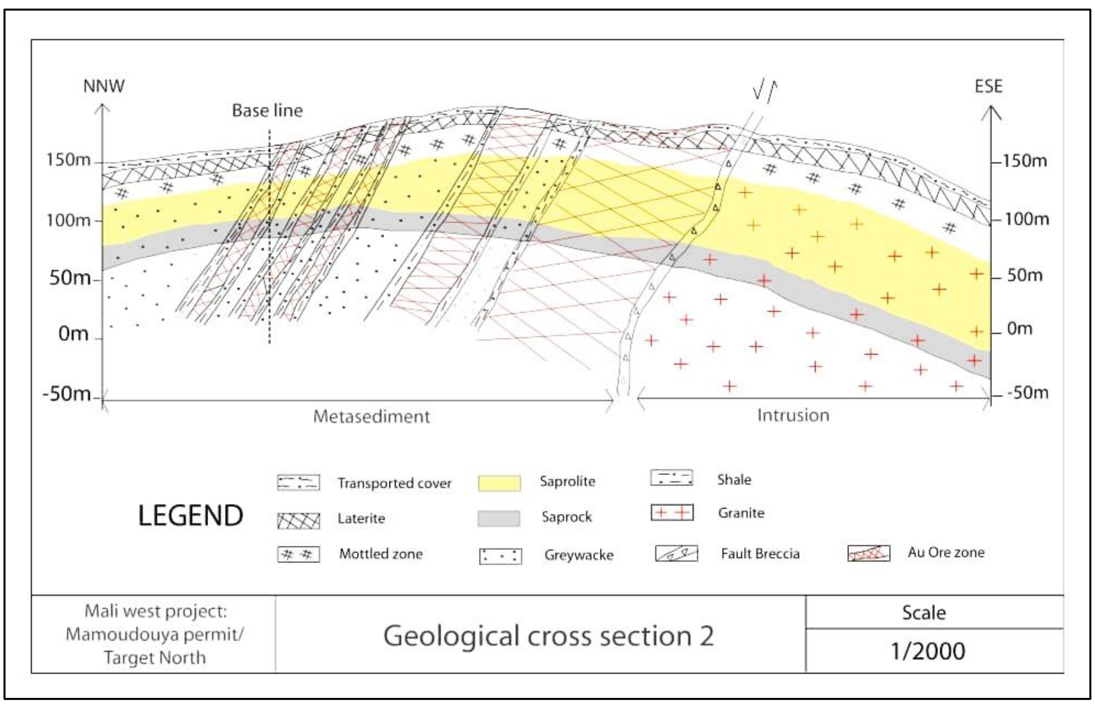



**Figure 9.9: Geological cross section in target 1 north of Mamoudouya**

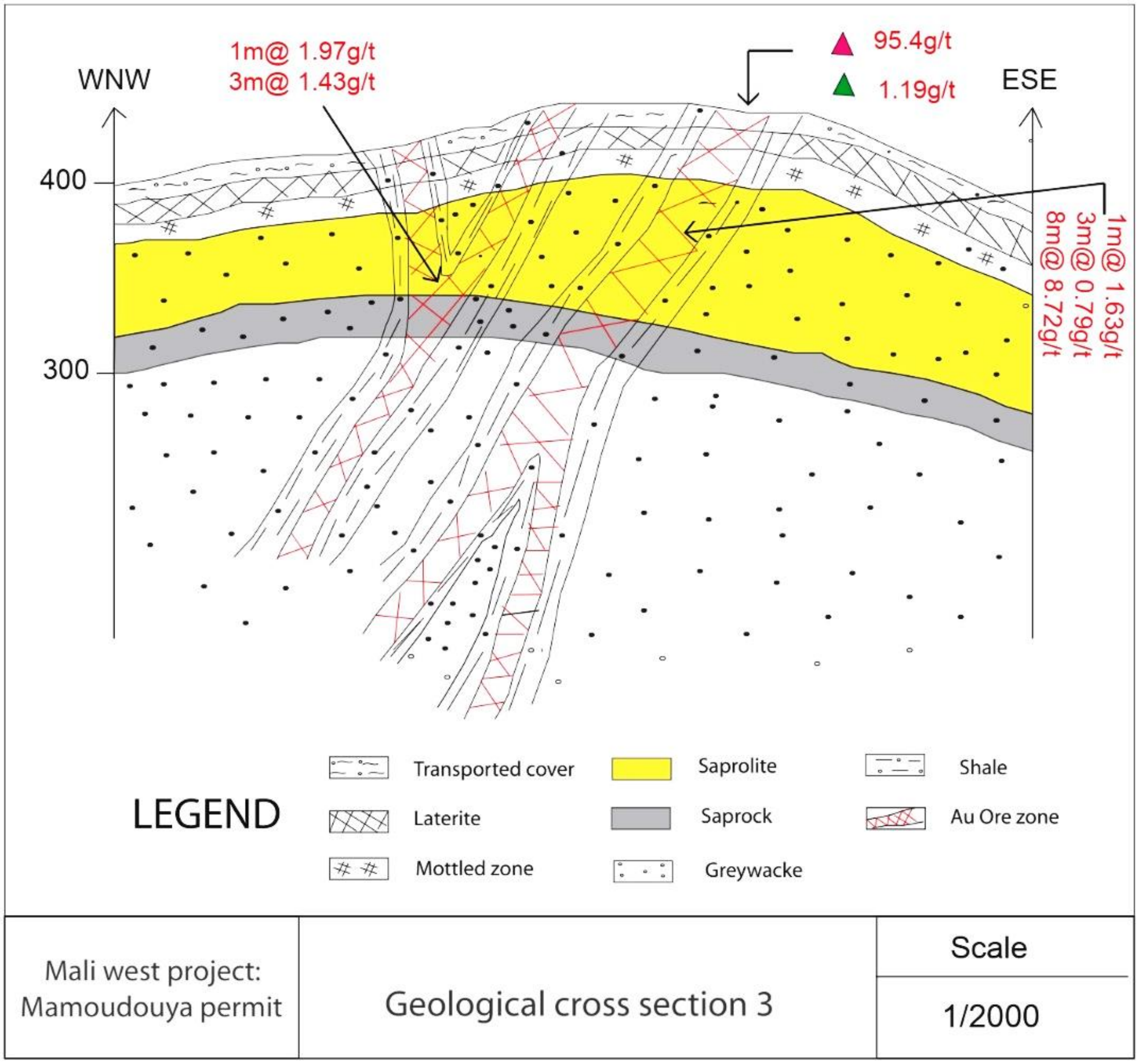



**Figure 9.10: Geological cross section in target 1 north of Mamoudouya**

#### 9.1.4.5. Structural interpretation of the gold mineralization

The mineralized structure strikes N20° and dips 80° WNW. The foliation that affected both the sediments and the granite strikes in the same direction, suggesting that all these rocks have undergone the same regional compressional stress field responsible for the deformation. The foliation has a general direction NNE and dips steeply in the northern part of the granite, but gradually changes to the NE direction and becomes shallowly dipping (35°) south of the granite (Figure 9.5).

The sulphide mineralization consists of pyrite and arsenopyrite. Unstrained grains of pyrite and arsenopyrite in the host greywacke rock indicate they were not affected by the deformation. This suggests that the gold mineralization takes place during a late tectonic event that occurred after peak of deformation.

The gold mineralization at Mamoudouya is controlled by regional structures: faults and shears (Figure 9.5). These large structures deformation competent rocks that host most of the gold mineralization. The mineralization dips 55 to 65° W, parallel to the faulted contact between the sediments and the granite. Most of the ore bodies are surrounded by faults developed in graphitic horizons interbedded with the graywackes.

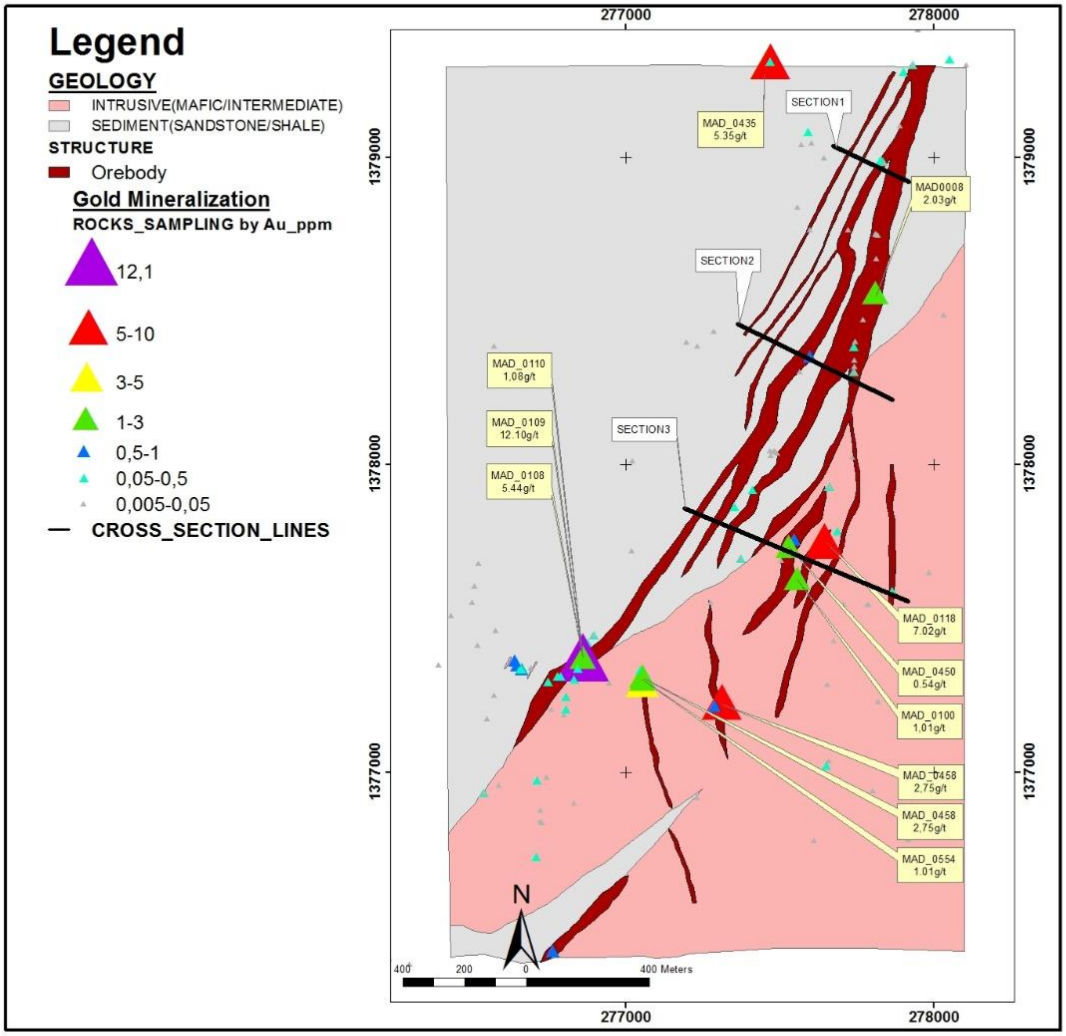



**Figure9.11: Interpreted geological and structural map of the Mamadouya Prospect**

### 9.1.6. Airborne Geophysical survey completed in 2021 by Waraba Gold Limited

NRG carried out a high resolution XPlorer magnetic and radiometric survey for Waraba Gold Ltd in the Maligonga East property between the 27th and 30th of June 2021. NRG produced a report that summarizes the results of the survey.

#### 9.1.6.1. Survey Description

A high-resolution digital terrain model (DTM) of the survey area, illustrated in Figure 2, suggests that the terrain is undulating. The horizontal gradient of the DTM has been included in Figure 3 to gauge the required climb/descent rates in areas with steeper topography. The climb and descent rate of a high-performance helicopter, such as the AS350B2, will under most conditions, be in the order of 250 m/km. Parts of the survey where the gradient exceeds 200m/km have been flagged in color (yellow – magenta). In these areas survey height may be compromised in the interest of safety.

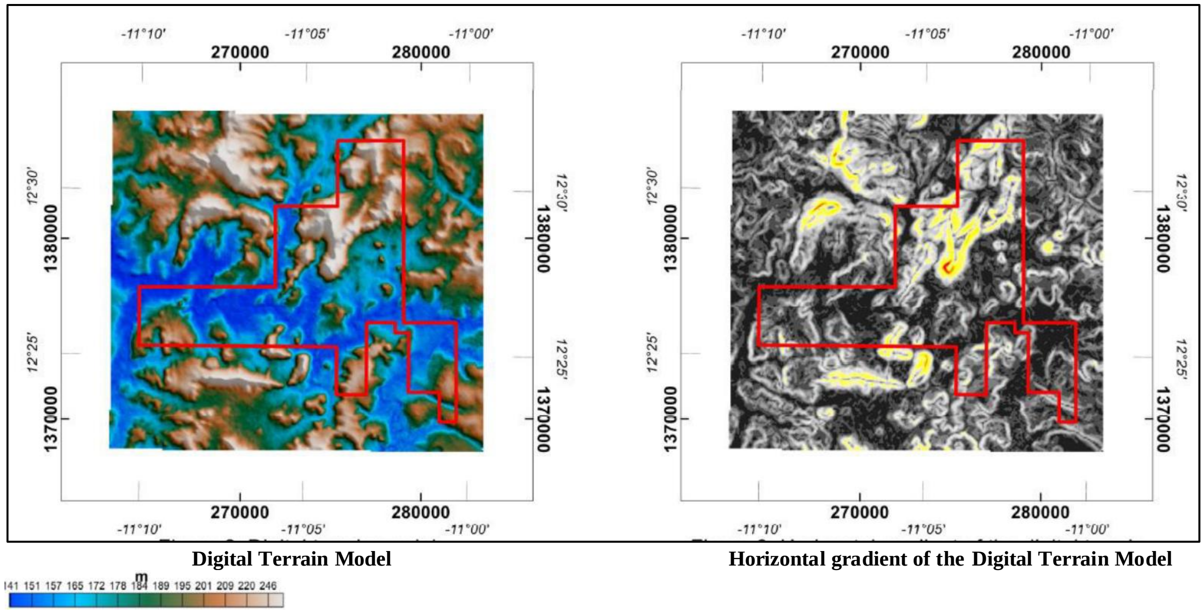



**Figure 9.12. Digital terrain model and horizontal gradient of the digital terrain model of the Maligonga permit**

### 9.1.6.2. Survey specifications

A summary of the survey line kilometers and parameters of the survey are provided in Figure 9.12 and Table 9.3.

| Survey Name | Country | Line kms | Line spacing | Line direction | UTM zone | Ground |
|---|---|---|---|---|---|---|
| **Fokolore Block** | Mali | 1316 | 100m x 1000m | 90 | 29N | moderate |

**Table 9.3: Summary of helimag surveys parameters at Maligonga Gold**

The coordinates of the survey boundaries are provided in the following table.

| UTM Zone 29N, WGS84 | X | Y<br>**Fokolore Block** | Longitude degrees | Latitude degrees |
|---|---|---|---|---|
| 1 | 264426 | 1377368 | -11.167224 | 12.450837 |
| 2 | 271952 | 1377368 | -11.098020 | 12.451383 |
| 3 | 271952 | 1381764 | -11.098339 | 12.491109 |
| 4 | 275396 | 1381764 | -11.066665 | 12.491354 |
| 5 | 275396 | 1385395 | -11.066926 | 12.524168 |
| 6 | 279048 | 1385395 | -11.033333 | 12.524424 |
| 7 | 279048 | 1375316 | -11.032622 | 12.433337 |
| 8 | 281950 | 1375316 | -11.005937 | 12.433536 |
| 9 | 281950 | 1369823 | -11.005557 | 12.383893 |
| 10 | 281014 | 1369823 | -11.014162 | 12.383829 |
| 11 | 281014 | 1371520 | -11.014280 | 12.399166 |
| 12 | 279304 | 1371520 | -11.030002 | 12.399048 |
| 13 | 279329 | 1374760 | -11.029999 | 12.428331 |
| 14 | 278574 | 1374766 | -11.036942 | 12.428333 |
| 15 | 278578 | 1375319 | -11.036944 | 12.433331 |
| 16 | 277007 | 1375331 | -11.051391 | 12.433331 |
| 17 | 276977 | 1371397 | -11.051388 | 12.397776 |
| 18 | 275315 | 1371410 | -11.066669 | 12.397777 |
| 19 | 275335 | 1373992 | -11.066669 | 12.421113 |
| 20 | **264399** | **1374079** | **-11.167226** | **12.421113** |

**Table 9.4: Coordinates of the helimag surveys boundaries**

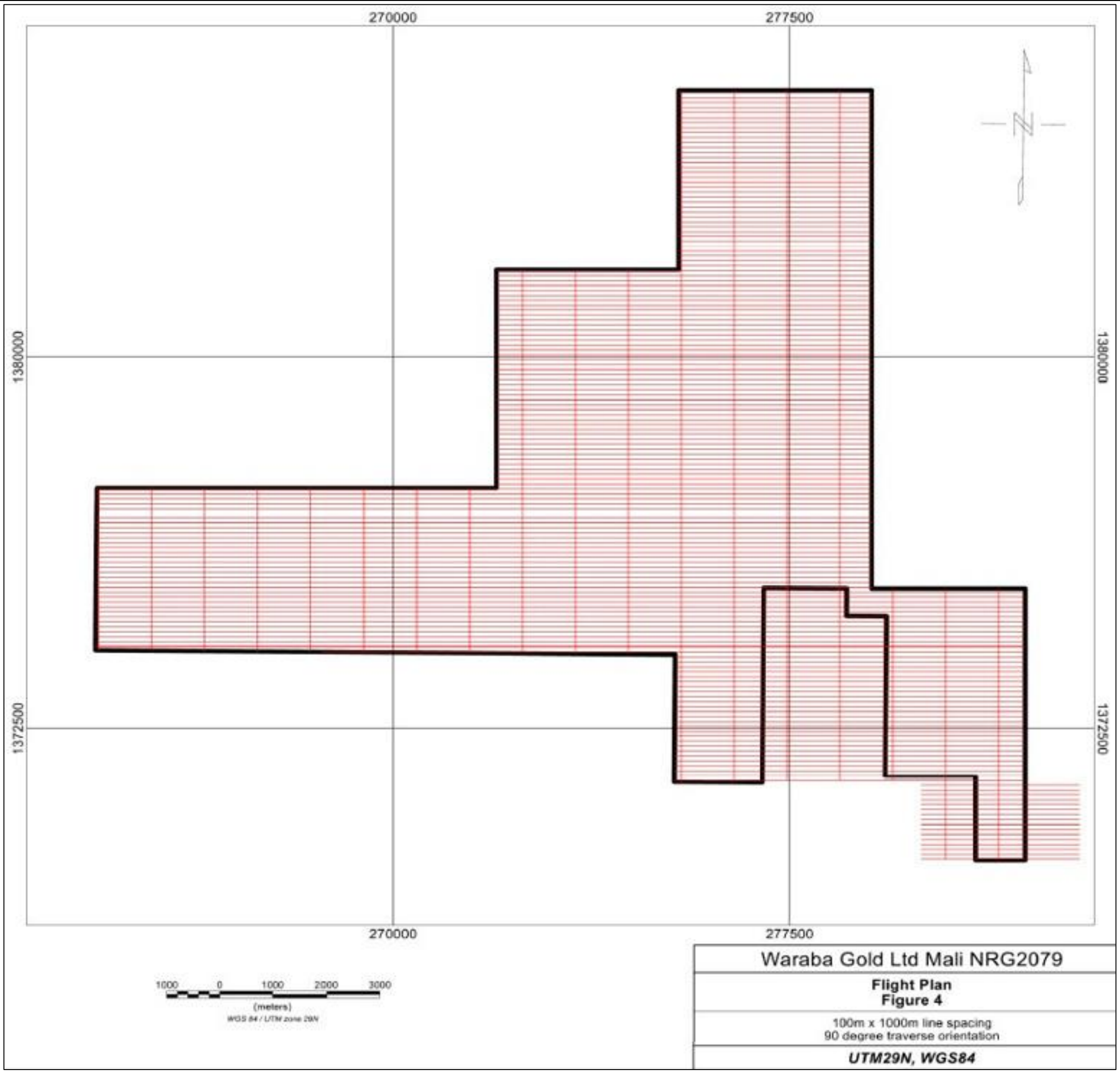



**Figure 9.13: Helimag survey grid lines over the Maligonga-East gold permit**

### 9.1.6.3. Magnetic data

A figure of merit is performed by carrying out a series of rolls, pitches and yaws while flying parallel to both traverse and tie-line orientations at high altitude in the same magnetic latitude as the survey area. A high pass filter is used to remove long-wavelength geological response leaving the magnetic response which is primarily due to the residual response of the aircraft after compensation. Several lines flown over a well-controlled magnetic feature are used to establish the lag and relationship between GPS and magnetic readings (parallax).

### 9.1.6.4. Radiometric data

A thorium source test is carried out daily. A comparison of the background corrected count rates in the thorium window verifies that sensitivity of the system has remained the same for the survey duration. The variation of the daily source tests shall not vary by more than 8 percent from the survey average.

#### 9.1.6.5. Altimeter

The radar altimeter is calibrated at the start of every survey.

#### 9.1.6.6. Results of the Survey

The following products have been included in the accompanying archive:

- Total field gradient enhanced magnetics
- First vertical derivative magnetics
- Reduced to pole magnetics
- Analytic signal
- 4 Channel NASVD processed radiometric data (total count, potassium, uranium and thorium)
- Calculated digital terrain

#### a. Total field gradient enhanced magnetics

The horizontal magnetic gradient is calculated using the difference between magnetic sensors. By adding the gradient in gridding algorithms, a better spatial representation of magnetic features is obtained. This in turn improves the resolution of line parallel features and discrete targets effectively equivalent to flying the survey at a tighter line spacing. The final gradient enhanced data has been used for product generation (Figure 9.13).

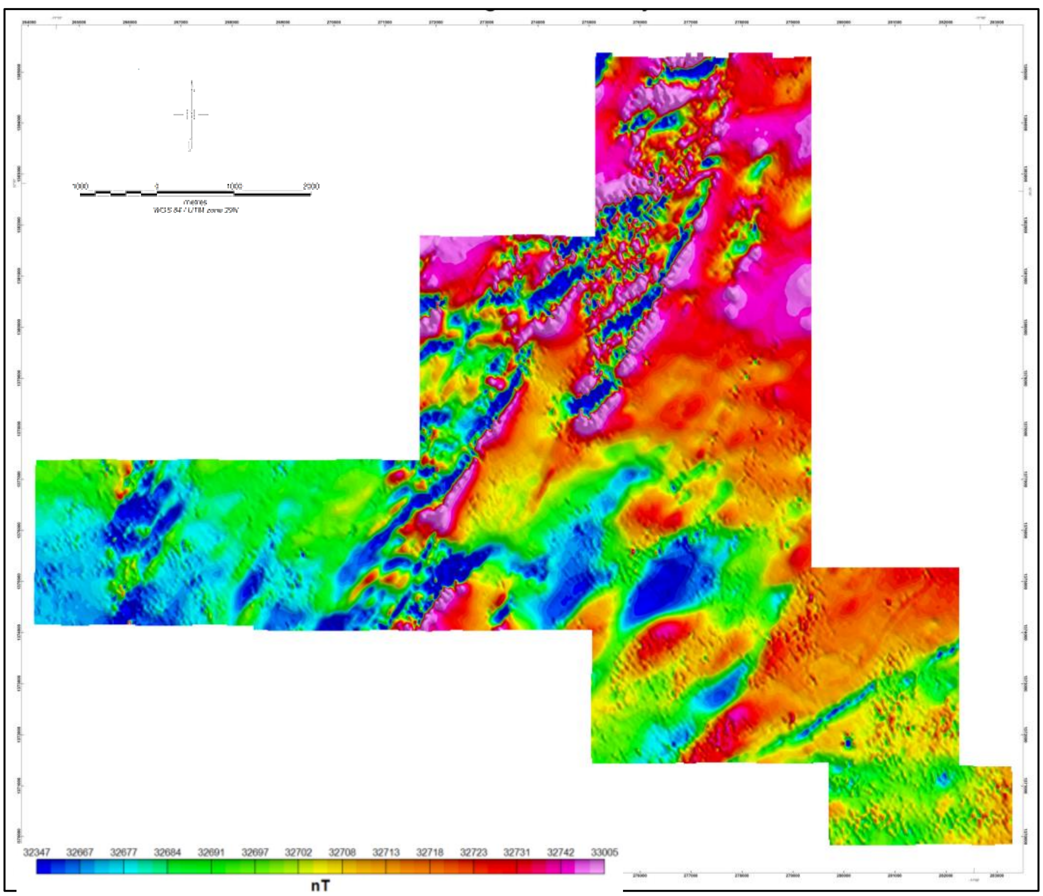



**Figure 9.14: Gradient enhanced magnetics**

### b. First vertical derivative magnetics

The first vertical derivative of the magnetic data is calculated either in space or frequency domains (Figure 9.14). This is a standard filter which accentuates shallow features and structures. It is also useful for discriminating textural changes which characterize different lithologies.

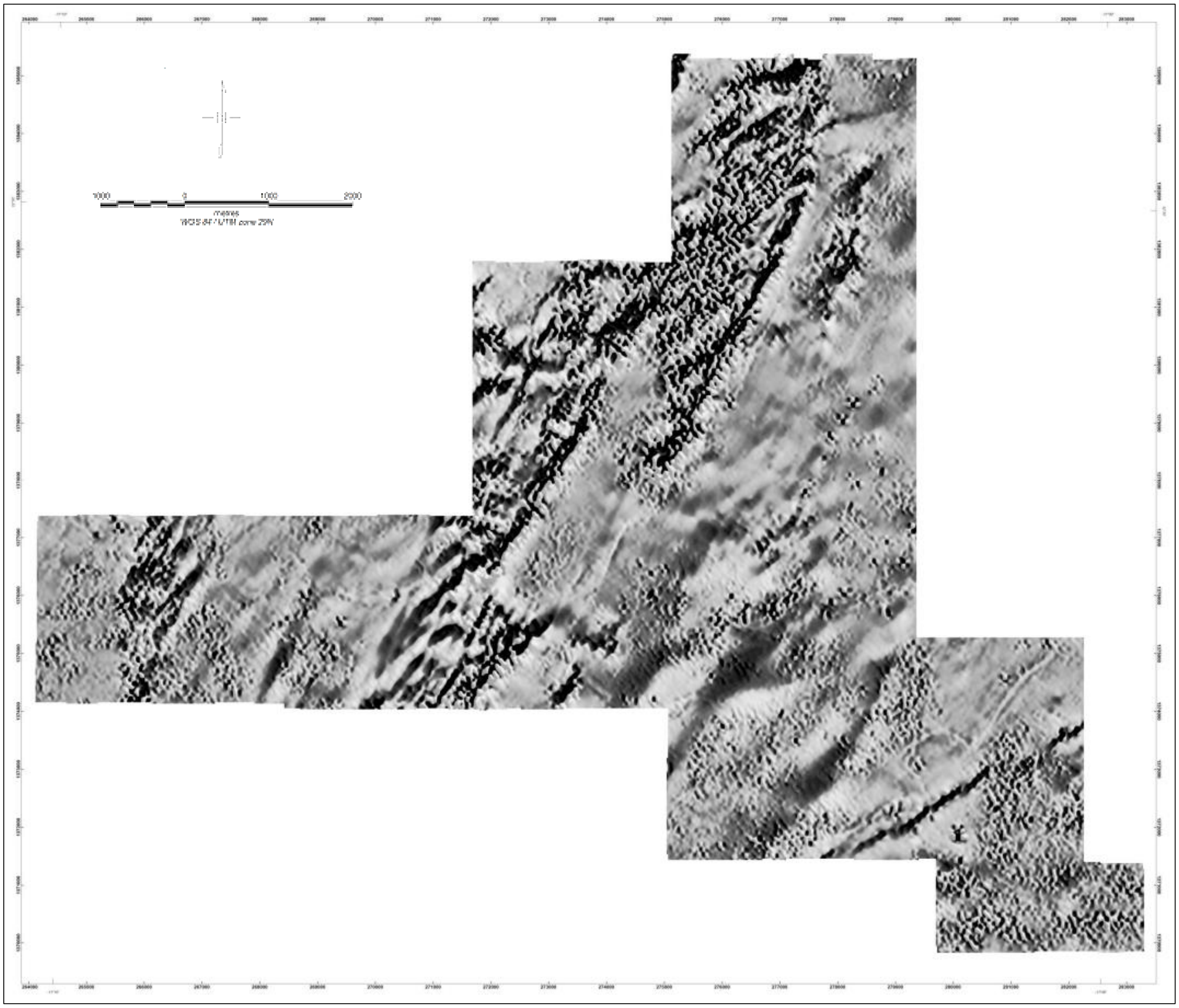


**Figure 9.15: Magnetic derivative first vertical**

### c. Reduced to pole magnetic

Reduction to pole is a mathematical function applied in the total magnetic field data in the frequency domain. The resultant product is the equivalent total magnetic field situated at the magnetic pole thus replacing the dipolar magnetic response with a simple peak positioned above the magnetic source (Figure 9.15). There are a number of limitations to this filter:

- The filter assumes the magnetic response is due to induced magnetization and ignores the effect of magnetic remanence. This results in incorrect solutions where the remanent magnetic contribution is large and differs in orientation from the induced magnetic contribution (often manifested as a smearing of anomalies).

- The filter is unstable at low magnetic latitudes resulting in a smearing and exaggeration of NS trending features. This is corrected to some degree by using an amplitude correction although at the expense of under-correcting NS trending features.

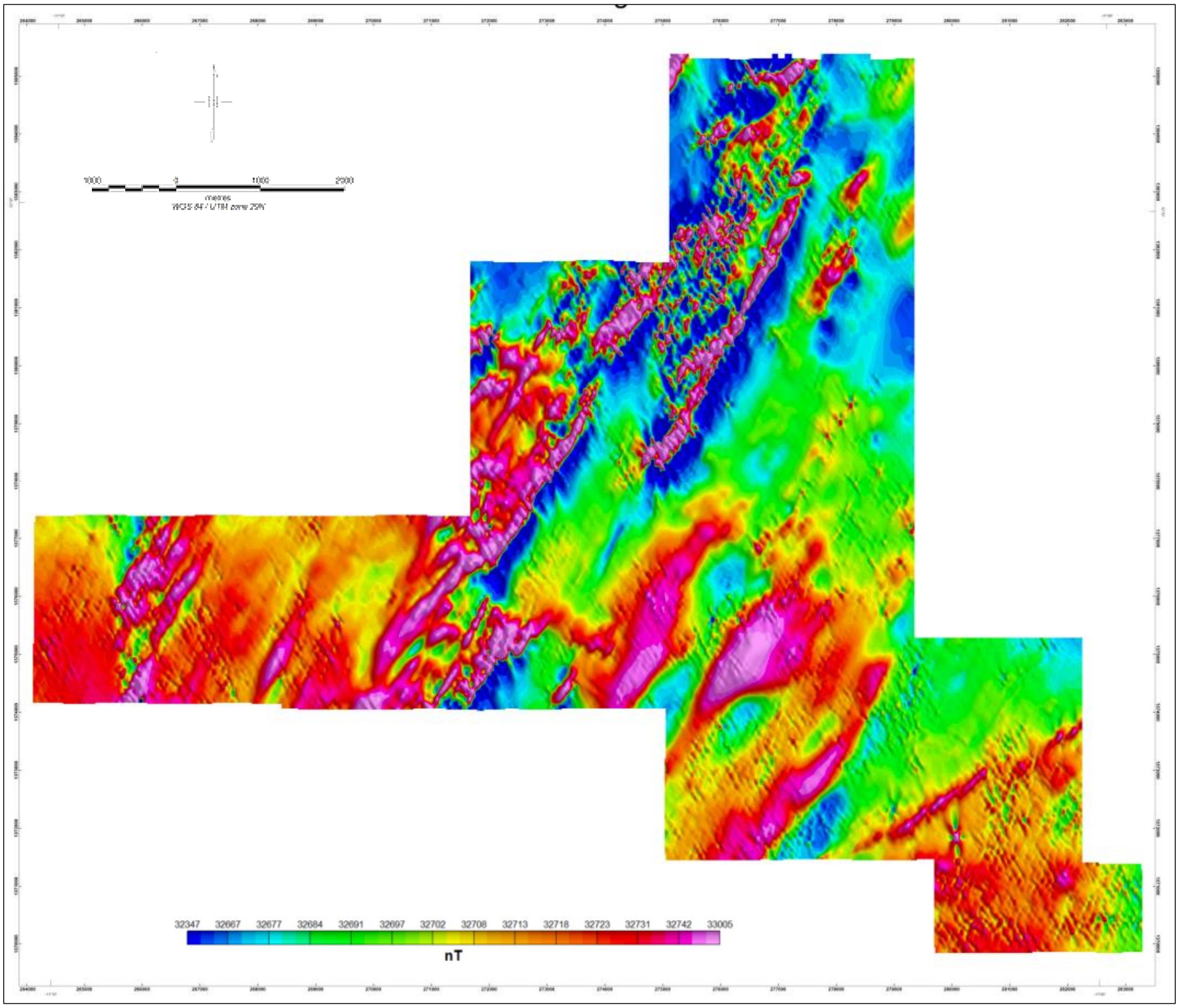



**Figure 9.16: Reduced to pole magnetics:**

### d. Analytic signal

The analytic signal is defined as the square-root of the sum of the square of derivates of the total magnetic field. The analytic signal is useful in locating the edges of magnetic source bodies, particularly where remanence and/or low magnetic latitude complicates interpretation. The filter accentuates shallow features at the expense of deeper (or longer wavelength) features (Figure 9.16)

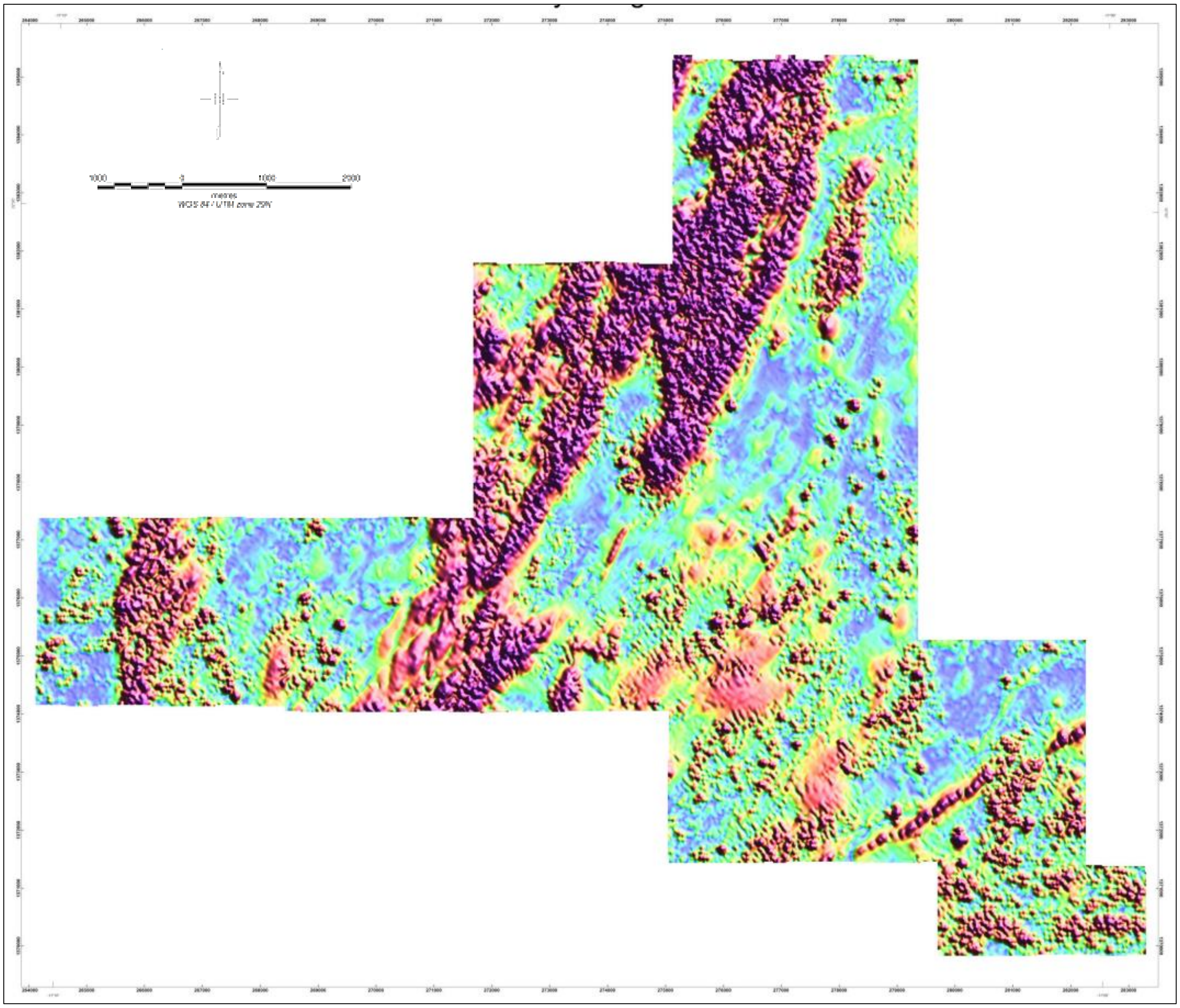


**Figure 9.17: Analytic signal:**

### e. Digital terrain model:

The digital terrain is calculated by subtracting the aircraft altitude from GPS height. Results reference the EGM96 Geoid (Figure 9.17).

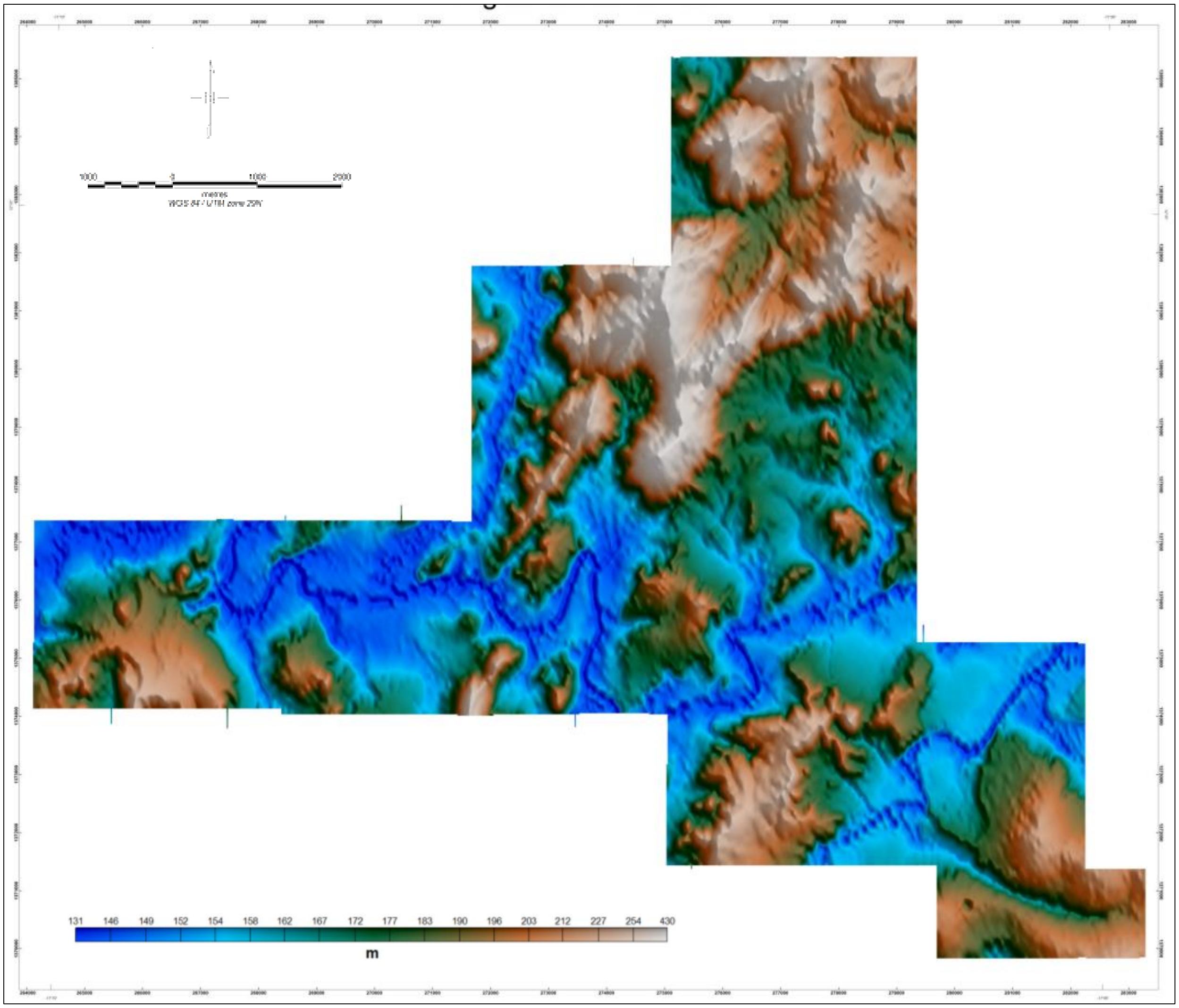



**Figure 9.18: Computed Digital Terrain Model.**

## f. Final radiometric data:

Potassium, thorium and uranium data has been reduced to ground concentrations using standards recommended by IAEA (1991) and AGSO (1995). NASVD processing has been carried out using proprietary software (Figure 9.18).

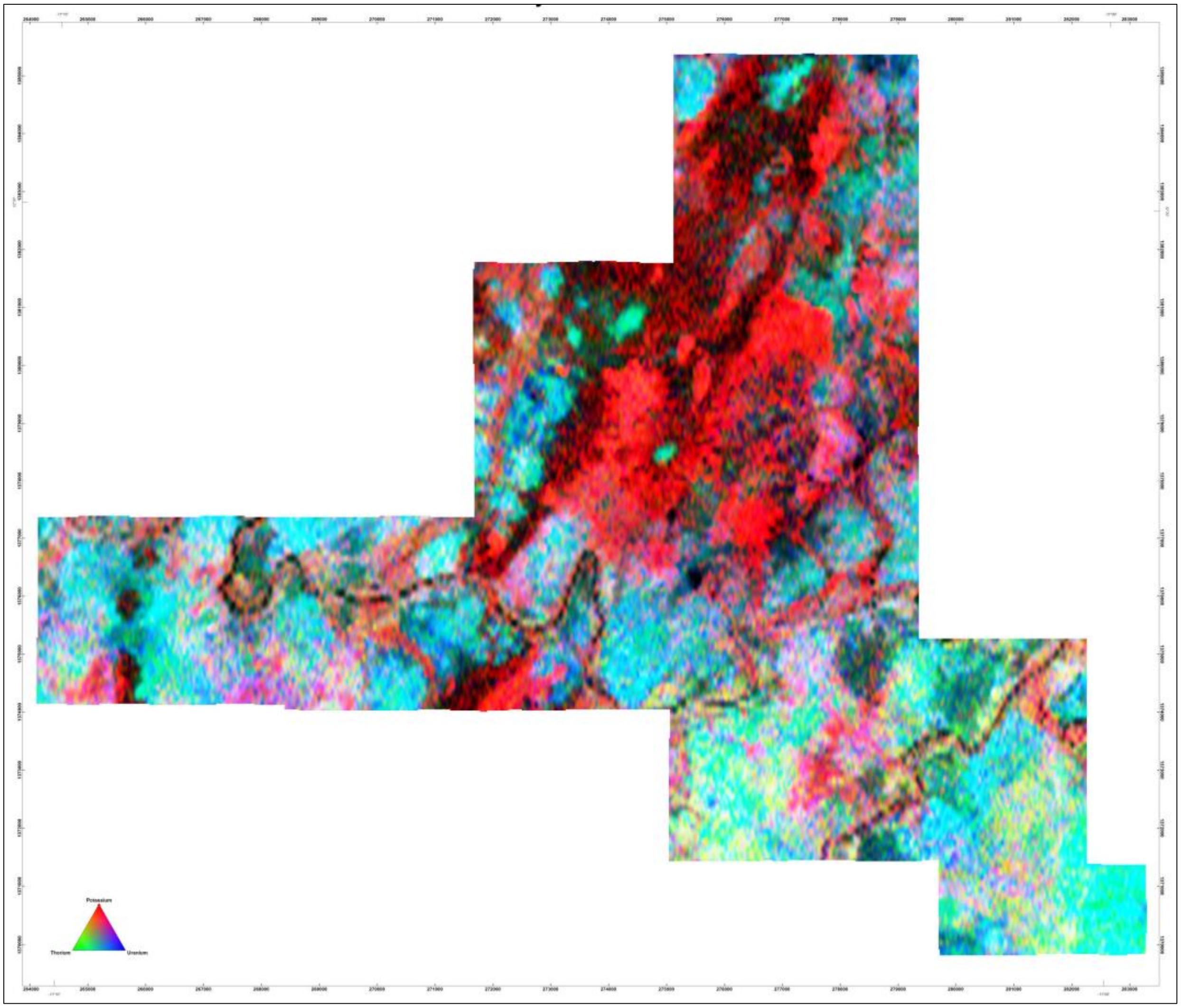



**Figure 9.19: Radiometric data processed by 4-channel NASVD (total count, K, U Th) Radiometric data**

### 9.1.6.7. Structural interpretation by Waraba Gold

Targets were identified in the permit for monitoring their sulphide chargeability using the IP methodology, following the interpretation of the various geophysical maps, particularly the magnetic gradients and especially the radiometric data; add to the various geological, structural and geochemical information.

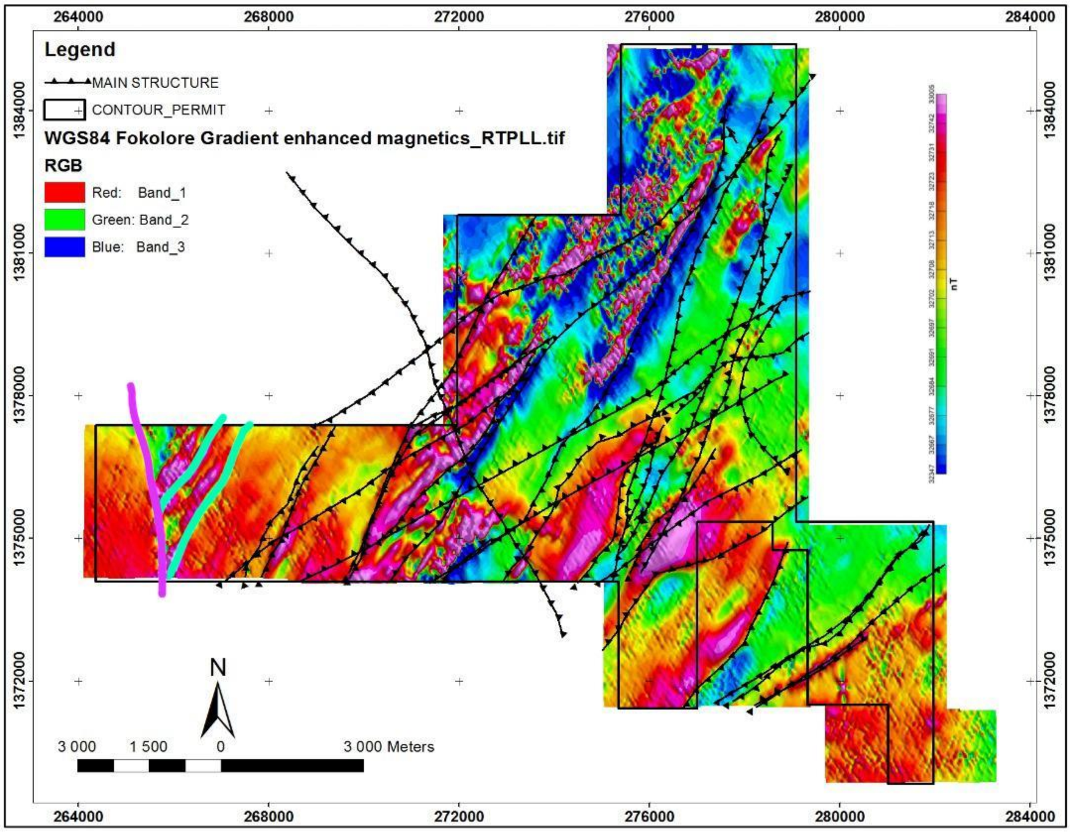



**Figure 9.20: Inferred structures from Gradient Enhanced magnetics RTPLL.**

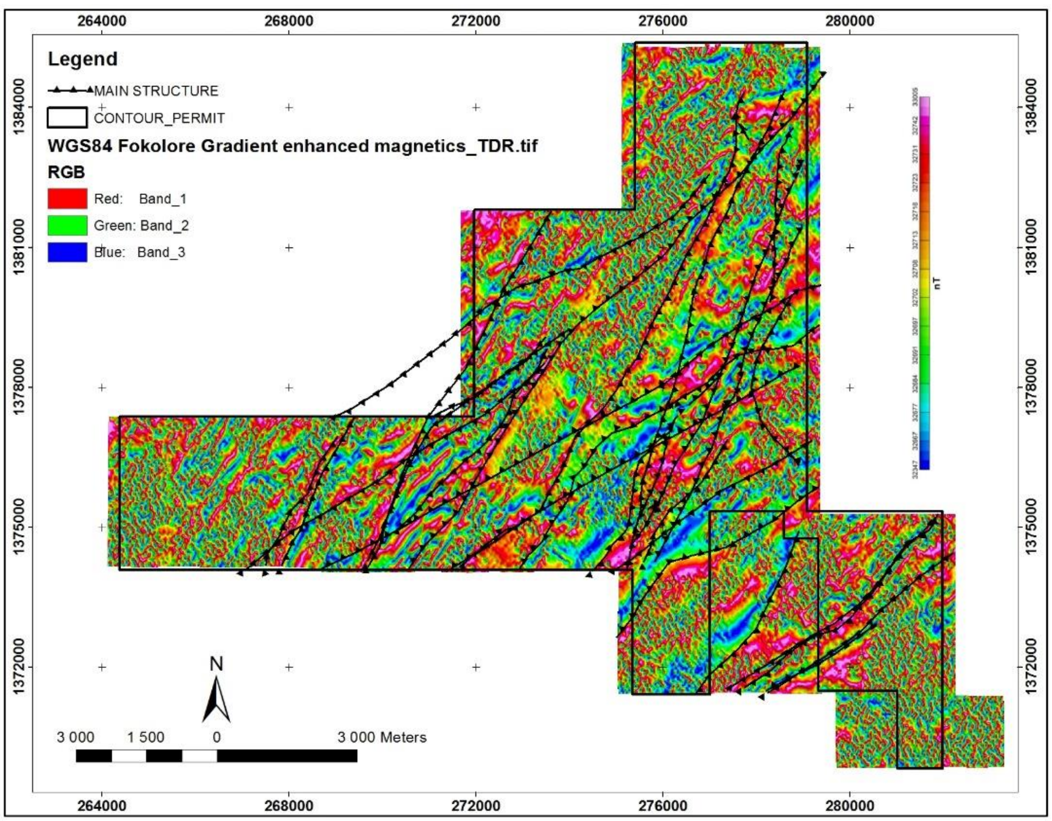



**Figure 9.21: Inferred structures from Gradient Enhanced magnetics TDR.**

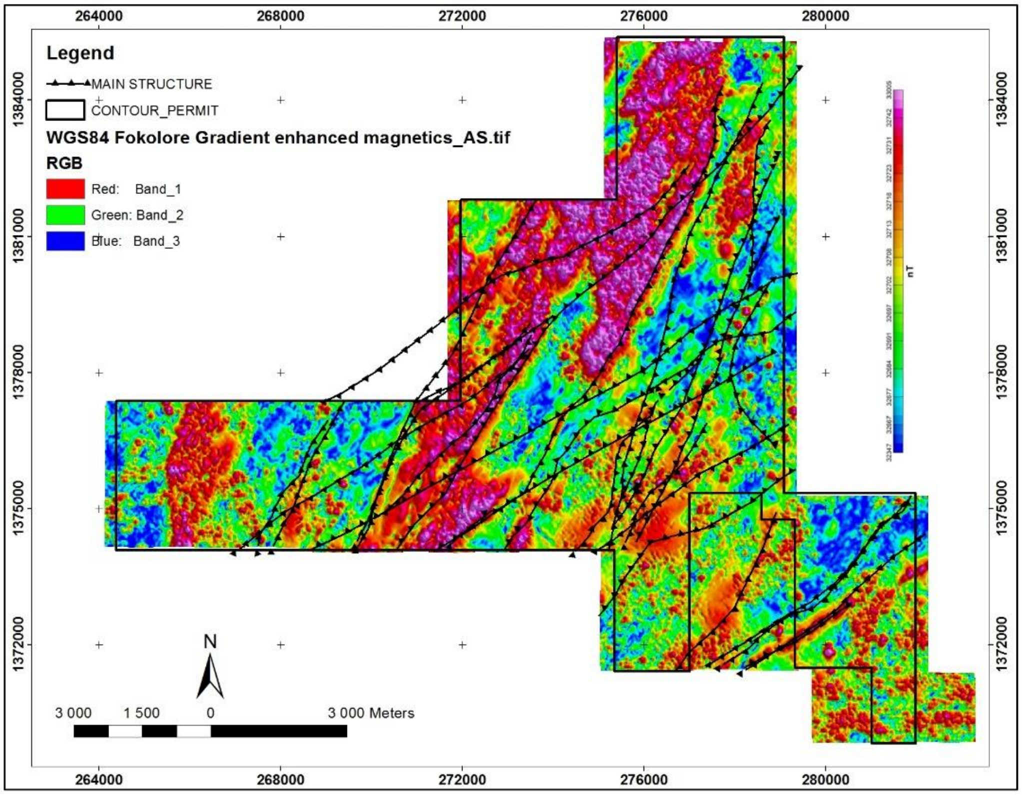



Figure 9.22: Inferred structures from Gradient Enhanced magnetics Analytic Signal.

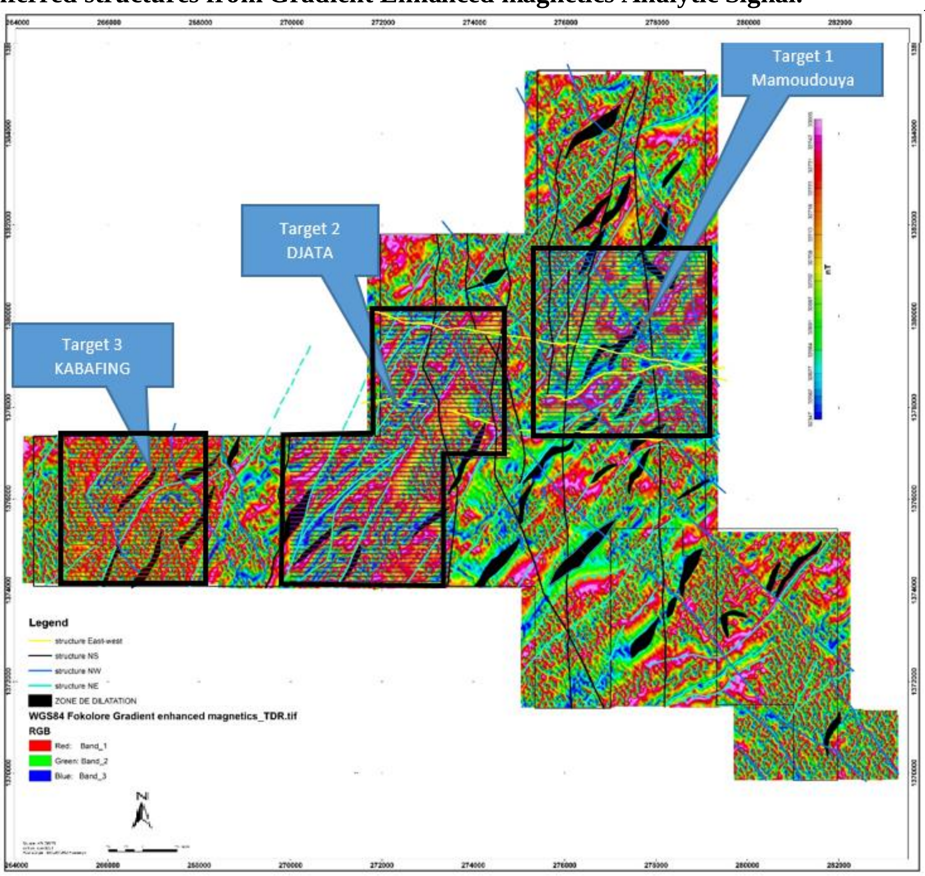



Figure 9.23: Identified targets for ground IP follow up over geophysics anomalies defined.

## 9.2. Exploration Programs Completed by Waraba Gold Limited in 2022

### Induced Polarisation / Resisitivity survey

Waraba Gold Limited followed up the anomalies picked by the preciously carried out Geochemical sampling exercice by the acquisition of induced polarization and resisitivity surveys in the Mamouduya and Kabafing areas of the permit (Figure 9.24). This exercise was carried out by SAGAX AFRIQUE S.A and the objective was to detect and delineate geophysical anomalies that may inmdicate geological and structural feautures that may indicate the mineralization of precious metals. It was also an opportunity to test if the sutrvey would correllate and extend the areas of gold anomalies that have been identified by the previous Geochemical and Rock chip sampling exercises. This would help define potential targets for future drilling programs.

A station spacing of 25m and line spacing of 100m was used for the survey. 42 lines of gradient array covering a total of 150.150km length was acquired in the Mamouduya area and 32 lines covering a total of 151.175 km length of data was acquired in the Kabafing area. The survey was carried out between September 2021 and March 2022.

The results of the survey identified some anomalies that needs to be followed up in order to identify their mineralization potential. The main interpreted structures were found to be oriented in NW and NE direction in Mamadouya area and NW and NNE in Kabafing area. A summary of the interpreted data are presentented in Figures 9.25 to 9.40.

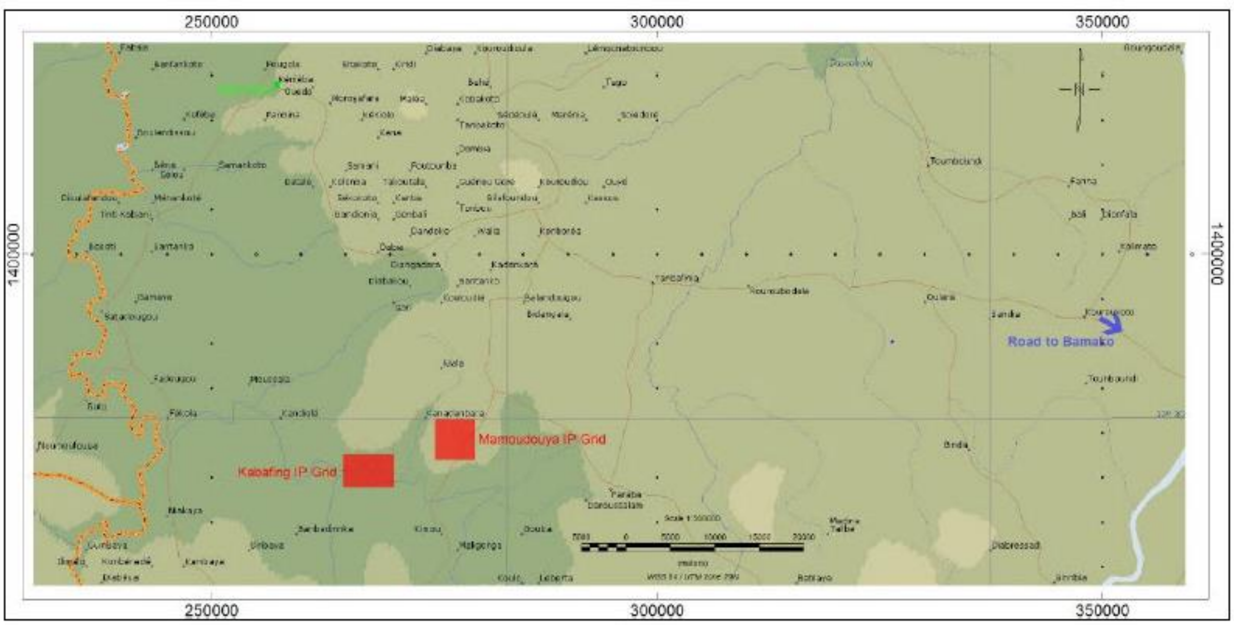



Figure 9.24: Map of surveyed area showing Mamoudouya and Kabafing

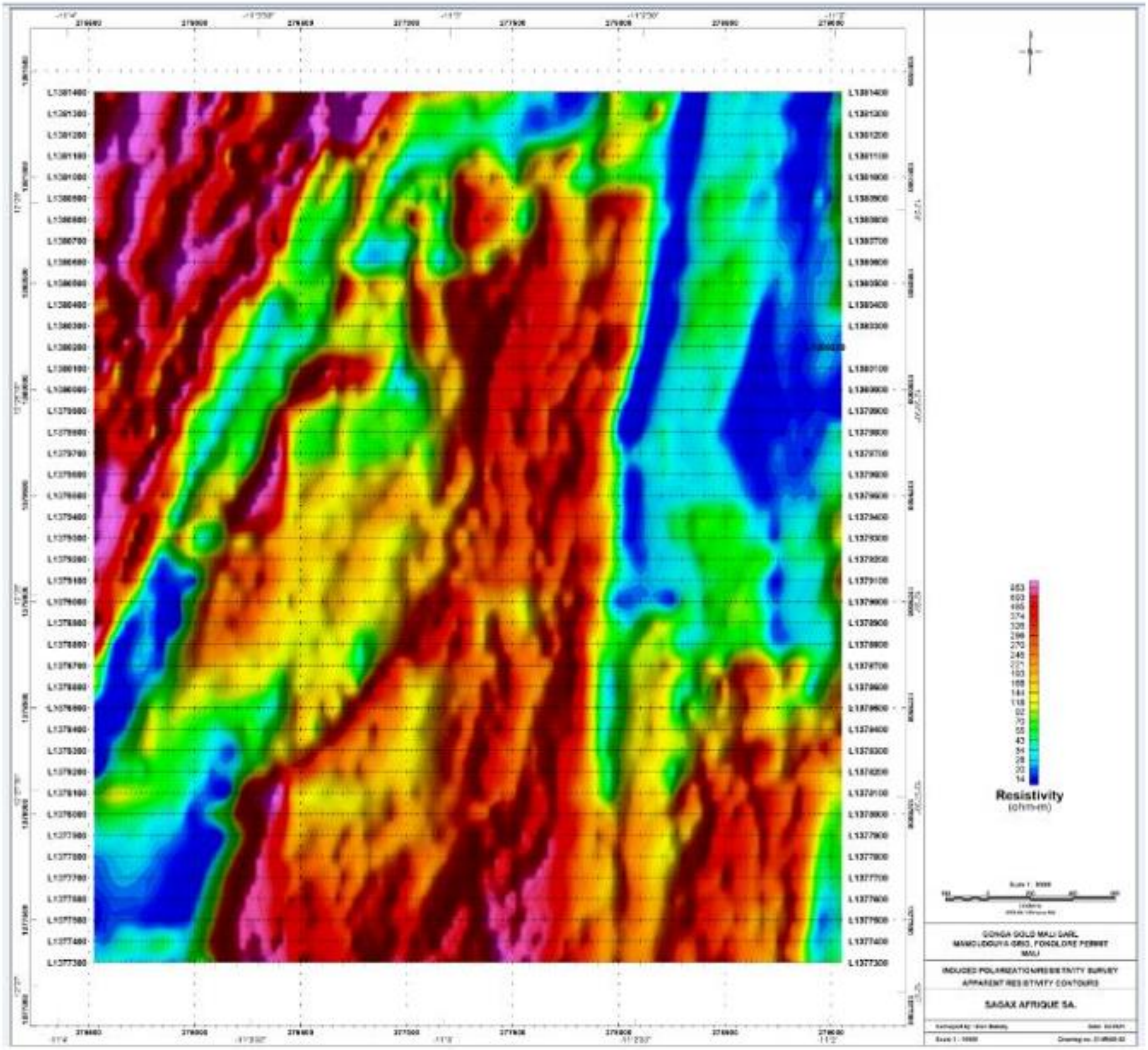



Figure 9.25: Resistivity Map of Mamouduya

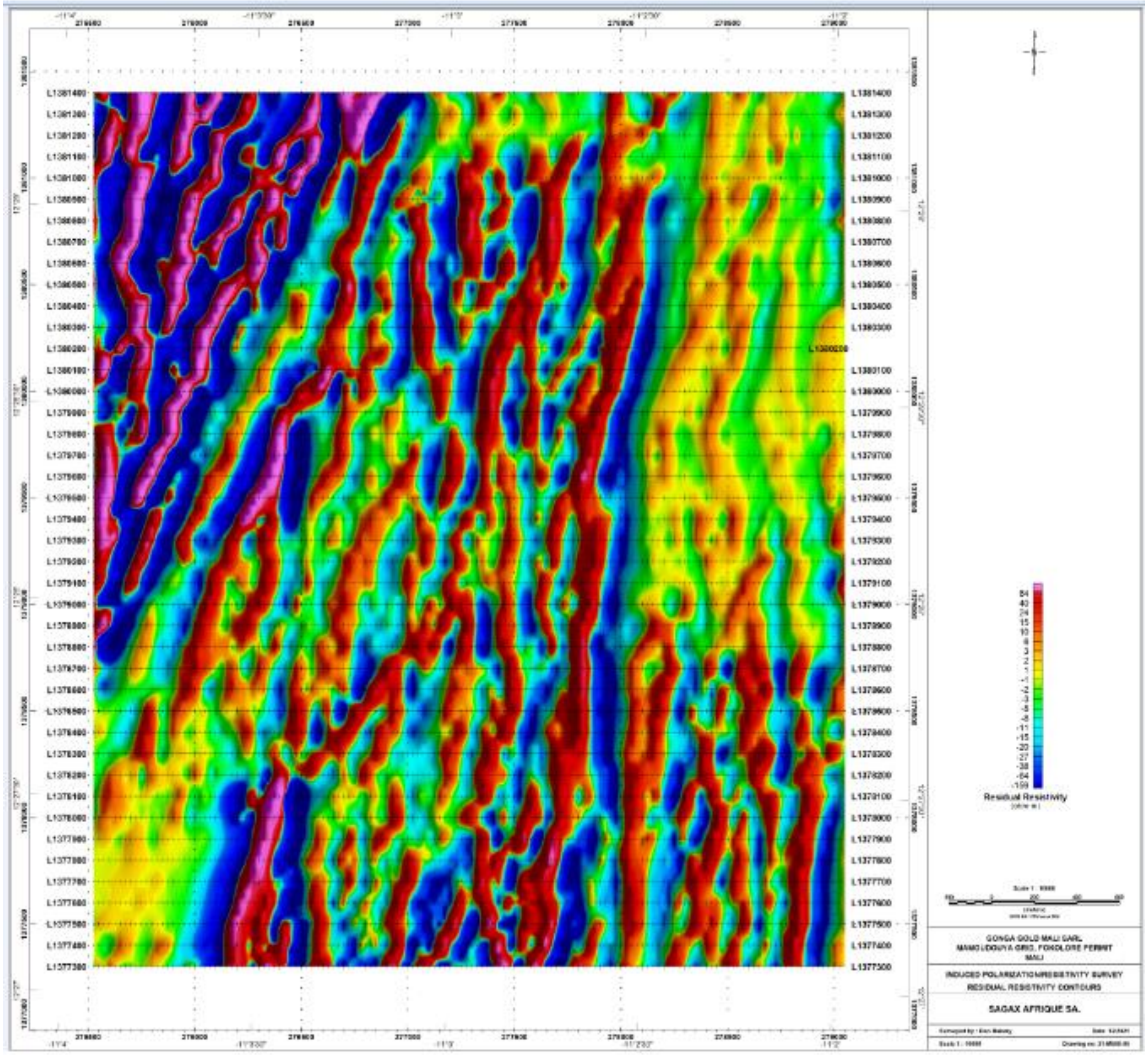



Figure 9.26: Residual Resisitivity Map of Mamoudouya

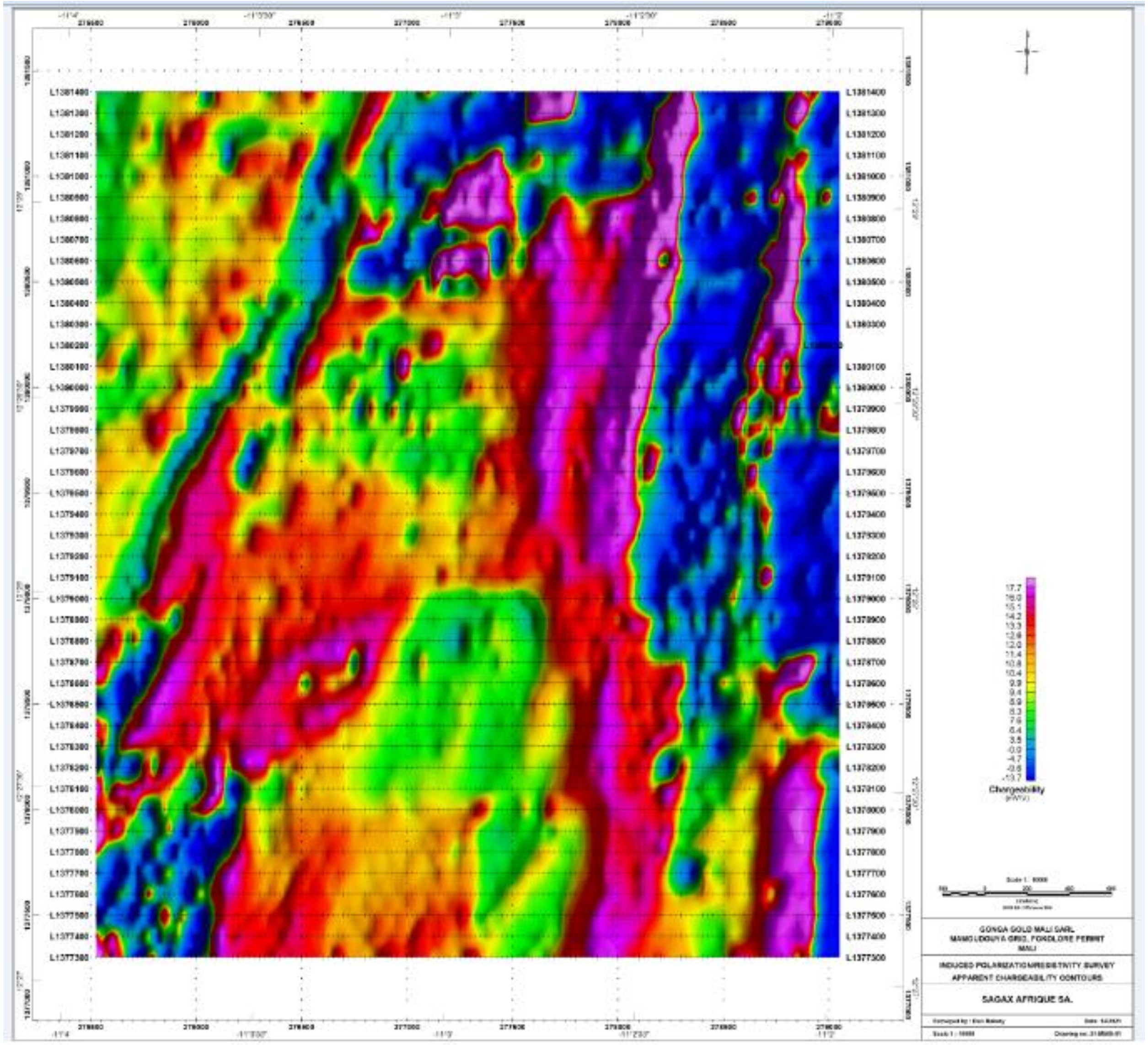


Figure 9.27: Chargeability Map of Mamoudouya

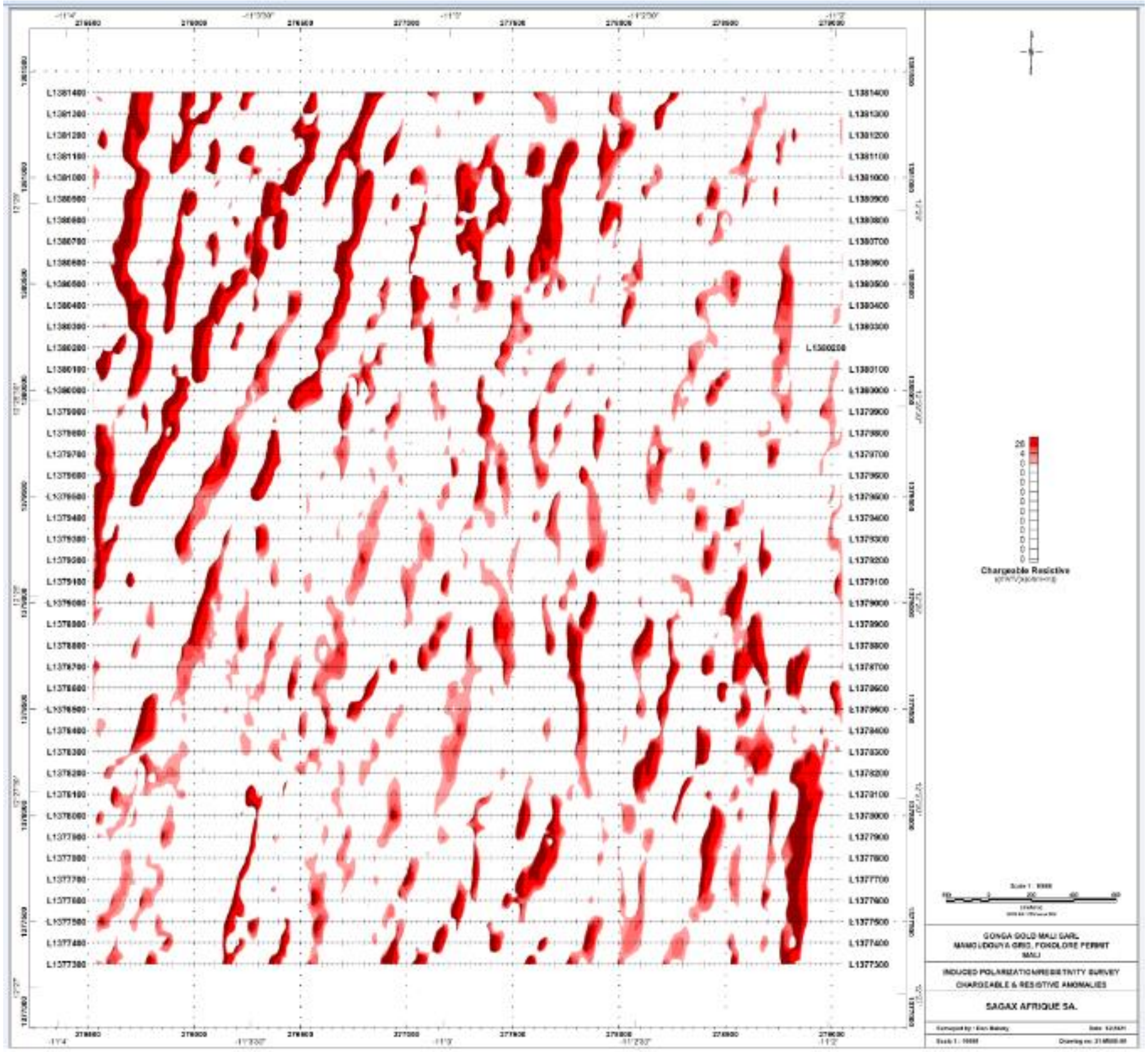



Figure 9.28: Induced polarisation_Resistivity Map of Mamoudouya

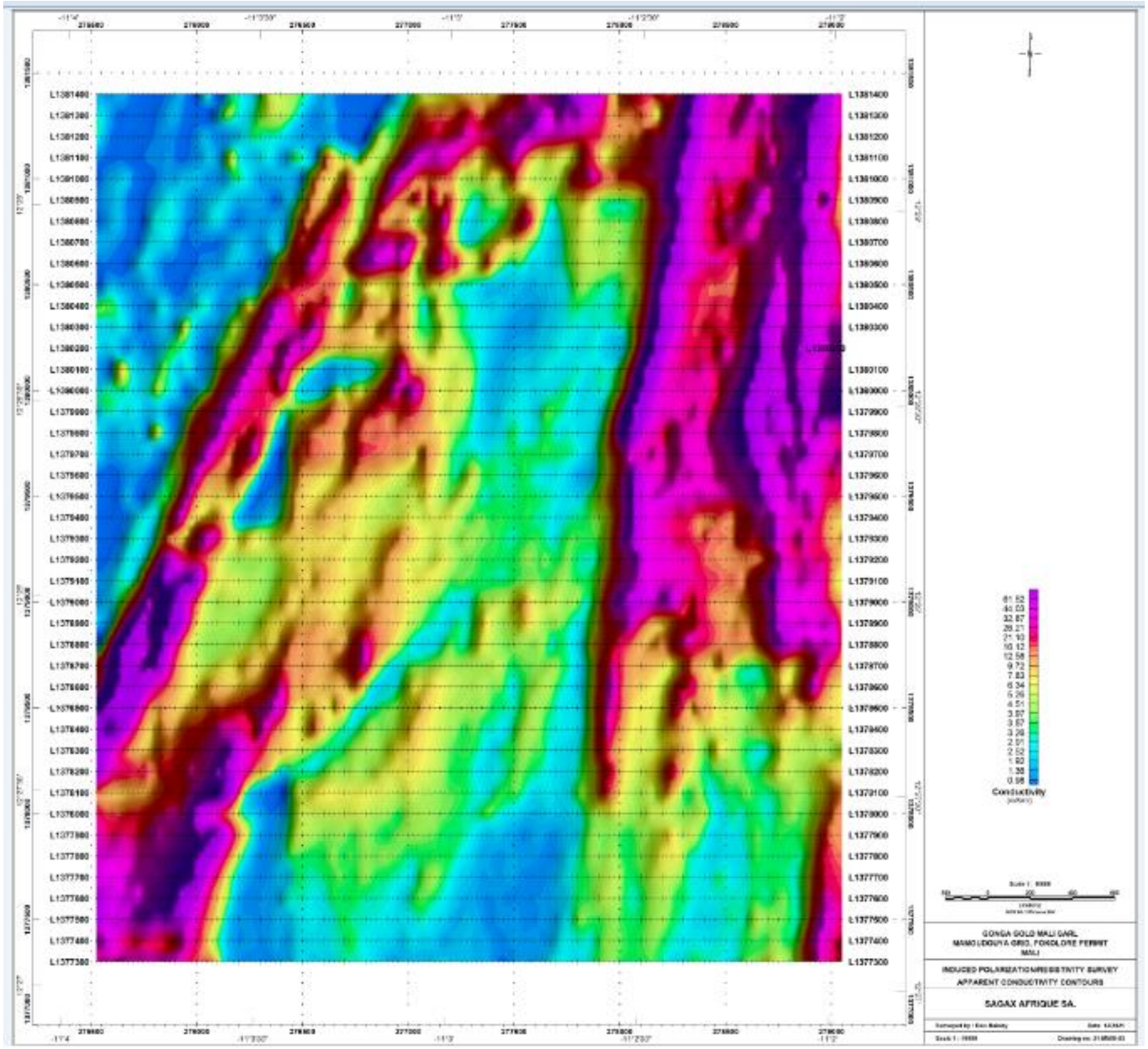



Figure 9.29: Conductivity Map of Momoudouya

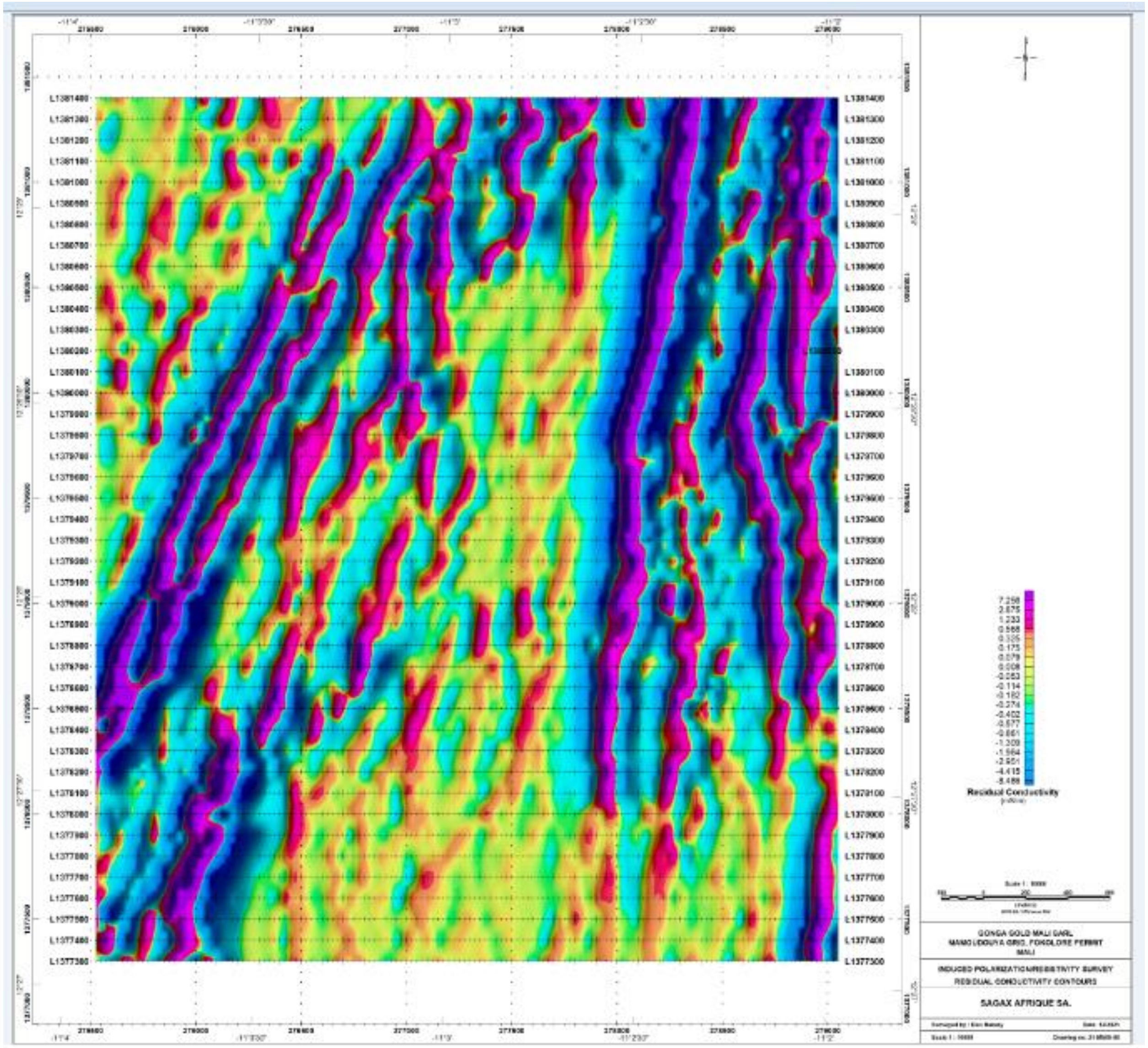



Figure 9.30: Residual Conductivity Map of Mamoudouya

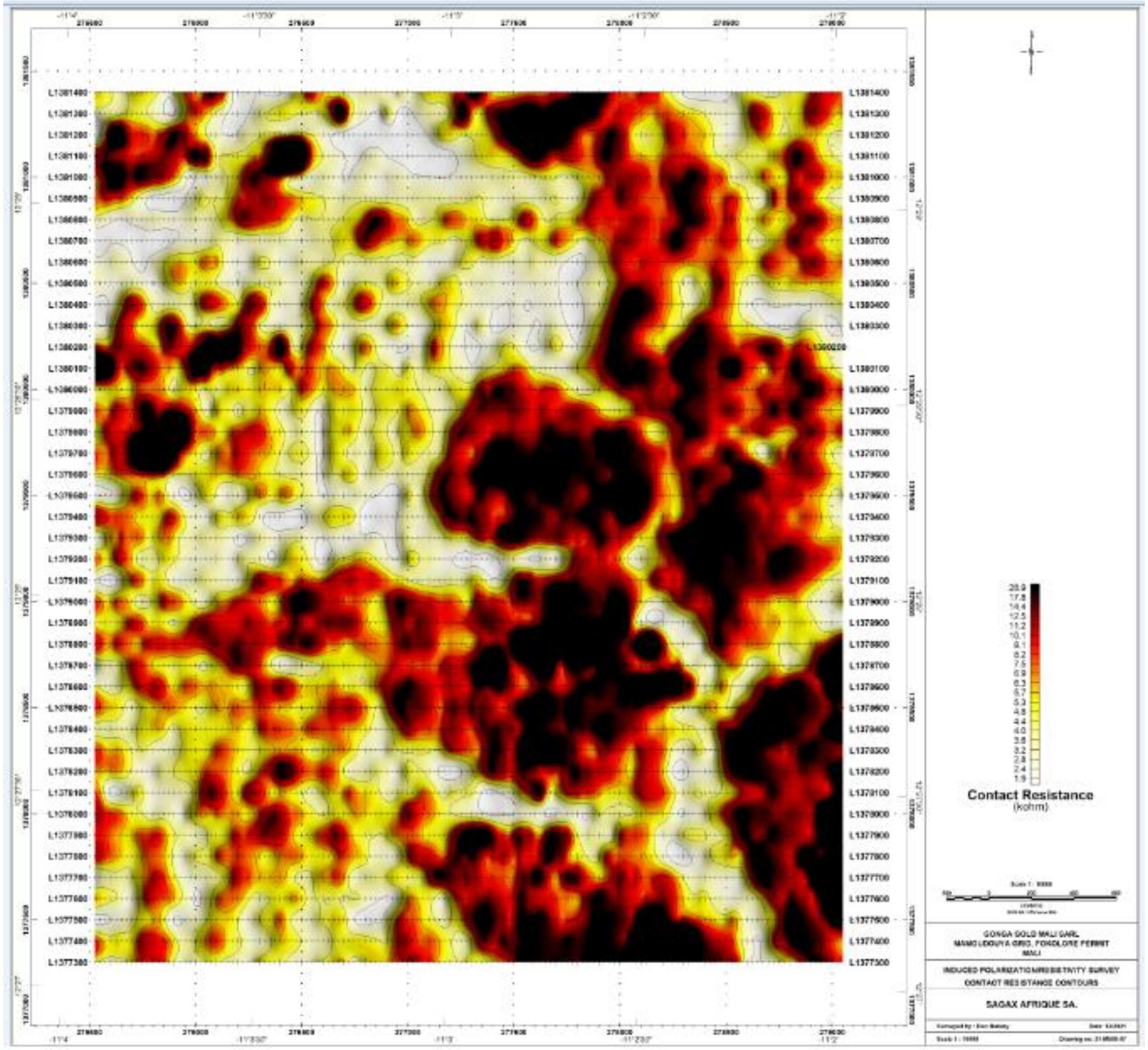



Figure 9.31: Contact resistance map of Mamoudouya

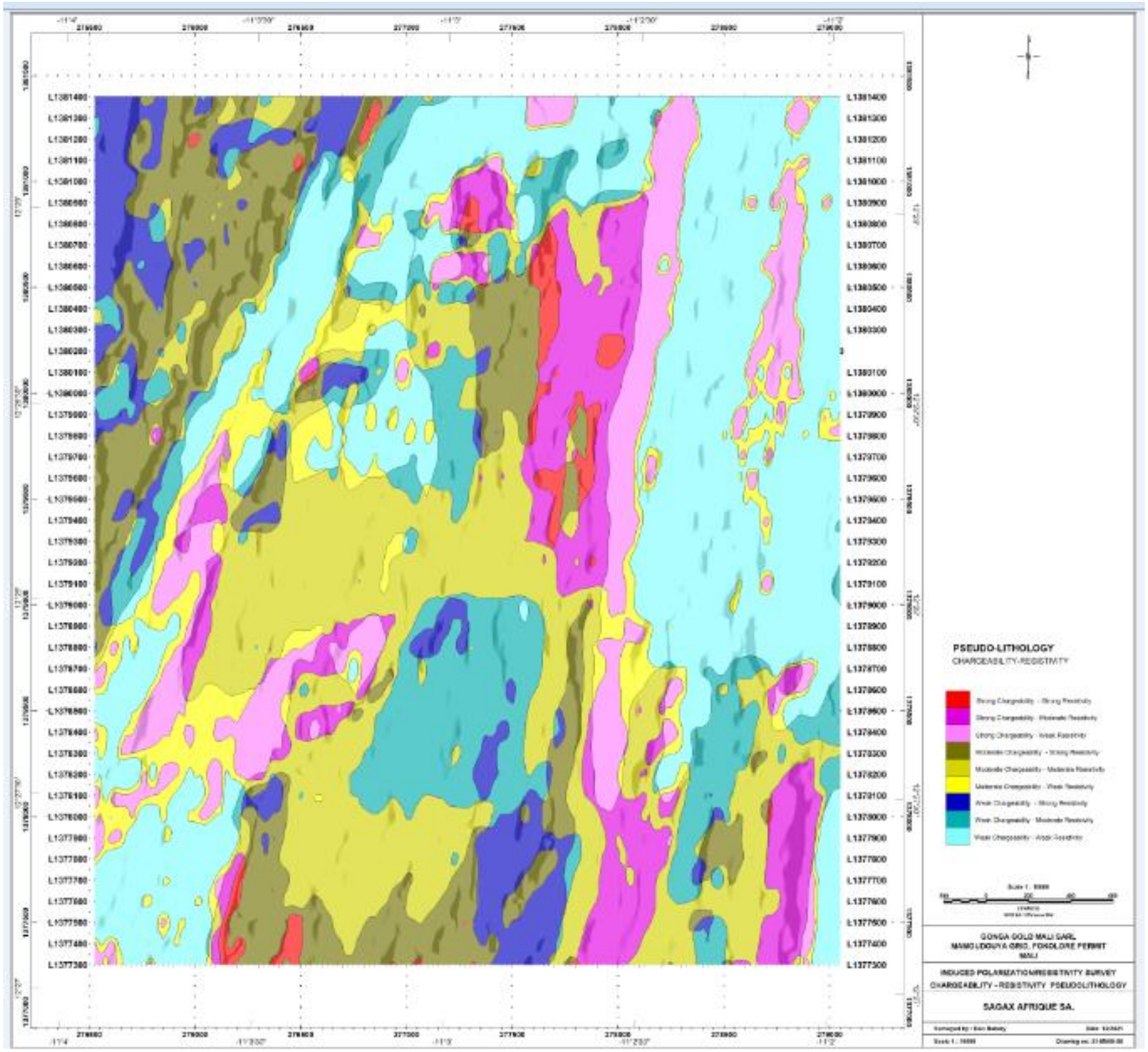



Figure 9.32: Lithology_Resistivity_Induced Polarisation map of Mamoudouya

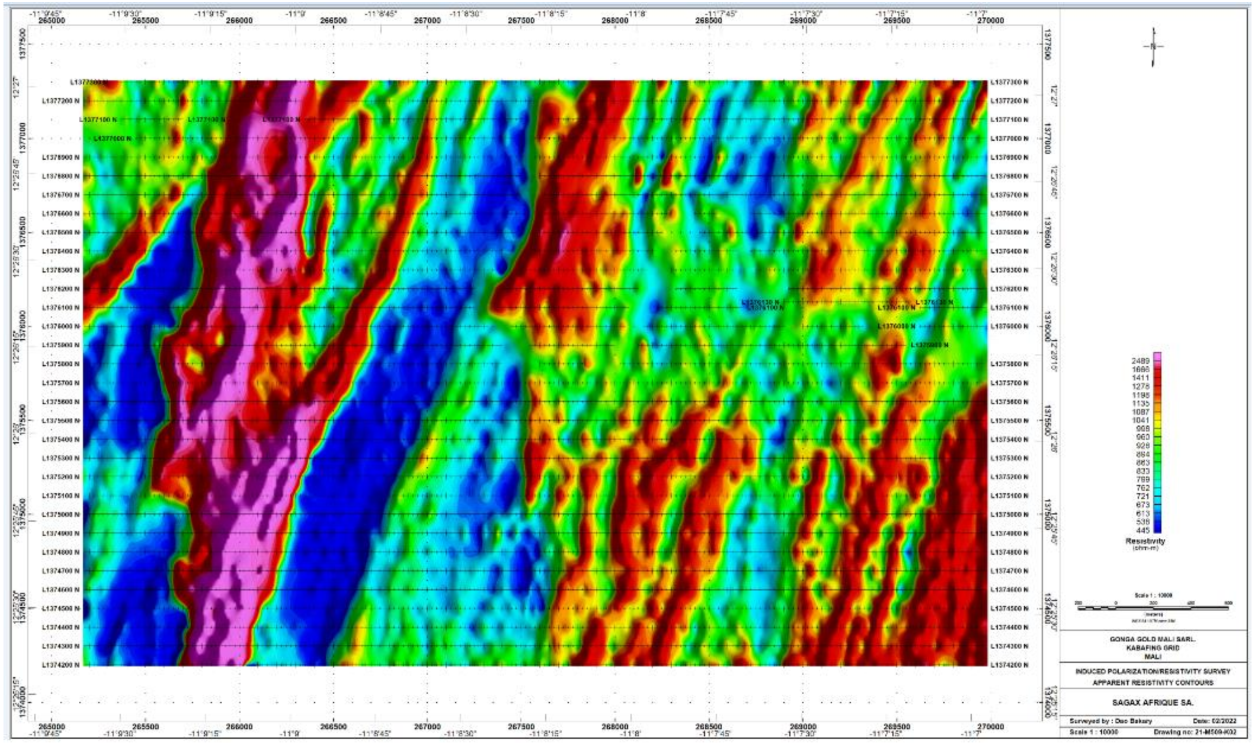



Figure 9.33: Resistivity Map of Kabafing

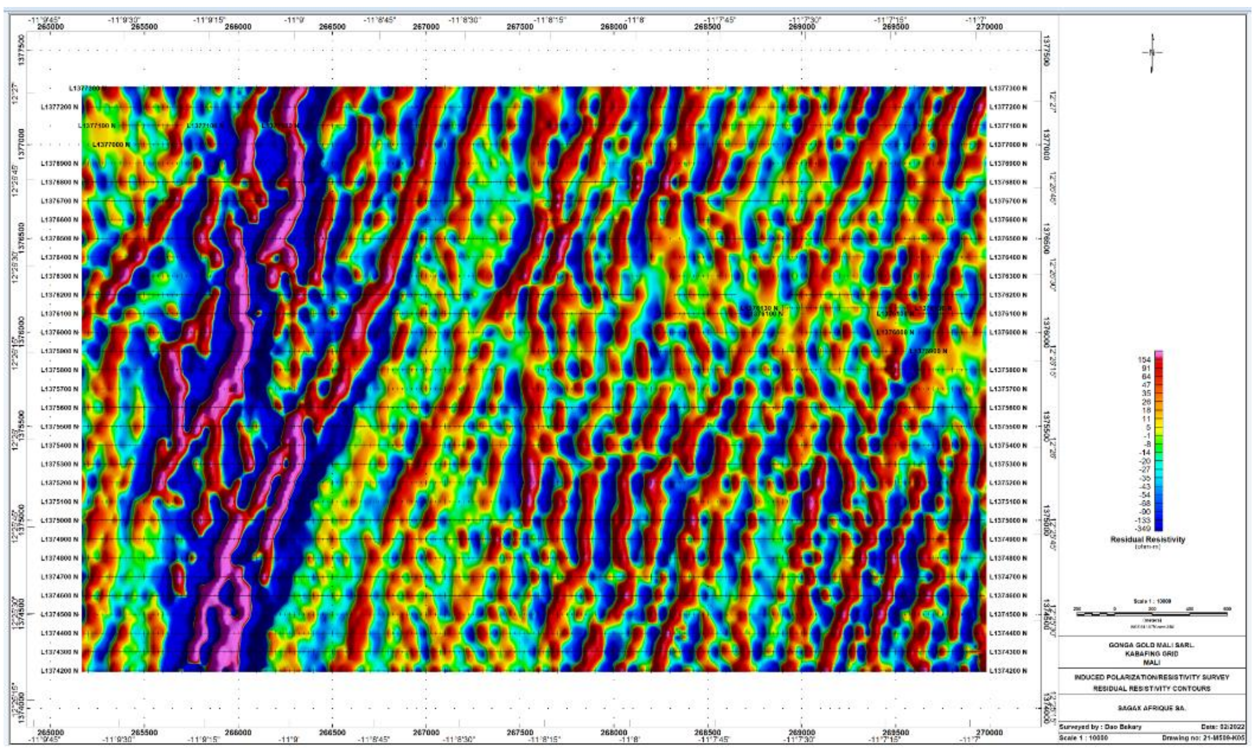



Figure 9.34: Residual Resistivity Map of Kabafing

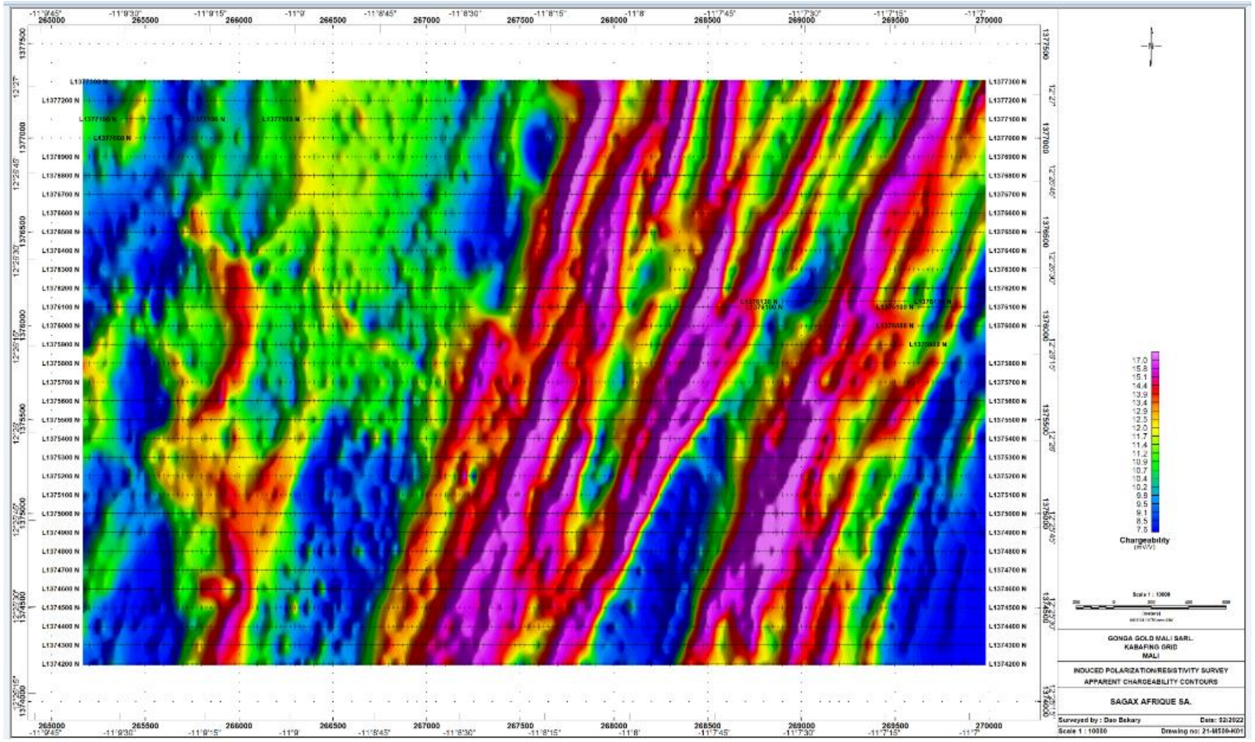



Figure 9.35: Chargeability Maf of Kabafing

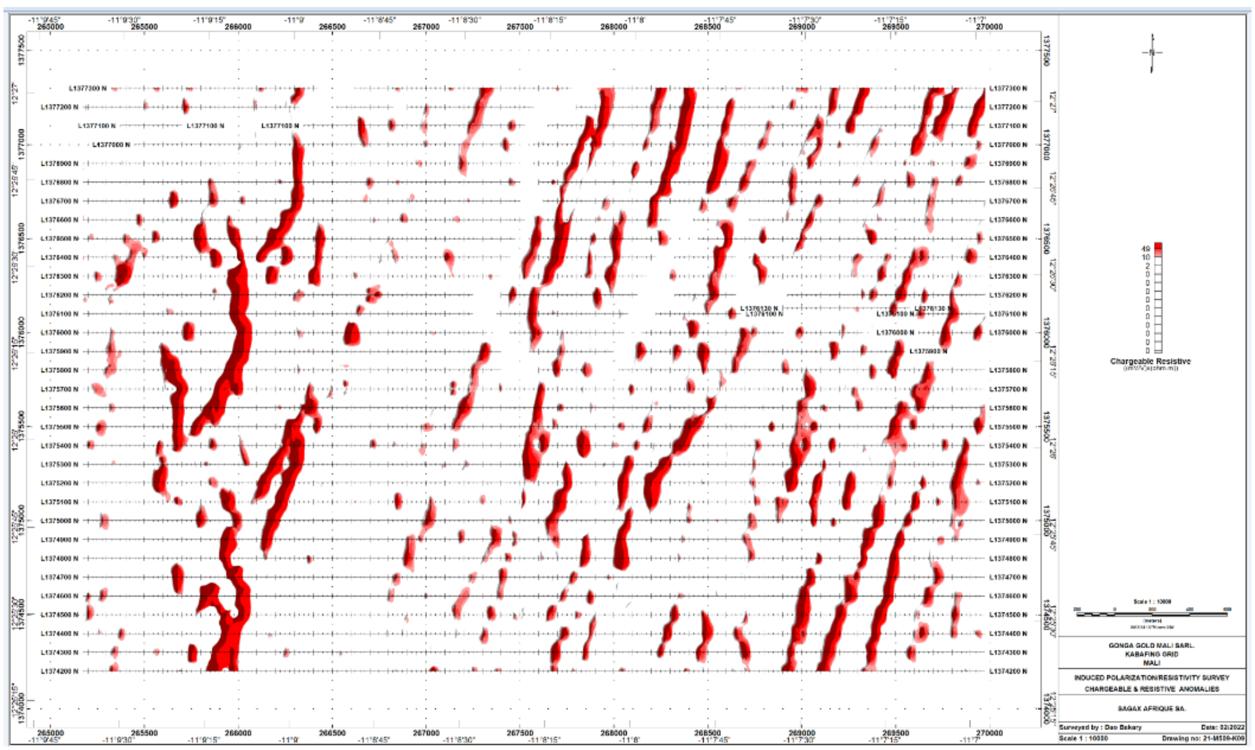



Figure 9.36: Induced Polarisation_Resistivity Map of Kabafing

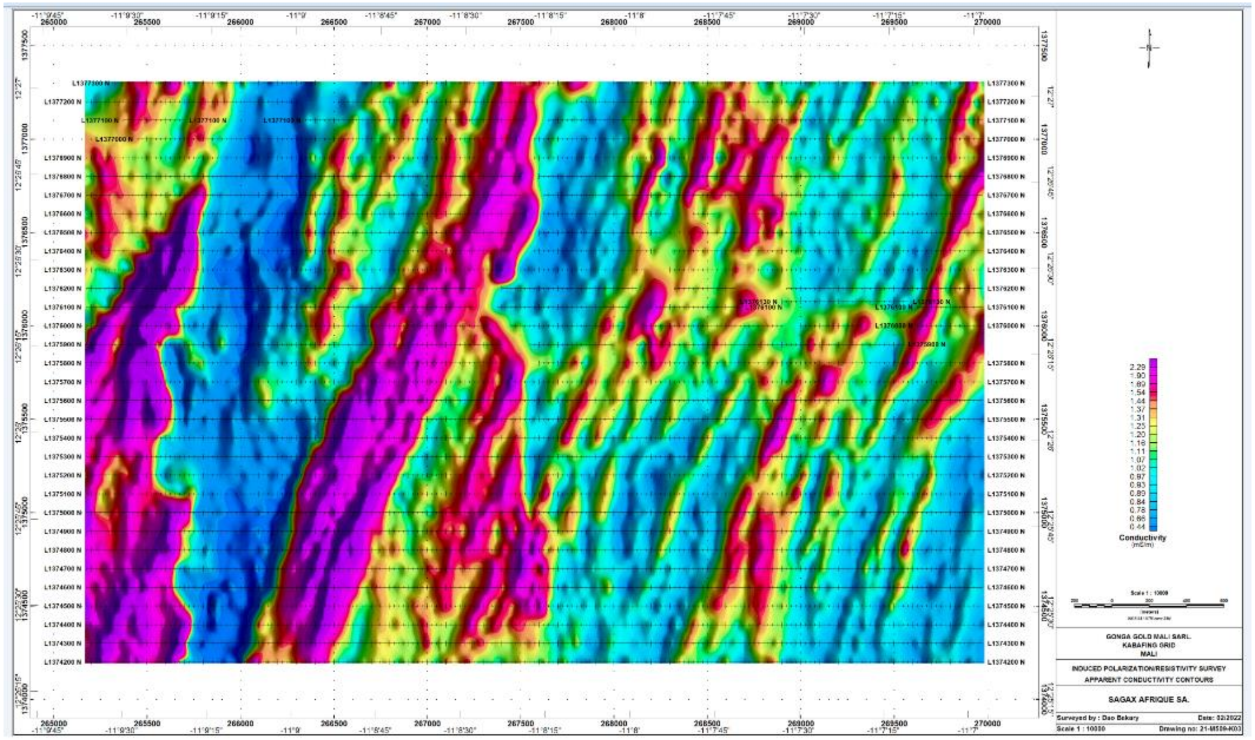


Figure 9.37: Conductivity Map of Kabafing

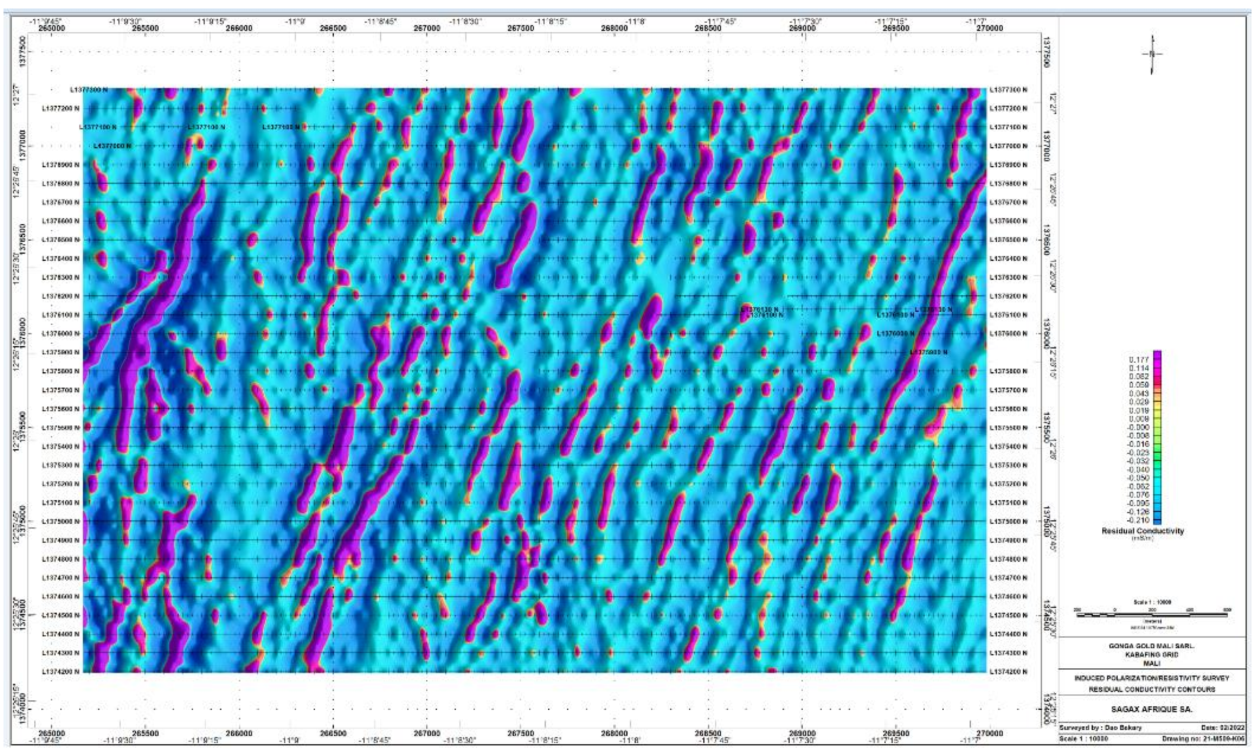


Figure 9.38: Residual Conductivity Map of Kabafing

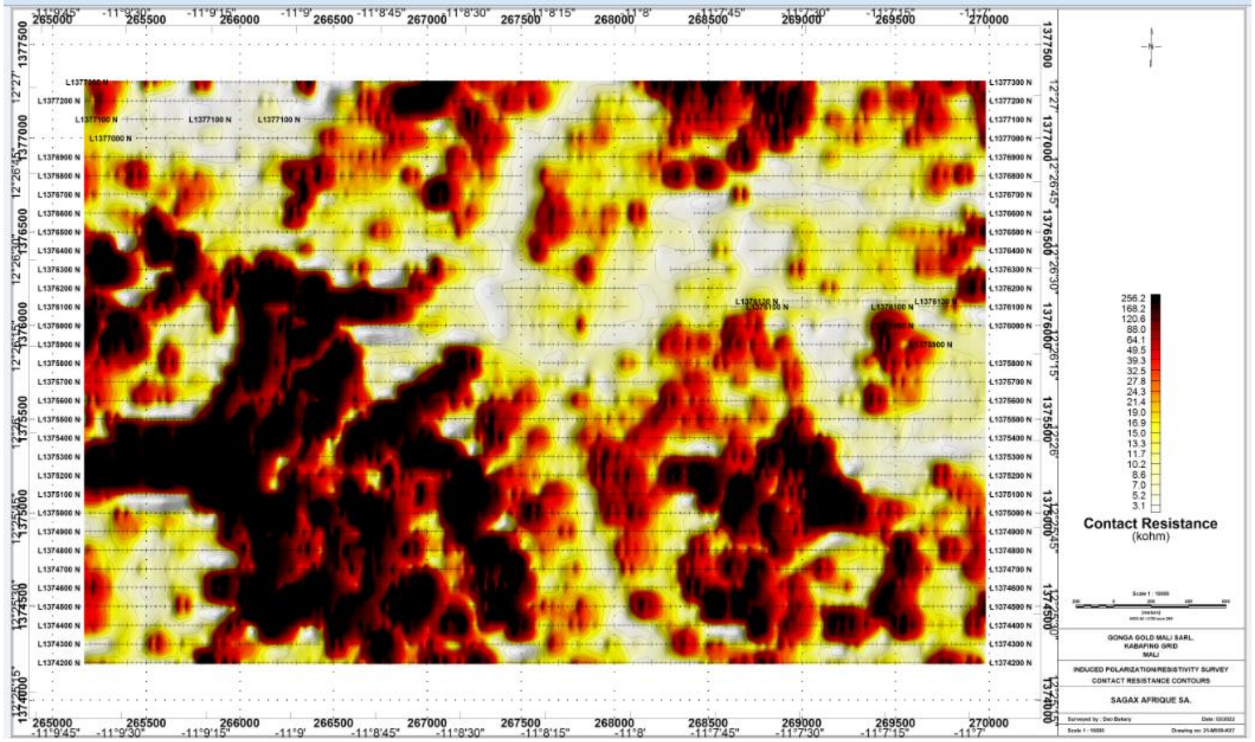



Figure 9.39: Contact Resistance Map of Kabafing

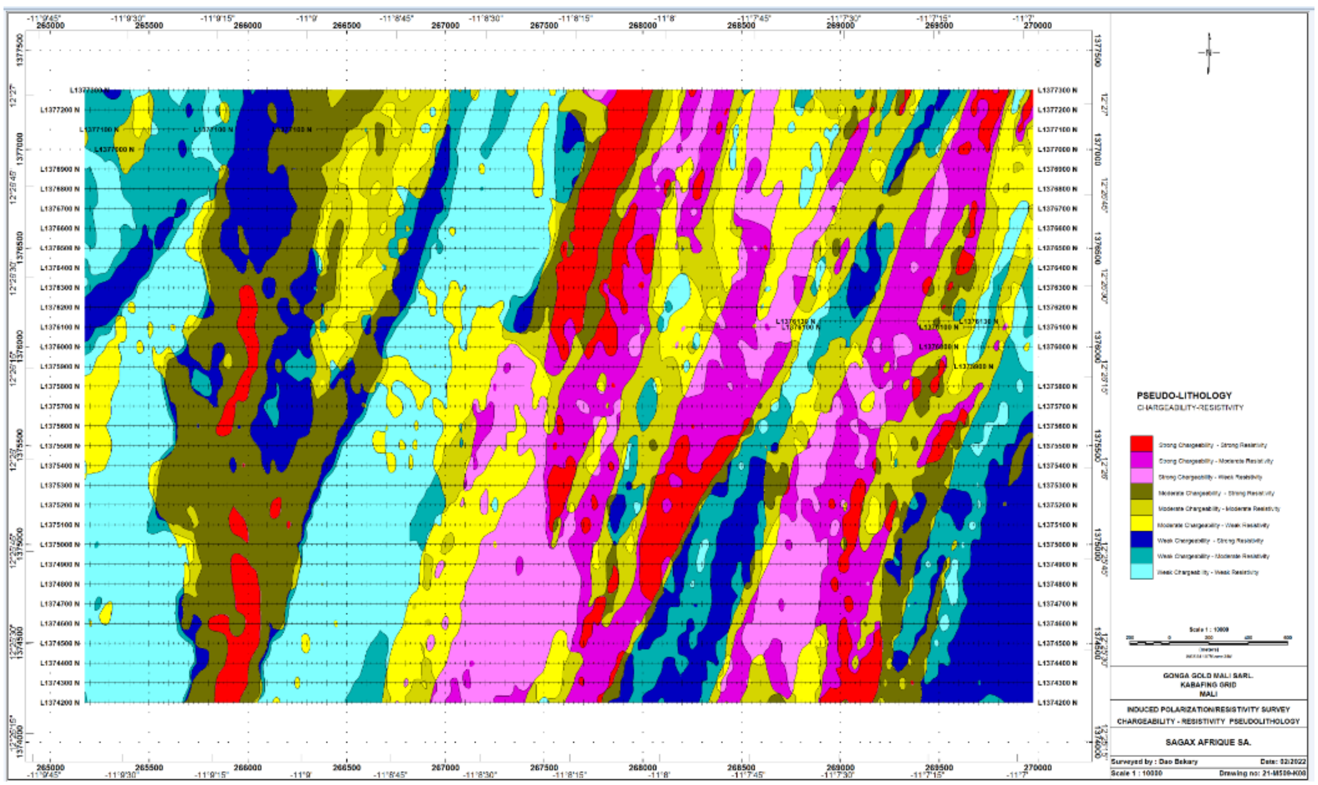



Figure 9.40: Lithology_Induced Polarization_Resistivity Map of Kabafing

# 10. DRILLING

As of the date of this report, Waraba Gold Limited had not completed any drilling programs of its own on the recently granted Maligonga property. Consequently, there is nothing to report under this section.

# 11. SAMPLE PREPARATION, ANALYSIS AND SECURITY

As of the date of this report, Waraba Gold Limited has not as yet undertaken any drill sampling on the Maligonga property. The author reviewed and has outlined the sample preparation process that were implemented during the historical drilling campaigns. The author is satisfied with the sample preparation, analysis and security procedures reviewed.

# Historical sample preparation analysis and security

### 11.1. RC Sampling

The one-meter RC field samples were reported to have been collected into plastic sampling bags, after passing through a rotating cone splitter clearly labelled with the sample number in indelible marking pen. The field residue of nominal 20 to 40 kg weight were laid out on the ground in rows of 10 samples. The assay samples were collected into a labelled plastic bag with the pre-numbered sample ticket stapled inside. The bag was securely tied and segregated into larger plastic bags (by hole number), in preparation for delivery to the laboratory at the end of each shift. Approximately 5% (1:20) of samples were duplicated in the field via the collection of a second 3 kg split. Standards and blanks were inserted every 20 samples. The cone splitter can collect two equal samples at the same time, which necessitates the need for re-handling the sample material. The cone splitter was cleaned thoroughly with a compressed air gun between each sample run during the dry season.

According to historical reports, the RC samples were prepared and collected from the drill rig, then, were delivered to the camp yard facility for sample pre-preparation before before shipment to the SGS pulpo [preparation laboratory in Bamako every time a sufficient number of samples were collected and bagged. The entire procedure was undertaken by national geologists and was closely supervised by experienced geological personel. Reference material for all samples were appropriately retained and stored, including chip trays derived from RC drilling, duplicate pulps and residue of all submitted samples.

### 11.2. Auger Sampling

The one-meter Auger field samples were collected off the cyclone and laid out on the ground in consecutive rows of 10 samples. Field technicians poured the entire sample and collected a representative 3 m sample, providing 2 to 3 kg for laboratory submission. Pre-numbered sample ticket books were used to manually record the hole number and sample interval, the sample number was written on the plastic sample bag, and the ticket stapled to the inside of the bag. In the situation where field samples were over-saturated and spear sampling is not practical, manual scoop sampling was adopted. Approximately 1 in 20 samples were duplicated in the field via the collection of a second 2 to 3 kg composite sample, in order to monitor potential field sampling bias. Standards and blanks were inserted every 20 samples. Quality Assurance/Quality Control standard samples were also added and recorded for internal standards of the contract laboratory performance.

### 11.3. Sample Recovery

DCS MALI Drilling Service used 77 mm diameter RC holes that yielded a volume recovery of dry samples near 20kg/m in saprolite and 30 kg/m in fresh rock indicating acceptable recoveries of approximately 100%.

### 11.4. Analytical Laboratories

Cluff used the analytical services of the SGS Laboratory in Kayes, Mali, for the samples from the 2012 RC drilling program. Fokolore used the analytical services of the SGS Laboratory in Bamako for the samples from the 2016 Auger drilling program and PROSLABS Laboratory in Bamako, Mali, for the 2018 RC drilling program. The SGS Laboratories in Mali are internationally recognized independent laboratories certified by National Association of Testing Authorities (NATA), and under ISO 9000. PROSLABS Laboratory in Bamako is a quality analysis laboratory certified ISO 9001 since 2015, and ISO 17025 accredited.

At the SGS Laboratory in Bamako, Auger samples were prepared in accordance with SGS code PRP86. The samples were dried and crushed , if necessary to obtain 75% of the fraction – 2mm, split if necessary, to obtain 1.5 kg.This quantity was ground entirely with LM2 to obtain 85% of the fraction < 75 micrometer. The samples were then split up to 200 grams. 50 grams of this material was analysed by Lead Fusion DIBK wit AAS finish which has a detection limit of 0.001 ppm. The SGS code for the analysis is FAE505. All equipments were thoroughly cleaned with barren material before moving on to another sample.

### 11.5. QA/QC Procedures

Control of the Laboratory quality sample preparation and analytical porocedure was done via the use of blanks, duplicates and "standards" amounting 20% of the total samples shipped to the laboratory.

- **DUPLICATES:** The original sample is homogenized and divided into two equal samples by splitting
- **Blanks:** These are certified balank samples
- **Standards:** Commercial pulp stadards have been inserted into sample batches

### 11.6. QAQC Program Quality Control Procedures

Folkolore and Cluff's assay files include field blanks, commercial reference standard material and duplicate samples to provide Quality Assurance and Control.(QA/QC) on drill sample results. Cluff used 9 different standards for its RC drilling program with a range of gold grades from 0.084 g/t Au to 5.909 g/t Au. Folkolore used 4 different standards for its RC drilling program with a range of gold grades from 0.599 g/t Au to 5.829 g/t Au. Folkolore and cluff also obtained and reviewed atleast some of the internal blank, standard and duplicate control results used by the different laboratories.

### 11.7. Sample Preparation and Analytical procedures by SGS

Cluff RC drilling samples and Folkolore Auger drill samples were assayed at the SGS laboratory in Bamako. The SGS sample preparation and analytical approaches are summarized as follows (Figures 11.1 to 11.3)

## 11.8. Cluff sampling quality assurance and quality control (QA/QC)

Certified Reference Material (standard): Std OXL93, Std Si42, Std SI54, Std OXN92, Std SL51, Std Oxl78, Std OXJ80, Std Oxj68, Std OXA89 (Table 11.1.) were used by Cluff to monitor accuracy of the laboratory.
Duplicate samples: the original sample is homogenized and divided into two equal samples by splitting for the RC drilling and the termite mounds samples.
Blank: Cluff used barren material
Each type of check sample was inserted every twenty (20) samples.

### 11.8.1: Cluff RC drilling Quality Assurance and Quality Control

#### 11.8.1.1: Cluff RC drilling Standard Samples

Commercial certified standards were inserted into sample batches and sent to the SGS Lab in Mali to determine the accuracy of the analytical process. A total of 393 standard samples from 9 different standards were used: The standards used included:

- Std OXL93 with grade of 5,841 g/t Au and a standard deviation of 0,10
- Std Si42 with grade of 1,761 g/t Au and a standard deviation of 0,15
- Std SI54 with grade of 1,780 g/t Au and a standard deviation of 0,17
- Std OXN92 with grade of 7,643 g/t Au and a standard deviation of 0,15
- Std SL51 with grade of 5,909 g/t Au and a standard deviation of 0,09
- Std Oxl78 with grade of 5,876 g/t Au and a standard deviation of 0,12
- Std OXJ80 with grade of 2,331 g/t Au and a standard deviation of 0,09
- Std Oxj68 with grade of 2,342 g/t Au and a standard deviation of 0,06
- Std OXA89 with grade of 0,084 g/t Au and a standard deviation of 0,01

The statistical parameters for the standards used are presented in the following Table

| Standard Code | Count of assays | Certified Value | Min | Max | Mean | STADEV | 1 High SD | 1 Low SD | 2 High SD | 2 Low SD | 3 High SD | 3 Low SD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Std OXL93 | 37 | 5,841 | 5,63 | 6,04 | 5,900 | 0,10 | 5,94 | 5,74 | 6,04 | 5,64 | 6,14 | 5,54 |
| Std Si42 | 26 | 1,761 | 1,76 | 2,37 | 1,852 | 0,15 | 1,91 | 1,61 | 2,07 | 1,45 | 2,22 | 1,30 |
| Std SI54 | 135 | 1,780 | 0,08 | 2,33 | 1,792 | 0,17 | 1,95 | 1,61 | 2,12 | 1,44 | 2,28 | 1,28 |
| Std OXN92 | 24 | 7,643 | 7,5 | 8,1 | 7,704 | 0,15 | 7,79 | 7,50 | 7,93 | 7,35 | 8,08 | 7,21 |
| Std SL51 | 35 | 5,909 | 5,73 | 6,04 | 5,878 | 0,09 | 6,00 | 5,82 | 6,08 | 5,73 | 6,17 | 5,65 |
| Std Oxl78 | 26 | 5,876 | 5,677 | 6,12 | 5,848 | 0,12 | 6,00 | 5,75 | 6,12 | 5,63 | 6,24 | 5,51 |
| Std OXJ80 | 63 | 2,331 | 1,79 | 2,54 | 2,378 | 0,09 | 2,42 | 2,24 | 2,52 | 2,14 | 2,61 | 2,05 |
| Std Oxj68 | 22 | 2,342 | 2,24 | 2,45 | 2,343 | 0,06 | 2,40 | 2,28 | 2,46 | 2,23 | 2,51 | 2,17 |
| Std OXA89 | 25 | 0,084 | 0,08 | 0,1 | 0,090 | 0,01 | 0,09 | 0,08 | 0,10 | 0,07 | 0,11 | 0,06 |

**Table 11.1. Statistical Parameters for Standards of RC Drill Samples analyzed by Fire Assays**

To determine whether an analytical result for a particular standard lies within acceptable limits, data was inserted into an Excel spreadsheet dedicated to that standard. A standard control sheet, unique for each standard was generates based on control limits. The control limits are defined as 3xSD (Standard Deviation) above and below the mean. The "SD (Standard Deviation)" is the Standard Deviation based on the Median Moving Range and provides a robust estimate for accuracy.

The Standard Control Sheet shows the standard assay results and Control Limits in graph format, as shown in the following figures. Standards that fall outside the defined tolerance 3 SD High or Low are considered as failed.

**a. Cluff Standard Std OXL93 Control Chart**

The standard Sample Std OXL93 displays a good correlation to the recommended values and therefore a good accuracy in the sample analysis (Figure 11.1). In this Control Chart all samples can be seen to plot inside the Control Limits indicating a good analysis accuracy.

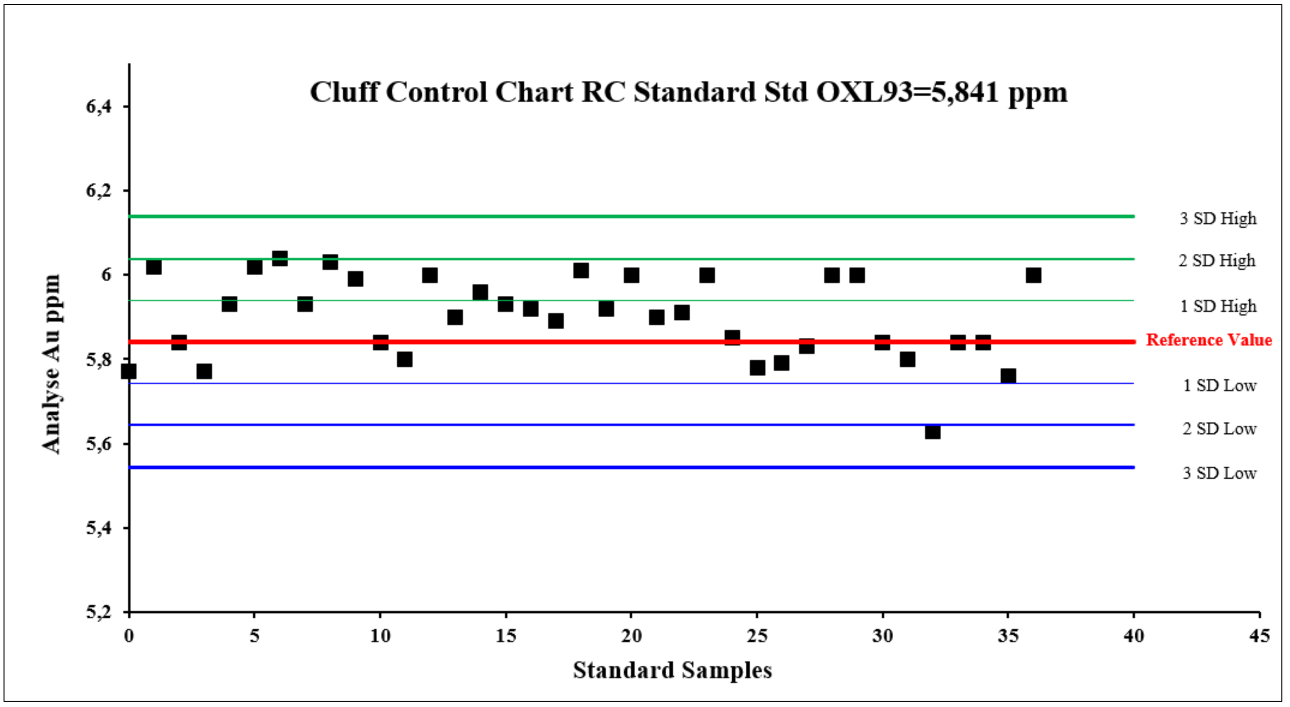



**Figure 11.1: Standard Std OXL93 Control Chart. Fire Assays Analysis of Cluff RC Drill Samples**

**b. Cluff Standard Std Si42 Control Chart**

The standard Sample Std Si42 display a good correlation to the recommended values and therefore a good accuracy in the sample analysis (Figure 11.2). In this Control Chart only two samples fall outside the Control Limits but the majority of the samples are below the 1 SD High limit indicating a good accuracy.

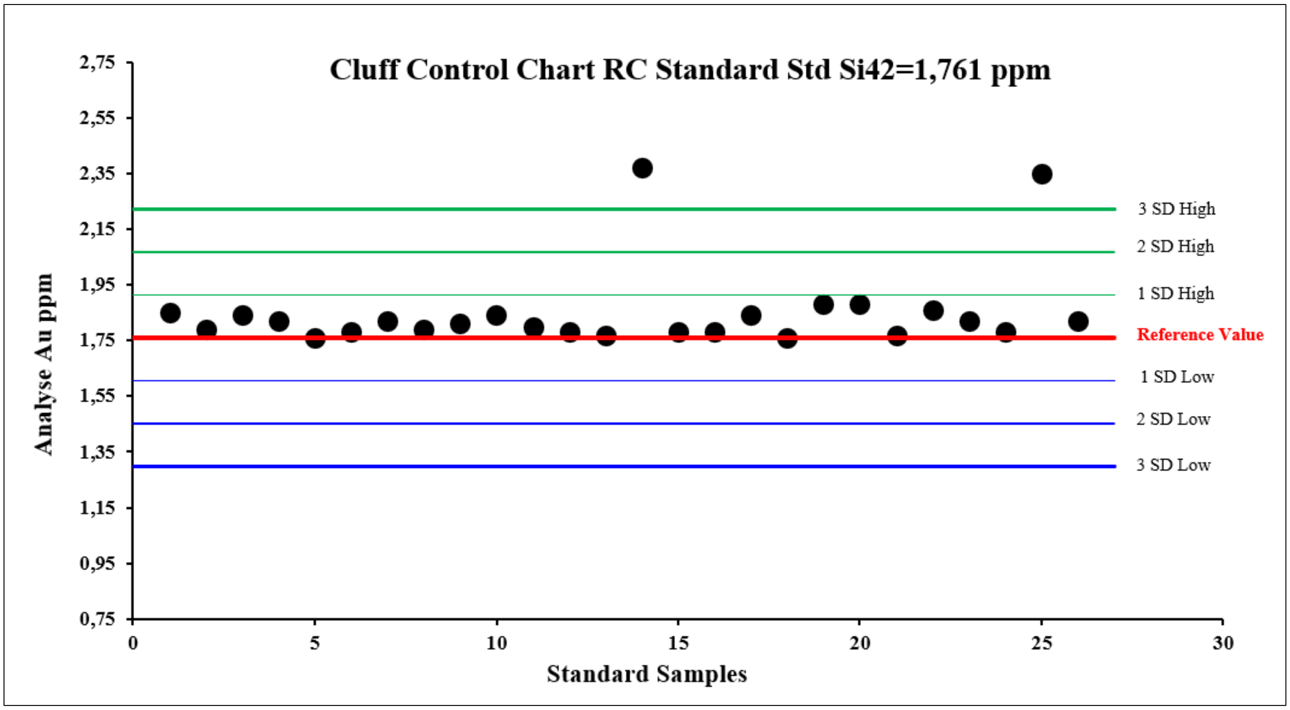



**Figure 11.2: Standard Std Si42 Control Chart. Fire Assays Analysis of Cluff RC Drill Samples**

### c. Cluff Standard Std SI54 Control Chart

The standard Sample Std SI54 displays a good correlation to the recommended values and therefore a good accuracy in the sample analysis (Figure 11.3). All samples are below the 1 SD High Control limit.

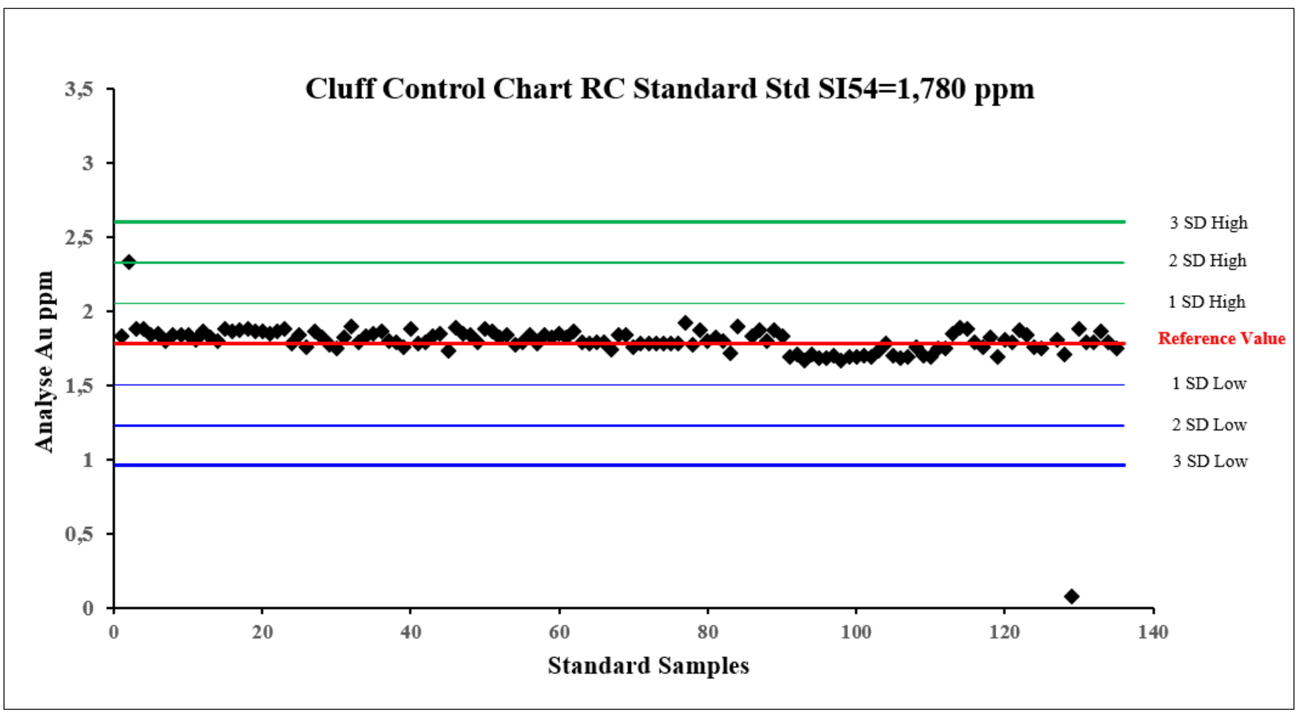



**Figure 11.3: Standard Std SI54 Control Chart. Fire Assays Analysis of Cluff RC Drill Samples**

### d. Cluff Standard Std OXN92 Control Chart

In this Control Chart (Figure 11.4) only one sample fall outside the Control Limits 3 SD High but the majority of the samples are within the 3 SD High Control Limit indicating a good accuracy.

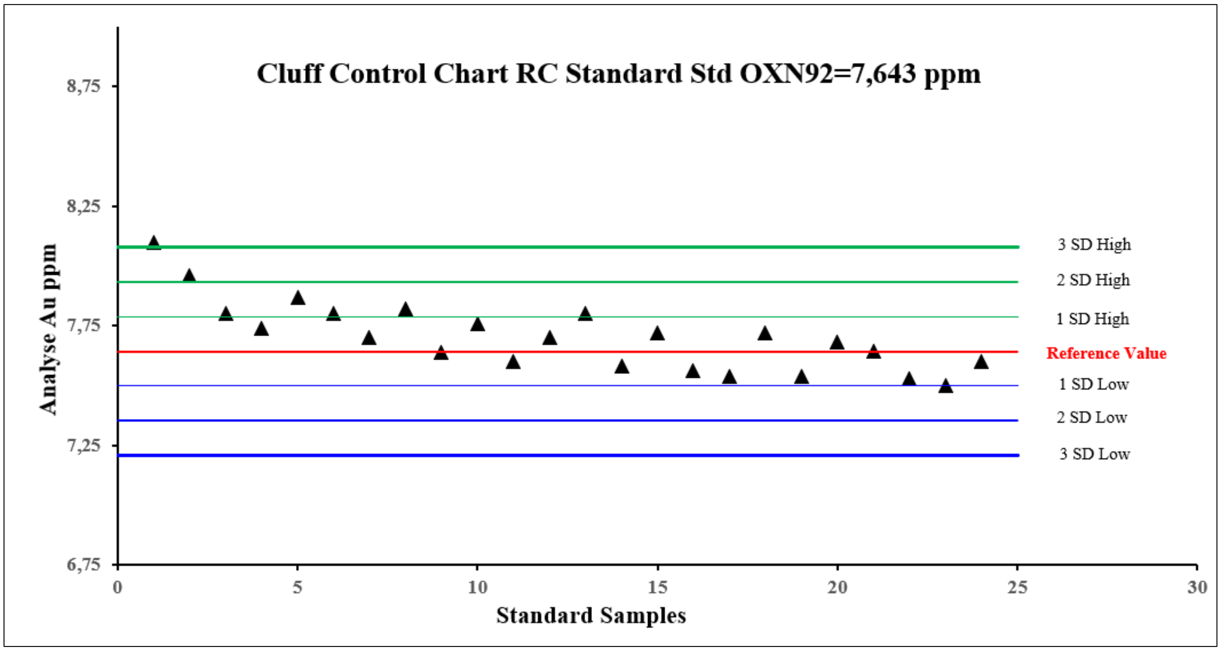



**Figure 11.4: Standard Std OXN92 Control Chart. Fire Assays Analysis of Cluff RC Drill Samples**

### e. Cluff Standard Std SL51 Control Chart

In this Control Chart all samples fall inside the Control Limit 2 SD High indicating a good accuracy.

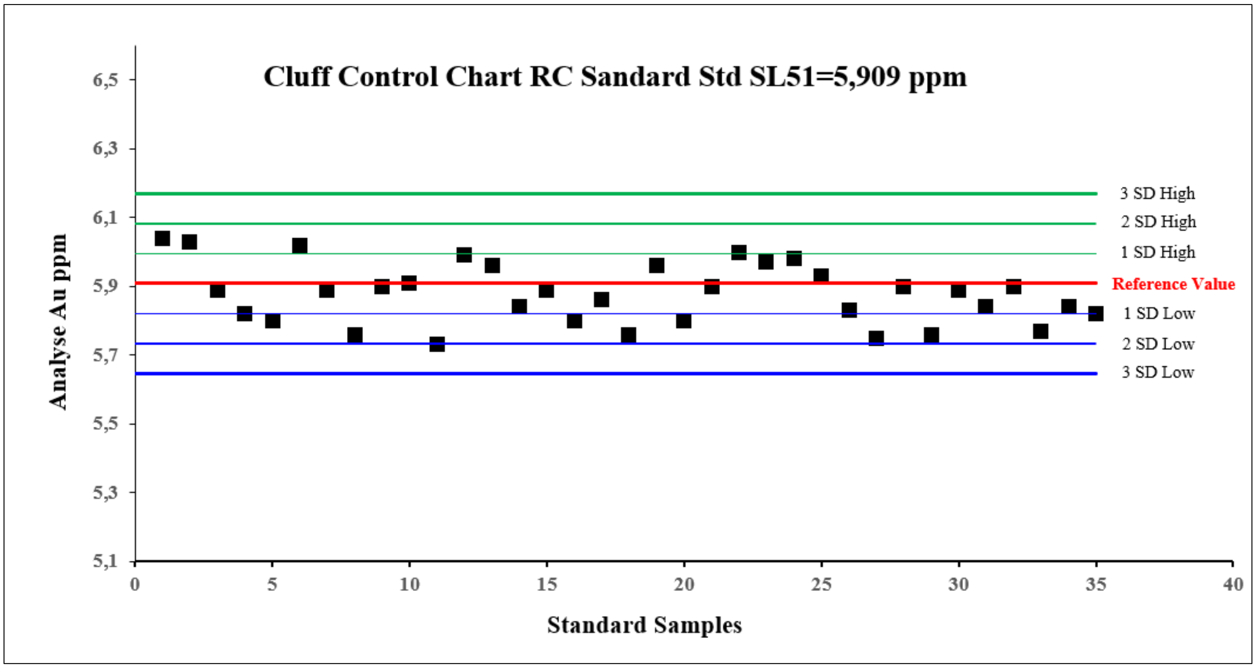



**Figure 11.5: Standard Std SL51 Control Chart. Fire Assays Analysis of Cluff RC Drill Samples**

### f. Cluff Standard Std Oxl78 Control Chart

In this Control Chart all samples fall inside the Control Limits 2 SD High indicating a good accuracy.

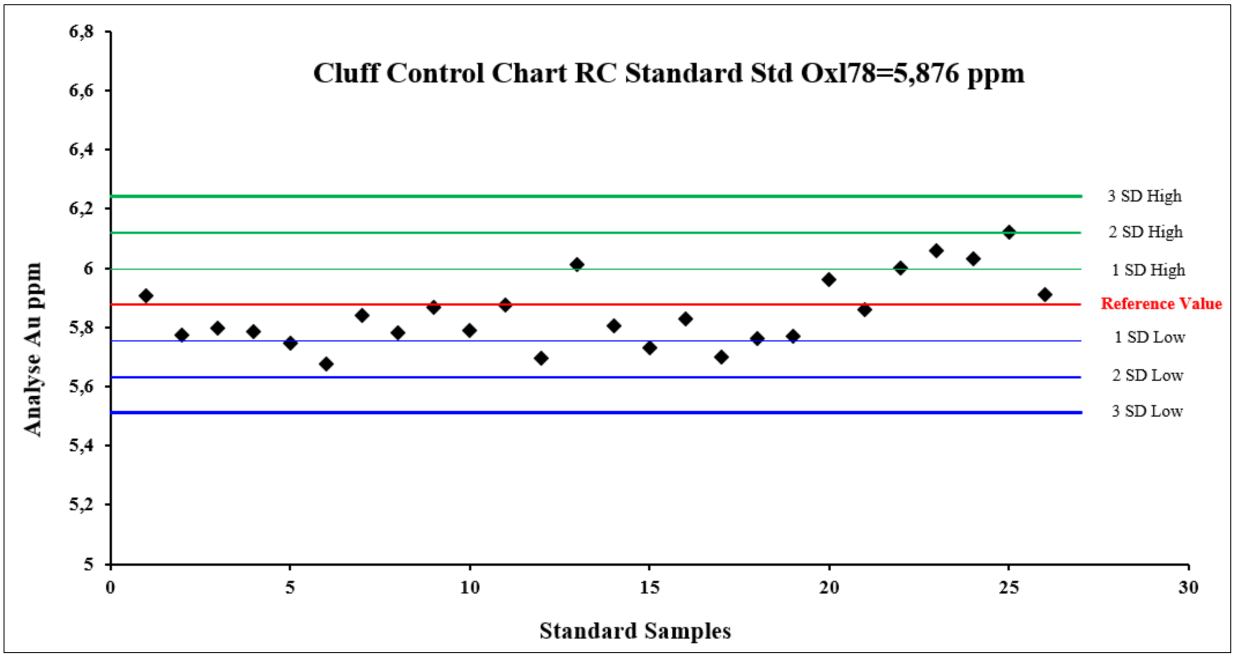



**Figure 11.6: Standard Std Oxl78 Control Chart. Fire Assays Analysis of RC Drill Samples**

### g. Cluff Standard Std Oxj80 Control Chart

In this Control Chart all samples fall inside the Control Limits 3 SD indicating a good accuracy. Only one sample fall outside the 3 SD Low Control Limit (Figure 11.7)

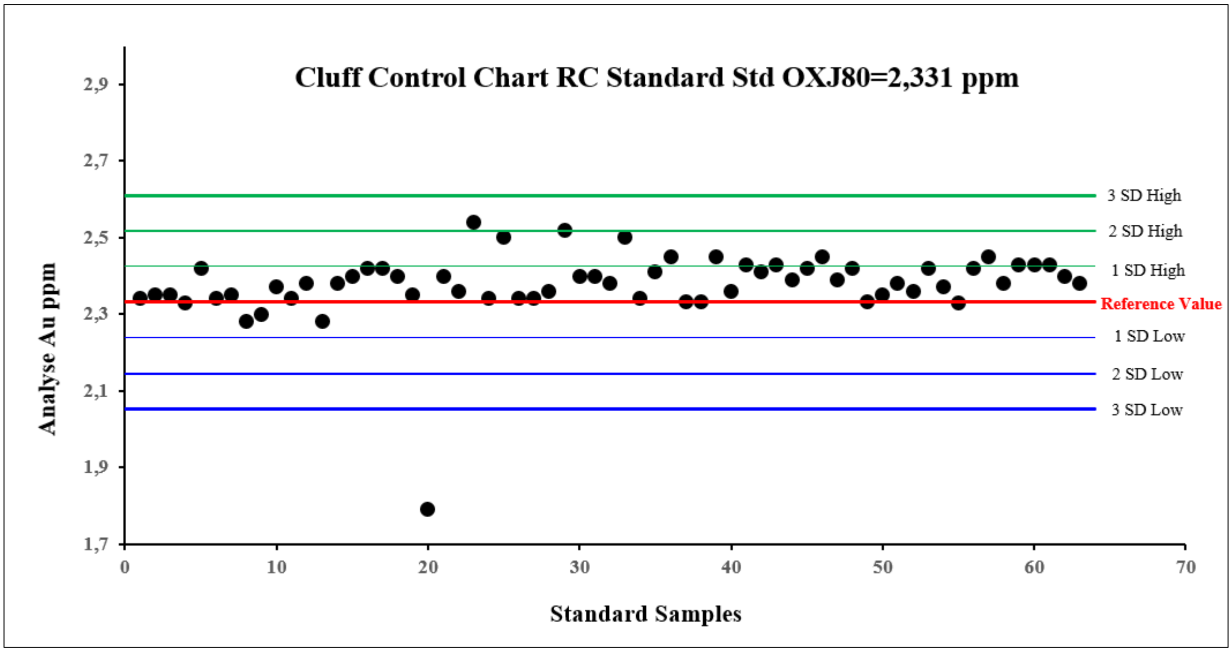



**Figure 11.7: Standard Std Oxj80 Control Chart. Fire Assays Analysis of RC Drill Samples**

### h. Cluff Standard Std Oxj68 Control Chart

In this Control Chart all samples fall inside the Control Limits 2 SD indicating a good accuracy.

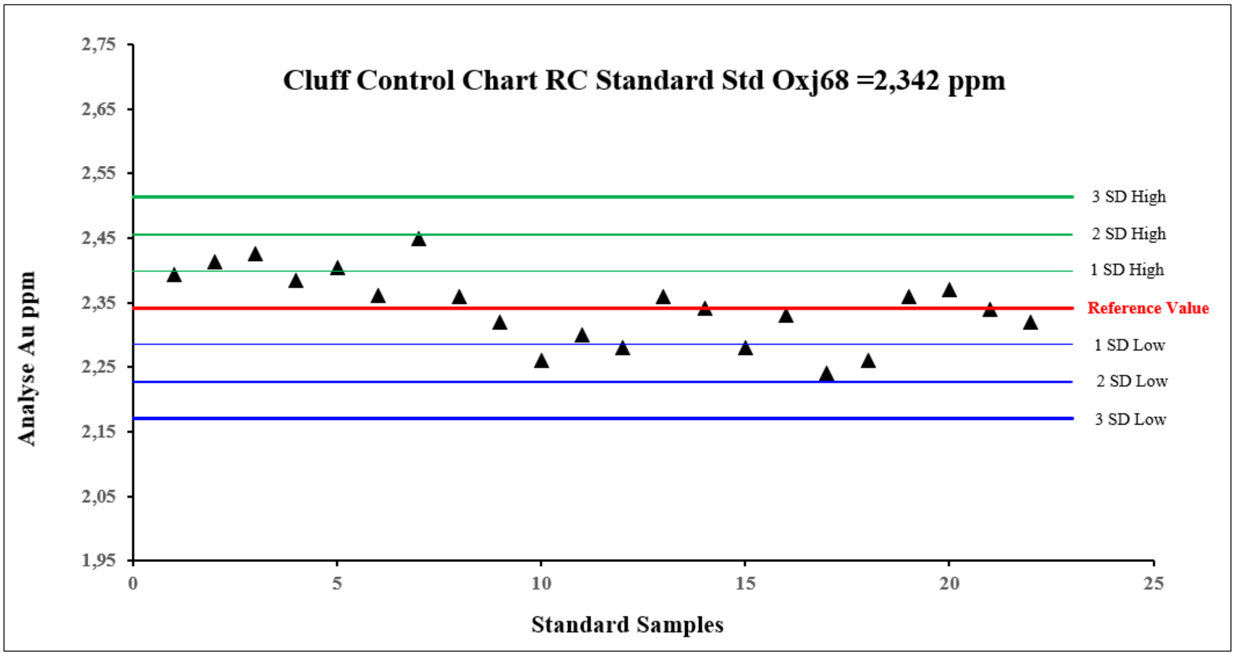



**Figure 11.8: Standard Std Oxj68 Control Chart. Fire Assays Analysis of RC Drill Samples**

### i. Cluff Standard Std OxA89 Control Chart

In this Control Chart all samples fall inside the Control Limit 3 SD indicating a good accuracy.

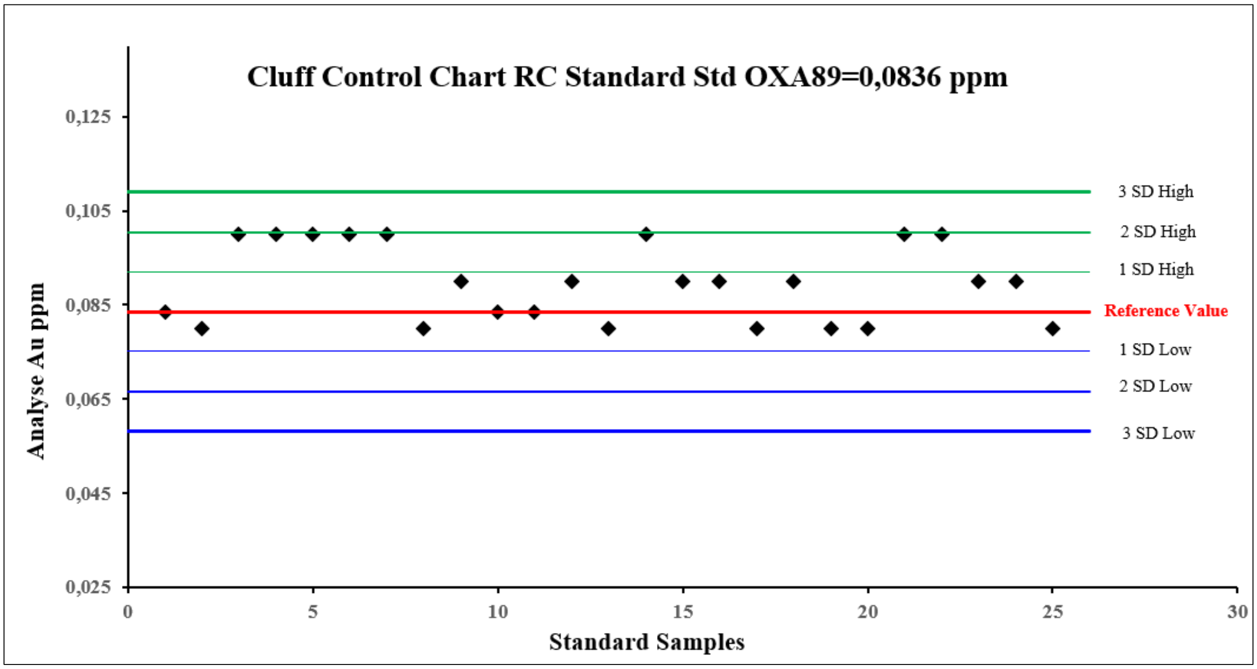



**Figure 11.9: Standard Std OxA89 Control Chart. Fire Assays Analysis of RC Drill Samples**

### 11.8.1.2. Cluff RC drilling Standard Samples

A total of 490 pulps (Table 11.2) from RC samples have been duplicated. The analysis of duplicated assays ("duplicates") was used to check precision of the assay process.

The Table 11.2. Shows the statistical parameters of the Cluff RC drill duplicate samples

| Sample Set | Count of assays | Mean | Min | Max | Standard Deviation |
|---|---|---|---|---|---|
| Original Assay | 490 | 0,01 | 0,006 | 6,81 | 0,33 |
| Duplicate Assay | 490 | 0,01 | 0,003 | 6,81 | 0,32 |

**Table 11.2: Statistical Parameters for Duplicates of RC Drill Samples analyzed by Fire Assays**

The plot of original and duplicate RC samples (Figure 11.10) indicates that the majority of samples (92%) have good correlation with samples pairs. Only 2 samples fall out of the 10% error line, probably due to nugget effect usually associated with free gold in samples.

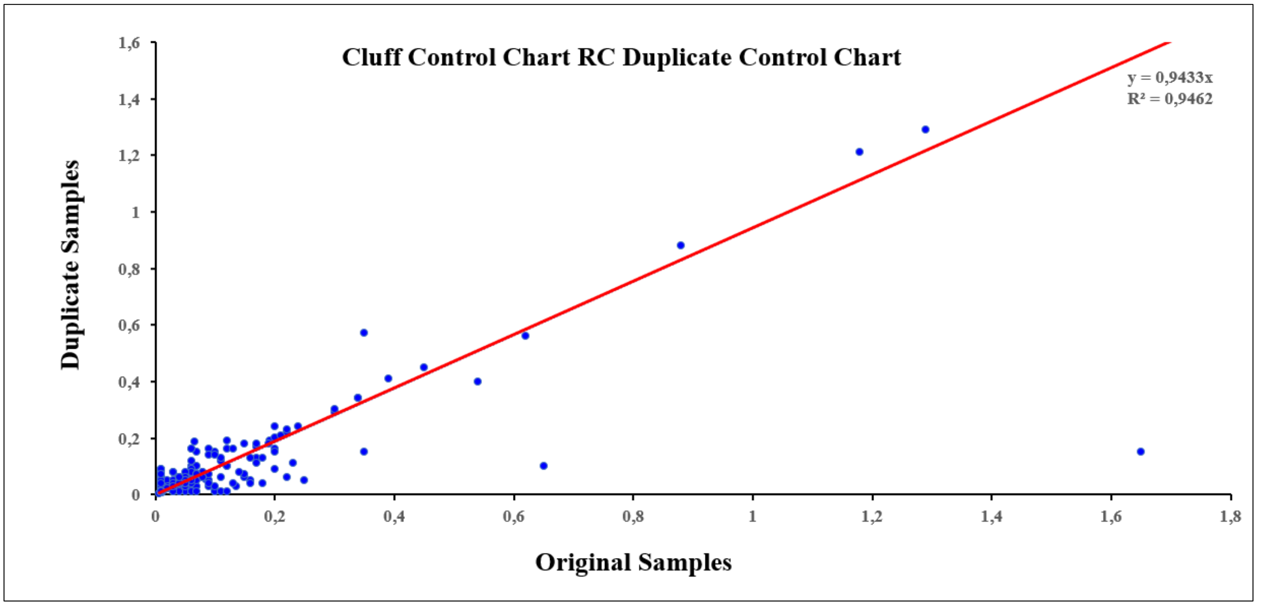



**Figure 11.10: Duplicate Control Chart for Cluff RC Drilling Samples**

### 11.8.1.3. Cluff RC drilling Blank Samples

Theoretically a blank will have a gold content below the analytical detection limit, which at most laboratories is 0.01 g/t Au (10 ppb) for a standard Fire Assay with a 50 g charge. However, instrumental and analytical errors may occur, and accidental contamination by gold-bearing material is possible, any of which, may give a result above the detection limit.

For this report, an upper limit of 0.05 g/t Au (50 ppb) Au (5 x the Detection Limit) was used for blanks i.e., results >0.05 g/t Au are considered as failed.

A total of 490 blanks were assayed with Fire Assays by SGS Lab in Bamako to monitor gold contamination. From these 490 blanks, only 3 samples returned results greater than the detection limit 0.01g/t Au. The rest of the samples fall below the tolerance detection limit of 0.05 g/t Au defined as less than 5 times the Analytical Detection Limit. The inserted blanks indicate no issue regarding significant contamination.

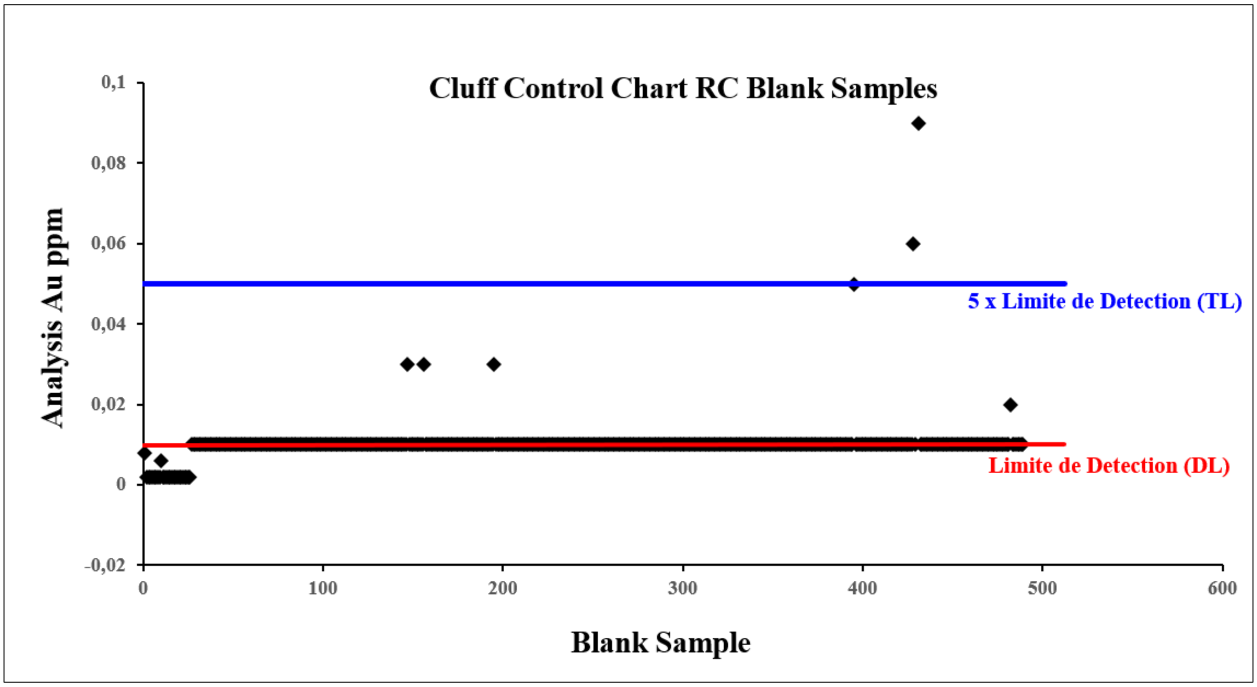



**Figure 11.11: Blank Sample Control Chart Fire Assays for Cluff RC Drill Samples**

### 11.8.2. Cluff Termite Mounds Sample Quality Assurance and Quality Control (QA/QC)

A total of 247 check samples were analyzed with Fire Assays by SGS Lab in Kayes, Mali. Three sets of QA/QC were plotted: Standard: 66 samples, Duplicates: 91 samples and Blanks: 90 samples.

#### 11.8.2.1. Cluff Soil Standard

The standards (SI42=1760 and oxc88 = 200) were used for the termite mounds sample standards (Table 11.3). The Table 11.3. shows the statistical parameters of the Cluff termite mounds Duplicate samples.

| Standard Code | Count of assays | Certified Value ppb | Min | Max | Mean | STADEV | High SD | Low SD | 2 High SD | 2 Low SD | 3 High SD | 3 Low SD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SI42=1760 | 23 | 1 760 | 1 612 | 1 828 | 1 761 | 46 | 1 806,26 | 1 713,74 | 1 852,52 | 1 667,48 | 1 898,78 | 1 621,22 |
| Oxc88 = 215 | 43 | 200 | 176 | 425 | 215 | 55 | 254,98 | 145,02 | 309,96 | 90,04 | 364,94 | 35,06 |

**Table 11.3: Statistical Parameters for termite mounds Samples Standards**

#### a. Cluff Standard Std SI42 Control Chart

The Standard Std SI42 Control Chart is shown in Figure 11.14. In this Control Chart all samples fall inside the Control Limits 3 SD indicating a good accuracy. Only one sample fall outside the 3 SD Low Control Limit (Figure 11.12).

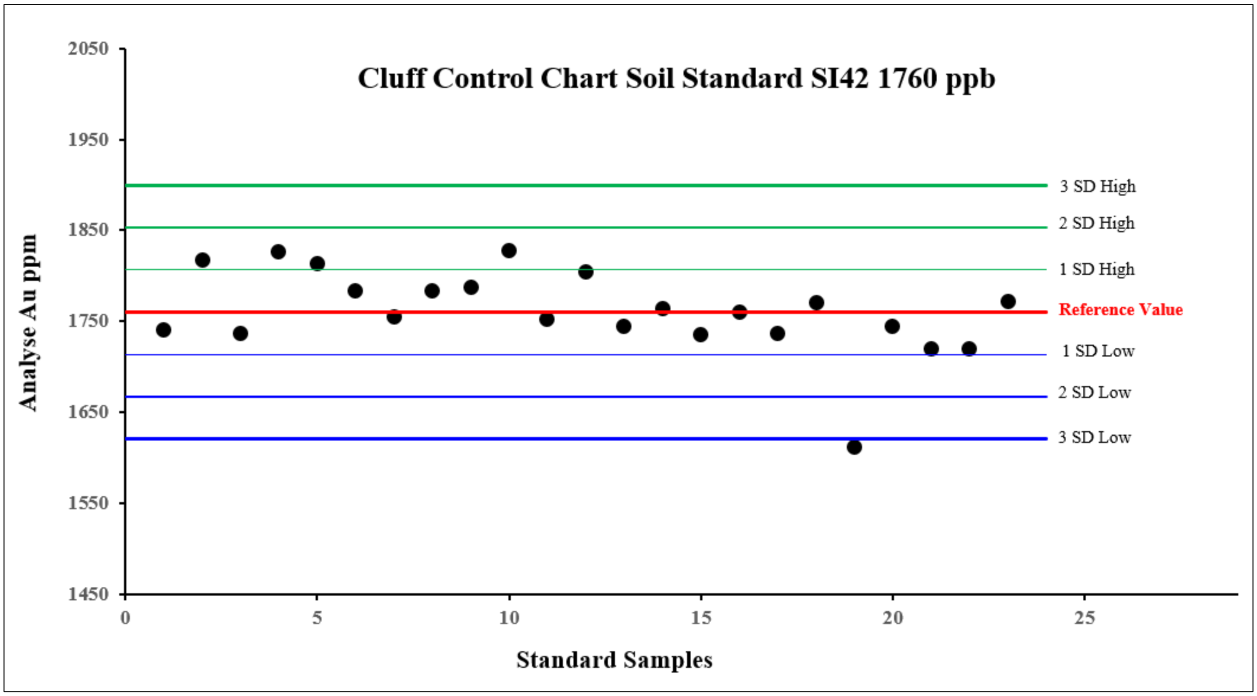



**Figure 11.12: Standard Std SI42=1760 Control Chart. Fire Assays Analysis of Cluff termite mounds Samples**

## b. Cluff Standard Std oxc88 Control Chart

The Standard Std oxc88 Control Chart is shown in Figure 11.13. In this Control Chart only three samples over 55 samples fall outside the 3 SD Low Control Limit indicating a good accuracy.

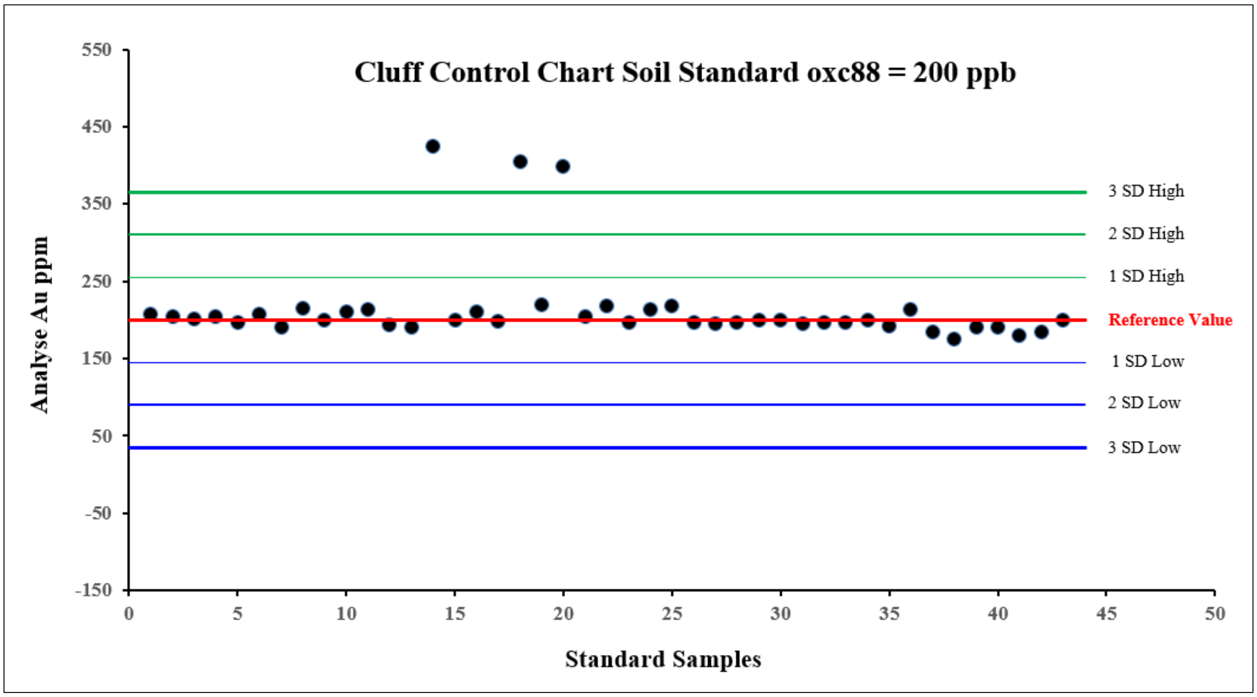



**Figure 11.13: Standard Std oxc88 Control Chart. Fire Assays Analysis of Cluff soil Samples**

### 11.8.2.2. Cluff termite mounds Blank Samples

A total of 90 blanks were assayed with Fire Assays by SGS Lab-Kayes in Mali to monitor gold contamination. From these 90 blanks, only 3 samples returned results greater than the 5 x Detection Limit (TL) 0.05g/t Au representing 3.33%. All samples fall below the Tolerance Detection Limit of 0.05 g/t Au defined as less than 5 times the Analytical Detection Limit. The inserted blanks indicate no issue regarding significant contamination.

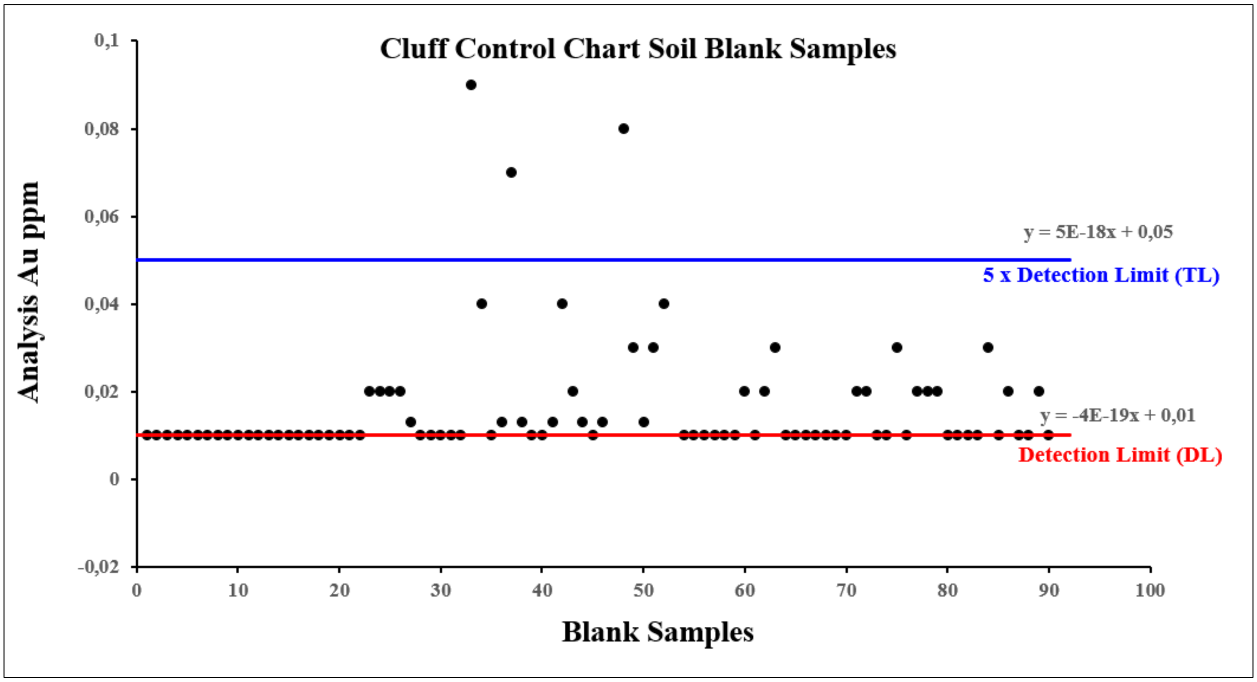



**Figure 11.14: Blank Sample Control Chart. Fire Assays for Cluff termite mounds Samples**

### 11.8.2.3. Cluff termite mounds Duplicate Samples

A total of 91 repeat assays (“duplicates”) was used to check precision of the assay process. The Table 11.4. illustrates the statistical parameters of the Cluff termite mounds Duplicate samples

| Sample Set | Count of assays | Mean | Min | Max | Standard Deviation |
|---|---|---|---|---|---|
| Original Assay | 91 | 11,00 | 0,00 | 646,00 | 70,12 |
| Duplicate Assay | 91 | 13,00 | 0,00 | 790,00 | 100,16 |

**Table 11.4: Statistical Parameters for Duplicates of Diamond Drill Samples analyzed by Fire Assays**

The plot of original and duplicate termite mounds samples indicates that majority of samples (92%) have good correlation with samples pairs. Only 3 samples fall out of the 10% error line, probably due to nugget effect usually associated with free gold in the sample

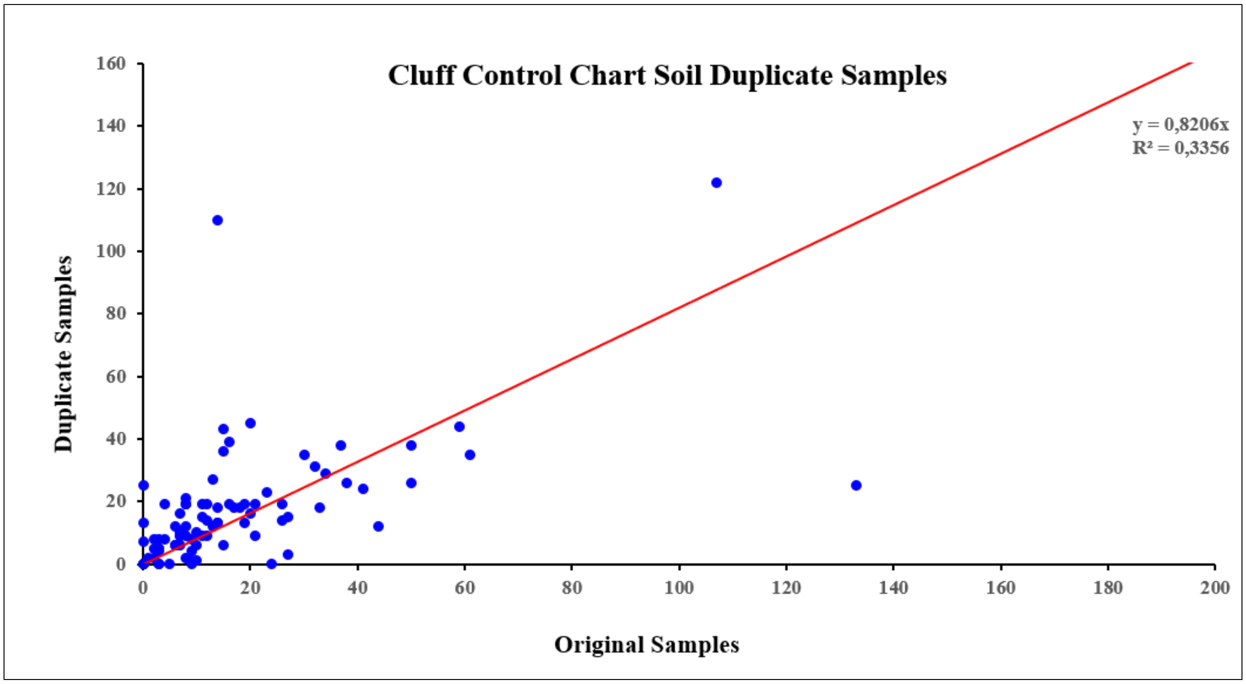



**Figure 11.15: Duplicate Control Chart for Cluff termite mounds Samples**

### 11.9 Fokolore sampling Quality Assurance and Quality Control (QA/QC)

Fokolore used SGS Laboratory in Bamako for the analysis of the Auger drilling samples and PROLAB in Bamako for the RC drilling samples.

#### 11.9.1. Fokolore RC sampling Quality Assurance and Quality Control

A total of 757 RC check samples were analyzed with Fire Assays by SGS Laboratory in Bamako. Three sets of QA/QC were plotted: Standard: 187 samples, Duplicates: 285 samples and Blanks: 285 samples.

##### 11.9.1.1. Fokolore RC Sample Standards

The standard (Standard SP 5,828, Standard SP 2,365, Standard SP 0,607, Standard SP 0,599) were used for the RC samples Standard (Figure 11.16). The Table 11.5 illustrates the statistical parameters of the Fokolore RC Standard samples.

| Standard Code | Count of assays | Certified Value ppb | Min | Max | Mean | STADEV | High SD | Low SD | 2 High SD | 2 Low SD | 2 High SD | 2 Low SD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard SP 5,828 | 44 | 5,828 | 2,660 | 6,500 | 5,617 | 0,522 | 6,35 | 5,31 | 6,87 | 4,78 | 7,39 | 4,26 |
| Standard SP 2,365 | 47 | 2,365 | 2,280 | 2,450 | 2,364 | 0,042 | 2,41 | 2,32 | 2,45 | 2,28 | 2,49 | 2,24 |
| Standard SP 0,607 | 53 | 0,607 | 0,580 | 0,620 | 0,599 | 0,013 | 0,62 | 0,59 | 0,63 | 0,58 | 0,65 | 0,57 |
| Standard SP 0,599 | 43 | 0,599 | 0,290 | 0,620 | 0,586 | 0,053 | 0,65 | 0,55 | 0,70 | 0,49 | 0,76 | 0,44 |

**Table 11.5: Statistical Parameters for Fokolore RC Drill Sampling Standards Analyzed by Fire Assay**

### a. Fokolore Standard SP 5828 Control Chart

The Standard SP 5828 Control Chart is shown in Figure 11.16. In this Control Chart only one sample falls outside the 3 SD Low Control Limit, all others check samples fall inside the 3 SD Control Limit indicating excellent accuracy.

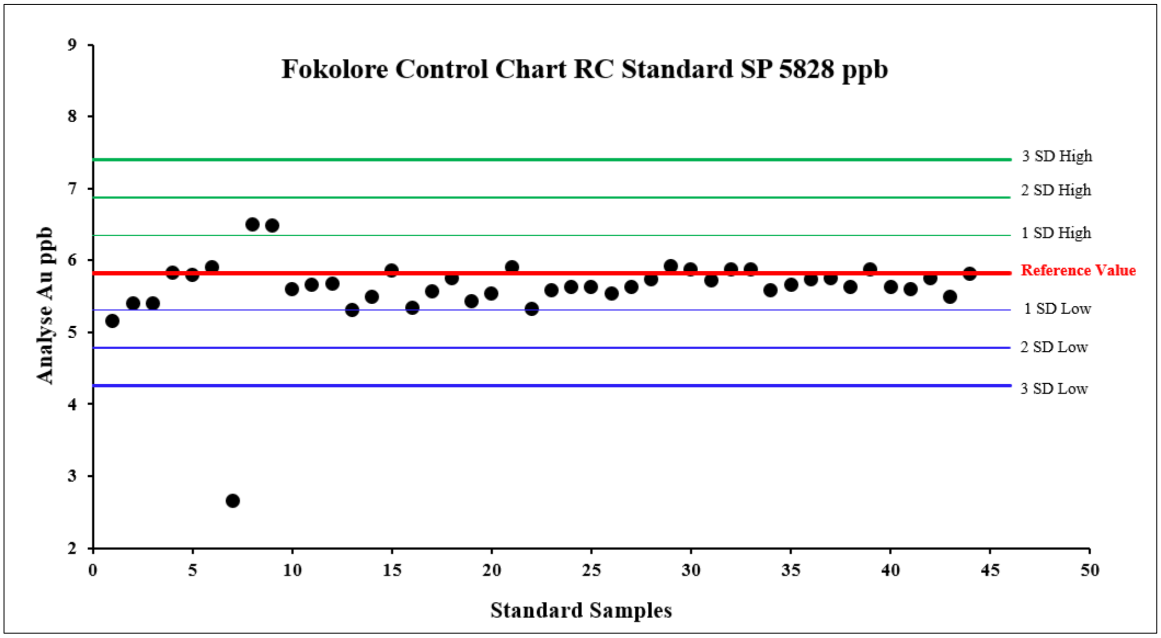



**Figure 11.16: Standard SP 5828 Control Chart. Fire Assays Analysis of Fokolore RC Samples**

### b. Fokolore Standard SP 2335 Control Chart

The Standard SP 2335 Control Chart is shown in Figure 11.17. In this Control Chart all check samples fall inside the 3 SD Control Limit indicating good accuracy.

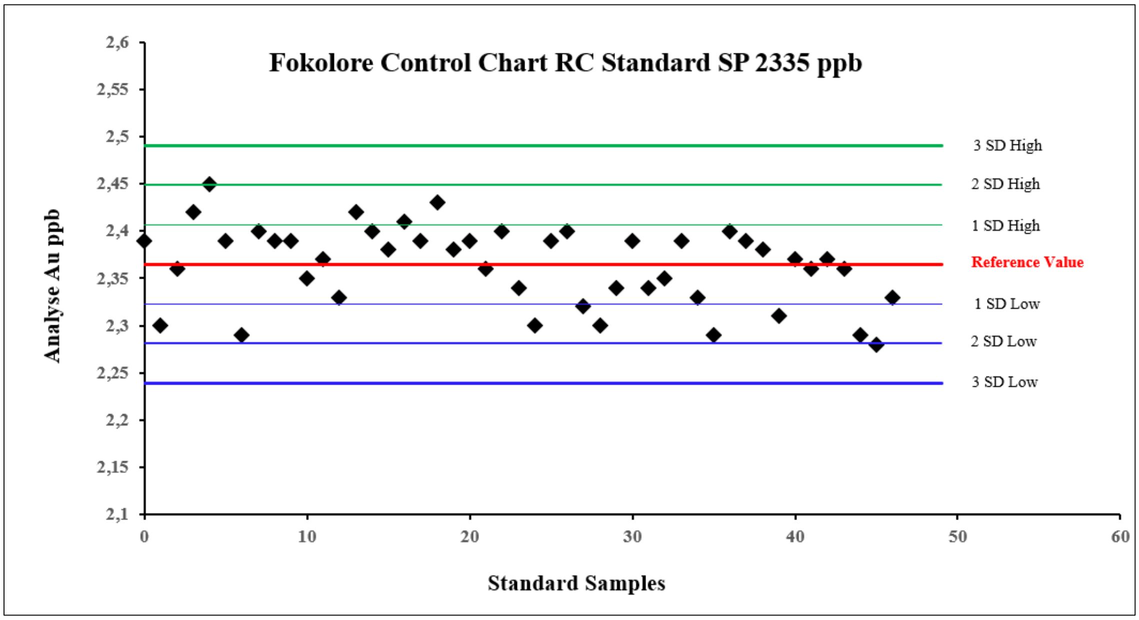



**Figure 11.17: Standard SP 2335 Control Chart. Fire Assays Analysis of Fokolore RC Samples**

## c. Fokolore Standard SP 0607 Control Chart

The Standard SP 0607 Control Chart is shown in Figure 11.18. In this Control Chart In this Control Chart all check samples fall inside the 3 SD Control Limit indicating good accuracy.

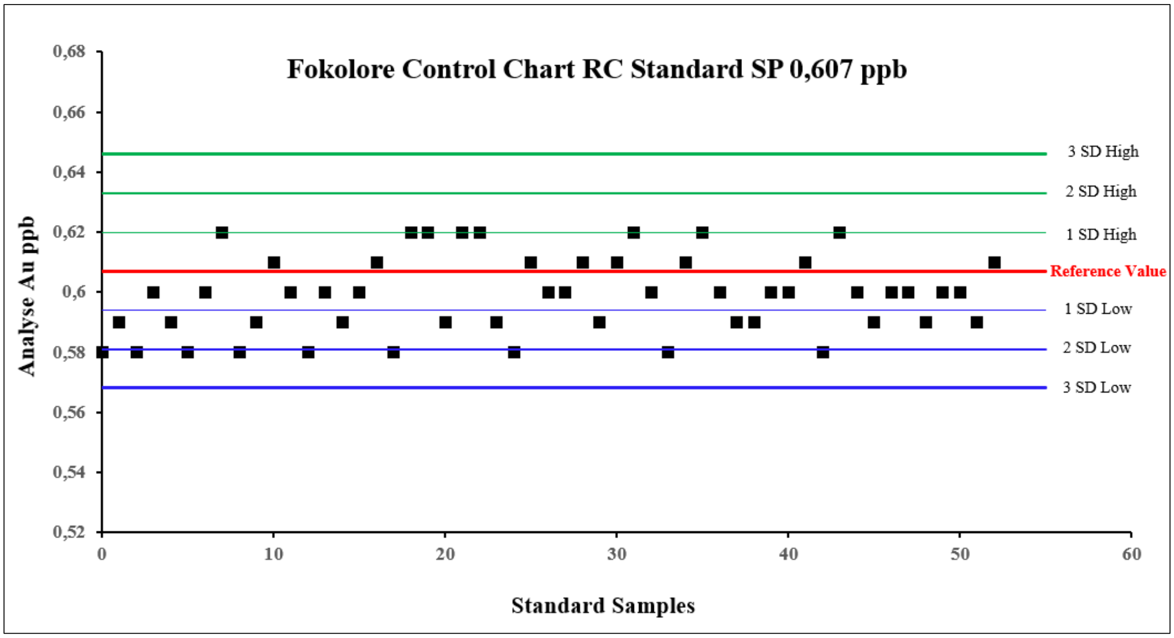



**Figure 11.18: Standard SP 0607 Control Chart. Fire Assays Analysis of Fokolore RC Samples**

## d. Fokolore Standard SP 0599 Control Chart

The Standard SP 0599 Control Chart is shown in Figure 11.19. In this Control Chart only one sample falls outside the 3 SD Low Control Limit, all others check samples fall inside the 3 SD Control Limit indicating excellent accuracy.

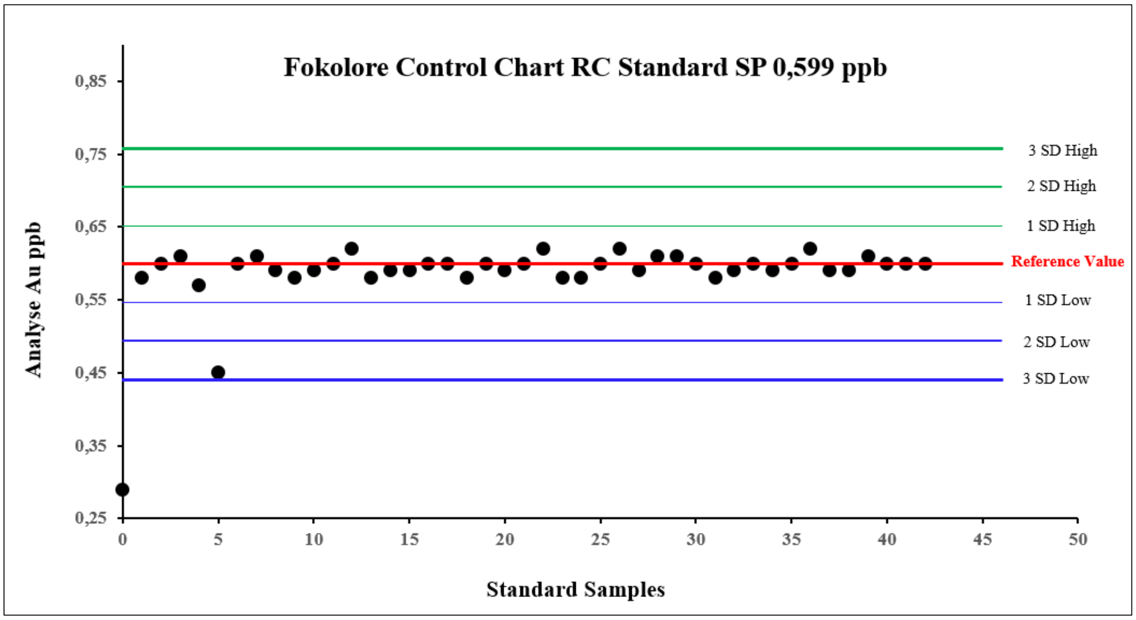



**Figure 11.19: Standard SP 0599 Control Chart. Fire Assays Analysis of Fokolore RC Samples**

### 11.9.1.2. Fokolore RC Sample Duplicates

A total of 285 RC samples have been duplicated. The analysis of repeat assays ("duplicates") was used to check precision of the assay process.

The Table 11.6. Illustrates the statistical parameters of the Fokolore RC Duplicate samples

| Sample Set | Count of assays | Mean | Min | Max | Standard Deviation |
|---|---|---|---|---|---|
| Original Assay | 285 | 0,02 | 0,00 | 5,88 | 0,38 |
| Duplicate Assay | 285 | 0,02 | 0,00 | 2,02 | 0,16 |

**Table 11.6: Statistical Parameters for Fokolore RC Duplicate Samples analyzed by Fire Assays**

The plot of original and duplicate RC samples (Figure 11.20) indicates that majority of samples (99%) have good correlation with samples pairs. Only 2 samples fall out of the 10% error line, probably due to nugget effect usually associated with free gold in the sample.

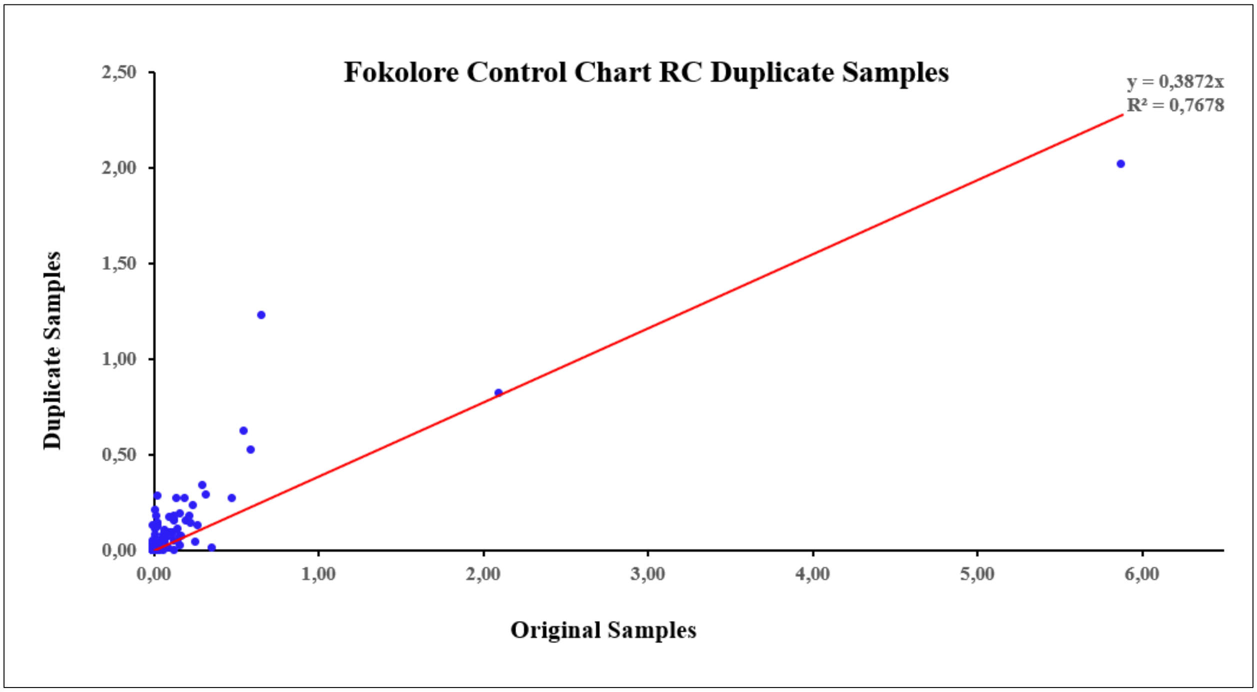



**Figure 11.20: Duplicate Control Chart for Fokolore RC Drilling Samples**

### 11.9.1.3. Fokolore RC Sample Blanks

A total of 285 blanks were assayed with Fire Assays by SGS Lab-in Kayes to monitor gold contamination.

The Blank Sample Control Chart is shown in Figure 11.21. All samples fall below the Tolerance Detection Limit of 0.05 g/t Au defined as less than 5 times the Analytical Detection Limit. The inserted blanks indicate no issue regarding possible contamination.

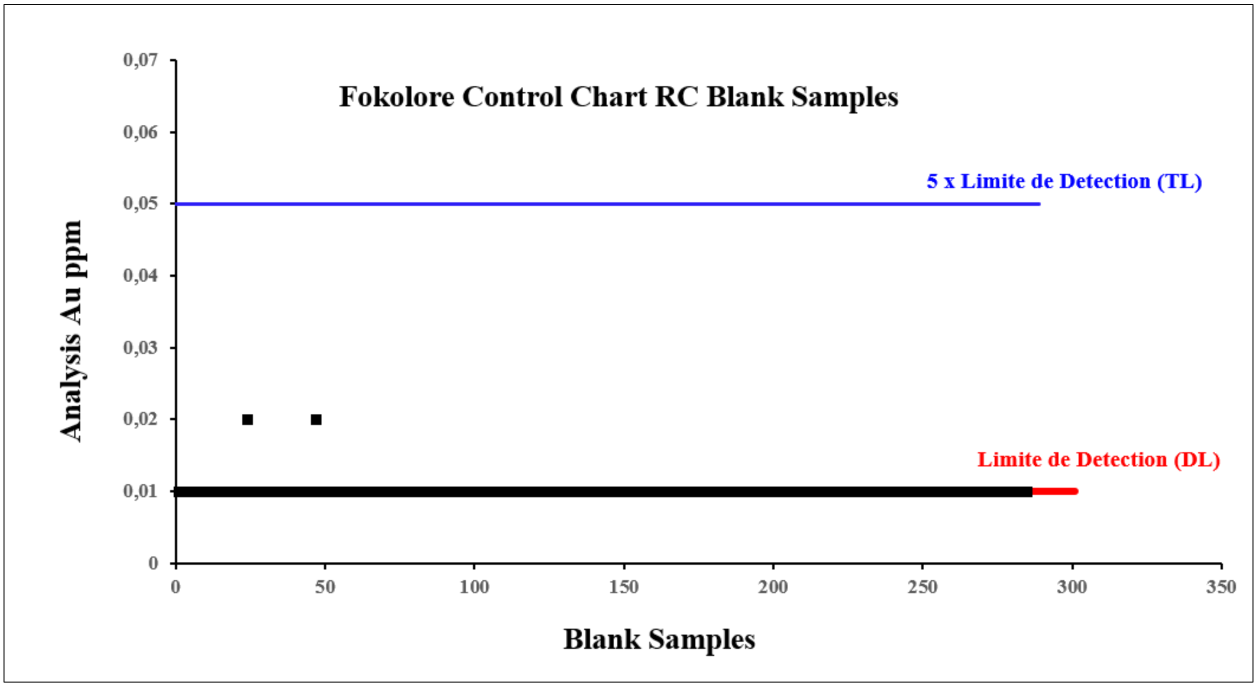



**Figure 11.21:** **Blank Sample Control Chart. Fire Assays for Fokolore RC Drilling Samples**

### 11.9.2. Fokolore Auger Sample sampling quality assurance and quality control

A total of xxx check samples were analyzed with Fire Assays by PROLAB in Bamako, Mali. Two sets of QA/QC were plotted: Standard: 32 samples, Duplicates: 76 samples.

#### 11.9.2.1. Fokolore Auger Drill Sample Standards

The standards (STD 2,65, STD 0,6) were used for the Auger samples (Figure 11.22). All standards show a 99% correlation to the recommended values and a very good accuracy (Figures 11.22 to Figure 11.24).

The Table 11.7. illustrates the statistical parameters of the Fokolore RC Drill Sampling Standards

| Standard Code | Count of assays | Certified Value ppb | Min | Max | Mean | STADEV | High SD | Low SD | 2 High SD | 2 Low SD | 2 High SD | 2 Low SD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STD 2,65 | 32 | 2,65 | 2,57 | 2,73 | 2,65 | 0,0433 | 2,69 | 2,61 | 2,74 | 2,56 | 2,78 | 2,52 |
| STD 0,6 | 32 | 0,6 | 0,58 | 0,64 | 0,61 | 0,0171 | 0,62 | 0,58 | 0,63 | 0,57 | 0,65 | 0,55 |

**Table 11.7: Statistical Parameters for Fokolore Auger Drill Sampling Standards Analyzed by Fire Assays**

#### a. Fokolore Standard STD 2,65 Control Chart

The Standard SP 2,65 Control Chart is shown in Figure 11.22. In this Control Chart all Standard check samples fall inside the 3 SD Control Limit indicating excellent accuracy.

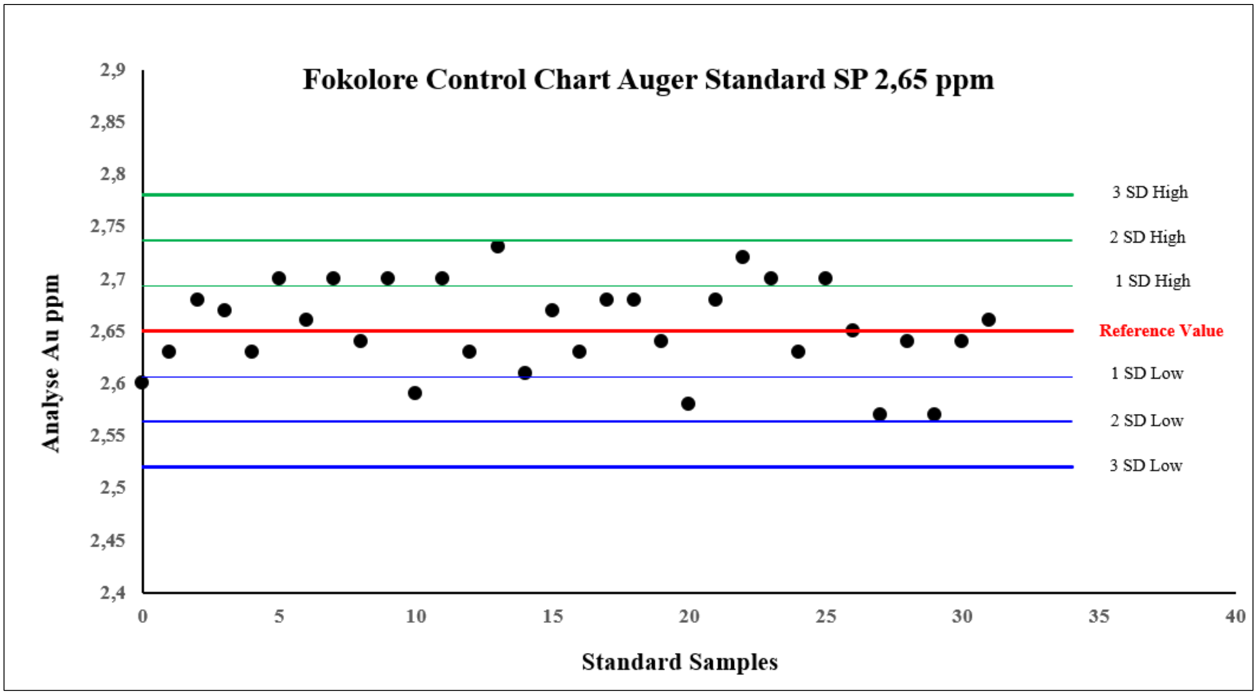



**Figure 11.22: Standard SP 2,65 Control Chart. Fire Assays Analysis of Fokolore Auger Samples**

## b. Fokolore Standard SP 0,6 Control Chart

The Standard SP 0,6 Control Chart is shown in Figure 11.23. In this Control Chart all Standard check samples fall inside the 3 SD Control Limit indicating excellent accuracy.

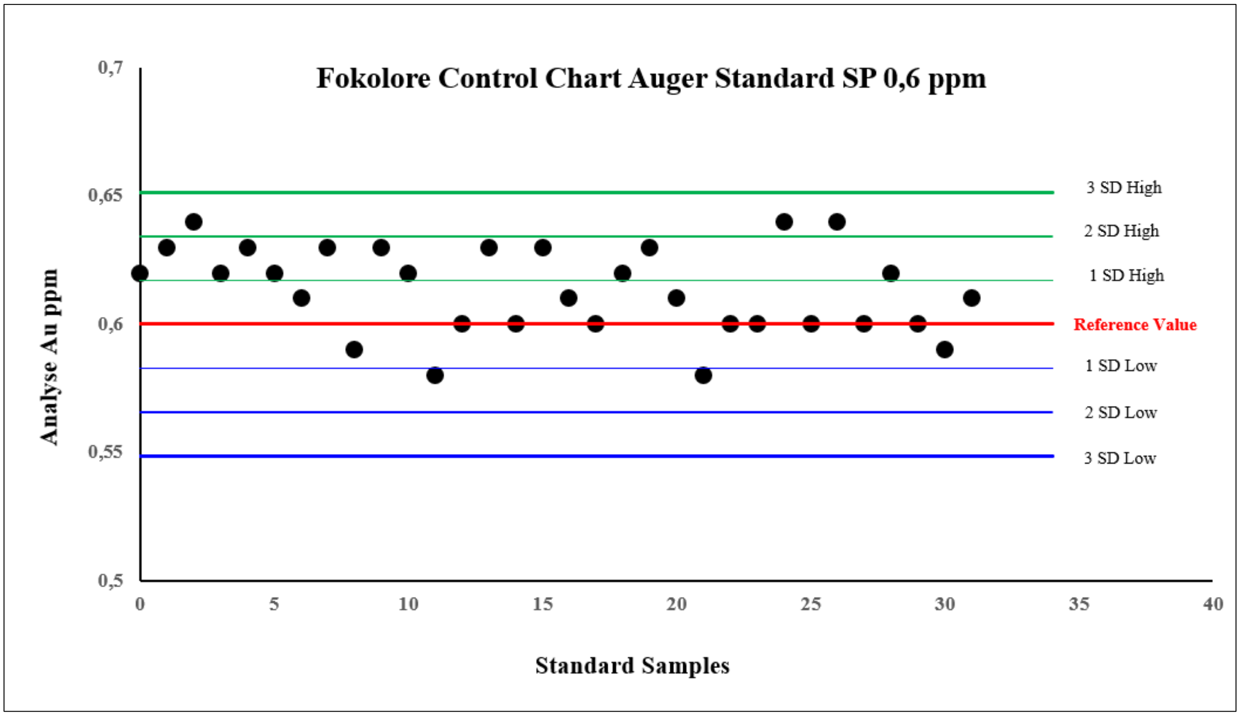



**Figure 11.23: Standard SP 0,6 Control Chart. Fire Assays Analysis of Fokolore Auger Samples**

### 11.9.2.2. Fokolore Auger Drill Sample Duplicates

A total of 285 Auger samples have been duplicated. The analysis of repeat assays ("duplicates") was used to check precision of the assay process.

The Table 11.8. illustrates the statistical parameters of the Fokolore Auger Drill Sample Duplicates

| Sample Set | Count of assays | Mean | Min | Max | Standard Deviation |
|---|---|---|---|---|---|
| Original Assay | 285 | 0,028 | 0,000 | 0,51 | 0,06 |
| Duplicate Assay | 285 | 0,029 | 0,000 | 0,54 | 0,07 |

**Table 11.8: Statistical Parameters for Fokolore Auger Drill Sample Duplicates analyzed by Fire Assays**

The Duplicate Samples Control Chart is shown in Figure 11.24. The plot of original and duplicate Auger samples indicates that the majority of samples (99%) have good correlation with samples pairs. Only 1 sample fall out of the 10% error line, probably due to nugget effect usually associated with free gold in the sample

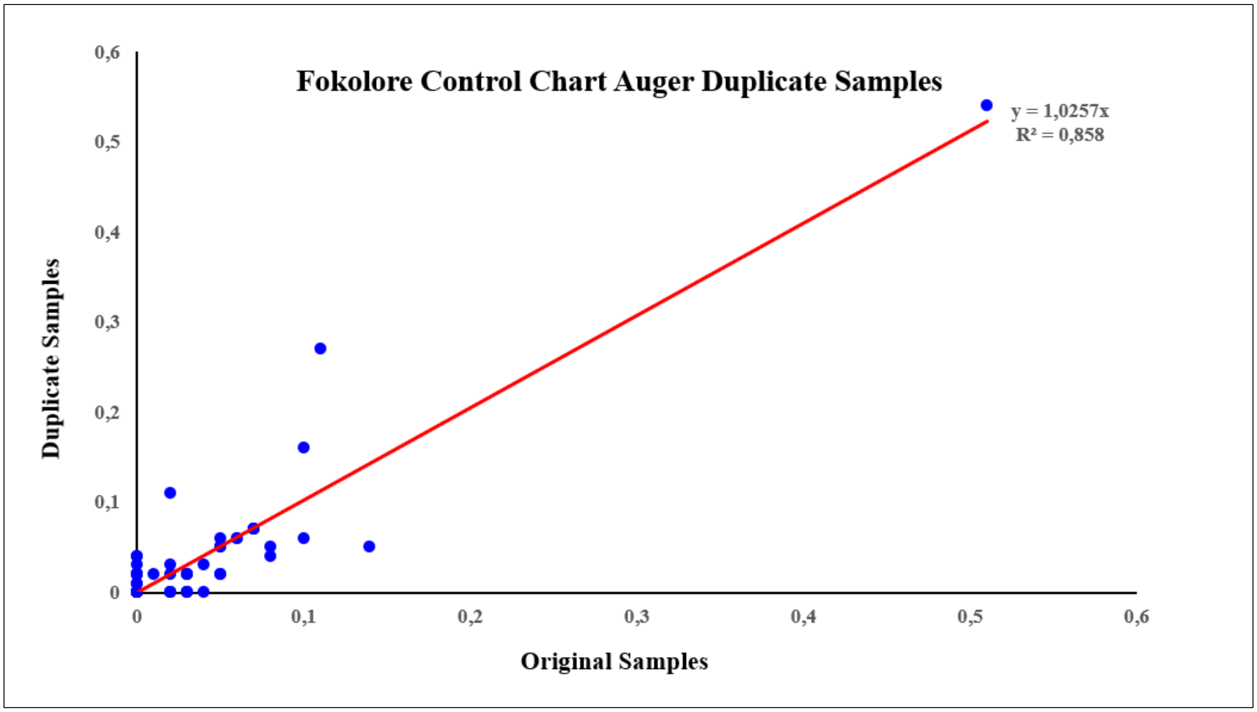



**Figure 11.24: Duplicate Samples Control Chart for Fokolore Auger Drilling Samples**

The QP was satisfied with the amount of verifiable information available and finds the level of verification undertaken adequate for the purpose of this technical report.

# 12. DATA VERIFICATION

Waraba Gold Limited has as yet not generated any new drilling data for their newly granted Maligonga property.

Only QA/QC of historical exploration drilling data from work completed between 1987 and 2018 is available for this property. The historical drilling activities were completed by a several companies. Waraba Gold Limited has been able to obtain the drilling database compiled by Fokolore Mining as well as some data presentation figures and short internal memorandum. Waraba Gold Limited was also able to supply BGR-Consult with electronic files of analytical data; these files included a mixture of analytical results for soils, rocks and drill-hole samples. BGR-Consult did not verify if Waraba Gold Limited had obtained signed assay certificates for all of the drill-hole assays, but did verify a representative portion of the previous drill-hole assay databases using certified control samples inserted in the database

The author upon review of the available databases, review of QAQC procedures, together with the site visit activities discussed in this section, is of the opinion that the project data verified was adequate for the purposes of this report.

## INDEPENDENT VALIDATION OF HISTORICAL DRILL DATABASE ASSAYS

BGR-Consult verified the Quality Assurance/Quality Control (QA/QC) sample used by Cluff and Fokolore for their RC drilling and soil geochemistry sampling programs. A review of the standard assay results reveals no apparent bias. The different standards used by Cluff and Fokolore display a 99% correlation to the recommended values and duplicate samples have good correlation with paired-samples. The blank assaying returned acceptable results.

Cluff and Fokolore established a program of Quality Assurance/Quality Control (QA/QC) to monitor accuracy and precision of the assay results from the laboratory. All samples from Cluff RC drilling and termite mounds geochemistry sampling were analyzed by SGS Laboratory in Kayes, Mali. Fokolore used SGS Laboratory in Bamako for the analysis of the Auger drilling samples and PROSLAB in Bamako for the RC drilling samples. SGS and PROSLAB in Bamako are independent and internationally recognized commercial laboratories.

From data presented in the following sections it can be concluded that the historical exploration data reviewed was a reasonably reliable guide and can be used with confidence to interpret gold anomalies from the drilling program and the termite mounds geochemistry sampling.

## Site Visit Activities

A site visit was undertaken by Mr. Olufemi Ajayi between the 26th of September to the 2nd of October as part of the requirements in the compilation of the technical report to review available project data and make site observations pertaining to the project. Traverses were undertaken to the most accessible portions of the permit to observe outcropping geology, ascertain the nature of access through the permit, observe the nature of artisanal mining present, and any evidence of historical work completed. Figure 12.1 is a summary of the total traverses undertaken during the site visit and some significant site observations.

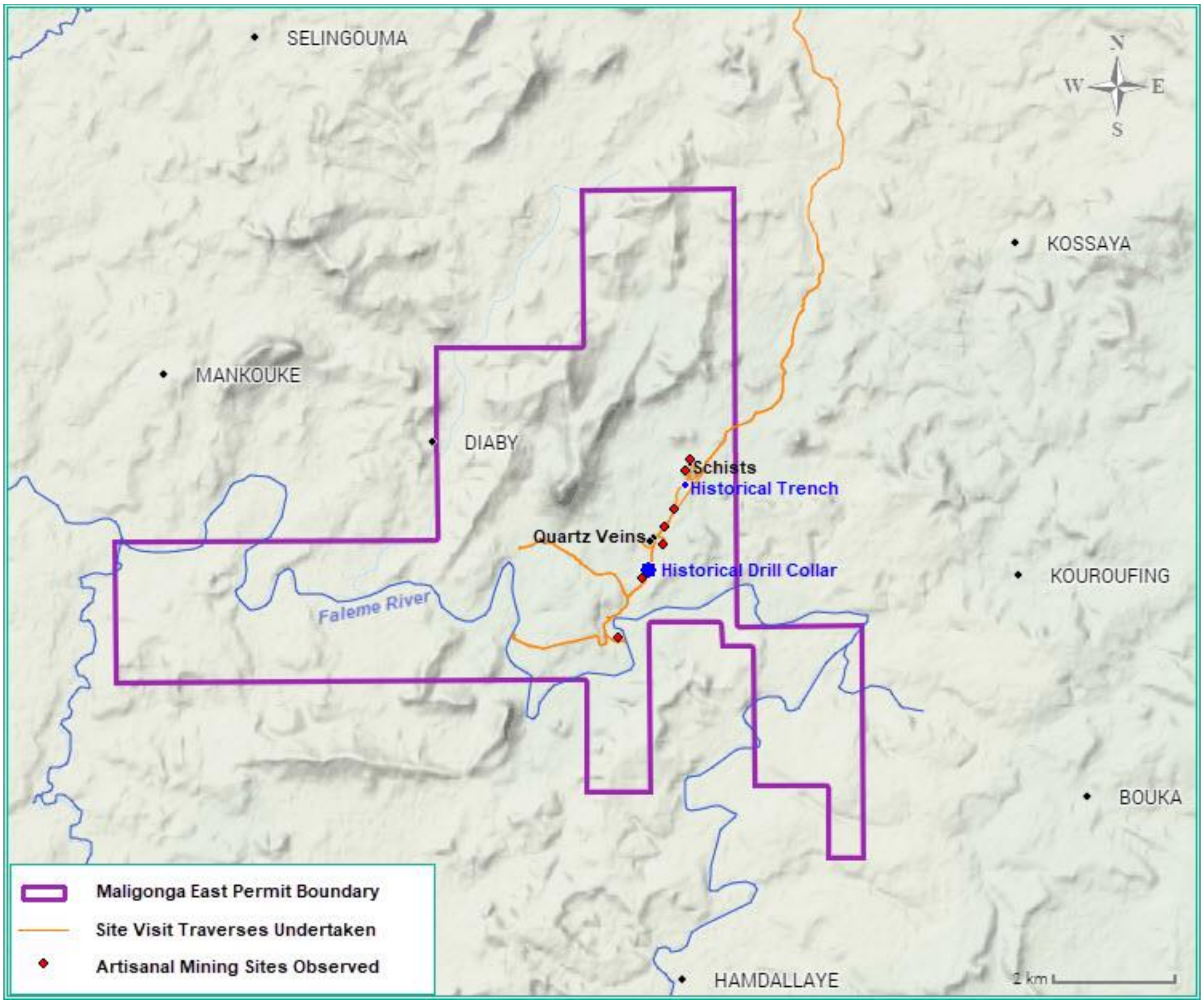



**Figure 12.1: Summary of Traverses Undertaken During Site Visit in 2021**

Outcrops were rarely observed during the site visit. The few outcrops observed were quartz veins and graphitic schist with a pelitic schist contact within an excavated artisanal trench as shown in Figure 12.2 below.

**Graphitic Schist and Pelitic Schist Contact at 277900E, 1379100N**

**Sample from Quartz Vein Observed at 276757E, 1376390N**

**Photo 12.2: Rock Exposures Observed During Site Visit 2021**

One historical trench was observed in the field. The location of the trench observed ties well with historical Trench 13, which according to historical reports, was completed by BRGM in 1992. The trench had an azimuth of 110º and a length of 300m. Figure 9.24 below is a summary location map showing the historical Trench 13 observed.

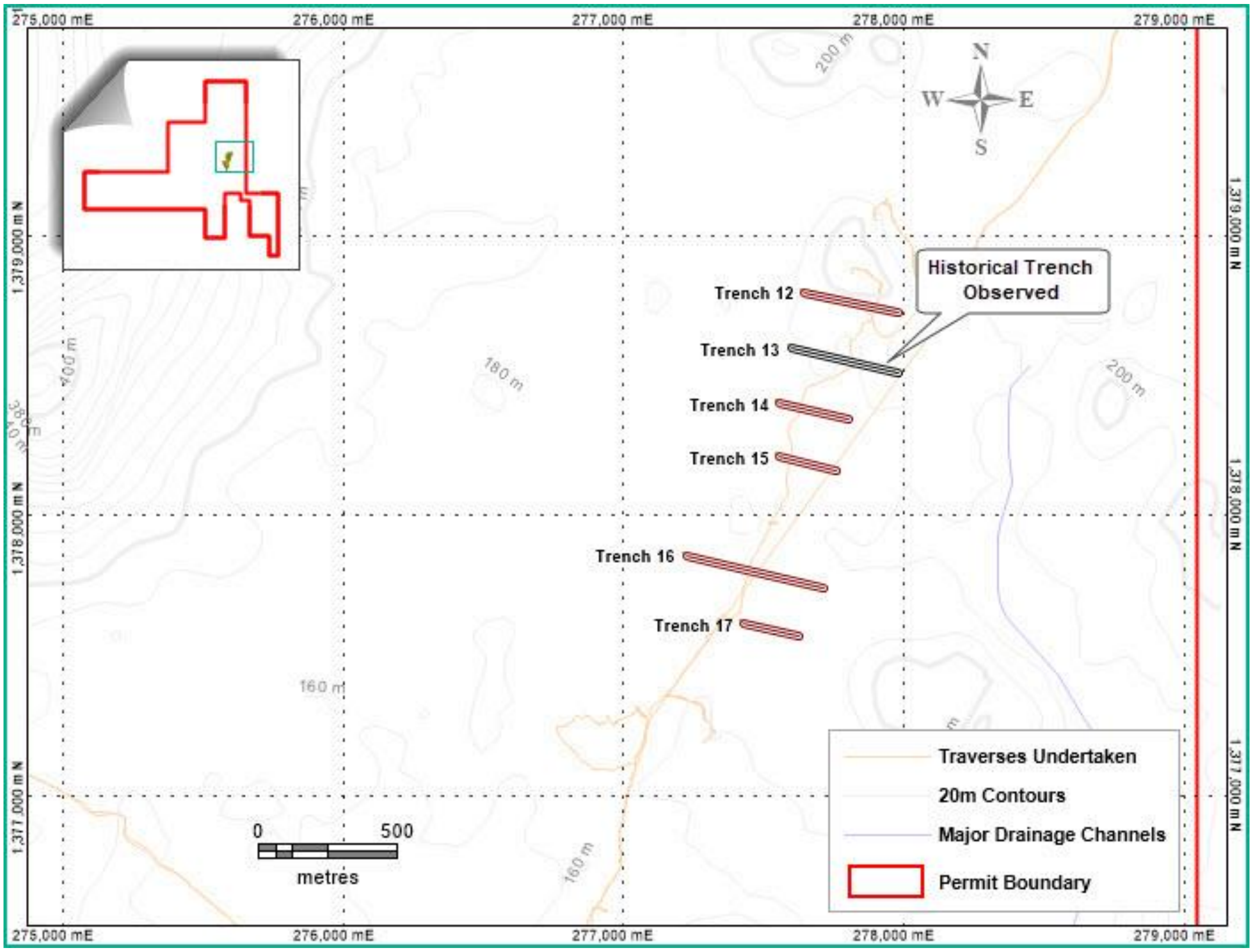



**Figure 12.3: Summary Map Showing Historical Trench Observed During Site Visit 2021**

Figure 12.4 below shows the historical trench 13 as observed during the site visit.

**Photo 12.4: Historical Trench Observed During Site Visit 2021**

A single historical drill collar was observed during the site visit. The location of the drill collar observed was 276940E, 1376591N. This location corresponded with the historical drill hole number MRC-18-056 as reported by historical reports to have been undertaken by Fokolore Mining Sarl in 2018. The azimuth and dip values recorded on the PVC collar marker was consistent with the values reported. The collar observed is shown in Figure 12.5 below.

**Figure 12.5: Historical Drill Collar Observed During Site Visit 2021**

Significant artisanal mining activity was observed within the project area during the site visit. Fully mechanized activities comprising the use many excavators and haulage trucks was observed along with manual artisanal mining activities. There were sections where previous artisanal mining activities have left behind large mined out pits and huge tailings stockpiles as shown in Figure 12.6 below.

**Mined-out pit at 277896E, 1379096N**

**Significant tailings pile Observed at 277913E, 1379108N**

**Photo 12.6: Artisanal Mining Pit and Tailings Pile Observed During Site Visit 2021**

The QP was satisfied with the amount of verifiable information available and observations made during the site visit adequate for the purpose of this technical report.

# 13. MINERAL PROCESSING ET METALLURGICAL TESTING

This section is not applicable to this report.

# 14. MINERAL RESOURCE ESTIMATES

This section is not applicable to this report.

# 15. MINERAL RESERVE ESTIMATES

This section is not applicable to this report.

# 16. MIMING METHOD

This section is not applicable to this report.

# 17. RECOVERY METHOD

This section is not applicable to this report.

# 18. PROJECT INFRASTRUCTURE

This section is not applicable to this report.

# 19. MARKET STUDIES ET CONTRACTS

This section is not applicable to this report.

# 20. ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACTS

Waraba Gold Ltd has not carried out any environmental studies, Permitting or social or community impact studies.

# 21. CAPITAL AND OPERATING COST

This section is not applicable to this report.

# 22. ECONOMIC ANALYSIS

This section is not applicable to this report.

# 23. ADJACENT PROPRITIES

There are numerous gold deposits in the Malian Kedougou-Kenieba Inlier, both at the mining and advanced exploration stages. Gold mining operations include Fekola, Sadiola, Gounkoto, Yatela and Loulo (Figure 23.1)

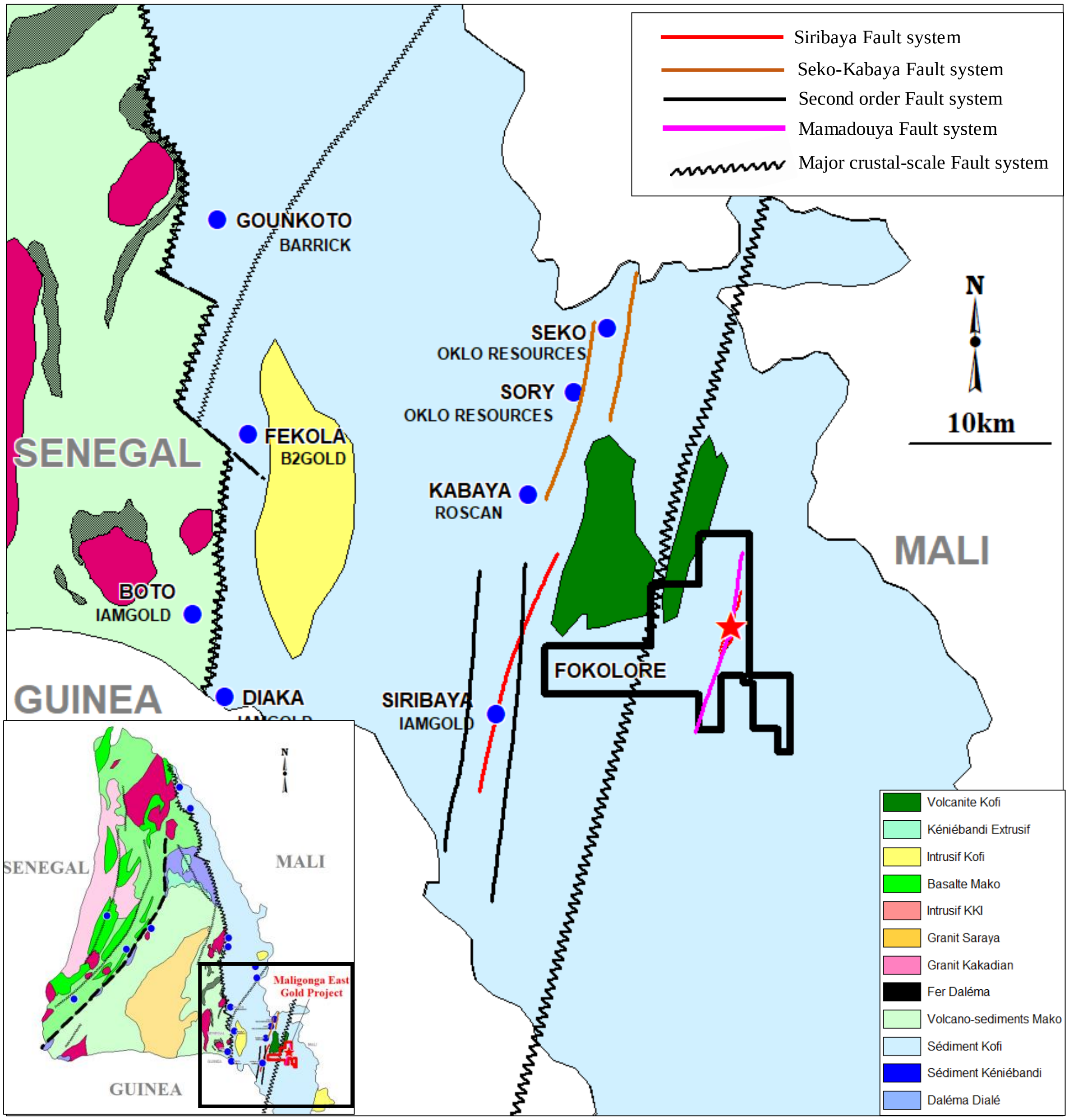



**Figure 23.1: Adjacent gold properties to the Maligonga-East Project**

In addition, exploration projects similar to the Maligonga-East Project are on-going and producing significant results. Example include the Seko, Sory, Kabaya, Siribaya and Diakha advanced projects. The projects in the proximity to Maligonga-East are described below and shown on Figure 23.1 and information on these deposits was extracted from several documents on the company websites including Fact Sheet and their reserve and resource reports.

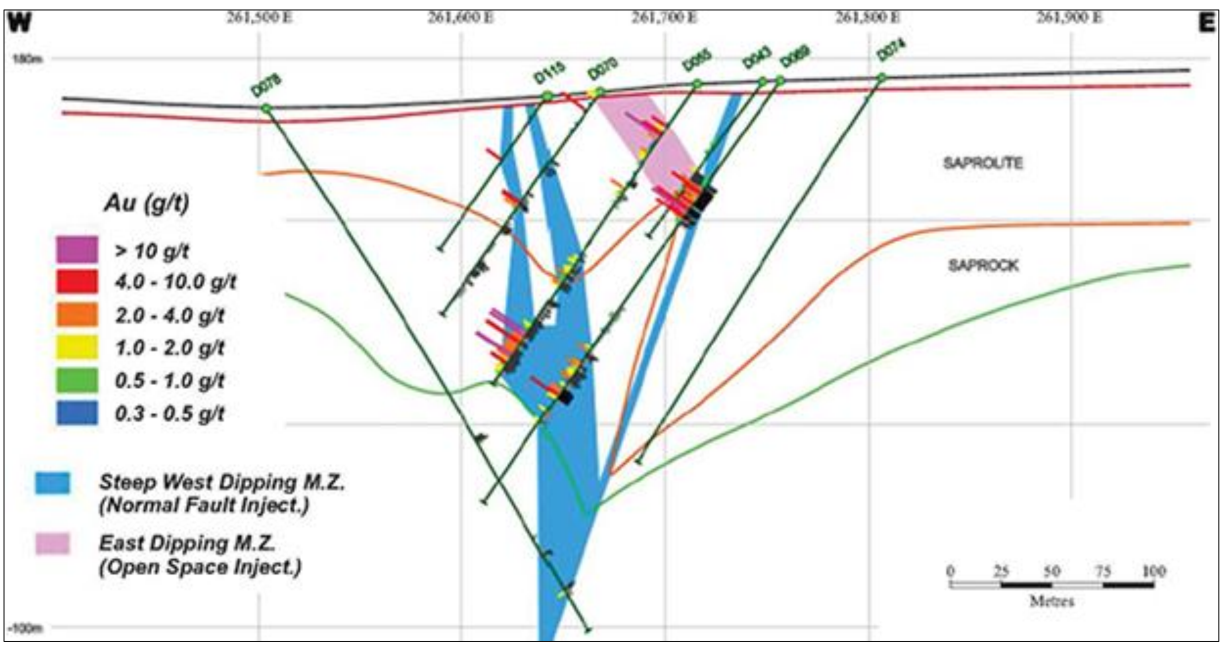
## 23.1. Siribaya and Diakha Gold Deposits

The Siribaya and Diakha projects are wholly owned by Iamgold Corporation and consists of 8 contiguous exploration permits covering a total area of 596.5 square kilometers. The Siribaya project which includes the Siribaya Zone 1B and Taya-Ko gold deposits is located approximately 5 km southwest of the Maligonga East property and the Diakha project arounds 25 km southwest of the property.

### 23.1.1. Siribaya Gold Deposit

The Siribaya Zone 1B and Taya Ko occur within the north-northeast trending Siribaya structural trend, which has been traced by geophysics and geochemistry for over 10 km along strike, with a width of up to 1.0 km to 1.5 km. The Siribaya trend is located in the generally fine grained, back-arc to for-arc, median to distal detritic and carbonated sediments of the Kofi Formation approximately 20 km east of the SMSZ. The general structure and morphology of the trend is defined by a ground induced polarization (IP) gradient survey, which shows a very well-defined 010° to 015° trend that is approximately 600 m to 1,000 m wide.

Hydrothermal carbonate occurs as pervasive alteration and vein-associated alteration-mineralization styles whereas silicification is mainly represented by veining with subtle wall-rock alteration, particularly in the area surrounding quartz stockwork veins and breccia, or as patches of quartz in the cement of the polymictic breccia. Intensive bleaching with talc-carbonate alteration is also common at Zone 1B; bleaching is sometimes so intense that it has led to misinterpreting greywacke as felsic volcanite



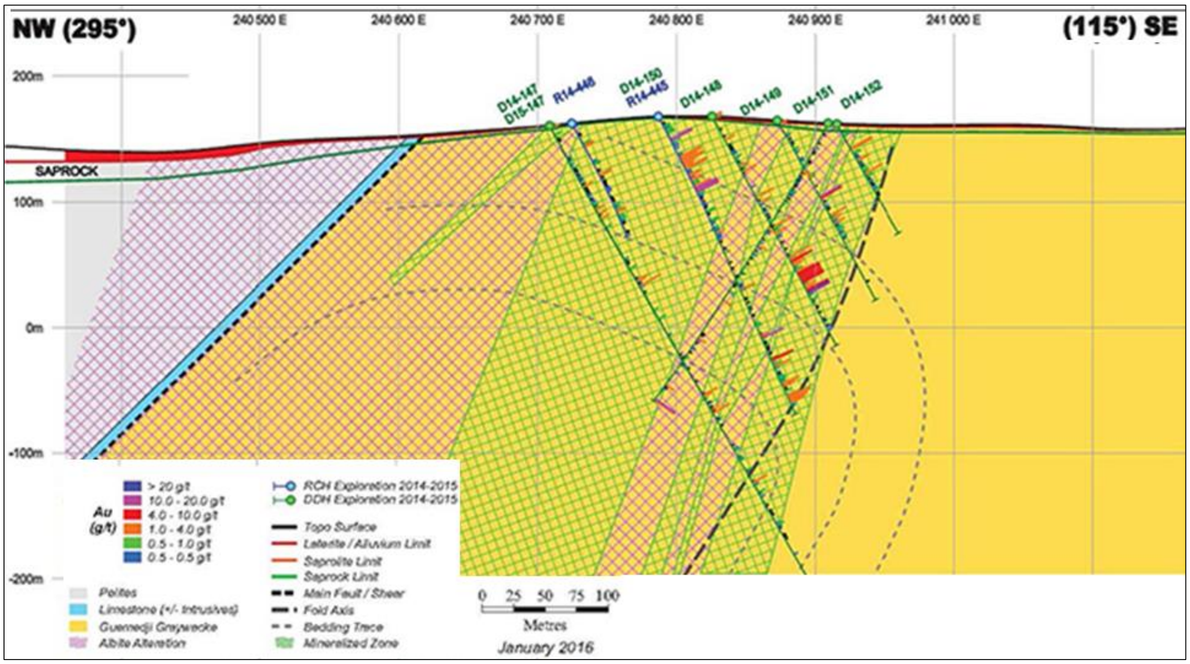

***Sources https://www.sec.gov/Archives/edgar/data/1203464/000119312516495238/d102642dex991.htm AMGOLD Corporation and Merrex Gold Inc. – Siribaya Project Technical Report NI 43-101 – January 25, 2016***

**Figure 23.2: Geological and structural cross-section showing the style of mineralization at Siribaya**

### 23.1.2. Diakha Gold Deposit

At Diakha, the largest deposit discovered to date on the property, gold mineralization occurs within an albitized and locally brecciated sandstone unit similar to that hosting mineralization at Iamgold's Boto gold Project located in Senegal approximately 10 km to the north along strike. The subsurface geology at Diakha is known from drill holes, observations from artisanal trenches, and a few outcrops scattered around the area. Geologically, the Diakha area can be broadly divided into two north-northeast trending litho-structural domains that are separated by an interpreted west-dipping thrust fault coinciding with a thin limestone layer intersected by drilling. The western domain is made of fine-grained detrital sediments, mainly shales, few argillites, pelites, and some fine sandstones lenses and limestone (Figure 23.3).

The eastern domain is comprised of albitized pink and massive sandstones that are cherty locally and greywacke sandstone. A few dikes of mafic and intermediate intrusive rocks occur within the sediments. The three main alteration phases are: Pervasive Albite (-/+hematite impregnation): sodic pervasive alteration that has turned the rock pinkish.




***Sources: https://www.sec.gov/Archives/edgar/data/1203464/000119312516495238/d102642dex991.htm AMGOLD Corporation and Merrex Gold Inc. – Siribaya Project Technical Report NI 43-101 – January 25, 2016***

**Figure 23.3: Geological and structural cross-section showing the style of mineralization at Diakha**

A press release on IAMGOLD's website dated 30th January 2019 includes the Mineral Resource Estimates shown in Table 24.1. Cut-off grades range from 0.35 to 0.45 g/t Au. Effective December 31, 2018, the Siribaya and Diakha projects host Mineral Resources comprising Indicated Resources of 18.0 million tonnes averaging 1.28 grams of gold per tonne for 744,000 ounces and Inferred Resources of 23.2 million tonnes averaging 1.58 grams of gold per tonne for 1.2 million ounces.

| Deposit | | Indicated Resources | | | Inferred Resources | | |
|---|---|---|---|---|---|---|---|
| | | Tonnes | g/t Au | oz Au | Tonnes | g/t Au | oz Au |
| **Siribaya** | | | | | | | |
| | Zone 1B | 2,102,000 | 1.90 | 128,500 | 4,094,000 | 1.52 | 199,700 |
| | Taya Ko | | | | 882,000 | 1.02 | 28,900 |
| **Diakha** | | 15,929,000 | 1.20 | 615,300 | 18,203,000 | 1.62 | 947,500 |
| **Total** | | **18,031,000** | **1.28** | **743,800** | **23,179,000** | **1.58** | **1,176,100** |

**Data source; https://www.sec.gov/Archives/edgar/data/1203464/000106299319000415/exhibit99-1.pdf**

**Table 24.1. Diakha - Siribaya Project - Mineral Resource Estimates as of December 31, 2018**

# 24. OTHER RELEVANT DATA AND INFORMATION

No additional information or explanation is necessary to make this Technical Report understandable and not misleading.

# 25. INTERPRETATION AND CONCLUSIONS

## 25.1 Geological and structural interpretation of the Mamadouya Gold Mineralization

Interpretation of drill sections and the integrated geophysical lineaments, geological and structural modeling of the Mamadouya gold mineralization (Figures 25.1, 25.2 and 25.3) suggest that the area is composed of three lithological units:

(1) Steeply-eastward-dipping, north-northeast-trending early paleoproterozoic greenschist facies turbidite sedimentary sequences (Figure 25.1) belonging to the Kofi Formation and composed of:

- alternating layers of sandstone (greywacke) and siltstone that hosts the gold mineralization, locally intercalated with graphitic shales to the west
- alternating layers of siltstone and argillite to the east

The turbidite sequence forms the main component of the sedimentary rocks. The rock is generally quite massive and composed of alternating centimetric to metric coarse-grained sandstone (greywacke) and fine-grained siltstone layers but show penetrative foliation and fractures in zone of deformation.


**Figure 25.1: Photograph showing the steeply-ENE-dipping turbidite sequence composed of Interbedded siltstones and fine-grained greywackes. (Photo taken during December 2020 site visit)**

(2) Concordant Eburnean NNE-striking, Steeply-ENE-dipping (80-85◦) pink granite intrusive dykes intruding the Early Paleoproterozoic sedimentary rocks. The intrusive dyke is interpreted as granodiorite of felsic to intermediate in composition. The rock seems to be a pink granodiorite with abundant pink frequent feldspar phenocrysts as well as amphibole phenocrysts in a fine-grained ferromagnesian groundmass. The dyke's strike is similar to the regional NNE-trending of the thrust fault systems crossing-over the area and interpreted from the regional geological map.

(3) Late dolerite dikes form a swarm crosscutting all previous rocks. They are undeformed, strike north-north-east, are concordant to the main direction of the sedimentary unit and form a prominent high relief in the northern portion of the Maligonga-East permit. The dolerite dikes are interpreted to extrude the Basin during the Mesozoic at ca. 200 Ma and are probably related to far field tectonic events during global-scale rifting and breakup of the Pangea supercontinent leading to opening of the Atlantic Ocean.

The main structure that controls the gold mineralization in the Mamadouya gold prospect strikes in a general NNE direction and steeply dips towards ENE (Figure 25.4, Figures 25.1, 25.2 and 25.3) and is concordant with the trend of the lithological bedding. The structure deformed both the intrusive rocks and the sedimentary unit (Figures 25.2, 25.3, and 25.4). The gold mineralization is contained into the hanging-wall side of the fault structure and occurs in zone of extensional and dilation fracture systems.

**Figure 25.2: Photograph showing highly sheared black fine-grained siltstone rock with penetrative foliation and quartz-filled fractures within the Mamadouya shear zone. Highly mineralized rock mined by local miners. (Photo taken during December 2020 site visit)**

**Figure 25.3: Photograph showing stockwerk of extensional dilation quartz veins in sandstone layer showing hydrothermal alteration and high-grade gold mineralization within the Mamadouya shear zone. (Photo taken during December 2020 site visit)**

The gold mineralization is therefore, structurally controlled and is contained into parallel corridors of deformation and hydrothermal alteration, hosted preferentially in the more brittle greywacke rock (Photo 25.4) and in a lesser extend in the siltstone (Photo 25.2) and the granodiorite intrusive unit.

The brittle-ductile shear zone displays a foliation ($S_1$) and elongation lineation ($L_1$) defined by stretched, elongated (Photo 26.2) and rotated features (Photo 26.4) within the turbidite sequence. The brittle-ductile deformation fabric is heterogeneously developed within the sediment likely due to the difference of rheology. The more competent rocks have a more brittle response (Photo 26.3) to the stress field while the least competent rocks display a more ductile response (Photo 26.2). The brittle features include brecciation and veining (Photo 26.3). The brecciated rock is strongly hydrothermally altered, host high-grade gold mineralization, show evidence of fluid/rock interaction and is in place invaded by a stockwork of quartz veins (Photo 26.3 and 26.3).


**Figure 25.4: Photograph of the Mamadouya Shear Zone in vertical section (Looking toward the south) showing the steeply easterly-dipping shear zone that affects highly mineralized turbidite sequence composed of alterning sandstone and siltstone. The Shear zone is concordant and shows typical kinematic indicator such as S-shaped Sigmoidal structure within the sandstone layer that indicates a reverse displacement during deformation. (Photo taken during December 2020 site visit)**

Gold occurs as dissemination into the host rocks and is associated with pyrite, pyrrhotite, and arsenopyrite. The key alteration associated with the gold mineralization are silicification, calcite and chlorite alteration suggesting low temperature formation during gold deposition typical of the shear zone-type orogenic gold mineralization in greenstone belts.

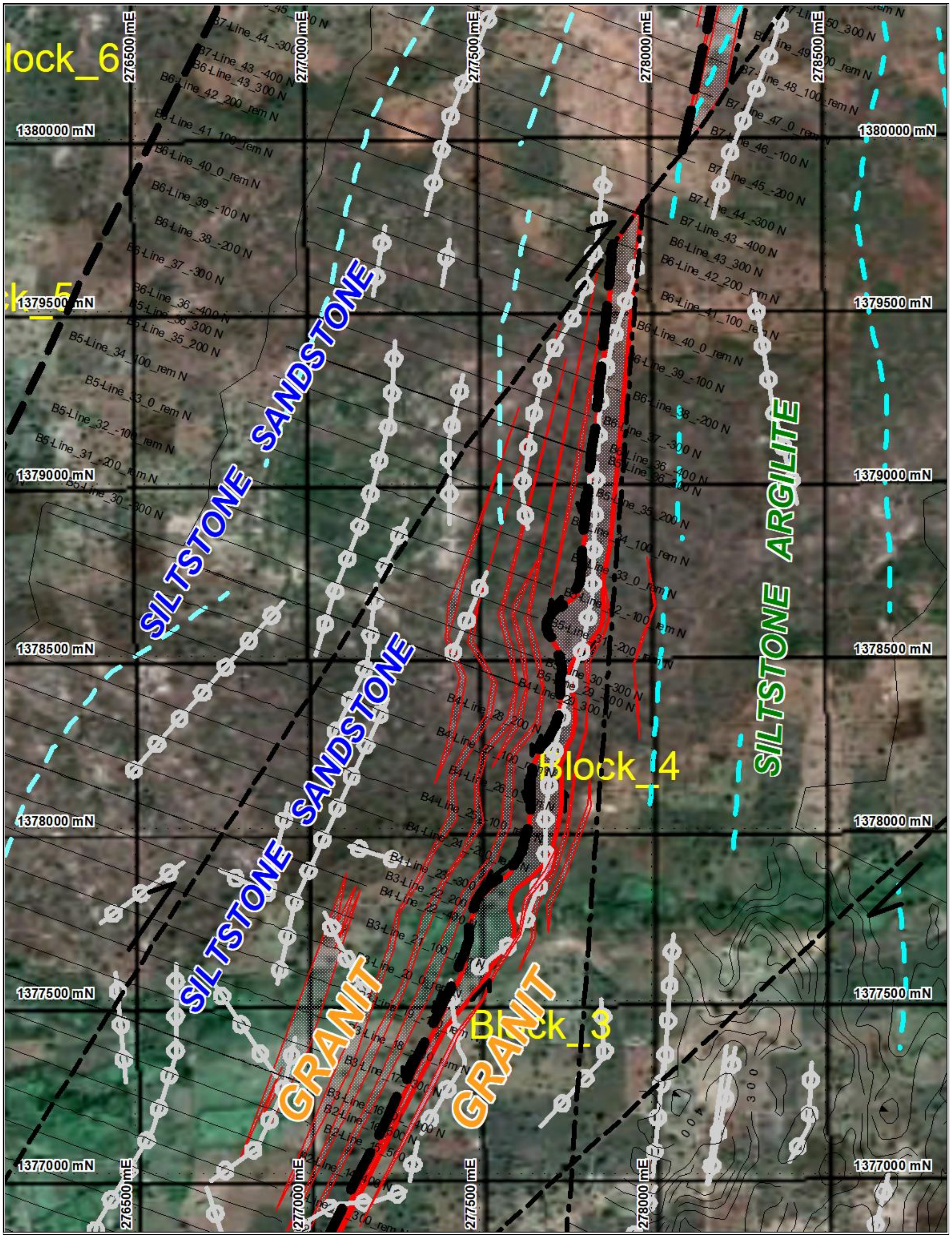



**Figure 25.5: Structural Interpretation: Overlay of the IP structures with interpreted gold structure showing the relationship between structures and the gold mineralization in the Mamadouya Gold prospect**

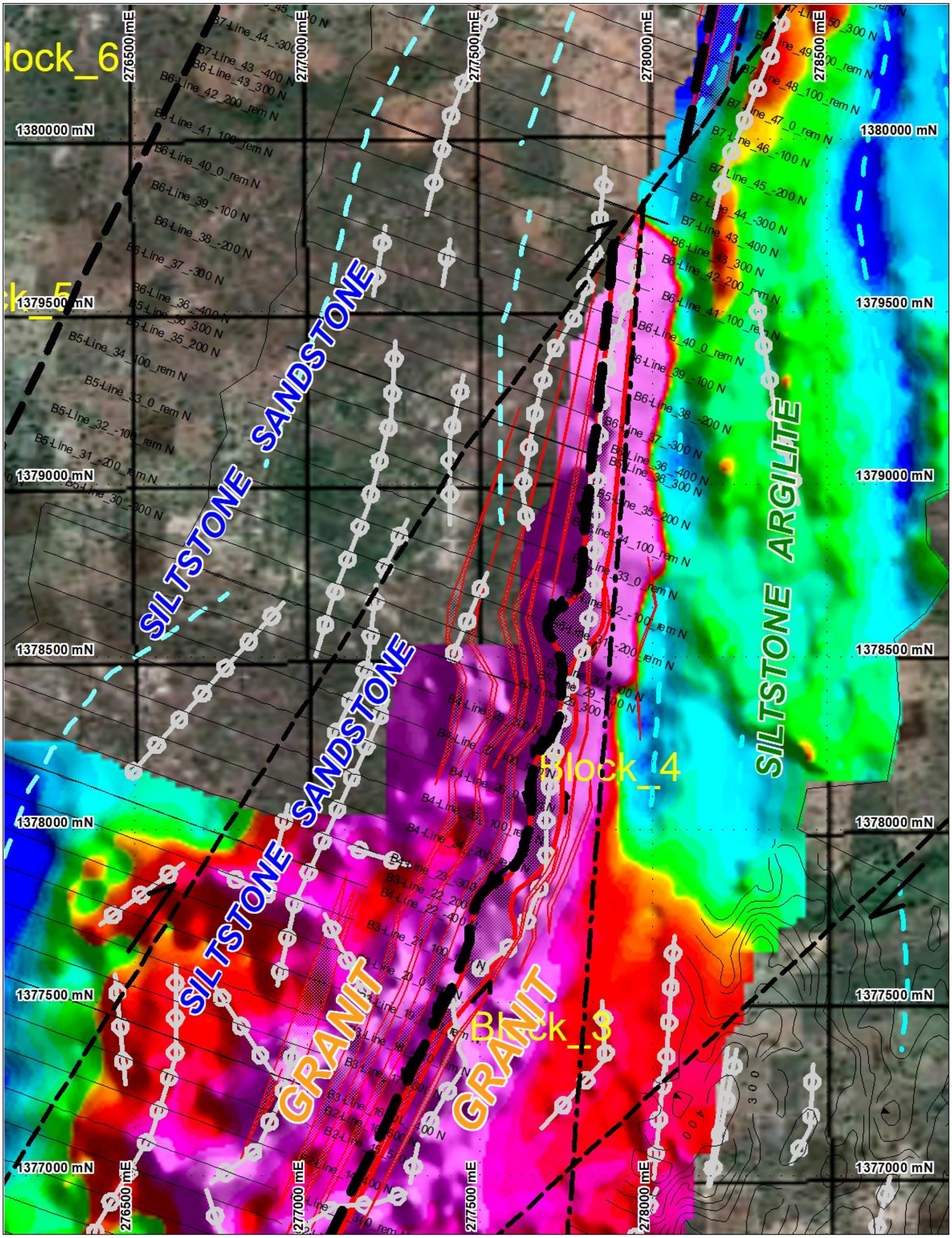



**Figure 25.6: Structural Interpretation: Overlay of the Gradient Chargeability Interpreted structures with geological, structural and interpreted gold structure showing the relationship between structures and the gold mineralization in the Mamadouya Gold Prospect**

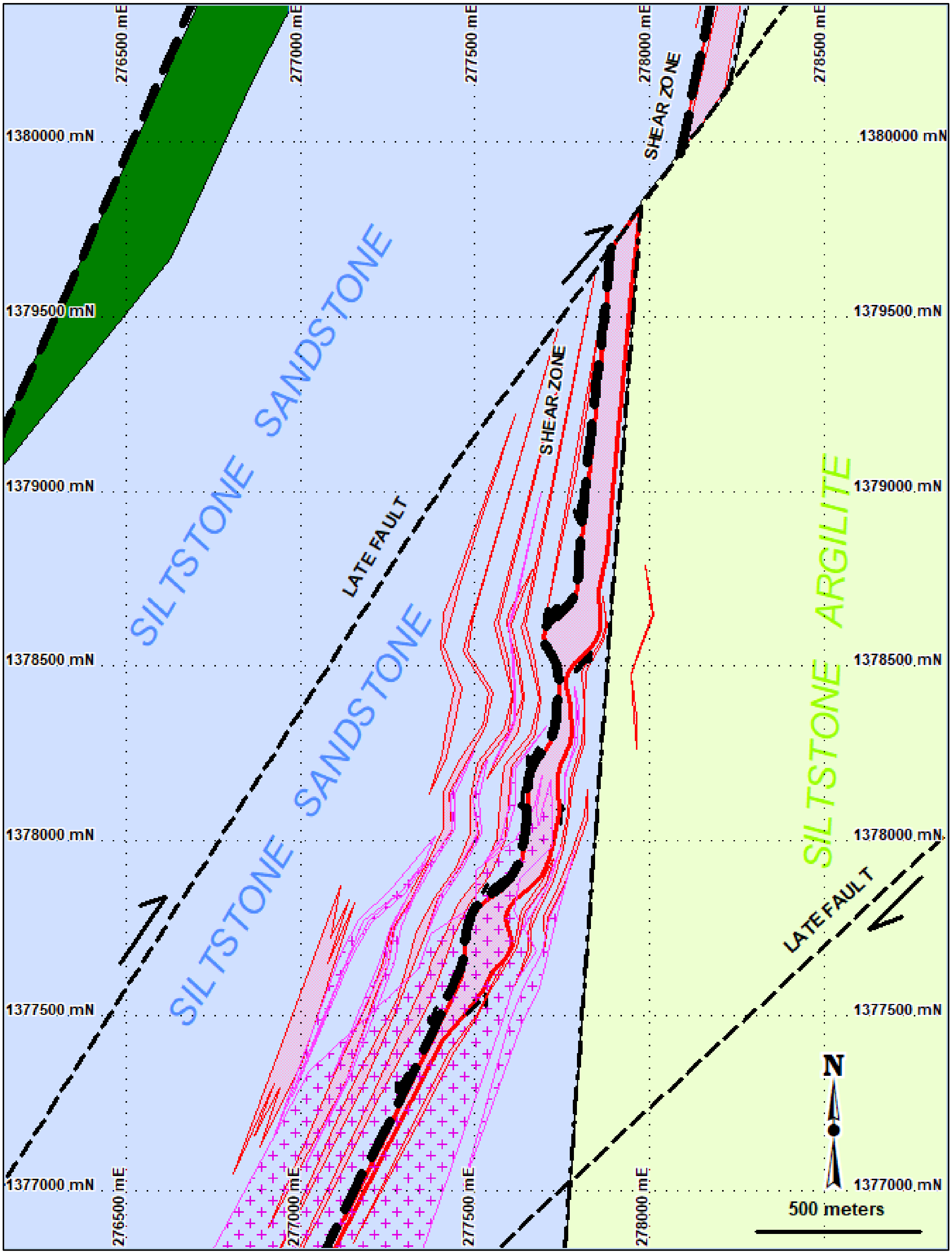



**Figure 25.7: Interpreted geological and structural Map of the Mamadouya Gold mineralization showing geological units, structural elements and the interpreted gold mineralized structure.**

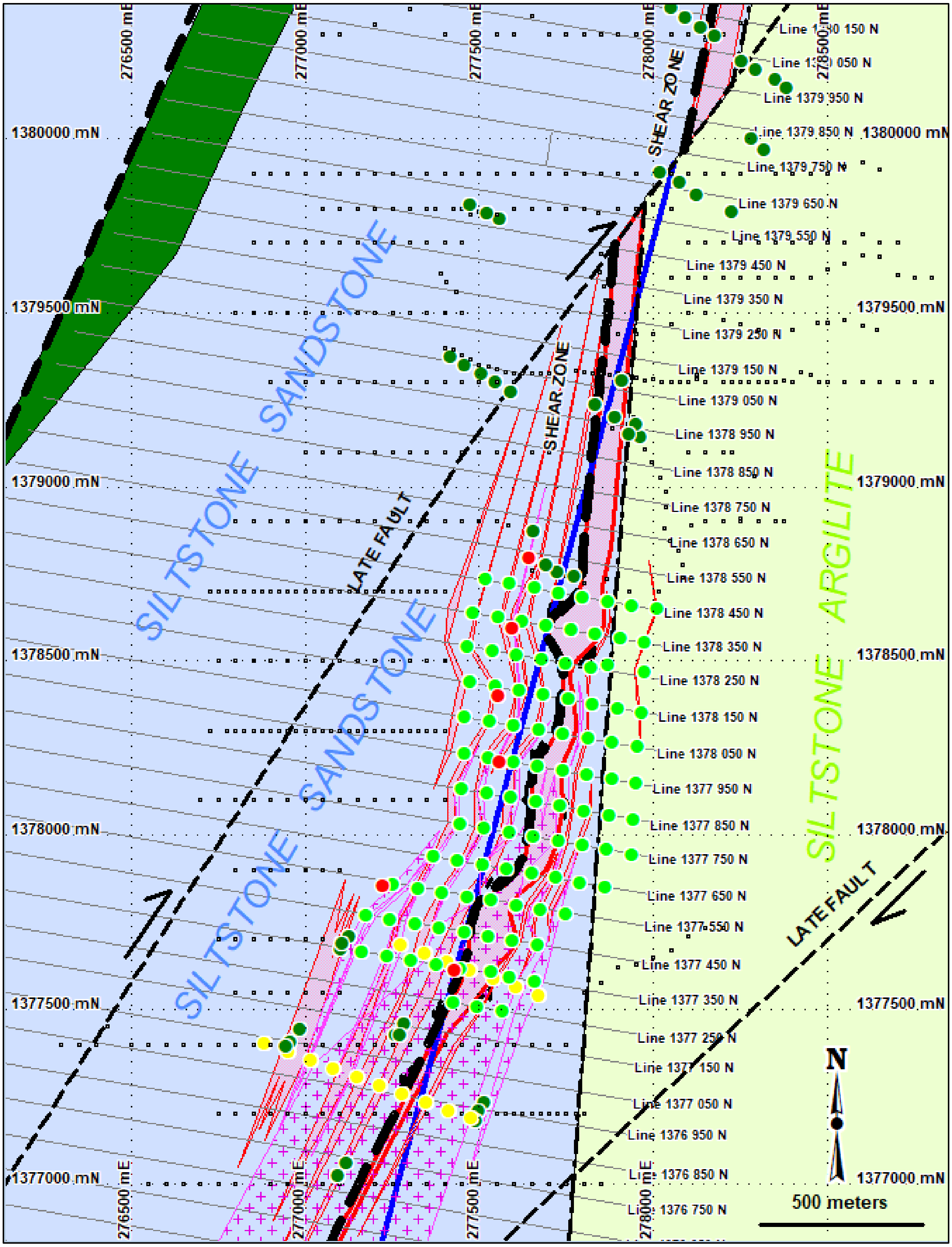



**Figure 25.8: Interpreted geological and structural map of the Mamadouya gold mineralization showing the completed exploration works**

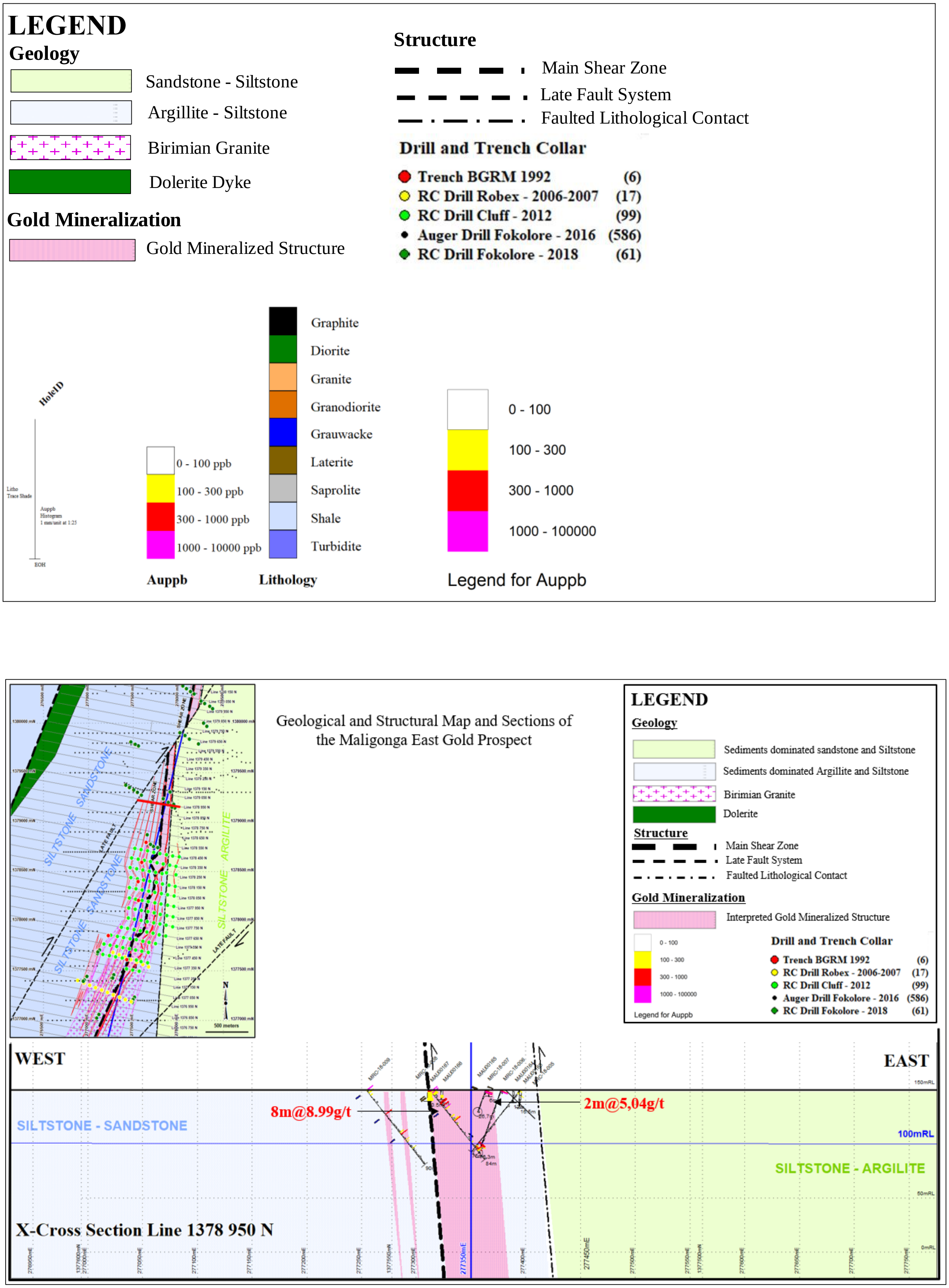



**Figure 25.9: Geological and structural cross-section Line 1378 950 N showing the gold mineralized structure**

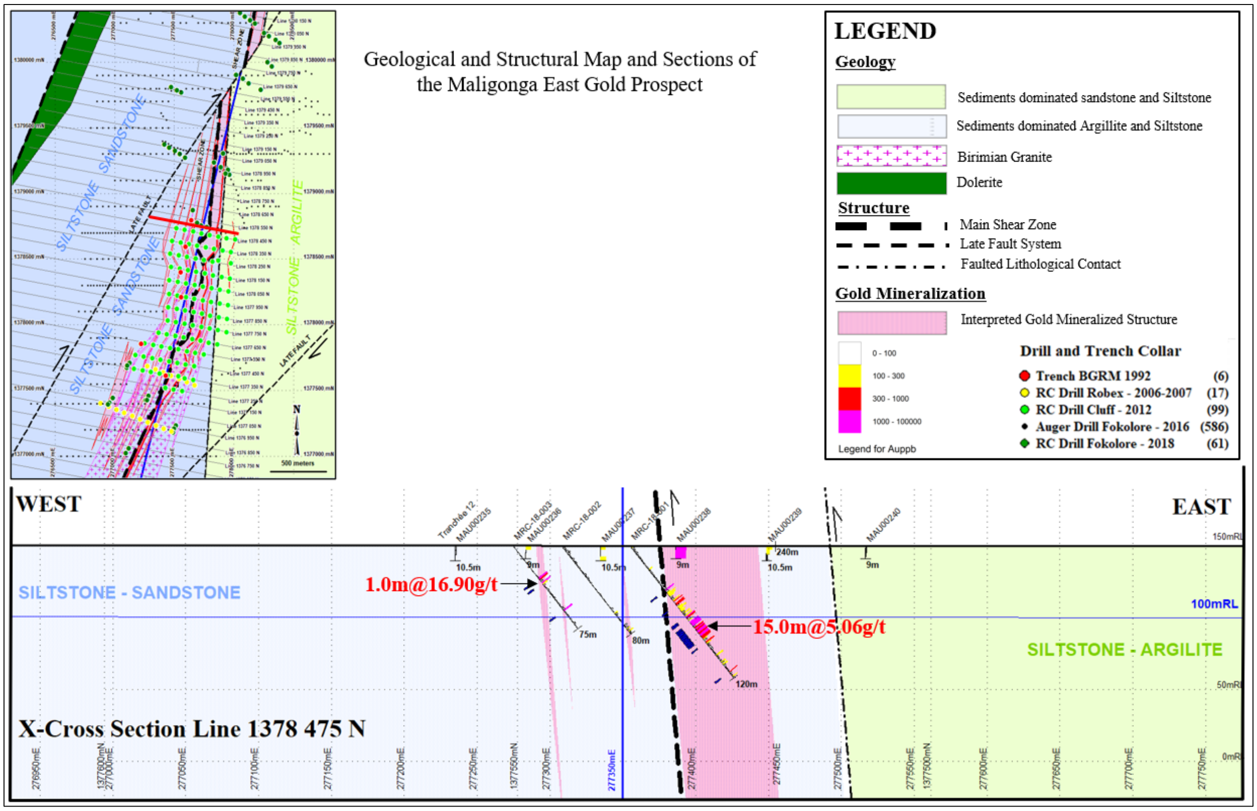



**Figure 25.10: Geological and structural cross-section Line 1378 475 N showing the gold mineralized structure**

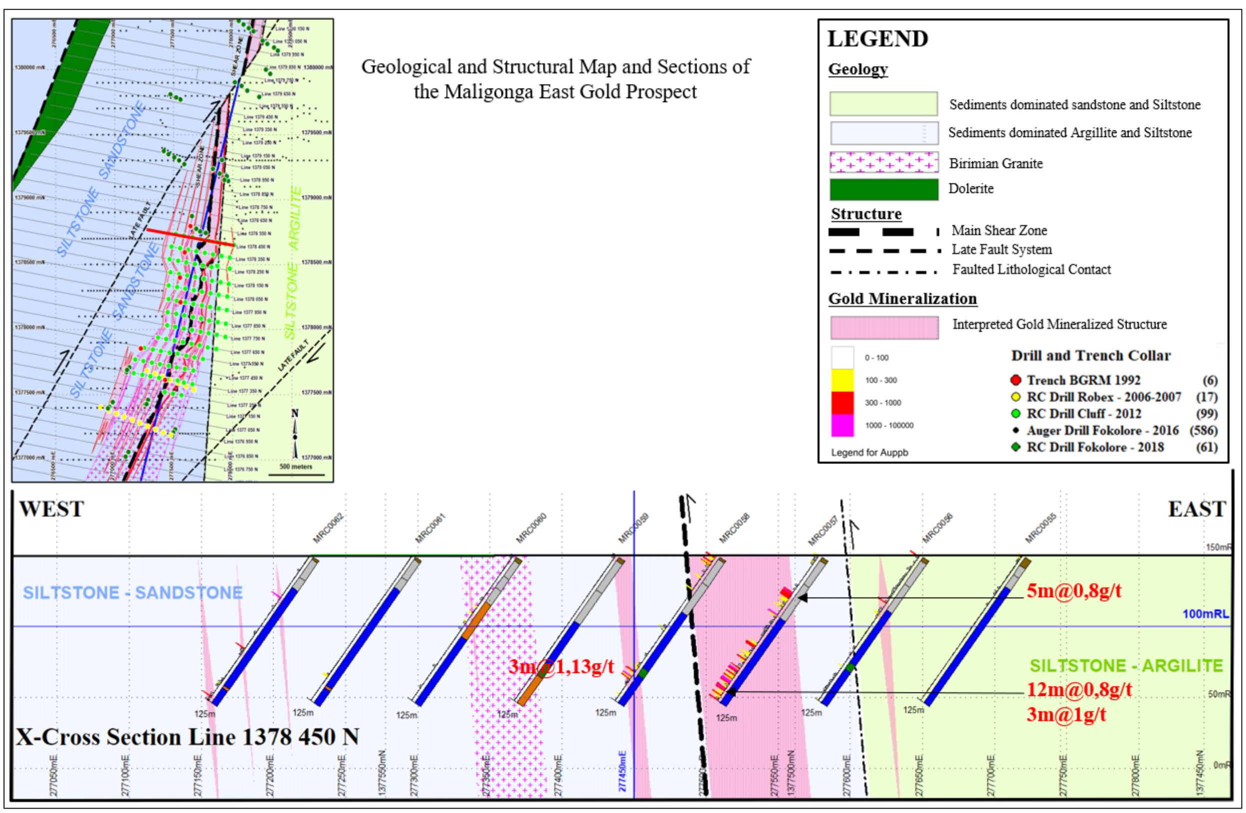



**Figure 25.11: Geological and structural cross-section Line 1378 450 N showing the gold mineralized structure**

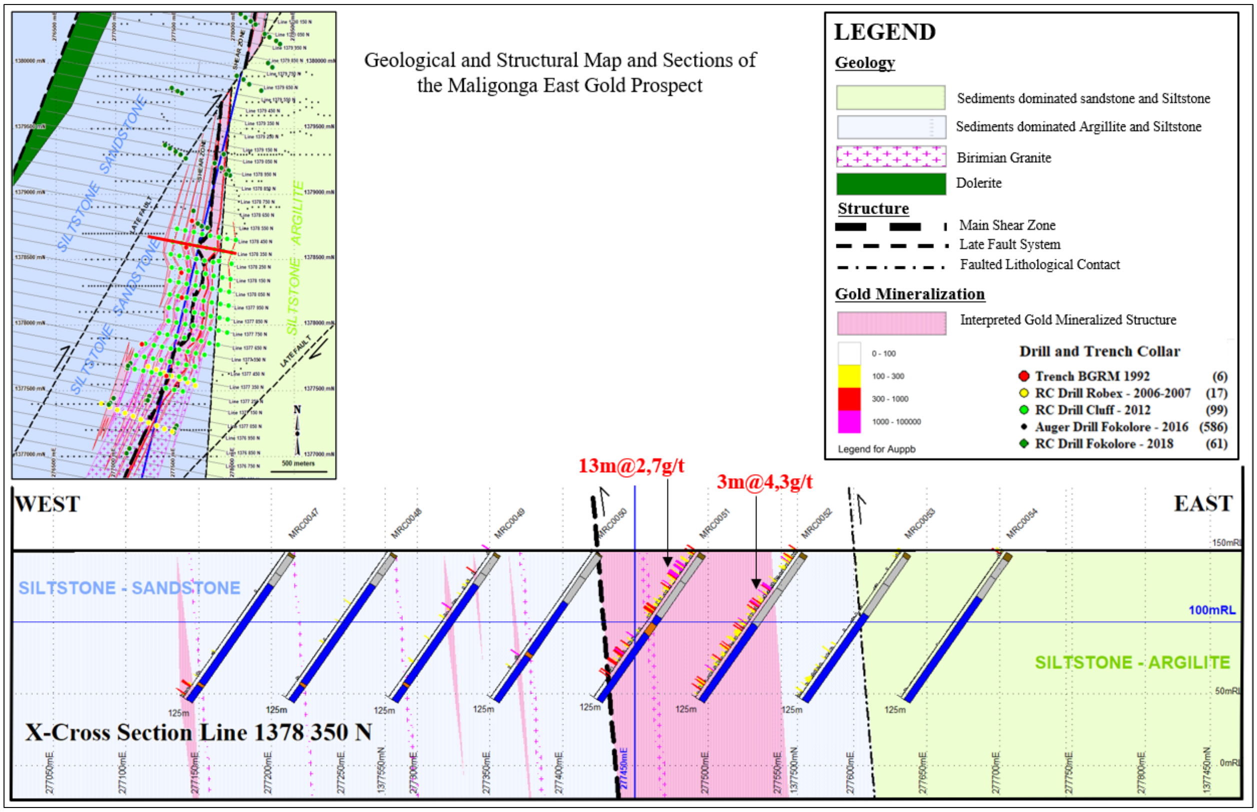



**Figure 25.12: Geological and structural cross-section Line 1378 350 N showing the gold mineralized structure**

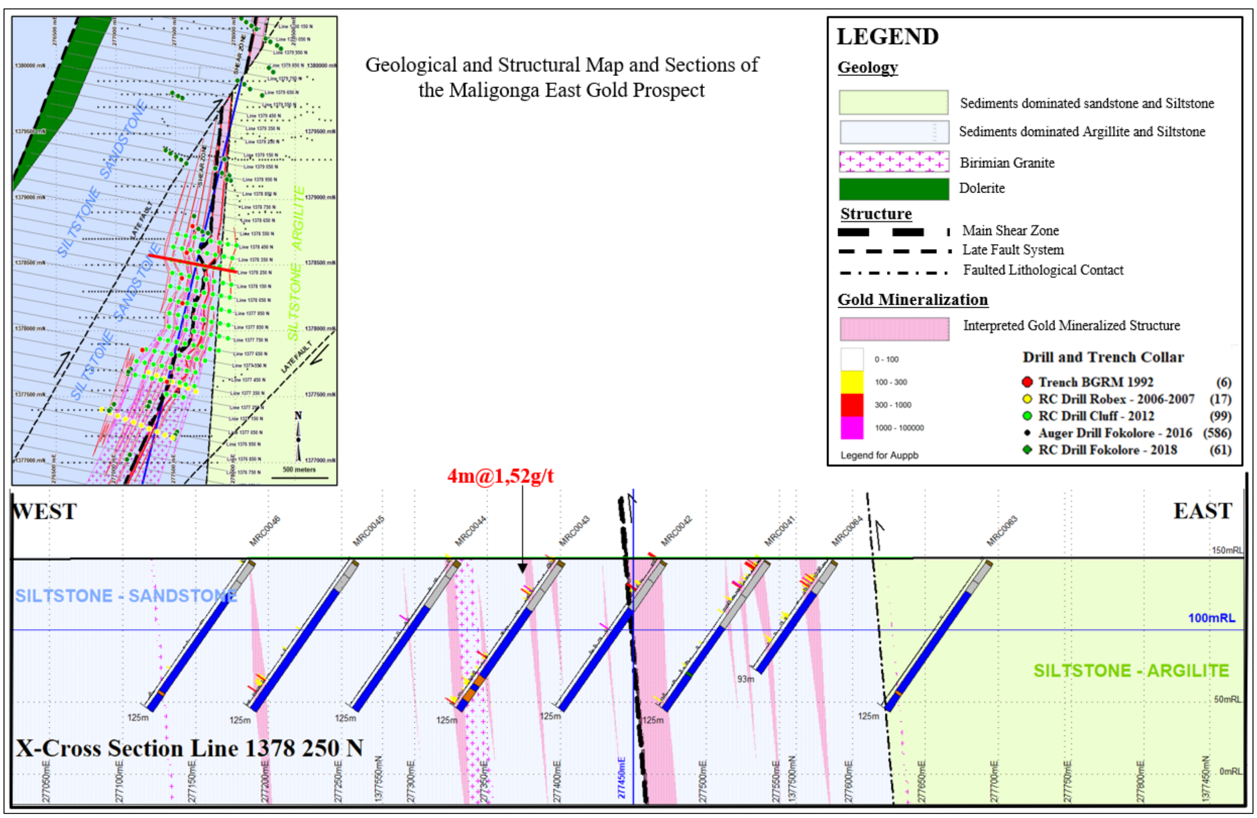



**Figure 25.13: Geological and structural cross-section Line 1378 250 N showing the gold mineralized structure**

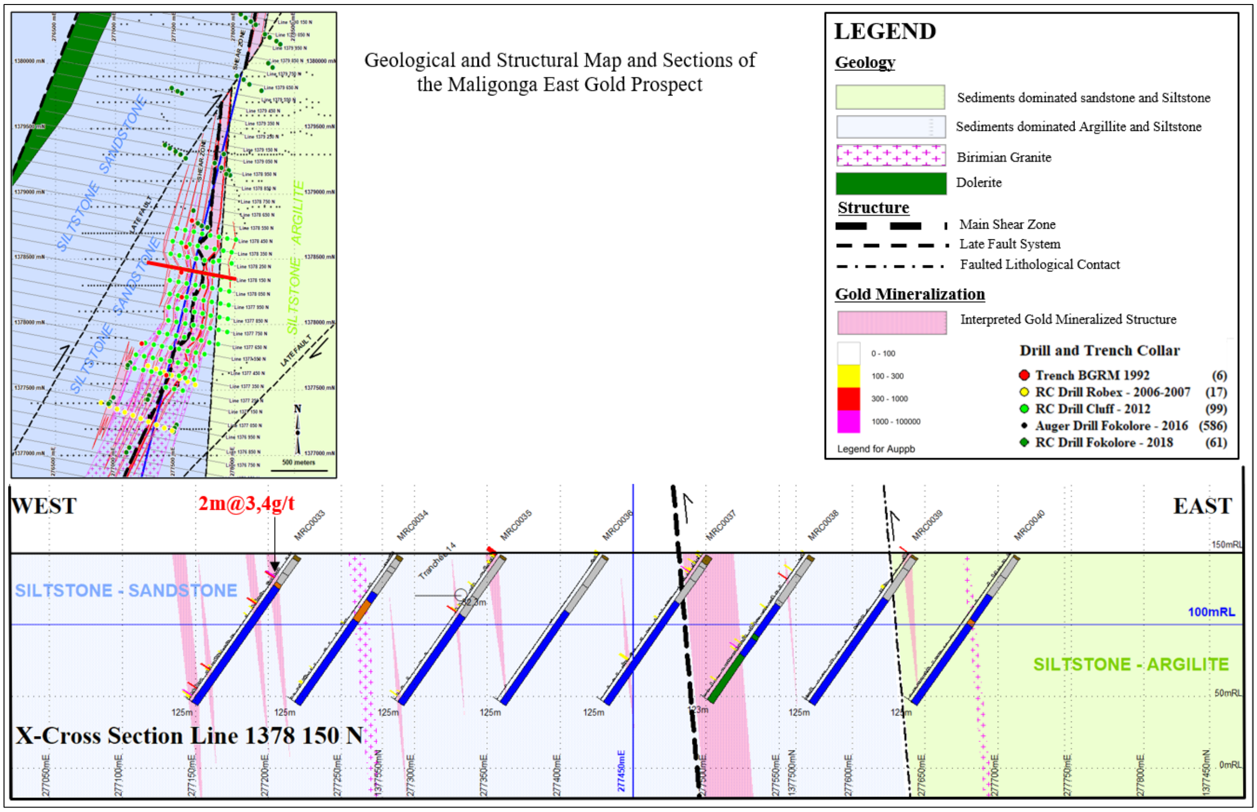



Figure 25.14: Geological and structural cross-section Line 1378 150 N showing the gold mineralized structure

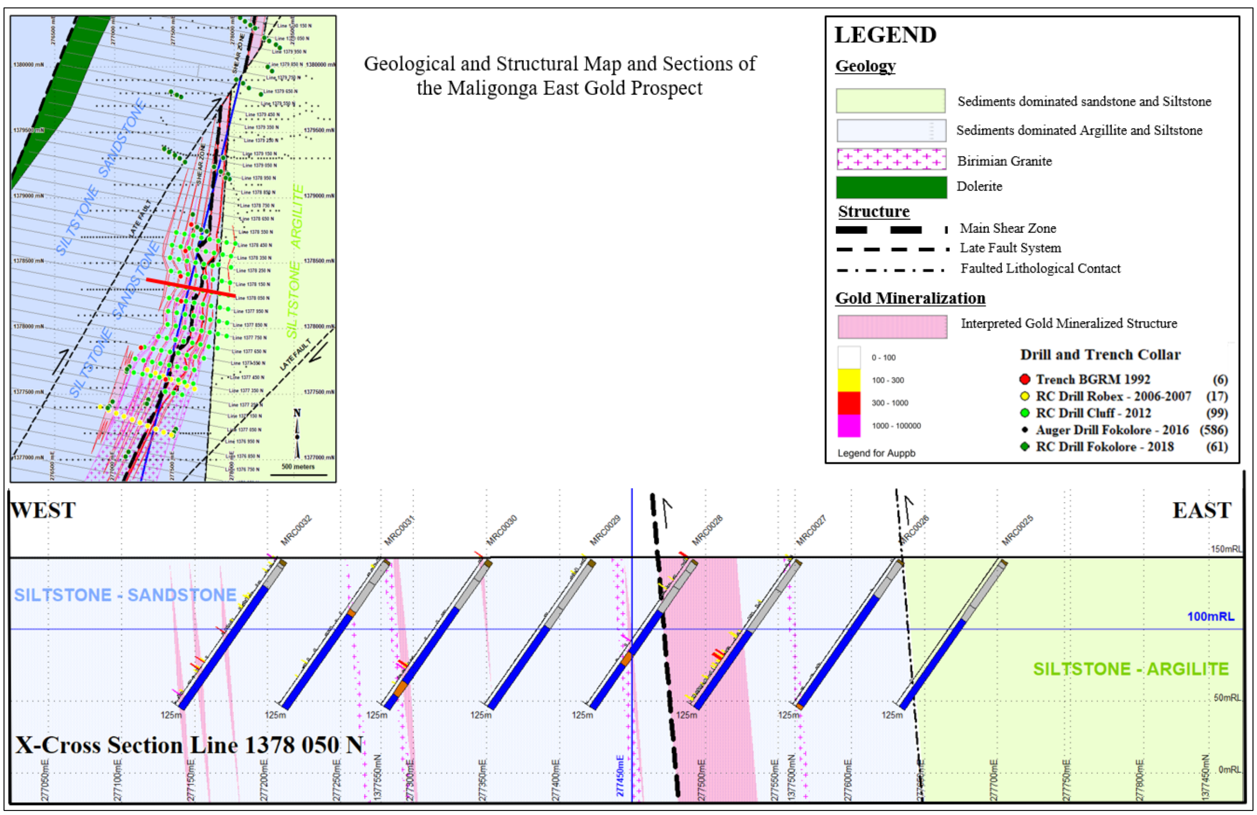



Figure 25.15: Geological and structural cross-section Line 1378 050 N showing the gold mineralized structure

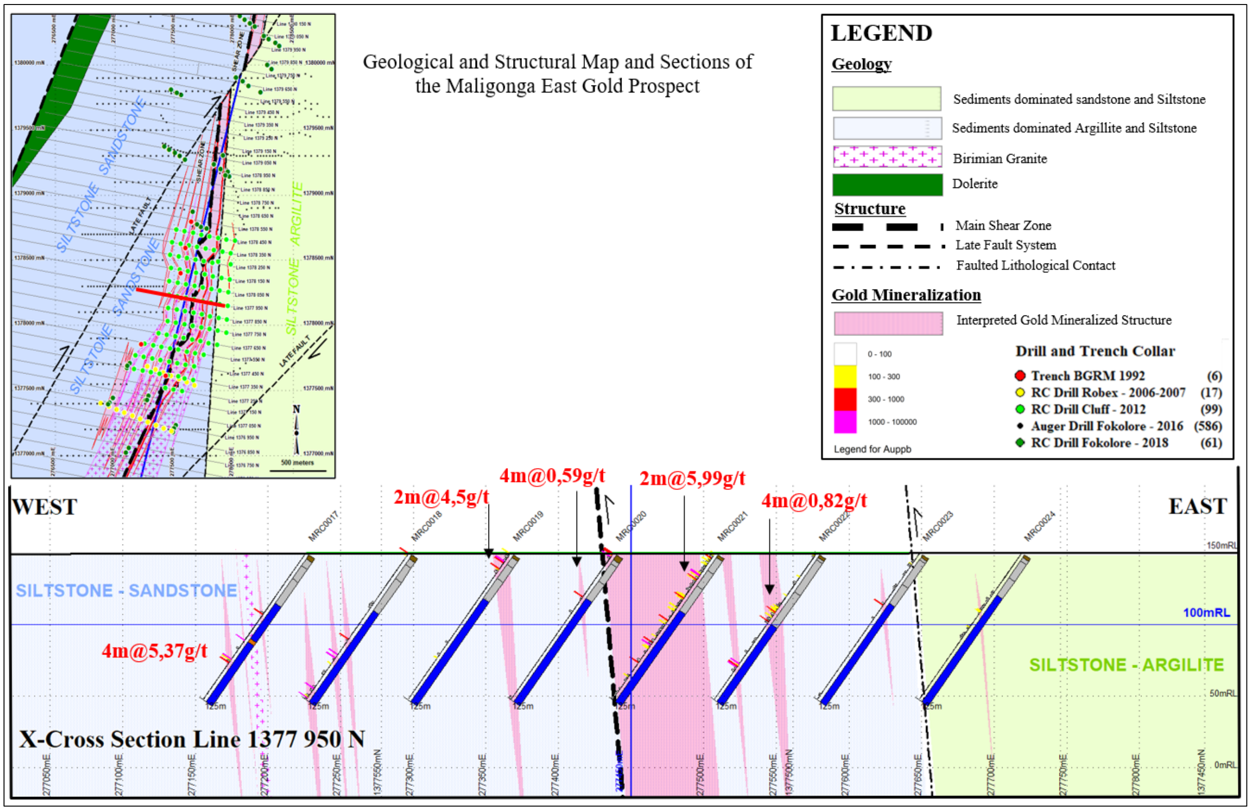



**Figure 25.16: Geological and structural cross-section Line 1377 950 N showing the gold mineralized structure**

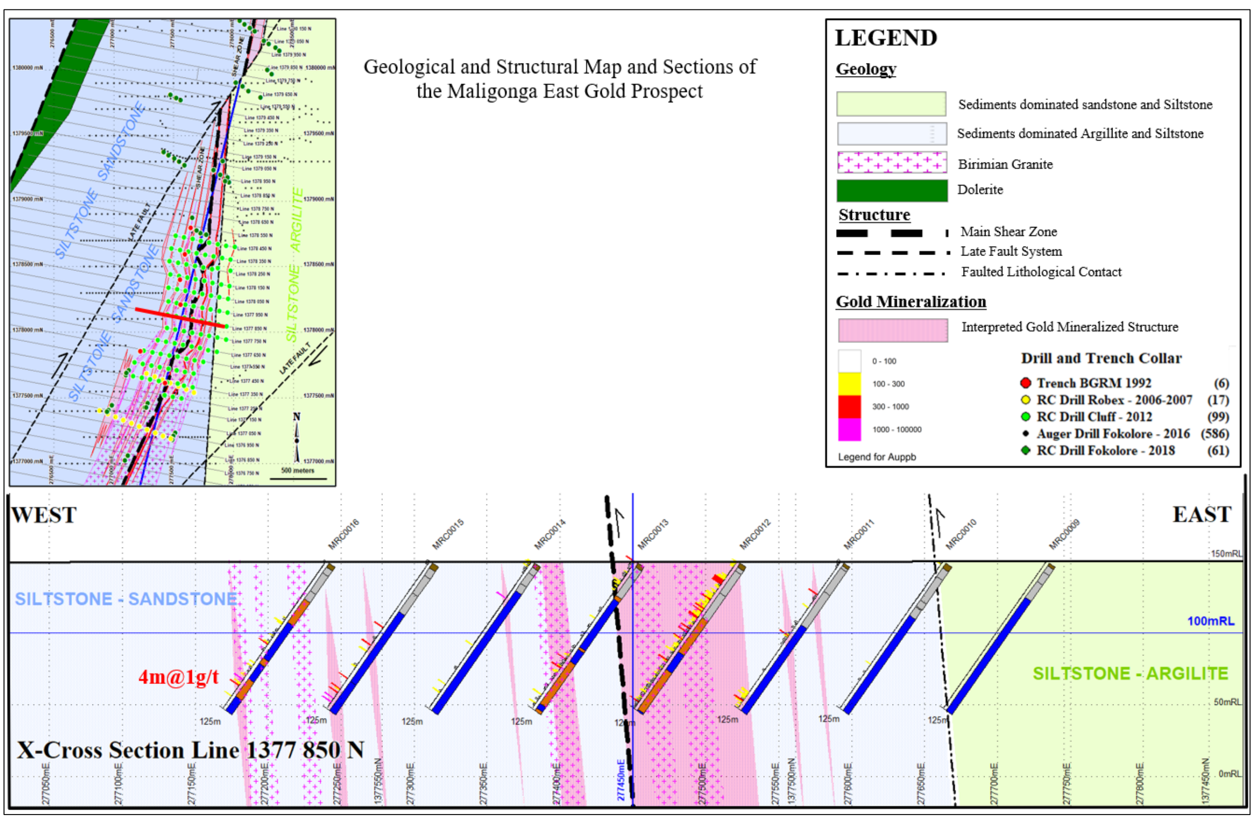



**Figure 25.17: Geological and structural cross-section Line 1377 850 N showing the gold mineralized structure**

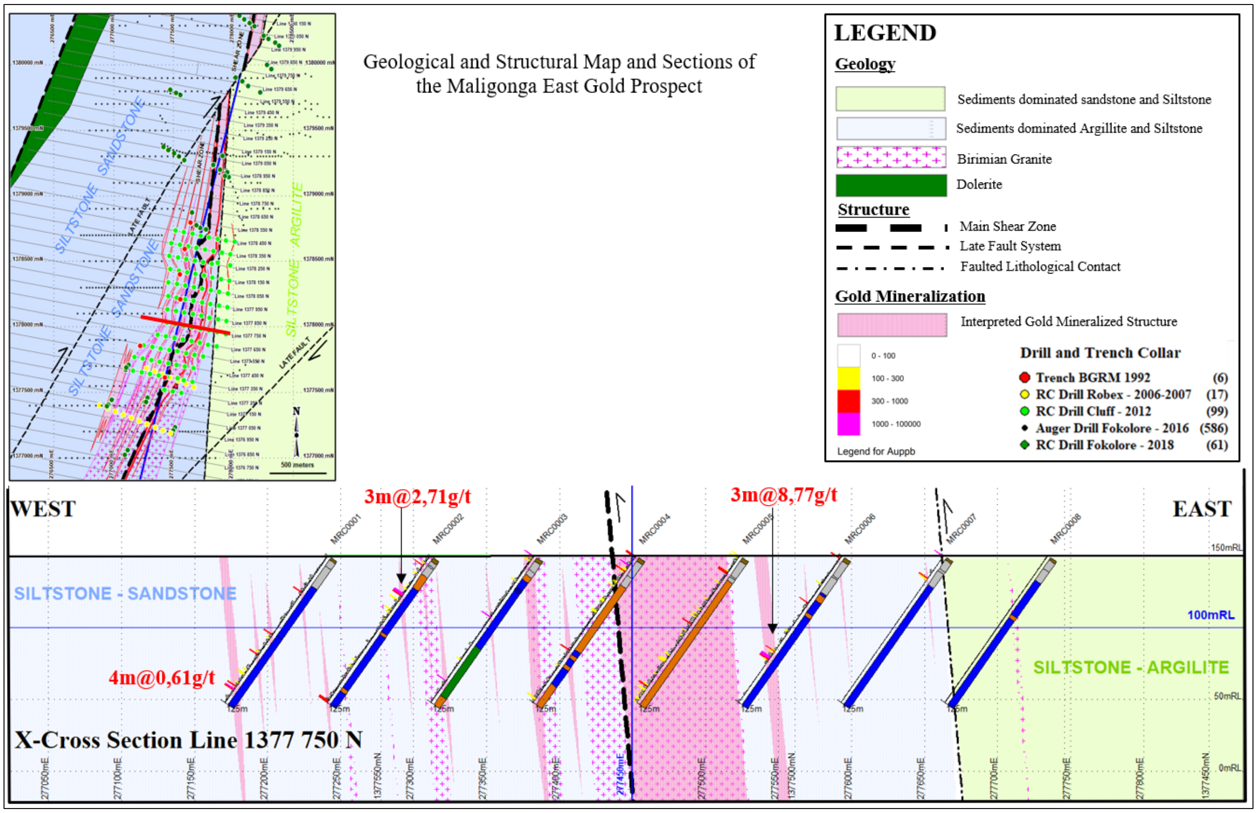



**Figure 25.18: Geological and structural cross-section Line 1377 750 N showing the gold mineralized structure**

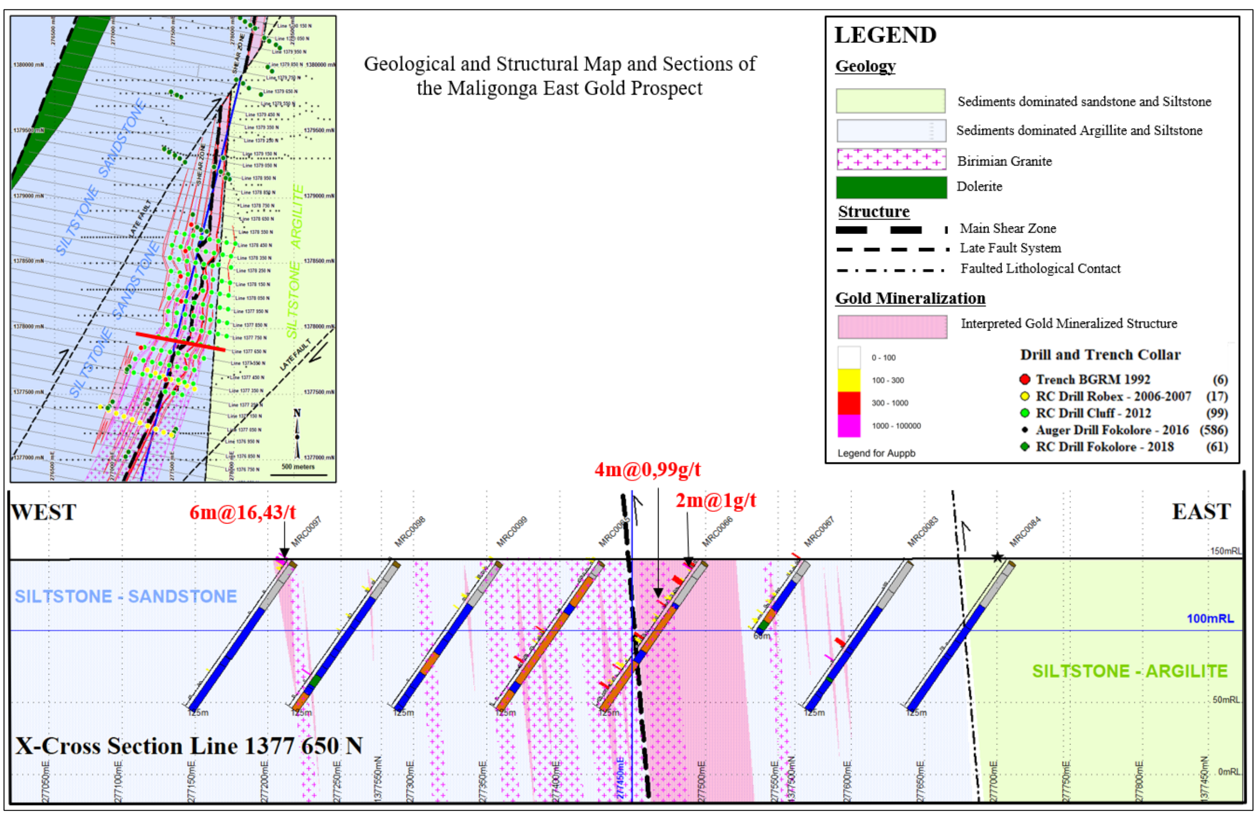



**Figure 25.19: Geological and structural cross-section Line 1377 650 N showing the gold mineralized structure**

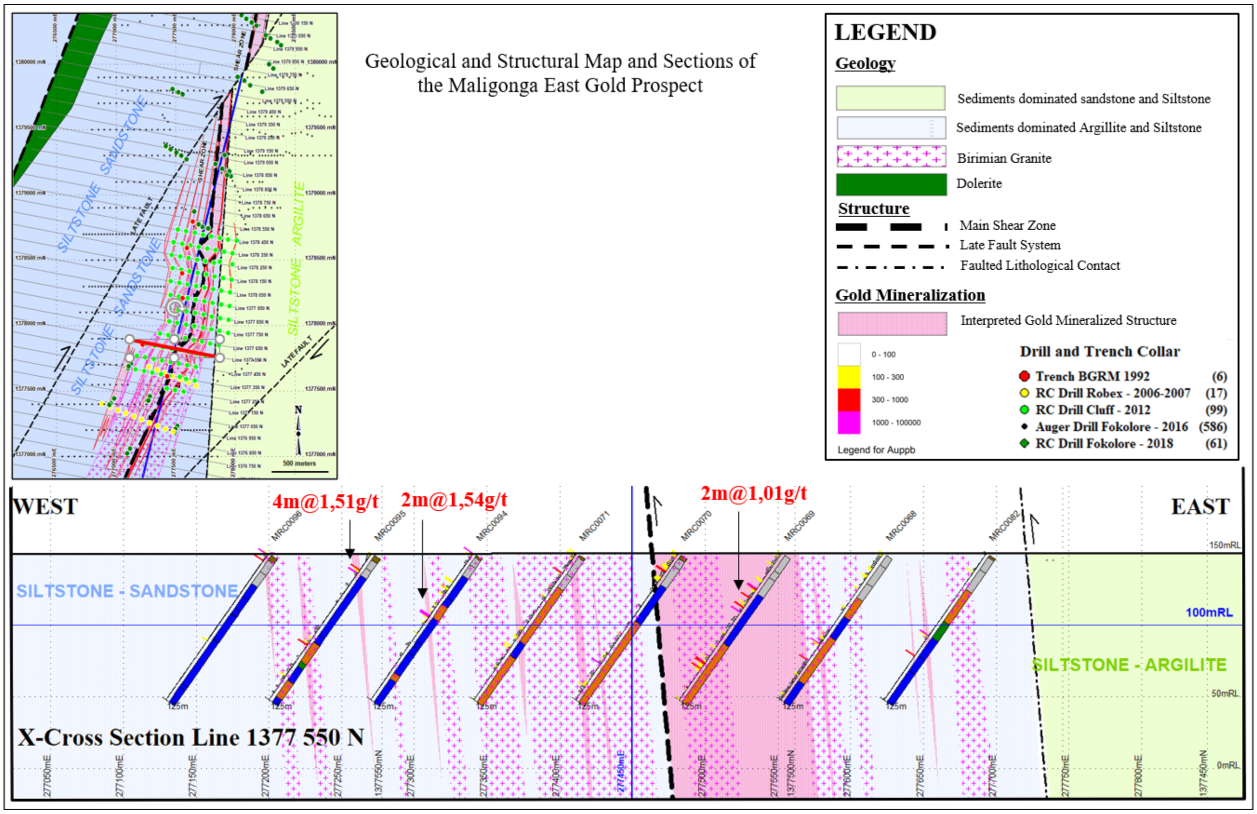



**Figure 25.20: Geological and structural cross-section Line 1377 550 N showing the gold mineralized structure**

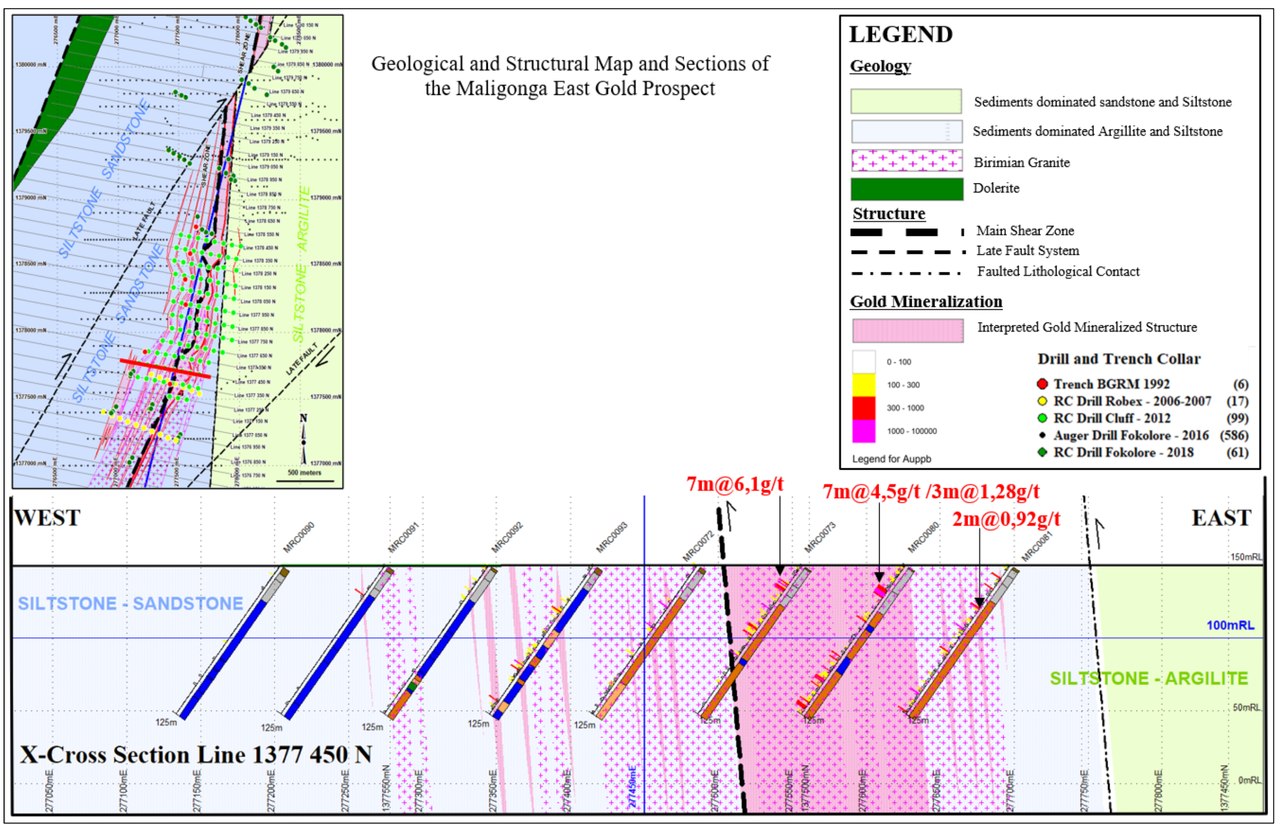



**Figure 25.21: Geological and structural cross-section Line 1377 450 N showing the gold mineralized structure**

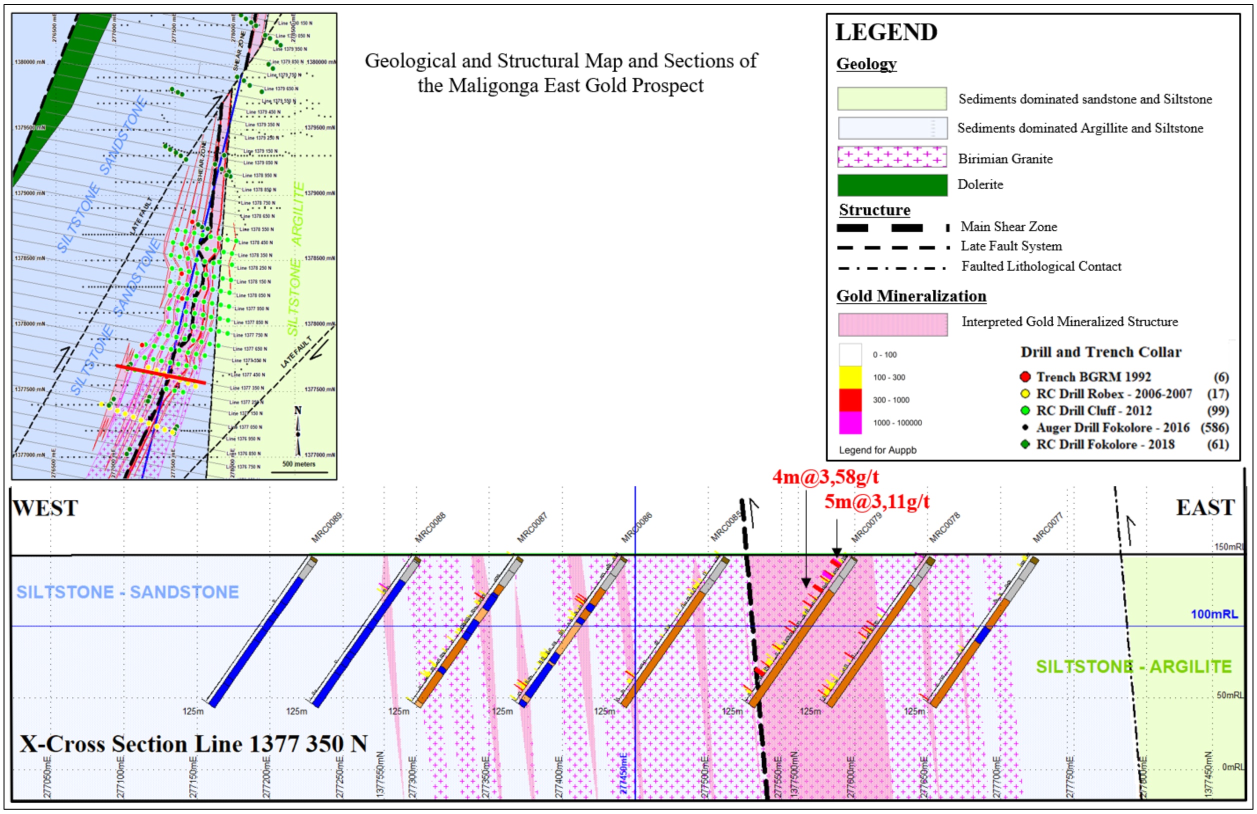



**Figure 25.22: Geological and structural cross-section Line 1377 350 N showing the gold mineralized structure**

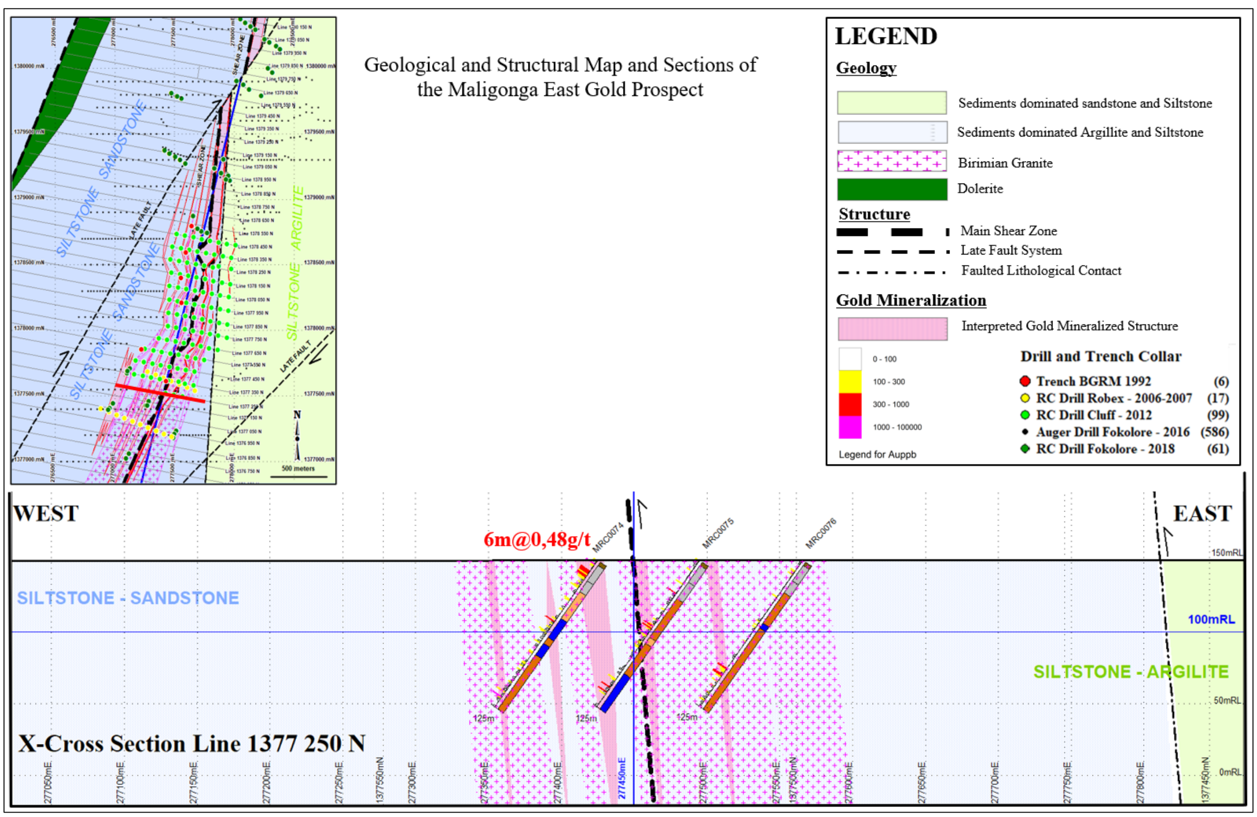



**Figure 25.23: Geological and structural cross-section Line 1377 250 N showing the gold mineralized structure**

## 25.2. Regional Overview: Geological and Structural Evolution of the Mamadouya Gold Mineralization

Geological and structural relationships, alteration assemblage and the style of gold mineralization within the Maligonga-East permit demonstrate that the Mamadouya mineralization is a classic example of a mesothermal shear-zone-controlled, intrusive related, orogenic-type gold mineralization, hosted in greenstone folded and deformed sedimentary successions of sandstone and siltstone. Kinematic analysis relationships along the Mamadouya shear zone indicates that rocks in the Maligonga-East area have been deformed by at least two major plate-scale ductile and brittle-ductile trans-compressional episode of deformation that was the prominent mode of deformation responsible for the formation of the shear zone systems. The structural evolution of the Mamadouya East gold mineralization can be summarized as followed (Figures 26.21):

### 25.2.1. Basin Formation

Following global-scale tectonic extension and intra-continental rifting during the Early Paleoproterozoic sediments of the Kofi Formation of the Daléma Group were deposited in a tectonically active extensional fault-bounded deep to moderately shallow basin at ca 2.3-2.2 Ga and rest on ca. 3.0 Ga Archean granitic rocks (Milési et al., 1989; Thieblemont et al., 2001).

### 25.2.2. The first Deformation D1

The first deformation D1 that affected the Daléma Basin occurred at ca 2.1 Ga and involved a regional NE-SW-directed collisional crustal shortening transpressional deformation attributed to the Early Eburnean Orogeny (Feybesse et al. 2006). This deformation was accompanied by massive folding, thrusting and faulting across the Basin. The D1 tectonic event was likely associated with extensive calc-alkaline granite intrusions (e.g., Egal et al., 2002) that are widespread throughout the area. These calc-alkaline granites likely formed from local melting of the metasedimentary rocks in the deep part of the Basin during peak metamorphism compressional tectonism (Egal et al., 2002).

In the Maligonga-East area, the syn-tectonic pink granite intrusive rock may have been formed during the episode of D1 deformation following dextral strike slip movement along the fault.

### 25.2.3. The second Deformation D2

The second deformation D2 is associated with the formation (or reactivation) of the brittle-ductile NNE-striking, ENE-steeply-dipping strike-slip shear zone systems that affected contacts between the sedimentary sequence and the granitic rocks. Kinematic analysis along the shear zones at Mamadouya (Figure 26.21) and orientation of the regional-scale NW-SE compressional stress field indicate that the Mamadouya Shear Zone experimented a Reverse-Sinistral Strike-Slip movement accommodating the NW-SE compression of the D2 deformation. The D2 deformation is likely associated with the ca. 2.0 Ga regional-scale anti-clockwise block rotation compressional tectonism of the Late Eburnean Orogen (Feybesse and Milési, 1994). The brittle component of the fault, which 'brittly' deformed competent lithologies such as the greywacke of the sedimentary sequence created dilation and extension areas (at fault jogs, bends, bumps or branches etc.) along the Mamadouya Fault Zone during sinistral-slip movement (Figure 26.21), which are favorable enhanced permeability structural traps for hydrothermal mineralizing fluid flow, fluid/rock interaction, hydrothermal alteration, and gold mineralization that formed the Maligonga-East gold mineralization.

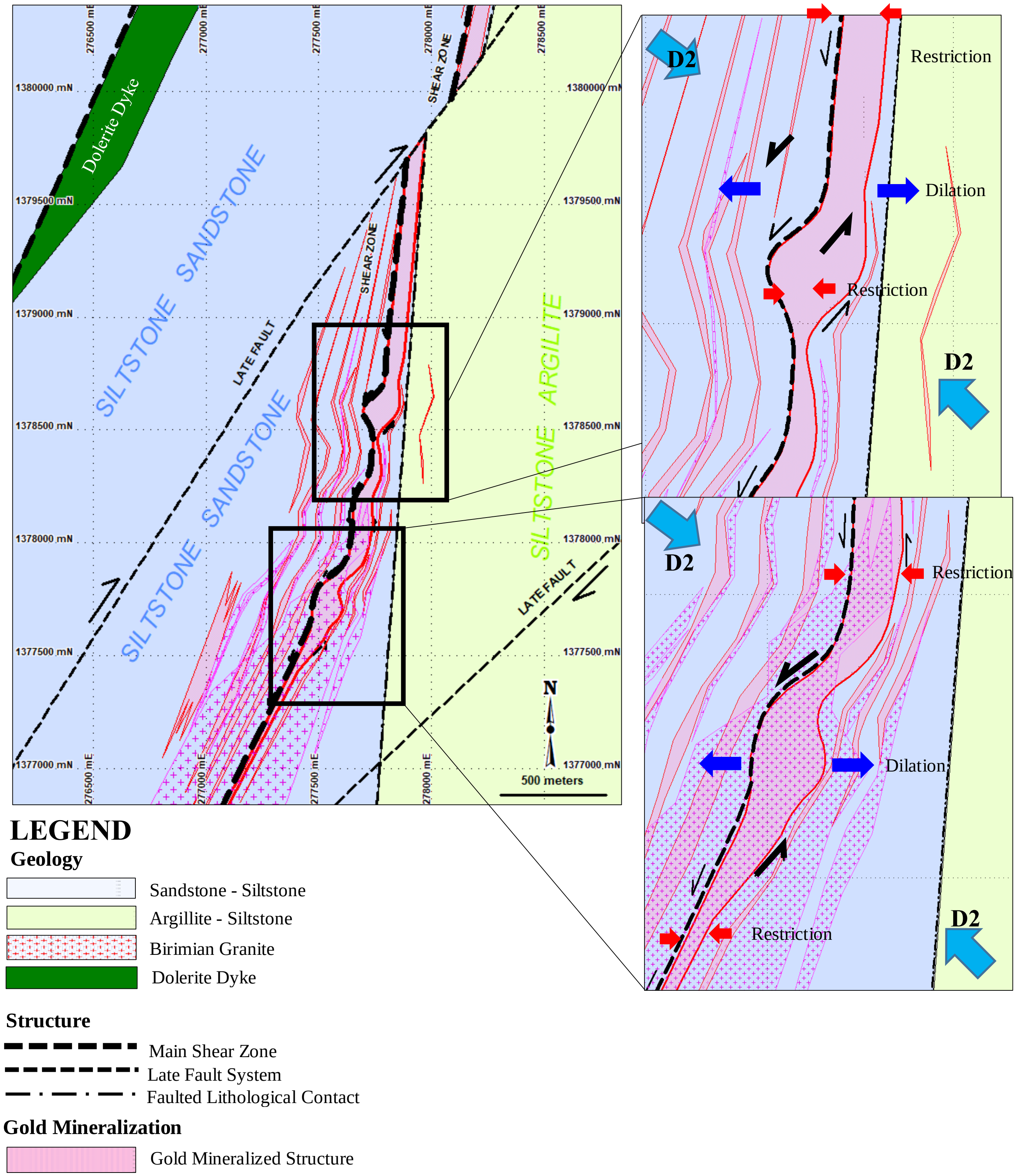



**Figure 25.24: Geological and Structural interpretation of the Mamadouya Gold Mineralization**

The gold mineralization at Maligonga-East is therefore structurally controlled and occurs in brittle-ductile shear zones that deformed competent layers of greywacke and in a lesser extend the siltstone and the granit rocks, creating structural traps along the shear zone that were sites for hydrothermal alteration by Au–bearing mineralizing fluids.

### 25.2.4. Mesozoic tectonism and dolerite intrusion

During the Mesozoic at ca 200 Ma, faults reactivation, concomitant with the opening of the Atlantic Ocean, created pathways for dolerite magma ascension and emplacement (Hirdes et al., 1996). These dolerite dykes cross-cut all lithology and are the youngest geological events that affected the area (Figure 26.21). These dolerite dykes outcrop northwest of the Mamadouya mineralization (Figure 26.21)

### 25.2.5. Late faulting

The Maligonga-East area is overprinted by numerous NE-striking late fault systems that offset earlier structures and the sedimentary sequence (Figure 26.21). These faults are likely produced by far field tectonic event and fault reactivation during the neo-tectonic deformation events.

### 25.2.6. Origin of the mineralizing fluids

The Mamadouya shear zone displays evidence for hydration and fluid flow evidenced by the presence of numerous quartz-filled breccias and quartz-calcite veins that occur within the shear. These evidences suggest that hydration associated with hydrothermal fluid circulation prevailed during the development of the shear zone and played a key role in the hydrothermal alteration and ore-forming processes.

The hydrothermal mineralizing fluids likely derived from metamorphic fluids generated during metamorphism associated with the thermal Orogen. These fluids were derived from dehydration of hydrous minerals and flow toward deep and large fracture systems and dilatant jogs that resulted from brittle reactivation of the early ductile shear zone. Magmatic hydrothermal fluids derived from fluid degassing from the syn-orogenic calk-alkaline magmas associated with the $D_2$ thermo-tectonism can also play an important role in the hydrothermal ore-forming processes. Goldfarb et al. (2010) demonstrated that in orogenic greenstone belt terrane gold deposits can be formed from mixing between metamorphic hydrothermal fluids and magmatic-derived hydrothermal fluids.

### 25.2.7 Gold Potential of the Maligonga-East permit

Results of the geological, structural and geophysical interpretations demonstrate that the Maligonga-East permit has a high potential to host economic gold deposits. The 4-km long, high-angle Mamadouya NW-striking, steeply-ENE-dipping shear zone system has the highest potential to host mineable gold deposit as the shear formed dilatational jogs along the fault zone that can host large and high-grade god mineralization.

Lithologies that host the gold mineralization in the Mamadouya prospect are highly altered, sheared, and brecciated sandstone rocks of the Daléma Basin, similar to those containing the Siribaya, Kabaya, Seko and Sory deposits located immediately west of the permit. The Mamadouya prospect can therefore be considered high priority target within the permit and is recommended for future aggressive exploration programs. There are other spots of high anomalous values and areas of broad lower soil and termite mounds values throughout the remaining of the permit (Figure 26.22) that should be considered second priority areas for future investigations consisting of shallow RAB drilling and detailed lithological and structural mapping aimed at identifying the geological source of the anomalies. Specifically, mapping will concentrate on delineating major fault structures similar to those identified in the Mamadouya Prospect.

In regards with the gold exploration strategy in the Maligonga-East area, attention must be paid to the NE-striking shear zones associated with the D2 tectonic event of the Late Eburnean. Similar structures control the gold mineralization in the nearby deposits (Siribaya, Sory and Seko) (Figure 26.22) and represent high potential targets for gold exploration. BGR-Consul strongly recommends detailed analysis of the remaining area of the Maligonga-East permit, in order to map the detailed structural framework and to put it in relationship with the regional tectonic features revealed during this report. This would provide a specific structural context for the whole Maligonga-East permit in regards with the regional tectonic setting.

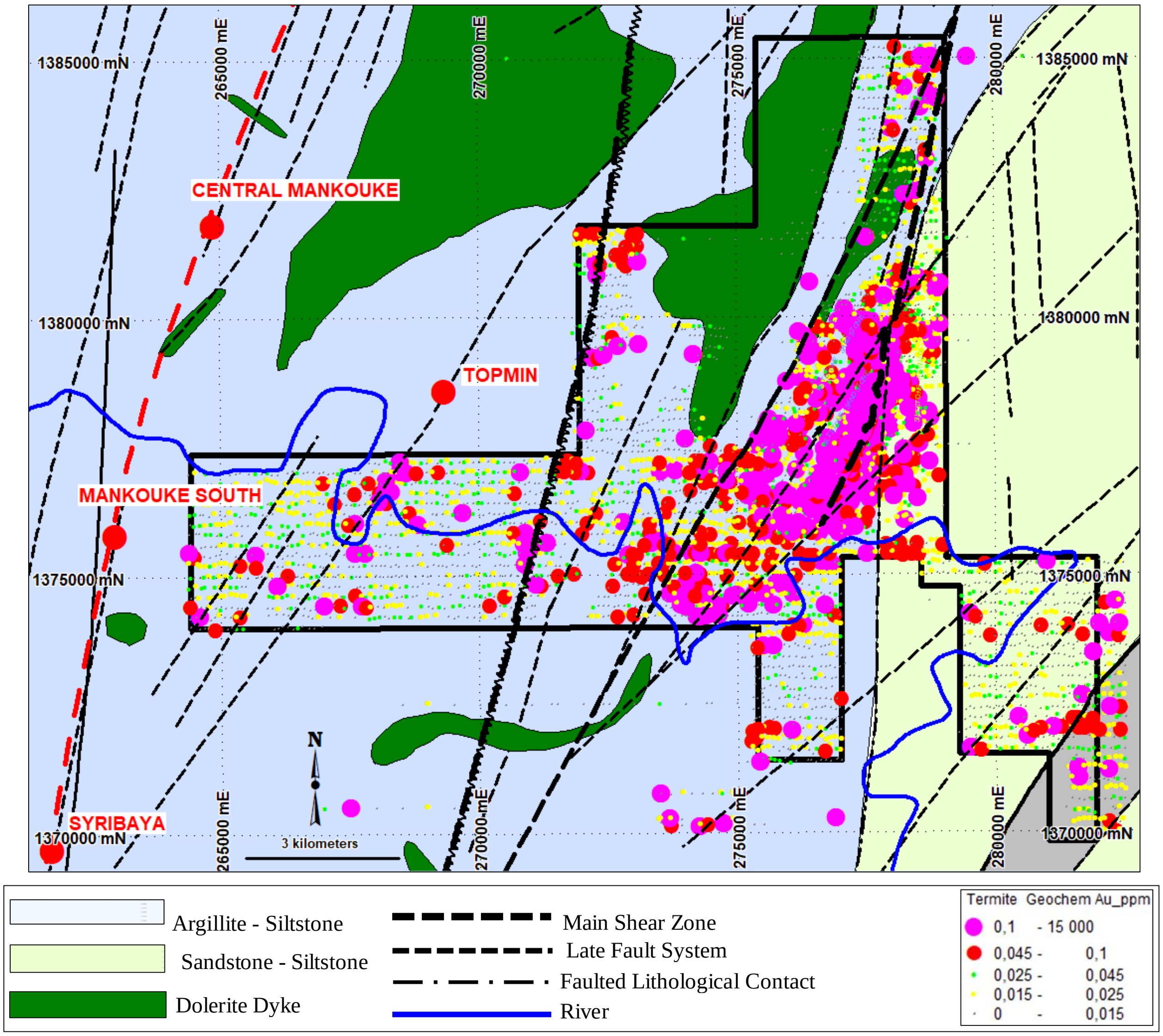



**Figure 25.25: Overlay of the geological, gold geochemical and structural data showing the relationship between interpreted regional structures, lithological domains and the surface gold mineralization**

# 25.3. CONCLUSIONS

The Maligonga-East gold project consists of an exploration license covering a surface area of 100 km² in the Kofi formation of the Daléma Basin, Western Mali – West Africa. Successive exploration works completed by BGRM, Ressources Robex Inc, Cluff Gold Plc and Fokolore Mining Sarl were professionally managed, and procedures were consistent with generally accepted industry best practices. The exploration data from termite mounds, soils and rocks geochemistry sampling, geophysical survey, trenches and drilling are sufficiently reliable to confidently allow interpretation of the gold anomalies in the Maligonga-East property and planning of an extensive drilling program over existing gold anomalies and in areas that have not been drill-tested.

Early soil geochemistry survey and trenches from BRGM in 1992, geophysical survey and RC drilling south of the Mamadouya target zone completed by Robex between 2007 and 2008, infill termite mounds geochemistry sampling, geophysical survey and extensive RC drilling by Cluff in the Mamadouya zone in 2012 and geological and structural mapping and interpretations, Auger and RC drilling completed by Fokolore between 2015 and 2018 resulted in the identification of the Mamadouya gold mineralization of the Maligonga-East property and numerous others anomalous zones of gold mineralization targets. Drilling programs completed by Cluff and Fokolore intercepted high grade gold mineralization over the Mamadouya prospect including 8m@8.99g/t Au, 15m@5.06g/t Au, 6m@16,43/t, 7m@6,06g/t Au, 7m@4,51g/t Au and 13m@2,7g/t Au.

Additional geological and structural interpretations by BRG-Consult in 2020 determined the geological and structural setting of the area and the style of the gold mineralization, established a conceptual geological and structural model for the gold mineralization and identified the Mamadouya brittle-ductile shear zone that has a strong spatial correlation with the gold mineralization. The NNE-striking and steeply ENE-dipping reverse-sinistral shear zone system controls the gold mineralization within the Mamadouya prospect and is identical to structures that host the nearby Siribaya (Iamgold Corp.), Kabaya (Roscan), Soro and Seko (Oklo Resources) gold deposits.

Geological and structural interpretations by BRG-Consult demonstrated that the Mamadouya gold mineralization is hosted in faulted and sheared contact between sedimentary successions of sandstone and siltstone of the Daléma Basin and suggested that the gold mineralization is structurally controlled and occurs in deformed zones of large and highly hydrothermally altered, NNE-striking, ENE-steeply-dipping, structural corridors that contain a complex network of extensional dilation fracture systems. New high-grade gold mineralization (including 8m@8.99g/t Au and 15.0m@5.06g/t Au) in RC drilling by Fokolore in 2018 over the Mamadouya mineralization show a possible northern extension of the mineralization over 800 meters.

The Maligonga-East permit is part to the Paleoproterozoic rocks of the Daléma Basin of the Kedougou-Kenieba Inlier, in the Birimian Super group of West Africa that hosts several multi-million-ounce gold deposits (example include Tabakoto, Gounkoto, Fekola, Diakha and Siribaya, Kabaya, Sory and Seko gold deposits). Geological and structural relationships demonstrate that the Mamadouya gold deposit is a mesothermal shear-zone-controlled, intrusive-related, orogenic-type gold mineralization, hosted in greenstone faulted sedimentary successions. The deposit structural evolution and the gold mineralization style is identical to the nearby Siribaya (Iamgold Corp.), Kabaya (Roscan), Soro and Seko (Oklo Resources) gold deposits. The Maligonga-East property can therefore, be considered as very prospective terrane to host economic gold deposit, considering that aggressive additional exploration works including extensive drilling programs will continue to further define and delineate additional gold mineralization.

Based on BGR-Consult's site visit and subsequent review of available historical exploration information, BGR-Consult offers the following general comments and conclusions.

- Historical exploration results on the Maligonga-East property indicate the presence of significant, near-surface gold mineralization with potential for economic gold discovery higher than previously expected. The Mamadouya gold mineralization is the highest priority exploration target within the Maligonga-East concession. Additional drilling and geochemical analysis are required to evaluate the resource and economic potential of the target.
- The assessment of and conclusions made in this report on the exploration potential of the Maligonga-East property is based on the historical exploration results, particularly the gold results obtained from historical geochemistry sampling and the RC and Auger drilling programs from BGRM, Robex, Cluff and Fokolore.
- BGR-Consult concludes that the type of and amount of historical exploration works completed by BGRM, Robex, Cluff and Fokolore and data generated by this work for the Maligonga-East property provides an adequate basis for the review and assessment of exploration potential provided in this technical report, and the recommendations made herein.
- Any significant variations of the reported historical results could impact the conclusions and work recommendations made in this report.
- The normal risk associated with exploration project exists, so there is no guarantee that the proposed exploration work will identify economically viable gold mineralization on the property.

# 26. RECOMMENDATIONS

The Maligonga-East property is a relatively advanced exploration project and significant detailed works have led to the identification of the Mamadouya gold mineralization with potential for containing an economic gold mineralization. BGR-Consult considers that the character and extent of the gold mineralization delineated is of sufficient merit to warrant additional exploration expenditures. BGR-Consult recommends an exploration work program that - if implemented - will advance the project to a resource and reserve estimations and a pre-feasibility study stage.

The following recommendations for additional exploration work on the Maligonga-East property are proposed. A Phase I Reserve Circulation (RC) drilling and Air Core (AC) drilling programs over the Mamoudouya area and a Phase II RC and AC drilling programs over the Kabafing prospect are recommended to increase the potential for economic gold mineralisazation within the permit. The budget is estimated for each drilling phase and is for the proposed field and administrative costs, logistics and contractors, but do not include any corporate management fees.

## 26.1.DRILLING

### 26.1.1. Recommended Phase I Drilling Program

**Recommended RC Drilling Program**

The detailed structural, geological interpretation and modelling on the Mamadouya gold mineralization resulted in a coherent and comprehensible new geological and structural model that gives a better understanding of the structural setting and the style of the gold mineralization of the deposit which has nesecitated re-oriented further drilling programs. The proposed Phase I RC drill program will test and expand the Mamadouya gold mineralization and its immediate northern extension where positive geochem results have been obtained in the past. The Phase I RC drilling program will test the interpreted structural and geological model of the deposit. The objectives are therefore, to:

- Test the proposed geological and structural model of the gold deposit
- Test a strike length of 2.3 km over the interpreted mineralized structure
- Define and delineate laterally and down dip the gold deposit within the interpreted structure
- 178 drill holes cutting across 19 cross sectional lines across the ore body with an average depth of 120m totaling 23000m depth
- Holes are oriented East-West, with an azimuth 0f 90$^{o}$ and dip of -90$^{o}$.

The Phase I RC drilling program maps are shown in Figures 26.1 and 26.2.

**Recommended Air Core Drilling Program**

The Phase I Air Core drilling program is designed to test the chargeability and Resistivity anomalies that were picked up during the Induced Polarization and Resistivity survey. The objective of the Air Core drilling program is to enhance confidence in in-situ anomalies and to identify additional target zones of gold mineralization which may warrant further drilling programs.

BGR-Consult recommends 206 drill holes with an average depth of 20m making a total of 4120m.

### 26.1.2 Recommended Phase II RC and AC Drilling Program

The Phase II RC and AC drilling programs is aimed at testing the chargeability and resistivity anomalies identified in the Kabafing area and to extend the prospective area for potential economic mineralization beyond the Mamadouya area of the permit.

27 RC drill holes with an average depth of 120m making a total of 3240m depth with an azimuth of 90 and dip -90 is proposed and 152 AC drill holes with an average depth of 20m making a total of 3040m with a dip of -90 are proposed for the phase II drilling program.

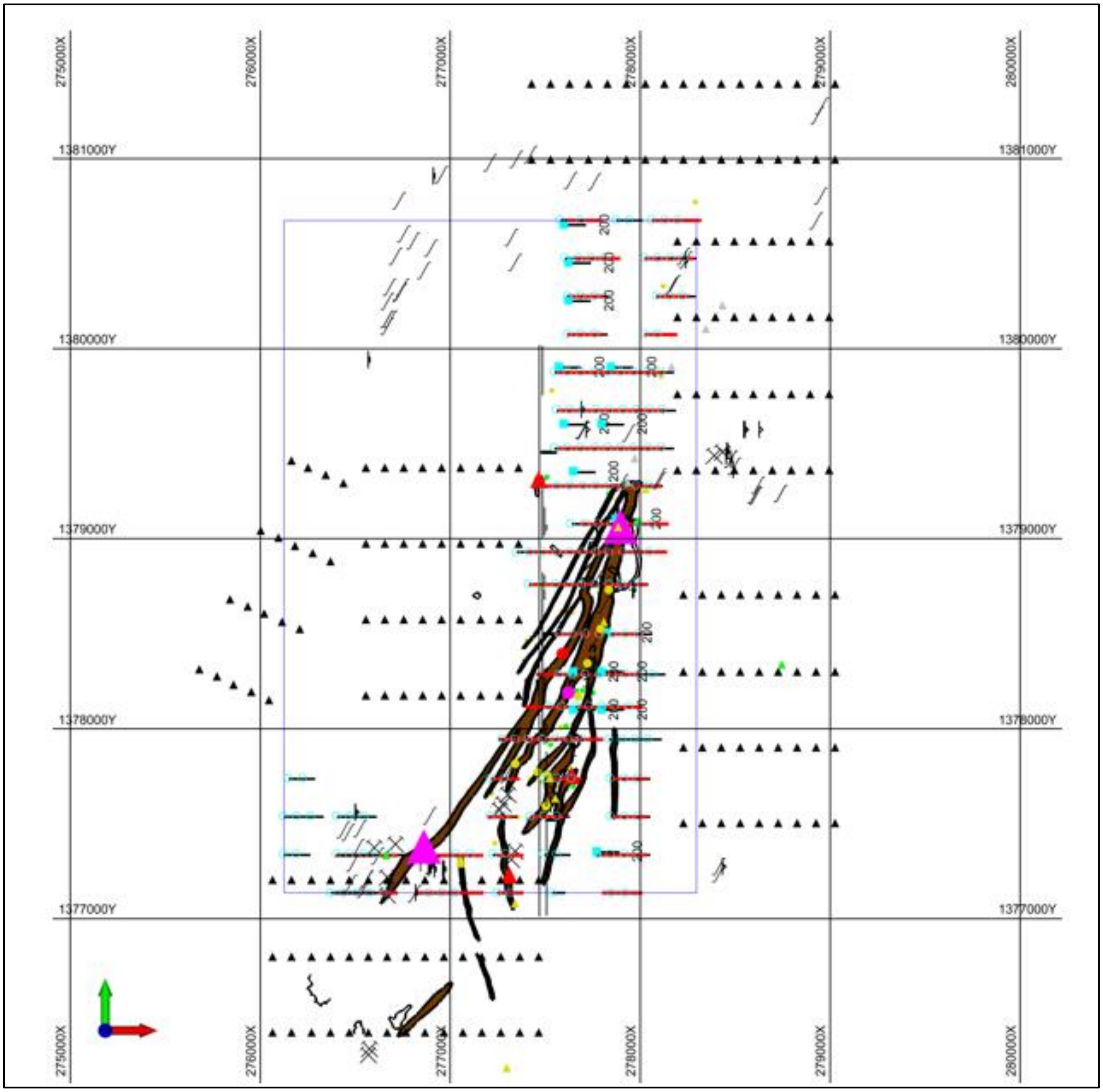



**Figure 26.1: Recommended Phase 1 RC drill program in Mamoudouya gold mineralization**

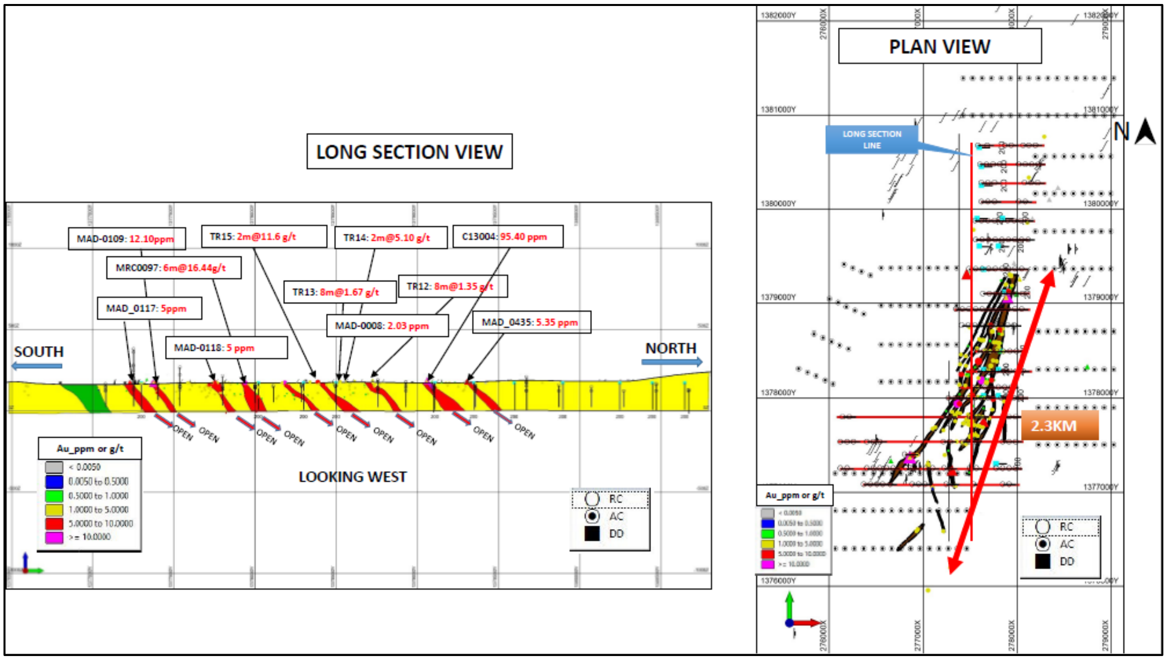



**Figure 26.2: Long section view of Recommended RC drill program in Mamoudouya gold mineralization**

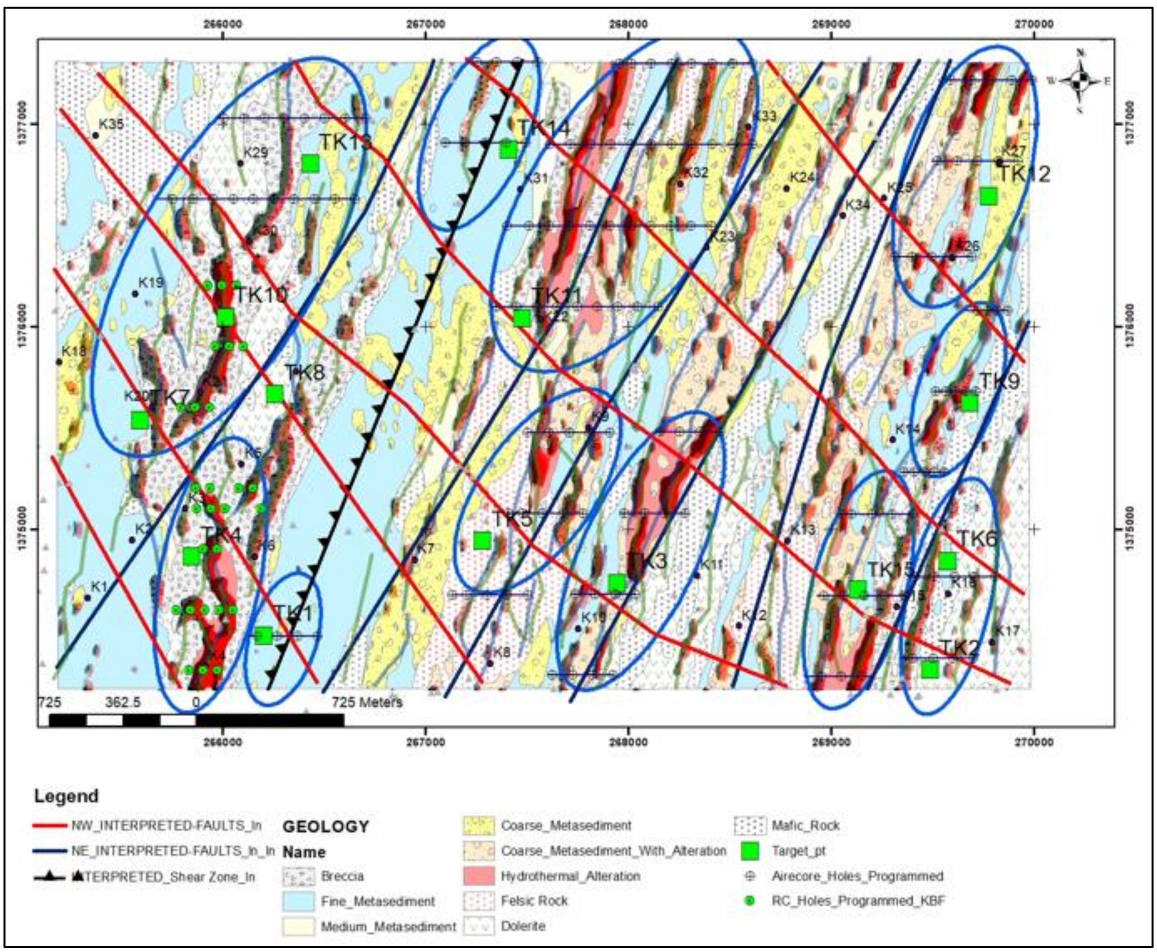



**Figure 26.3: Recommended Phase II drill program in Kabafing prospect**

## 26.2. RECOMMENDED BUDGET

Detailed costs were provided by Waraba and were applied to the various categories in the estimated budget in Table 27.2. BGR-Consult considers these costs to be reasonable and in line with current costs in the region. Costs for the recommended work program are based on an estimated completion time of 12 months. An approximate 1-year recommended exploration budget of approximately 3M US$ is outlined in the following Table based on a systematic exploration program as recommended above.

| Table 26.1<br>Exploration Budget | | | |
|---|---|---|---|
| **Item** | **Phase 1: (US$)** | **Phase 2: (US$)** | **TOTAL (US$)** |
| RC | $1,602,000 | $243,000 | $1,845,000 |
| Air Core | $144,200 | $106,400 | $106,400 |
| Sample Analysis (Including QA/QC) | $359,600 | $88,630 | $448,230 |
| Staff salary, accomodation & logistics | $327,600 | $80,743 | $408,343 |
| **Total:** | $2,433,400 | $518,773 | $2,952,173 |

**Table 26.1: Recommended Exploration Budget for the Maligonga-East permit**

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# 28. DATE AND SIGNATURE PAGE

The effective date of this Technical Report, entitled "Independent Technical Report on the Maligonga-East Gold Project - Kéniéba –Mali West – West Africa", is 18th November, 2022

For
**BIRIMA GOLD RESOURCES CONSULTING**
S09/Hann Mariste II - Dakar Senegal
N.I.N.E.A 007 054 521 - Register No SN DKR 2018 A 27289

*/S/ Signed and Sealed Olufemi Ajayi*

**Olufemi Ajayi**
MAIG (Membership Number 7790)
Consulting Geologist for BGR-Consult
BSc. Geology, Federal University of Technology, Minna, Nigeria
Tel +2348033668482 Email. femaj88@yahoo.com

# 29. CERTIFICATE OF QUALIFIED PERSON

**Olufemi Ajayi, Bsc. (Geo), MAIG**

**I, Olufemi Ajayi BSC. (Geo) as a qualified person for this report entitled "Independent Technical Report on the Maligonga, East Gold Project" prepared for WARABA Gold Limited and dated 18 November, 2022, do hereby certify that**

1. I am a senior consulting Geologist with Birima Gold Resources, S09/Hann Mariste II Dakar Senegal, N.I.N.E.A. 007 054 521 – Register No SN DKR 2018 A 27289

2. I am a graduate of the Federal University of Technology, Minna, Nigeria, with a Bsc. In Geology (2007).

3. I am registered as a member of the Australian Institute of Geoscientists (MAIG) #7790. I have worked as an Exploration Geologist for a total of 14 years since my graduation My relevant experience for the purpose of the Technical Report includes: -Review and report as a geology consultant involved in numerous consulting and mineral exploration assignments including project technical evaluations, technical report preparation for the purposes of project financing and fund raisings, regulatory reporting, IPO and due diligence reviews on projects in West Africa..

4. I have read the definition of 'Qualified Person' as set out in NI43-101 and certify that by reason of my education and affiliation with a professional association (as defined in NI43-101), I fulfil the requirements to be a 'Qualified Person' for the purposes of NI43-101.

5. I have visited the Maligonga East Gold Project between 26 September and 2 October 2021

6. I am responsible for all Sections of the Technical Report entitled 'National Instrument 43-101 Independent Technical Report on the **Maligonga East Gold Project**

7. I am independent of the issuer, the Maligonga East Gold Project and any/ all former owners applying the tests in Section 1.5 of NI43-101; and

8. I have had no prior involvement with the property that is the subject of the Technical Report.

9. I have read NI43-101, and the Technical Report has been prepared in compliance with NI43-101and Form 43-101F1

10. At the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated 18th November, 2022. Accra, Ghana

SIGNED BY Olufemi Ajayi

# APPENDIX

## Appendix 1: Land Tenure Documents

Here in are copies of the Arêtes granted to GONKA GOLD MALI SARL for the Maligonga-East permit

**MINISTERE DES MINES, DE L'ENERGIE ET DE L'EAU**
--------------
**SECRETARIAT GENERAL**
-------------

**REPUBLIQUE DU MALI**
**UN PEUPLE - UN BUT - UNE FOI**
-------------

SECRETARIAT GENERAL DU GOUVERNEMENT DLTG - OK

**ARRETE N°2021-3047/MMEE-SG DU** 17 AOUT 2021

**AUTORISANT LA CESSION A LA SOCIETE GONKA GOLD MALI SARL DU PERMIS DE RECHERCHE D'OR ET DES SUBSTANCES MINERALES DU GROUPE 2 ATTRIBUE A LA SOCIETE FOKOLORE MINING SARL A MALIGONGA-EST (CERCLE DE KENIEBA)**

**LE MINISTRE DES MINES, DE L'ENERGIE ET DE L'EAU,**

Vu la Constitution ;

Vu la Charte de la Transition ;

Vu l'Ordonnance n°2019-022/ P-RM du 27 septembre 2019 portant Code Minier ;

Vu le Décret n°2020-0177/PT-RM du 12 novembre 2020, fixant les conditions et les modalités d'application du Code Minier ;

Vu le Décret n°2021-0385/PT-RM du 11 juin 2021 portant nomination des membres du Gouvernement ;

Vu l'Arrêté n°2016-2006/MM-SG du 10 juin 2016 portant attribution à la société **FOKOLORE MINING SARL** d'un permis de recherche pour l'or et les substances minérales du groupe 2 dans le secteur de Maligonga-Est, (Cercle de Kéniéba), puis renouvelé par Arrêté n°2019-3357/MMP-SG du 11 octobre 2019 ;

Vu le récépissé de versement n°2021-00327/DEL du 13 avril 2021 de la taxe de plus-value de cession ;

Vu le récépissé de versement n°2021-00325/DEL du 13 avril 2021 de la taxe de cession ;

Vu le reçu de versement PDRM N°003/2021 du 12 avril 2021 relatif au frais de transfert d'un permis de recherche ;

Vu le contrat de cession signé le **1er Décembre 2020**, entre les **Société FOKOLORE MINING SARL** et **GONKA GOLD MALI SARL,**

Vu la lettre formulée par Monsieur Amadou B. CISSE en date du 06 mai 2021, en sa qualité de Gérant de la Société **FOKOLORE MINING SARL** demandant la cession du permis de recherche de Maligonga-Est au profit de la Société **GONKA GOLD MALI SARL**;

SECRETARIAT GENERAL DU GOUVERNEMENT DLTG - OK

**ARRETE :**

**ARTICLE 1er** : La Société **FOKOLORE MINING SARL** est autorisée à céder au profit de la Société **GONKA GOLD MALI SARL,** le permis de recherche pour l'or et les substances minérales du groupe 2 qui lui a été attribuée par arrêté n°2016-2006/MM-SG du 10 juin 2016, puis renouvelé par Arrêté n°2019-3357/MMP-SG du 11 octobre 2019.

**ARTICLE 2** : La Société **GONKA GOLD MALI SARL** bénéficie des droits et est soumise à toutes les obligations législatives et réglementaires ainsi qu'aux engagements souscrits par la Société **FOKOLORE MINING SARL.**

**ARTICLE 3** : La présente autorisation de cession est valable pour le reste de la durée prévue à l'Arrêté n°2019-3357/MMP-SG du 11 octobre 2019.

**ARTICLE 4** : Le présent arrêté sera enregistré, communiqué et publié partout où besoin sera.

**AMPLIATIONS :**

- Original.....................................................1
- PT-CNT-Cour Sup-Cour Const-CESC- SGG-HCC-HCJ..........................8
- PRIM et tous Ministères.......................26
- Tous Gouverneurs de Régions..........20
- Vérificateur Général.............................1
- Toutes Dtions Nles MMEE...................3
- DGD-DGI-DGCCC.................................3
- Cercle de Kéniéba.................................1
- Intéressé + Dossier...............................2
- Archives..................................................1
- JO ...........................................................1

Bamako, le 17 AOUT 2021

[redacted]

**Lamine Seydou TRAORE**

Included herein are copies of the Arêtes granted to FOKOLORE MINING SARL for the Maligonga-East

| | |
|---|---|
| **MINISTERE DES MINES, DE L'ENERGIE ET DE L'EAU** | **REPUBLIQUE DU MALI** |
| ------------- | **UN PEUPLE - UN BUT - UNE FOI** |
| **SECRETARIAT GENERAL** | ------------- |
| ------------- | |

SECRETARIAT GENERAL
DU GOUVERNEMENT
DLTG - OK

**ARRETE N°2021-3047/MMEE-SG DU** 17 AOUT 2021

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Vu le récépissé de versement n°2021-00325/DEL du 13 avril 2021 de la taxe de cession ;

Vu le reçu de versement PDRM N°003/2021 du 12 avril 2021 relatif au frais de transfert d'un permis de recherche ;

Vu le contrat de cession signé le **1er Décembre 2020**, entre les **Société FOKOLORE MINING SARL** et **GONKA GOLD MALI SARL,**

Vu la lettre formulée par Monsieur Amadou B. CISSE en date du 06 mai 2021, en sa qualité de Gérant de la Société **FOKOLORE MINING SARL** demandant la cession du permis de recherche de Maligonga-Est au profit de la Société **GONKA GOLD MALI SARL**;

permit

## Coordonnées du périmètre

**Point A :** Intersection du parallèle 12° 27' 03" N et du méridien 11° 10' 02" W
du point A au point B suivant le parallèle 12° 27' 03" N ;

**Point B :** Intersection du parallèle 12° 27' 03" N et du méridien 11° 05' 54" W
du point B au point C suivant le méridien 11° 05' 54" W;

**Point C :** Intersection du parallèle 12° 29' 28" N et du méridien 11° 05' 54" W
du point C au point D suivant le parallèle 12° 29' 28" N;

**Point D :** Intersection du parallèle 12° 29' 28" N et du méridien 11° 04' 00" W
du point D au point E suivant le méridien 11° 04' 00" W;

**Point E :** Intersection du parallèle 12° 31' 27" N et du méridien 11° 04' 00" W
du point E au point F suivant le parallèle 12° 31' 27" N ;

**Point F :** Intersection du parallèle 12° 31' 27" N et du méridien 11° 02' 00" W
du point F au point G suivant le méridien 11° 02' 00" W;

**Point G:** Intersection du parallèle 12° 26' 00" N et du méridien 11° 02' 00" W
du point G au point H suivant le parallèle 12° 26' 00"N;

**Point H :** Intersection du parallèle 12° 26' 00"N et du méridien 11° 00' 20" W
du point H au point I suivant le méridien 11° 00' 20" W;

**Point I :** Intersection du parallèle 12° 23' 02" N et du méridien 11° 00' 20" W
du point I au point J suivant le parallèle 12° 23' 02" N ;

**Point J :** Intersection du parallèle 12° 23' 02" N et du méridien 11° 00' 51" W
du point J au point K suivant le méridien 11° 00' 51" W;

**Point K :** Intersection du parallèle 12° 23' 57"N et du méridien 11° 00' 51" W
du point K au point L suivant le parallèle 12° 23' 57"N;

**Point L :** Intersection du parallèle 12° 23' 57"N et du méridien 11° 01' 48" W
du point L au point M suivant le méridien 11° 01' 48" W;

**Point M :** Intersection du parallèle 12° 25' 42" N et du méridien 11° 01' 48" W
du point M au point N suivant le parallèle 12° 25' 42" N ;

**Point N :** Intersection du parallèle 12° 25' 42" N et du méridien 11° 02' 13" W
du point N au point O suivant le méridien 11° 02' 13" W;

**Point O:** Intersection du parallèle 12° 26' 00" N et du méridien 11° 02' 13" W
du point O au point P suivant le parallèle 12° 26' 00"N;

**Point P** : Intersection du parallèle 12° 26' 00"N et du méridien 11° 03' 05" W
du point P au point Q suivant le méridien 11° 03' 05" W;

**Point Q** : Intersection du parallèle 12° 23' 52" N et du méridien 11° 03' 05" W
du point Q au point R suivant le parallèle 12° 23' 52" N ;

**Point R** : Intersection du parallèle 12° 23' 52" N et du méridien 11° 04' 00" W
du point R au point S suivant le méridien 11° 04' 00" W;

**Point S** : Intersection du parallèle 12° 25' 16" N et du méridien 11° 04' 00" W
du point S au point T suivant le parallèle 12° 25' 16"N;

**Point T:** Intersection du parallèle 12° 25' 16"N et du méridien 11° 10' 02" W
du point T au point A suivant le méridien 11° 10' 02" W;

**Superficie: 100 Km²**

**ARTICLE 3** : La durée de ce permis est de deux (2) ans, renouvelable une fois à la demande du titulaire.

**ARTICLE 4** : En cas de découverte de gisement économiquement exploitable au cours de la validité du présent permis, le Gouvernement s'engage à octroyer au titulaire un permis d'exploitation à l'intérieur du périmètre couvert par ce permis.

**ARTICLE 5** : La Société **FOKOLORE MINING SARL** est tenue de présenter au Directeur National de la Géologie et des Mines :

1. dans le mois qui suit l'octroi du permis, le programme de travail actualisé et le budget y afférent ;
2. avant le premier décembre de chaque année, le programme de travaux de l'année suivante et les dépenses y afférentes ;
3. les rapports périodiques suivants :

   (i) dans la 1ère quinzaine de chaque trimestre, un rapport trimestriel établissant de façon succincte son activité au cours du trimestre précédent ;

   (ii) dans le 1er trimestre de chaque année, un rapport annuel exposant de façon détaillée les activités et les résultats obtenus au cours de l'année précédente.

Chaque rapport doit contenir toutes les données, observations et mesures recueillies sur le terrain, les descriptions de la manière dont elles ont été recueillies et les interprétations y relatives.

Le rapport trimestriel traite du résumé des travaux et des résultats obtenus et comporte :

- la situation et le plan de positionnement des travaux programmés et ceux exécutés avec leurs coordonnées ;
- la description sommaire des travaux avec indication du volume par nature des travaux, observations de terrain avec coordonnées des points d'observations et

différentes mesures effectuées ;
- les éléments statistiques des travaux ;
- les résultats obtenus et si possible l'ébauche des interprétations ;
- les dépenses discriminées du coût des travaux.

Le rapport annuel traite en détail de :

- la situation et le plan de positionnement des travaux effectivement réalisés ;
- la description des travaux avec les renseignements suivants :

* Pour les sondages et puits : logs et numéro de sondage ou de puits, nom du site, coordonnées, direction par rapport au nord astronomique, inclinaison, longueur, plan et coupe verticale (profil), taux de récupération des carottes ;

* Pour les tranchées : dimensions, logs, méthodes de prélèvement des échantillons ;

* Pour les indices, gisements et placers : nom, coordonnées du centre, encaissant avec direction structurale des couches, direction de son grand axe d'allongement, dimensions et forme (pendage s'il s'agit de filon), type de gisement, sa structure, les réserves avec catégorisation, paramètres et méthode de calcul du tonnage ;

* Pour les levés géologiques : carte de positionnement des affleurements visités, description lithologique, observations structurales recueillies, minéralisations observées avec indication des coordonnées géographiques ;

* Pour les levés géochimiques : carte de positionnement des points de prélèvement, maille et profondeur de prélèvement des échantillons, méthode de traitement des échantillons, résultats des analyses et interprétations des résultats.

Les données géochimiques doivent être fournies en version numérique dans une base de données ACCESS, Dbase ou compatible ;

* Pour les levés géophysiques : méthode utilisée, maille et nombre de points de mesure, résultats et interprétations des données.

Les données géophysiques magnétiques doivent être fournies en version numérique sur une base de données.

Les données brutes et les dépenses discriminées du coût des travaux doivent être annexées au rapport.

ARTICLE 6 : Dans le cas où la Société **FOKOLORE MINING SARL** passerait un contrat d'exécution avec des tiers, le Gérant devra aviser officiellement la Direction Nationale de la Géologie et des Mines et est tenu de fournir une copie de ce contrat.

ARTICLE 7 : Ce permis est soumis aux obligations de la loi minière en vigueur et aux dispositions de la convention d'établissement établie entre la République du Mali et la Société **FOKOLORE MINING SARL** qui ne seraient pas contraires à ladite loi.

**ARTICLE 8** : Ce permis est accordé sous réserve de l'exactitude des déclarations et renseignements fournis par la Société **FOKOLORE MINING SARL** et des droits miniers antérieurement accordés, sauf erreur de cartes.

**ARTICLE 9 :** Le présent arrêté prend effet à compter du 10 juin 2019.

**ARTICLE 10** : Le Directeur National de la Géologie et des Mines est chargé de l'exécution du présent arrêté qui sera enregistré, publié et communiqué partout où besoin sera.

Bamako, le 11 OCT. 2019

[redacted]

**Madame LELENTA Hawa Baba BA**
***Chevalier de l'Ordre National***

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