NI 43-101 Technical Report
Tienko Project, Republic of Ivory Coast

Issued and Signed Date: September 30, 2021

Effective Date: July 5th 2021

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List of Abbreviations

AAS	Atomic absorption spectrometry
AC	Aircore drilling
Ag	Chemical symbol for silver
AMIS	Artisanal small-scale mining
ASM	Artisanal small-scale mining
Ag	Chemical symbol for silver
Au	Chemical symbol for gold
As	Chemical symbol for arsenic
CIM	Commission Inter Ministeriel
CRM	Certified reference material
DD	Diamond drilling
g/t	Grams per metric tonne
JV	Joint Venture
LILE	Large ion lithophile elements
Ma	Million years ago
OHL	Overhead line
oz	Troy ounce
PL	Prospecting License
PR	Permit Application
QAQC	Quality assurance and quality control
RAB	Rotary airblast drilling
RC	Reverse circulation drilling
S	Chemical symbol for sulphur
SAMREC	The South African Mineral Resource Committee
SAR	X-band synthetic aperture radar
SODECI	Water distribution company of Ivory Coast
SODEMI	Societe pour le Development Minier de la Cote d'Ivoire
SRTM-X	Shuttle radar topography mission data
t	Metric tonne
TMI	Total magnetic intensity map
TTG	Tonalite-trondhjemite-granodiorite
TSX	Toronto Stock Exchange
UTM	Universal transverse mercator
WAME	West African Mineral Exploration Sarl

List of Definitions

Adjacent Property	(a) in which the issuer does not have an interest; (b) that has a boundary reasonably proximate to the property being reported on; and (c) that has geological characteristics similar to those of the property being reported on;
Aircore (AC) drilling	Steel or tungsten blades bore a hole into unconsolidated ground. The drill cuttings are removed by the injection of compressed air into the hole. This method of drilling is used to drill the weathered regolith as the drill rig and steel or tungsten blades cannot penetrate fresh rock. Where possible, air-core drilling is preferred over RAB drilling as it provides a more representative sample
Alteration	Changes in the mineralogical composition of a rock as a result of physical or chemical processes such as weathering or penetration by hydrothermal fluids
Anastomosing	(Of veins) branching and closing to form a network
Anomaly (geochemical)	An above-average concentration of a chemical element in a sample of rock, soil, vegetation, stream, or sediment; indicative of nearby mineral deposit.
Archaean	Belonging to the geological period between about 2 500 and 4 000 million years ago
Argillite	A fine-grained sedimentary rock composed predominantly of indurated clay particles. They contain variable amounts of silt-sized particles

Atomic absorption spectrometry (AAS)	Detects elements in either liquid or solid samples through the application of characteristic wavelengths of electromagnetic radiation from a light source.
Basement	The rocks below a sedimentary platform or cover, or more generally any rock below sedimentary rocks or sedimentary basins that are metamorphic or igneous in origin.
Birimian	Located in the southern part of the West African craton. A mix of metamorphosed volcanic, sedimentary, and plutonic rocks and low-grade metavolcanics and metasediments. The rocks formed over a period of about 50 million years between 2.200 Ga and 2.100 Ga
Blank	Used to monitor contamination. They are made of local non-mineralised rock
Cretaceous	A geologic period and system from circa 145 to 65 million years ago
Data Verification	The process of confirming that data has been generated with proper procedures, has been accurately transcribed from the original source and is suitable to be used
Diorite	A grey to dark grey intermediate intrusive igneous rock composed principally of plagioclase feldspar (typically andesine), biotite, hornblende, and/or pyroxene.
Dyke	A type of sheet intrusion referring to any geologic body that cuts discordantly across pre-existing rocks
Eburnean orogeny	A series of tectonic, metamorphic and plutonic events in West Africa during the Paleoproterozoic era approximately 2200–2000 million years ago. During this period the Birimian domain in West Africa was established and structured
Felsic	Relating to an igneous rock composed mainly of pale-coloured minerals including feldspars and silica

Fire Assay	Lead collection fire assay using carefully selected fluxes specially formulated for the mineralogy of each sample type. Samples submitted for ppb detection of gold are fused in a dedicated low level furnace, the resultant prill digested and gold content determined typically by AAS.
Gangue	Uneconomic material that surrounds, or is closely mixed with ore
Georeference	Establishing location in terms of map projections or coordinate systems
Gneiss	A high grade metamorphic rock type characterized by banding caused by segregation of minerals, typically light and dark silicates. The term is an indication of texture rather than an indication of specific mineral composition.
Gossan	Intensely oxidized, weathered or decomposed rock, usually the upper and exposed part of an ore deposit or mineral vein
Granodiorite	An intrusive igneous rock with a quartz content of between 20 and 60% and a higher plagioclase than alkali feldspar content together with biotite and/or hornblende Granitoid A generic term for a diverse collection of coarse-grained igneous rocks that consist predominantly of quartz, plagioclase, and alkali feldspar
Greenschist	A metamorphic rock comprising green minerals such as chlorite, epidote and actinolite in parallel orientation item[Greenstone belts] Zones of variably metamorphosed mafic to ultramafic volcanic sequences with associated sedimentary rocks that occur within Archaean and Proterozoic cratons between granite and gneiss bodies.
Ground magnetic survey	A geophysical method employed in locating subsurface magnetic materials for possible exploration
Hydrothermal	Relating to or caused by a hot watery fluid

Intrusive An igneous rock that formed from magma that cooled and solidified within the Earth's crust

Laterite A clayey soil horizon rich in iron and aluminium oxides, formed by weathering of igneous rocks in moist warm climates.

Lithology Rock type item[Mafic] Relating to an igneous rock composed primarily of dark-coloured magnesium- and iron-rich minerals

Magnetic survey Geophysical survey measuring the magnetic field intensity of rocks at various stations

Mesothermal Formed at depth at a moderately-high temperature in the range 200-300°C

Metamorphic Relating to changes at depth in the mineral and chemical composition and texture of a solid rock caused by heat, pressure, chemical environment and shear stress

Metasediment A sedimentary rock that has shows evidence of having been subjected to metamorphism

Metasomatism The chemical alteration of a rock by hydrothermal and other fluids

Metavolcanic A volcanic rock that has shows evidence of having been subjected to metamorphism

Mineral Resource A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

Mineralisation The process by which minerals are introduced into a rock resulting in the formation a mineral deposit

Neoproterozoic	A period of geological history at the end of the Proterozoic eon, dating from about 1 000 to 540 million years ago
Orogenic	Relating to the formation of structures such as folds and thrusts during a period of mountain-building
Palaeoproterzoic	Era spanning the time period from 2500 to 1600 Ma (2.5-1.6 Ga), is the first of the three sub-divisions (eras) of the Proterozoic Eon. Pan-African Relating to a collisional mountain-building event between about 750 and 550 million years ago
Pegmatite	A coarse-grained intrusive igneous rock composed of interlocking grains usually larger than 25mm in size; typically composed of quartz, feldspar and mica (granite composition)
Pluton	An intrusive igneous rock (called a plutonic rock) body that crystallized from magma slowly cooling below the surface of the Earth.
Porphyritic	A igneous rock texture with larger mineral grains (phenocrysts) set in a matrix of samller grains
Porphyry	A variety of igneous rock consisting of large-grained crystals, such as feldspar
Precambrian	The span of geological time between formation of the Earth around 4500 Ma (million years ago) to the begnning of the Cambrian, around 542 Ma
Proterozoic	A period of geological history dating from about 2 500 to 540 million years ago, subdivided into the Palaeo-, Meso- and Neoproterozoic
Puddingstone	A conglomerate rock in which dark-coloured round pebbles contrast with a paler fine-grained (often sandy) matrix
Pyrite	A bronze- or yellow-coloured iron sulphide mineral (FeS2) which commonly forms cubes
Pyrrhotite	A reddish-brown, sometimes magnetic iron sulphide mineral which has a defective crystal

	structure from which some ferrous ions are lacking (Fe1-xS)
Qualified Person	An individual who is an engineer or geoscientist with at least five years of experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these; has experience relevant to the subject matter of the mineral project and the technical report; and is a member or licensee in good standing of a professional association.
Reverse Circulation (RC) drilling	One of the three main types of mineral exploration techniques offered by Ranger. Used to compile sample rock cuttings, the drilling process relies on hollow inner tubes to transport samples back to the surface in a continuous flow, using compressed air.
Rotary Air Blast (RAB) drilling	Also known as down-the-hole drilling, this method employs a pneumatic hammer with tungsten "teeth" that chew away the rock surface as the debris is blown up and out through the excess space surrounding the rod
Saprolite	a chemically weathered rock. Saprolites form in the lower zones of soil profiles and represent deep weathering of the bedrock surface. In most outcrops its color comes from ferric compounds
Sinistral	Left lateral movement of blocks along a fault
Soil geochemical surveys	geochemical samples as stream sediments (fine sands), soils (subsoil or saprolite) and rocks (hydrothermal or mineralized alteration rocks) are collected based on the exploration stage, and are sent for chemical analysis
Stockwork	A three-dimensional network of closely spaced planar to irregular veins and veinltes, commonly forming a mineral deposit
Sulphide	A mineral containing sulphur with a metal or semi-metal, e.g. pyrite

Syenite	A group of plutonic rocks containing alkali feldspar (usually orthoclase, microcline, or perthite), a small amount of plagioclase (less than in 'monzonite'), one or more mafic mineral (esp. hornblende), and quartz, if present, only as an accessory (< 5%)
Syntectonic	A geologic process or event occurring during tectonic activity
Tarkwaian Group	Consist of a variety of sandstones, conglomerates and argillites that are found within many of the volcanic belts in West Africa
Technical Report	A report prepared and filed in accordance with this Instrument and Form 43-101F1 Technical Report that does not omit any material scientific and technical information in respect of the subject property as of the date of the filing of the report
Tonalite-Trondjemite-Granodiorite (TTG)	Sodic, quartz-bearing granitic (plutonic) rocks with plagioclase as the most common feldspar, and k-feldspar ranging from subordinate to nearly absent.

Chapter 1

SUMMARY

In June 2021 Goldrange Resources (Goldrange) commissioned various consultants to undertake an Independent Technical Report in compliance with the requirements of the Canadian National Instrument 43-101 (NI 43-101) Standards of Disclosure for Mineral Projects, Companion Policy 43-101 CP to National Instrument 43-101 Standards of Disclosure for Mineral Sources of Information.

This National Instrument (NI 43-101) Technical Report is based on information and data made available by Goldrange, Jofema Mineral Resources Sarl (JOFEMA), MinEx Projects (Pty) Ltd (MinEx), Pangea Exploration (Pangea) and West Africa Mineral Exploration Sarl (WAME) as at 05 July 2021, the latter being the "effective date" of this report. The Technical Report is for the Tienko gold project (the Project) situated in the north western corner of Republic of Côte d'Ivoire (Ivory Coast).

1.1 Property Description and Ownership

The Tienko gold project is located in the north-western corner of Ivory Coast, approximately 860km northwest of Abidjan and 610km northwest of the capital, Yamoussoukro. The Project is situated in the Folon Region and straddles the Departments (districts) of Minignan and Tienko to the east and west respectively. The town of Tienko is the closest precinct to the license area and can be reached on an all-weather sand road from Odienné which can be accessed by tarmac from Abidjan.

The Tienko license PR0886, registered in the Commission Minière (COMINE), covers an area of 343.124km^2. Licence PR0886 is 100% owned by West Africa Mineral Exploration Sarl (WAME), which in turn is held in an option agreement between Goldrange Resources and WAME, whereby Goldrange has an option to ultimately acquire up to 80% interest (of 90%) of the Project. The State has a free participation in each exploitation permit of ten percent (10%). Permit PR0886 is granted for an initial period of 4 years, with the option of 2 renewals for a duration of 3 years each, subject to fulfilment of minimum work and budget commitments.

The project area was explored between 2005 and 2018 under licence PR179 (known as Konela) by Ivorian company, Jofema Mineral Resources Sarl (JOFEMA), whose principal shareholders also constitute two of WAME's main shareholders. In 2018 the Konela licence expired and in 2020 two principals of JOFEMA and two members of their management team formed a new company called West Africa Mineral Exploration Sarl (WAME). The current Tienko license PR0886 was awarded to WAME in August 2021.

1.2 Geology and Mineralisation

The Tienko Project is a typical Birimian orogenic gold deposit occurring within metamorphosed Paleoproterozoic volcano-sedimentary series of the Birimian Supergroup (Birimian) of West Africa (2.2 – 2.1 Ga). These formations are intruded by small granodioritic bodies, as tonalitic dykes.

The regional geology of Ivory Coast forms part of the Man Shield and consists of an Archean nucleus to the west and Paleoproterozoic Birimian units in the central and eastern parts. The Birimian lithostratigraphy and older gneisses and migmatites are intruded by early to post Eburnean granitoids of granodioritic, tonalitic, granitic and syenitic compositions.

The project area is primarily underlain by Birimian volcano-sedimentary rocks. The metasediments are comprised of undifferentiated schists, greywackes, intrusive dykes and are often intercalated with metavolcanics. The central project area comprises biotite-bearing granite, which intruded during the Eburnean orogeny and is surrounded by undifferentiated post-Birimian migmatites. A strong magnetic anomaly is subparallel to this granite migmatite contact.

The Tienko project area is characterized by sparse outcrop of vein quartz, schists (partly silicified), greywake and limited puddingstone in the south. Large areas are covered by laterite, which often form elevated platforms or hills. In places, tributaries to the Baoulé River cut through the meter thick laterite cover and expose some of the underlying Birimian rocks. A steeply dipping regional foliation is well developed with bedding-parallel pervasive schistosity. Mineralisation within the main Konela Corridor appears to be dipping 66deg towards the NE (23deg). Individual lithological units are strongly sheared and folding, faulting and brecciation are locally developed.

It has been demonstrated that significant gold mineralisation similar to that found elsewhere within the Birimian is present in the project area. Quartz veins and veinlets are common throughout the various lithologies. The veins appear to be late stage and occur either parallel to or cross cutting the foliation and shears. Concentrated gold mineralisation within the Tienko project area is primarily hosted in quartz veins within felsic dykes of the Tonalite-Trondhjemite-Granodiorite (TTG) suite and within metasedimentary schists.

Along parts of the main target corridor, mineralisation is also hosted by felsic granitoids that are emplaced along zones of structural weakness. Structurally formed conduits facilitated the mobilization of these gold-bearing fluids.

Three predominant styles of gold mineralisation in the project area. These consist of:

- Shear zone hosted gold mineralisation, where disseminated gold occurs within an altered zone together with narrow quartz vein stringers. This zone includes mineralisation within sheared metasediments (sericite-quartz-chlorite schist) and at places, along a contact zone of metasediments and metavolcanics.
- Quartz vein hosted gold mineralisation
- Granitoid hosted (felsic dyke) gold mineralisation associated with quartz veining

Work done on the Project and related literature suggests that the Tienko deposit represents orogenic gold mineralisation formed during a relatively extensive hydrothermal system, during the tectonism of the Birimian / greenstone belt.

1.3 Exploration

The work undertaken on the entire project area between January 2006 and December 2018 is summarized in Table 1.1. Since 1995, sporadic artisanal gold diggings have occurred in various areas within the project area. These workings are typically coincident with the known anomalies, however new artisanal sites occasionally reveal new potential mineralised zones.

The project area was explored by Normandy LaSource from 2002. This comprised of stream sediment, soil geochemical work and termite mound sampling. Zones of elevated gold in soil values were identified.

Between 2006 to 2011 a systematic exploration program was undertaken by JOFEMA on the Project. This was initiated with the collection and analysis of over 2000 samples from a widely spaced geochemical soil sampling grid. Anomalous corridors of mineralised zones to the north and south of the Baoulé River were delineated and subsequently followed up by mapping, infill sampling, ground magnetic work, trenching and drilling. Five trenches were dug and four diamond core boreholes were drilled. A limited ground magnetic survey was conducted over three grids.

Following a comprehensive review of all results the main exploration focus post 2010 was on the target corridor north of the Baoulé River. Mineralised zones; inclusive of F2, F3, F1, Manda, Kehi and Nabagala were evaluated. This follow-up campaign predominately involved Rotary Airblast (RAB), Aircore (AC) and Reverse Circulation (RC) drilling to test these anomalies at depth. The AC and RAB samples were analysed for gold by fire assay at either ALS Chemex Laboratory (ALS) in Bamako or Bureau Veritas Laboratories in Abidjan. All RC samples were assayed for gold by fire assay at SGS Burkina Faso SA laboratory in Ouagadougou.

The Tienko Project drill hole database, with an effective date of January 2018, consists of a combined total of 718 holes for approximately 26,410 m inclusive of RAB, AC, RC and DD holes. No further drilling nor field exploration work has since been conducted on the project area.

Work undertaken on PR0886	
ACTIVITY	**DETAILS**
Geochemical Sampling	
1000m x 500m sampling (fire assay) 200m x 50m and 100m x 50m sampling 10m definition sampling Rock Samples 400m x 50m BLEG sampling 200m x 50m BLEG Infill sampling and other test sampling	2084 samples including field duplicates 5104 samples including field duplicates 208 samples including field duplicates 36 samples 3438 samples 3016 samples
Stream Sediment Sampling	
200m x 50m Stream sediment sampling	307 samples
Trenching	
7 trenches to a depth of 3m Chip Chanel Samples Samples assayed for gold	576 metres 288 samples 288 samples
BLEG	
Area between F2 and F3 Manda	169 samples 222 samples
Diamond Drilling	
Core Drilling – 4 boreholes KDD-01 KDD-03 KDD-03a KDD-05 Core Assay Standards and Duplicates	A total of 379.34m 90.41m 188.16m 49.26m 51.51m 368 samples 39 samples
Gound Magnetic Work	
F1 Grid F2 Grid F3 Grid	2.2 km^2 (23 line km) 6.2 km^2 (61 line km) 6.25 km^2 (63.5 line km)
RAB	
F1 Zone F2 Zone F3 Zone Kehi Zone	145 holes, 4038 meters 105 holes, 4016 meters 141 holes, 4282 meters 107 holes, 2981 meters
AC	
Area between F2 and F3 Nabagala Manda	32 holes, 1532meters 54 holes, 2167 meters 106 holes, 4908 meters
RC	
F1 Zone F2 Zone F3 Zone Nabagala	6 holes, 570meters 7 holes, 696 meters 8 holes, 725 meters 2 holes, 226 meters
Other	
Soil Mapping Laterite Mapping Road Construction Petrographical work	 Approximately 8 km

TABLE 1.1: Summary of work undertaken in the project area.

Note: The number of samples listed for each activity includes samples submitted for QAQC as per protocols. *Geochemical sampling includes the Madina area to the south of the Baoule River.
Source: JOFEMA Document – Konela Statistics (2018)

1.4 Recommendations and Conclusion

The Tienko project geology and mineralisation styles are reasonably well understood. Zones within the main target corridor show lateral continuity. However, only limited areas were adequately drill tested and additional trenching, RAB, RC and/or core drilling is suggested to further define the best mineralized zones on the Project. This work program should be undertaken in phases. In all cases, advancing to further follow-up work is contingent on positive results from the previous phase.

The Tienko Project clearly demonstrates technical and gold potential merit and it is therefore recommended that the project be further progressed.

Chapter 2

INTRODUCTION

Goldrange Resources is a private Canadian Company, incorporated in accordance with the laws of Canada with an initial focus is on gold projects in West Africa. West African Mineral Exploration SARL (WAME) is a private West African exploration company whose activities are focused in West Africa. WAME was incorporated in accordance with the company laws of Ivory Coast.

2.1 Purpose of Report and Terms of Reference

The authors have been commissioned by Goldrange to prepare a Technical Report on the Company's Tienko Gold Project located in Ivory Coast, in which Goldrange has an option to earn up to 90% interest.The State has a non-contributory free participation in each exploitation company of ten percent (10%)

West Africa Mineral Exploration (WAME), an Ivorian Exploration Company together with the Canadian resource company, Goldrange Resources, plans to explore the Tienko Project situated within districts Minignan to the west and Tienko to the east, in north western Ivory Coast, West Africa.

This Technical Report has been prepared to comply with disclosure and reporting requirements set forth in National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101), Companion Policy 43-101CP, Form 43-101F1 Technical Report.

2.2 Principle Sources of Information

This technical review is based on legacy and more recent information generated by previous companies who worked on the project. This includes Normandy La Source, JOFEMA, MinEx Projects (Pty) Ltd (MinEx), Pangea Exploration Pty Ltd. and WAME. Additional information from reports prepared by qualified professional employees and previous independent consultants along with other relevant published and unpublished data, has been utilised in the compilation of this report.

The Tienko property is considered to represent an “Exploration Project” which is inherently speculative in nature. However, the authors believe that the legacy work conducted on the property is of sound technical merit. Although subject to varying degrees of exploration risk, the property is also considered to be sufficiently prospective and warrants further exploration and assessment of its economic potential. The Project has evolved on the basis of responsible exploration work and the authors consider that there is sufficient technical merit to justify an advanced project development program.

2.3 Cautionary Notes

This Report has been compiled based on information available up to and including the date of the Report. The detailed status of agreements, royalties or tenement standing pertaining to the assets, have not been investigated by contributing consultants and were not required to be. Neither the Consultants nor the authors of this report are qualified to provide extensive legal comment on legal issues associated with any joint venture agreements.

Chapter 3

SITE VISITS AND INSPECTIONS

Due to the COVID-19 global pandemic in 2020 and 2021, and prior to the commencement of this Technical Report, travel restrictions were put in place, that have prevented recent travel to the Project area to date. Despite the requirements for preparation of a NI 43-101 Technical Report, the competent person (CP) and co-author have not recently visited the project site and have relied on the reliable evidence of consulting geologists who recently visited the site since whilst international travel restrictions were in place. Goldrange and the qualified persons are therefore of the opinion that the pandemic qualifies as "exceptional circumstances" under NI 43-101 site visit requirements. The project area was visited by the QP and authors between 2012 and 2015. These earlier site visits allowed for an inspection of roads, access and current exploration activities active at the time. No work has been done in the project area since 2016.

Chapter 4

PROPERTY DESCRIPTION AND LOCATION

4.1 Location

The Tienko project area (Project) is located in north-western Ivory Coast, close to the Mali border and tripoint with Guinea and Mali (Figure 4.1). It is situated in the Folon Region and straddles the Departments (districts) of Minignan and Tienko to the east and west respectively. The closest town to the project area is Tienko, located 2.6km to the east of the licence area.The coordinate system utilized for the Project is the Universal Transverse Mercator (UTM) projection, WGS84, zone 29 north. The license is positioned on the topographical sheet Tienko NC-29-XVII (scale 1:200000) with 10°20′N and 7°40′W defining the centroid of the area.

4.2 Mineral Tenure, Permitting, Rights and Agreements

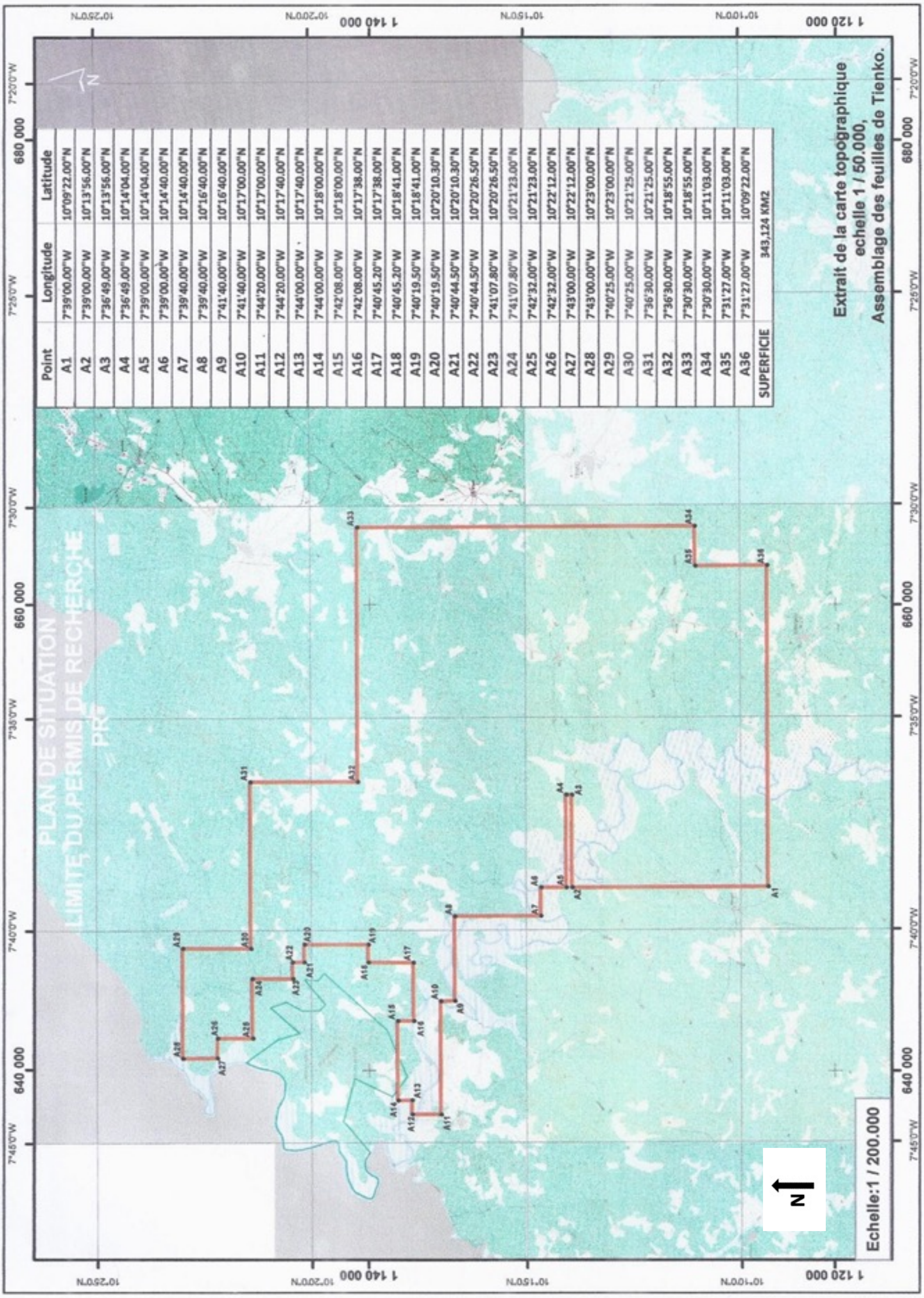
The Tienko permit, is registered under **PR0866** in the Ivorian Mining Cadastre and currently covers an area of 343.124km^2. The Project is 100% owned by WAME Sarl, which in turn is held in an option agreement between Goldrange Resources and West Africa Mineral Exploration.

The CIM (Commission Inter Ministeriel) is in the process of granting the licence certificate. The CIM committee gives their opinion on mining permit applications in Ivory Coast and is comprised of all relevant ministerial departments (Ministry of Mines, Petroleum and Energy, Ministry of Economy and Finances, Ministry of Agriculture and Environment). Once an opinion is classified as favourable, the Ministry of Mines prepares the exploration permit application (PR) for review and approval by the "Conseil du Gouvernement". Successful applications are then granted by the "Conseil des Ministres".

On the 21st of July 2021, a decree for the gold exploration permit PR0866 was granted to West Africa Mineral Exploration SARL (WAME). Permit PR0886 is granted for an initial period of 4 years, with the option of 2 renewals for a duration of 3 years each, subject to fulfilment of minimum work and budget commitments. The issuance of the actual certificate is awaiting final signature by the Minister of Mines.

The licence coordinates and outline are provided below (Figure 4.2)

FIGURE 4.1: Regional location of Tienko Project (demarcated by red star) – map of Ivory Coast.



Point	Longitude	Latitude
A1	7°39'00.00"W	10°09'22.00"N
A2	7°39'00.00"W	10°13'56.00"N
A3	7°36'49.00"W	10°13'56.00"N
A4	7°36'49.00"W	10°14'04.00"N
A5	7°39'00.00"W	10°14'04.00"N
A6	7°39'00.00"W	10°14'40.00"N
A7	7°39'40.00"W	10°14'40.00"N
A8	7°39'40.00"W	10°16'40.00"N
A9	7°41'40.00"W	10°16'40.00"N
A10	7°41'40.00"W	10°17'00.00"N
A11	7°44'20.00"W	10°17'00.00"N
A12	7°44'20.00"W	10°17'40.00"N
A13	7°44'00.00"W	10°17'40.00"N
A14	7°44'00.00"W	10°18'00.00"N
A15	7°42'08.00"W	10°18'00.00"N
A16	7°42'08.00"W	10°17'38.00"N
A17	7°40'45.20"W	10°17'38.00"N
A18	7°40'45.20"W	10°18'41.00"N
A19	7°40'19.50"W	10°18'41.00"N
A20	7°40'19.50"W	10°20'10.30"N
A21	7°40'44.50"W	10°20'10.30"N
A22	7°40'44.50"W	10°20'26.50"N
A23	7°41'07.80"W	10°20'26.50"N
A24	7°41'07.80"W	10°21'23.00"N
A25	7°42'32.00"W	10°21'23.00"N
A26	7°42'32.00"W	10°22'12.00"N
A27	7°43'00.00"W	10°22'12.00"N
A28	7°43'00.00"W	10°23'00.00"N
A29	7°40'25.00"W	10°23'00.00"N
A30	7°40'25.00"W	10°21'25.00"N
A31	7°36'30.00"W	10°21'25.00"N
A32	7°36'30.00"W	10°18'55.00"N
A33	7°30'30.00"W	10°18'55.00"N
A34	7°30'30.00"W	10°11'03.00"N
A35	7°31'27.00"W	10°11'03.00"N
A36	7°31'27.00"W	10°09'22.00"N
SUPERFICIE	343,124 KM2	

FIGURE 4.2: PR0886 licence coordinates and outline (coordinates are in Lat Long and UTM WGS84 Zone 29N).

4.3 Prior and Current Property Ownership

The Tienko Licence is currently owned 100% by West Africa Mineral Exploration. Goldrange has an option to ultimately acquire up to 90% interest of the Tienko project. Legacy licence PR179, traversed most of the same ground as the current Tienko project area. This exploration licence PR179, referred to as "Konela" was awarded in September 2005 to the Ivorian company, Jofema Mineral Resources Sarl (JOFEMA).

In September 2006, JOFEMA entered into a joint venture (JV) with South African company MinEx Projects (Pty) Ltd, to explore the Konela Permit. The Project was 100% owned by JOFEMA Mineral Resources Sarl which was 100% owned by JOFEMA Holdings Limited. In 2010, a joint venture was entered into between South African private company Pangea Exploration Pty Ltd (17.5%), JOFEMA (30%) and MinEx Projects (52.5%). In 2012, Tremont Master Holdings of Denham Capital acquired Pangea Exploration's interest.

JOFEMA's Konela Licence underwent one extension and two renewals between 2010 and 2018. The Konela permit PR179 expired and was relinquished by JOFEMA in 2018. Figure 4.3 below shows the outline of the PR179 licence renewals with their resultant reduced surface areas.

In 2020 a new company West Africa Mineral Exploration (WAME) SARL was registered in Ivory Coast. Two of the four former JOFEMA's principal shareholders are principals of WAME. A new exploration licence application over a similar area to that of Konela PR179 was submitted to the Commission Inter Ministeriel (CIM) in 2020. The decree for a new Licence PR0886 was granted to WAME on 21st July 2021. WAME refers to PR0886 as the Tienko Licence. See ownership structure of the Tienko project (Figure 4.4).

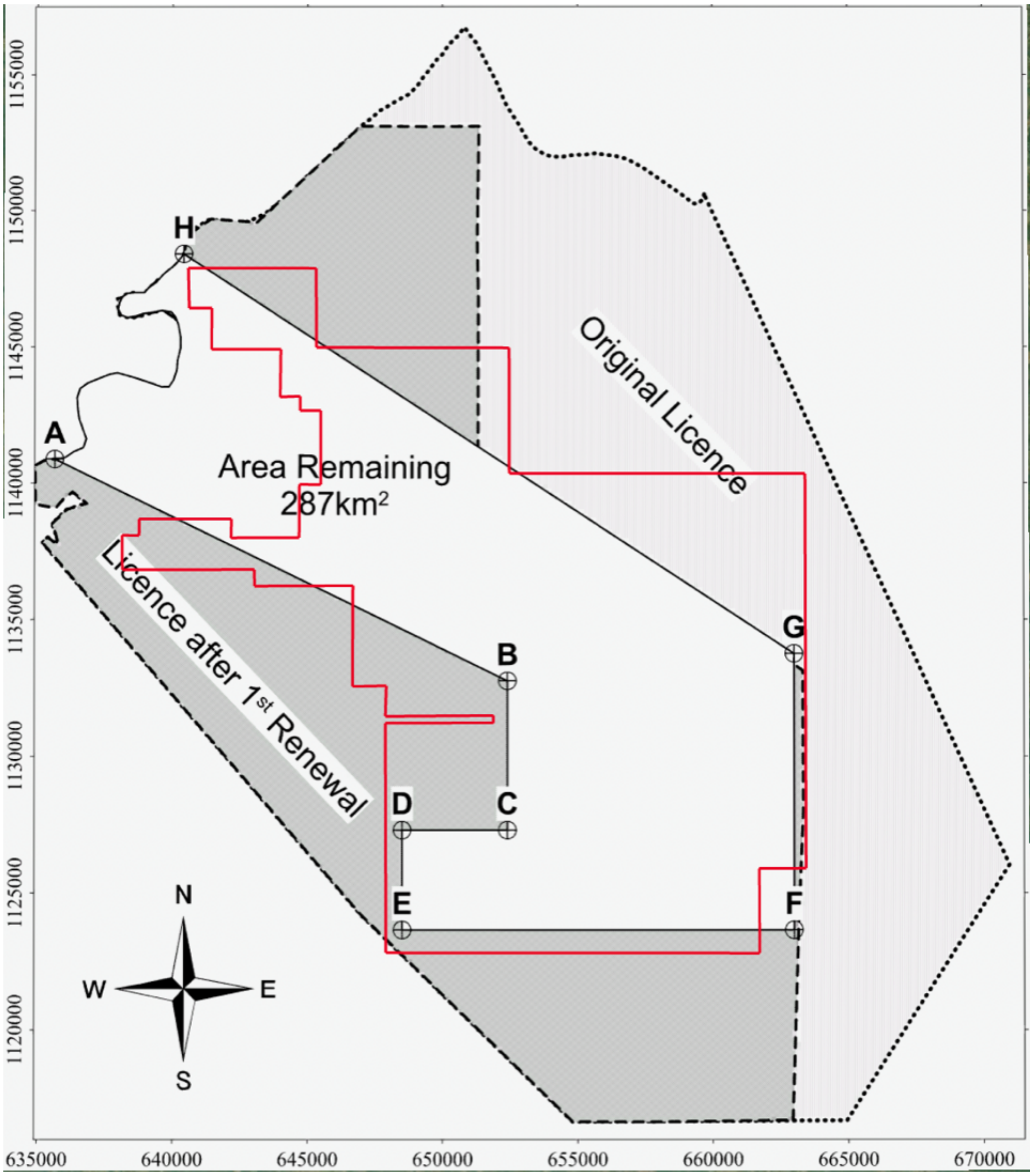


FIGURE 4.3: JOFEMA's Tienko Licence PR0886 and outlines of the PR179 Konela original and renewed licences from 2008 until 2018. The red outline is the newly issued WAME Tienko licence.

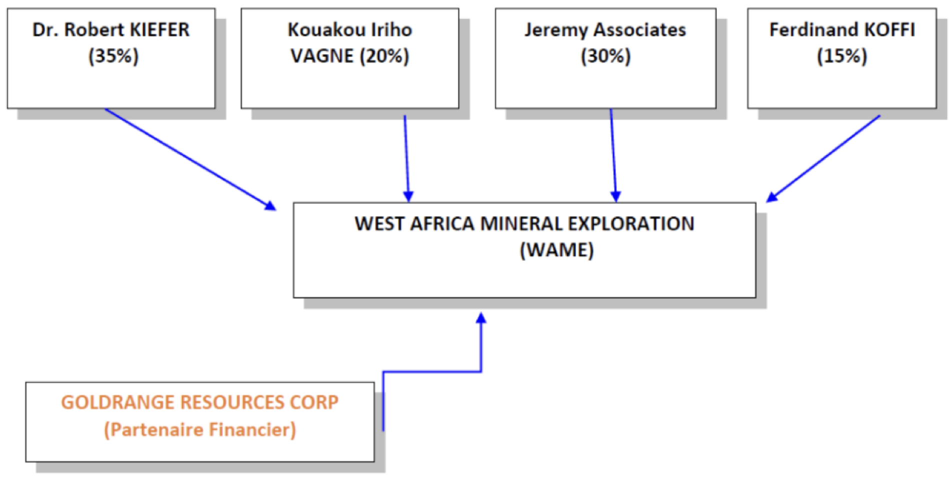


FIGURE 4.4: Ownership structure for the Tienko Gold Project.

The new licence area, PR0886, includes areas previously identified by Jofema whilst exploring on PR179. The Madina area was excluded from the application due to the lower prospectivity of the area. Manda area does not form part of the current licence, but it is understood that this zone will be granted and included once the area is reclassified by the Ivorian Ministry. The Manda region is presently classified as a protected forested area.

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Chapter 5

ACCESSIBILITY, INFRASTRUCTURE, ECONOMY, LOCAL RESOURCES, CLIMATE

5.1 Accessibility

The Tienko Project is located approximately 860km by road from Abidjan and 610km from the capital, Yamoussoukro (Figure 5.1). The Tienko Licence (Tienko) straddles two departments (districts), namely Minignan and Tienko Departments to the east and west respectively. Tienko is the closest town to the license and can be reached from the large town of Odienné via an 90km reasonably good sand road. There are several reasonably accessible sand roads connecting the surrounding small villages to the license area. Odienné can be accessed by good all weather tarmac roads from Abidjan airport.

FIGURE 5.1: Map of Ivory Coast showing roads from Abidjan to Yamoussoukro to the Tienko Project . Blue route is the new toll road.

5.2 Climate, Vegetation and Physiography

The climate at Tienko is generally warm and humid being transitional from equatorial to tropical. Seasons are distinguished by the occurrence of rainfall and a change in wind direction. The climate is of Sudanese type (Figure 5.2), with two distinct seasons, a rainy season and a dry season. The rainy season extends from June to October when rainfall totals between 1100mm and 1200mm with the majority of rainfall occurring during August and September. The dry season extends from October to June with the driest conditions between December to April. The Harmattan, a hot dry wind coming from the Sahara regions, typically blows in December and January and is known to occasionally extent into March. The Harmattan brings prevailing winds and dust clouds, which may occasionally reduce visibility on site. The average relative humidity is 71%. The average temperature of the area is between 25°C and 30°C and can range from 12°C to 39°C. The hottest period of the year occurs during the change of seasons.

The regional vegetation in northern Ivory Coast is characterized by sparse forests and savannah (Figure 5.2). An extensive part of this regional area is covered by seasonal crops. The vast majority of people residing in the project area live off subsistence farming consisting of cotton, cashew nuts, peanuts corn, yams, shea and rice. Rice farming takes place in the low-lying areas, i.e. along tributaries of the Baoulé River. Ivory Coast is one of the world's main producers of cashew nuts. The project area lies within this savannah region, comprising of a large plateau consisting primarily of rolling hills, low-lying vegetation, and scattered trees. The gently rolling plains are occasionally intruded by granite domes and a number of small hills. The Tienko project area predominantly consists of grasslands and occasional of patches of dry scrub. Small plateaux of laterite and limited weathered quartz vein and other rock outcrops are found within the project area. Narrow strips of forest are found in the north of the area, situated along watercourses and drainage lines.

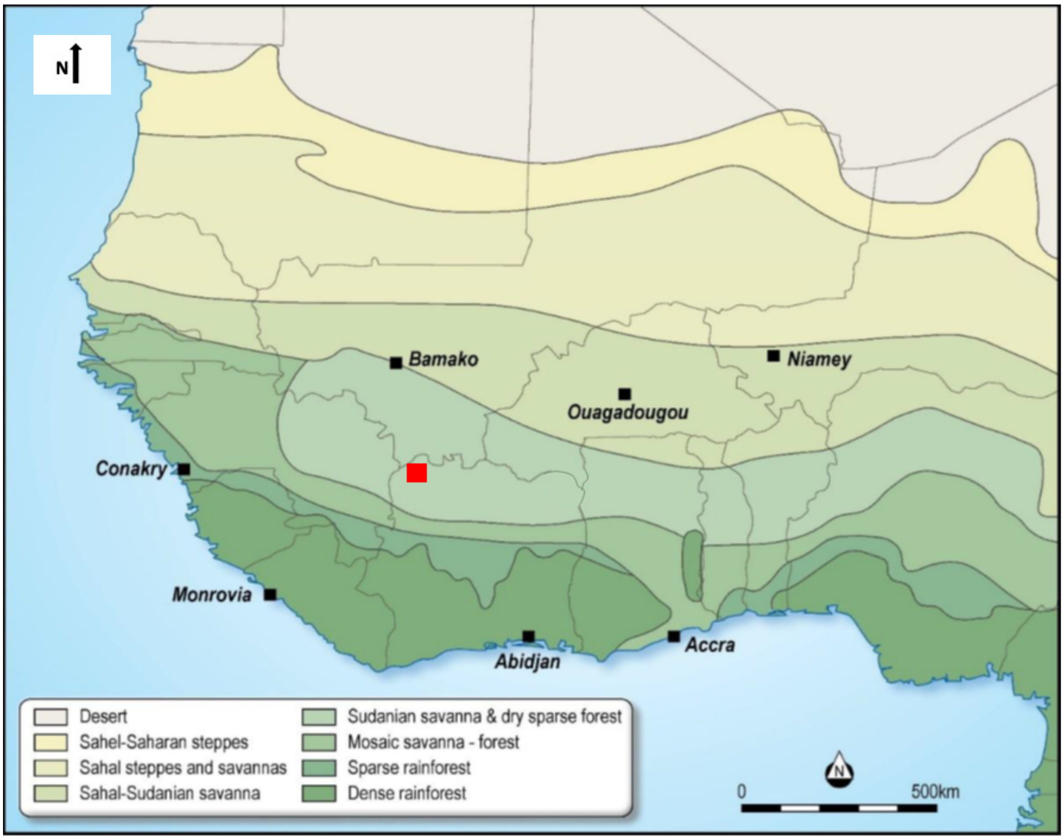

FIGURE 5.2: Vegetation map of West Africa with the red square representing the Tienko Project situated in the zone of Sudanian savanna and dry sparse forest.

The topography of the permit area is comprised of gentle hills with an average elevation of 226m. To the north-west of the license the elevation of the area varies between 339m and 565m above mean sea level. Mount Manda is situated to the west of the Tienko licence and has a 150m increase in elevation in relation to the surrounding area. The forest in this Manda area has been almost completely denuded and the area is now used for agriculture. The Baoule River transects the southern parts of the Licence (Figure 5.3).

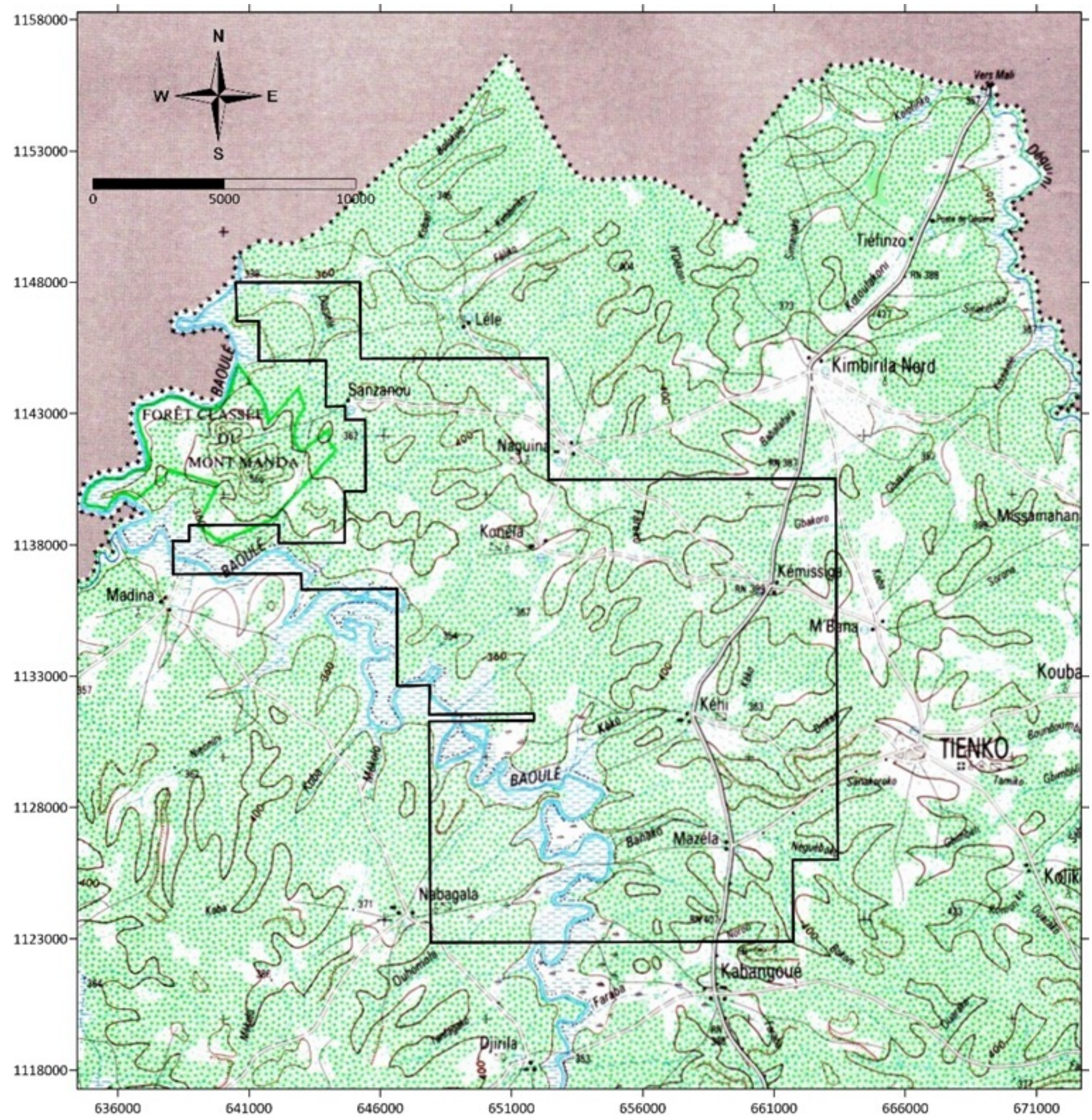

FIGURE 5.3: Topographic map of Tienko permit area within Ivory Coast (1964 ING Topographic Map), showing the outline of the Manda forest.

5.3 Economy, Local Resources and Infrastructure

5.3.1 Economy and Overview

French is the official language in Ivory Coast. It is taught in all schools and serves as a lingua franca in the country. It is however estimated that 70 local languages are also spoken in Ivory Coast. Since 1983, Ivory Coast's capital has been Yamoussoukro, while Abidjan is the administrative and economic capital being the largest city and the home of most foreign embassies.

On the 24th of March 2014 Law No. 2014-138 was implemented in Ivory Coast, establishing the new Mining Code. This Code was shaped by a constant desire to acquire and retain the substantial political and economic stability that in turn provides an environment for the mining sector to grow in. The legal framework aims to establish a balance between the interests of investors and the state, while complying with international local content requirements as well as social and environmental parameters.

Prior to the Covid19 global economic slowdown, the Ivorian mining sector was dynamic with an annual turnover of $\approx$ US$1.4 billion in 2019, compared to US$1.05 billion in 2018. Gold mining remains at the forefront of the mining sector, with an increase of 35% in 2019 to 32.6 tonnes per annum of gold production.

5.3.2 Regional Infrastructure

The country's road network is one of the densest in sub-Saharan Africa. Paved roads have been extended to replace beaten-earth roads, and tolls were introduced on some roads in the mid-1990s. A secondary system of dry-season roads feeds the main roads. Daily local trade is conducted along these innumerable tracks which cross Ivory Coast.

Abidjan has a fully equipped international airport, located at Port-Bouët. Other international airports exist at Bouaké and Yamoussoukro, and regional airports serve smaller areas. The national airline, Air Ivory Coast, serves the country's airports as well as some international destinations.

As western Africa's largest container port, Abidjan has separate docking accommodation for goods requiring special care such as bananas, minerals, and petroleum, for fishermen, and for boatmen who transport goods by canoe. Other ports in the country consist of Sassandra, Tabou, and San-Pédro; the latter port largely handles timber and cocoa exports.

5.3.3 Local Infrastructure and Resources

The Project site is located proximal (2.6km) to the town of Tienko, which falls within the Department (District) of Minignan. Tienko town is endowed with a newly installed water supply system provided by the Water Distribution Company of Ivory Coast (SODECI). This new drinking water project in Côte d'Ivoire is part of the "Water for All" programme set up by the government in 2017 and aims to achieve 100% access to drinking water by 2030. The town of Tienko has access to schooling facilities and a medical center with one resident doctor and over six permanent nurses. The recently built petrol station at Tienko contains both a 20000 litre diesel and 30000 litre gasoline tank.

Water for community consumption is supplied by community pumps and boreholes. Power is supplied through Ivory Coast's national power grid along an overhead line (OHL). Local towns within and proximal to the project area, Kehï, Mazela, Kabangoue, Naguina are on this national electricity grid, with the grid currently being extended to the town of Konela. The grid extends from Kehi to the Malian border.

Telecommunication in the project area varies from poor to good with over 60% network coverage throughout the area. There is good 3G internet coverage in Tienko town with service providers Orange and MTN. The coverage is expected to be upgraded to 4G by 2022. To the west of the Tienko Permit, the Malian telephone network can also be accessed via roaming.

The Tienko project area is secured by a newly established military regiment with over 200 soldiers based in the town of Tienko. The Project is administered by two "sous-prefectures", which encompass:

- Tienko: covering Kehi, Mazela and Kabangoue
- Kimbirila: covering Lele, Sanzanou, Naguina and Konela

5.4 Natural Resources

Ivory Coast has significant oil and natural gas reserves, almost all of which are located offshore. Ivory Coast also has rich deposits of gold, diamonds, iron, manganese, cobalt, bauxite and nickel (5.1). Some of the country's rivers provide a source of hydroelectric energy, with these accounting for almost a quarter of total national power production.

With 49.2% of the population living in rural areas, artisanal mining, agriculture forestry and fishing are major providers of livelihoods. Popular cash crops include cocoa beans, with Ivory Coast being the world's largest producer of cocoa.

Commodity:	***Reserves:***	***Unit:***
Oil	300	million barrels
Gas	1.5	trillion Sft3
Gold	90	million metric tons
Diamonds	11,200,000	carats
Iron	3,000	million metric tons
Manganese	3,000	thousand metric tons
Cobalt		thousand metric tons
Bauxite	1,200	million metric tons
Nikel	390	million metric tons

TABLE 5.1: Commodities and associated reserves of Ivory Coast (2018) (https://eiti.org/cote-divoire).

Chapter 6

GEOLOGICAL SETTING AND MINERALISATION

6.1 Regional Geology

The West African Precambrian shield is comprised of the West African craton and the $\approx$ 600Ma old surrounding Pan-African orogens (Attoh, Evans, and Bickford, 2006). The West African craton (Figure 6.1) has been stable since roughly $\approx$ 2Ga and stretches from Little Atlas Mountains in the north to the Gulf of Guinea in the south (Smith, Henry, and Frost-Killian, 2016). The craton is bounded by younger mobile belts to the west and east, close to the northwestern coast of Africa and along the northward extension of the border between Benin and Nigeria, respectively (Smith, Henry, and Frost-Killian, 2016).

The West Africa craton consists of three metamorphic and magmatic shields, which are separated by two supracratonic sedimentary basins. These shields are comprised of the Archean to Paleoproterozoic Kénéma-Man Shield in the south, the Archean to Paleoproterozoic Reguibat Shield in the north and the Paleoproterozoic Baoulé-Mossi Domain in the far north (Figure 6.1). The majority of Ivory Coast is therefore underlain by rocks of Precambrian age (Archean and Paleoproterozoic). The Precambrian rocks (Figure 6.1) of the Ivory Coast are subdivided into the Archean Kenema-Man domain in the far western portion of the country (around the Man Shield) and the Birimian units in the central and eastern parts ((Griffis et al., 2002; Ennih and Liégeois, 2008; Pouclet, Doumbia, and Vidal, 2006)). The north-south trending Sassandra mylonitic zone separates the two domains. The Kenema-Man domain is composed of Archean granulitic and migmatitic gneisses (>2.7Ga) with subordinate granitoids and relic supracrustal belts (Camil, 1984). The latter have been metamorphosed to granulite facies and consist of banded ironstone formations. Two major tectono-thermal events, namely the younger Leonian orogeny (ca. 3500 – 2900Ma) and the subsequent Liberian orogeny (ca. 2900 – 2500Ma) have affected the Archean Kenema-Man domain rocks in Ivory Coast. These events are, however, poorly constrained.

The Palaeoproterzoic Baoule-Mossi domain (Birimian Supergoup) in eastern and central Ivory Coast is composed predominantly of a linear and arcuate series of NE-SW trending, subparallel volcanic belts and intervening sedimentary basins (Birimian Supergroup).

These formations were deposited and deformed during a major crust-forming event, known as the Eburnean Orogeny (Abouchami et al., 1990, Taylor et al., 1992). The Eburnean tectono-thermal event (between 2.25 and 2.05 Ga) folded and metamorphosed the supra-crustal and syn-volcanic granitoids and is responsible for the formation of high-strain zones close to volcanic belt/sedimentary basin boundaries, as well as major, several 100km-long, N-S trending shear zones of regional importance (Hirdes, Davis, and Eisenlohr, 1992). The volcanic belts primarily consist of low grade metamorphic tholeiitic flow ricks, minor felsic volcaniclastics and occasional syn-volcanic granitoid intrusions and chemical sediments (Attoh, Evans, and Bickford, 2006; Dampare et al., 2008). The basins and locally some of the Greenstone belts were intruded by extensive, late kinematic S-Type granitoid plutons, which vary from tonalite to peraluminous granite. The sedimentary basins are isoclinally folded and metamorphosed (Smith, Henry, and Frost-Killian, 2016). In central Ivory Coast the volcanic belts are not as well developed with limited continuity. The volcanic belts in this central sector have yielded an age of approximately 2100Ma, while those in the eastern sector of the Baoule-Mossi domain are 2190 – 2150Ma. Therefore, it is speculated that two generations of volcanism occurred in the Baoule-Mossi domain of Ivory Coast.

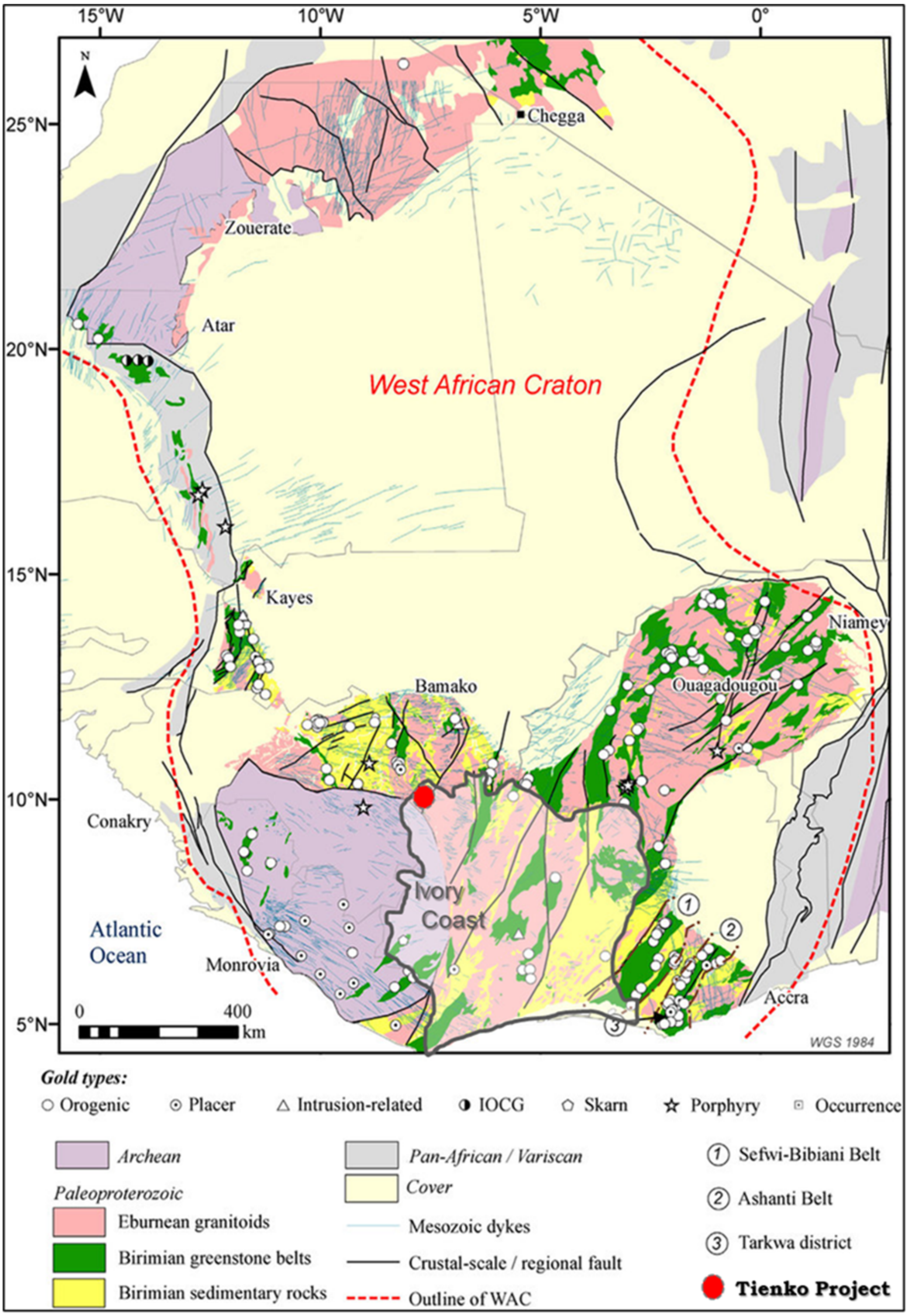

FIGURE 6.1: Generalized geology map of West African Craton showing distribution of significant gold projects and the location of the Tienko project

The Tarkwaian Group consists of a variety of sandstones, conglomerates and argillites that are found within many of the volcanic belts in West Africa (Smith, Henry, and Frost-Killian, 2016). The depositional setting of the Tarkwaian Group is very different to that of the underlying Birimian Supergroup sedimentary units (Figure 6.2). The conglomeratic units of the Tarkwaian Group are interpreted as having been deposited in alluvial fans and then reworked by braided stream channels (Griffis et al., 2002; Sestini, 1973; Kiessling, 1997). Minor quartz-pebble conglomerates, sandstones and arkoses of the Tarkwaian Group are commonly identified as relatively small and isolated occurrences spatially associated with some of the volcanic belts.

Milési et al. (1992) originally subdivided the Birimian Supergroup into a Lower B1 lithostructural assemblage and an Upper B2 volcanic Birimian sequence. (Hirdes, Davis, and Eisenlohr, 1992) suggest that these two units (B1 and B2) are sub-synchronous. The B1 Birimian sequence mainly comprises flyschoid sedimentary rocks (Figure 6.2) with associated volcanic and volcano-sedimentary rocks that were affected by the tectono-metamorphic D1 to D3 deformation phases. Within B1 four main groups of supracrustal assemblages are distinguished (Milési et al., 1992)

1. Basic/tholeiitic volcanic and plutonic rocks;

2. Flysch-type rocks with intercalations of quartzite, greywackes, conglomerates, and siliceous (chert and jasper) and graphitic layers;

3. Felsic volcaniclastic rocks– often intercalated within flysch-type units or overlying basic/tholeiitic volcanic rocks; and

4. Carbonates and felsic volcanic rocks with intercalations of clayey and silty rocks.

The Upper B2 volcanic Birimian sequence was affected by two transcurrent deformation phases, D2 and D3. The volcanic and fluvio-deltaic sequences are subdivided in five groups (Milési et al., 1992):

1. Volcanic areas comprising komatiitic and tholeiitic basalts;

2. Volcanic areas comprising tholeiites only (basalts and andesites);

3. Entirely calc-alkaline volcanic areas (andesites, dacites and rhyodacites);

4. Areas of bimodal volcanism, where a succession of tholeiitic and calc-alkaline volcanic rocks are found; and

5. Volcanic-plutonic areas in which dykes as well as gabbro and diorite stocks intersecting volcanic rocks.

A more recent stratigraphic subdivision of the Birimian Supergroup proposed by (Adadey et al., 2009) divides it into (1) the Sefwi Group composed of mica schists and metavolcanics; and (2) the Kumasi Group composed of metasediments and intercalated andesitic beds (Perrouty et al., 2014) . The Birimian volcanic belts are understood to have occurred in an oceanic island arc setting (Sylvester and Attoh, 1992; Attoh, Evans, and Bickford, 2006; Dampare et al., 2008). However, (Feybesse et al., 2006) interpreted a more complex model where plutonic activity and deposition on a continental margin, followed by juvenile basic intrusive and extrusive magmatism, and finally crust collision, formed the tectonic setting in which the volcanic belts formed. The Birimian Supergroup metasediments are generally considered to have been derived from the adjacent volcanic belts and deposited along the volcanic ridges and in adjacent basins (Griffis et al., 2002).

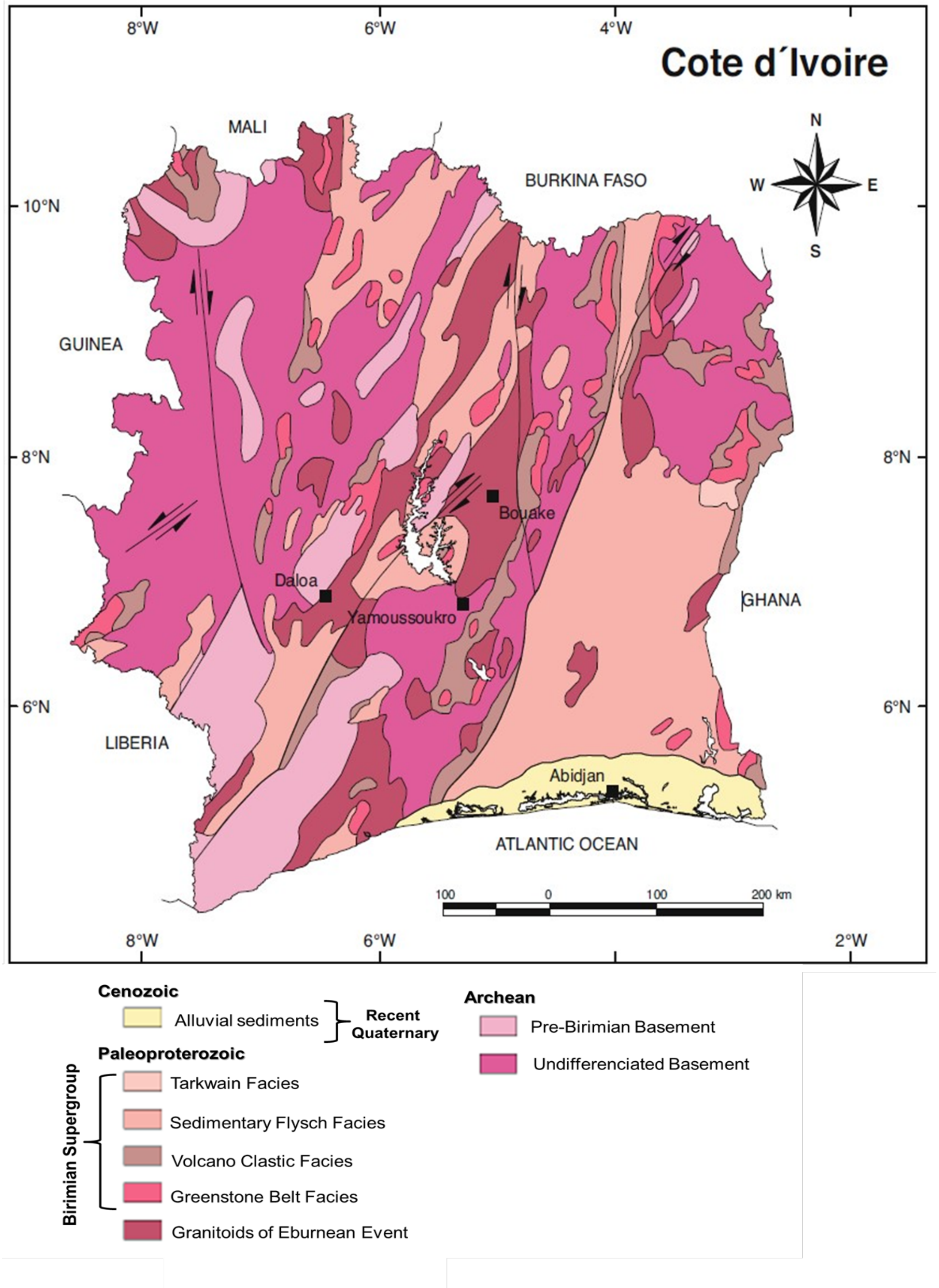

FIGURE 6.2: Geological overview of Ivory Coast (modified after Rocci, 1991).

6.2 Local and Project Geology

The Tienko project area is situated in the Folon Region in the northwest corner of Ivory Coast. The Project lies within the Bougouni Greenstone Terrane, which is comprised of several Birimian greenstone belts separated by shears and granitoid intrusions. A large portion of this terrane is also located in Mali and Guinea, but the southernmost part of this volcano-sedimentary terrane extends into Ivory Coast and is known as the Tienko Greenstone Belt. The northern section of this greenstone belt makes up the Tienko project area. The Greenstone belt strikes in a NW-SE direction in the western part of the license and has northerly strike in the eastern part of the project area. The greenstone belt thins to the south of the area, eventually disappearing as it abuts against the N-S striking Sassandra Fault Zone, which has a sinistral strike-slip movement. This Fault Zone is known as the Banifing Fault on the Malian side (Milési et al., 1992). Second and third order shears with a north-westerly strike direction are developed within the Tienko Greenstone Belt, and are most likely related to the Sassandra-Banifing Fault Zone (Figure 6.3).

Caby et al. (2000) subdivided the area around the Folon Region (previously known as Odienné region) into Western, Central and Eastern domains (Figure 6.4). These domains are structurally defined by the bifurcating Sassandra Fault Zone (Figure 6.3, 6.4). The Central Domain is again subdivided into a northern and southern sub-domain. The Tienko Greenstone Belt and the Tienko permit falls entirely into the northern Ziémougoula Subdomain. Milési et al., 1992 allocate the rocks of this area to the B1 lithostructural assemblage, starting at the base with basic volcanic and plutonic rocks. These are overlain by flysch-type and volcano-sedimentary formations. The sedimentation was contemporaneous with several volcanic episodes of various geographic extents. It has been suggested that the flysch-type and volcano-sedimentary formations grade laterally into one another.

Proximal to the Mazéla village in the southern part of the licence area, outcrops of well-preserved puddingstone are intercalated within the schist and volcanic breccia. The Mazéla Puddingstone comprises polymictic conglomerate pebbles of up to 30cm embedded in a fine-grained matrix with alternating greywackes. The pebbles are typically volcanic (rhyolite, dacite, andesite and basalt) with some quartz-vein pebbles, granite fragments and red jasper. The upper limit for the deposition of this rock formation has been dated at 2096Ma. (Feybesse et al., 1989).

There is no published geological map available for the Tienko region. The only information available is a geological and structural sketch map published by Caby et al. (2000) covering the southern part of the Tienko licence (Figure 6.4) and a photogeological interpretation by Azuelos et al. (1978) covering the northern part of the licence. Both maps, together with the airborne magnetic map were combined to compile a combined map of the area (Figure 6.5).

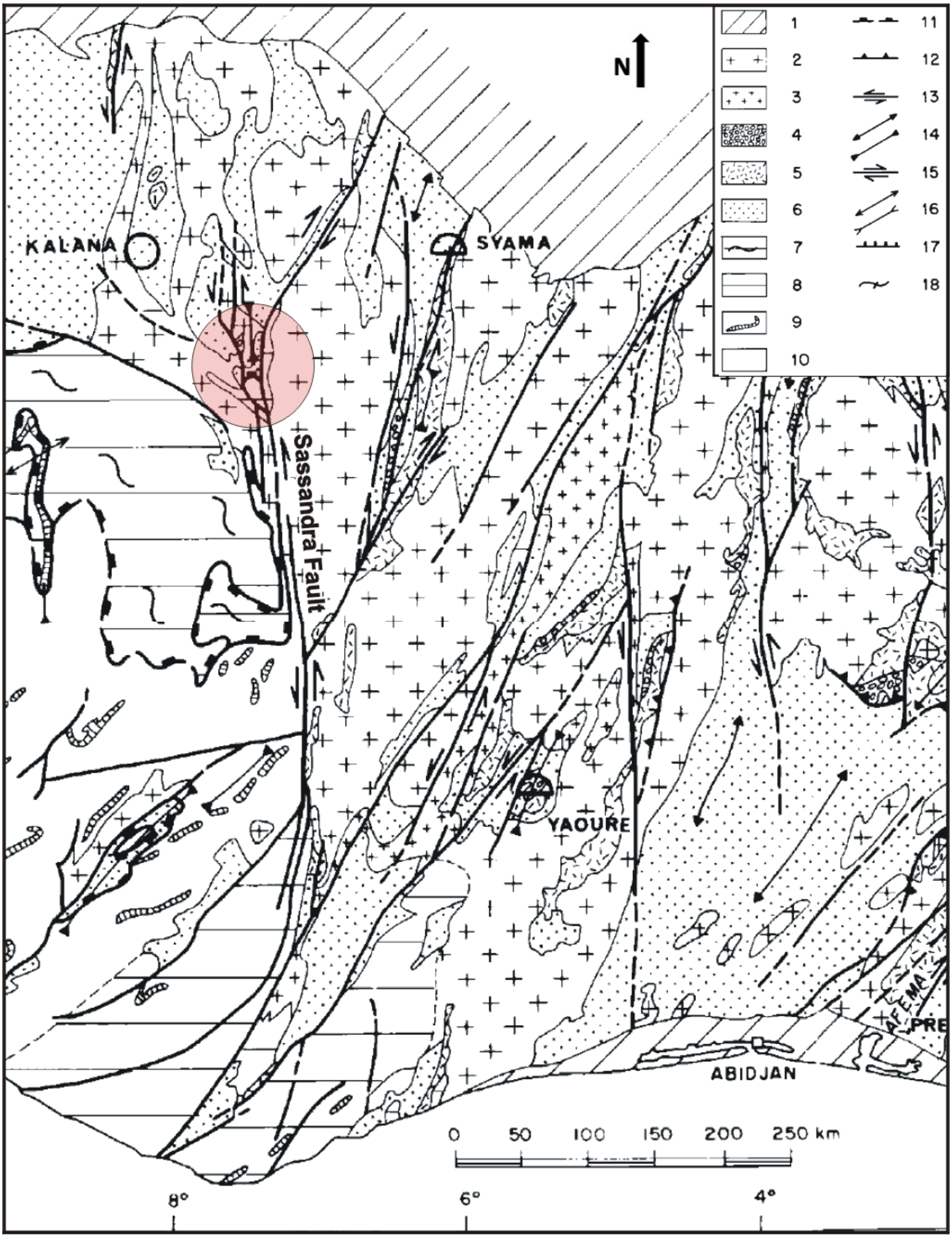

FIGURE 6.3: Geology of Birimian in Ivory Coast. 1 = post Eburnean, 2 = undifferentiated Early Proterozoic granite, 3 = leucogranite, 4 = Tarkwaian, 5 = volcanic unit, 6 = mainly sedimentary unit, 7 = D1 thrust belt, 8 = Archaean and/or Proterozoic granite-gneiss complex, 9 = Archaean greenstone belts, 10 = Archaean granite-gneiss complexes, 11 = D1 thrust, 12 = D2 thrust, 13 = D2 strike-slip fault, 14 = D2 fault, 15 = D3 strike slip fault, 16 = D3 fault, 17 = D3 thrust, 18 = Pan-African mobile belt. Red circle shows the location of the licence and the bifurcation of the Sassandra Fault - Kiefer 2018 Final Report, Source: Azuelos et al. (1978).

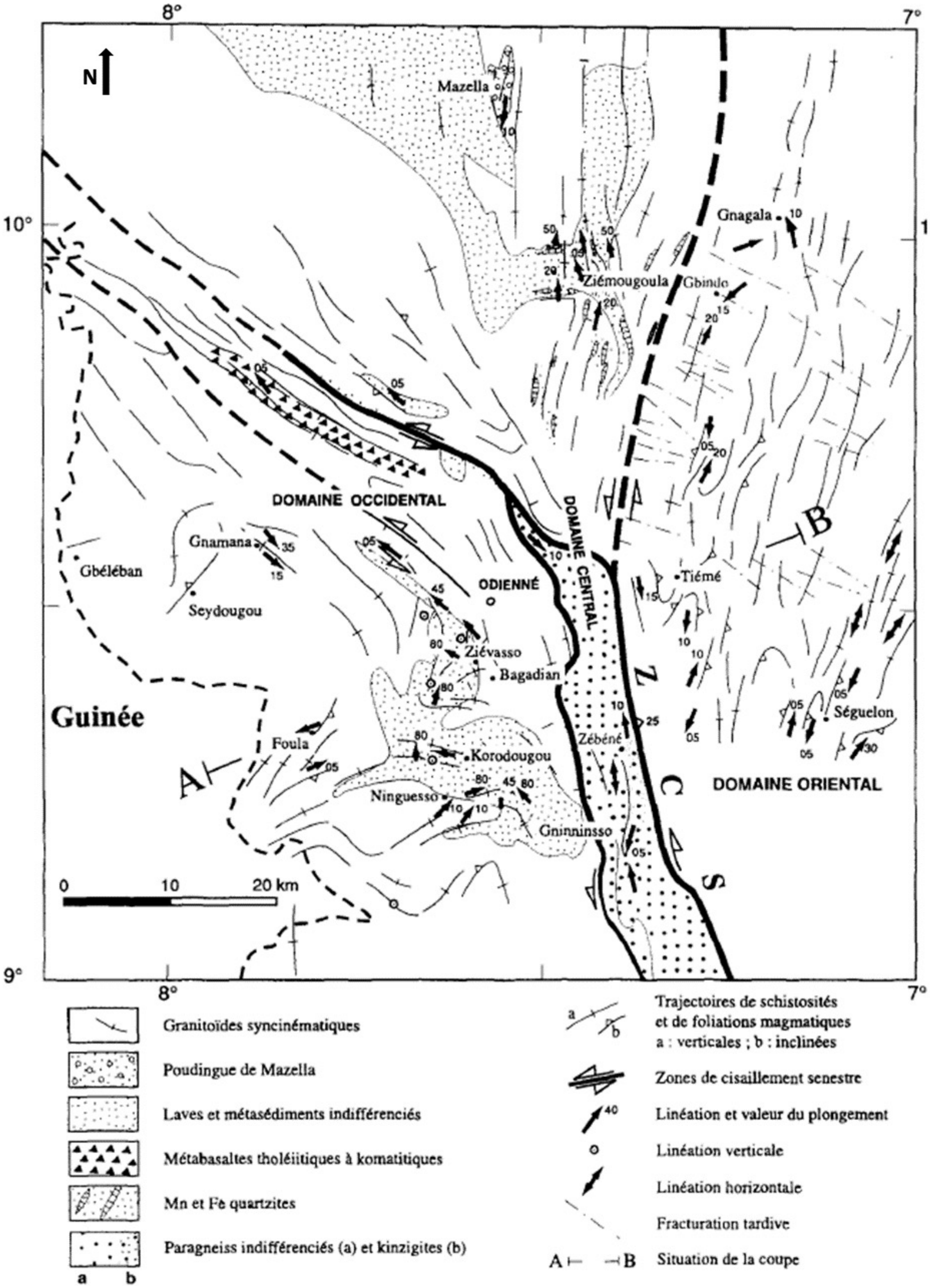

FIGURE 6.4: Geological and structural sketch map published by Caby et al. (2000) covering the southern part of the Konela licence

The project area is characterized by sparse outcrop with extensive to sporadic lateritic cover, characteristic of the Savannah climatic zone. The laterite often obscures the bedrock, with only remnants of the younger laterite still preserved in places. The depth of weathering averages 40m. Sporadic vein quartz and schist outcrops are also present. Elevated gold in soil values are often associated with shear zones and veins, which typically have boxwork structures, indicating sulphidation.

The eastern part of the license area is underlain by concordant and discordant granodiorite of uncertain age. The northerrn part comprises of biotite-bearing granite, which intruded during the Eburnean orogeny (Figure 6.5). This granite is surrounded by undifferentiated post-Birimian migmatites (Figure 6.5). Isolated outcrops of quartzites are found in the south-western part of the migmatite, close to the contact of the Birimian greenstone belt. These quartzites are believed to be related to the migmatites.

The majority of work conducted on the Tienko project area, has been along the Konela Trend. This target corridor was subdivided according to the mineralized zones; F1, F3, F2 and Manda, identified from various exploration campaigns (Figure 6.5). A summary of the Konela Trend geology is as follows: Birimian lithostratigraphy at F1 is intruded by a felsic dyke, commonly referred to as a granitoid in this report. The dyke follows the northwest trending shear zone but appears to pinch out against the schist and metasediments in the F3 region. The shear is continuous and after traversing mafic volcanics at F2, it continues to intersect metasediments and metavolcanics towards the north west of the Konela Trend. A strong magnetic anomaly occurs subparallel to or along the biotite-bearing granite and undifferentiated migmatites contact. The entire south-western part of the license area is underlain by volcano-sedimentary rocks of the Birimian lithostratigraphy. These comprise of undifferentiated schists and volcanic breccias with some intercalations of metavolcanic rocks. The volcano-sedimentary succession is intruded by plutonic rocks of dioritic nature, in which the regional N-S orientated schistosity S1 is preserved indicating that the plutonic rocks intruded before the regional deformational event.

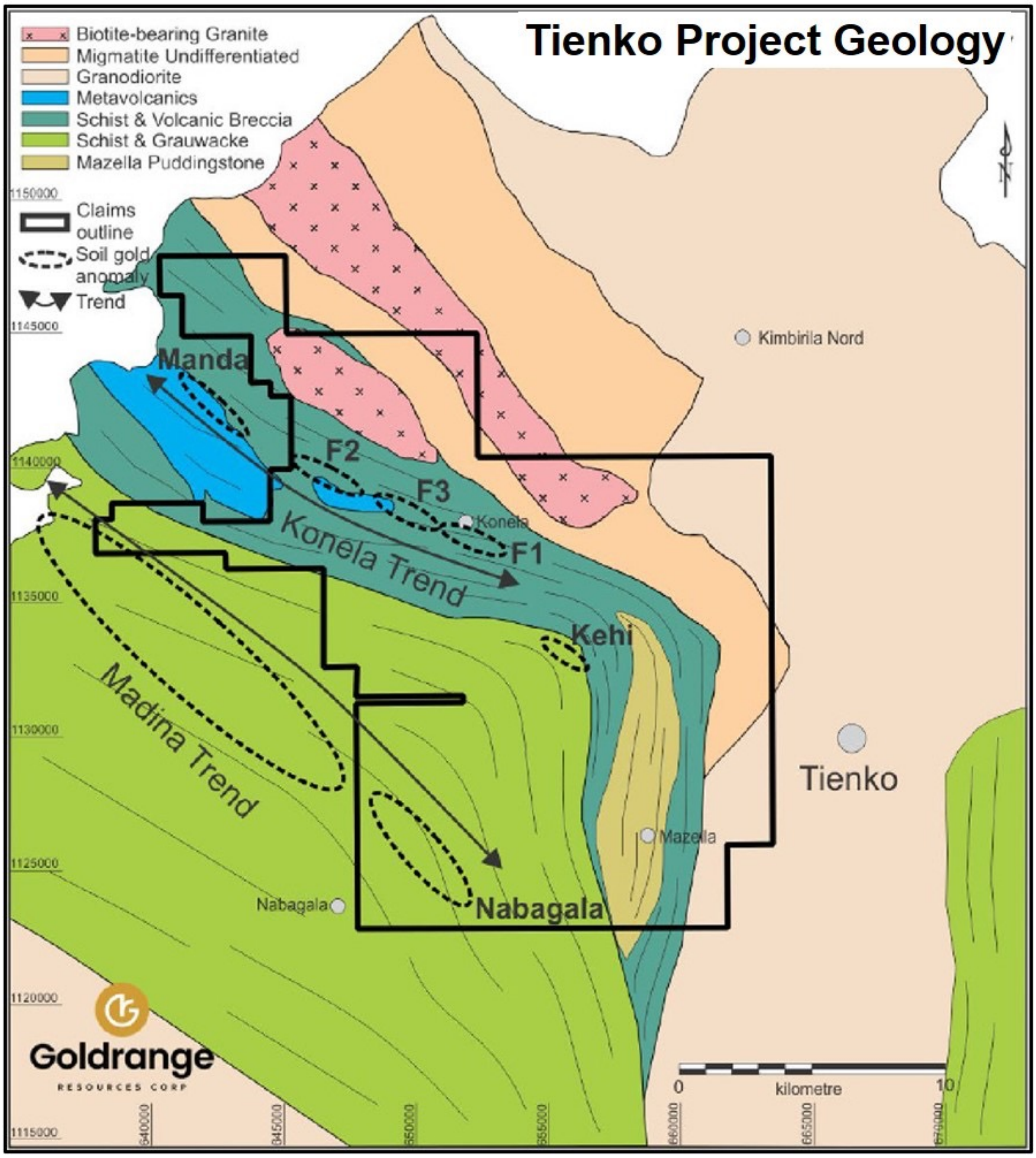

FIGURE 6.5: Geological map of the Folon region covering the Tienko licence, showing main Konela Trend.

6.3 Deposit and Mineralisation Type

The Tienko deposit is considered to be an example of a structurally controlled orogenic-style gold deposit. Orogenic gold deposits (also referred to as mesothermal, greenstone, shear zone-related or lode gold deposits) are generally characterised by gold-bearing quartz veins and veinlets with minor sulphides (<3-5 % sulphide minerals) developed within a wide variety of host rocks, and largely localised along high-order dilational structures related to major regional faults within a predominantly compressional to transpressional environment.

Vein systems tend to occur as a system of sub-parallel and en-echelon veins. Tabular, wide veins occur within less competent lithologies while veinlets and narrower ribbon-like veinlets occur in more competent lithologies. Vein systems are often spatially associated with contacts between lithologies displaying competency contrasts. Lower-grade bulk tonnage styles of mineralisation may develop in areas marginal to veins with gold associated with disseminated sulphides in the host rock.

The presence of artisanal workings in alluvial, lateritic and bedrock material is an excellent regional and property-scale indicator of orogenic-style gold mineralisation.

6.3.1 Regional Mineralisation

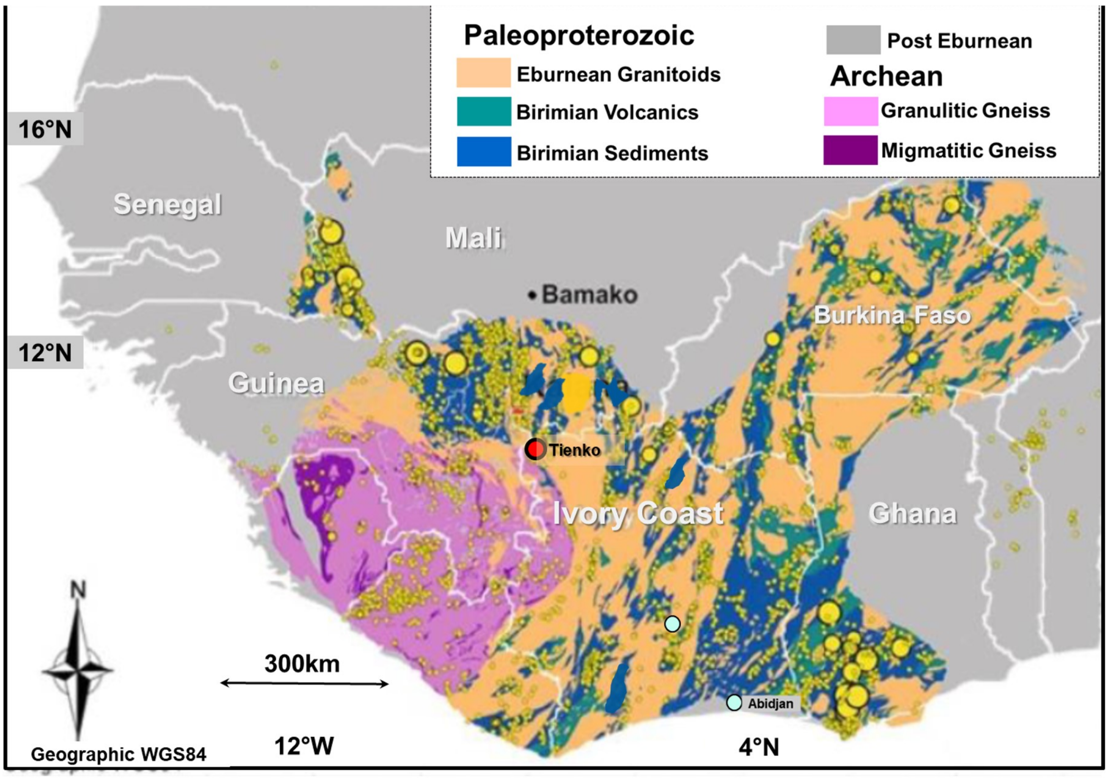

FIGURE 6.6: USGS Database gold occurrences in yellow dots and larger dots of gold mines of Birimian Lithology in West Africa.

The Proterozoic Birimian greenstone belts of West Africa, and to a lesser extent the Archaean greenstone belts, are renowned for their gold endowment. Numerous deposits and operating mines, some world-class, are known throughout Ivory Coast. These include those at Ity, the Afema gold district, the Agbaou deposit within the Oume–Fetekro greenstone belt in the Bonikro and Angovia districts, and the Tongon deposit from the Senoufo greenstone belt. Figure 6.6 shows the simplified geology of this West African region and the location of the more important gold deposits.

Orogenic gold deposits in West Africa are typically shear hosted and developed along strike-slip fault systems linked to late stage, crustal thinning. The gold mineralisation is usually lithologically and structurally controlled and is thus associated with regional-scale deformation zones.

The general metamorphic grade can be derived from the mineral composition of the metapelites comprising of quartz, white mica, chlorite, staurolite or garnet and rare brown biotite. This mineral assemblage typically translates to a temperature range between 560-580^{circ}C and a pressure of 4-5kbar (Caby, et al., 2000).

More competent and brittle lithologies tend to fracture, generating favorable sites and pathways for the deposition of gold. Iron-rich rocks and/or those associated with a high Fe/(Fe+Mg) ratios are capable of destabilising gold bisulphide ligand complexes, resulting in the precipitation of iron sulphides and gold. Mafic rocks combine a high degree of competence with a high Fe/(Fe+Mg) ratio and therefore create physically and chemically ideal sites for the precipitation of gold. Gold mineralisation in the Birimian belts occurs in a variety of rock types including metagabbro-diorite, metagranite, highly altered ultramafic units, metasediments and mafic to intermediate metavolcanic units. The most common alteration mineral assemblages in the West African Birimian gold deposits include quartz, carbonates, sulphides (pyrite, pyrrhotite and arsenopyrite), sericite, fuchsite, biotite, K-feldspar, albite and chlorite (Béziat et al., 2008). Alteration of the wall rock is a result of the addition of large amounts of CO2, S, K, H2O, SiO2 $\pm$ Na and LILE (large ion lithophile elements) under greenschist metamorphic conditions (Groves et. al., 1998).

A strong structural control of gold mineralisation is typically present from a regional to deposit scale. The main controlling structures include: foliated zones, fold hinges, low angle faults and shear zones. Significant deposits are thus typically situated in second to third order structures often proximal to large scale structures.

6.3.2 Local and Project Mineralisation

6.3.2.1 Overview

Systematic exploration in the project area defined a primary "target corridor" known as the Konela Trend along which several gold occurrences and north-west trending mineralised zones are present (Figure 6.7). These areas were initially identified in the early 2000's by regional stream sediment, termite mound and regional soil sampling which was thereafter properly defined by campaigns of follow-up soil sampling, trenching and diamond drilling. In 2010, more detailed advanced exploration, predominantly in the form of RAB, Air Core and RC drilling was conducted. This work resulted in defining a series of mineralised zones, known as F1, F2 and F3, Nabagala and Kehi. Although not the focus of this exploration plan, numerous alluvial (secondary) gold enrichment areas have also been identified within the project area.

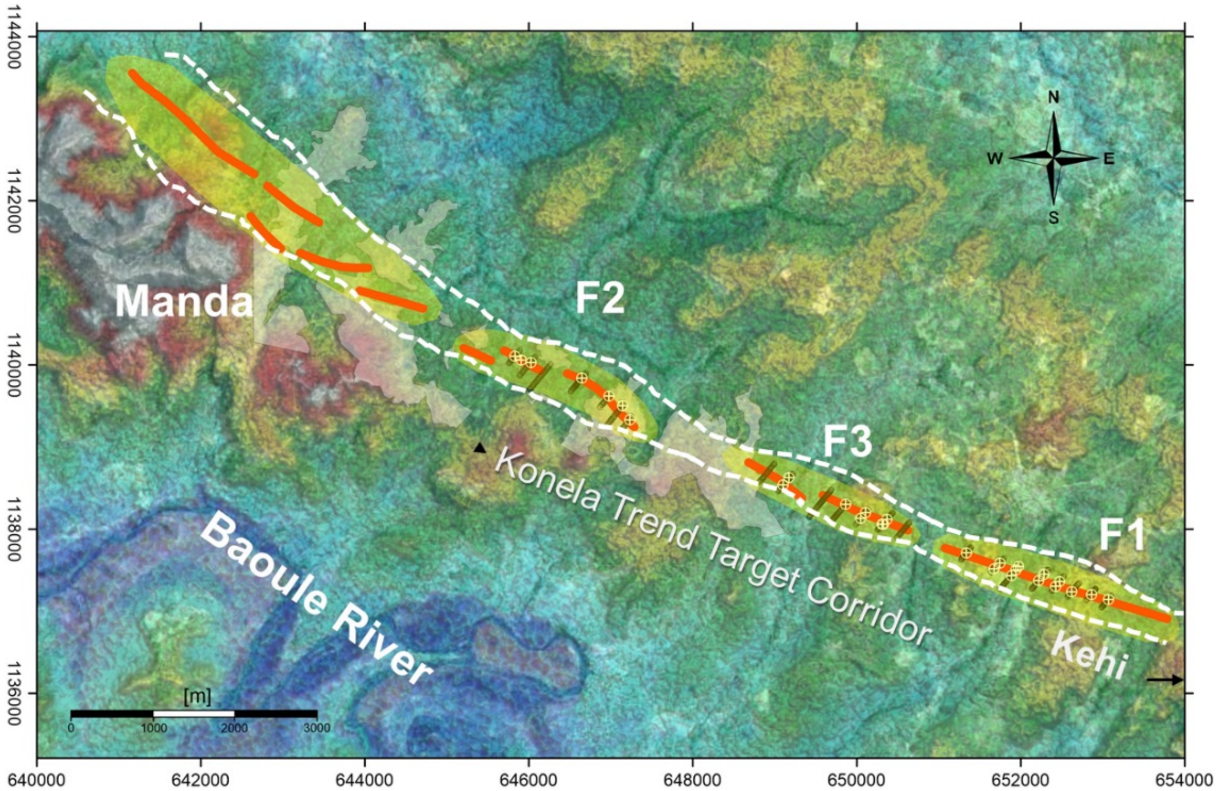

FIGURE 6.7: Konela Trend target corridor showing 16km of the delineated mineralised lenses in orange.

Quartz vein associated sulphide mineralisation is the most common type of Birimian hosted gold mineralisation in this area. The veins occur within different lithological units and are of variable thickness. The veins are generally parallel to the foliation, but may also cross cut the lithological laminae. Boudinaged and ribbon-like quartz veins are often observed suggesting an earlier mineralizing event that underwent strong deformation. Bourges and co-workers (1998) studied similar deposits in the Birimian belts and noted that quartz veins are generally highly deformed and display mimic ribbon and recrystallisation features. The foliation within the metasediments typically have the same strike direction as the geochemical trends.

Whilst the quartz vein mineralisation is the dominant mineral style, gold mineralisation in the project area also occurs in different styles. Gold mineralisation within the project area is primarily hosted in three lithological units, namely:

- Granitoid hosted (felsic dyke) mineralisation as seen in F1 and parts of F3.
- Quartz vein hosted- predominantly within sericitic schists (metasediments) as noted in the Konela Trend, F2 and Madina.
- Shear zone hosted mineralisation, typically along the metasediment and granitoid contact but also within sheared metasediments (sericite-quartz-chlorite schist). Konela Trend at F2 and parts of F3.

Neither detailed ore deportment nor detailed mineralogy work has as yet been conducted on the Project mineralisation, besides a very limited petrographic study conducted on three samples from the F1 zone. The summarised mineralogy has therefore been compiled from the petrographic report as well as from observations made from the data, core and chip samples, artisanal workings, trenches and discussions with the Jofema exploration geologists.

Simple petrographic descriptions of polished thin sections under reflected light were conducted by Microsearch CC, South Africa, in March 2010 and February 2012, on an outcrop sample and two diamond drill cores, respectively. All three samples were from the F1 area. The grab sample was taken from outcropping metasediments and the two quarter core samples were taken within the mineralised zones of KDD01 and KDD03, respectively. Both these drill samples originated from the sheared fresh felsic dyke of the sulphide zone. The KDD01 sample was from the downhole intersection at 76m and the sample from KDD03 was from a downhole depth of 182m.

The grab sample was lithologically classified by Microsearch CC as a biotite sericite quartz schist which was the result of regionally metamorphosed (upper greenschist facies) sandy shale or quartz greywacke.

The two 'sheared granitoid' core samples were lithologically classified by Microsearch CC as mineralised quartz diorite and mineralised tonalite respectively. Both samples had undergone low grade regional metamorphism as noted by the muscovite rich, chloritized, carbonated and sericitized nature of the mylonitized zones.

Most of the stronger gold mineralisation is related to pronounced deformation or dislocations along metasediment/metavolcanic contacts.

6.3.2.2 Granitoid-hosted mineralisation

Gold mineralisation within the project area is often associated with quartz veins hosted in medium grained, red to pinkish porphyritic K-feldspar biotite granitoid. The main minerals identified in the granitoid consist of quartz, sericite, muscovite and chlorite. The granitoids are assumed to be part of the Tonalite-Trondhjemite-Granodiorite (TTG) Suite, although no dating has been conducted to confirm their age.

Quartz veins and narrow ribbon veinlets are common throughout the granitoid. The veins appear to be late-stage and occur parallel and/or crosscutting to the foliation and bedding planes. The felsic intrusions would have played a key role as a source of heat flow driving the hydrothermal system at the origin of local deuteric alteration and sulphide-carbonate metallotects. The granitoid has a distinct magnetic signature and appears as a magnetic low in the Total Field magnetic survey. It is however of note that higher gold grades occur along the schist – granitoid contact, as shown by the drill assay results.

Petrographic studies indicate that the opaque minerals within the Granitoid mineralisation primarily comprise of sulphides ($\approx$ 90%), mostly in the form of pyrite (very minor chalcopyrite), and to a lesser extent of oxide minerals consisting of magnetite and rutile. The sulphides (pyrite in particular) predominantly occur as elongated, anhedral grains, reaching up to 1.6mm in size, with occasional subhedral to euhedral grains (up to 0.6mm). These minerals are mostly disseminated and interstitial to the felsic dykes. The pyrite grains have a preferred orientation that follows the foliation. As some of the grains appear deformed while others are undeformed and crosscut the foliation it is suggested that the sulphide mineralisation was initiated during deformation and continued to be deposited after deformation had ceased.

The magnetite minerals occur as (1) equant grains, (2) euhedral to subhedral crystals and (3) as small aggregate bodies, all of which are usually associated with pyrite. The magnetite is sporadically and irregularly interstitially dispersed in lower pyrite content lenses and is commonly found along laminae. The rutile is brownish black in color and concentrated in the granitoid as aggregates, as well as disseminated within thin strips and lenses parallel to the foliation. The rutile minerals are very fine grained (mostly $<$20 μm), reaching up to 3mm long. The pyrite often impinges marginally on these and quite frequently contains inclusions of rutile.

Disseminated sulphide mineralisation (pyrite) typically occurs along the associated foliation and shear planes (Figure 6.8a). Intercalated or intruded in the foliation planes are occasional decimetre to millimetre scale alkali-feldspar-rich intrusions (Figure 6.8b). The granitoid in the project area is strongly foliated and sheared with remnants of mylonitisation (Figure 6.8c). The shear bands typically comprise of chlorite and biotite, giving the rock a darker appearance (Figure 6.8d). In some areas, such as at the F3 Zone, this disseminated sulphide mineralisation is understood to be associated with the higher-grade zones, while minor often coarser gold mineralisation is found with quartz veinlets in the surrounding schist. Most sulphide mineralisation has a preferred orientation within the foliation which would imply post deformation mineralisation. However, the petrology indicated that some of the mineralisation appears to have grown across the foliation and remain undeformed. This was noted in the Kehi zone where narrow mineralised quartz veins often occur as stringers crosscutting the foliation. Gold mineralisation within the F1 zone appears to occur within an 'anastomosing' and/or structurally displaced shear system.

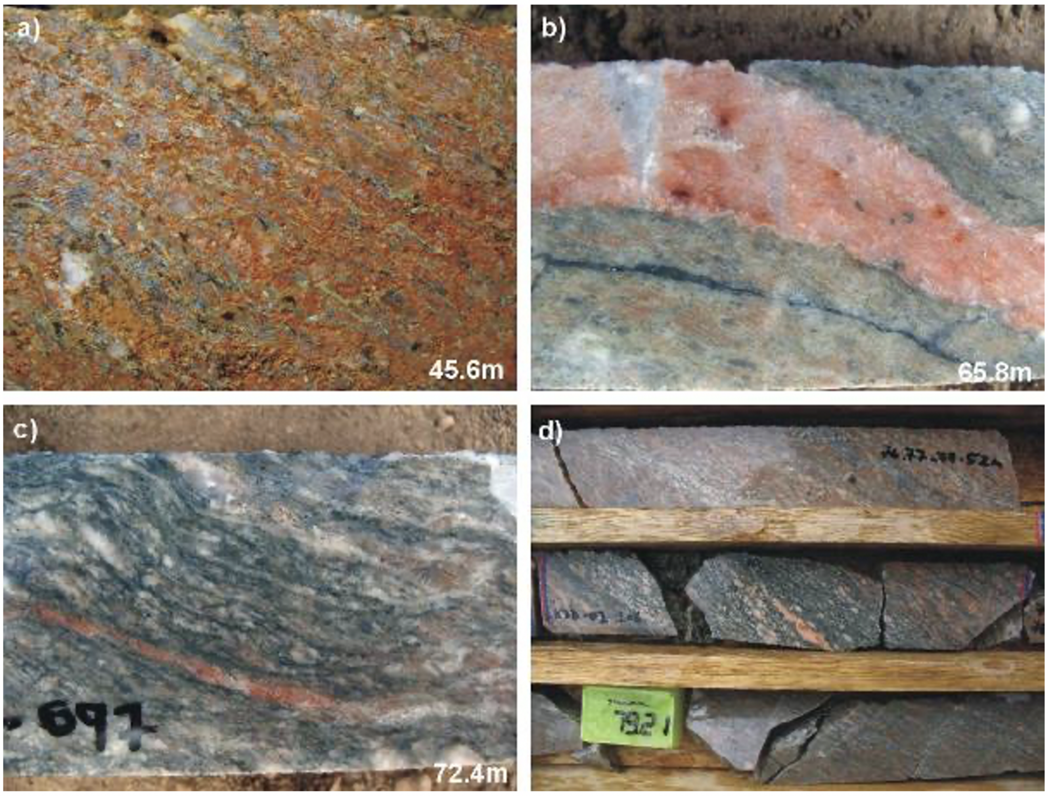

FIGURE 6.8: (a)Transition zone of borehole KDD-01, between 30 to 50m below surface indicating shearing and foliation. The mineralisation and quartz veins are parallel to the foliation and shear planes; (b) Foliated granite with feldspar-rich intrusions; (c) sheared and strongly foliated granitoid with green biotite-chlorite shear bands and (d) typical granitoid and its variations.

6.3.2.3 Schist hosted mineralisation

Gold mineralisation in the finer grained quartz schist, commonly contains sericite and biotite with occasional chlorite. Quartz veins and veinlets are common throughout the lithological unit and occur either as stringers crosscutting the foliation or as wider veins (up to 50cm) with sub-parallel foliation (Figure 6.9). The schist is strongly foliated and sheared and is understood to originally comprise of a silty to very fine sandy shale, or shaly quartz-wacke, which has been regionally metamorphosed in the uppermost greenschist to lowermost amphibolite facies.

Quartz makes up a significant component of the samples (50%), while the other constituent minerals typically consist of sericite (30%), biotite (25%) and rutile with associated goethite and limonite (2%). The quartz grains are equant to elongated (lenticulate), ranging between a maximum of 0.19 mm in the main host rock and 0.29 mm in the quartz rich microbands. The grains are commonly aligned in the direction of foliation.

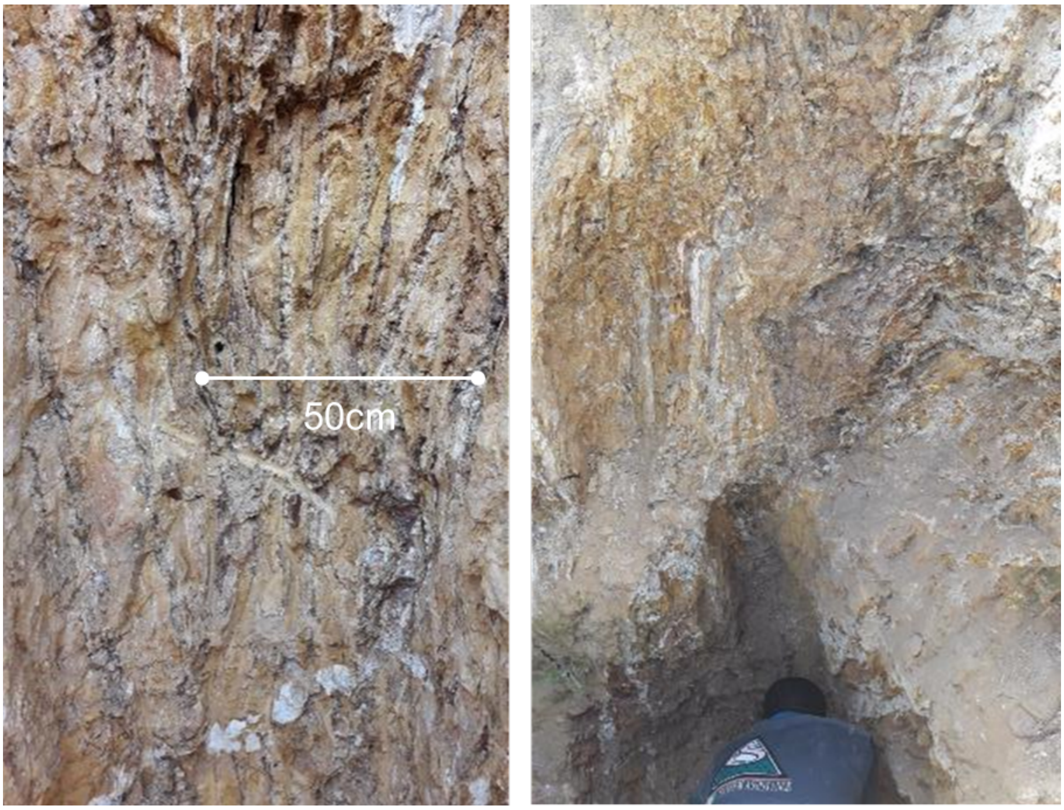

FIGURE 6.9: Photo taken in June 2021 showing average 10cm boudinaged ribbon-like quartz veins cross cutting subvertical narrow veinlets which conform to the shear planes of silicified sericite schist with oxidised sulphides.

Sericite is primarily associated with the quartz microbands, located between biotite rich laminae. The sericite grains are mostly <80 μ m long and have a preferred orientation in the foliation. Biotite is largely concentrated in regularly spaced laminae where it forms small plates, often with tapered terminations, which reach 0.2 mm long. The biotite grains have a strong preferred orientation that helps to define the foliation. The rutile grains are equant to subprismatic in form, dark reddish-brown in colour and can reach up to 0.13 mm in size. The grains are sparsely and irregularly distributed throughout the samples and locally clustered. Goethite and limonite are typically associated with the rutile, indicative of an ilmenite or leucoxene precursor.

The schist is commonly fine-grained (<10 μ m to 0.29 mm) with a lepidoblastic/granoblastic (regionally metamorphosed clastic sedimentary) texture. Well-developed lamination, typically comprising of biotite, is further observed, which is separated by thin microbands predominantly comprised of sericite and quartz. The schist is strongly foliated and lies parallel to the lamination and quartz microbanding. Minor replacement of rutile grains by goethite and limonite indicates that limited oxidation and hydration occurred. At Manda, mineralisation occurs along a contact/shear of a meta-sediment (fine grained sericite schist) and a meta-volcanic unit (chlorite-sericite schist). Quartz veinlets are common and oxidized sulphides have been identified. See Figure 6.9.

Within the schist, quartz veins occur as stringers crosscutting the foliation or as foliation parallel with up to 50cm thick veins. At F1 the quartz veins are typically concordant with the metasediment bedding and foliation, however narrow quartz veinlets were also noted to cross the bedding and micro banding at an angle of 25 degrees.

FIGURE 6.10: Subvertical silicified quartz veins parallel to foliation

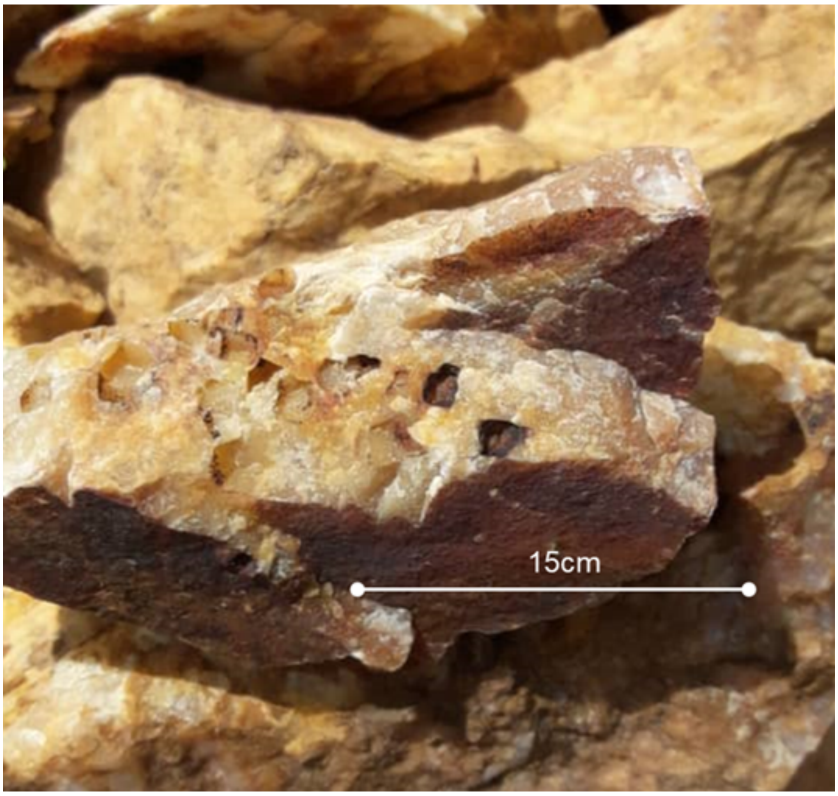

FIGURE 6.11: Boxwork structures indicating oxidized sulphide void.

Mineralised sericitic quartz veins in graphitic schist were observed in the weathered saprolite zones. At F1, quartz veins with boxwork textures (caused by the dissolution of sulphide minerals) were noted from spoils of local workings

6.3.2.4 Summary of local Mineralisation

It would appear that the Project mineralisation is a result of more than one (possibly multi-phase) mineralizing event. A number of multi-phase events. The first mineralizing event is associated with strongly deformed quartz veins. Post mineralisation, these quartz veins were subjected to deformation resulting in boudinage and ribbon structures.

These deformed quartz veins were subsequently overprinted by a second, later mineralizing event, post peak metamorphism. This phase is noted by the undeformed quartz veins and veinlets associated with sulphide and gold mineralisation, which often cross cut the earlier deformed.

Three dominant styles of gold mineralisation at Tienko include:

- Shear zone hosted gold mineralisation, where disseminated gold occurs within an altered zone together with narrow quartz vein stringers This zone includes the mineralisation along the structural shear contact zone of metasediments (sericite schist) and metavolcanics.
- Quartz vein hosted gold mineralisation.
- Granitoid hosted gold mineralisation associated with quartz veining Most of the granitoid carries fine grained disseminated, low-level gold mineralisation. Mineralisation in quartz veins within these granitoids generally hosts higher gold grades.

The most common style of mineralisation occurs in quartz veins, together with low grade disseminated mineralisation within the associated adjacent alteration zone. This mineralisation style would be attractive for a large open pit mining operation.

Gold distribution within the veins is not always laterally consistent. Coarser gold is typically nuggety and these high-grade zones can result in inconsistent vertical and lateral continuity.

Chapter 7

HISTORY AND EARLY EXPLORATION WORK

The Ivory Coast has large untapped mineral resources. Gold mining remains at the forefront of the mining sector, with an increase of 35 per cent in 2019 to produce a total of 32.6 tonnes of gold.

Since the implementation of Law No. 2014-138 dated 24 March 2014 establishing the new Mining Code (the Code), the Ivory Coast has been shaped by a constant desire to acquire and retain the substantial political and economic stability that in turn provides the perfect environment for the mining sector to grow in.

In 1986, mining was understood to contribute only one percent of Ivory Coast GDP, but this has changed substantially over the last 36 years.

During the precolonial era, gold was extracted from small underground shafts or panned from river and stream beds. Gold deposits were exploited at Kokoumbo, situated in the center of the country, as well as at small mines in the southeast of the country. During the 1960s and 1970s, the Société pour le Dévelopement Minier de la Côte d'Ivoire (SODEMI) undertook a countrywide exploration program. The results are recorded and discussed in reports, which can be reviewed and acquired at SODEMI office (Abidjan).

A regional airborne magnetic survey was flown by Kenting Earth Sciences Ltd from 1974 to 1976. The flight lines were orientated north-south at a nominal altitude of 150 m $\pm$ 15 m above the ground, and a lone spacing of 500 m. The data set is presented as a contour total magnetic intensity map (TMI) at a scale 1:1,000,000. An excerpt of the regional airborne magnetic survey map is shown in Figure 7.1.

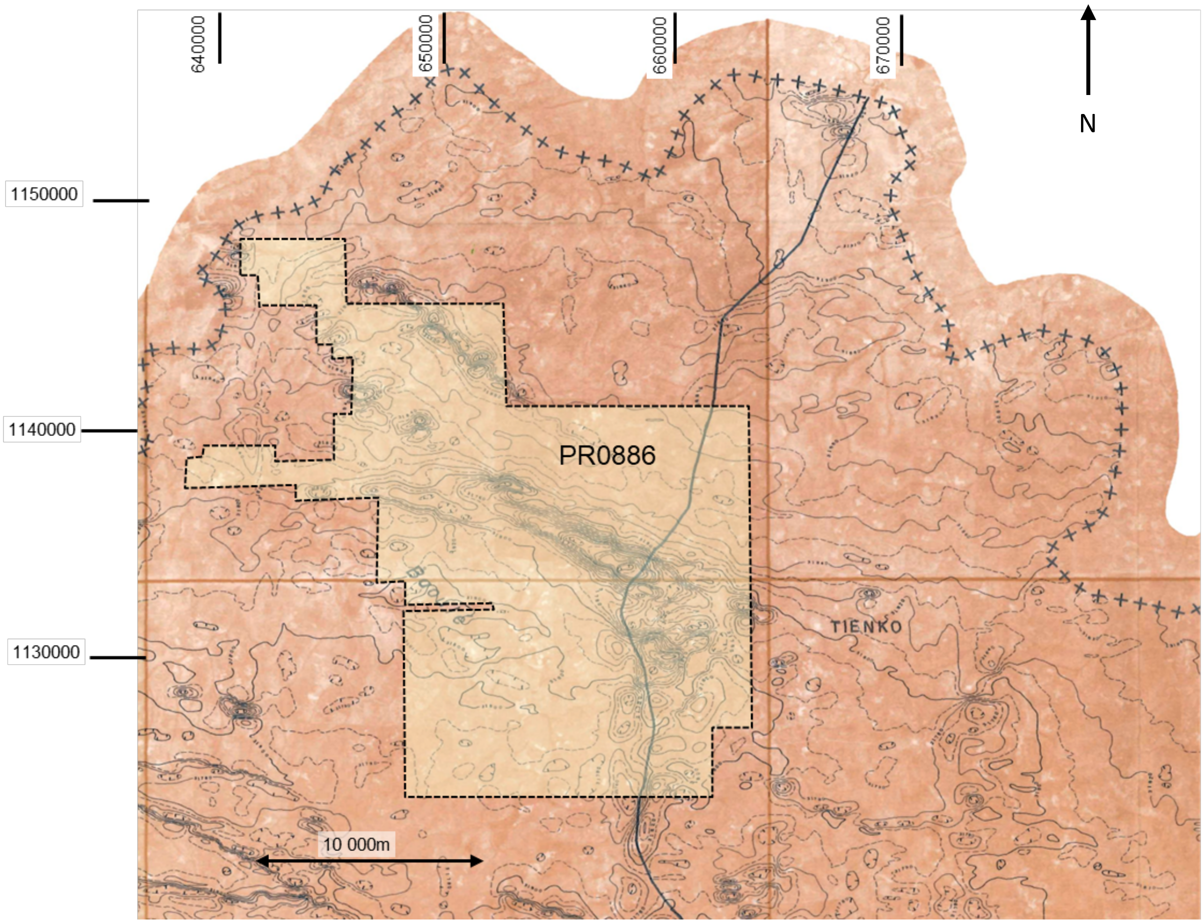

FIGURE 7.1: Tienko permit overlain on excerpt of the regional 1: 1 000 000 Airborne Magnetic Survey flown between 1974 and 1976 by Canadian company, Kenting Earth Sciences Ltd.

7.1 Early Exploration and Mining History

7.2 Prior Ownership

From January 1994, following the devaluation of the national currency (CFA francs) mineral exploration intensively increased in Ivory Coast. During this period, the general Odienné region (from Odienné to the Malian border in the north) was successively covered by exploration concessions pertaining to Trillion Resources, Cluff Mining, SODINAF, RandGold, BHP and others.

During the sixties and seventies, SODEMI undertook a countrywide exploration program. Most of the data collected were recorded and discussed in several SODEMI reports. In 2002, the German Cooperation Program delineated an area in the vicinity of the PR179 Tienko permit, for detailed geological mapping (at 1:100,000) and mineral evaluation.

Canadian Junior Normandy LaSource acquired an exploration permit over the project area in the late nineties. Regional exploration in the form of stream sediment sampling, termite mound sampling and soil geochemical work was conducted. However, all activities were ceased shortly thereafter on September 19th 2002, due to military and civil unrest. This situation remained the status quo until mid-2007 when full access to the Tienko region was granted by the "Forces Nouvelles".

No previous fully mechanised or industrial mining activity has ever been recorded within the permit area.

Chapter 8

ARTISANAL MINING

As in many other sub–Saharan African countries, artisanal mining in Ivory Coast has increased in the last 20 years. The Ivorian government acknowledges the significance of artisanal mining (ASM) in the rural areas where illegal mining often generates a viable income for thousands of desperately poor people. However, the Ivorian government also recognizes the serious problems associated with these activities ranging from social, cultural, criminal, health, safety, illegality, to environmental.

There are ongoing discussions in Ivory Coast as in most other West African countries, where Governments acknowledge the need to assist the ASM sector to maximise its gains and turn the activity into an economic, social and environmentally viable one. However, governments face numerous challenges that prevent them from intervening in a more effective way. Subsistence farming and the agricultural industry in Ivory Coast is understood to be declining with farmers struggling to secure land for crops. Illegal artisanal mining has therefore become an attractive alternative. Since the political unrest in Ivory Coast in 2002, illegal mining activities have increased predominantly in the western, northern and the central part of the country. This increase is attributed to increased occupation by foreign nationals and various small Ivorian factions. Governments also face challenges of illicit trade of minerals and cross border trade often taking advantage of other countries' different export taxes.

In an attempt to successfully manage the artisanal situation in Ivory Coast , an administrative unit for the control of "Mining Code Violations" ('Brigade de Répression des Infractions du Code Minier') was established at the end of 2018 with the primary aim of relocating artisanal workers to legal sites specifically earmarked for artisanal workings. Foreign illegal immigrant diggers are arrested or repatriated to their home country.

Small artisanal workings have occurred at intermittent stages in various parts of the Konela licence area. Over the years, these activities, have however been manageable with the support of the Mining Ministry, local farmers and the district police. An exception to this was is the Kehi artisanal workings.

In 2014, there was a large influx of illegal artisinals, mining the Kehi target on Jofema's licence PR179. Hundreds of artisinals purported to be illegal immigrants of Malian decent invaded an area which had been previously identified by the Jofema exploration work. The target is gold bearing quartz veins from surface outcrop down to depths of between 10 and 40 metres. It is understood that these workers typically dig pits down to the stone line at the base of weathering, where gold bearing quartz gravels have accumulated. These gravels are brought to surface by a hoist system and subsequently crushed and washed to liberate the coarse gold (Figure 8.1). The gold concentrate is then sold to a middle man or taken across the border into Mali. It is believed that between 30g and 40g per day of gold was extracted by the illegal miners every day. In December 2015, the Sous Prefecture of Tienko instructed the military from the 'Gendarmerie Divisions' in the Follon Region to terminate all illegal artisanal activities.

Whilst Jofema was active in the project area, most artisanal activity was apprehended. Since no active exploration was conducted by registered permit holders on the project area in the past three years, artisanal and illegal foreign workers have taken advantage of the situation and small-scale workings have substantially increased. The government has recently classified a large area north of the Tienko licence an Artisanal Zone.

FIGURE 8.1: (A) Kehi 2015 Artisanal pits with ore hoisting mechanism and (B) Crushing and processing of the gold bearing gravels.

Chapter 9

EXPLORATION

9.1 Regional Exploration by Normandy LaSource (Pre-2005)

Normandy LaSource (Normandy) conducted a conventional greenfields exploration programme on the project area from the late nineties until 2002. A summary of all work conducted by Normandy on the licence during this period is provided below (9.1).

Sample Type	No. of Samples	No. of Assays	Assay Min.	Assay Max	Analytical Method	Laboratory	Comments
Stream Sediment	307	307	0	198	50 g Low Level Fire Assay (FA50L)	SGS Ghana	All with UTM coordinates
Soil	2712	2712	0	31725	FA50L		3 locations not sampled, 754 samples with Local Grid and UTM Coordinates 1961 samples with Local Grid and **no** UTM Coordinates
Rock	0	0	0	0	FA50L		No Rock sample recorded
Termite Mound	181	181	2	712	FA50L		141 with UTM and Local Grid Coordinates 36 with UTM and no Local Grid Coordinates 4 with Local Grid and no UTM coordinates

FIGURE 9.1: Table showing all work conducted by Normandy LaSource Pre 2005.

Normandy's exploration program commenced with regional stream sediment sampling and selective grab sampling. (Figure 9.2). The stream sediment survey was followed by termite mound sampling which together identified an area of elevated gold values (>28ppb) (Figure 9.3). Thereafter a soil geochemical sampling program consisting of 2712 samples was undertaken along a set of NE-SW gridlines, totaling 118km. The soil grid was cut southeast of the single stream sediment anomaly (Figure 9.4). All soil samples were crushed and sieved to 125μ and analysed at SGS Tarkwa, Ghana for low-level gold (<2ppb) using Aqua Regia Digest with AAS finish.

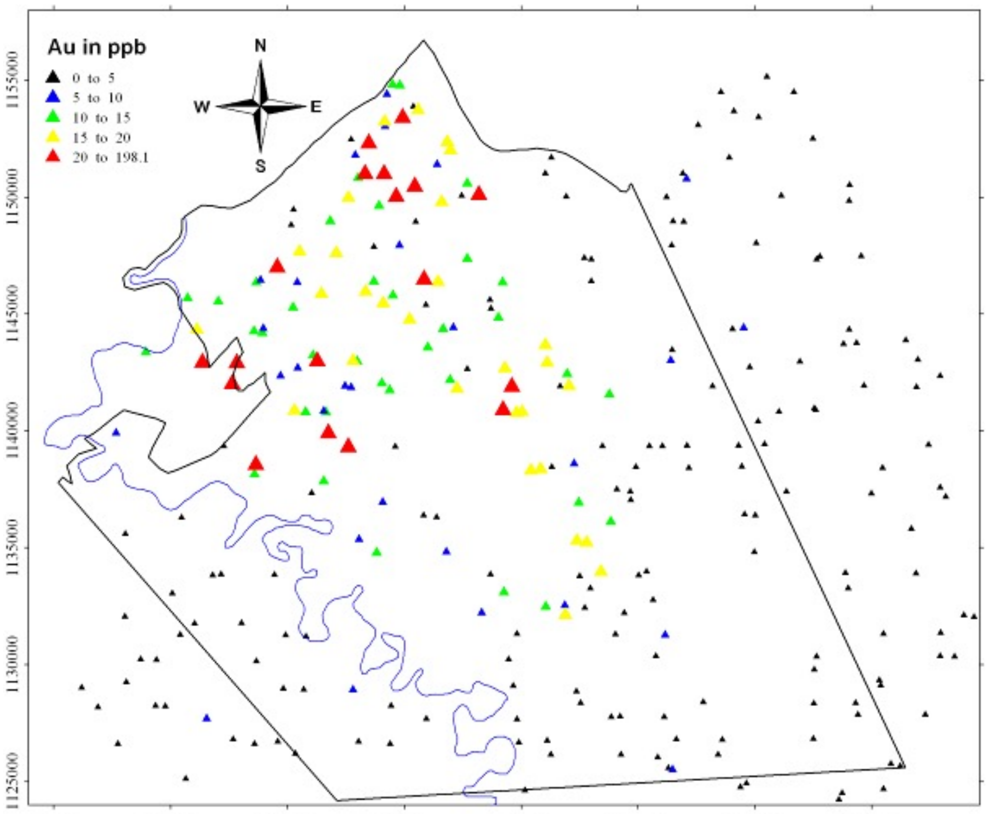

FIGURE 9.2: Normandy La Source Stream sediment sample results

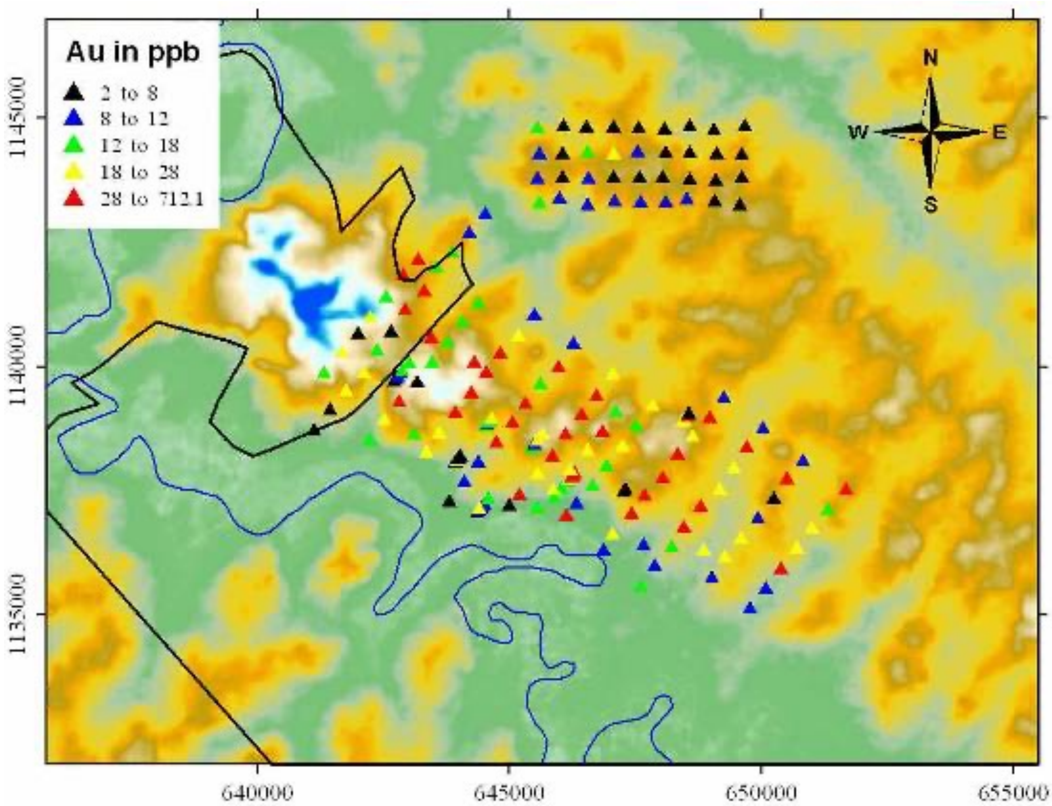

FIGURE 9.3: Digital elevation model with superimposed termite mound sample positions.

Figure 9.4 shows stream sediment and soil sampling results overlain on the regional aeromagnetic survey map. It is of interest to note that another north west trending anomaly as identified by the stream sampling, can be seen north of the main anomalous corridor, striking sub-parallel to a magnetic lineament.

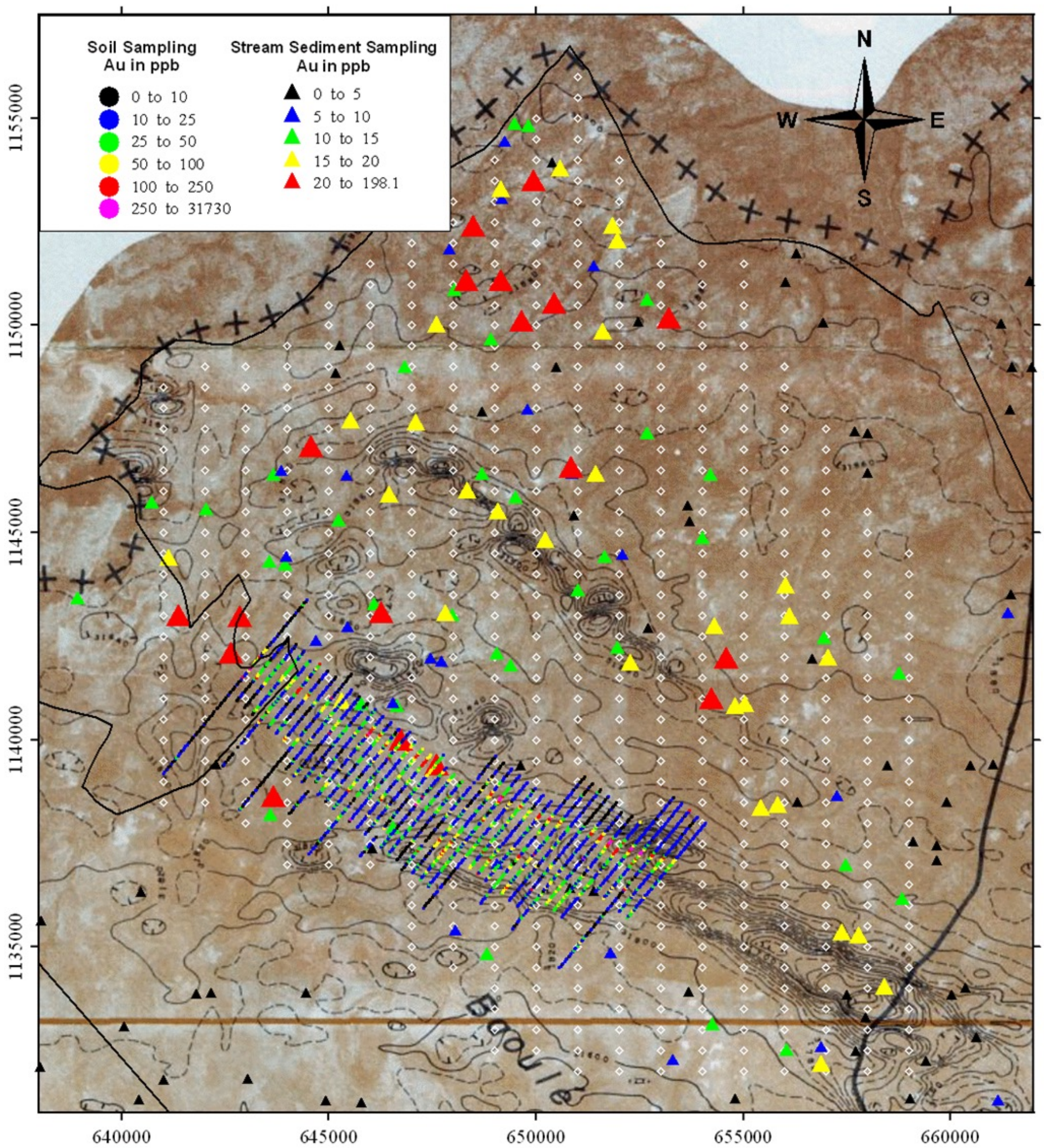

FIGURE 9.4: Normandy La Source Pre 2005 stream sediment and soil sampling results overlain on the regional aeromagnetic survey map (1976). White circles indicate the planned NS regional soil survey grid which was later completed by Jofema.

Figure 9.5 is an image of Normandy gridded soil geochemical results over the main Konela Trend area. Exploration by Normandy ceased in September 2002 due to civil unrest and the licence was subsequently relinquished.

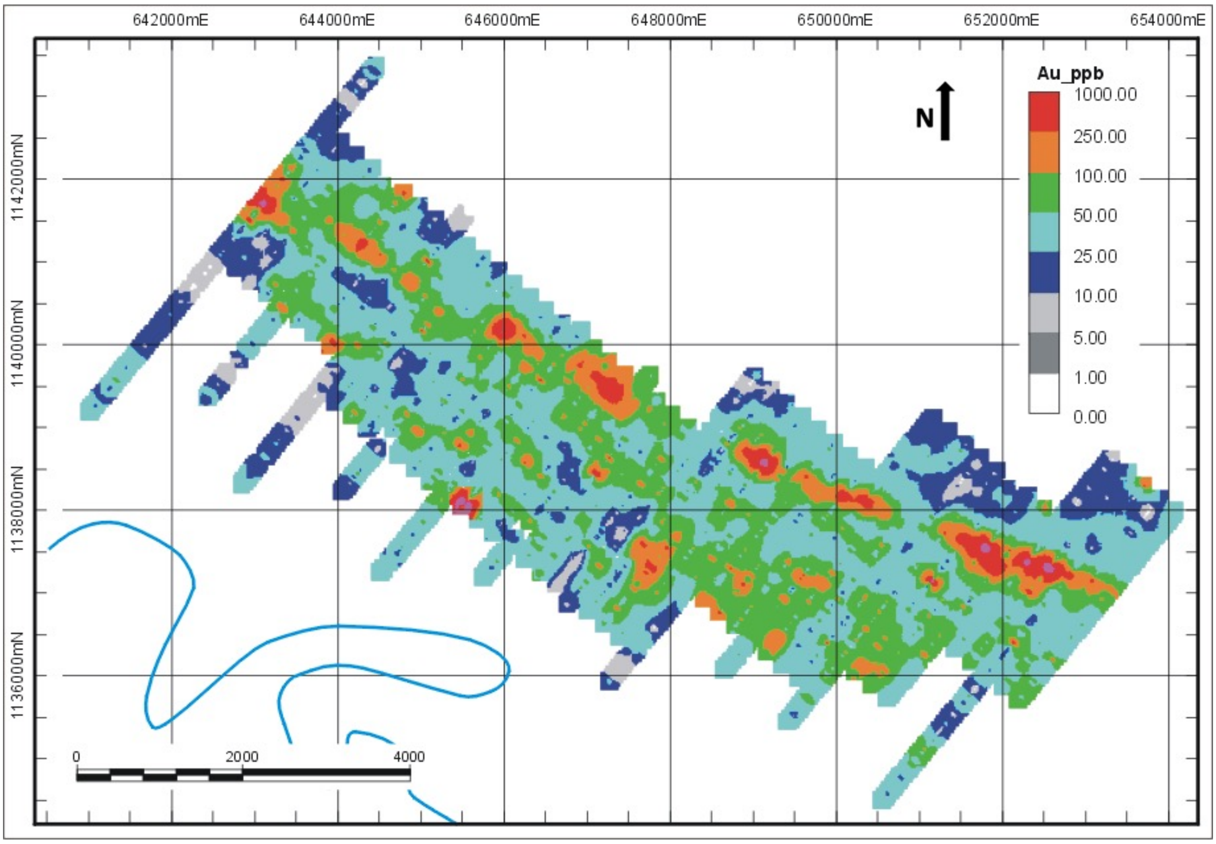

FIGURE 9.5: Pre 2005 Normandy LaSource soil geochemistry image showing north-westerly trending anomalies.

9.2 Exploration 2005 - 2010

9.2.1 Overview

In 2004 JOFEMA Mineral Resources applied for a licence over the area. The licence PR179 was however only awarded on the 15th of September 2005. Due to the difficult political situation on the ground at the time, JOFEMA was only able to commence fieldwork in 2007. During this interim period JOFEMA spent time verifying and studying the available Normandy LaSource data.

Minex acquired an interest in JOFEMA's Konela project PR179 in September 2006. All previous work conducted on the Project, including the Normandy LaSource geochemical datasets, was verified and reviewed by Minex and JOFEMA before the commencement of this work phase. A systematic exploration program which included thorough fieldwork, was subsequently undertaken by JOFEMA between 2007 and 2010. JOFEMA undertook a regional geochemical sampling program covering the entire license area with a N-S orientated grid to the north and an E-W orientated grid to the south of the area (Figure 9.6). The line spacing was 1000m and the sample interval was 100m with 5 samples composited to 500m. This regional survey confirmed the Normandy soil survey results over the main

Konela corridor.

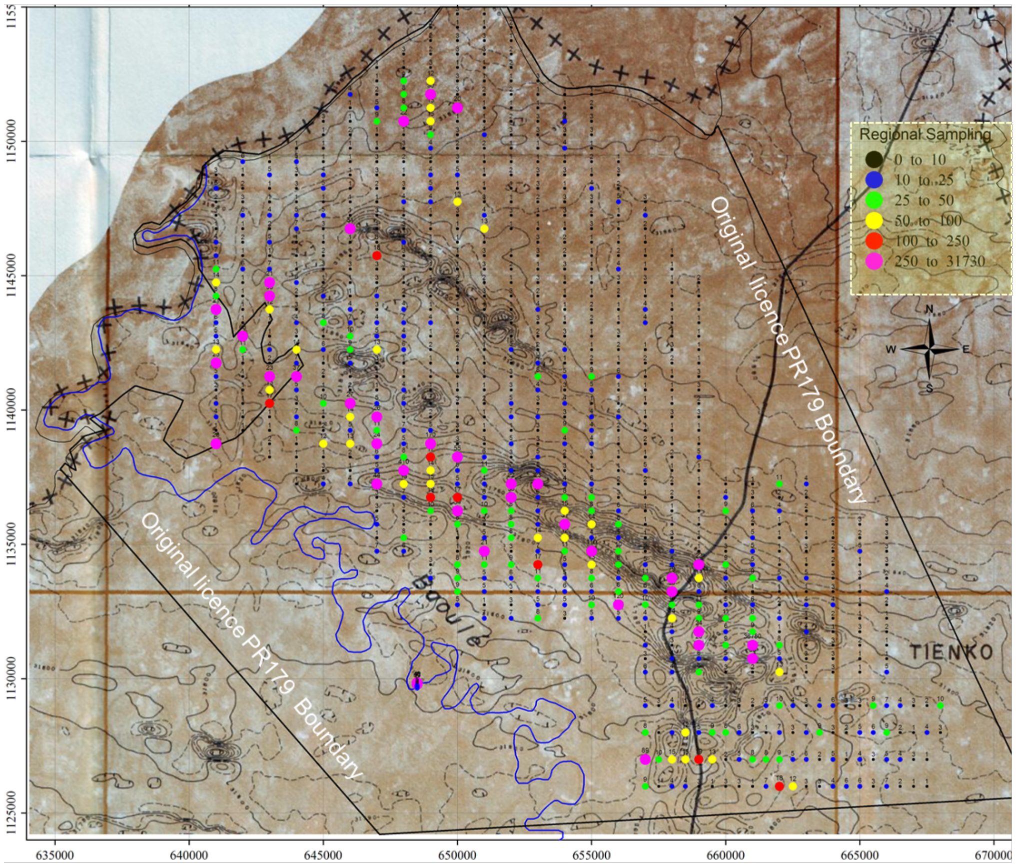

FIGURE 9.6: Regional aeromagnetic survey image with Jofema NS and EW soil geochemical sampling results.

Initial exploration work indicated that some mineralisation abutted against the southern licence boundary along the Baoulé River. An application to extend the original Konela permit to include this area south of the Boule River, known as Madina, was granted in 2009. Subsequent exploration work by JOFEMA was conducted over this southern area during the early and Post 2010 campaigns. Figure 9.7 shows the extension of the regional soil sampling program to include the area south of the Baoulé River. Numerous target zones were delineated and subsequently investigated, although JOFEMA appeared to remain focused on the northern 25km mineralized corridor. Due to disappointing and less prospective results, the southern extensional area was however eventually relinquished in 2014 as part of the second licence renewal of PR179. Since the current WAME licence PR0886 does not include this southern Madina area, no detailed associated results are discussed in this Technical Report.

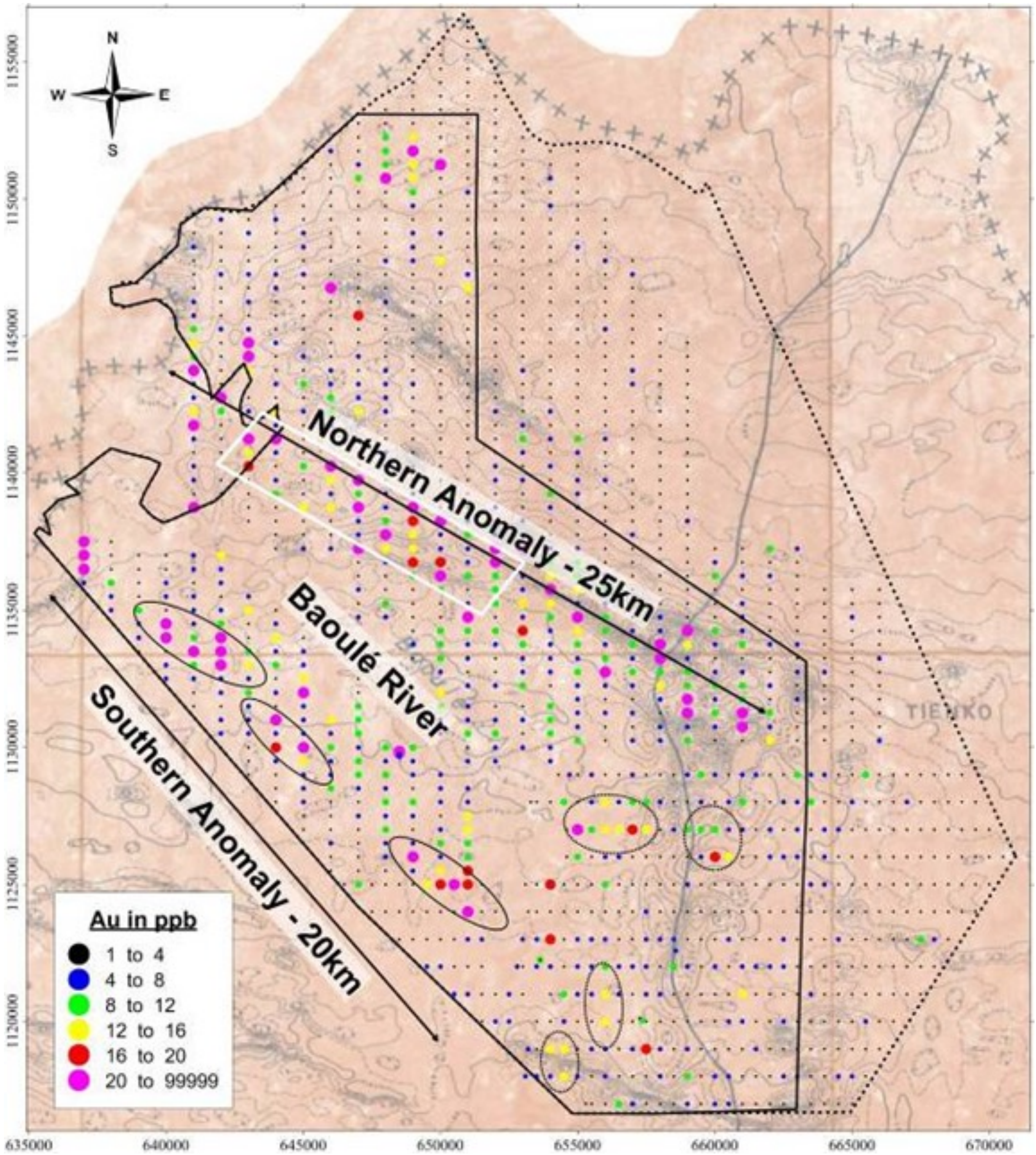

FIGURE 9.7: Regional geochemical survey grid superimposed over the regional magnetic map. The ellipsoids show primary and secondary targets.

Most of the work done by JOFEMA during this 2005 to 2010 period, focused on the northern mineralized corridor, north of the Baoulé River. The regional exploration program identified an extensive target corridor defined primarily by elevated gold in soil concentrations. Within the main corridor, five anomalous lenses, namely Manda, F1, F2, F3 and Kehi were outlined. A number of additional closely spaced 10m spaced soil sampling lines were conducted over selective areas. Mapping, ground magnetic surveys, trenching and limited diamond drilling was conducted during the 2006 to 2010 period.

The following table is a summary of the exploration work undertaken on the project area over this period. Work at Madina has been excluded:

ACTIVITY	DETAILS
Geochemical Sampling:	
1000m x 500m Geochemical Soil Sampling	2084 samples including field duplicates
Follow-up Geochemical Soil Sampling	4908 samples including field duplicates
Confirmation Soil Sampling	192 samples
10m Geochemical Soil Sampling	218 samples including field duplicates
Rock Samples	12 samples
Quartz Vein Samples	24 samples
Trenching	
5 trenches to a depth of 3m	400 metres
Chip Chanel Samples	200 samples
Standards and Duplicates	20 samples
Diamond Drilling	
Core Drilling – 4 boreholes	A total of 379.34m
KDD-01	90.41m
KDD-03	188.16m
KDD-03a	49.26m
KDD-05	51.51m
Core Assay	368 samples
Standards and Duplicates	39 samples
Ground Magnetic Work	
F1 Grid	2.2 km^2 (23 line km)
F2 Grid	6.0 km^2 (61 line km)
F3 Grid	6.25 km^2 (63.5 line km)
Other	
Soil Mapping Laterite Mapping Road Construction Petrographical work	Approximately 8 km

TABLE 9.1: Summary of exploration undertaken between 2005 and 2010.

9.2.2 Northern Anomaly Exploration

Early exploration by JOFEMA was conducted on the northern anomaly north of the Baoulé River. A mineralised corridor with lenses of higher anomalous zones aligned in a NW-SE direction and between 1.5km to 2.5km in length was defined. The soil geochemical anomaly coincided with a regional NW-SE trending magnetic feature. The survey grid was extended in both directions, thereby delineating the Manda and Kehi zones in the north-west and south-east respectively (Figure 9.8). Two main anomalous lenses, F1 and F2 were identified and more detailed soil sampling at a sample interval of 50m x 100m line spacing, perpendicular to the regional magnetic lineament was conducted. Exploration in the form of a high-resolution ground magnetic survey, trenching and limited diamond drilling were conducted on the F1 and F2 zones. The anomalous zone between F1 and F2, termed F3, was futher evaluated up through 10m check sampling and ground magnetic survey (Figure 9.8).

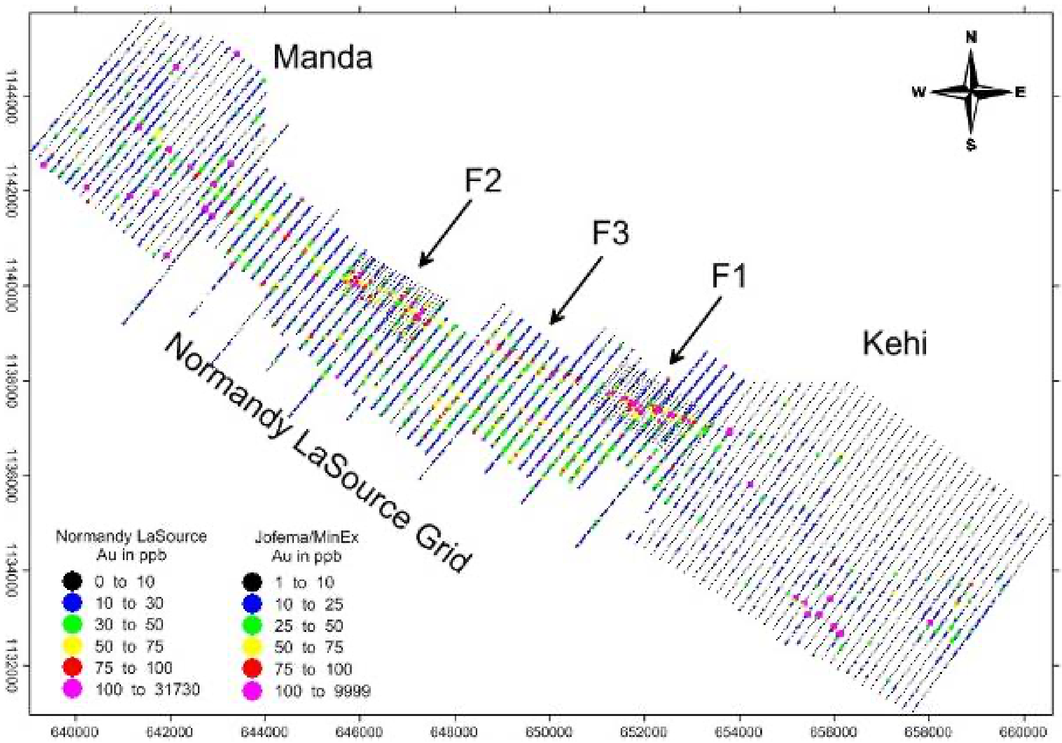

FIGURE 9.8: Results of follow-up and additional sampling along the northern anomaly. Original Normandy and additional extensional as well as detailed infill soil sampling by JOFEMA is noted.

9.2.3 The F1 Zone

A continuous anomaly with a strike length of >1500m and gold values > 30ppb was identified over the F1 Zone. A small outcrop of fine-grained, veined, highly sheared siliceous quartz-chlorite schist was located to the north of the anomaly. The mineralised zone occurs between two laterite plateaus and disappears below the western laterite plateau (Figure 9.9). Three diamond boreholes (KDD-01, KDD-03A and KDD-03) were drilled at F1 to access the mineralisation at depth.

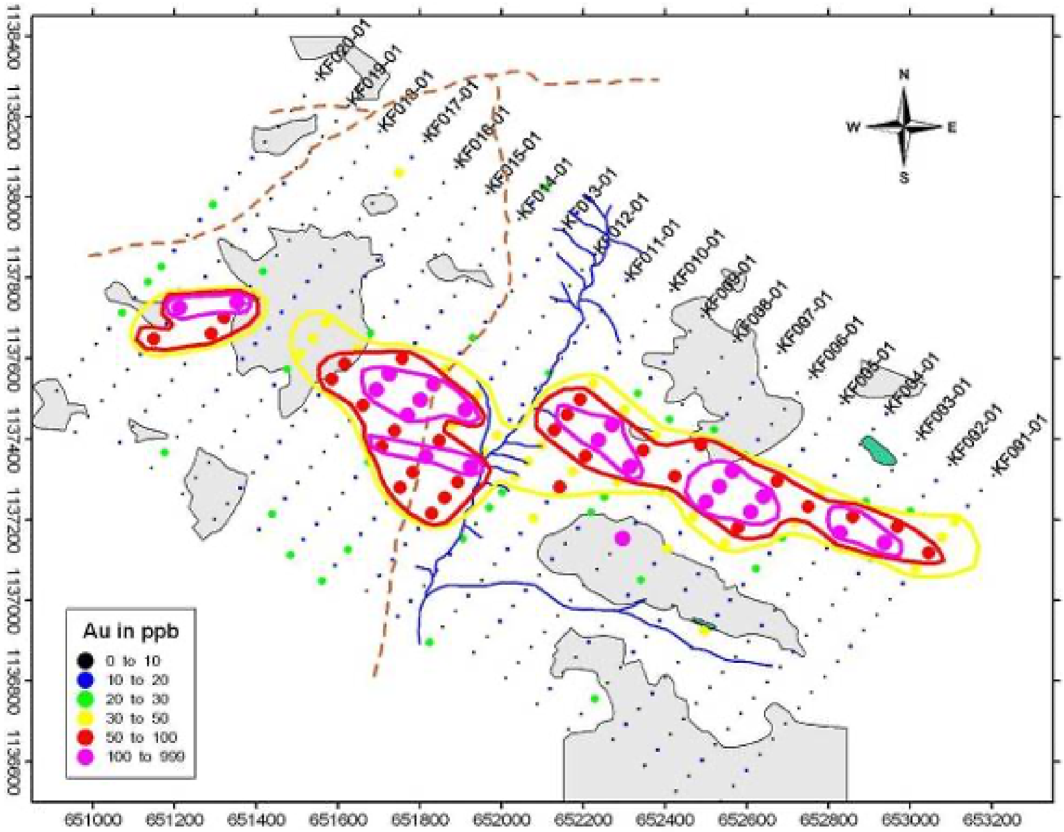

FIGURE 9.9: Results of follow-up sampling along the northern anomaly. Showing Laterite in grey.

9.2.3.1 Ground magnetic work F1

In 2010 a ground magnetic survey was initiated to gain a better understanding of the structural and lithological association within the anomalous zones. Two Geotron G5 Proton Memory Magnetometers were consequently used. The one was utilized as a base station, while the other was used for field data collection. The survey spanned an area of 2.2km^2 (2.2km x 1km) with a station interval of 5m and a line spacing of 100m. Survey lines were N-S orientated. WNW-ESE trending magnetic lineaments were identified, coinciding with the geochemical trend (Figure 9.10). The highest gold in soil values seem to coincide with a magnetic low, situated within a larger WNW-ESE striking magnetic high (Figure 9.10).

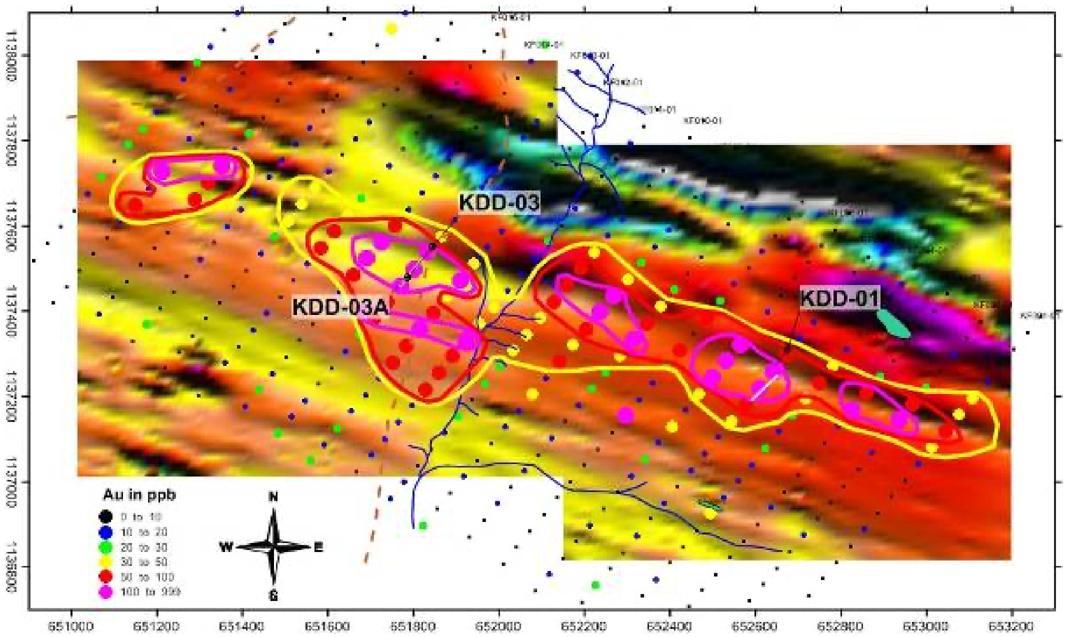

FIGURE 9.10: Ground magnetic survey with superimposed soil geochemistry and borehole positions.

9.2.3.2 Trenching F1

Two trenches (180m in length and 3m in depth) were dug in preparation of drilling. A detailed geochemical sampling program was conducted over 10m intervals along the trench positions and for 50m beyond the end of each trench. The first trench (F1T1) was dug in a north-easterly strike direction within the F1 anomaly near the village of Konela. Anomalous gold in soil values including 490ppb and 100ppb were encountered to the north of the trench (Figure 9.11). The base of the stone line varied from 5cm to 110cm below the surface of the trench. The saprolite was sampled from the base of weathering to 50cm above the bottom of the trench on a 2m sample interval.

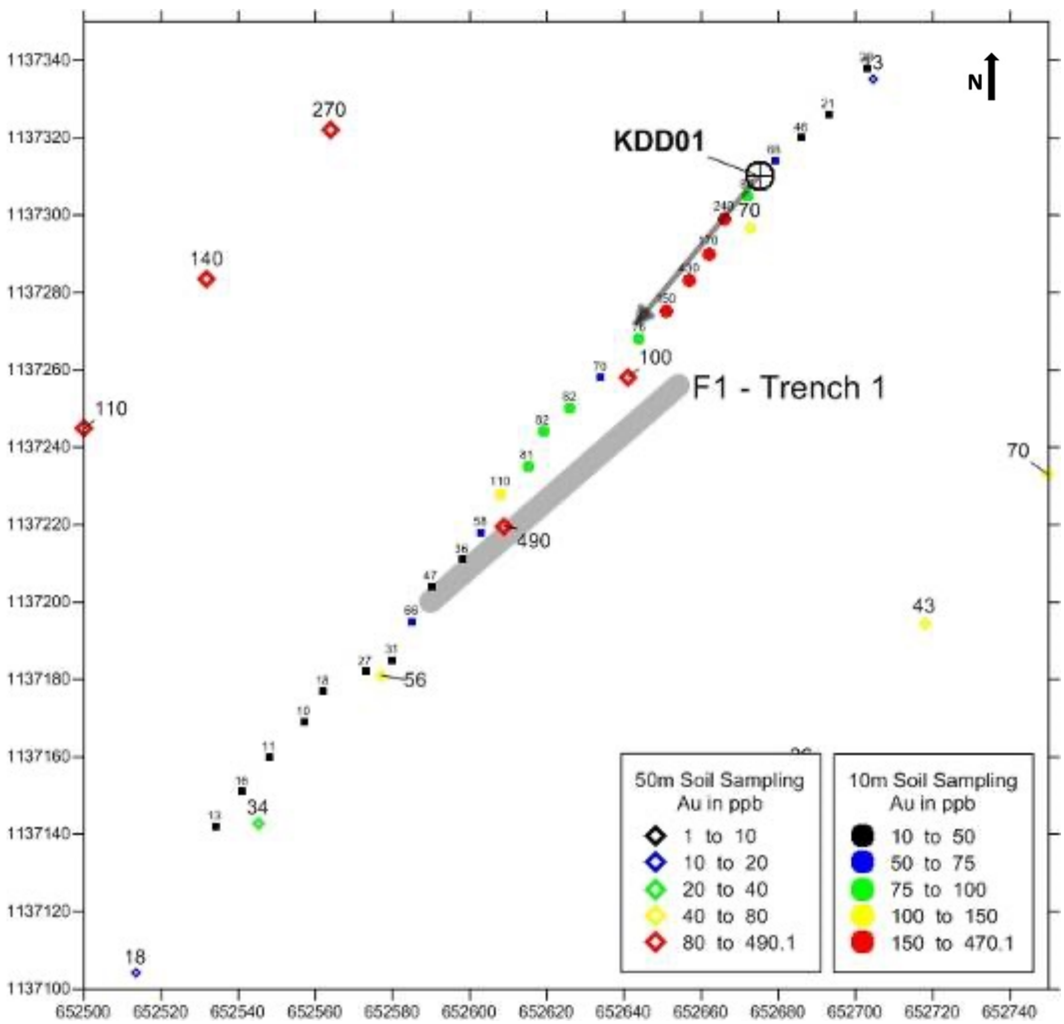

FIGURE 9.11: Map showing the F1T1 trench position at F1 in relation to the 50m geochemical grid sampling (diamonds) and the 10m sampling (solid circles). The first borehole will be drilled at position KDD01 to cover the 10m geochemical gold anomaly.

Low order gold values, less than 0.1g/t, were encountered from the trench samples, although the 10m soil samples indicated the gold anomaly further to the NE (Figure 9.11). Small veinlets mapped in the trench indicated the lithology and foliation dipped in a NE direction and thus the first borehole was drilled from the NE to the SW (Figure 9.11).

A second trench, F1T2, was subsequently dug approximately 1600m WNW of trench F1T1, between boreholes KDD-03 and KDD-03A (Figure 9.10 and 9.12). Results from the 10m sample grid correlated well with the regional soil sampling results. A mineralised zone in the north-eastern end of the trench, averaged 0.76g/t of gold over 12m, inclusive of 1.17g/t over 2m. Gold in soil over 200 ppb extends for a further 30m to the NE of the trench and diamond hole KDD-03 was drilled in this position.

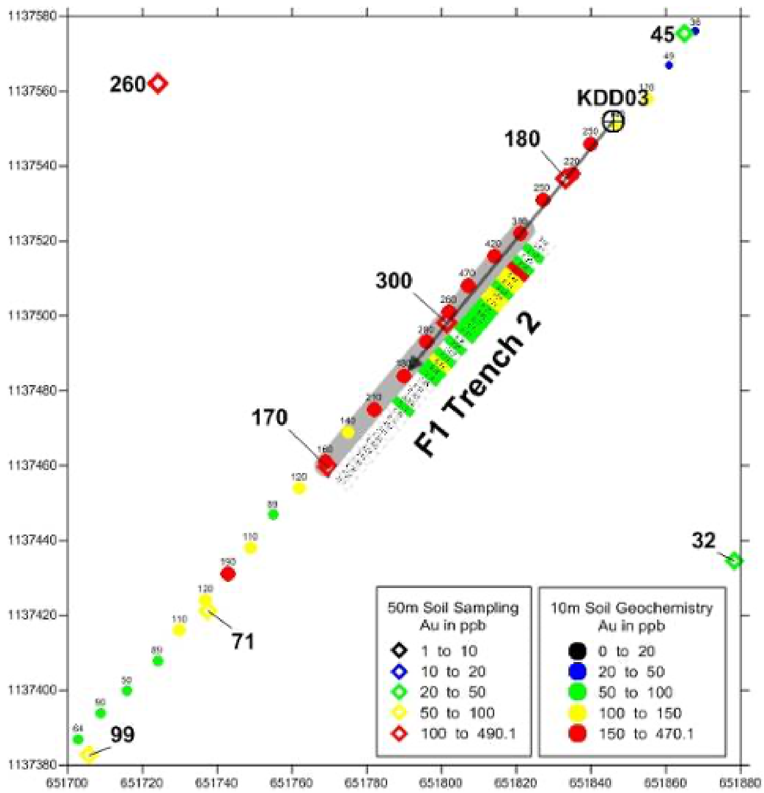

FIGURE 9.12: Map showing the second trench F1T2 at F1 in relation to the 50m geochemical grid sampling (diamonds), the 10m sampling (solid circles) and the trench chip results (blocks). Two boreholes, KDD-03A and KDD-03, were drilled to intersect the mineralised zone discovered in the trench.

9.2.3.3 Drilling F1

In 2010 four diamond drillholes were drilled on the licence. Although diamond drilling was not initially planned the immediate availability of a diamond drill rig at a reduced cost influenced this decision. The rig was available as the company ("Hall Core Drilling") had just completed a program in Mauritania. Although valuable information from the diamond drill program was acquired from the intersected core the program in general proved to be relatively unsuccessful due to intermittent poor core recovery.

Borehole KDD-01 was drilled at an angle of -60 degrees to the southwest (azimuth 218 degrees), 15m to the NE of the geochemical anomaly (Figure 9.13). Saprolite was intersected at a downhole depth of between 5m - 30m. The transition zone between saprolite and weathered/sap rock extended for over 20m (Figure 9.13). A medium grained K-feldspar biotite granite was intersected. Disseminated sulphide mineralisation (pyrite) was also found to occur along foliation and shear planes.

Assay results throughout the entire hole were relatively low due to poor core recovery of less than 50%. The poor core recovery was a consequence of inadequate and inexperienced drillers. A better mineralised zone was intercepted in the transition zone from weathered to fresh granite where quartz veins and sulphide mineralisation were encountered. This borehole was stopped short in mineralisation before the planned 90m end of hole was reached. This was a result of a delay with the importation of additional rods. A new hole (KDD-03) was then initiated.

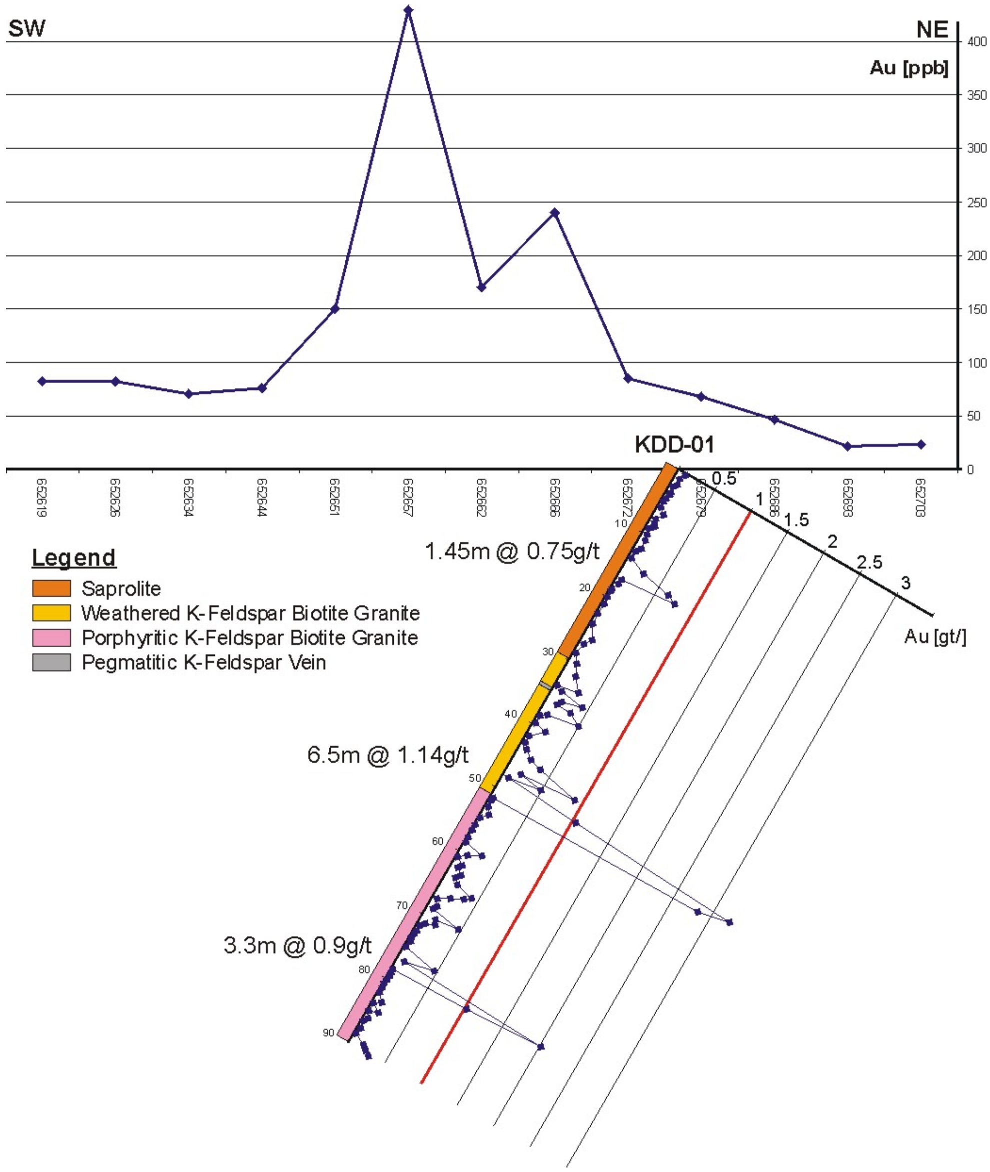

FIGURE 9.13: Section of borehole KDD-01 in relation to the gold assay results of the 10m soil survey

Borehole KDD-03A was drilled 1600m away from trench F1T2, at an angle of -60 degrees to the SW. The trench assayed 0.8g/t over 12m (Figure 9.14) and the 10m soil sampling returned gold values above 200ppb over a distance of 90m. The granitoid, similar in composition and texture to the granitoid intersected in KDD-01, was intersected at 45m downhole. The foliation was parallel to the core axis and the hole was stopped at 49.26m. The gold zone was subsequently re-drilled from the opposite direction (KDD-03).

Borehole KDD-03 was positioned 35m NE of trench F1T2. Similar lithology to KDD-01 was intersected, consisting of a strongly foliated and sheared porphyritic K-feldspar biotite granite with chlorite and biotite shear bands. Average and sporadic gold mineralisation was intersected with improved grades were encountered at 150m downhole (Figure 9.14) where an average grade of 1.5g/t over 7.7m was attained. From KDD-03 it would appear that this system consists of a series of multiple mineralised shears (Figure 9.14).

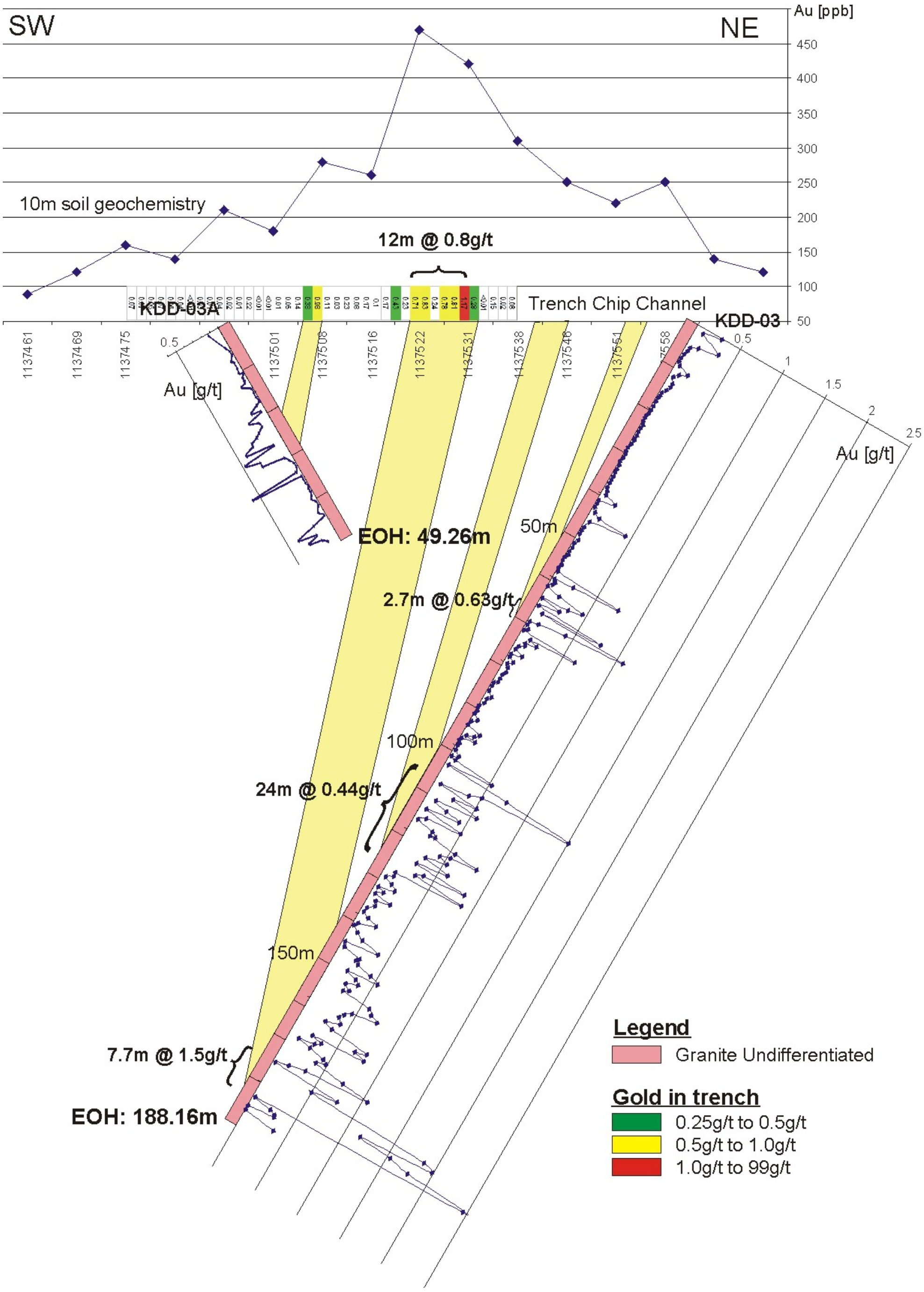

FIGURE 9.14: Section of borehole KDD-03 and KDD-03A in relation to the gold assay results of the 10m soil survey and the chip channel sample results.

9.2.4 The F2 zone

The F2 zone is approximately 2km NW of F1 and indicated promising gold in soil values. Trench F2T1 was excavated and a ground magnetic survey was conducted over this anomalous zone. Figure 9.15 indicates the anomalous soil results in relation to the laterite plateaus of the F2 sampling grid. Values of up to 840ppb Au in soil were obtained in the NW area, however assays on the laterite plateau did not exceed more than 120ppb. The higher values are however supported by a halo of elevated gold values (20ppb to 30ppb) confirming that the laterite has a blanketing effect on the gold values.

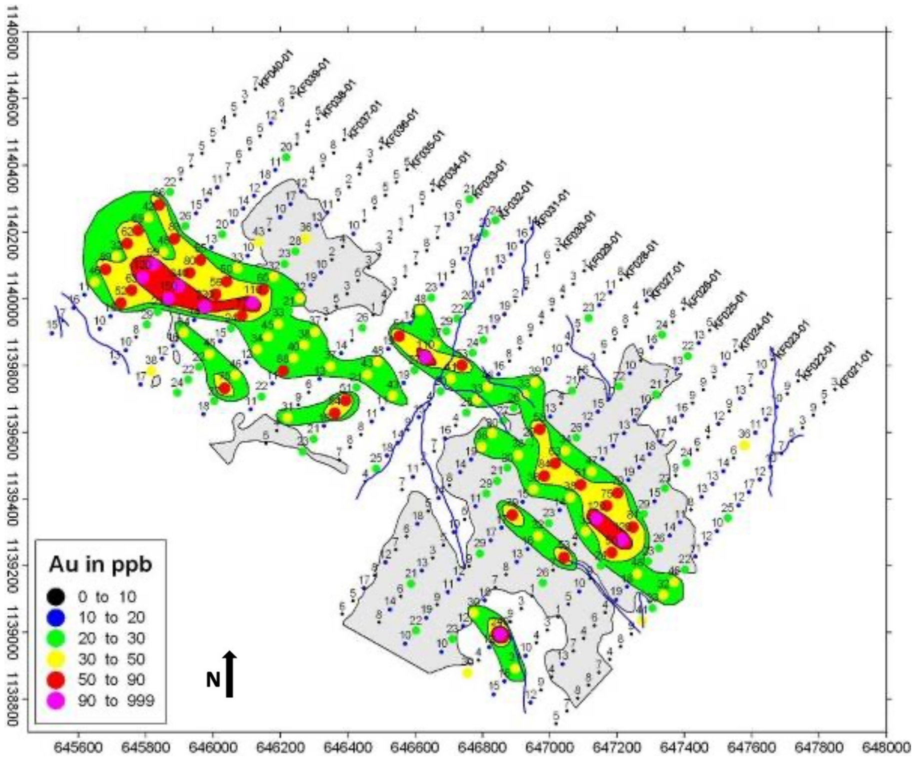

FIGURE 9.15: Gold assay results and laterite outcrops (grey) of follow-up sampling grid F2.

9.2.4.1 Ground Magnetic Survey (F2)

A north-south orientated ground magnetic survey (Figure 9.16) was extended over F2 for 6.2km^2 at a line spacing of 100m and a 5m station spacing. The magnetic trends were orientated in a north-westerly direction, similar to those at F1. The geochemical anomaly at F2 coincides with a weak magnetic high, while the F1 anomaly coincides with a sharp magnetic low within a broader magnetic high. A small area indicating a weaker magnetic low on F2, could indicate a deeper-seated feature (Figure 9.16). The relationship of this feature to the mineralisation is unknown, although it may be structurally controlled as also observed by the displacement and jog of the soil and drilling anomalies. Magnetic noise to SE and centre of area correlates with mapped laterite outcrop.

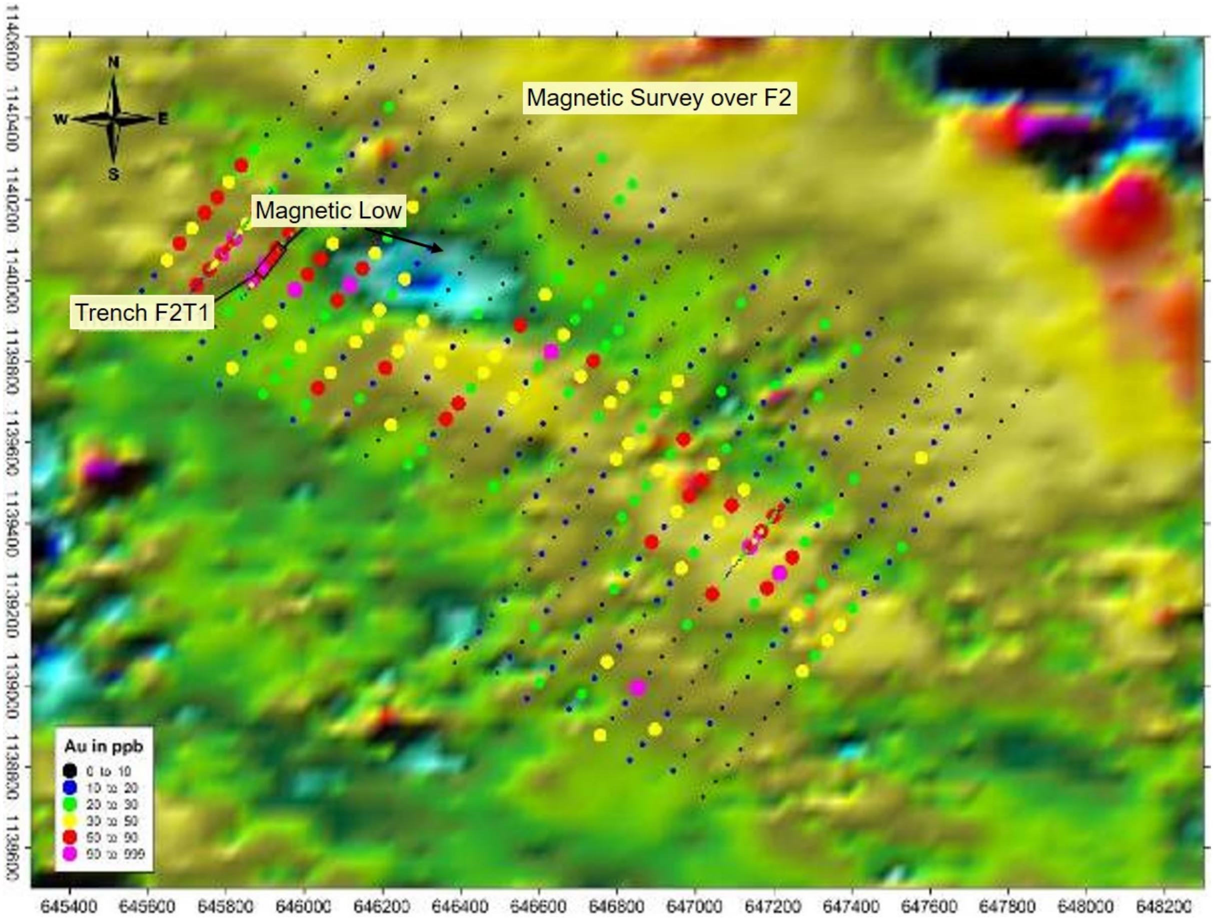

FIGURE 9.16: F2 ground magnetic survey with superimposed soil geochemistry and Trench position.

9.2.4.2 Trenching (F2)

Anomalous values from the 50m geochemical soil sampling survey were confirmed by follow-up 10m soil sampling (Figure 9.16). These results warranted further investigation and a trench, F2T1 (Figure 9.17) was excavated to test the mineralisation at depth. A highly weathered, fine grained mafic rock was exposed with quartz-carbonite veining. A wide zone of gold mineralisation, averaging 0.8g/t over 50m, including a high-grade zone of 2g/t over 6m was encountered.

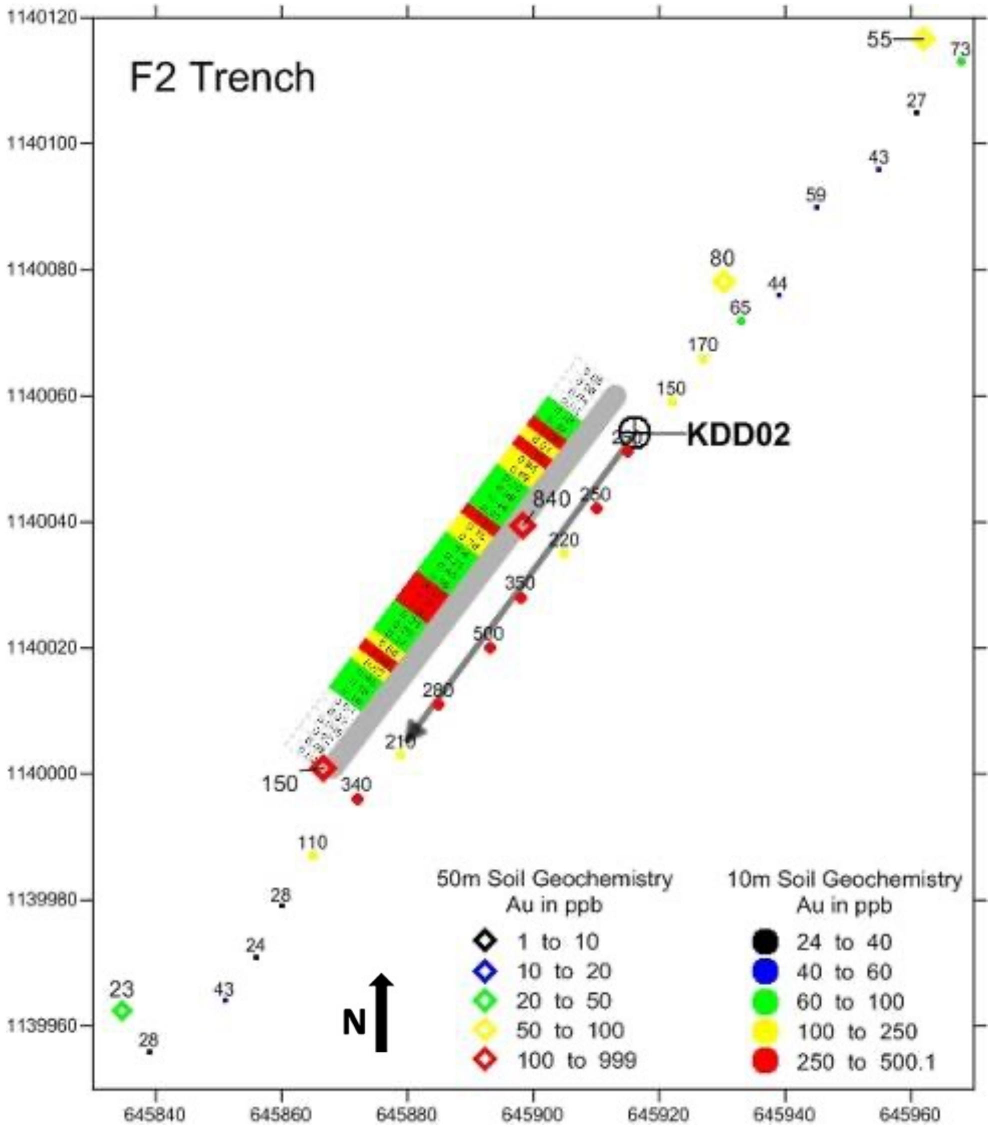

FIGURE 9.17: Trench position at F2 in relation to the 50m geochemical grid (diamond shapes), the 10m sampling (solid circles) and the trench chip results (square blocks).

9.2.5 Kehi Zone

The Kehi zone extends for 1000m southeast of the F1 Zone. Elevated geochemical gold values coincide with the regional magnetic Lineament (Figure 9.18).

The anomalous zone in the southern part of the Kehi grid has a similar north-westerly strike to the regional magnetic trend extending for 1600m (Figure 9.18 and 9.19). The soil cover is very thin in this area and quartz-sericite schist outcrops occur. The schist is strongly foliated and sheared with quartz vein stringers crosscutting the foliation.

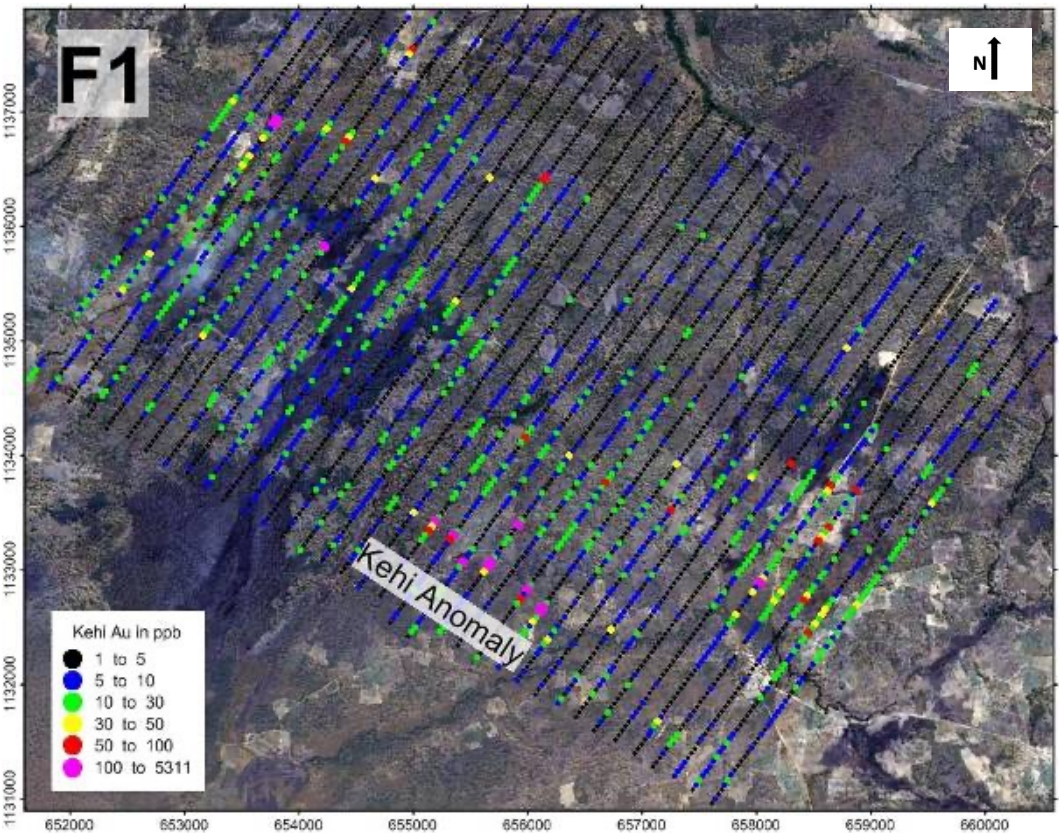

FIGURE 9.18: Kehi geochemical sample results superimposed over the Google image.

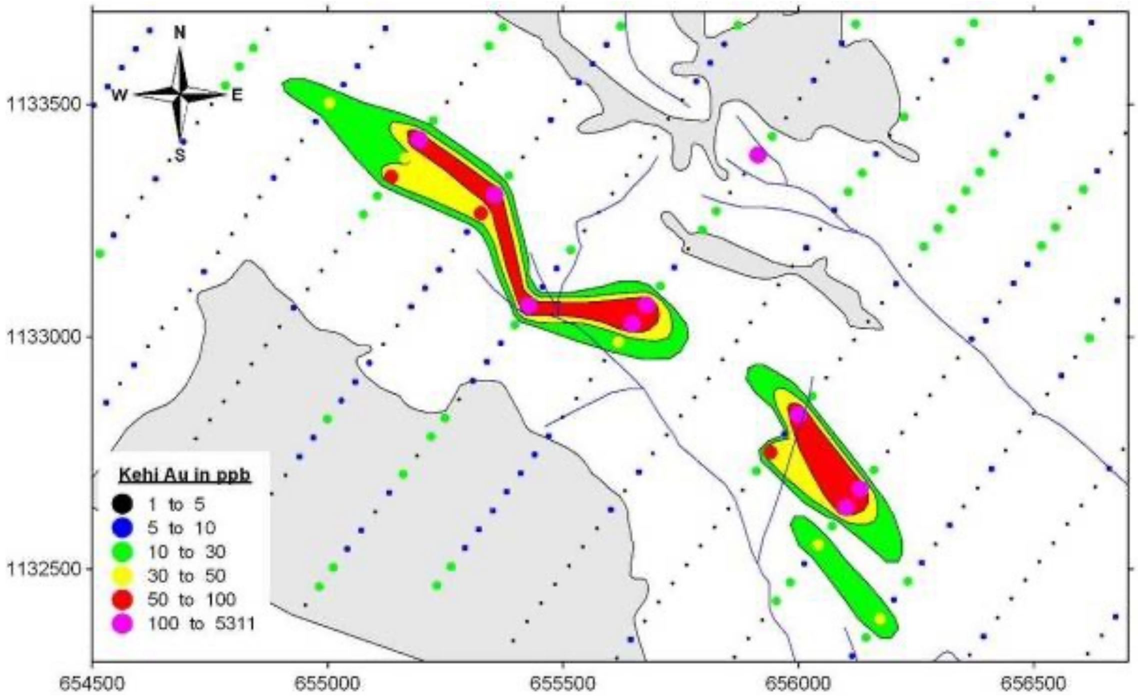

FIGURE 9.19: Kehi Soil Geochemical Anomaly in the southern part of the Kehi area (grey = laterite plateaus).

9.2.5.1 Trench KT1 (Kehi)

Trench KT1 was dug over the main anomaly (Figures 9.19 and 9.20). Numerous quartz veins in a quartz-feldspathic mica schist were exposed with a steeply dipping north-easterly foliation.

Gold mineralisation was encountered in the saprolite over a width of 28m with an average grade 0.77g/t. One of the 2m channel samples returned a high gold value of 8.74g/t (Figure 9.20).

Borehole KDD-04 was planned to intersect the mineralised zone at depth, however this hole was never drilled due to import and logistic issues.

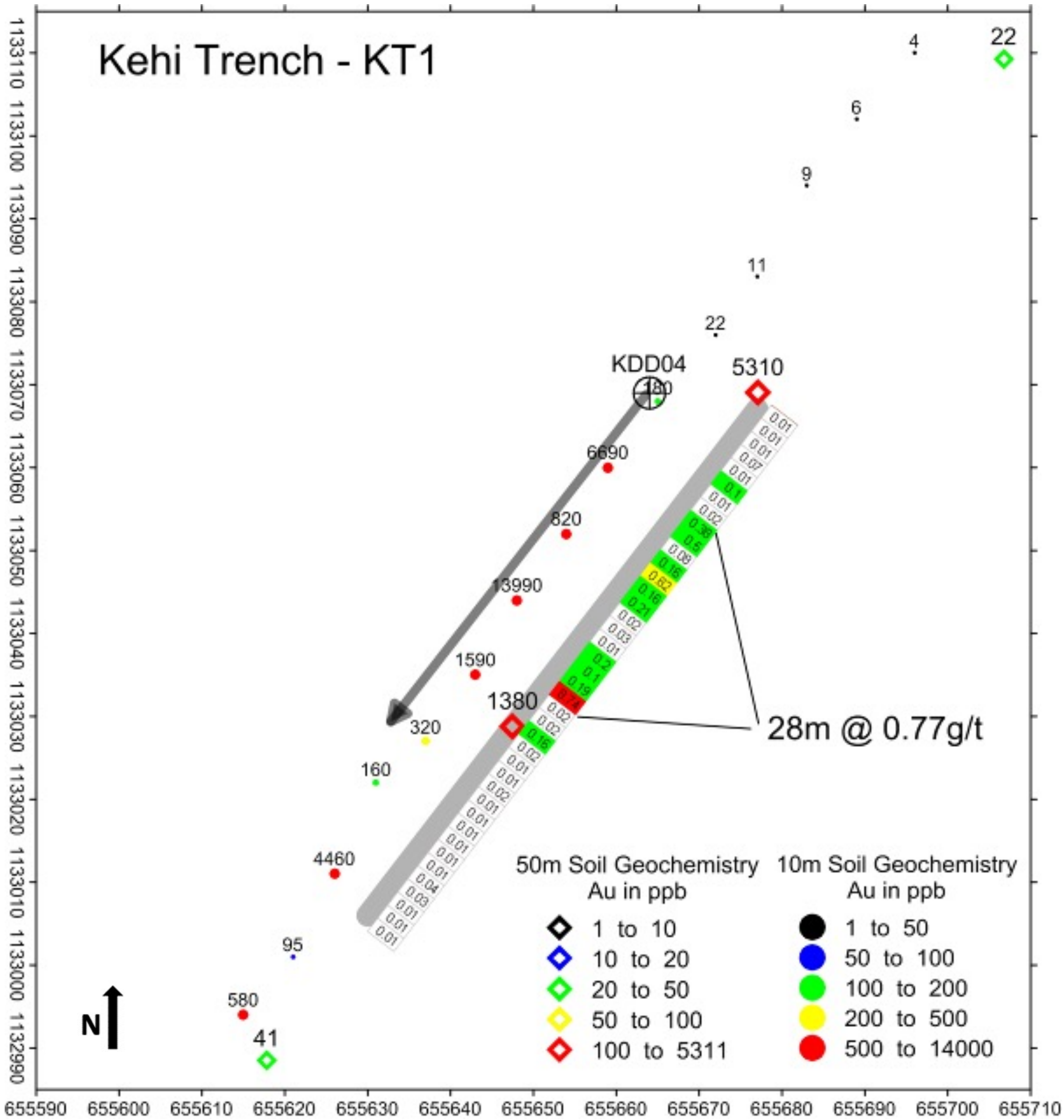

FIGURE 9.20: Trench KT1 at the Kehi anomaly in relation to the 50m spaced geochemical grid (diamond shaped) and the 10m sampling (solid circles) with the trench chip results.

9.2.5.2 Trench KT2 (Kehi)

A second 10m spaced soil sample line was extended across the Kehi anomaly 600m SE of trench KT1 in an attempt to further understand the deposit (Figure 9.21). Trench KT2 was dug over the main anomalous zone. It is of interest to note that the trench assays indicated very limited gold. KT2 soil cover was thicker than that at KT1 and contained abundant weather quartz pebbles.

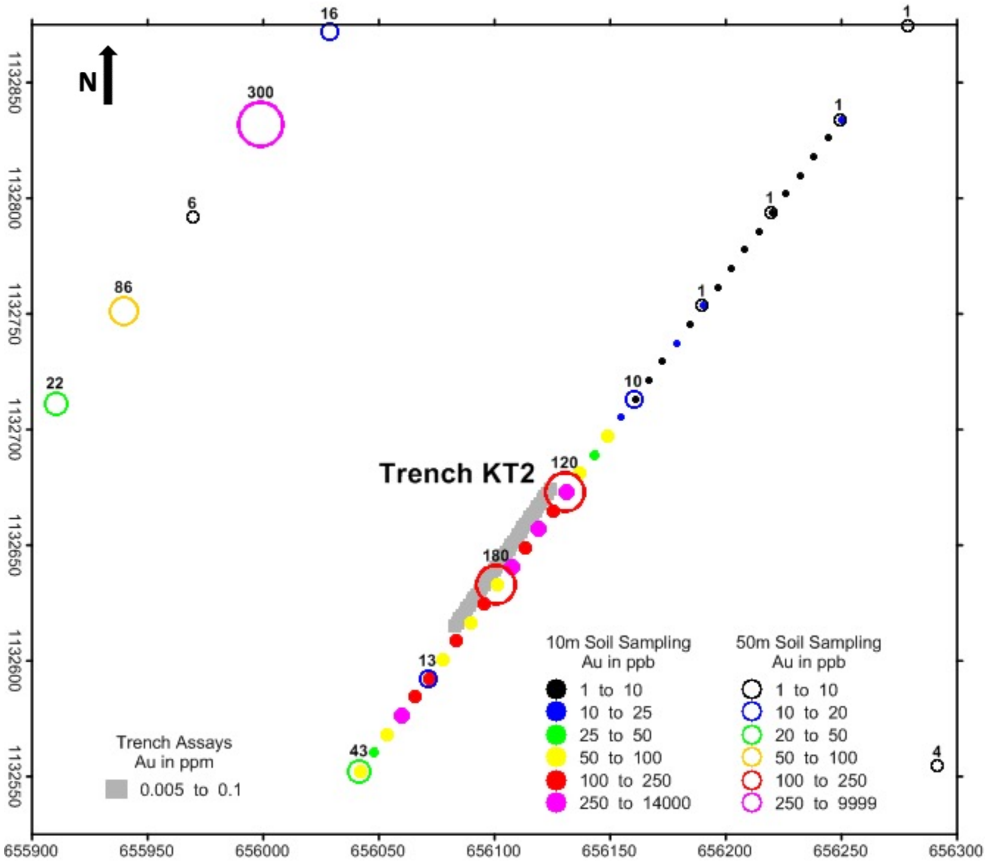

FIGURE 9.21: Trench KT2 at the Kehi anomaly in relation to the 50m geochemical grid sampling (open circles), the 10m sampling (solid circles) and the low trench chip results.

9.2.6 The Manda Zone

The soil sampling grid was extended in a north-westerly direction from F2 towards the Mali border (Figure 9.22). The Manda anomaly continues for 2800m from F2 before pinching out to the far west. It has been suggested that this may be related to thick alluvial cover from the Baoulé River, which is situated 100m west of the last sample line. The geochemical anomaly of the main trend is defined by gold values in the soil ranging between 30ppb and 290ppb, with a peak value of 1470ppb (Figure 9.23).

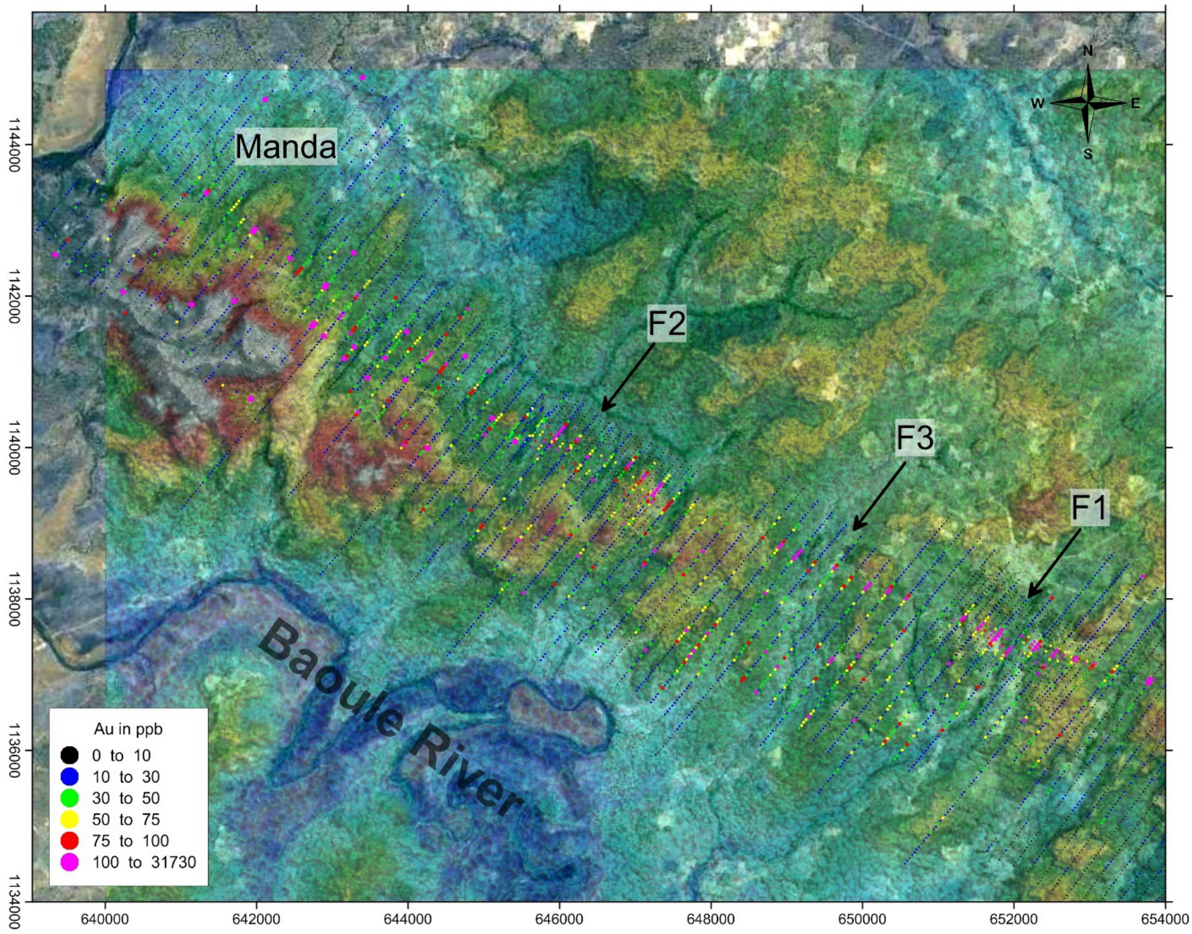

FIGURE 9.22: Topographic map illustrating the main anomalous zones north of the Baoulé River in the Konela area.

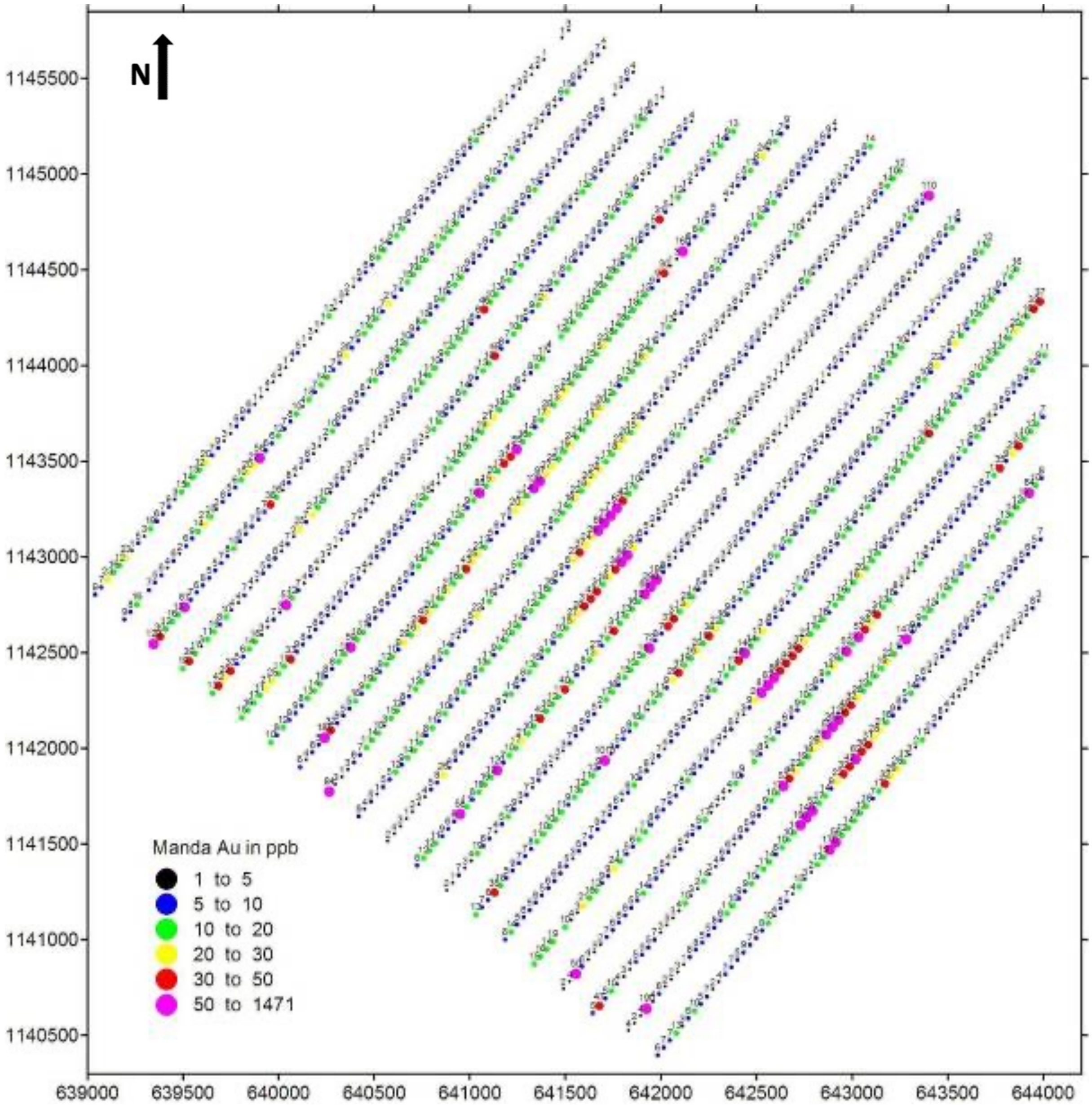

FIGURE 9.23: Manda geochemical soil sample results.

9.2.7 F3 Zone

The F3 zone is located between F1 and F2.

9.2.7.1 Ground Magnetic Survey (F3)

The ground magnetic survey was conducted on the F3 Zone and tied in with the F1 and F2 magnetic grids (Figure 9.24). The results of the magnetic survey revealed several strong ESE trending magnetic lineaments. Elevated gold values in the soil coincide with the magnetic low as identified in the F1 Zone. In the centre of the magnetic survey the geochemical anomaly coincides with a magnetic high, similar to that identified at F2 (Figure 9.24). No trenches were dug at F3.

9.2.7.2 Drilling (F3)

Diamond drillhole, KDD-05, was drilled along the eastern geochemical survey line (Figure 9.24). Saprolite was intersected in KDD-05 borehole and was interpreted to be of metasedimentary origin. Reddish to pinkish porphyritic K-feldspar biotite granite, similar in composition to that found in KDD-01 and KDD-03, was intersected downhole. Mineralisation was expected between 55m and 60m, however, KDD-05 was stopped at 51.51m due to drilling problems. The assay values of the first 51m did not return any significant gold values.

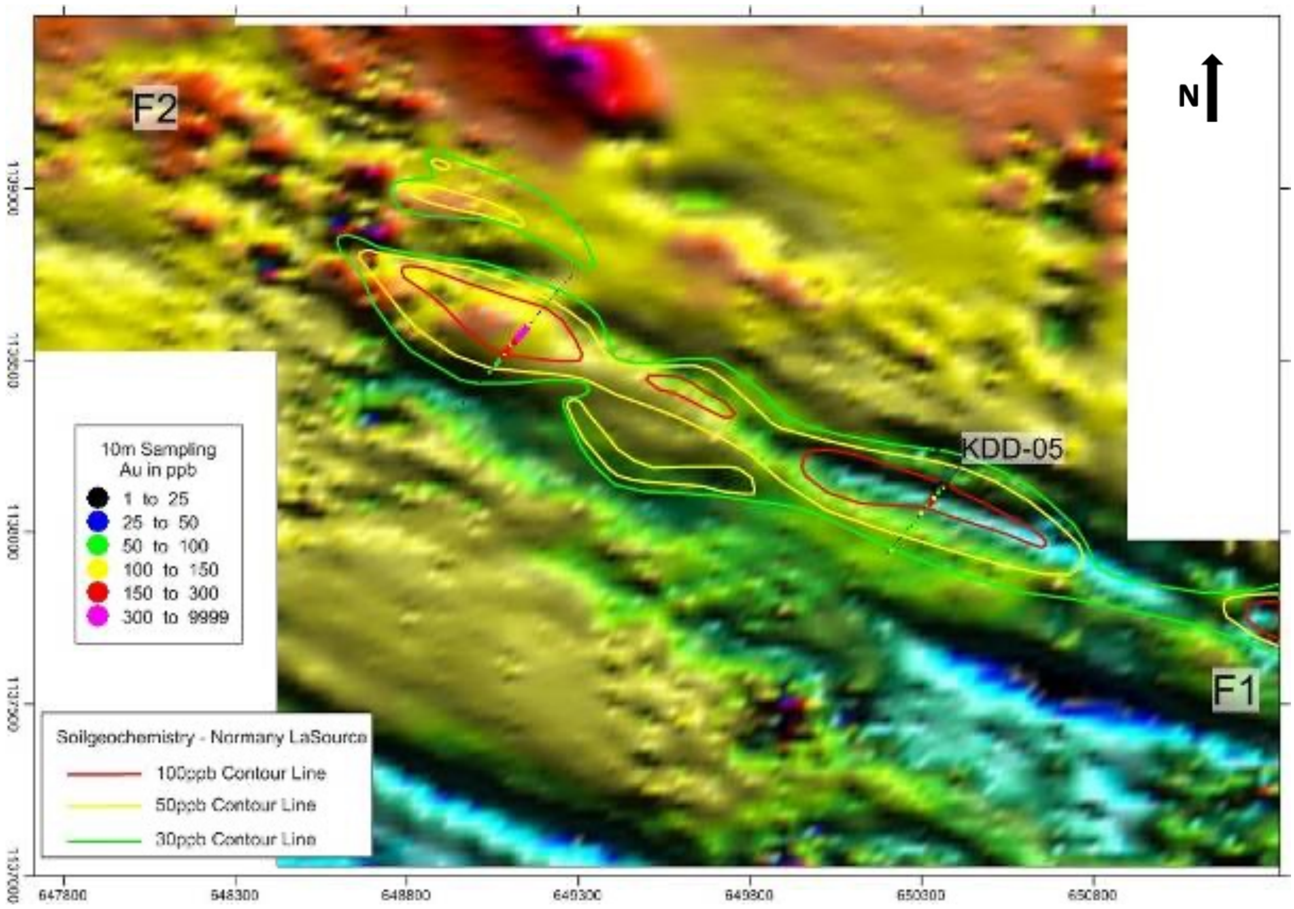

FIGURE 9.24: Ground magnetic survey covering the F3 zone with contoured soil geochemistry of Normandy LaSource and 10m geochemical follow-up lines. Borehole KDD-05 has been started here.

Chapter 10

POST 2010 EXPLORATION

Two subparallel anomalous zones north and south of the Baoulé River (Figure 10.1) were identified in the earlier exploration programmes on the Tienko (previously known as Konela) permit. The northern anomaly, referred to as the Konela Trend, has a strike of over 25km and its northern extent appears to continue into Mali. The anomaly conforms to a magnetic lineament, trending in the same northwesterly direction. Funding was acquired towards the end of 2010 to advance the project by the staged earn-in of Pangea Exploration Pty Ltd (Pangea). This allowed for more extensive systematic exploration to be conducted on the licence (PR179). Post the second renewal of license PR179, the surface area had to be reduced in size as per the mining code license renewal requirement. The Madina trend being the least prospective of the anomalous zones, was consequently relinquished and most of the detailed exploration focused on the northern mineralised corridor. This section of the report therefore focuses predominately on the six target zones, namely F2, F3, F1, Kehi (Konela Trend Corridor) and Nabagala (southern Corridor) as included in this new license, PR0886 (Figure 10.1).

It is of note that this report includes the Manda zone, even though it is currently excluded from the new license PR0886 due to "protected forest area". This area is under review for reclassification since it is no longer entirely forested and is also used for agricultural purposes. Manda area formed part of the license area of the previous permit PR179 held by JOFEMA and an application has therefore been made to append this area to the license. A licence extension is possible under the Ivorian Mining Code - (Personal Communication with WAME). The legality of this has not been confirmed nor verified by the authors of this technical report.

The post 2010 target exploration program included some detailed additional soil sampling, extensive aircore (AC), rotary air blast (RAB) and reverse circulation (RC) drill programs. Table 10.1 summarizes the drilling conducted during this exploration phase as well as the four diamond holes drilled in 2005-2010 program.

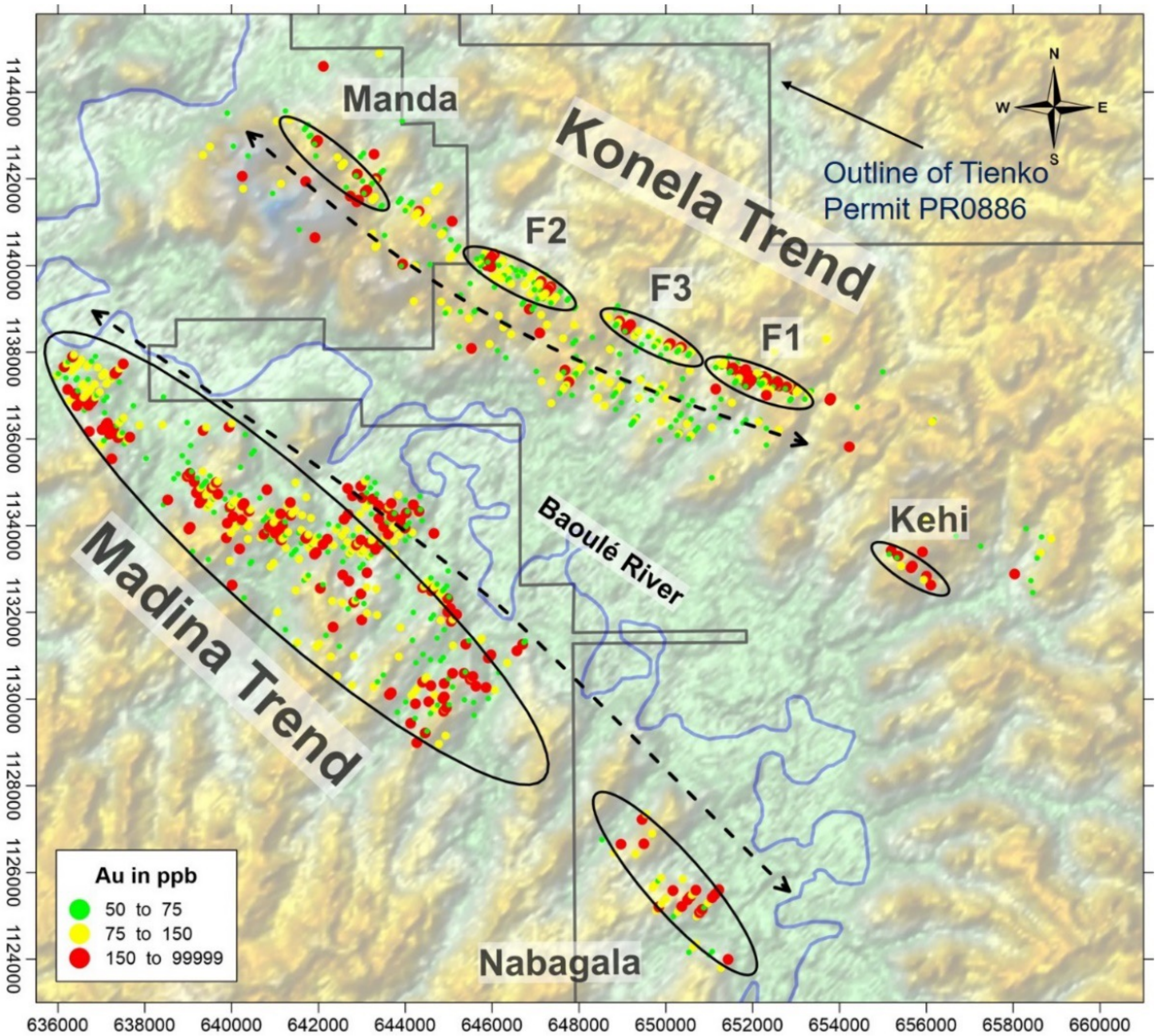

FIGURE 10.1: DEM showing geochemical anomalous zones on the northern Konela Trend and the southern Trend in relation to the newly issued Tienko Permit PR0886.

AREA	RAB (2012)		AC (2013, 2015)		RC (2013)		DD (2010)	
	NO. OF HOLES	METRES	NO. OF HOLES	METRES	NO. OF HOLES	METRES	NO. OF HOLES	METRES
F1	145	4 038	0	0	6	570	3	280
F2	106	4 016	0	0	7	696	0	0
Between F2 and F3	0	0	32	1532	0	0	0	0
F3	141	4 282	0	0	8	725	1	52
Kehi	107	2 918	0	0	0	0	0	0
Nabagala	0	0	54	2 167	2	226	0	0
Manda	0	0	106	4 908	0	0	0	0
Totals	499	15 254	192	8 607	23	2 217	4	332

TABLE 10.1: Drilling conducted post-2010 on Tienko Project (Konela license PR179).

10.1 F2 Anomaly

The F2 anomaly is situated within the Konela Trend towards the north west corner of the current licence area. Similar to the other target areas, F2 was primarily identified by soil sampling, trenching and mapping. It would appear that the laterite outcrop masks the soil Geochem assay results. Mineralisation is typically within the sheared mafic schist contact. The shear zone trends in a northwesterly direction and occurs within metasediments to the north of the Manda zone.

10.1.1 RAB Drilling F2 Anomaly

The F2 target area (Figure 10.1) extends for more than 1800m in a WNW-ESE strike direction. A total of 105 RAB boreholes (4016m) were drilled along seven drill fence lines with a spacing of 200m between lines except for line 4 which had a 400m spacing on each side. RAB drilling confirmed the main soil geochemical anomaly identified in the previous exploration phase (Figure 10.2). This mineralized zone has a 45m average width and is open-ended in both directions. The Trench KT3 tied in well with RAB holes RAB019 and RAB020 along Line 2. The mineralized zone between Line 1 and 2 averages 0.5g/t. Gold grades of up to 5.73g/t over two drill meters were intersected.

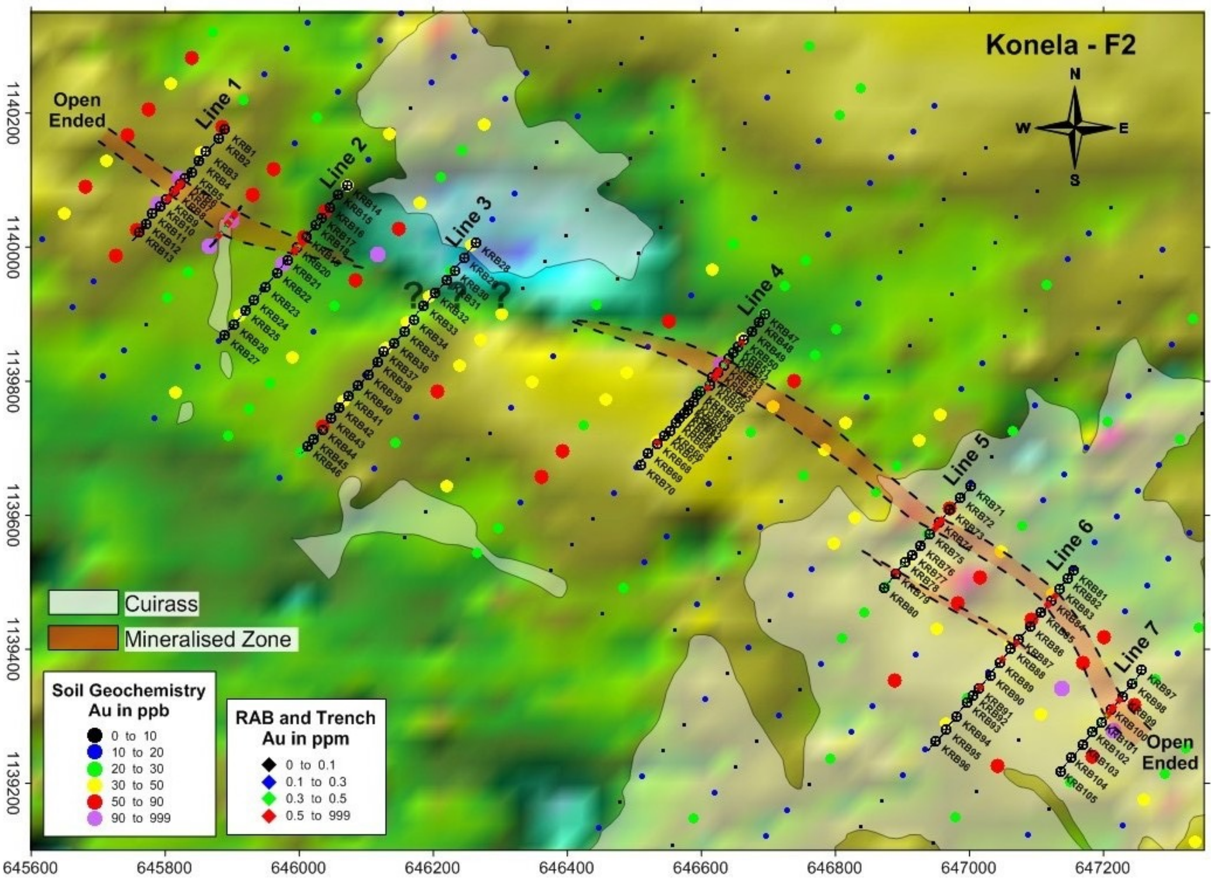

FIGURE 10.2: Ground magnetic map of F2 showing the soil geochemistry and the mineralisation trend identified by the RAB drilling program. This image displays the mineralised lenses as interpreted by the Jofema geologists.

There appears to be a structural displacement between Lines 2 and 4 (Figure 10.2) which will require further investigation. Structural jogs in vein quartz deposits often result in enhanced mineralisation. RAB Line 4 indicated a 40m wide mineralised zone also averaging 0.5g/t (Figure 10.2). RAB lines 5 to 7 were drilled on a laterite plateau. Good mineralisation over 18m occurs in boreholes KRB73 and KRB74 within Line 5 with one 2m sample returning 7.85g/t. Limited lithological information was acquired at the F2 Zone due to the shallow nature of most of the drillholes terminating within this saprolite zone. A few deeper boreholes (more than 35m) intersected the transitional zone where weathered, highly foliated chlorite schists were encountered. None of the F2 RAB boreholes intercepted fresh rock. Quartz veins are found to be associated with the gold mineralisation and strong alteration is present. Identifying the alteration minerals proved difficult. The mineralised zones at F2 are affected by shearing and structural jogs. (Figure 10.3).

Limited lithological information was acquired at the F2 Zone due to the shallow nature of most of the drillholes terminating within this saprolite zone. A few deeper boreholes (more than 35m) intersected the transitional zone where weathered, highly foliated chlorite schists were encountered. None of the F2 RAB boreholes intercepted fresh sap rock. Quartz veins are found to be associated with the gold mineralisation and strong alteration is present. Identifying the alteration minerals proved difficult. The mineralised zones at F2 are affected by shearing and structural jogs (Figure 10.3).

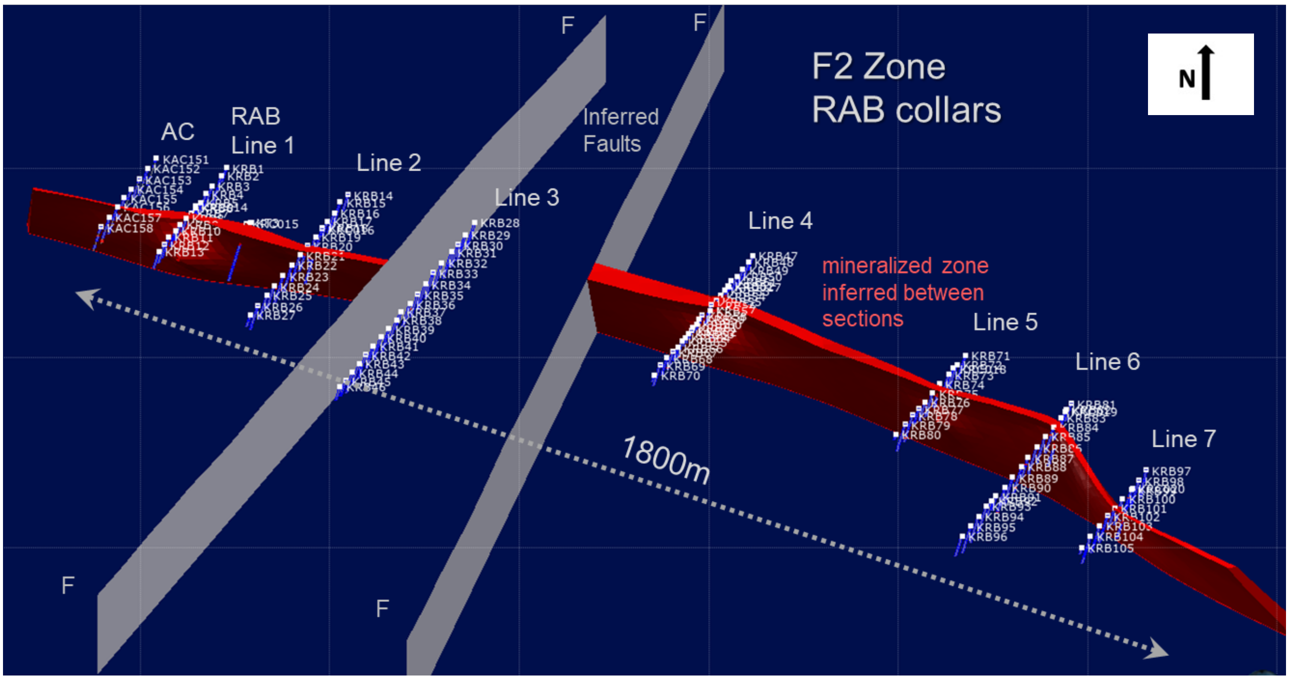

FIGURE 10.3: Leapfrog model of mineralised zone at F2 showing inferred faults between RAB drill collars Line 1 to Line 7 and the northern most Aircore drill line. Source: Deon Vermaakt.

10.1.2 RC Drilling F2 Anomaly

RAB results at F2 were followed up by the drilling of seven angled ($-60°$) RC boreholes. A total of 696m were drilled (772 assays). Gold mineralisation at F2 is predominantly hosted in veined quartz-chlorite schist with disseminated sulphides. KRC014 has a significant intersection 3.84g/t over 22m (Table 10.2 and 10.4). Sections of RC and RAB lines are shown in Figure 10.5 and 10.6.

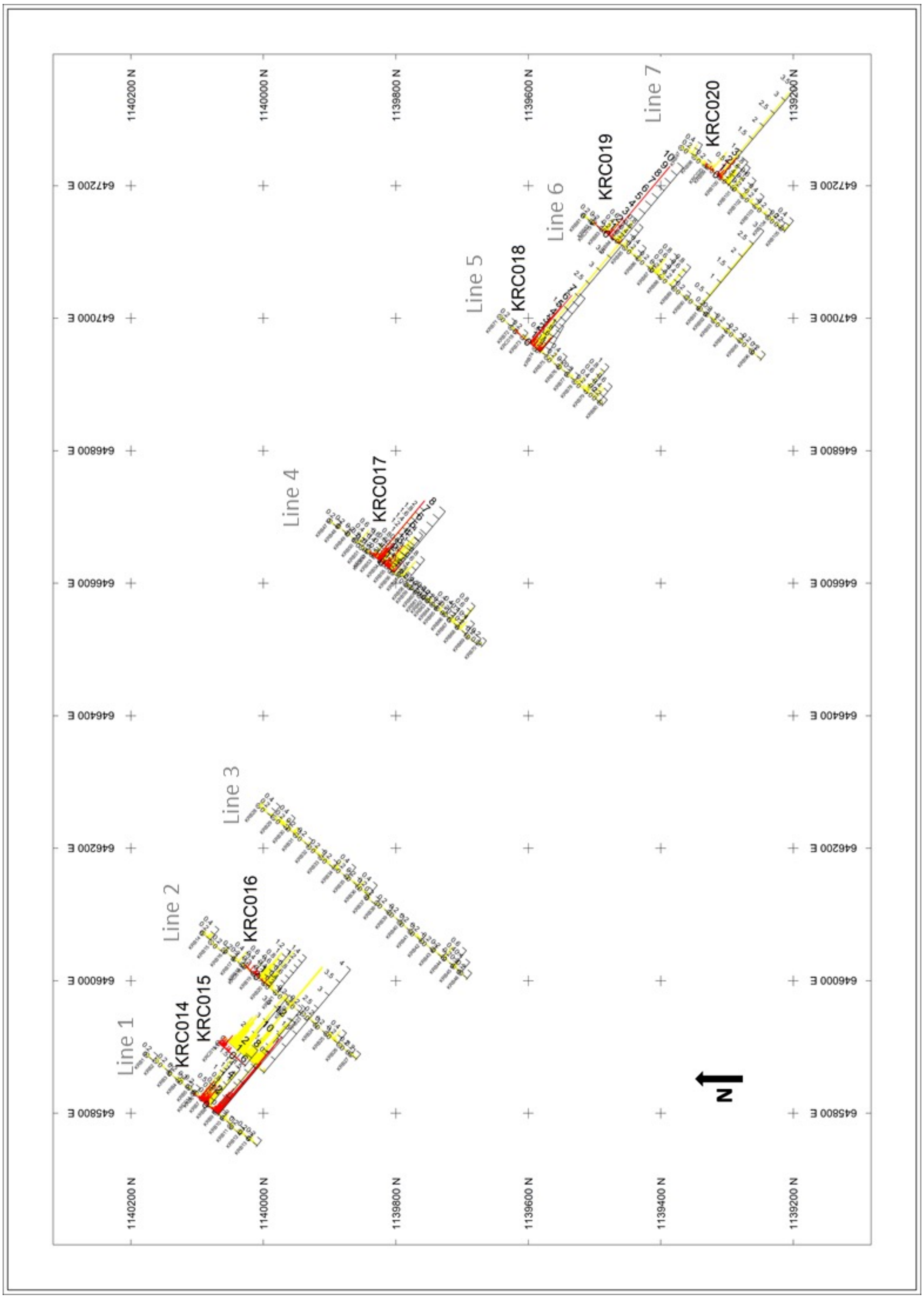

FIGURE 10.4: RAB and RC drill hole collars at F2 indicating mineralised zones (RC in red, RAB in yellow)

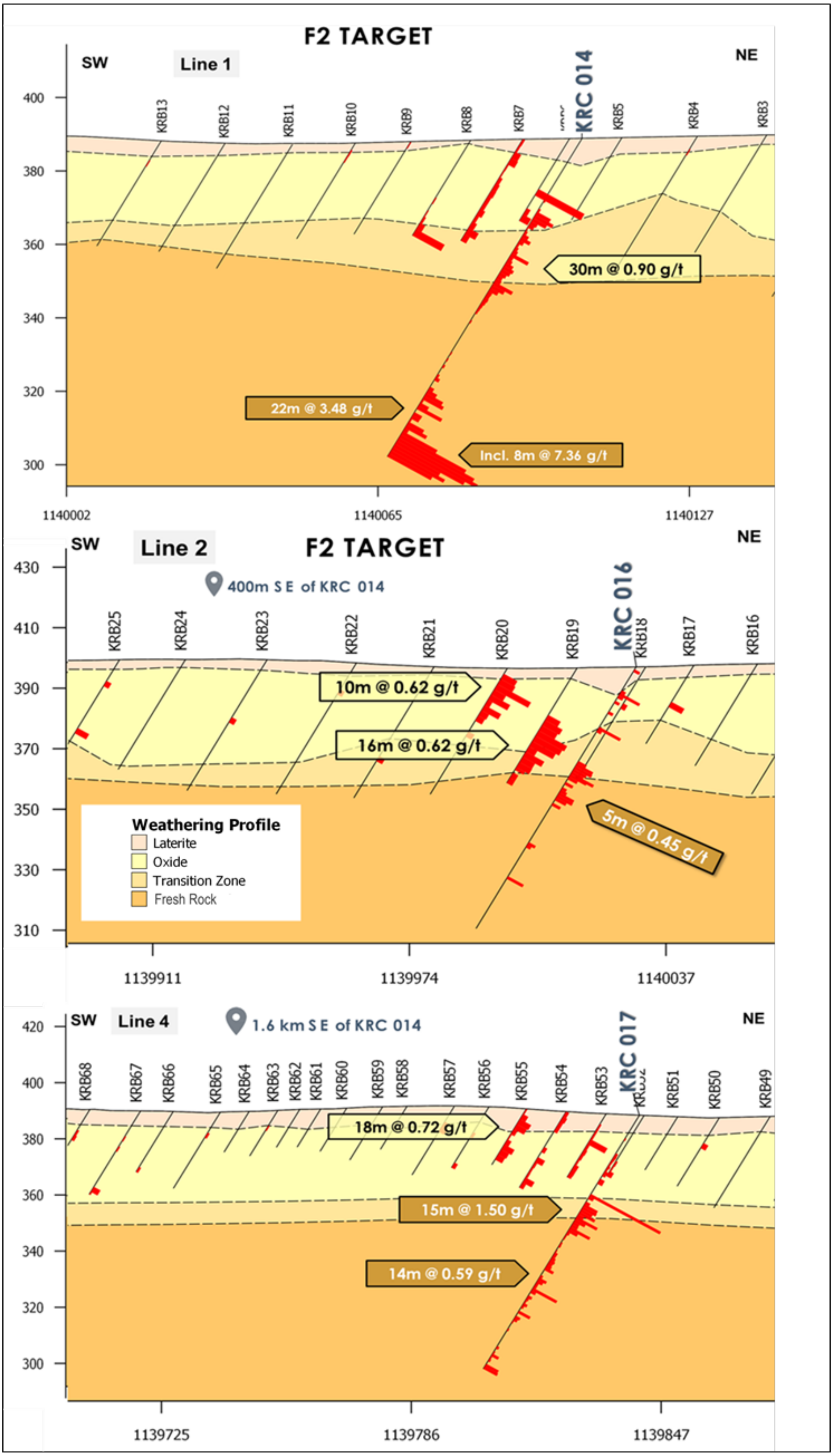

FIGURE 10.5: RAB and RC drill sections from Line 1, 2 and 4 in the northwest of Zone F2

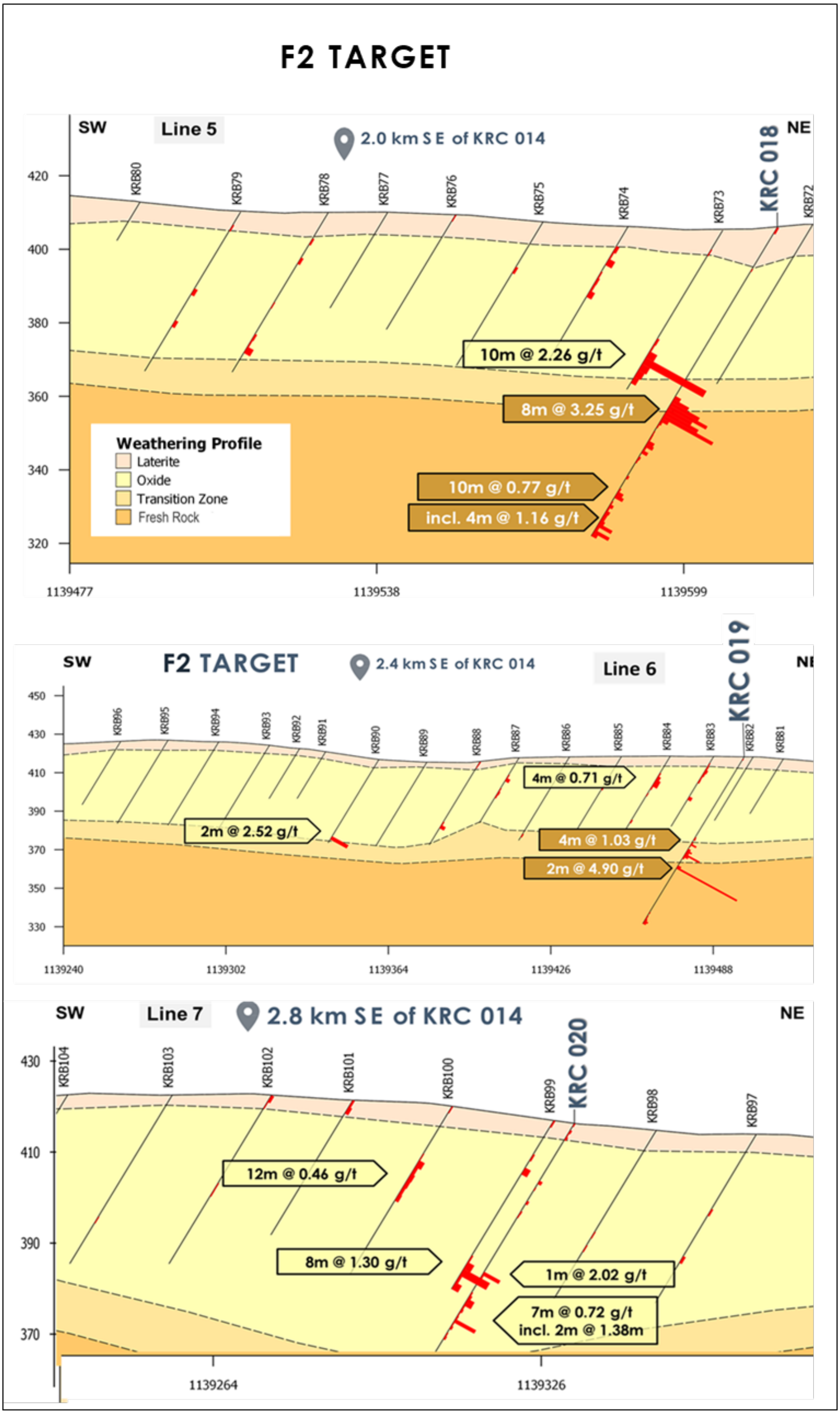

FIGURE 10.6: RAB and RC drill sections from Line 5, 6 and 7 in the northwest of Zone F2

Borehole No.	Intersection (m)	From (m)	Gold Grade (g/t)
KRC014	25	23	0.99
	22	78	3.48
	Incl 8		7.36
KRC015	23	0	0.57
KRC016	5	37	0.45*
KRC017	59	22	0.65
	Incl 15		1.50
	And 2		1.39
KRC018	8	53	3.25
	14		0.66
	Incl 4		1.16
KRC019	5	55	0.90
	1	66	9.23
	2	98	0.49
KRC020	15	44	0.54
	Incl 1		2.02
	1	58	2.56

*This take out averages below 0.5g/t

TABLE 10.2: F2- Summary of RC gold intersections. (Cut-off grade - 0.5 g/t Au; minimum drilled width – 3 m; maximum internal dilution (i.e. <0.5 g/t Au cut-off) – 3 m. (Intersections are not recorded as true widths)

10.1.3 Potential of F2

Exploration work conducted at F2 indicated a continuous zone of mineralisation trending in a north-westerly direction. Higher grade gold mineralisation is present within a semi continuous 10m wide zone. The mineralised zone consisted of quartz veining within a sericitic shist and appears to be open to the east and west. The schist appears to have undergone structural deformation and becomes more silicified in nature with depth. Part of the main shear zone at F2 is along a schist and mafic contact. The higher grade +1g/t lens is open-ended at depth. A preliminary Leapfrog model of the F2 zone was constructed using all available drill information and it is interesting to note the displacement between zones 3 and 5 which is probably the reason that Line 4 of the RAB drilling missed the main mineralisation (Figure 10.7)

Good recoveries are expected in the oxidized zone which extends down to a depth of 30 m. The F2 zone appears to be structurally constrained, and more work is required to gain a better understanding of the shear system. More drilling and detailed structural mapping is required to acquire better insight of the structural displacement between RAB lines 2 and 4.

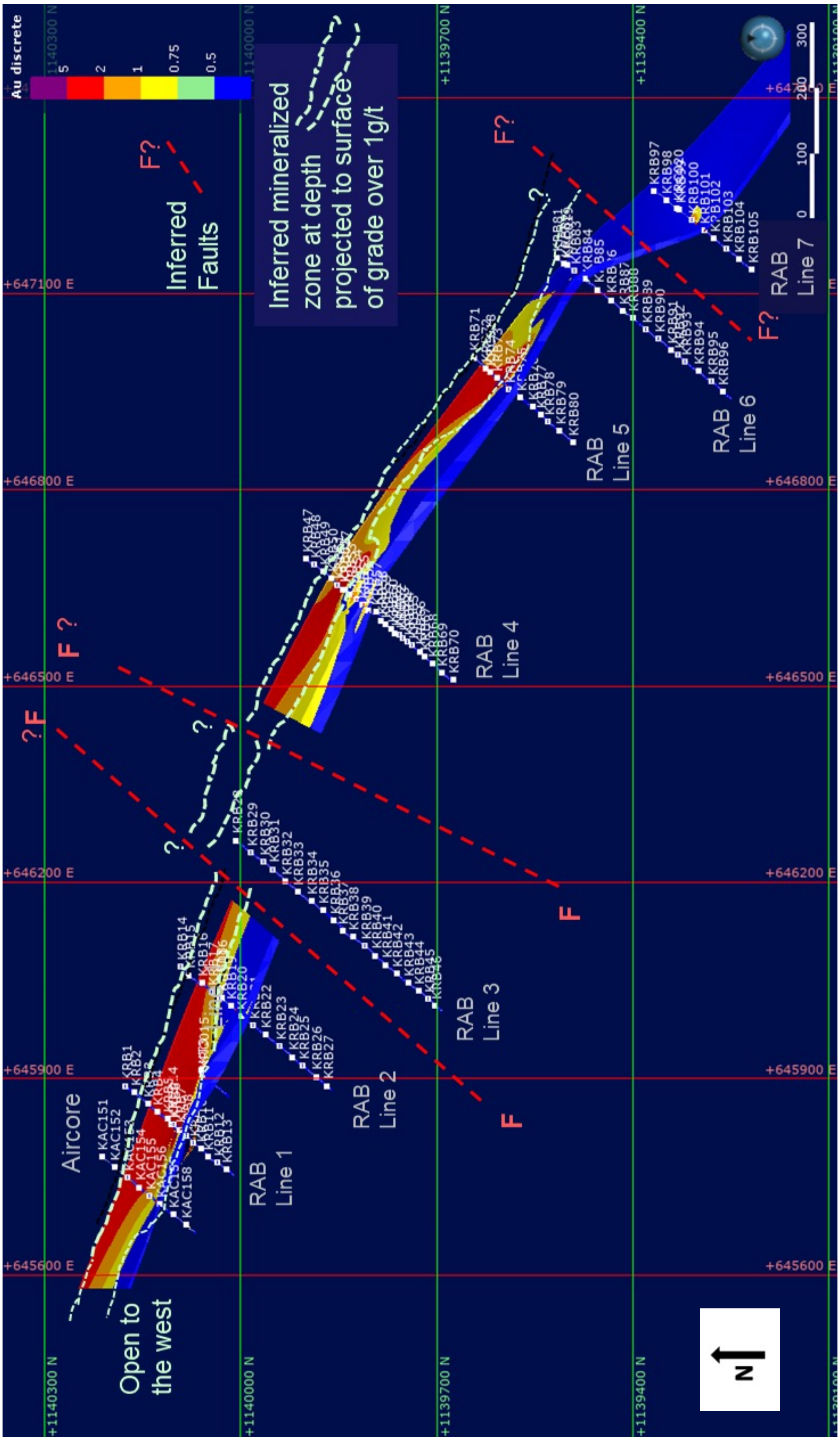

FIGURE 10.7: Leapfrog model of the mineralised zone at F2. Inferred faults and inferred mineralised extensions indicate the displaced zone. The grade colours indicate the mineralisation projected to surface. (Source: Leapfrog uninterpreted model by D. Vermaakt)

10.2 F3 Anomaly

The F3 anomaly is located approximately 1.7km to the southeast of the F2 anomaly and lies on the same regional trend as both the F2 and F1 anomalies. Most of the mineralisation along the northern part of the F3 zone is associated with an altered sericitic schist whilst mineralisation in the southern part of this zone is associated with a granitoid which extends from the F1 zone.

10.2.1 RAB Drilling F3 Anomaly

The soil geochemical anomaly of F3 was followed up by the drilling of 141 RAB boreholes (4282m) along seven drill fences. Most of the drilling was conducted along the 1800m strike identified by gold in soil anomalies (Figure 10.8). Line 2 traversed a topographic depression along a well mineralised zone of 26 m. This resulted in the drilling of shallow boreholes along this line due to the intersection of the water table. The mineralisation style changes between Line 2 and Line 3, from vein quartz hosted gold in a sericitic schist to a magnetic pink granitoid (Figure 10.8 and 10.9).

Figure 10.8 indicates the position of this granitoid overlain on the ground magnetic survey plan. The granitoid has a background grade of 0.35g/t over 60m width with the best intersection returning 1.1g/t over 10m (KRB205). The north-eastern part of Line 6 indicated some gold mineralisation whilst Line 7 is poorly mineralised.

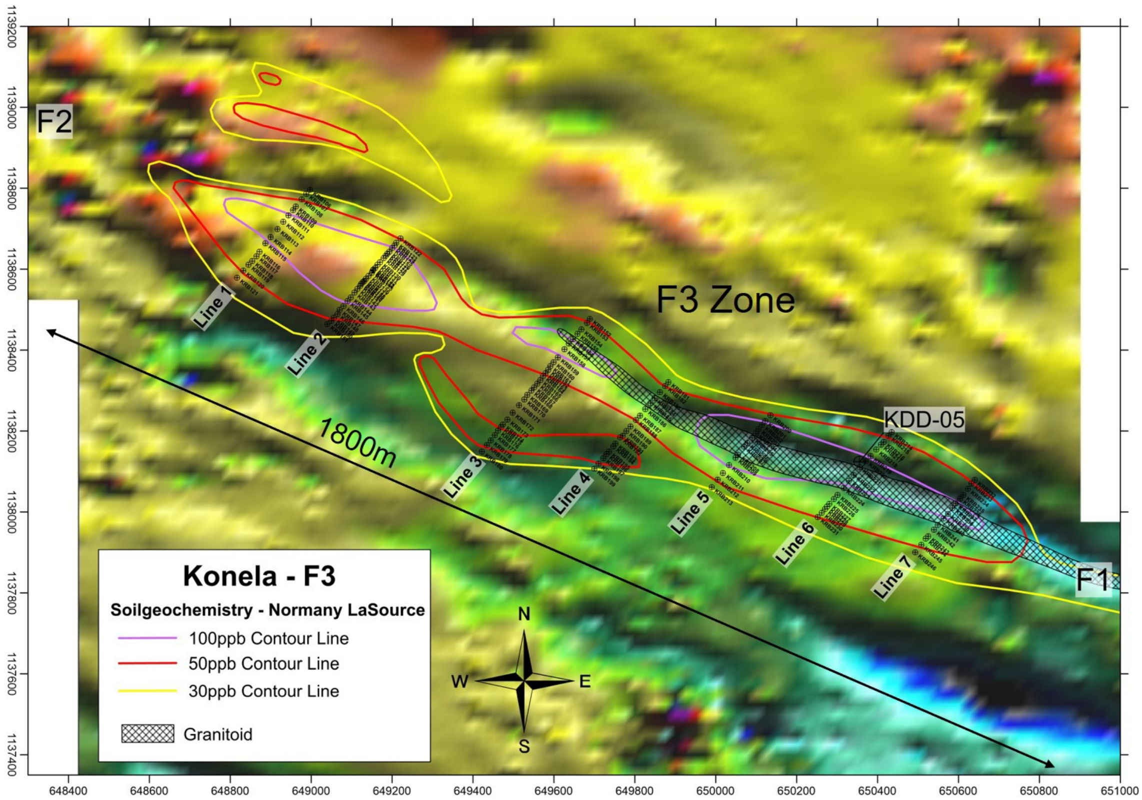

FIGURE 10.8: Ground magnetic map of F3 showing the contoured soil geochemistry and the granitoid identified by the RAB drilling program

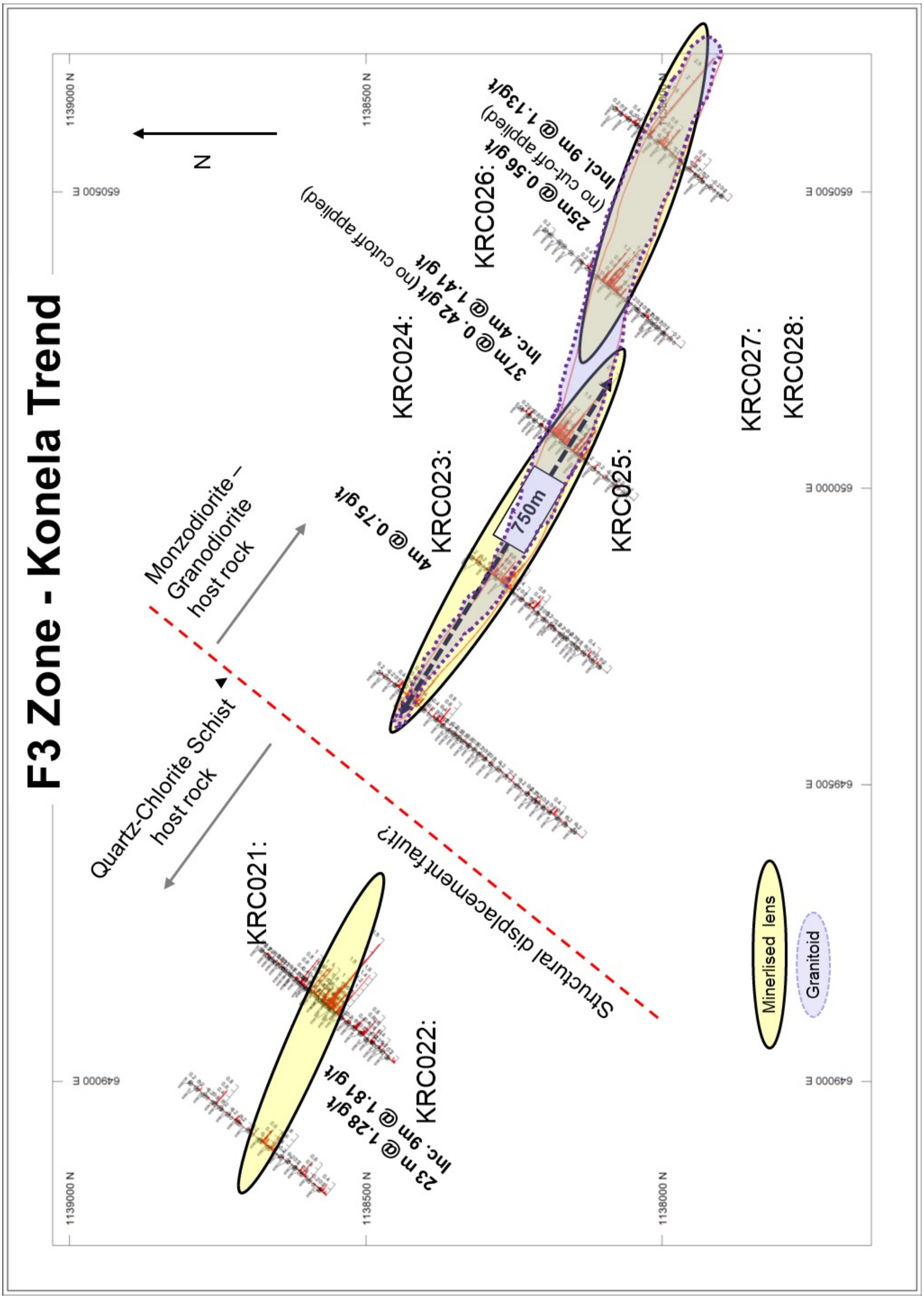

FIGURE 10.9: Plan view of F3 showing the RAB drill results projected to surface and some significant RC intersections. Granitoid outline in purple and mineralised lenses depicted in yellow ellipsoids.

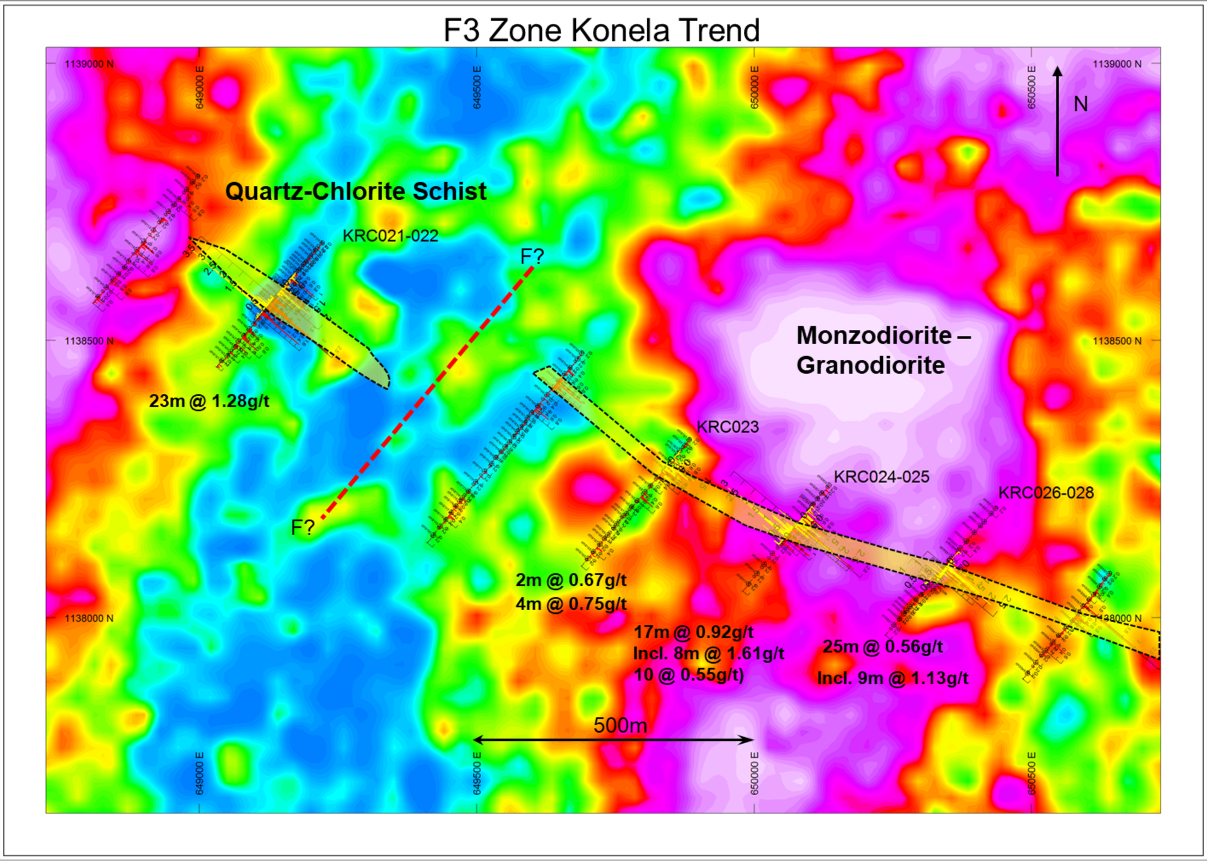

FIGURE 10.10: Topographic map showing interpreted mineralized zones from RAB and RC drilling. No cutoff used for RAB intersections.

10.2.2 RC Drilling F3 Anomaly

RAB drill results were followed up by an RC drill program of 8 boreholes (725m and 796 assays) (Figures 10.11 and 10.12). KRC22 intersected 1.28g/t over 23m with two higher grade lenses of 1.81g/t over 9m and 1.29g/t over 6m (Borehole KRC022, Table 10.3). Disseminated sulphide mineralisation is understood to be associated with the higher-grade zones. RC intersections shown in Table 10.3. The main target at F3 appears to be mineralised boudinaged quartz veins in saprolite and silicified sericite schist with associated oxidised sulphides.

Borehole No.	Intersection (m)	From (m)	Gold Grade (g/t)
KRC021	6	89	0.68
	2		1.29
KRC022	23	36	1.28
	Incl 9		1.81
	And 6		1.29
KRC023	2	84	0.67
	4	61	0.75
KRC024	6	63	0.65
	And 2		2.07
	And 6		1.14
KRC025	4	96	0.92
	Incl 8		1.61
	10	60	0.56
	3	97	0.59
KRC026	9	65	1.13
KRC027	Drilling Stopped re drill		
KRC028	2	40	0.59

TABLE 10.3: F3 – Summary of RC gold intersections. (Cut-off grade - 0.5 g/t Au; minimum drilled width of 3 m; maximum internal dilution (i.e., <0.5 g/t Au cut-off) – 3 m.

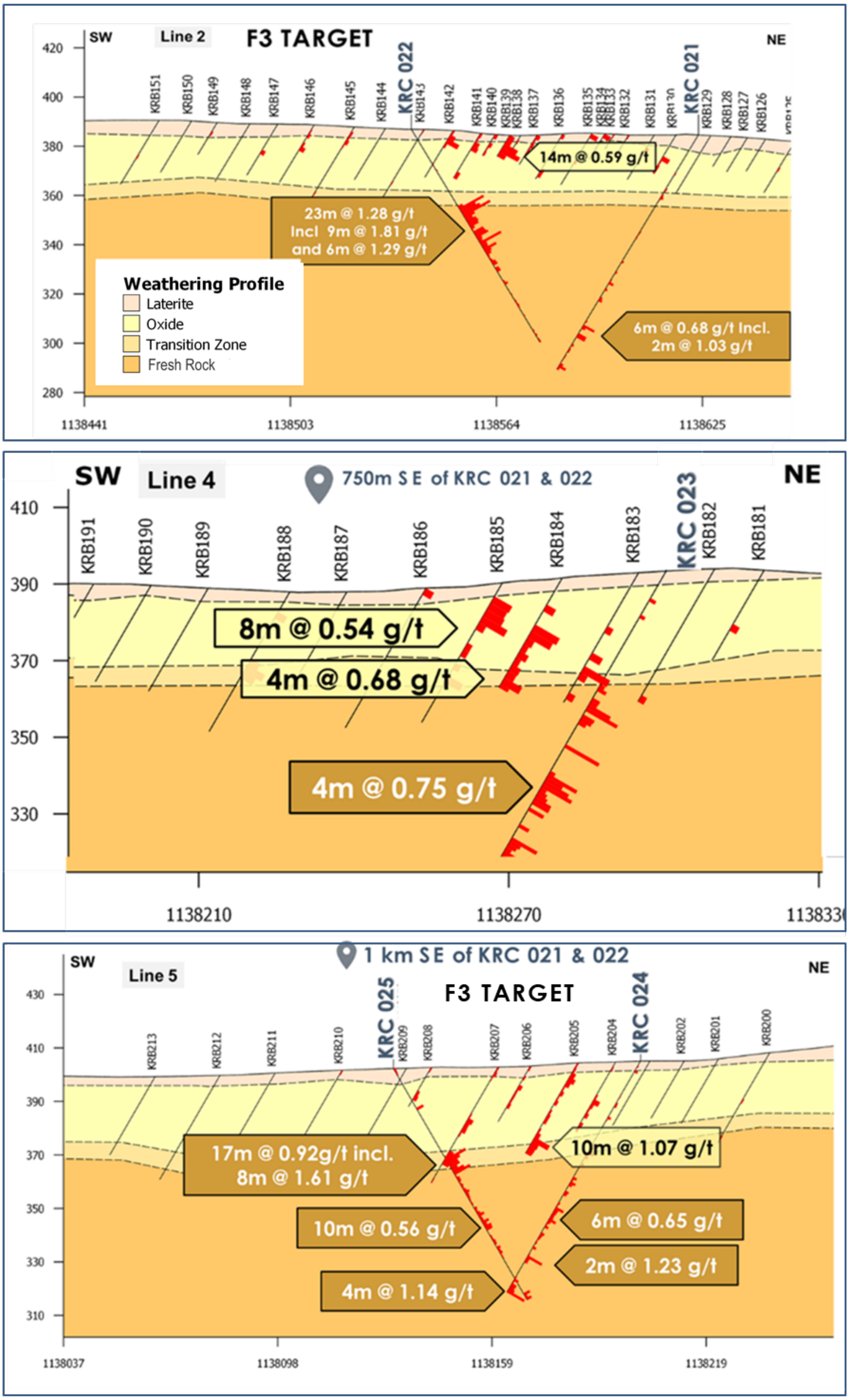

FIGURE 10.11: RAB and RC drill section lines 2, 4 and 5 at F3.

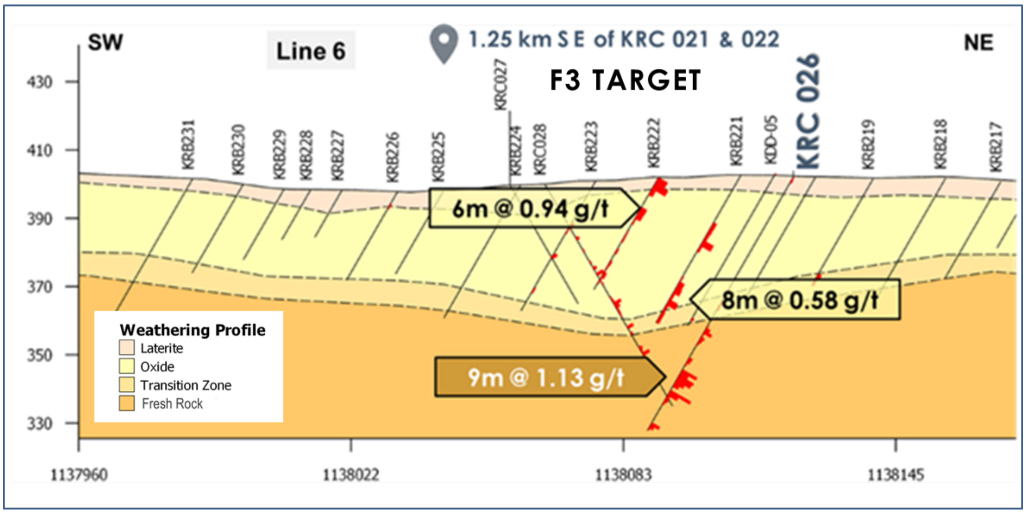

FIGURE 10.12: RAB and RC section line 6 at F3.

10.2.3 Potential for F3

Two well mineralised lenses are present at F3. The eastern and western lenses have a respective strike of 500m and 400m and are slightly offset by suspected structural displacement (see lenses 10.10). This prospective zone needs addition work to confirm the structural jog. An average grade of 1.5g/t over a width of 8m is estimated for the eastern lens. An intersection of 1.8g/t over 9m width in the western lens was obtained. The base of weathering appears to increase from an average depth of 30m to 40m towards the SE of F3. This wider oxidised zone could be related to the granodiorite and is therefore a prospective area for soft free dig material.

10.3 Target Zone between F2 and F3

Additional soil sampling and detailed laterite mapping was conducted in 2013 over the 1.6km area between the F2 and F3 zones to prove the continuation of the mineralisation identified by RC drilling (Figure 10.13). By December 2013, a total of 169 soil geochemical samples had been collected along 200m spaced lines with a composite sample spacing of 50m from 2 x 25m samples. These samples were analyzed by BLEG at Bureau Veritas in Abidjan. Mineralisation was indeed found to extend for an additional 600m to the northwest of F3 in the direction of F2 before disappearing below thick laterite cover. The geochemical survey failed to confirm any good gold in soil on the laterite cover but this is not to say that this zone should be regarded as unmineralised. The strike of the zones and their proximity to the magnetic lineaments, indicate a zone of displacement between F2 and F3 (Figure 10.13).

A total of 32 angled (1523m) aircore boreholes (KAC159 to KAC190) were subsequently drilled to a maximum depth of 50m along four drill fence lines (Figure 10.14). Only limited mineralisation was intersected, and it would appear that these drillholes missed the main mineralisation. Further RAB or RC drilling as well as detailed additional structural interpretations from pits, trenches and deeper RC holes would be required to better evaluate this area.

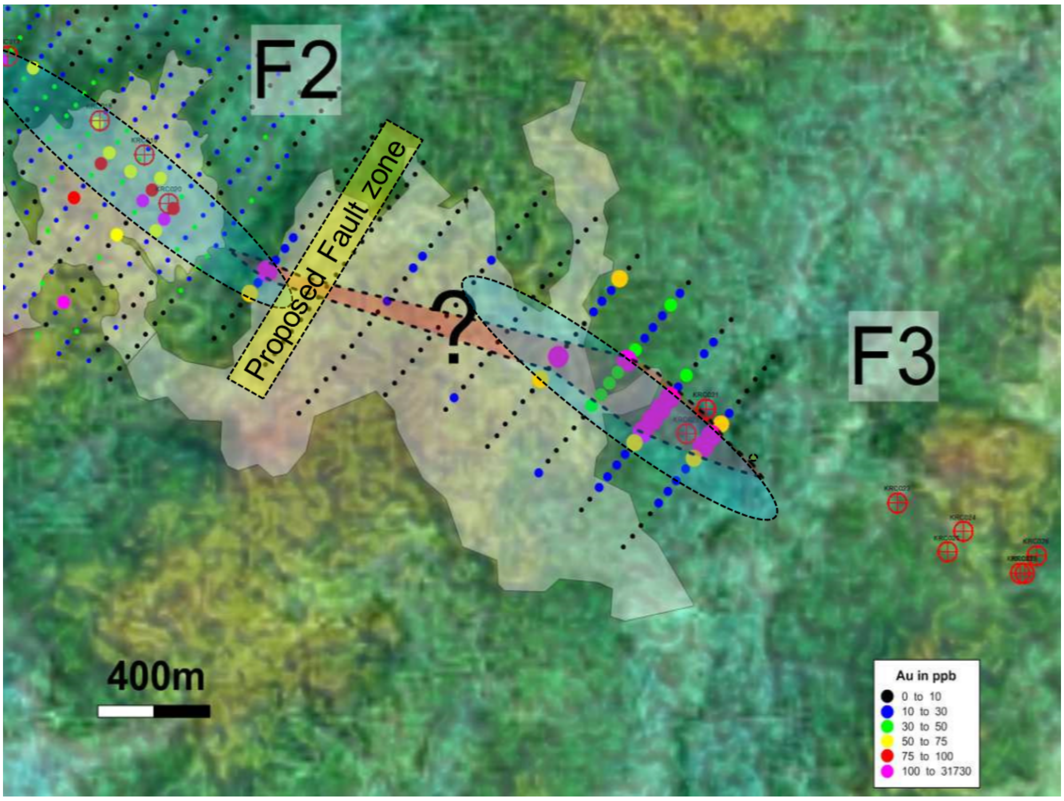

FIGURE 10.13: Infill sample positions in area between F2 and F3 draped over topography. The RC boreholes are shown as red cross-circles, while light grey areas represent laterite cover. Blue shading shows identified zones and position of possible fault causing displacement.

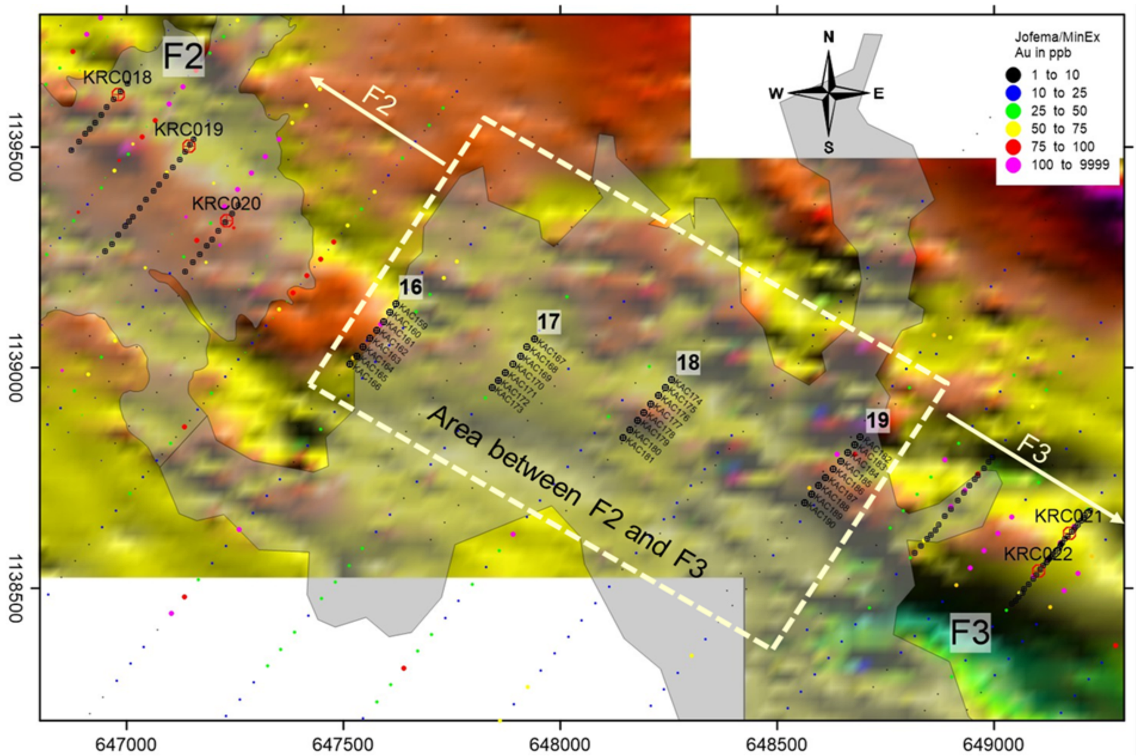

FIGURE 10.14: Location of the four aircore drill fence lines between F2 and F3

10.4 F1 Anomaly

The F1 zone is situated towards the south east of the Konela Trend. Exploration undertaken in the 2006-2010 program included soil sampling, drilling of three diamond holes and the excavation of two trenches. This work assisted to delineate a prospective target zone of 1800m which was further evaluated in the post 2010 campaign. Mineralisation appears to be shear zone related within a granitoid host.

10.4.1 RAB Drilling F1 Anomaly

Post 2010, a total of 145 RAB boreholes (4038m) were drilled along eight drill fence lines spanning the full 1800m strike of the target soil trend (Figure 10.15 and 10.16). Most of the gold mineralisation is hosted in a pink magnetic granitoid dyke that is of quartz-dioritic to tonalitic composition and believed to have intruded the Birimian metasediments. The western part of the granitoid is continuously mineralised as shown by the down-hole intersection of 0 to 28m @ 0.51g/t. The granitoid thickens to 75m in drill fence Line 2 and low background gold mineralisation is present almost throughout with irregular zones of higher-grade mineralisation. Line 2 intersected a higher-grade zone within the granitoid of 1.68 g/t over 16m. This zone continues in a south-easterly direction and was picked up in trench KT2 and diamond borehole KDD3 (Figure 10.16).

Within the F1 zone the granitoid appears to pinch and swell along strike and varies between 46m and 122m in thickness with an average thickness throughout F3 of 70m. This granitoid is understood to be the host rock for the gold mineralisation. The RAB drilling predominantly tested the saprolitic zone and thus very little information on the grade distribution in the hard rock is known. Almost 25% of the granitoid carries gold mineralisation that is higher than 0.3g/t, resulting in an average in-situ (no cut-off) grade throughout F1 of 0.76g/t of gold. It would appear that the higher-grade intersections were due to the presence of mineralised quartz veins within the granitoid.

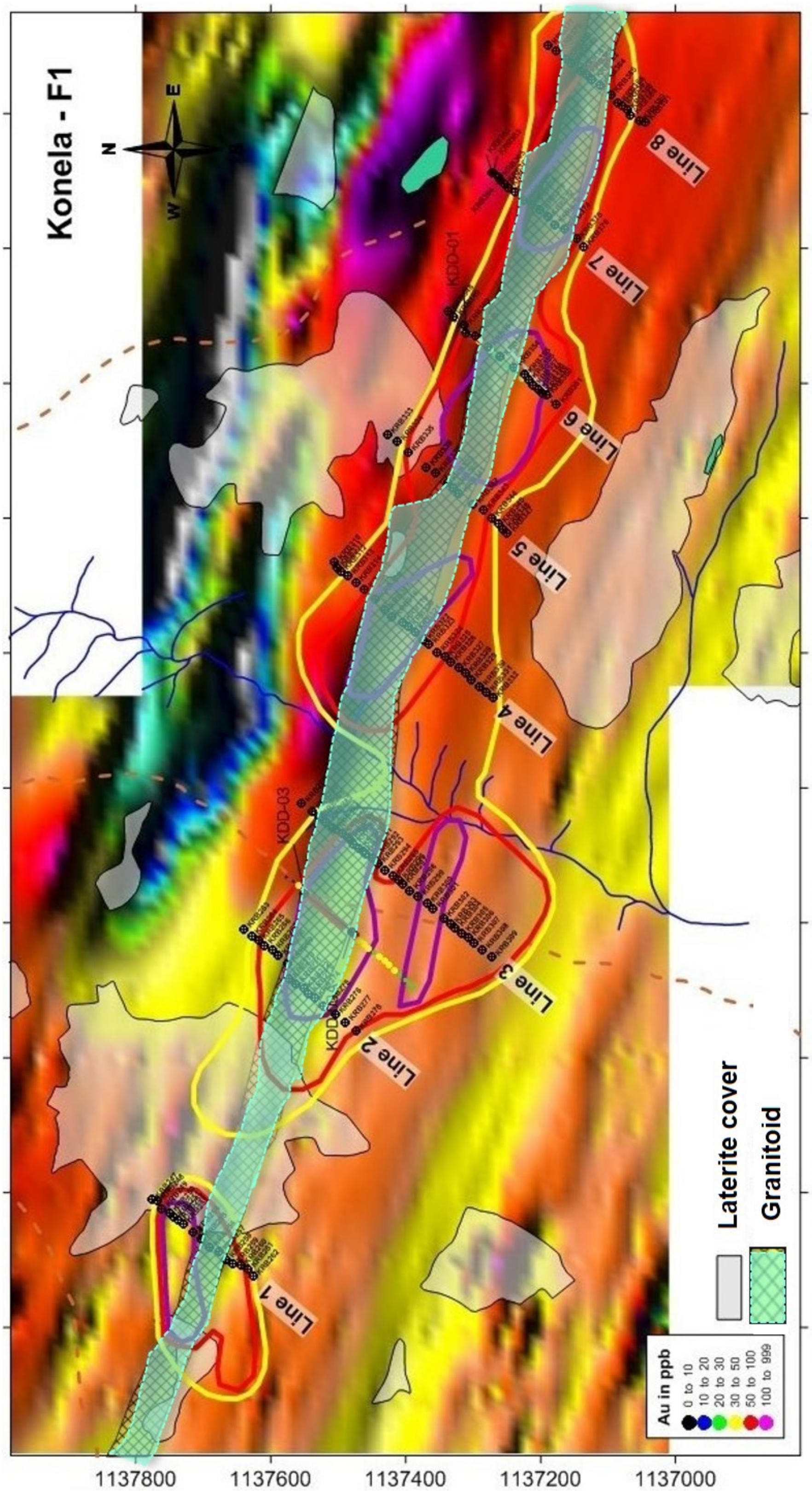

FIGURE 10.15: Ground magnetic map of F1 showing the contoured soil geochemistry and the granitoid identified by the RAB drilling program.

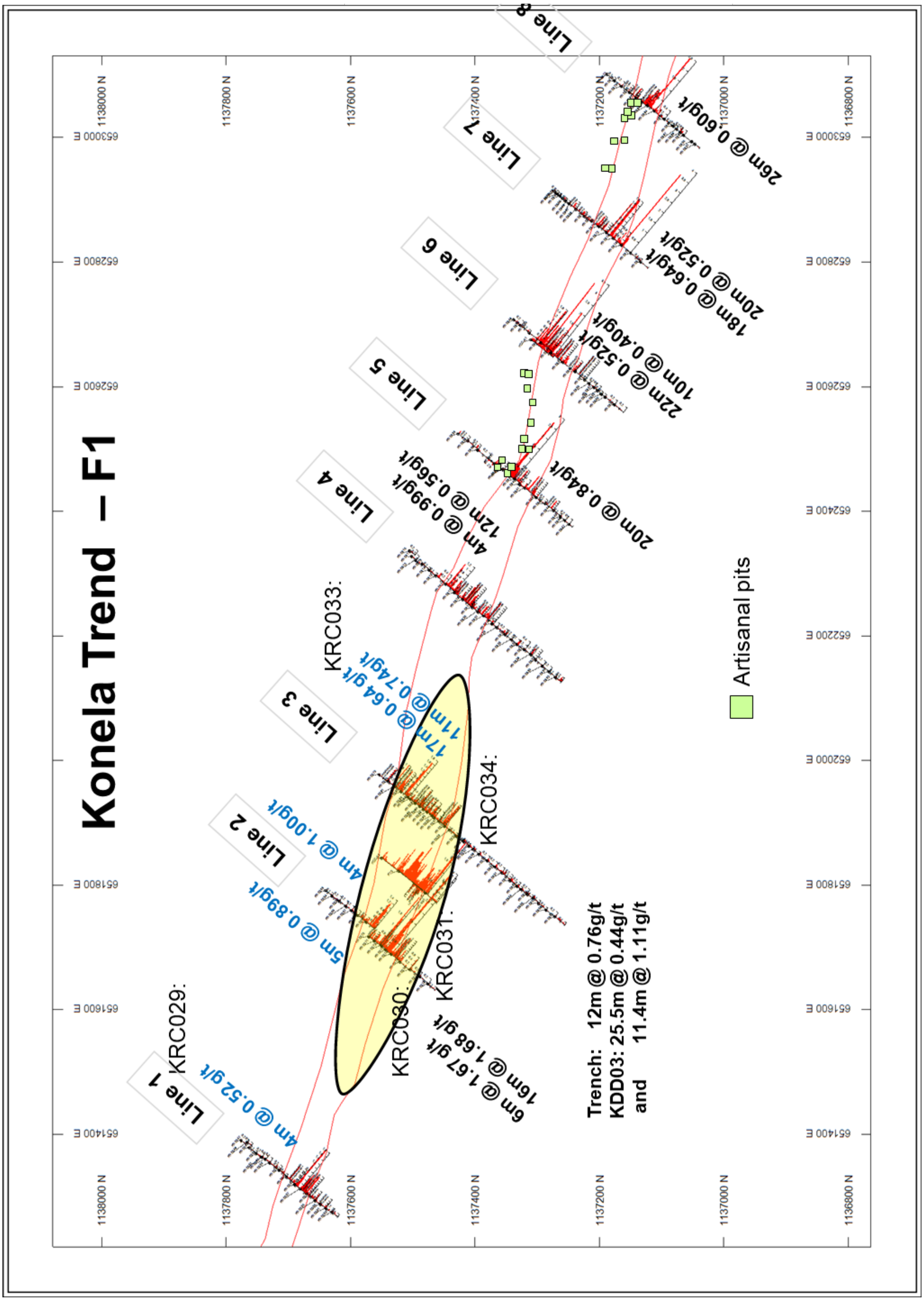

FIGURE 10.16: Plan view of F1 showing the RAB, core and trench drill results projected to surface. The RC results are written in blue. Granitoid outline in red. Note that RAB intersections are in situ take-outs with no cut-off used.

10.4.2 RC Drilling F1 Anomaly

Six RC holes (570m) were drilled along the F1 anomaly and 634 samples were assayed for gold. Best intersections of the RC drilling are listed in Table 10.4. Few samples returned gold assays above 1g/t and thus drilling was terminated after six of the 13 planned holes were drilled. It would appear that better mineralisation occurs along the granitoid schist shear contact. The limited RC drilling didn't fully evaluate this. A set of sections are presented in Figure 10.17. A section along line 7 shows RAB drill holes and diamond drill hole KDD-01 at F1. A section along line 7 shows RAB drill holes and diamond drill hole KDD-01 at F1. Due to poor core recovery of diamond hole KDD-01 only limited confidence can be placed on these results.

Borehole No.	Intersection (m)	From (m)	Gold Grade (g/t)
KRC029	7	78	0.45
KRC030	2	37	1.43
	2	62	0.76
	3	88	0.88
	5	95	0.89
KRC031	2	18	0.72
	2	29	0.71
	3	52	1.18
	3	76	0.79
KRC032	Sub-economic mineralisation		
KRC033	38	12	0.41
	Incl 4		1.00
	Incl 4		0.91
	17	74	0.64
	Incl 6		0.76
	And 2		1.03
KRC034	2	56	0.55
	3	69	0.48

TABLE 10.4: F1 – Summary of RC gold intersections (Cut-off grade - 0.5 g/t Au; minimum drilled width of 3 m; maximum internal dilution (i.e., <0.5 g/t Au cut-off) – 3 m.

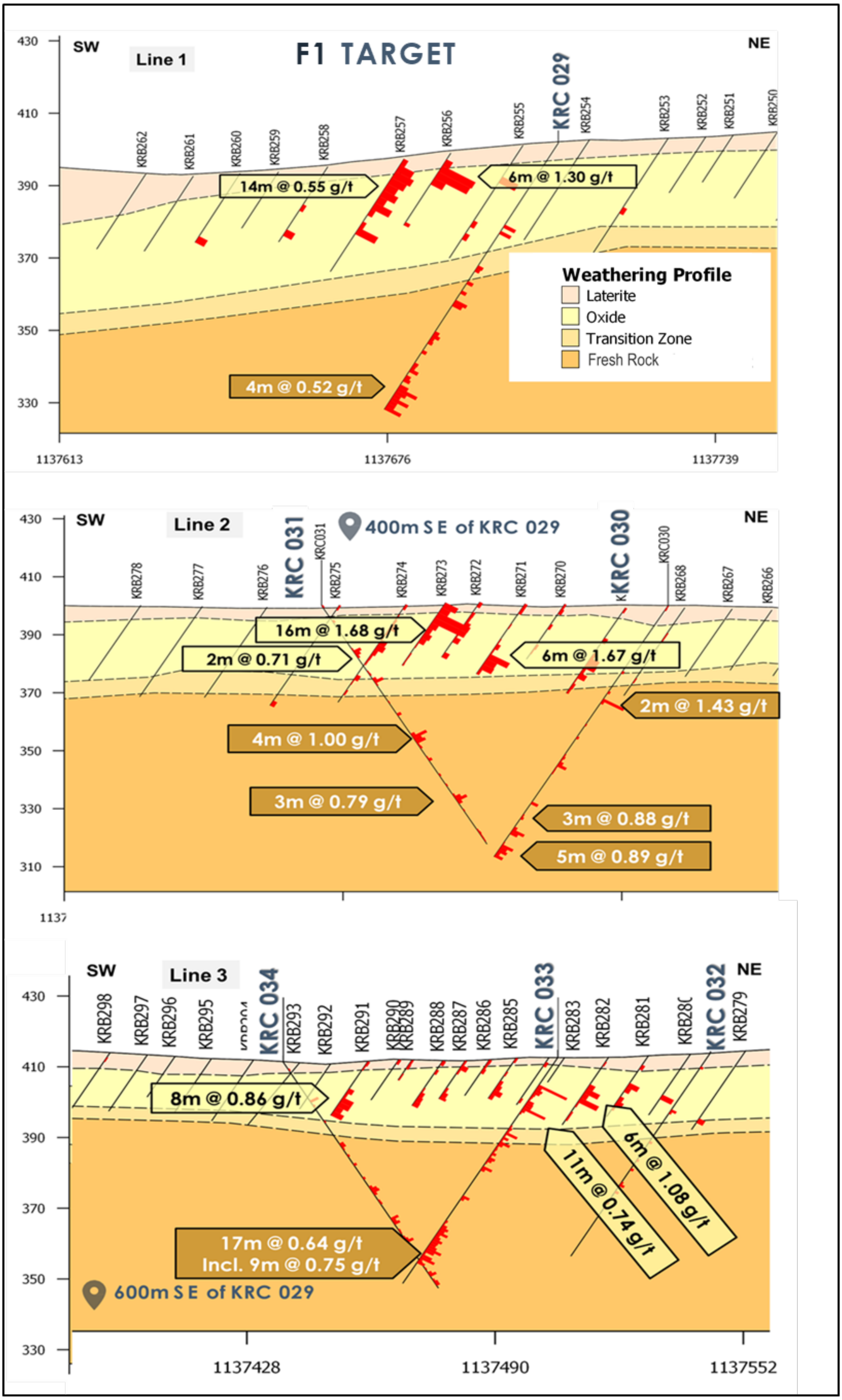

FIGURE 10.17: Sections of RAB and RC drilling at F1.

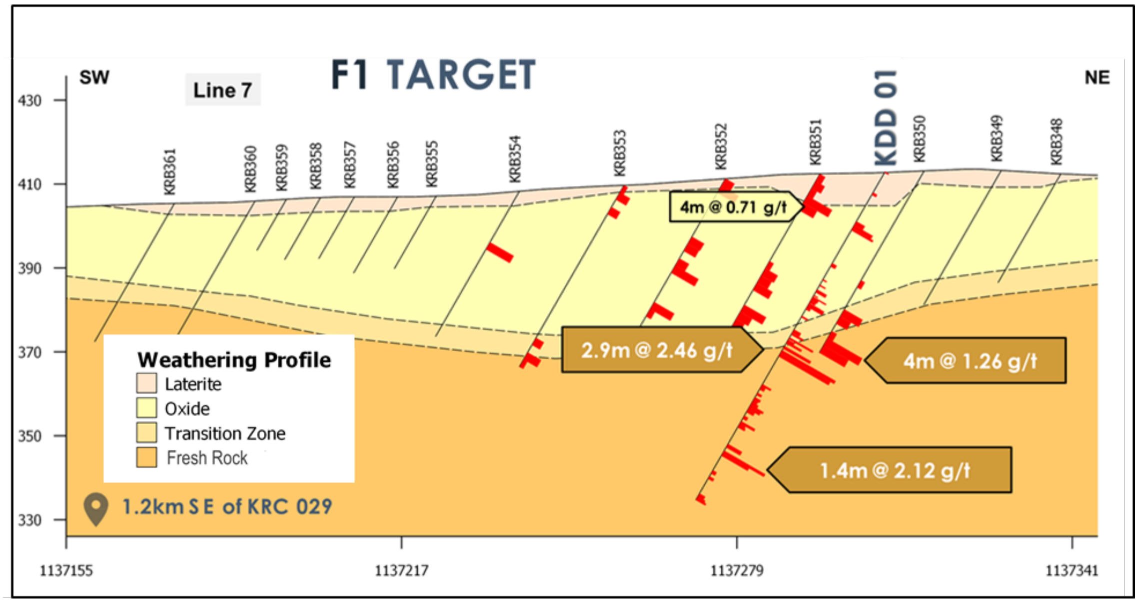

FIGURE 10.18: Sections of RAB and Diamond drill hole KKD01 at F1

10.4.3 F1 Potential

The granitoid at F1 (and at F3) appears to pinch and swell and is possibly constrained by structural features along strike. The granitoid has a thickness of between 46m and 122m and is the host rock for the gold mineralisation at F1. RAB and RC drilling tested the grade distribution in both the saprolite and sulphide hard rock. Within the saprolitic zone the entire granitoid averages Au 0.25g/t. Infill drilling is required to define and identify higher grade shoots and to acquire a better understanding of the distribution and continuity of the mineralised lenses as well as vertical gold variability. The granitoid and schist contact along the shear horizon together with the associated quartz veins within this zone, should be the focus of the next phase of exploration at F1. Lithology, alteration and assays need to be integrated and studied together to acquire a better understanding of the grade distribution within this zone.

Abandoned artisanal pits with piles of rock spoils consisting of metasediments, schist and quartz veins were noted in the south eastern part of zone F1. The location of these pits is shown on Figure 10.16. These abandoned piles of mineralized rocks are probably the result of the gold being too difficult to recover by rudimentary means and hence indicative of the fine nature of gold mineralisation within this zone (Figure 10.19)

FIGURE 10.19: Piles of abandoned rocks from artisanal workings at F1.

10.5 Kehi Anomaly

10.5.1 RAB Drilling Kehi Anomaly

The Kehi Anomaly is located approximately 4km southeast of the general Konela trend (Figure 10.1). 107 RAB boreholes (2981m) were drilled along seven drill fence lines (Figure 10.20). As detailed previously, the early geochemical sampling identified a thin, but well-defined gold in soil anomaly with a strike extent of 1800m. Only one of the two trenches returned promising gold values. No significant gold mineralisation was found at Line 1 despite a high gold in soil value at borehole KRB395 and KRB396 (Figure 10.20 and 10.21). Only isolated higher gold values were found at depth. A 6m zone @ 2.16g/t was intersected in the saprolite of borehole KRB409. Trenching along Line 4 indicated a 28m wide zone, averaging 0.83g/t including 8.74g/t over 2m. RAB drilling along this line intersected significant gold mineralisation. Borehole KRB440 intersected a 12m wide zone @ 2.22g/t. Gold values of up to 3g/t were attained for the first 2m of KRB441 to KRB444. Figure 10.22 shows Kehi cross sections with drill intersection highlights. RAB drilling indicated limited mineralisation between lines 5 and 7. However, it is of note that that RAB hole KRB481 in line 6 stopped in saprolitic oxidized schist at a depth of 24m where mineralisation of 6m at 3.47 g/t was intersected. Of note is that the RAB drill assays did not return any significant results for Line 7 despite the strong gold in soil results. All holes intersected oxidized schists with intermittent narrow quartz veins. The authors suspect that this line of RAB drilling may have had recovery or other sampling / assay problems..

RAB drilling indicated limited mineralisation between lines 5 and 7. However, it is of note that that RAB hole KRB481 of line 6 stopped in saprolitic oxidized schist at a depth of 24m where mineralisation of 6m at 3.47 g/t was intersected. Another high-grade zone of 8m @ 2.8g/t, was intersected in the SW end of Line 6. Of note is that the RAB drill assays did not return any significant results for Line 7 despite the strong gold in soil results. All holes intersected oxidized schists with intermittent narrow quartz veins. The author suspects that this line of RAB drilling may have had drilling recovery or other sampling / assay problems.

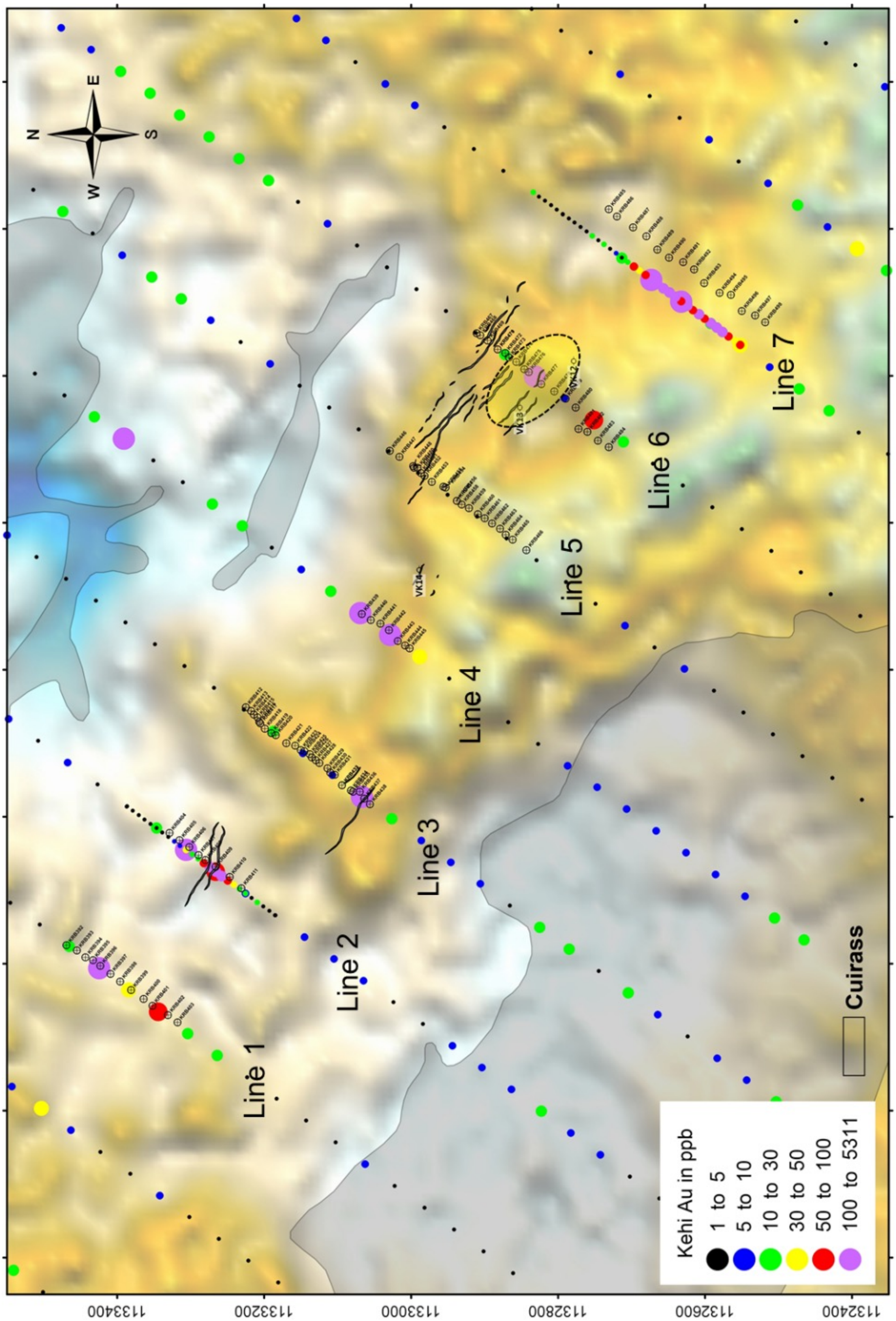

FIGURE 10.20: RAB borehole locations in relation to the soil geochemical assays and laterite caps, plotted on topographic image. Area in yellow indicates known 2017 artisanal workings.

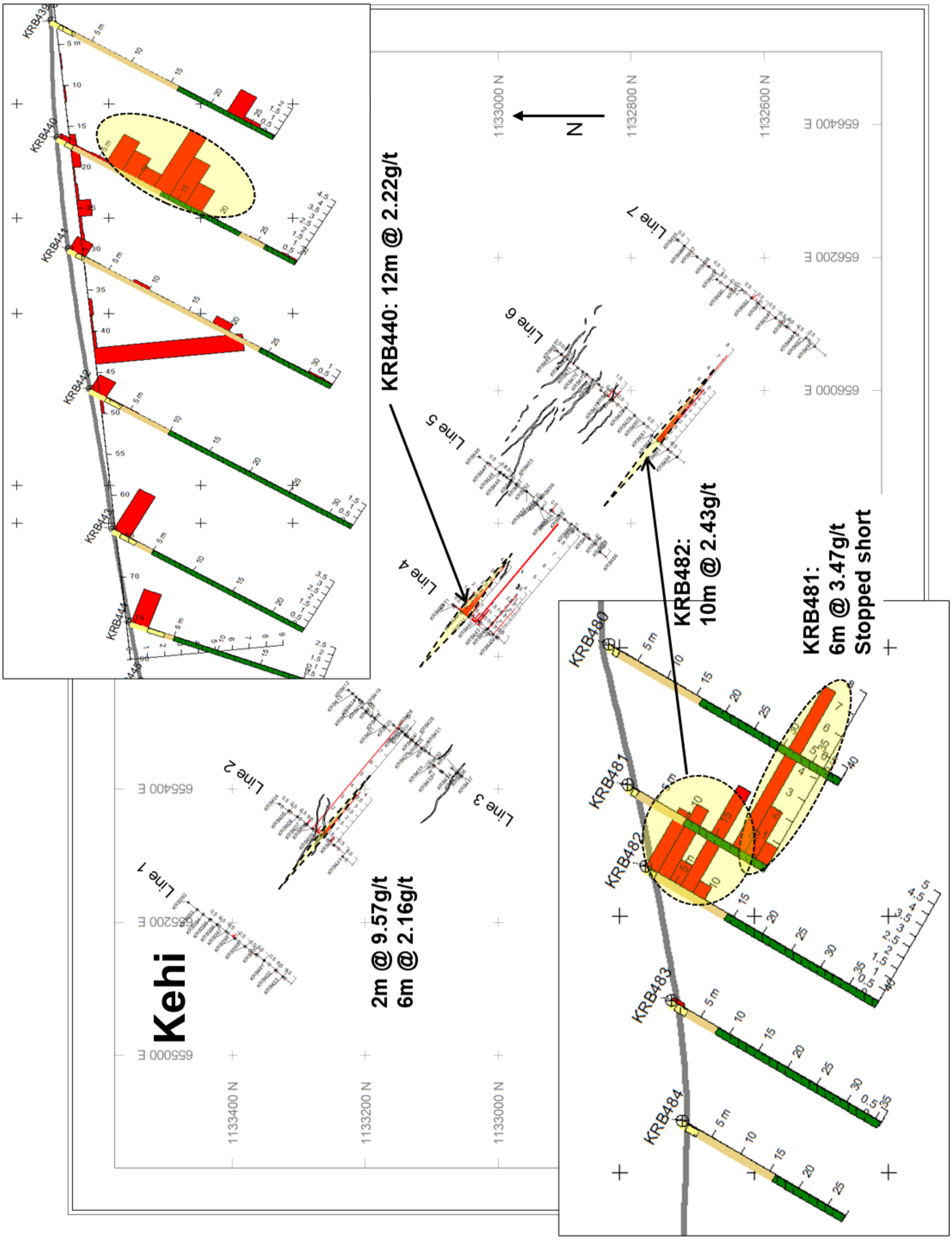

FIGURE 10.21: Plan view of the Kehi RAB collars showing mineralised zones and two relevant sections.

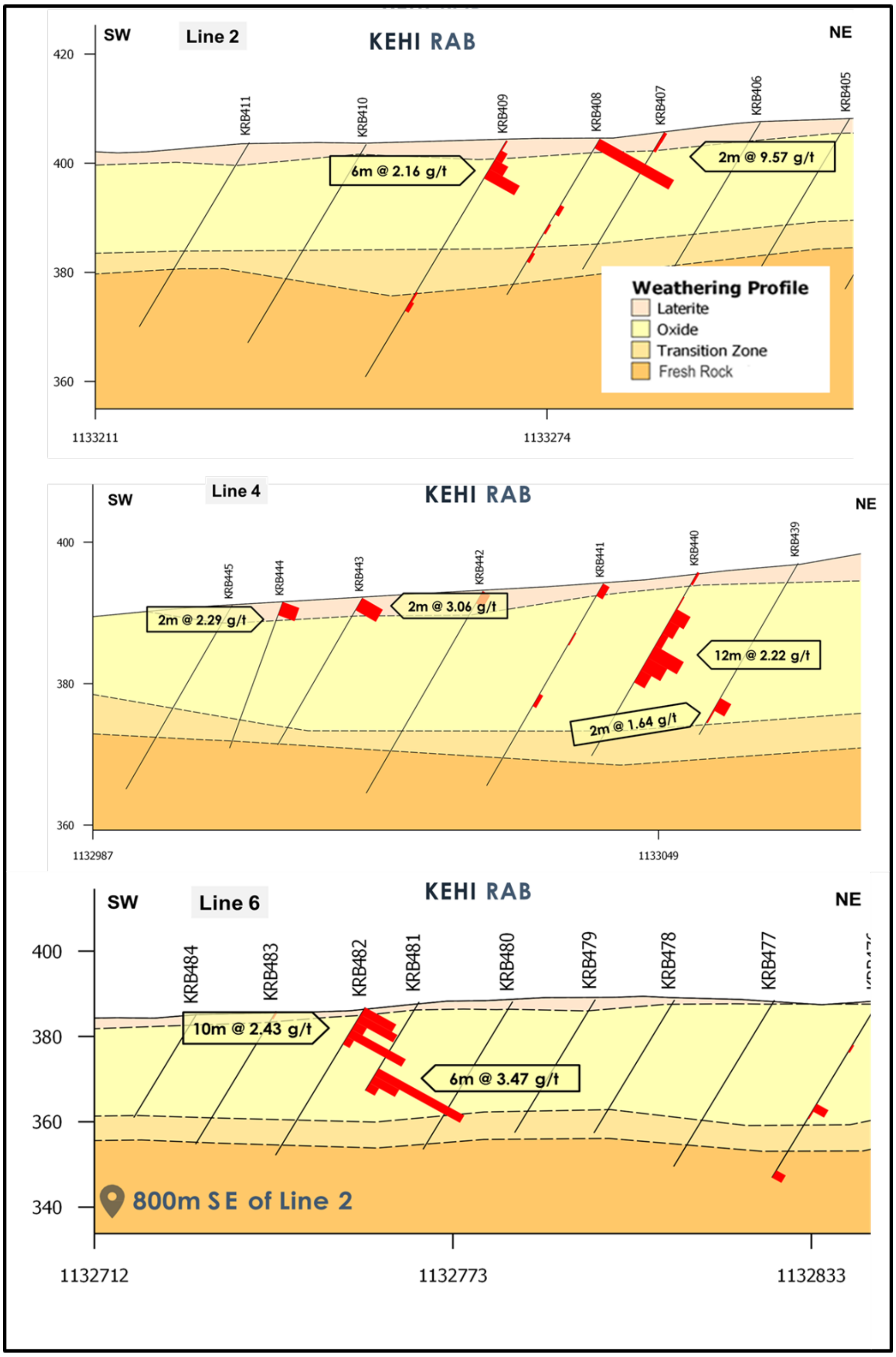

FIGURE 10.22: Kehi RAB drilling highlights.

10.5.2 Kehi Potential

Areas of potentially good mineralisation occur on the Kehi anomaly. Due to the high nugget effect within the quartz veins more work is however required to obtain a better understanding of this area. The 50g fire assay method may not be totally adequate to represent the actual grade of the mineralisation because of the coarse nature of the gold at Kehi. It is therefore suggested that a comparison be made of assay results using the LeachWELL assay technique. It is possible that the fire assay results are undervaluing the results of the Kehi zone.

It is recommended that drilling be conducted on 100m spaced lines in the eastern part of the zone. RC drilling should be conducted along lines 6 and 7 in the south eastern part of Kehi to better evaluate the mineralisation. In the light of continued artisanal interest in this area, more work needs to be conducted at Kehi to obtain a better understanding of the true tenor and distribution of mineralisation. Exploration should extend to the south-east and east of Kehi, where the anomalous zones appear to be structurally offset from the Kehi lineament (Figure 10.23). Artisinal workings have been identified outside of the known target zones, and should be further investigated.

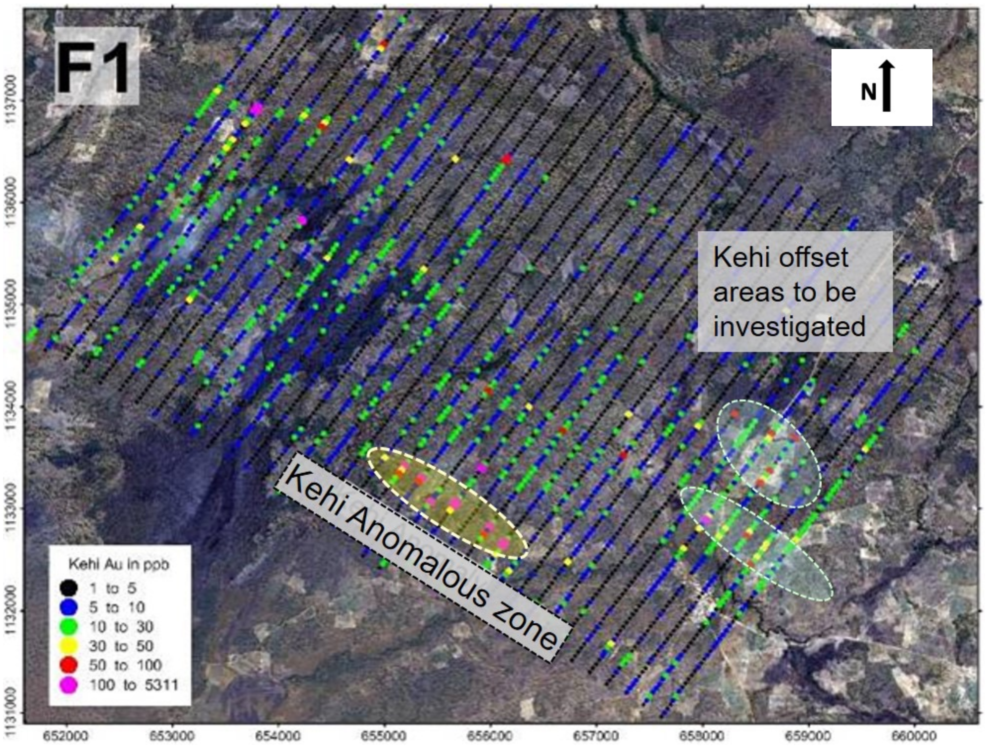

FIGURE 10.23: Areas offset to the west of Kehi anomaly indicating potential prospective minrelisation.

10.6 Manda Zone

10.6.1 Geochemical Infill Sampling Manda

The mineralised zone identified at F2 continues northwestwards along strike into the Manda area (Figure 10.24). During the post 2010 exploration phase, additional soil sampling along strike of the Konela Trend was conducted in the area between F2 and Manda. Line spacings of 400m and 200m with 25m sample stations were used. Each 25m sample was composited to 50m intervals and a total of 222 such samples were submitted to Bureau Veritas in Abidjan for BLEG analysis (Figure 10.25). Semi-continuous mineralisation extends for 1600m from F2 to Manda. Elevated gold values occur within the laterite zone in the central part of the infill sampling area.

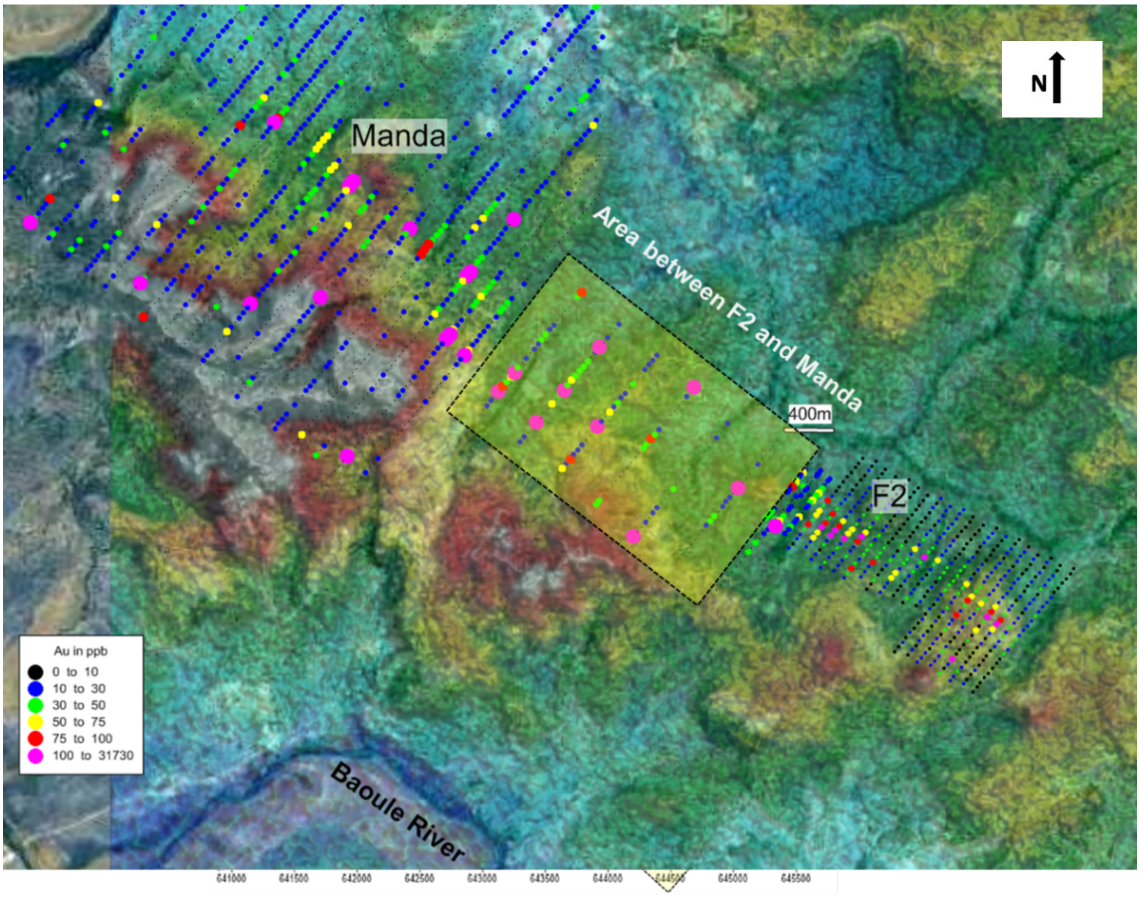

FIGURE 10.24: Manda area in relation to F2 showing soil sampling results plotted on elevation image.

10.6.2 Trenching Manda Zone

Promising results from the soil geochemical survey led to three trenches being dug post 2010 in the Manda Zone. The location of these trenches is shown in Figures 10.25 and 10.26. The trenching assisted in confirming the surface anomalies and lithologies in the saprolite, as well as the dip and strike of associated shears and structures. Mineralisation occurs predominantly along the contact/shear of the meta-sediment (fine grained sericite schist) and meta-volcanic unit (chlorite-sericite schist). Quartz veinlets and oxidised sulphides are common. A total of 150 trench samples, including standards and blanks, were analyzed for gold.

A 90m long trench, MT1, was excavated to a depth of 3m. All trench samples were taken at a horizontal 2m composite sample interval. Trench MT1 intersected a cross cutting shear zone. Quartz veinlets and oxidised sulphides associated with the shear zone yielded best gold values of up to 0.8g/t. Mineralisation in MT1 was traced for over 14m with a dip towards the northeast of 70 to 80 degrees. Trench MT2, 56m in length, was dug to test a smaller, parallel geochemical anomaly. The trench was deepened from 3m to 5m in some areas in order to reach the saprolite. Quartz veinlets with partly oxidised sulphides were encountered and gold values of 1.32g/t over 2m were encountered. Trench MT3 is 110m long, and a low-grade mineralised zone of 22m was intersected in the center of the trench.

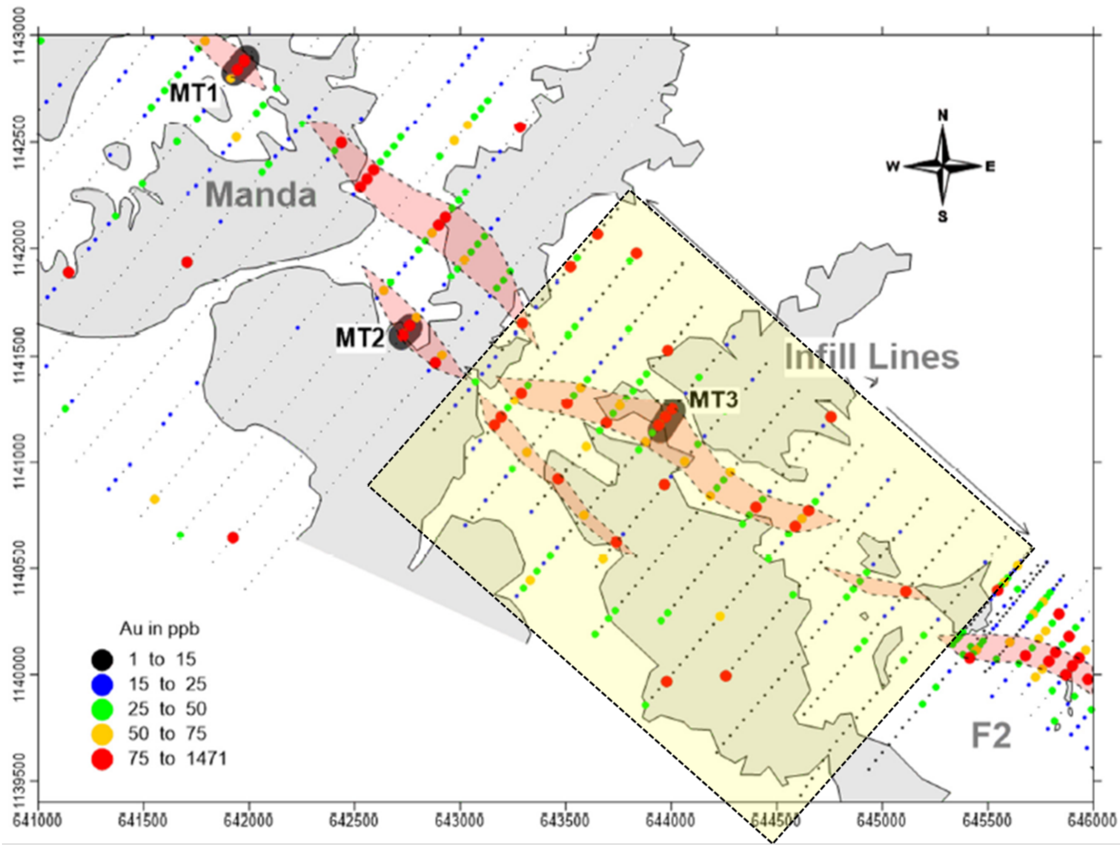

FIGURE 10.25: Trench locations (MT1 to MT3) overlain on BLEG results at the Manda area. Yellow block indicates the infill soil sampling lines conducted during the post 2010 campaign.

10.6.3 Aircore Drilling Manda

Geochemical and trench results at Manda assisted in lineating a 5km anomaly in the Manda area, which was further evaluated with aircore drilling. A total of 106 inclined (-60 degree) widely spaced aircore holes (1742 assays) were drilled to a maximum depth of 50m along 20 drill fence lines to confirm mineralisation at depth (Figure 10.26 and 10.27). The aircore drill program intersected gold mineralisation at depth over a strike distance of 2500m (Line 1 to Line 6, Figure 10.26 and Table 10.5). A subparallel mineralised lens was intersected towards the north of the drill fence 12 (Table 10.5, Figure 10.26 and 10.27).

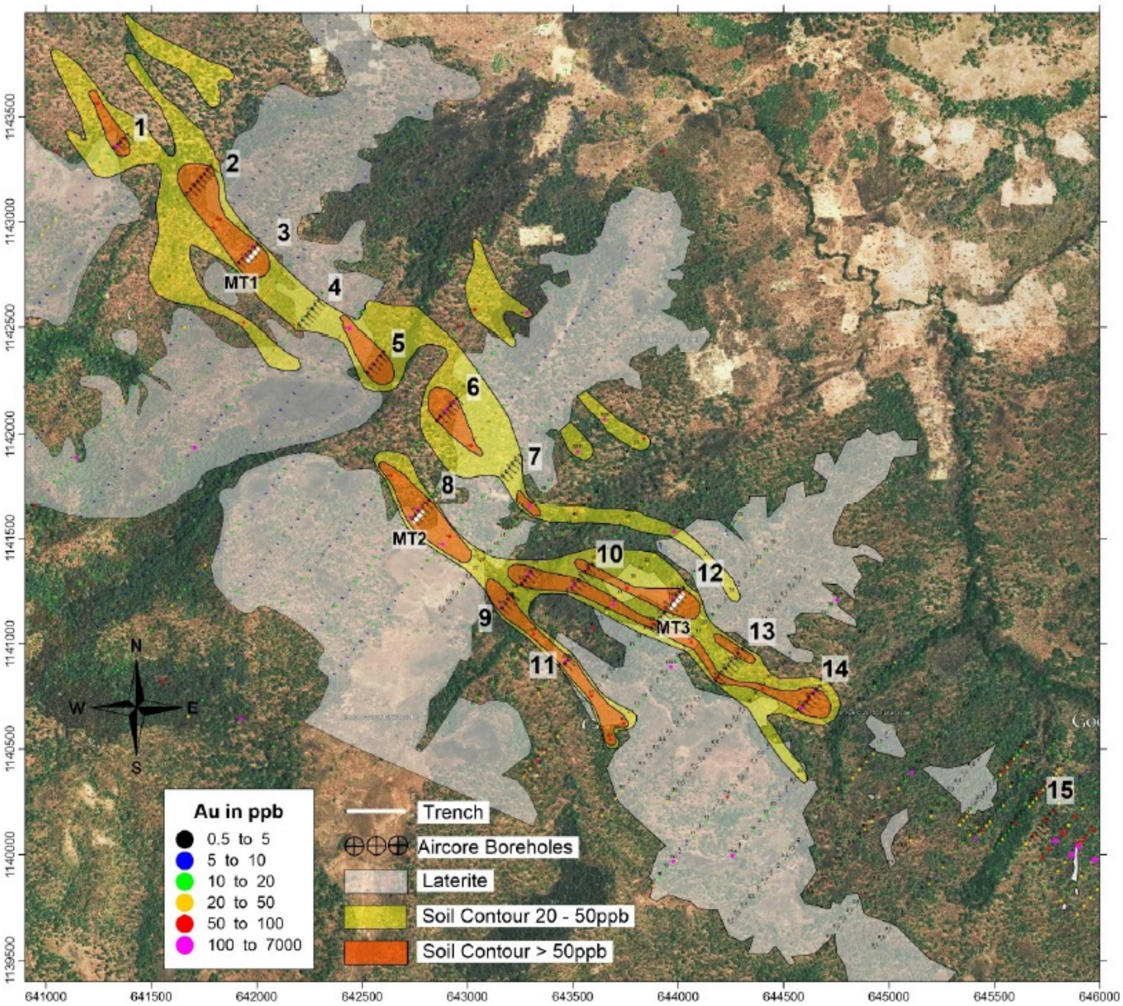

FIGURE 10.26: Manda Hill geochemical survey with contoured anomalous lenses, aircore borehole collars and trench positions.

Drill Fence Line	Borehole No.	Intersection (m)	From (m)	Gold Grade (g/t)
Line 1	KAC55	9	21	2,12
Line 1	KAC56	18	18	1,69
Line 2	KAC64	6	30	2,06
Line 3	KAC67	9	24	0,91
Line 5	KAC79	24	27	0,94
Line 5	KAC80	12	12	1,01
Line 5	KAC81	12	36	0,82
Line 5	KAC82	24	6	1,23
Line 6	KAC89	12	6	2,05
Line 6	KAC90	6	6	1,21
Line 8	KAC102	15	9	0,53
Line 12	KAC125	8	42	1,17
Line 12	KAC126	18	27	1,15
Line 12	KAC130	3	18	0,92
Line 15	KAC157	6	42	0,77
Line 15	KAC158	6	15	0,59
Line 16	KAC160	3	33	0,74
Line 17	KAC173	3	33	0,9

TABLE 10.5: Summary of significant AC intersections. A cut-off of 0.5g/t was used. No minimum width of internal was used.

10.6.4 Manda Potential

Mineralisation appears to span a semi continuous corridor within the Manda area. Only those aircore holes drilled along fence 4 were devoid of any significant mineralisation. This may be a consequence of faulting or structural jogs. Within this corridor three potential semi-parallel high-grade lenses were identified. One such lens is approximately 1100m in length and remains open-ended to the west. The average width of this zone is 10m at a grade of 1.7g/t Au. A second lens with an 800m strike contains a 12m wide mineralised zone at an average grade of 1.6g/t Au. The Manda area is prospective and warrants additional detailed exploration. It is therefore recommended that an application be considered to append to the Manda area to Tienko permit PR0886 as soon as possible.

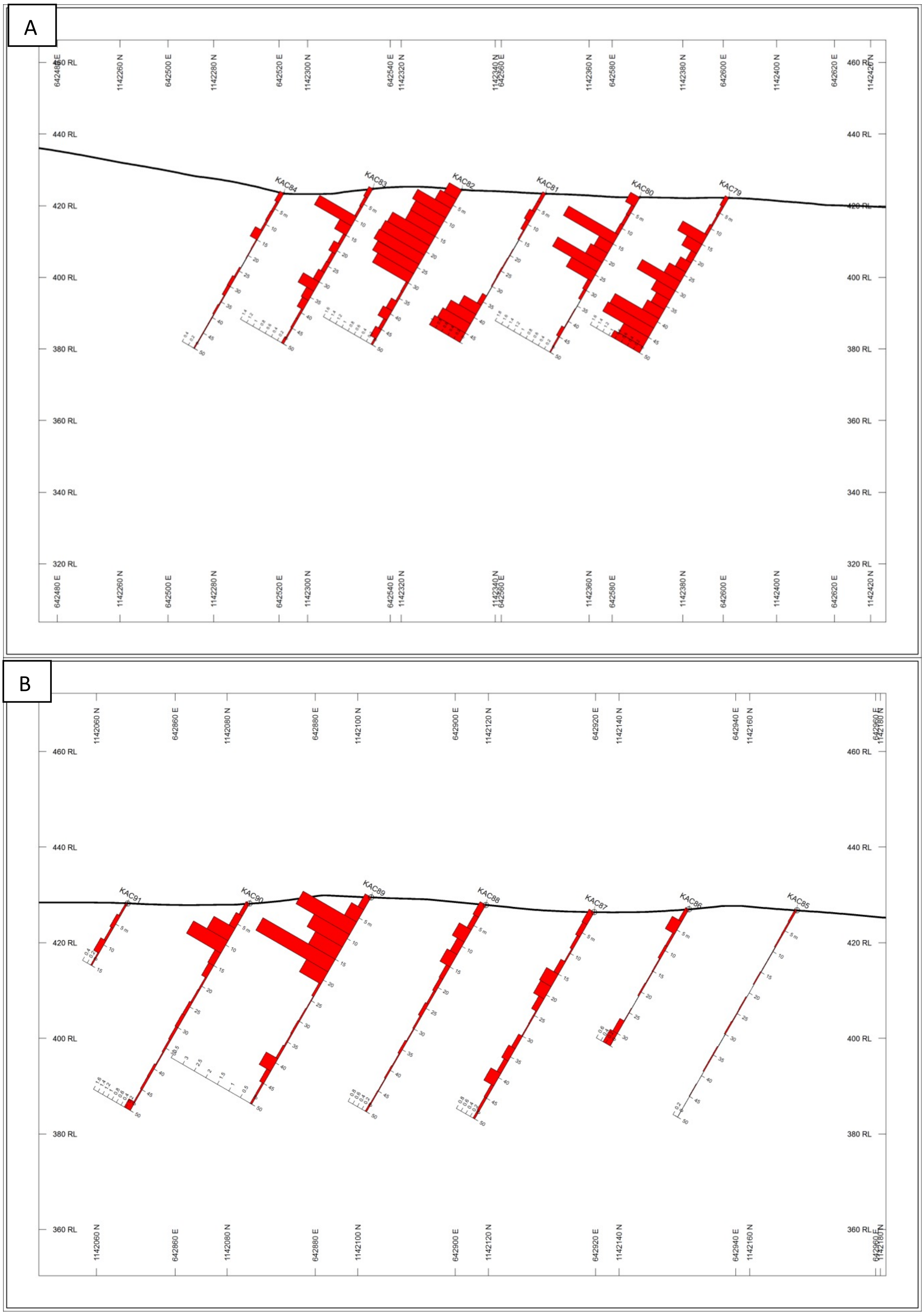

FIGURE 10.27: (A and B): SW - NE sections of Aircore drilling at Manda.

10.7 Nabagala Area

Nabagala is located to the east of the Nabagala town (Figure 10.28), situated within the southern mineralised target area, south of the Baoulé River. This area is included in the new Tienko license PR0886. An elongate NW-SE striking anomaly was identified by soil sampling during the earlier exploration campaign.

The main anomaly abuts against the Baoulé River tributary to the SE of the grid. A lower grade second geochemical anomaly runs subparallel to the above-mentioned zone. The main anomaly joins this secondary anomaly for 200m to the southwest of the area. Aircore and RC drilling concentrated on the main central anomalous zone. Quartz veins with sericitic alteration showing box work structures were intersected in the oxide and transition zones.

10.7.1 Aircore Drilling Nabagala

An aircore program at Nabagala commenced in March 2013. A total of 54 aircore holes were drilled (2167m). A broad mineralised zone between KAC23 and KAC25 and between KAC38 to KAC39 was delineated (Figure 10.29 and 10.30).

Borehole No.	Intersection (m)	From (m)	Gold Grade (g/t)
KAC12	2	0	0,94
KAC23	10	40	1,18
KAC24	14	0	2,27
KAC25	16	0	1,29
KAC37	2	48	0,65
KAC38	20	18	1,18
KAC39	10	2	0,7

TABLE 10.6: Summary AC Drilling Nabagala. A 0.5g/t cut-off with no minimal width of internal waste.

10.7.2 RC Drilling Nabagala

Two RC boreholes (KRC011 and KRC012) were drilled within the identified anomalous zones of aircore holes KAC023 to KAC025 and KAC38 to KAC39 (Figure 10.29). RC holes KRC011 and KRC012 were drilled to 109m and 117m, respectively. Significant results include 0.54g/t over 32m (no cut-off used) drilled at KRC011, inclusive of 1.7g/t over 6m (10.7). Additionally, KRC012 intersected a mineralised zone with an average grade of 0.86g/t over 27m which includes 5m@1.63g/t and 6m@1.19g/t. The true width of this mineralized zone appears to be in the order of 28m (Figure 10.30). Figure 10.31 shows cross sections of Nabagala RAB and RC drill highlights.

Drill Fence Line	Borehole ID	Intersection (m)	Depth	Gold Grade (g/t)
Line 4	KRC011	6	62	1.7
Line 3	KRC012	27		0.86
		Incl 5		1.63
		Incl 6		1.19

TABLE 10.7: Summary of RC gold intersections at Nabagala (Cut-off grade - 0.5 g/t Au; minimum drilled width of 3 m; maximum internal dilution (i.e., <0.5 g/t Au cut-off) – 3m.

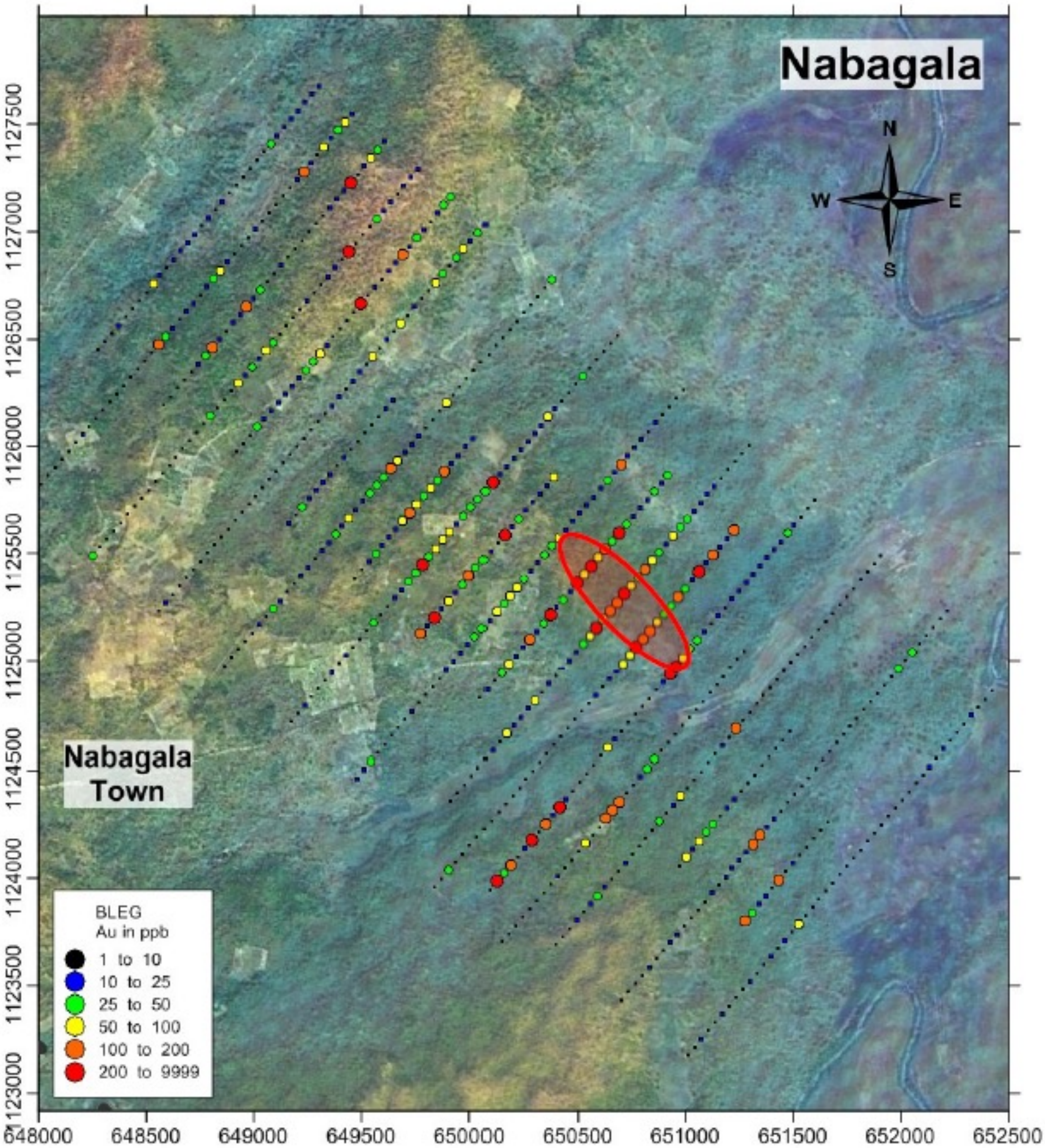

FIGURE 10.28: Google map draped over topography showing the results of the soil geochemical survey. The red ellipsoid shows where aircore and RC drilling was conducted.

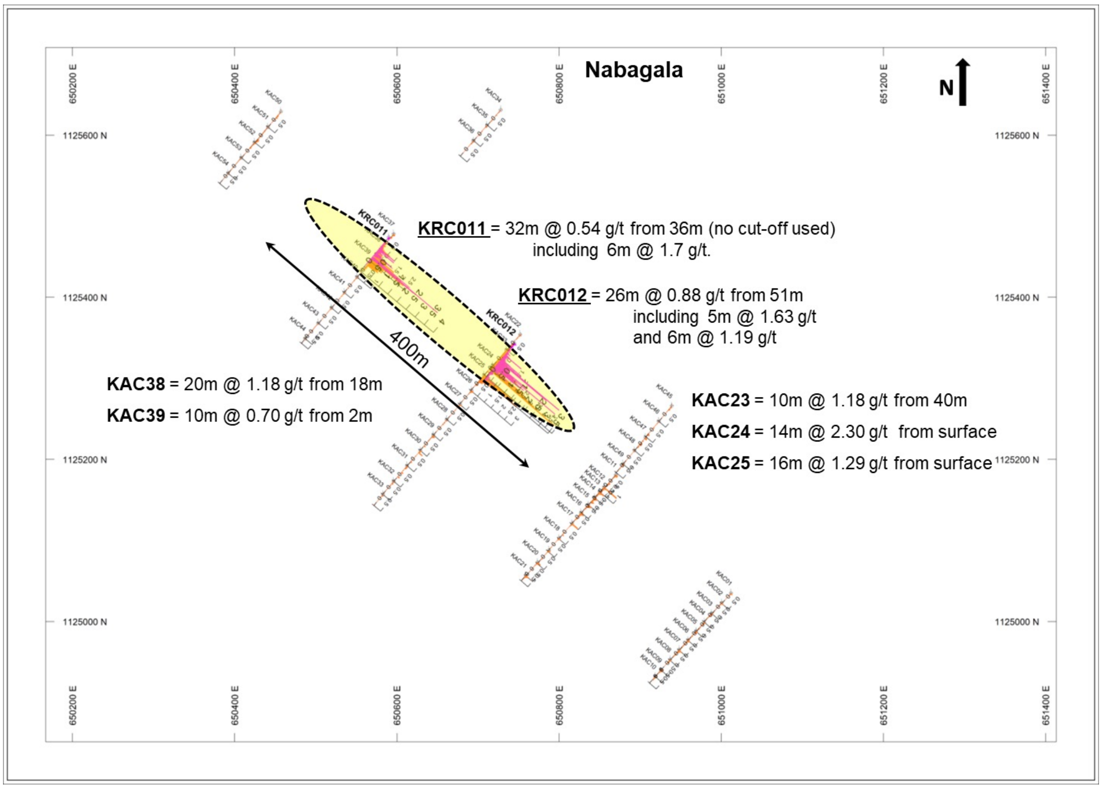

FIGURE 10.29: Nabagala Aircore and RC drill hole collars with mineralisation intersections showing the surface outline of the mineralised zone.

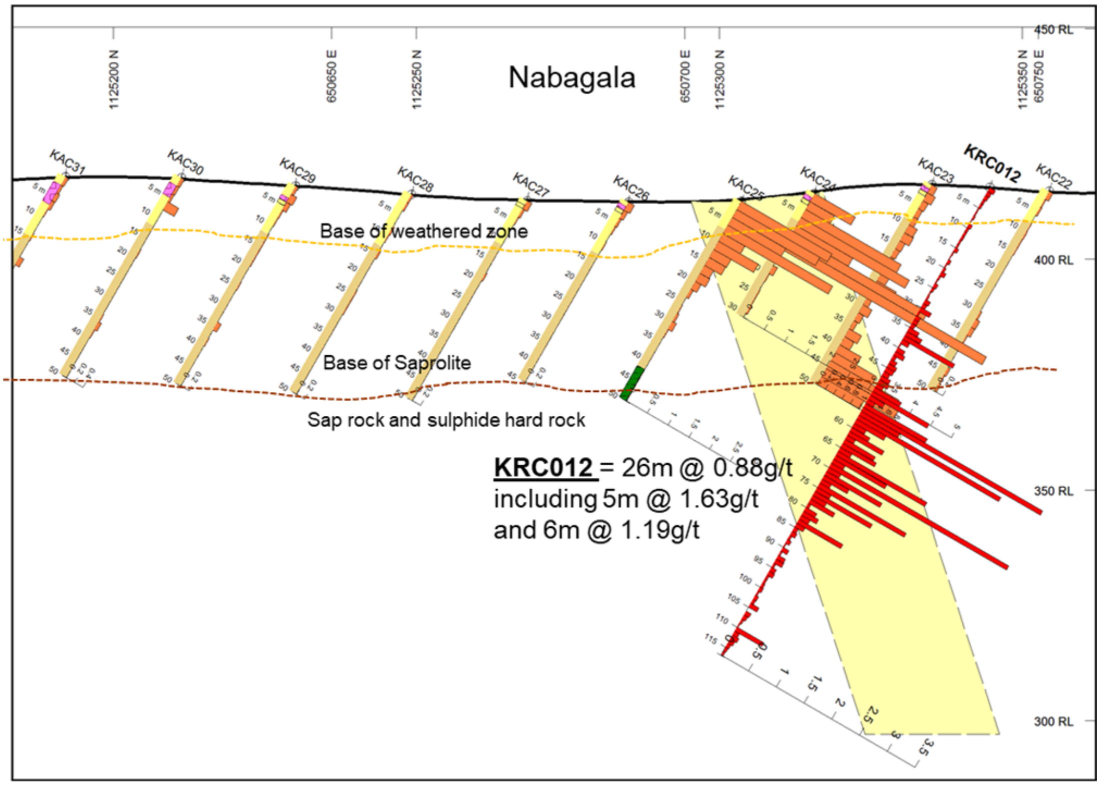

FIGURE 10.30: Nabagala section showing Aircore holes and KRC012. North-easterly dipping mineralised zone in yellow indicating improved grades in the sap rock sulphide zone at depth

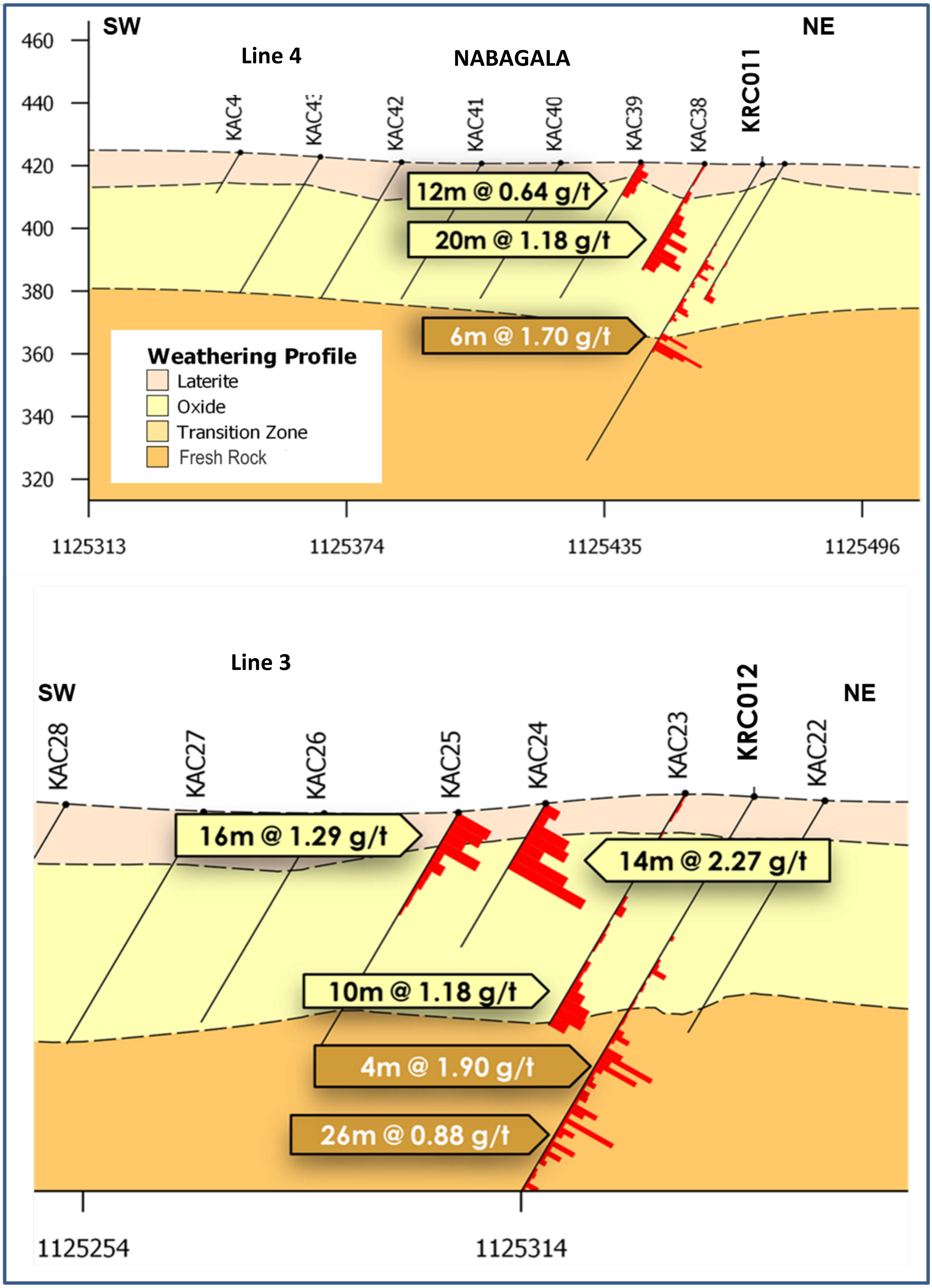

FIGURE 10.31: RC and AC drilling highlights from Nabagala.

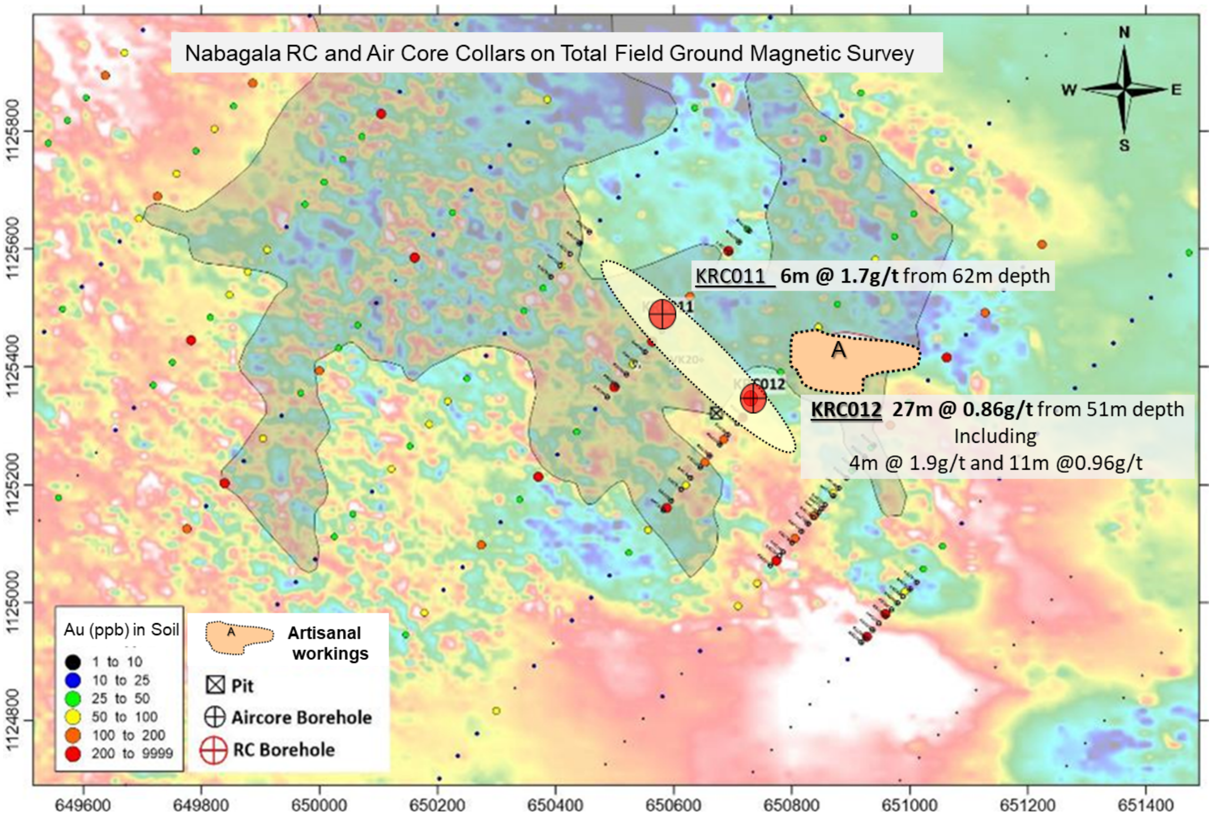

FIGURE 10.32: Nabagala Area – Total Field ground magnetic map with superimposed soil geochemistry and RC/AC drilling, showing outline of old abandoned diggings (A), in proximity to the identified mineralised zone.

10.7.3 Nabagala Potential

Drilling at Nabagala has delineated a mineralized zone of 6 to 10m in width within a 28m lower grade, mineralized envelope along a 400m strike. Numerous anomalous lenses trend in a subparallel NW-SE direction. More exploration needs to be conducted on the structure and mineralisation of this prospective area. The extent of abandoned artisinal workings is indicative of Nabagala's potential prospectivity. It is understood that the farmer in the area has over the years successfully managed to control and remove artisanal workers from his land. The base of oxidation is at about 40m which creates a good target for open pit shallow oxide mineralisation.

Chapter 11

SAMPLE PREPARATION, ANALYSES AND DATA VERIFICATION

All aspects of sample preparation, analysis, security and QAQC were governed by a set of documented standard operating procedures specific to the Tienko Project. These are not included in the report but are available on request.

11.1 Soil Sampling - BLEG

Soil sampling comprised a large component of the initial exploration on the Project. No QAQC was done on the pre-2011 soil samples, however limited QAQC was performed on the detailed soil sampling program conducted from 2010 onwards. A total of 7438 soil samples were collected and assayed. Local authorities were informed prior to any soil sampling being conducted. The sample spacing was 25m with composite samples to 50m. The sampling position was established using a handheld GPS. One hole was dug at each sample location and a sample was collected slightly below the A soil horizon. It was ensured that the same soil horizon was sampled throughout the survey. From each sample location an equal amount of soil material was collected using a plastic scoop. Approximately 1.5kg of soil material was collected at each 25m station and inserted into a clean plastic bag. Great care was taken to ensure that no contamination occurred. An equal amount (1.5kg) of soil material was collected at the 50m position and the composite sample were mixed. A sample number was clearly written on each plastic bag, as well as on two sample tickets. All laterite encountered was broken up using an iron bar. A hole was dug to a depth of 50cm and samples were collected from the broken laterite. The sample bags were clearly labelled and all sample numbers were noted on the sampling sheet. Sample numbers, UTM coordinates, soil colour and type of soil inclusive of mineral content outcrops, geology, slope, physical features (river, flat zone, plateau, hill etc) was recorded. The 3kg composite sample was then inserted into a larger plastic bag. The sample screening was carried out in the field at the sample collection point (in a dry location). At the field camp, the samples were laid out and cross checked. Care was taken to ensure no sample mix up nor contamination occurred. The entire dried sample was then screened using a 1mm screen. The coarse fraction was discarded. Fine fraction of 1.2kg's was collected and inserted into a clean and labelled plastic bag. One sample ticket was inserted into the plastic bag and the second ticket was placed at the opening of the bag and overturned twice, before being stapled closed. The sample bag was then sealed with a stapler.

The samples were sent to ALS Chemex Ouagadougou on a weekly or biweekly basis with written assay instructions. At ALS Chemex the samples were bar coded and logged into the system. A 1kg aliquot was used where a cyanide leach was carried out. The code for the leach was Au-AA15b. This is a trace level accelerated cyanide leach for gold using LeachWELL_ TM reagent with AAS finish on 1kg sample material. The reporting limit is 0.001 – 125 ppm.

The samples submitted to Bureau Veritas, Abidjan were sorted and dried. A 1kg aliquot was used on which a Bulk Leach Extractable Gold (BLEG) was carried out. The code for the leach is BL002S. This is a trace level cyanide leach solvent extraction for gold with AAS finish on 1kg sample material (1ppb limit). Data from the field sampling sheets were then captured in an excel sheet.

The various soil sampling programmes undertaken proved to be highly informative and accurate in identifying the anomalous zones, which were subsequently proven by drilling. Other than in areas of thick laterite cover, soil sampling has proven to be an excellent, reliable exploration tool.

11.2 RAB Drilling and Sampling

Aircore, RAB, AC and very limited diamond drilling was conducted on the Tienko license. All procedures and sample preparations for the Aircore drilling are the same as that for RAB drilling and has therefore not been repeated in this section.

The Rotary Air Blast (RAB) drilling technique is typically used in the mineral exploration industry for geochemical sampling at shallower depths (more than 150 m rarely achieved), as it can only penetrate weathered cover over fresh and hard rock. The RAB technique is also known as a down-the hole drill. RAB was employed at Konela to obtain an inexpensive, quick sample of decent volume. It provides a mixture of crushed rock powder and chips (up to ≈2 cm) and offers limited structural information. Rotary air blast drilling uses a conventional single barrel technique, with compressed air (or a combination of air and foam) pumped down through a drill rod, to break up the ground.

RAB drilling was carried out over selected targets along the geochemical Konela Trend (Figure 11.1). The purpose of this drilling was to locate the soil anomaly at depth. The intersection of the anomaly within the saprolite zone provided the width of the zone and host rock lithology. The Ivorian drilling company COREPRO-Sarl was contracted to carry out the RAB drilling program. COREPRO used a track mounted MULTI-POWER

"PROPECTOR II" self-contained exploration drill rig with a 398Cfm/232PSI compressor on board. RAB drilling was completed using a $3\frac{1}{2}$ RAB bit and hammer. The starting point for each drill fence line was surveyed using a handheld Garmin GPS equipped with a high sensitivity receiver. The subsequent borehole positions were measured using a steel tape and the coordinates recorded by calculating the average position over a time of 20 minutes with the GPS. The elevation of each borehole was determined using the Shuttle Radar Topography Mission data (SRTM-X). The elevation models were generated from X-band synthetic aperture radar (SAR) data acquired during the Shuttle Radar Topography Mission (SRTM). The borehole depth along the Konela Trend varied between 7m and 51m with an average borehole depth of 30m.

11.2.1 RAB Drill Procedures

Prior to drilling, all sampling equipment, cyclone and flexible hoses were inspected. The length of the measuring-rod and the position from where the depth measurement was taken was further verified. The cyclone was loosened at the end of each sample run to alleviate any clogging. Additionally, at the end of each sample interval a 'blow back' procedure was conducted to allow for cleaning of all rock chips from the hole and equipment. The cyclone, hoses and change-over box were checked regularly for leaks and blow-outs. The height of the cyclone was adjusted so that the sample collecting bag was supported and did not hang from the outlet. It was ensured that the sample bags were large enough to collect the whole sample. An area was demarcated for storing the samples. The samples were arranged in numerical order.

11.2.2 RAB Sample Collection and Assay

Samples from RAB drilling were collected via a cyclone using a clean pre-labelled PVC for each metre drilled. The physical condition of the sample (dry, wet, damp) and its corresponding number were recorded on the sample sheet. The recovered sample weight was also recorded. A 500g sample (or as defined by a measuring cup) was sent to the laboratory for analysis and a second 500g sample was kept as reference material and as a backup. Any material that was not required for these two samples was subsequently discarded.

The entire sample was run through a Jones splitter. Sampling was composited at 2m intervals. The content of each meter obtained from the drilling was subsequently collected. A minimum of 200g aliquot was taken for each meter using a pre-cleaned measuring cup. The sample material was then placed into a clean pre-numbered PVC. A plastic label containing the sample number was stapled on the inside of the bag (e.g. "KRB20-02" where "20" represents the borehole number and "-02" represents the meter).

A second sample of around 500 g was removed from each running meter sample and placed into another pre-numbered plastic bag. The same splitting procedure was performed on the second sample. The sample was collected with the same amount of material (using the identical measuring cup) and put into a plastic bag. This also allowed for a second validation check of the samples before storage or dispatch to the laboratory. If the drilling was stopped at an uneven number, the corresponding sample was sent to the laboratory as a single sample.

After each one-meter sample, the splitter was brushed and blown clean with compressed air in order to prevent contamination. The sample bags for the laboratory and storage were arranged in a numerical sequence and checked to ensure two complete ranges of samples from the collar to the end of the borehole were collected. The sample bags were placed into a larger bag for dispatch to the laboratory and storage. The remaining material from the splitter for each sample was laid out for logging purposes (Figure 11.2).

No attempt was made to split wet or damp RAB samples through the riffle splitter as the samples tend to smear and cause clogging in the splitter, with the risk that following sample could be contaminated. Wet samples were taken to camp and dried out prior to splitting through the riffle splitter. Where splitting had to be done on damp samples, this was accomplished through coning and quartering, where damp samples were mixed thoroughly and then coned on a large piece of clean plastic. The cone was then quartered and opposite segments 1 and 3 removed, combined, mixed and coned again. The process was repeated until the two opposite quarters made up a sample of approximately 4-5 kg. A 1 kg sub-sample was scooped from the 4-5 kg sample, representing the assay sample submitted to the laboratory. The remaining material (3-4 kg) was retained as a reference sample. Wet sample intervals were logged according to the degree of dampness and this information entered into the database. This ensured that assessment of the significance of wet RAB drilling was taken into account.

The samples of boreholes KRB01 to KRB318 were sent to ALS Chemex in Bamako. At ALS Chemex the samples were sorted and barcoded into the ALS system. The entire sample was subsequently crushed whereby 70% of the material was less than 2mm in diameter. 250g of the crushed sample has been split off and pulverized with 85% passing 75 microns. The pulverized sample (50g) was collected and analyzed for gold using the fire assay method Au-AA26 with a detection limit of 0.01g/t to 100g/t. Samples from boreholes KRB319 to KRB741 were sent to Bureau Veritas Laboratories in Abidjan. This was due to ALS Chemex having a slow turnaround time of over two months. At Bureau Veritas the samples were sorted, dried and pulverized with 95% passing 106μ m and 85% passing 75μ m. Gold has been determined by the FA001 method, which is a fire assay with AAS finish (0.01 ppm detection limit).

FIGURE 11.1: RAB drilling along the Konela Trend

FIGURE 11.2: RAB samples laid out at site for sampling and logging

11.2.3 RAB Sample Numbering

Sample numbering was sequential and reflected the borehole number and sample interval. For example, K12-1, K12-2 and K12-55 are all samples from borehole K12 for 1m interval sampling. For composite sampling the following number system was applied: K12-02, K12-04.... K12-55. A complete register of the sample numbers for each borehole was kept by the geologist, which indicated the type of sample (ordinary/field duplicate/blank/standard type) against each sample number.

11.2.4 RAB Chip Logging

Mineralogical logging of the drill cuttings was conducted on site whilst drilling was in progress. This information assists in locating the borehole in a regional and local geological context and confirms the stratigraphic continuity in relation to the adjacent boreholes. Logging during drilling also helped with the decision-making regarding continuation of the borehole.

A clean scoop was used to collect a representative sample from the sample bag, preferably after splitting. This sample was sieved to separate fines from chips. The chips were rinsed and studied with a hand lens. Where possible, the rock type and minerals were identified and logged. The majority of the recovered material was from the saprolite. Therefore, the drill cuttings were consisted of fine-grained powder. A lithological description could thus not be conducted on such fine material. If vein quartz was intersected, then occasional quartz fragments that were cm large were recovered. Some of the deeper boreholes intersected the sap-rock transitional zone. Small, weathered rock fragments were therefore also recovered, and a lithological description was completed.

A log sheet with the borehole number, lithology and mineralogy of each sample interval was recorded. Other information such as color, grain size and lamination was further included. Rock types, where possible, were coded on the standard log sheet and the rock codes and descriptions included in the project report. The degree of weathering and/or alteration was also recorded, as well as the depth of the water table encountered.

11.2.5 RAB QAQC

Initially no duplicate samples, standards or blanks were inserted during the early drilling phase. From borehole KRB300 onwards every 20th borehole was duplicated for quality control purposes. The same sample collection method was applied as described above. The duplicate samples from ALS Chemex gave acceptable results. 383 duplicate samples were submitted to Bureau Veritas. Correlation of higher-grade duplicate samples was poor (above 1g/t) as they returned slightly higher grades over the well mineralised zones. Duplicate samples confirmed slightly higher gold values within the mineralised zone. Better correlation was obtained where the zones were moderately mineralised, below 1g/t. This variation might could be related to a nugget effect.

11.3 RC Drilling and Sampling

Reverse circulation (RC) drilling uses a dual barrel technique, with high pressure fluid (more frequently compressed air) forced down to the drill bit along the annular space between an outer and inner drill rod (pipe) and chips (broken rock cuttings) returned to the surface up the center of the inner rod (pipe). The return air and sample is collected through a cyclone. It is designed to reduce the air velocity and separate the sample from the air. The air escapes through the top "chimney" and the sample is collected at the bottom of the cyclone. The length of the chimney will determine the amount of dust (and fine sample) that escapes. The drilling mechanism is a pneumatic reciprocating piston, known as a hammer, driving a tungsten steel drill bit. This is the reverse of the air path employed in RAB drilling, hence the name of the technique (reverse circulation: RC). In contrast to RAB drilling, RC drilling offers good penetration (up to $\approx$ 400 m), via use of a diamond bit with directional control. RC drilling also provides a mixture of crushed rock powder and chips (up to $\approx$ 2cm) and hence provides only limited structural data.

11.3.1 Drill Rig Procedure

Prior to drilling, all sampling equipment, cyclone and flexible hoses were checked. The length of the measuring-rod and the position from where the depth measurement was taken was further verified. Clogging in the cyclone is an issue as fine dust tends to gather in the chimney. Therefore the cyclone was loosened at the end of each sample run. Additionally, at the end of each sample interval a 'blow back' procedure was conducted to allow for cleaning of all rock chips from the hole and equipment to prevent smearing. The cyclone, hoses and change-over box were checked regularly for leaks and blow-outs. The height of the cyclone was adjusted so that the sample collecting bag was supported and did not hang from the outlet. The samples were arranged in numerical order.

11.3.2 RC Sample Collection and Numbering

Each drill meter was collected at the cyclone using a clean pre-labelled PVC bags. The physical condition of the sample (dry, wet, damp) and its corresponding number was recorded on the sample sheet. The recovered sample weight was also recorded. The level of sample material in the bags was monitored and compared to detect any loss of sample due to clogging or blow-outs. Any discrepancy were recorded.

Samples from each meter were run through a Jones splitter to obtain a sample weight of approximately 4kg per meter. After the first run, the contents of one bin (larger bin) were discarded. A small, collected portion was screened, washed and logged under a binocular microscope. The content of the other bin were again put through the splitter and divided between two bins. The contents of the larger bin were placed with the other split sample material in the cyclone sample bag. This process was repeated until 4 to 5kg of sample had accumulated.

Two samples were taken from the split material. A 1kg sample was separated from the 4-5kg sample and sent to the laboratory for analysis. The remaining sample (3 to 4kg) was kept as backup reference material. All other material was subsequently discarded. The splitter was cleaned after each sample run to prevent contamination. The 3-4kg sample bag and the 2kg sample bag were arranged in numerical sequence to ensure two complete ranges of samples from collar to the end of the borehole.
Any wet samples were cone and quartered. Damp samples were mixed thoroughly and then coned on a large enough piece of clean plastic. The sample cone was then quartered and segments 1 and 3 were removed and returned to the large, numbered bag, while segments 2 and 4 were combined, mixed and coned again. The process was repeated until two 2kg quarters were obtained. Wet samples were filtered, or the water decanted. Samples were also sun dried.

The RC Sample numbering was done exactly the same as was done for AC and RAB drilling. Samples were carefully numbered and sample tags stapled on the inside of the bag. The corresponding number was again written on the outside of the bag to ease checking of the samples before storage. Each sample bag was sealed with a cable tie. Samples were labelled according to the project area, type of drilling and drillhole number, followed by the number of the individual sample. For example, KRC012-1, KRC012-2 and KRC012-55 are samples from drillhole KRC012 for 1 m sampling interval at 2m and 55m depths.

11.3.3 RC Density Determination

No specific gravity determinations have been done on the RC chip samples.

11.3.4 RC Sample Security

Sample handling and transport was governed by a chain of custody protocol. All sample material generated during the course of the project was stored in a lockable facility at the exploration camp.

All samples submitted to the SGS laboratory in Ouagadougou were sealed in plastic sample bags with cable ties, placed into large polyweave bags and again sealed. Samples were collected from the Tienko camp by SGS personnel. Each sample batch was accompanied by a sample submittal form detailing the number of polyweave bags, type and number of samples, sample number sequence, and instructions for sample preparation and assay. A duplicate copy of the sample submission form was signed by an SGS representative and placed on file at the exploration camp. Sample bags were inspected by SGS senior personel on arrival at the laboratory in Ouagadougou as a further security check.

11.3.5 RC Sample Preparation

SGS Burkina Faso SA laboratory in Ouagadougou is an accredited laboratory to ISO 17025 standards (quality accreditation system for commercial laboratories – ISO 17025) and independent of WAME. The accreditation includes physical sample preparation using accredited test methods as well as determination of gold by lead collection fire assay with Atomic Adsorption Spectrometry finish (Method Code FAA505).

Sample preparation was carried out according to SGS procedure code PRP 86 which involved drying, crushing of the sample passing 2mm and pulverizing to a nominal 85% passing 75μ m. Approximately 200g sub-sample was taken for assay with the remaining sample returned to the original bag. Dr. Kiefer was consulting for JOFEMA at the time of the sampling and he confirmed their accreditation.

11.3.6 RC Sample Assays

Prepared sample pulps were analyzed for gold by lead collection fire assay of 50g portions, with an Atomic Absorption Spectrometry (AAS) finish (SGS method code FAA505). Internal quality control by the laboratory involved insertion of blanks, standards and duplicates throughout the sample sequence, each at an average frequency of minimum 1 in 10 routine (10% to 12%).

11.3.7 RC Chip Logging

Logging of the drill chips was conducted on site at the drill rig, whilst drilling was in progress. Lithology, alteration, structure and visible mineralisation were recorded on a log sheet. Obtaining geological and mineralogical information at an early stage allowed for timeous decisions to be made regarding the borehole. A scoop was used to collect a representative sample from the discarded sample material, which was preferably done after splitting. The sample was sieved to separate fines from chips. The chips were rinsed and studied under a binocular microscope or with a hand lens. Rock type and minerals were identified and logged. Damp samples were noted and portion of the chips from each meter were stored in standard compartment chip trays. Each compartment was labelled sequentially on the inside of the box with a permanent marker and the name of the borehole and depth range was recorded on the outside of the box.

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11.3.8 RC Quality Assurance and Quality Control (QAQC)

Quality assurance and quality control (QAQC) protocols were followed throughout the Tienko drilling program. These protocols included the insertion of blanks, duplicates and reference material (CRM) by the geologists into the sample stream. One CRM was inserted after every 20 samples, for the purpose of monitoring analytical accuracy.

Field duplicate samples or rig splits were collected during RC drilling by taking a second split of the drill interval being sampled. Field duplicates were used to monitor analytical precision.

Blanks were inserted into the sample stream to monitor within-batch contamination between samples within a specific batch, particularly in well mineralised sections. The Blanks were certified AMIS Reference Material in the form of blank silica chips. Blanks were inserted at a rate of about two to three blank samples per drillhole, including a blank sample at the beginning of a new batch in order to monitor between-batch contamination.

11.3.8.1 Blank RC Sample Analyses

The blank analysis indicated that the sample preparation was performed under reasonably sterile conditions with limited contamination (Figure 11.3). carried out for the Tienko Project. A few of the blank samples reported grades higher than expected, indicating minor potential sample contamination. The assay values are however, negligible as they are way below the value of any economic mineralisation.

These results are acceptable for a first-pass exploration drilling program.

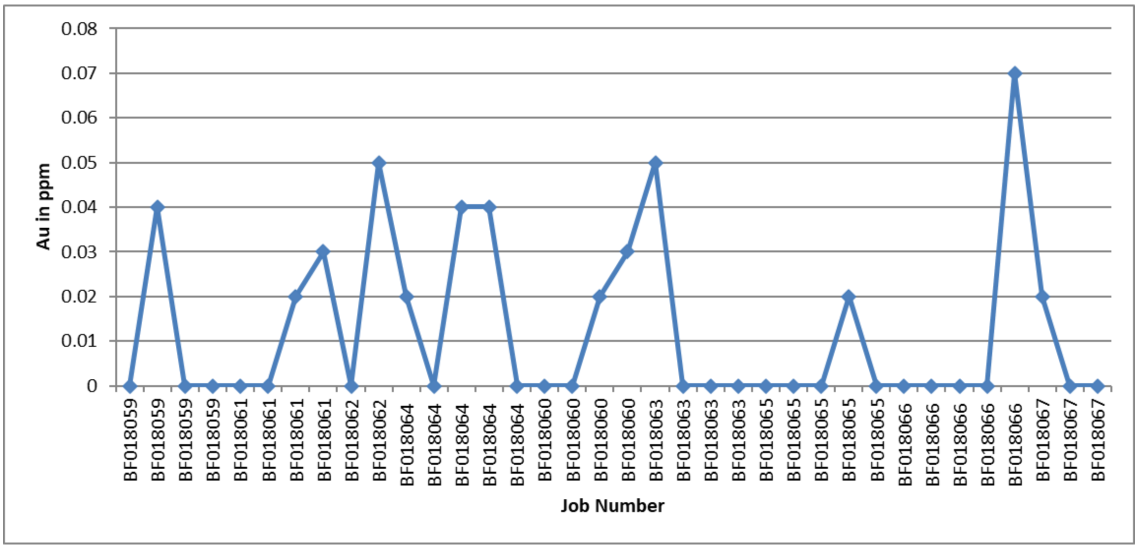

FIGURE 11.3: Blank sample results for gold

11.3.8.2 CRM Sample Analyses

Certified reference material (CRM), sourced from AMIS (African Mineral Standards) and OREAS, was used to test and identify problems of accuracy within specific sample batches. Four different standards were used to cover a wide range of gold grade (Table 11.1). A total of 96 CRMs were inserted and used during the RC drilling program.

CRM Name	Accepted mean Au grade (ppm)	Std. deviation (ppm)	No. used	No. of assays reported
AMIS 0262	1.84	0.18	27	27
OREAS 201	0.514	0.017	29	29
OREAS 207	3.47	0.13	27	27
OREAS 10c	6.6	0.16	13	13

TABLE 11.1: Details of Standard Reference Material Used

QAQC data verification was conducted on each of the assay batches received from the laboratory. Those sample batches, which fell outside specified tolerance ranges, were flagged and investigated. Results of standards were plotted over time for each sample batch. The results are shown in Figure 11.4 to Figure 11.7.

Standard reference sample AMIS0262 (Figure 11.4) passed the criteria except for one CRM sample number U2573 in job number BF018063, which returned an assay value of 0.02g/t. Sample U2573 was probably incorrectly labelled or incorrectly logged and could possibly been a BLANK. All other CRM assay results came back with very little variation and well within the 3 standard variations failure limit.

CRM OREAS 201 and CRM OREAS 207 (Figure 11.5 and 11.6) have a high accuracy and precision. All 29 CRM samples for OREAS 201 and all 27 samples for OREAS 207 plot within the standard deviation limits.

13 high-grade CRM samples (OREAS 10c) were added into the assay stream. OREAS 10c passed with all results reporting within three standard deviations of the accepted mean (Figure 11.7). The conventional approach to setting acceptance limits is to use the mean assay (also known as the Certified Reference Value) ±2 standard deviations as a cautionary limit and ±3 standard deviations as a failure limit. Only one sample plotted within the two standard deviation field, with all other assays returning higher gold values. It is evident that the assay results for the high-grade samples have a high precision, but a low accuracy. All high-grade gold assay results may be slightly overreported. This needs to be taken into consideration when analysing and interpreting the high-grade gold results for the RC drilling program.

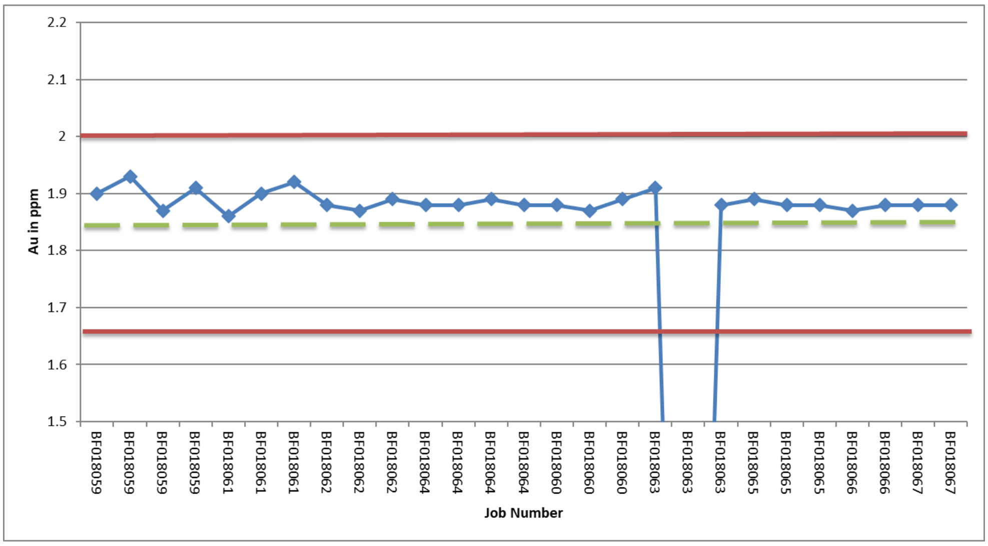

FIGURE 11.4: Results of CRM AMIS 0262 (1.84 g/t Au)

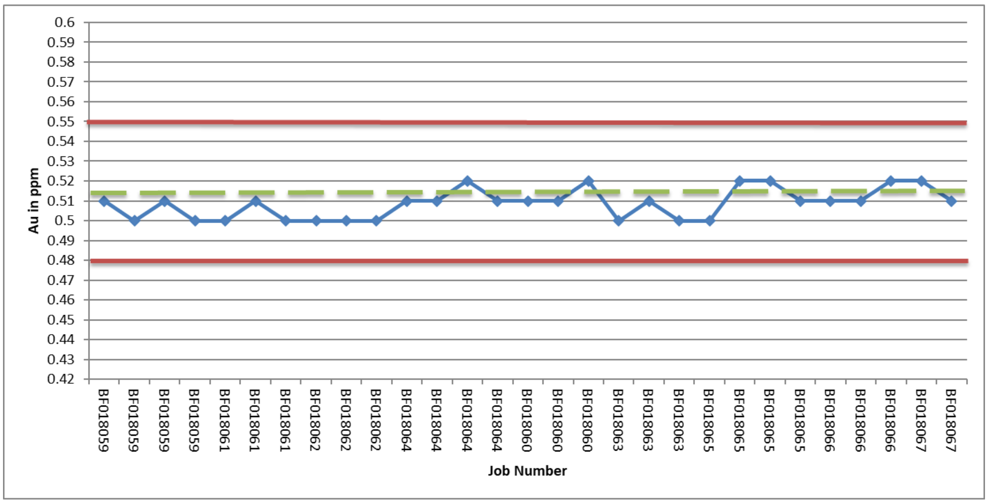

FIGURE 11.5: Results of CRM OREAS 201 (0.514g/t Au)

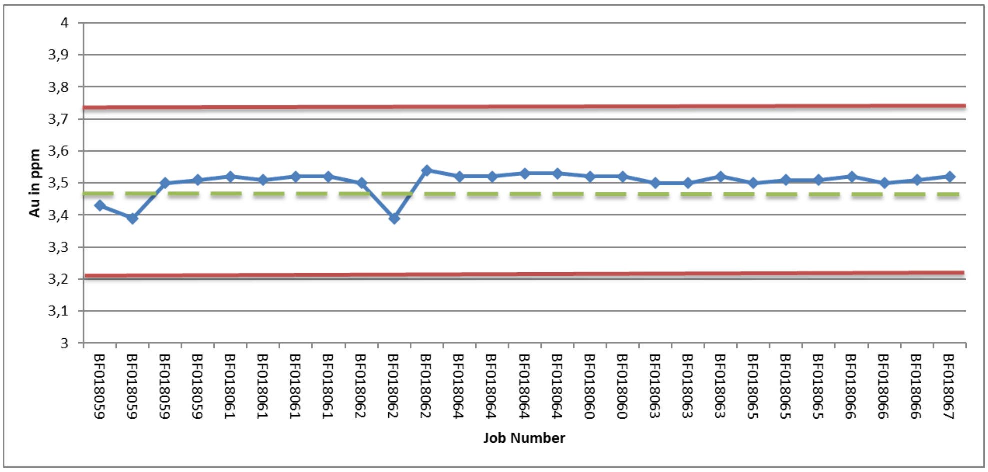

FIGURE 11.6: Results of CRM OREAS 207 (3.472g/t Au)

FIGURE 11.7: Results of CRM OREAS 10c (6.6g/t Au)

11.3.8.3 Results of the RC Chip Duplicate Sample Analyses

The results for the 86 RC field duplicates are shown in the scatterplot in Figure 11.8. Most samples that were duplicated have a low gold value and the statistical mean is 0.13g/t for the original and 0.14g/t for the field duplicates. Some grade variation within the low-grade samples is evident, which may be explained by the nuggety nature of gold mineralisation for certain areas. Higher-grade samples, however, show a good correlation.

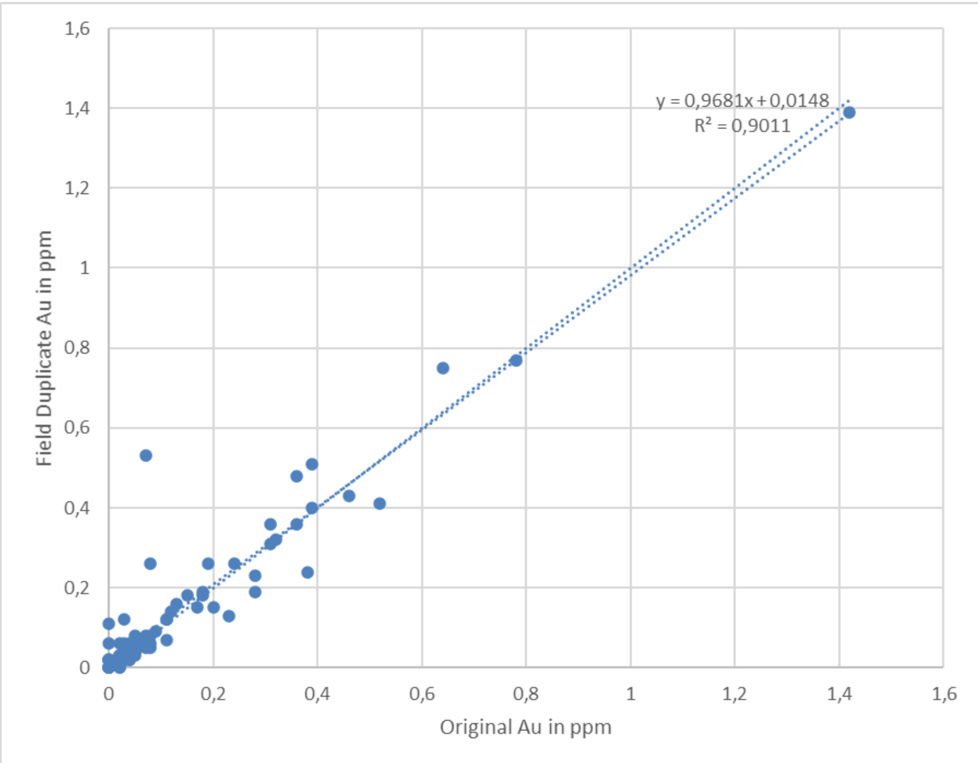

FIGURE 11.8: Scatterplot of original and field duplicate RC drill chip samples.

11.3.8.4 RC QAQC Summary

In summary the QAQC conducted on the RC samples from the Konela drill Programme is good to satisfying for an initial exploration program. An overall 15% external QC sample insertion was achieved by JOFEMA, although only 5% CRM sample insertion and 1% blank insertion was done.

11.4 Core Drilling and Sampling

11.4.1 Core Sampling

Only 4 holes were diamond drilled. Drill core was placed on a 4m long angle-iron and arranged to ensure a proper fit of the core pieces. Recovery and splitting of weathered saprolitic core proved challenging due to poor recovery technique by the drillers. (Figure 11.9A). A line was drawn on the aligned core and the angle between the bedding plane or foliation and a line perpendicular to the core axis was measured (Figure 11.9B). The core was subsequently split in half using an industry-standard core cutter along a line marking the low points of bedding/foliation. The half core containing the reference line was then returned to the core box and the remaining half was sampled (Figure 11.9C). Sampling of the core was carried out between 0.18m to 1.34m sample lengths. The mineralisation, as well as change in lithology and alteration were observed and noted in a log sheet.

FIGURE 11.9: Drill core from KDD01. A: soft saprolitic weathered and oxidized granitoid and B: granitic sap rock with quartz veining indicating marked up core with cutting line drawn before cutting. The recovery of all the drilled core was poor. C: Core of mineralised sheared K Feldspar granitoid zone post cutting.

11.4.2 Sample Collection and Numbering

Samples were bagged and numbered with a unique sample ID. The sample batches were transported to Intertek laboratory in Tarkwa, Ghana for analyses.

11.4.3 Density Determination

No specific gravity determinations were undertaken on the core samples.

11.4.4 Sample Security

It is understood that sample handling and transport were governed by a chain of custody protocol. All sample material generated during the course of the project was stored in a lockable facility at the exploration camp.

All samples submitted to Intertek laboratory in Tarkwa were sealed in plastic sample bags with cable ties, placed into large polyweave bags and re-sealed. Samples were transported by road accompanied by the JOFEMA staff to Intertek, laboratory in Tarkwa, Ghana. Each sample batch was accompanied by a sample submittal form detailing the number of polyweave bags, type and number of samples, sample number sequence, and instructions for sample preparation and assay. A duplicate copy of the sample submission form was signed by an Intertek representative and placed on file at the exploration camp.

11.4.5 Sample Preparation

The Intertek laboratory in Tarkwa is an accredited laboratory to ISO 17025 standards (quality accreditation system for commercial laboratories – ISO 17025) and independent of WAME. Core samples were submitted to the Intertek laboratory for sample preparation and analysis. Sample preparation was carried out using Intertek Standard Preparation Method, which is based on a maximum 2kg sample, dried, crushed (-2mm) and total pulverisation of the material with 90% passing 75μm.

11.4.6 Sample Assays

Prepared sample pulps were analyzed for gold by fire assay of 50g portions, with cupellation and Atomic Absorption Spectrometry (AAS) finish (Intertek method code FA30/AAS). Internal quality control by the laboratory involved insertion of blanks, standards and duplicates throughout the sample sequence, each at an average frequency of minimum 1 in 10 routine (10% to 12%).

11.4.7 Core Quality Assurance Quality Control (QA/QC)

Quality assurance and quality control (QAQC) protocols were followed throughout the Tienko drilling program. These protocols included the insertion of blanks, duplicates and reference material (CRM or standards) into the sample stream. One CRM was inserted after every 18 samples, for the purpose of monitoring analytical accuracy.

Blank control standards were inserted into the sample stream to monitor within-batch contamination between samples within a specific batch. Blanks were inserted at a rate of one blank per 18 samples. This equates to one QC sample after every 9 routine samples, thus representing a minimum 10 % external QC.

11.4.7.1 Blank Core Sample Analyses

The blank analysis indicates that the sample preparation was performed under reasonably sterile conditions with some evidence of minor contamination of batch 59_0_1000522 (Figure 11.10). The blank samples for this batch assayed 0.01g/t to 0.03g/t Au, which is above the detection limit value. The assay values are, however, below the value of any economic mineralisation.

These results are acceptable for a first-pass exploration drilling program.

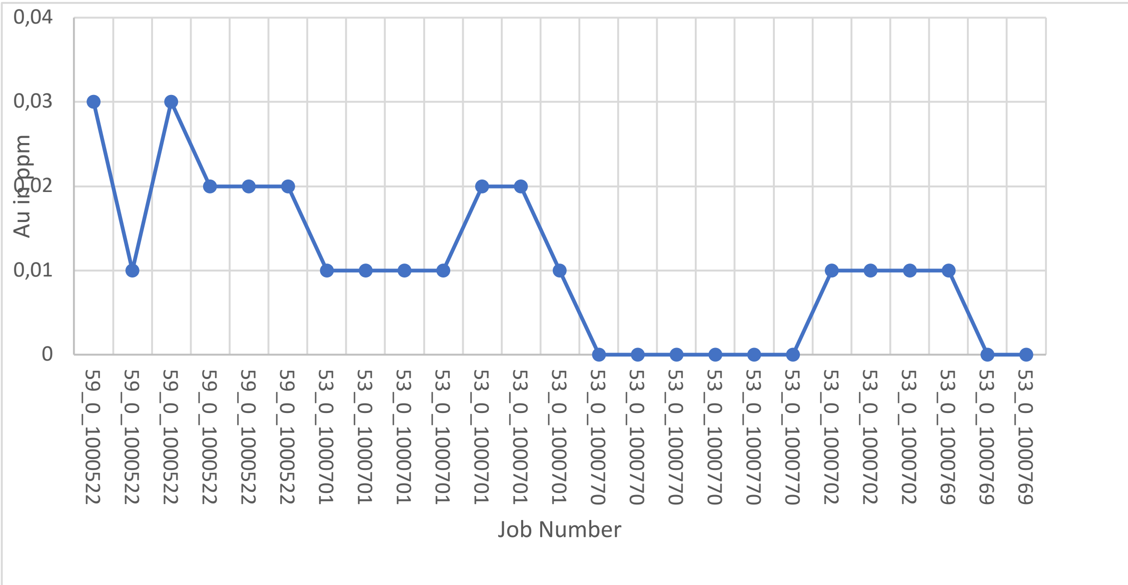

FIGURE 11.10: Core Drilling – blank sample results for gold.

11.4.7.2 CRM Sample Analyses

Three different certified reference material standards, sourced from AMIS (African Mineral Standards) were used to cover a wide range of gold grades (11.2). A total of 26 CRMs were inserted and used during the course of the core drilling program.

CRM Name	Accepted mean Au grade (ppm)	Standard deviation (ppm)	Number used	Number of assays reported
AMIS 0042	0.802	0.084	11	11
AMIS 0044	2.90	0.19	7	7
AMIS 0078	8.36	0.5	8	8

TABLE 11.2: Summary of CRM sample analyses.

QAQC was conducted on each assay batch received from the laboratory. Those sample batches, which plotted outside specified tolerance ranges, were flagged and investigated.

Results of standards were plotted for each sample batch (Figure 11.11 - 11.13).

Standard reference sample AMIS 0042 (Figure 11.11) passed the criteria except for one CRM sample number 53_0_1000701, which returned an assay value of 0.61g/t Au. The assay result, however, are acceptable using the three standard deviations of the mean criteria. All other CRM results came back with very little variation and well within the 3 standard variation limit. All CRM samples of AMIS 0044 (Figure 11.12) plot within the standard deviation limits.

A total of 8 high-grade CRM sample AMIS 0078 (Figure 11.13) were inserted into the assay stream. AMIS 0078 results are slightly under-reported, with no gold assay reaching 8g/t. Apart from two of the samples, all results reported within three standard deviations of the accepted mean. It is evident that the assay results for the high-grade samples have a high precision, but a low accuracy. All high-grade gold assay results may be slightly overreported. This needs to be taken into consideration when analysing and interpreting the high-grade gold results for the core drilling program.

Two CRM samples of Batch 55_0_1000701 plotted within two standard deviations. Both CRMs come from borehole KDD-03 and span a 40m wide intersection. These gold assay results may be slightly over-reported and it may be worthwhile to re-assay this range of samples.

Two CRM samples of Batch 55_ 0_ 1000701 plotted within two standard deviations. Both CRMs come from borehole KDD-03 and span a 40m wide intersection. These gold assay results may be slightly overreported and it may be worthwhile to re-assay this range of samples.

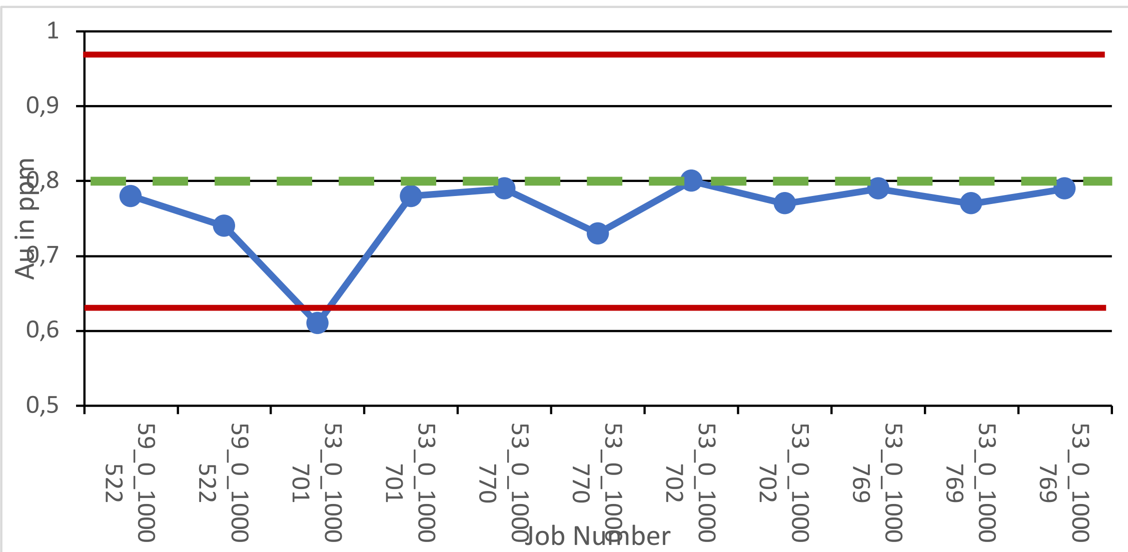

FIGURE 11.11: Results of CRM AMIS 0042 (0.802g/t Au).

FIGURE 11.12: Results of CRM AMIS 0044 (2.90g/t Au).

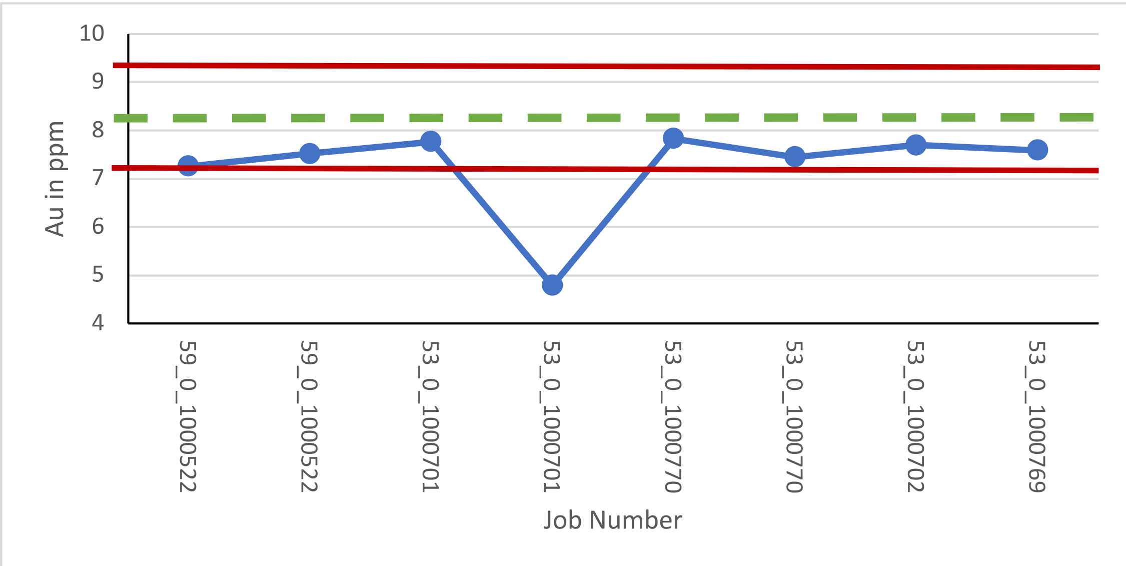

FIGURE 11.13: Results of CRM AMIS 0078 (8.36g/t Au)

11.4.7.3 Core drilling QAQC Summary

In summary the QAQC conducted on the core samples from the Tienko drill Programme is good to satisfying for an initial exploration program of this nature. The core recovery was poor and it would appear that this drill programme probably undervalued the results due to core loss.

11.5 QAQC Verification Conclusion and Recommendations

Dr Deon Vermaakt, registered with the South African Council for Natural Scientific Professions, SACNASP, 40000/20 Pr.Sci.Nat., as the Qualified Person on behalf of Goldrange, is satisfied in the reliability, accuracy and precision of the data collected. The data verification processes completed to date have been completed in accordance with the relevant industry benchmarks and practices. Furthermore, the analysis completed to date has not identified any significant issues which would result in any inherent bias in forming an opinion of the Project.

It is further suggested that in the next exploration phase:

- Blanks, standards and duplicates be consistently inserted at a rate of 15%
- Selective twin DD drilling be conducted to confirm the RC drill results.
- Umpire Pulp Duplicate Sample Analyses be undertaken on selected samples
- Multi element assays be conducted on selected samples

Chapter 12

ADJACENT PROPERTIES

Properties adjacent to the Tienko License (PR0886) area are shown below in Figure 12.1 and Table 12.1. The Tienko Permit is shown in red. Numerous semi-industrial exploitation permits are held by various companies to the west and south of the Tienko License area (Figure 12.1). To the north of Tienko an extensive area has demarcated as an official artisanal zone. To the east, south and southwest of the Tienko License, exploration permits are held by PEREX SARL, BAOOBO GOLDEX SARL and AWALE Resources. These properties are located within close proximity to the Sassandra fault and thus are partitioned between the Palaeoproterzoic Baoule-Mossi domain, which forms part of the Birimian Supergroup, and the Archean Kenema Man domain. They share a similar range of syn- to late tectonic Eburnean granite intrusives, mainly to the east of the Tienko tenement. The Mali border lies to the west and northwest of the Tienko Project. The details of the Mali tenements are not presented here as these adjacent properties do not meet the definition of an 'adjacent property' in the NI 43-101 Definitions (National Instrument 43-101F1, 2011).

License number	Tenement owner Location to permit	Location to permit
0136DMICM	AWALE Resources	Southwest
PR-787	PEREX SARL	East
0460DMICM	BAOOBO GOLDEX SARL	South
0445DIMCM	PRECIOUS DEEP MINING SA	West
0454DIMCM	GEO -CMBT SA	West
AESI-73	Prowess Mining Compa	West
AESI206-APP	Ouattara Kaweli	West
N/A	Artisanal Zone	North

TABLE 12.1: Adjacent Property Listing

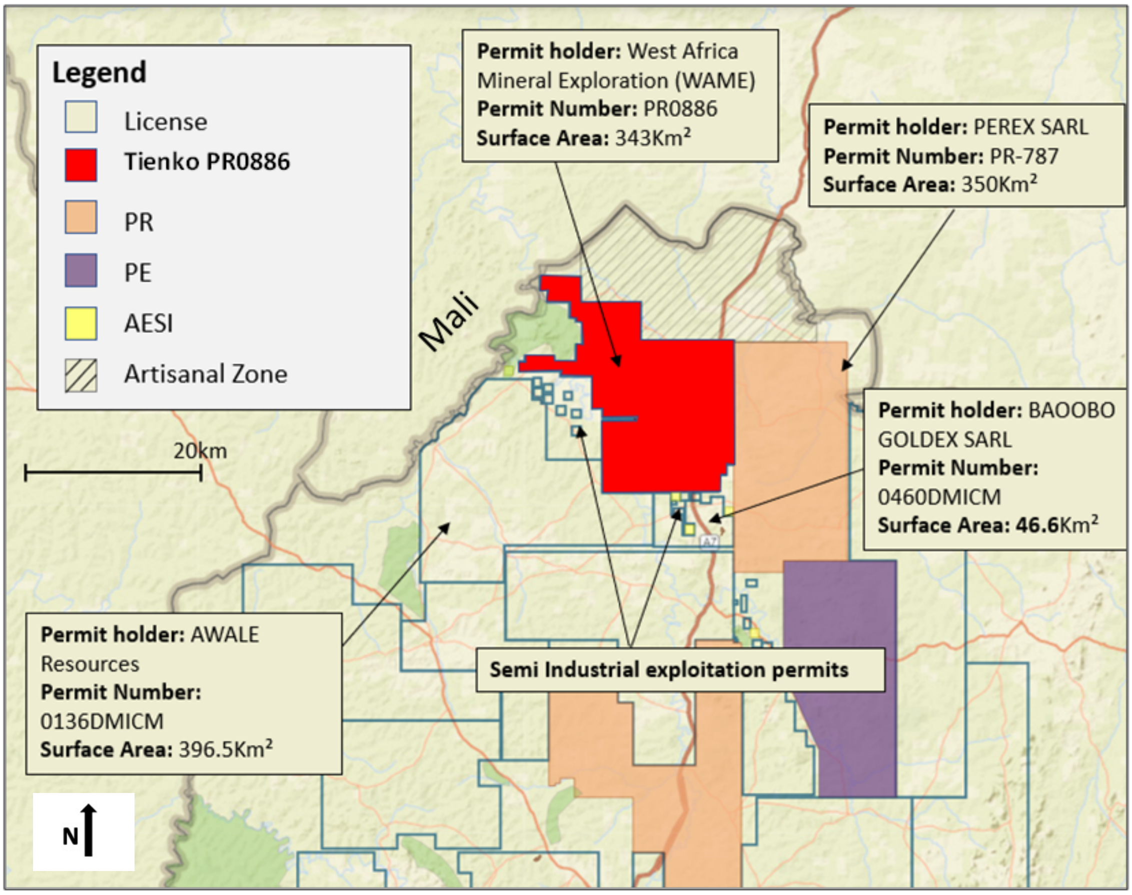

FIGURE 12.1: Tienko permit area and adjacent properties - Source: 'Cadastre Minier de la Côte d'Ivoire' Portal

Jofema conducted a regional exploration program over the entire Tienko area from 2006 to 2018. Jofema was the registered owner of the Konela licence PR179 which included the Madina area south of the Baoule River. Two 20km striking parallel anomalous zones to the north and south of the Baoulé River were identified. The anomalous zone to the south is known as the Madina Trend and extends from the village of Madina in the northwest to the Nabagala village in the southeast (Figure 10.1). Madina was included in the Konela permit PR179. However, post the second renewal of the Konela license the surface area was reduced in size as per the mining code license renewal requirement. The Madina trend being the least prospective of the anomalous zones, was consequently relinquished and Jofema's main area of focus continued along the Konela trend north of the Baoule River.

Prior to the relinquishment of the Madina license several phases of sampling by Jofema were undertaken over a three-year period. Geochemical anomalies were followed-up by RAB and RC drilling.

12.1 Madina RAB Drilling

A RAB drilling program (23044m) was carried out along drill fence lines with a 400m line spacing. The RAB drilling further delineated and refined the main corridor to a smaller 2.8km anomalous zone. Best intersections in this zone include 1.94g/t over 4m, 3.36g/t over 4m (KRB649), 1.1g/t over 14m (KRB665) and 14m @ 3.87g/t (KRB683).

12.2 Madina RC Drilling

The positive RAB intersections were followed up by an RC drilling program (Figure 12.2). RC drill results were disappointing and most of the RAB mineralisation in the shallow saprolite and surface zones could not be traced at depth by the RC drilling. No further additional work was conducted by Jofema and the Madina area was subsequently excluded from the second licence PR179 renewal.

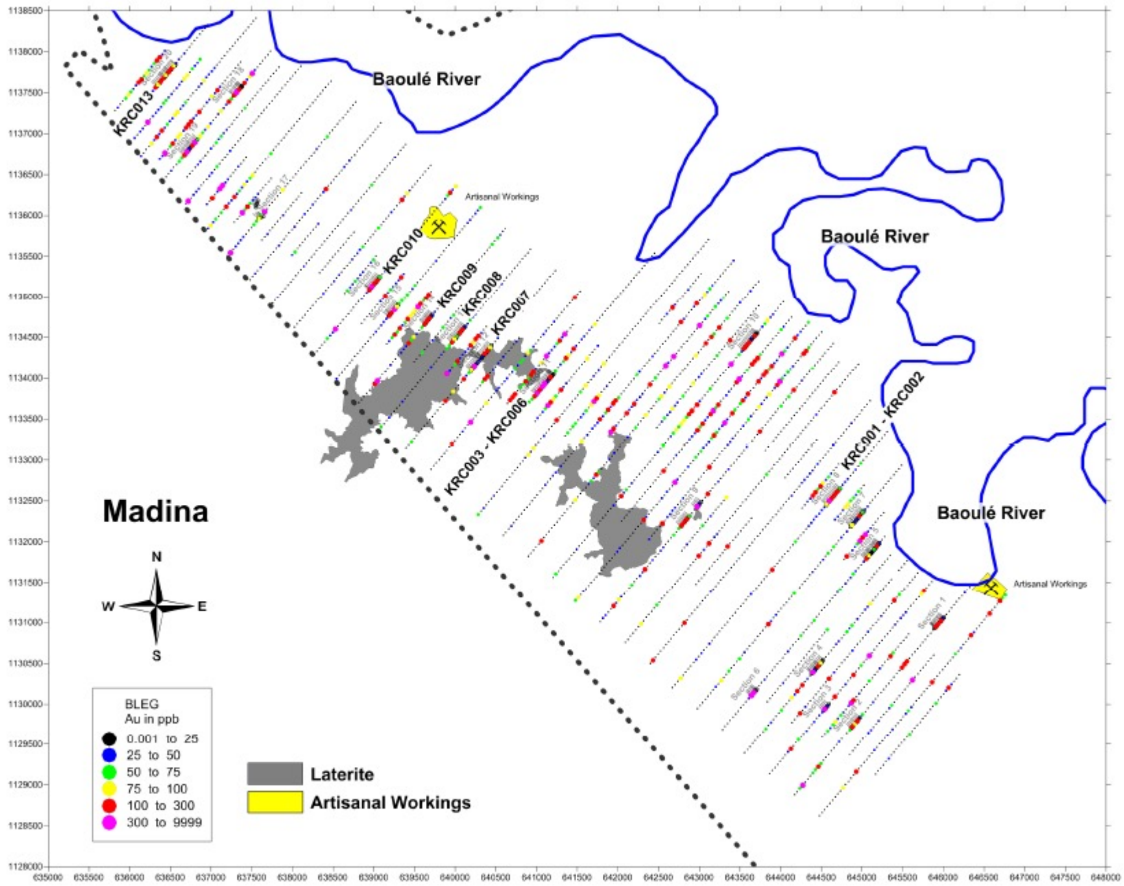

FIGURE 12.2: Soil geochemistry and location of the RC boreholes.

The Tienko PR0886 licence, excludes the Madina area.

Chapter 13

OTHER RELEVANT DATA AND INFORMATION

All relevant information and explanations have been provided in the body of this report to make it understandable and not misleading. No additional data or information is therefore deemed necessary to be included in this report.

Chapter 14

INTERPRETATION AND CONCLUSION

It is the author and Competent Person's opinion that the Tienko Gold Project is well documented in this Report and meets NI 43-101 standards Code guidelines.

Ivory Coast has a mature mining culture and commercial gold mining is well established in West Africa in particular. Sovereign risk is understood and Goldrange management and Board members have experience in exploring and operating gold projects in West Africa.

The Project area is considered to be an example of a structurally controlled orogenic-style gold deposit. The area is primarily underlain by Birimian volcano-sedimentary rocks. The metasediments are comprised of undifferentiated schists, greywackes, intrusive dykes and are often intruded by volcanics or intercalated with metavolcanics.

The Tienko project area was initially explored by Normandy LaSource from 1988 until 2002 and thereafter by Jofema Mineral Resources Sarl (JOFEMA) from 2005 to 2018 through licence PR179 (Konela). The current licence, PR0886 known as Tienko, is held in the name of West African Mineral Exploration SARL (WAME),which is comprised of two of the same principal shareholders as JOFEMA had. This NI 43-101 Technical Report details the exploration work conducted on the Project to date.

Numerous target areas were identified by detailed systematic exploration including soil sampling, trenching and drilling. A combined total of 718 holes for approximately 26,410 m inclusive of RAB, AC, RC and DD holes were drilled between 2010 and 2018 in the Project area. The exploration work conducted on the Project area to date, demonstrates a substantial gold system presented by a series of mineralized lenses of variable grade within a north westerly striking 20km corridor. The strike of this corridor is subparallel to the regional magnetic lineaments and the intersected northwest trending shear zones. Observations made from the extensive exploration programme as well as artisanal pits, have indicated three dominant styles of gold mineralisation within the mineralized lenses. These consist of:

- Shear zone hosted gold mineralisation, along the shear contact of metasediments (sericite schist), felsic intrusives and metavolcanics.

- Quartz vein hosted gold mineralisation
- Granitoid hosted gold mineralisation associated with narrow quartz veining

The Tienko Project regional geology and mineralisation styles are reasonably well understood. Although the mineralized zones within the main target corridor show lateral strike continuity, more work is required to fully understand the spatial and vertical distribution of mineralisation within each of the identified zones.

No resource has yet been estimated for the Project area. This is primarily a function of insufficient drill density within the mineralised zones. The wide drill fence spacing of 200m and 400m and the predominantly shallow down-hole depths of most drill holes, were inadequate to confidently define an inferred resource. Information from the unweathered fresh rock was limited to those RC holes which drilled through the oxide and transitional zones and managed to penetrate the sulphide zone at depth. Additional structural, lithological, and alteration information is required to further understand the spatial distribution and continuity of the gold mineralisation at depth. Closer drill spacing is needed to better evaluate the potential of this deposit and define a Mineral Resource.

The plethora of small artisanal workings situated within the Project area, are indicative that gold from the shallow, softer and saprolite mineralized material is easily recoverable and does not appear to be refractory in nature. The presence of artisanal workings within mineralized zones delineated on PR0886, as well as gold mineralisation found by artisanal workers outside of these identified anomalous zones, indicates that there may be addition prospective areas which require further investigation.

The technical work conducted to date on the Project area is sound and has been conducted in a professional manner. The authors are of the opinion that the Tienko Project shows encouraging potential and should be progressed further.

Chapter 15

RECOMMENDATIONS

This chapter provides general recommendations and suggestions for all areas within the project area. Specific recommendations pertinent to each zone have been included in sections 10.1 to 10.7 under the heading 'Potential' of Chapter 10.

The general recommendations as suggested by the Competent Person and the project consultants therefore refer to all areas within the Project. These suggestions include but are not limited to the following:

- Additional information in the form of alteration, structure, lateral and vertical grade continuity of the mineralised zones, is required to fully evaluate the true gold potential of the saprolite zone, transitional zone and sulphide zone.
- Gold deportment determination of both weathered saprolite and fresh material to be included in the next work phase.
- The potential of shallow mineralised free-digging saprolite soft material to be assessed.
- Artisanal workings to be mapped and channel sampled in order to delineate the location of mineralisation on surface.
- Areas outside of the main mineralised corridors should be visited and reviewed in conjunction with historical soil and magnetic survey data. These areas may provide an extension to the known mineralised zones.
- Resource definition drilling needs to be conducted on selected zones which have identified robust and potentially good mineralisation.
- Closer spaced definition drilling is required over a smaller carefully selected "typical" zone of mineralisation to improve grade continuity in relation to lithology and structure.
- Random assay results to be cross-checked by sending sample rest pulps to a second, independent, internationally recognized laboratory (umpire sampling).

- Density measurements need to be routinely conducted using a best practice procedure and must include weathered oxidised and fresh material.
- The weathering surface needs to be better defined in order to optimally define the free-dig material. Artisanal workings can be used to improve this data. Similarly, the base of transition zone should be more consistently defined.
- All core drilling should be photographed and catalogued.

The project has potential to support the recommendation that work needs to be progressed to the next step. This would be in the form of structured detailed work required for resource definition purposes as well as that required for initiating a Preliminary Economic Assessment (PEA). In a broad sense the focus of this work should focus on infill and extensional drilling to allow for Inferred and possibly Indicated Resource definition work, ore deportment studies, bulk sampling and metallurgical work.

The authors are of the opinion that the proposed work programme is warranted and the budget of US$3M over two years is realistic to advance the Project to the next goal of a PEA (Figure 15.1).

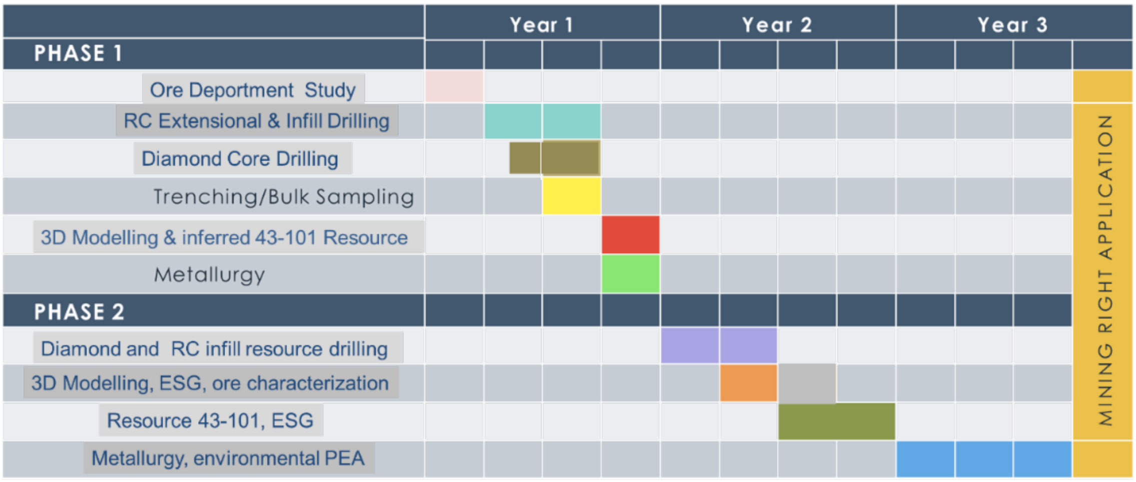

FIGURE 15.1: Proposed work programme for budget of US$3M

Chapter 16

DATE AND SIGNATURE PAGE

This Report entitled "NI 43-101 Technical Report, Tienko Gold Project, Republic of Ivory Coast", issued date September 30, 2021, was prepared and signed by the following Authors:

Contributing Author	**Employer**	**Date of Site Visit**	**Sections of this Report**
Deon Vermaakt (QP)	Guryon (Pty) Ltd	March 2015 but not recent	All sections
Robert Kiefer (consulting geologist & contributing author)	MinEx Resources	N/A	Author of Section 11: 'Sample Preparation, Analyses and Data Verification', contributor to all sections
Helen Pein (Co-Author)	PanEx Resources	May 2015	Co-author, Reviewer, and contributor to all sections

CERTIFICATE OF COMPETENT PERSON (CP)

I, Deon Tobias Vermaakt, as an author and Competent Person (CP) of this report "NI 43-101 Technical Report – Tienko Gold Project, Republic of Ivory Coast", which is effective as of July 5th 2021, and issued on September , 2021, (the Technical Report) prepared for Goldrange Resources (the Company), do hereby certify that:

1. I am a Director of Guryon (Pty) Ltd, SA. My office adress is 31 Chopin Str, Van der Hoffpark, Potchefstroom, 2531, Northwest, South Africa
2. I am a graduate of University of Johannesburg , with a B.Sc., B.Sc. Honnours and M.Sc. (Geology) and Ph.D (Earth Sciences), 1995.
3. I am registered with the South African Council for Natural Scientific Professions SACNAS Sci.Nat.as a registered scientist in 2000.
4. I have worked as an exploration and economic geologist for a total of 37 years since my graduation from university. I have worked extensively throughout Africa and in particular Ivory Coast in West Africa, on numerous exploration and mining projects and gained relevant experience on projects similar to the Tienko project. I have acted as a CP on numerous technical reports throughout my career.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI43-101) and certifiy that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experince, I fulfill the requirements to be a qualified person for the purpose of NI 43-101. I have experience relevant to the subject matter of the Tienko mineral project and the technical report.
6. I have not visited the project recently due to the onset of the COVID-19 global pandemic in 2020. Prior to the commencement of this Technical Report, travel restrictions were put in place for South Africans, that prevented any recent legitimate travel to the Project area. I am therefore of the opinion that the pandemic qualifies as "exceptional circumstances" under NI 43-101 site visit requirements.
7. I am responsible for all sections of the Technical Report and have reviewed, co-authored and/or contributed to most of the chapters.
8. I am totally independent of the issuer applying the test set out in Section 1, 5 (4) of NI 43-101.
9. I have not been involved in any previous Technical Report on the Tienko Deposit.
10. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and From 43-101F1.
11. 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 ensure that the technical report is not misleading.

Dated this 30th day of September 2021

Signature ....

Deon Tobias Vermaakt

CERTIFICATE OF QUALIFIED CO-AUTHOR

I, Dr. Robert Kiefer, as an author and contributor of this report "NI 43-101 Technical Report - Tienko Project, Republic of Ivory Coast", which is effective as of July 5th 2021, and issued on September 30, 2021 (the Technical Report) prepared for Goldrange Resources (the Company), do hereby certify that:

1. I am a Principal of MinEx (Pty) Ltd, SA. My office adress is 9A Hamilton Road, Craighall, Johannesburg, 2024. I am currently working from home in Germany.
2. I am a graduate of the Ludwigs-Maximilians University in Munich with a MSc in geology, and the University of Witwatersrand with a Ph.D (Geology), 2004.
3. I am registered with the South African Council for Natural Scientific Professions SACNAS Sci.Nat.as a registered scientist 2018 and member of the Geology Society of South Africa .
4. I have worked as an exploration geologist for a total of 25 years. I have worked extensively in South Africa, as well as in Zambia and Ivory Coast in West Africa.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI43-101) and certifiy that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experince, I fulfill the requirements to be a qualified person for the purpose of NI 43-101. I have experience relevant to the subject matter of the Tienko mineral project and the technical report;
6. I have not visited the project recently due to the onset of the COVID-19 global pandemic in 2020. Prior to the commencement of this Technical Report, travel restrictions were put in place for German citizens flying to Africa, that prevented any recent legitimate travel to the Project area. I am therefore of the opinion that the pandemic qualifies as "exceptional circumstances" under NI 43-101 site visit requirements. I have however visited the project numerous times between 2006 and 2016
7. I am the responsible Author of Section 11: 'Sample Preparation, Analyses and Data Verification' and have contributed reports and plans to many sections of the Technical Report
8. I was totally independent of the issuer applying the test set out in Section 1, 5 (4) of NI 43-101 during the period 2007 to 2017.
9. I have not been involved in any previous Technical Report on the Tienko Deposit.
10. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and From 43-101F1.
11. 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 ensure that the technical report is not misleading.

Dated this 30th day of September 2021

Signature ....

Dr. Robert Kiefer

CERTIFICATE OF CO-AUTHOR

I, Helen Ruth Pein, as an author of this report "NI 43-101 Technical Report – Tienko Gold Project, Republic of Ivory Coast", which is effective as of July 5th 2021, and issued on September 30, 2021, (the Technical Report) prepared for Goldrange Resources (the Company), do hereby certify that:

1. I am a Director of PanIberia Limited (UK) and Panex Resources Pty Ltd, SA and Trident Royalties, UK. I spent extensive time from 2010 to 2017 working on various projects in the Ivory Coast.
2. My office and home address is: 9 Blackwood Close, Hout Bay 7806, Western Cape, South Africa
3. I am a graduate of Stellenbosch University , with a B.Sc. (Earth Sciences), 1984 and B.Sc.Honnours (Geology) Cum Laude degree, 1985.
4. I am a member of the Society for Mining, Metallurgy and Exploration USA, SME Fellow of Geological Society of South Africa, FGSSA, Society for Economic Geologists, SEG And registered with the South African Council for Natural Scientific Professions SACNAS Sci.Nat.as a registered scientist in 1989.
5. I have worked as an exploration and economic geologist for a total of 35 years since my graduation from university. I have worked throughout Africa and particularly in Ivory Coast, on numerous gold exploration projects and gained relevant experience on projects similar to the Tienko project.
6. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI43-101) and certifiy that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experince, I fulfill the requirements to be a qualified person for the purpose of NI 43-101. I have experience relevant to the subject matter of the Tienko mineral project and the technical report;
7. I visited the Tienko Project site, whilst I worked for Pangea Exploration in 2015. However, I have not visited the project recently due to the onset of the COVID-19 global pandemic in 2020, and prior to the commencement of this Technical Report, travel restrictions were put in place, that have prevented recent travel from South African to the Project area. The CP and the qualified persons are therefore of the opinion that the pandemic qualifies as "exceptional circumstances" under NI 43-101 site visit requirements.
8. I am responsible for peer review of all sections of the Technical Report and have co-authored and contributed to most of the chapters.
9. I am not totally independent of the issuer applying the test set out in Section 1, 5 (4) of NI 43-101, as I am the technical advisor to Goldrange. However, I am familiar with

the Project, having worked on it during Pangea Exploration's involvement from 2010 to 2017.

10. I have not been involved in any previous Technical Report on the Tienko Deposit.
11. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and From 43-101F1.
12. 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 ensure that the technical report is not misleading.

Dated this 30th day of September 2021

Signature ....

Helen Ruth Pein

Chapter 17

TABLES

TABLE 17.1: AC Collar.

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Date
KAC53a	641385	1143416	393.82	50.0	-60	226	Manda	2015/11/24
KAC54a	641370	1143397	392.32	50.0	-60	226	Manda	2015/11/24
KAC55	641353	1143381	391.56	30.0	-60	226	Manda	2015/11/24
KAC56	641342	1143370	391.78	50.0	-60	226	Manda	2015/11/24
KAC57	641323	1143352	393.97	26.0	-60	226	Manda	2015/11/24
KAC58	641783	1143266	396.24	50.0	-60	223	Manda	2015/11/25
KAC59	641764	1143247	398.08	50.0	-60	223	Manda	2015/11/25
KAC60	641750	1143230	398.93	50.0	-60	223	Manda	2015/11/25
KAC61	641732	1143211	399.18	50.0	-60	223	Manda	2015/11/25
KAC62	641718	1143193	398.76	50.0	-60	223	Manda	2015/11/25
KAC63	641703	1143174	398.33	50.0	-60	223	Manda	2015/11/25
KAC64	641685	1143156	398.83	50.0	-60	223	Manda	2015/11/25
KAC65	641666	1143135	400.21	26.0	-60	223	Manda	2015/11/25
KAC66	642001	1142896	423.62	50.0	-60	225	Manda	2015/11/26
KAC67	641985	1142879	420.61	50.0	-60	225	Manda	2015/11/26
KAC68	641965.9	1142859.7	417.71	50.0	-60	225	Manda	2015/11/26
KAC69	641948	1142843	414.18	50.0	-60	225	Manda	2015/11/26
KAC70	641931	1142825	412.03	50.0	-60	225	Manda	2015/11/26
KAC71	641914	1142808	411.48	21.0	-60	225	Manda	2015/11/26
KAC72	642291	1142629	427.28	50.0	-60	222	Manda	2015/11/27
KAC73	642275	1142609	427.40	50.0	-60	222	Manda	2015/11/27
KAC74	642261	1142589	428.64	50.0	-60	222	Manda	2015/11/27
KAC75	642246	1142568	429.47	42.0	-60	222	Manda	2015/11/27
KAC76	642234	1142553	429.58	50.0	-60	222	Manda	2015/11/27
KAC77	642217	1142534	429.48	50.0	-60	222	Manda	2015/11/27
KAC78	642200	1142514	429.31	45.0	-60	222	Manda	2015/11/28
KAC79	642602	1142389	399.25	50.0	-60	223	Manda	2015/11/28
KAC80	642586	1142370	400.48	50.0	-60	223	Manda	2015/11/28

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Date
KAC81	642569	1142350	402.32	48.0	-60	223	Manda	2015/11/28
KAC82	642554	1142332	403.60	50.0	-60	223	Manda	2015/11/28
KAC83	642538	1142313	404.58	50.0	-60	223	Manda	2015/11/28
KAC84	642522	1142294	405.09	50.0	-60	223	Manda	2015/11/28
KAC85	642949	1142167	402.40	50.0	-60	225	Manda	2015/12/01
KAC86	642933	1142151	402.03	33.0	-60	225	Manda	2015/12/01
KAC87	642920	1142136	402.03	50.0	-60	225	Manda	2015/12/01
KAC88	642905	1142119	402.98	50.0	-60	225	Manda	2015/12/01
KAC89	642888	1142102	404.12	50.0	-60	225	Manda	2015/12/01
KAC90	642870	1142084	404.88	50.0	-60	225	Manda	2015/12/01
KAC91	642854	1142064	404.88	15.0	-60	225	Manda	2015/12/01
KAC92	643245	1141900	403.31	50.0	-60	222	Manda	2015/12/01
KAC93	643229	1141880	404.23	50.0	-60	222	Manda	2015/12/02
KAC94	643213	1141861	404.04	50.0	-60	222	Manda	2015/12/02
KAC95	643198	1141842	404.22	50.0	-60	222	Manda	2015/12/02
KAC96	643182	1141822	405.00	50.0	-60	222	Manda	2015/12/02
KAC97	643166	1141802	405.59	15.0	-60	222	Manda	2015/12/02
KAC98	642817	1141686	411.94	50.0	-60	223	Manda	2015/12/02
KAC99	642801	1141667	411.86	50.0	-60	223	Manda	2015/12/02
KAC100	642785	1141647	412.23	50.0	-60	223	Manda	2015/12/02
KAC101	642768.5	1141629	412.87	50.0	-60	223	Manda	2015/12/03
KAC102	642752	1141609	414.74	46.0	-60	223	Manda	2015/12/03
KAC103	642737	1141592	416.88	50.0	-60	223	Manda	2015/12/03
KAC104	643315	1141359	391.81	50.0	-60	221	Manda	2015/12/03
KAC105	643300	1141340	391.88	50.0	-60	221	Manda	2015/12/03
KAC106	643284	1141319	391.69	50.0	-60	221	Manda	2015/12/03
KAC107	643270	1141299	391.99	44.0	-60	221	Manda	2015/12/04
KAC108	643256	1141282	393.13	42.0	-60	221	Manda	2015/12/04
KAC109	643212	1141237	396.44	15.0	-60	221	Manda	2015/12/04
KAC110	643208	1141231	396.69	50.0	-60	221	Manda	2015/12/04
KAC111	643192	1141212	397.44	50.0	-60	221	Manda	2015/12/05
KAC112	643179	1141191	398.66	50.0	-60	221	Manda	2015/12/05
KAC113	643162	1141171	400.19	50.0	-60	221	Manda	2015/12/05
KAC114	643590	1141377	384.91	50.0	-60	223	Manda	2015/12/05
KAC115	643573	1141358	386.22	50.0	-60	223	Manda	2015/12/05
KAC116	643558	1141339	387.88	50.0	-60	223	Manda	2015/12/07
KAC117	643541	1141319	388.46	50.0	-60	223	Manda	2015/12/07
KAC118	643525	1141301	388.94	50.0	-60	223	Manda	2015/12/07
KAC119	643509	1141283	389.00	50.0	-60	223	Manda	2015/12/07
KAC120	643493	1141264	389.05	21.0	-60	223	Manda	2015/12/07

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Date
KAC121	643495	1140945	400.95	50.0	-60	224	Manda	2015/12/07
KAC122	643478	1140926	402.10	50.0	-60	224	Manda	2015/12/07
KAC123	643461	1140907	403.15	50.0	-60	224	Manda	2015/12/07
KAC124	644023	1141265	399.44	50.0	-60	222	Manda	2015/12/08
KAC125	644004	1141248	399.26	50.0	-60	222	Manda	2015/12/08
KAC126	643990	1141228	399.75	50.0	-60	222	Manda	2015/12/08
KAC127	643976	1141206	402.23	50.0	-60	222	Manda	2015/12/08
KAC128	643962	1141185	404.01	48.0	-60	222	Manda	2015/12/08
KAC129	643946	1141167	404.80	50.0	-60	222	Manda	2015/12/08
KAC130	643931	1141147	405.15	50.0	-60	222	Manda	2015/12/08
KAC131	643915	1141128	406.14	48.0	-60	222	Manda	2015/12/08
KAC132	643902	1141109	407.34	43.0	-60	222	Manda	2015/12/08
KAC133	643887	1141091	407.69	50.0	-60	222	Manda	2015/12/09
KAC134	643872	1141071	407.73	24.0	-60	222	Manda	2015/12/09
KAC135	644301	1140976	401.70	50.0	-60	222	Manda	2015/12/09
KAC136	644283	1140957	401.94	50.0	-60	222	Manda	2015/12/09
KAC137	644270	1140936	401.85	50.0	-60	222	Manda	2015/12/09
KAC138	644250	1140919	401.73	50.0	-60	222	Manda	2015/12/09
KAC139	644237	1140901	401.83	44.0	-60	222	Manda	2015/12/09
KAC140	644221	1140884	401.88	50.0	-60	222	Manda	2015/12/09
KAC141	644206	1140866	402.12	50.0	-60	222	Manda	2015/12/09
KAC142	644189	1140844	402.54	44.0	-60	222	Manda	2015/12/09
KAC143	644176	1140828	403.43	21.0	-60	222	Manda	2015/12/09
KAC144	644673	1140801	389.27	50.0	-60	224	Manda	2015/12/10
KAC145	644653	1140784	389.71	50.0	-60	224	Manda	2015/12/10
KAC146	644638	1140765	389.44	50.0	-60	224	Manda	2015/12/10
KAC147	644621	1140745	388.80	50.0	-60	224	Manda	2015/12/10
KAC148	644607	1140726	388.83	50.0	-60	224	Manda	2015/12/10
KAC149	644590	1140707	390.13	50.0	-60	224	Manda	2015/12/10
KAC150	644572	1140689	391.83	42.0	-60	224	Manda	2015/12/10
KAC151	645781	1140212	385.71	50.0	-60	231	Manda	2015/12/12
KAC152	645765	1140193	386.09	50.0	-60	231	Manda	2015/12/12
KAC153	645749	1140173	386.20	47.0	-60	231	Manda	2015/12/12
KAC154	645734	1140155	385.94	43.0	-60	231	Manda	2015/12/12
KAC155	645721	1140139	385.42	41.0	-60	231	Manda	2015/12/12
KAC156	645708	1140123	384.86	50.0	-60	231	Manda	2015/12/12
KAC157	645693	1140103	385.14	50.0	-60	231	Manda	2015/12/14
KAC158	645677	1140084	386.13	44.0	-60	231	Manda	2015/12/14
KAC159	647622	1139144	403.85	48.0	-60	220	F2-F3	2015/12/14
KAC160	647607	1139125	404.60	50.0	-60	220	F2-F3	2015/12/15

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Date
KAC161	647593	1139104	404.95	50.0	-60	220	F2-F3	2015/12/15
KAC162	647577	1139085	403.99	50.0	-60	220	F2-F3	2015/12/15
KAC163	647561	1139066	403.51	50.0	-60	220	F2-F3	2015/12/15
KAC164	647545	1139046	402.20	50.0	-60	220	F2-F3	2015/12/15
KAC165	647530	1139026	401.57	50.0	-60	220	F2-F3	2015/12/15
KAC166	647515	1139007	401.41	18.0	-60	220	F2-F3	2015/12/15
KAC167	647940	1139064	418.06	50.0	-60	223	F2-F3	2015/12/15
KAC168	647923	1139046	417.25	50.0	-60	223	F2-F3	2015/12/15
KAC169	647908	1139026	418.56	50.0	-60	223	F2-F3	2015/12/16
KAC170	647891	1139008	420.09	50.0	-60	223	F2-F3	2015/12/16
KAC171	647874	1138989	421.05	50.0	-60	223	F2-F3	2015/12/16
KAC172	647857	1138971	420.86	50.0	-60	223	F2-F3	2015/12/16
KAC173	647843	1138955	420.71	50.0	-60	223	F2-F3	2015/12/16
KAC174	648256	1138973	420.19	45.0	-60	222	F2-F3	2015/12/16
KAC175	648242	1138955	420.45	50.0	-60	222	F2-F3	2015/12/17
KAC176	648226	1138936	420.77	50.0	-60	222	F2-F3	2015/12/17
KAC177	648209	1138918	421.34	50.0	-60	222	F2-F3	2015/12/17
KAC178	648193	1138898	422.14	50.0	-60	222	F2-F3	2015/12/17
KAC179	648179	1138880	422.41	50.0	-60	222	F2-F3	2015/12/17
KAC180	648161	1138859	422.09	50.0	-60	222	F2-F3	2015/12/17
KAC181	648145	1138841	423.47	27.0	-60	222	F2-F3	2015/12/17
KAC182	648692	1138842	407.76	44.0	-60	223	F2-F3	2015/12/17
KAC183	648679	1138825	408.28	50.0	-60	223	F2-F3	2015/12/18
KAC184	648663	1138807	409.50	50.0	-60	223	F2-F3	2015/12/18
KAC185	648646	1138787	410.32	50.0	-60	223	F2-F3	2015/12/18
KAC186	648629	1138770	409.98	50.0	-60	223	F2-F3	2015/12/18
KAC187	648612	1138751	410.10	50.0	-60	223	F2-F3	2015/12/18
KAC188	648595	1138732	409.76	50.0	-60	223	F2-F3	2015/12/18
KAC189	648579	1138713	410.05	50.0	-60	223	F2-F3	2015/12/18
KAC190	648563	1138694	410.31	50.0	-60	223	F2-F3	2015/12/18

TABLE 17.2: RAB Collar.

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Type
KRB1	645888	1140176	389.75	26	-60	220	F2	RAB
KRB2	645879	1140162	389.96	51	-60	220	F2	RAB
KRB3	645861	1140142	389.83	37	-60	220	F2	RAB
KRB4	645850	1140128	389.50	42	-60	220	F2	RAB
KRB5	645839	1140112	389.18	26	-60	220	F2	RAB
KRB6	645830	1140102	388.92	26	-60	220	F2	RAB

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Type
KRB7	645822	1140093	388.71	32	-60	220	F2	RAB
KRB8	645813	1140083	388.37	30	-60	220	F2	RAB
KRB9	645802	1140072	387.90	29	-60	220	F2	RAB
KRB10	645793	1140061	387.50	30	-60	220	F2	RAB
KRB11	645781	1140050	387.24	39	-60	220	F2	RAB
KRB12	645772	1140035	387.50	34	-60	220	F2	RAB
KRB13	645762	1140022	388.17	33	-60	220	F2	RAB
KRB14	646072	1140092	397.73	31	-60	220	F2	RAB
KRB15	646058	1140079	397.24	50	-60	220	F2	RAB
KRB16	646046	1140059	397.12	39	-60	220	F2	RAB
KRB17	646033	1140044	396.60	30	-60	220	F2	RAB
KRB18	646024	1140032	396.09	43	-60	220	F2	RAB
KRB19	646011	1140015	395.71	44	-60	220	F2	RAB
KRB20	645996	1139999	395.48	48	-60	220	F2	RAB
KRB21	645982	1139981	396.01	50	-60	220	F2	RAB
KRB22	645967	1139962	397.28	50	-60	220	F2	RAB
KRB23	645950	1139940	398.44	50	-60	220	F2	RAB
KRB24	645933	1139921	398.51	42	-60	220	F2	RAB
KRB25	645920	1139905	398.34	45	-60	220	F2	RAB
KRB26	645903	1139885	398.25	45	-60	220	F2	RAB
KRB27	645889	1139868	398.37	22	-60	220	F2	RAB
KRB28	646264	1140007	404.89	50	-60	220	F2	RAB
KRB29	646246	1139984	404.36	50	-60	220	F2	RAB
KRB30	646232	1139965	404.52	42	-60	220	F2	RAB
KRB31	646220	1139951	404.98	50	-60	220	F2	RAB
KRB32	646202	1139931	405.30	50	-60	220	F2	RAB
KRB33	646186	1139913	404.55	49	-60	220	F2	RAB
KRB34	646171	1139892	404.02	48	-60	220	F2	RAB
KRB35	646157	1139874	402.48	42	-60	220	F2	RAB
KRB36	646142	1139857	401.11	42	-60	220	F2	RAB
KRB37	646126	1139844	400.90	35	-60	220	F2	RAB
KRB38	646117	1139828	401.08	45	-60	220	F2	RAB
KRB39	646103	1139810	402.02	44	-60	220	F2	RAB
KRB40	646088	1139794	402.97	42	-60	220	F2	RAB
KRB41	646074	1139778	403.24	42	-60	220	F2	RAB
KRB42	646060	1139761	403.73	45	-60	220	F2	RAB
KRB43	646047	1139744	403.69	36	-60	220	F2	RAB
KRB44	646035	1139728	403.61	39	-60	220	F2	RAB
KRB45	646022	1139713	403.42	30	-60	220	F2	RAB
KRB46	646012	1139702	403.38	26	-60	220	F2	RAB

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Type
KRB47	646694	1139900	388.30	30	-60	220	F2	RAB
KRB48	646686	1139887	388.81	33	-60	220	F2	RAB
KRB49	646675	1139873	388.98	36	-60	220	F2	RAB
KRB50	646664	1139861	388.56	27	-60	220	F2	RAB
KRB51	646654	1139852	388.92	21	-60	220	F2	RAB
KRB52	646648	1139843	389.35	24	-60	220	F2	RAB
KRB53	646641	1139833	389.89	25	-60	220	F2	RAB
KRB54	646633	1139823	390.68	30	-60	220	F2	RAB
KRB55	646625	1139813	391.56	22	-60	220	F2	RAB
KRB56	646616	1139805	392.29	24	-60	220	F2	RAB
KRB57	646613	1139793	392.41	27	-60	220	F2	RAB
KRB58	646599	1139785	392.48	17	-60	220	F2	RAB
KRB59	646594	1139779	392.32	21	-60	220	F2	RAB
KRB60	646588	1139769	391.79	17	-60	220	F2	RAB
KRB61	646581	1139764	391.53	15	-60	220	F2	RAB
KRB62	646579	1139757	391.44	15	-60	220	F2	RAB
KRB63	646574	1139752	391.10	18	-60	220	F2	RAB
KRB64	646568	1139745	390.66	16	-60	220	F2	RAB
KRB65	646562	1139738	390.41	30	-60	220	F2	RAB
KRB66	646553	1139726	390.83	24	-60	220	F2	RAB
KRB67	646545	1139719	390.96	33	-60	220	F2	RAB
KRB68	646534	1139707	391.38	33	-60	220	F2	RAB
KRB69	646521	1139693	392.40	40	-60	220	F2	RAB
KRB70	646510	1139675	391.44	14	-60	220	F2	RAB
KRB71	647002	1139643	406.81	46	-60	220	F2	RAB
KRB72	646986	1139626	406.69	50	-60	220	F2	RAB
KRB73	646971	1139608	405.19	50	-60	220	F2	RAB
KRB74	646954	1139590	406.09	42	-60	210	F2	RAB
KRB75	646941	1139572	407.39	45	-60	220	F2	RAB
KRB76	646927	1139554	409.36	36	-60	220	F2	RAB
KRB77	646915	1139541	410.02	30	-60	220	F2	RAB
KRB78	646904	1139530	409.90	50	-60	220	F2	RAB
KRB79	646890	1139512	410.17	50	-60	220	F2	RAB
KRB80	646873	1139492	412.77	12	-60	220	F2	RAB
KRB81	647155	1139517	417.27	33	-60	220	F2	RAB
KRB82	647146	1139505	418.08	38	-60	220	F2	RAB
KRB83	647135	1139489	418.45	42	-60	220	F2	RAB
KRB84	647122	1139472	418.57	50	-60	220	F2	RAB
KRB85	647106	1139454	418.38	50	-60	220	F2	RAB
KRB86	647090	1139434	418.14	50	-60	220	F2	RAB

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Type
KRB87	647074	1139415	417.69	39	-60	220	F2	RAB
KRB88	647062	1139400	415.77	50	-60	220	F2	RAB
KRB89	647045	1139380	415.34	50	-60	220	F2	RAB
KRB90	647031	1139361	416.83	50	-60	220	F2	RAB
KRB91	647014	1139341	420.83	28	-60	220	F2	RAB
KRB92	647006	1139331	422.51	30	-60	220	F2	RAB
KRB93	646996	1139320	424.18	50	-60	220	F2	RAB
KRB94	646981	1139300	425.98	50	-60	220	F2	RAB
KRB95	646966	1139280	426.87	50	-60	220	F2	RAB
KRB96	646950	1139263	426.29	38	-60	220	F2	RAB
KRB97	647257	1139369	415.84	50	-60	210	F2	RAB
KRB98	647243	1139349	416.93	50	-60	220	F2	RAB
KRB99	647228	1139329	419.50	50	-60	220	F2	RAB
KRB100	647212	1139310	423.12	50	-60	220	F2	RAB
KRB101	647197	1139291	424.73	40	-60	220	F2	RAB
KRB102	647184	1139276	425.98	50	-60	220	F2	RAB
KRB103	647169	1139257	426.01	50	-60	220	F2	RAB
KRB104	647152	1139238	426.09	50	-60	220	F2	RAB
KRB105	647136	1139218	423.93	14	-60	220	F2	RAB
KRB106	648997	1138796	395.07	27	-60	220	F3	RAB
KRB107	648988	1138786	395.53	36	-60	220	F3	RAB
KRB108	648976.5	1138772.4	396.31	44	-60	220	F3	RAB
KRB109	648962	1138755	398.12	24	-60	220	F3	RAB
KRB110	648955	1138746	399.37	38	-60	220	F3	RAB
KRB111	648944	1138733	401.18	46	-60	220	F3	RAB
KRB112	648931	1138717	403.61	42	-60	220	F3	RAB
KRB113	648917	1138699	405.45	50	-60	220	F3	RAB
KRB114	648900	1138679	406.63	39	-60	220	F3	RAB
KRB115	648887	1138664	407.21	50	-60	220	F3	RAB
KRB116	648872	1138643	406.34	24	-60	220	F3	RAB
KRB117	648865	1138632	405.93	33	-60	220	F3	RAB
KRB118	648854	1138620	405.45	28	-60	220	F3	RAB
KRB119	648845	1138611	404.98	39	-60	220	F3	RAB
KRB120	648832	1138596	404.33	48	-60	220	F3	RAB
KRB121	648817	1138579	404.94	30	-60	220	F3	RAB
KRB122	649221	1138676	381.55	30	-60	220	F3	RAB
KRB123	649210	1138665	381.84	15	-60	220	F3	RAB
KRB124	649206	1138659	381.81	18	-60	220	F3	RAB
KRB125	649200	1138652	381.88	24	-60	220	F3	RAB
KRB126	649193	1138643	382.85	15	-60	220	F3	RAB

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Type
KRB127	649188	1138638	383.48	16	-60	220	F3	RAB
KRB128	649184	1138633	383.89	14	-60	220	F3	RAB
KRB129	649179	1138627	384.31	27	-60	220	F3	RAB
KRB130	649170	1138617	384.63	18	-60	220	F3	RAB
KRB131	649164	1138611	384.64	21	-60	220	F3	RAB
KRB132	649158	1138603	384.60	11	-60	220	F3	RAB
KRB133	649154	1138599	384.95	7	-60	220	F3	RAB
KRB134	649152	1138596	385.10	12	-60	220	F3	RAB
KRB135	649150	1138591	385.12	24	-60	220	F3	RAB
KRB136	649142	1138583	384.94	21	-60	220	F3	RAB
KRB137	649135	1138576	384.64	14	-60	220	F3	RAB
KRB138	649131	1138571	384.40	10	-60	220	F3	RAB
KRB139	649128	1138568	384.57	10	-60	220	F3	RAB
KRB140	649124	1138564	384.97	10	-60	220	F3	RAB
KRB141	649121	1138559	385.30	21	-60	220	F3	RAB
KRB142	649114	1138551	386.43	22	-60	220	F3	RAB
KRB143	649107	1138542	386.82	32	-60	220	F3	RAB
KRB144	649098	1138530	387.14	24	-60	220	F3	RAB
KRB145	649090	1138521	387.78	36	-60	220	F3	RAB
KRB146	649080	1138509	388.64	27	-60	220	F3	RAB
KRB147	649070	1138499	389.02	24	-60	220	F3	RAB
KRB148	649065	1138489	389.04	27	-60	220	F3	RAB
KRB149	649056	1138480	389.58	15	-60	220	F3	RAB
KRB150	649050	1138472	390.20	24	-60	220	F3	RAB
KRB151	649040	1138464	390.54	30	-60	220	F3	RAB
KRB152	649689	1138477	390.72	24	-60	220	F3	RAB
KRB153	649682	1138467	390.66	43	-60	220	F3	RAB
KRB154	649668	1138451	390.32	30	-60	220	F3	RAB
KRB155	649658	1138440	390.06	34	-60	220	F3	RAB
KRB156	649647	1138427	388.86	30	-60	220	F3	RAB
KRB157	649637	1138416	387.59	35	-60	220	F3	RAB
KRB158	649626	1138402	386.09	50	-60	220	F3	RAB
KRB159	649610	1138382	384.80	33	-60	220	F3	RAB
KRB160	649599	1138370	384.74	26	-60	220	F3	RAB
KRB161	649591	1138360	385.08	19	-60	220	F3	RAB
KRB162	649586	1138351	385.10	21	-60	220	F3	RAB
KRB163	649579	1138343	384.74	21	-60	220	F3	RAB
KRB164	649573	1138336	384.99	24	-60	220	F3	RAB
KRB165	649566	1138326	385.24	22	-60	220	F3	RAB
KRB166	649559	1138317	385.70	24	-60	220	F3	RAB

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Type
KRB167	649551	1138308	386.51	22	-60	220	F3	RAB
KRB168	649544	1138300	387.03	31	-60	220	F3	RAB
KRB169	649534	1138289	387.19	26	-60	220	F3	RAB
KRB170	649527	1138278	387.44	39	-60	220	F3	RAB
KRB171	649514	1138264	387.17	49	-60	220	F3	RAB
KRB172	649498	1138245	387.02	42	-60	220	F3	RAB
KRB173	649485	1138228	387.40	32	-60	220	F3	RAB
KRB174	649474	1138216	387.66	15	-60	220	F3	RAB
KRB175	649469	1138210	387.82	23	-60	220	F3	RAB
KRB176	649462	1138201	388.13	30	-60	220	F3	RAB
KRB177	649454	1138190	388.81	33	-60	220	F3	RAB
KRB178	649444	1138177	389.56	30	-60	220	F3	RAB
KRB179	649434	1138165	390.08	37	-60	220	F3	RAB
KRB180	649422	1138149	390.62	36	-60	220	F3	RAB
KRB181	649883	1138321	400.26	27	-60	220	F3	RAB
KRB182	649875	1138311	400.76	40	-60	220	F3	RAB
KRB183	649862	1138296	399.70	39	-60	220	F3	RAB
KRB184	649849	1138281	398.39	33	-60	220	F3	RAB
KRB185	649839	1138269	397.08	42	-60	220	F3	RAB
KRB186	649826	1138254	395.73	42	-60	220	F3	RAB
KRB187	649813	1138238	394.77	30	-60	220	F3	RAB
KRB188	649803	1138227	394.74	42	-60	220	F3	RAB
KRB189	649789	1138211	395.71	31	-60	220	F3	RAB
KRB190	649779	1138200	396.48	29	-60	220	F3	RAB
KRB191	649770	1138188	396.84	12	-60	220	F3	RAB
KRB192	649764	1138184	397.00	39	-60	220	F3	RAB
KRB193	649752	1138169	396.16	17	-60	220	F3	RAB
KRB194	649747	1138162	395.46	34	-60	220	F3	RAB
KRB195	649736	1138149	393.56	17	-60	220	F3	RAB
KRB196	649730	1138143	392.88	26	-60	220	F3	RAB
KRB197	649722	1138133	392.27	36	-60	220	F3	RAB
KRB198	649710	1138119	391.04	33	-60	220	F3	RAB
KRB199	649700	1138107	390.60	36	-60	220	F3	RAB
KRB200	650135	1138239	408.33	39	-60	220	F3	RAB
KRB201	650122	1138225	406.08	28	-60	220	F3	RAB
KRB202	650114	1138215	405.34	25	-60	220	F3	RAB
KRB203	650106	1138205	405.28	28	-60	220	F3	RAB
KRB204	650099	1138194	404.80	30	-60	220	F3	RAB
KRB205	650090	1138183	404.37	39	-60	220	F3	RAB
KRB206	650078	1138170	403.20	24	-60	220	F3	RAB

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Type
KRB207	650070	1138161	402.89	50	-60	220	F3	RAB
KRB208	650055	1138141	402.74	17	-60	220	F3	RAB
KRB209	650049	1138134	402.42	50	-60	220	F3	RAB
KRB210	650033	1138116	401.67	50	-60	220	F3	RAB
KRB211	650018	1138096	400.67	43	-60	220	F3	RAB
KRB212	650005	1138080	399.81	45	-60	220	F3	RAB
KRB213	649990	1138061	399.40	34	-60	220	F3	RAB
KRB214	650435	1138197	401.44	24	-60	220	F3	RAB
KRB215	650427	1138188	400.69	38	-60	220	F3	RAB
KRB216	650415	1138173	400.29	22	-60	220	F3	RAB
KRB217	650408	1138166	400.80	33	-60	220	F3	RAB
KRB218	650397	1138154	401.68	43	-60	220	F3	RAB
KRB219	650383	1138138	401.57	36	-60	220	F3	RAB
KRB220	650371	1138126	402.09	43	-60	220	F3	RAB
KRB221	650356	1138110	402.69	50	-60	220	F3	RAB
KRB222	650341	1138091	402.03	38	-60	220	F3	RAB
KRB223	650329	1138077	401.00	44	-60	220	F3	RAB
KRB224	650316	1138059	399.72	45	-60	220	F3	RAB
KRB225	650301	1138042	397.94	28	-60	220	F3	RAB
KRB226	650292	1138032	397.80	30	-60	220	F3	RAB
KRB227	650281	1138020	398.35	16	-60	220	F3	RAB
KRB228	650275	1138013	398.43	17	-60	220	F3	RAB
KRB229	650270	1138007	398.62	24	-60	220	F3	RAB
KRB230	650262	1137998	399.98	30	-60	220	F3	RAB
KRB231	650252	1137987	401.62	48	-60	220	F3	RAB
KRB232	650640	1138079	389.71	24	-60	220	F3	RAB
KRB233	650632	1138070	389.88	31	-60	220	F3	RAB
KRB234	650623	1138057	390.19	36	-60	220	F3	RAB
KRB235	650612	1138042	390.19	24	-60	220	F3	RAB
KRB236	650604	1138033	390.60	32	-60	220	F3	RAB
KRB237	650593	1138021	392.29	27	-60	220	F3	RAB
KRB238	650585	1138010	392.66	39	-60	220	F3	RAB
KRB239	650574	1137995	393.07	33	-60	220	F3	RAB
KRB240	650563	1137984	393.23	42	-60	220	F3	RAB
KRB241	650549	1137968	392.87	31	-60	220	F3	RAB
KRB242	650539	1137956	392.64	41	-60	220	F3	RAB
KRB243	650525	1137940	392.33	17	-60	220	F3	RAB
KRB244	650519	1137934	392.04	37	-60	220	F3	RAB
KRB245	650508	1137919	391.17	47	-60	220	F3	RAB
KRB246	650493	1137900	391.08	27	-60	220	F3	RAB

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Type
KRB247	651390	1137776	406.12	20	-60	220	F1	RAB
KRB248	651387	1137766	405.58	16	-60	220	F1	RAB
KRB249	651378	1137763	405.43	29	-60	220	F1	RAB
KRB250	651369	1137752	404.70	21	-60	220	F1	RAB
KRB251	651363	1137743	403.90	15	-60	220	F1	RAB
KRB252	651360	1137737	403.59	18	-60	220	F1	RAB
KRB253	651354	1137730	403.13	39	-60	220	F1	RAB
KRB254	651342	1137715	402.68	32	-60	220	F1	RAB
KRB255	651331	1137703	401.14	36	-60	220	F1	RAB
KRB256	651319	1137690	398.98	23	-60	220	F1	RAB
KRB257	651312	1137681	397.40	36	-60	220	F1	RAB
KRB258	651301	1137666	395.21	24	-60	220	F1	RAB
KRB259	651293	1137657	393.80	18	-60	220	F1	RAB
KRB260	651288	1137649	393.35	22	-60	220	F1	RAB
KRB261	651281	1137640	392.64	24	-60	220	F1	RAB
KRB262	651275	1137630	393.23	24	-60	220	F1	RAB
KRB263	651791	1137640	395.40	27	-60	220	F1	RAB
KRB264	651782	1137630	396.46	28	-60	220	F1	RAB
KRB265	651774	1137618	397.46	25	-60	220	F1	RAB
KRB266	651766	1137608	398.52	24	-60	220	F1	RAB
KRB267	651759	1137599	398.90	27	-60	220	F1	RAB
KRB268	651751	1137588	399.32	35	-60	220	F1	RAB
KRB269	651740	1137575	399.31	34	-60	220	F1	RAB
KRB270	651717	1137571	400.63	22	-60	220	F1	RAB
KRB271	651710	1137562	400.72	28	-60	220	F1	RAB
KRB272	651703	1137551	401.33	22	-60	220	F1	RAB
KRB273	651696	1137544	401.09	25	-60	220	F1	RAB
KRB274	651689	1137535	400.48	39	-60	220	F1	RAB
KRB275	651676	1137521	400.24	40	-60	220	F1	RAB
KRB276	651664	1137504	399.54	36	-60	220	F1	RAB
KRB277	651653	1137489	399.78	36	-60	220	F1	RAB
KRB278	651641	1137476	400.15	30	-60	220	F1	RAB
KRB279	651977	1137554	391.54	35	-60	220	F1	RAB
KRB280	651966	1137540	390.22	27	-60	220	F1	RAB
KRB281	651958	1137529	389.57	27	-60	220	F1	RAB
KRB282	651950	1137519	389.05	30	-60	220	F1	RAB
KRB283	651941	1137508	388.91	11	-60	220	F1	RAB
KRB284	651938	1137504	388.95	21	-60	220	F1	RAB
KRB285	651931	1137496	388.74	18	-60	220	F1	RAB
KRB286	651926	1137489	388.12	16	-60	220	F1	RAB

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Type
KRB287	651921	1137483	387.75	17	-60	220	F1	RAB
KRB288	651917	1137477	387.73	20	-60	220	F1	RAB
KRB289	651911	1137469	388.00	9	-60	220	F1	RAB
KRB290	651908	1137466	388.17	18	-60	220	F1	RAB
KRB291	651902	1137458	387.46	24	-60	220	F1	RAB
KRB292	651894	1137449	386.44	20	-60	220	F1	RAB
KRB293	651888	1137441	386.88	29	-60	220	F1	RAB
KRB294	651878	1137430	387.96	27	-60	220	F1	RAB
KRB295	651870	1137419	388.41	24	-60	220	F1	RAB
KRB296	651862.5	1137410	389.31	18	-60	220	F1	RAB
KRB297	651857	1137403	389.94	25	-60	220	F1	RAB
KRB298	651849	1137394	390.77	33	-60	220	F1	RAB
KRB299	651839	1137381	391.58	33	-60	220	F1	RAB
KRB300	651829	1137368	392.29	29	-60	220	F1	RAB
KRB301	651819	1137357	392.05	34	-60	220	F1	RAB
KRB302	651807	1137344	391.05	33	-60	220	F1	RAB
KRB303	651798	1137333	390.08	18	-60	220	F1	RAB
KRB304	651793	1137326	389.76	24	-60	220	F1	RAB
KRB305	651785	1137316	389.76	21	-60	220	F1	RAB
KRB306	651779	1137307	390.33	26	-60	220	F1	RAB
KRB307	651770	1137298	391.38	33	-60	220	F1	RAB
KRB308	651760	1137286	391.96	36	-60	220	F1	RAB
KRB309	651749	1137272	391.99	42	-60	220	F1	RAB
KRB310	652336	1137505	394.99	21	-60	220	F1	RAB
KRB311	652327	1137502	394.74	18	-60	220	F1	RAB
KRB312	652321	1137496	394.59	26	-60	220	F1	RAB
KRB313	652315	1137485	395.14	30	-60	220	F1	RAB
KRB314	652305	1137474	396.03	29	-60	220	F1	RAB
KRB315	652296	1137463	396.10	40	-60	220	F1	RAB
KRB316	652283	1137448	395.24	40	-60	220	F1	RAB
KRB317	652269	1137433	394.63	33	-60	220	F1	RAB
KRB318	652258	1137420	392.73	36	-60	220	F1	RAB
KRB319	652246	1137405	392.64	22	-60	220	F1	RAB
KRB320	652239	1137396	392.09	24	-60	220	F1	RAB
KRB321	652232	1137386	391.20	41	-60	220	F1	RAB
KRB322	652219	1137373	391.00	20	-60	220	F1	RAB
KRB323	652213	1137365	390.90	33	-60	220	F1	RAB
KRB324	652202	1137352	390.82	28	-60	220	F1	RAB
KRB325	652194	1137342	390.83	25	-60	220	F1	RAB
KRB326	652186	1137333	391.18	30	-60	220	F1	RAB

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Type
KRB327	652178	1137321	391.93	27	-60	220	F1	RAB
KRB328	652170	1137311	391.63	23	-60	220	F1	RAB
KRB329	652161	1137303	391.61	30	-60	220	F1	RAB
KRB330	652151	1137292	391.59	28	-60	220	F1	RAB
KRB331	652142	1137281	391.48	27	-60	220	F1	RAB
KRB332	652133	1137271	390.18	24	-60	220	F1	RAB
KRB333	652524	1137427	406.92	36	-60	220	F1	RAB
KRB334	652513	1137412	406.65	44	-60	220	F1	RAB
KRB335	652498	1137396	407.17	42	-60	220	F1	RAB
KRB336	652476	1137369	405.41	30	-60	40	F1	RAB
KRB337	652476	1137369	405.41	36	-60	220	F1	RAB
KRB338	652467	1137356	404.13	50	-60	220	F1	RAB
KRB339	652452	1137337	401.57	25	-60	220	F1	RAB
KRB340	652443	1137329	400.46	23	-60	220	F1	RAB
KRB341	652437	1137320	400.17	48	-60	220	F1	RAB
KRB342	652422	1137302	399.07	36	-60	220	F1	RAB
KRB343	652412	1137287	398.12	33	-60	220	F1	RAB
KRB344	652401	1137274	397.66	29	-60	220	F1	RAB
KRB345	652391	1137263	397.98	19	-60	220	F1	RAB
KRB346	652385	1137256	398.12	19	-60	220	F1	RAB
KRB347	652379	1137249	398.09	14	-60	220	F1	RAB
KRB348	652707	1137338	412.46	30	-60	220	F1	RAB
KRB349	652698	1137327	413.27	37	-60	220	F1	RAB
KRB350	652686	1137313	413.07	50	-60	220	F1	RAB
KRB351	652670	1137294	412.42	45	-60	220	F1	RAB
KRB352	652654	1137278	411.34	50	-60	220	F1	RAB
KRB353	652639	1137259	409.73	50	-60	220	F1	RAB
KRB354	652624	1137239	408.28	40	-60	220	F1	RAB
KRB355	652611	1137224	407.12	20	-60	220	F1	RAB
KRB356	652605	1137217	406.94	21	-60	220	F1	RAB
KRB357	652598.5	1137209	406.94	17	-60	220	F1	RAB
KRB358	652593	1137203	406.69	17	-60	220	F1	RAB
KRB359	652587.5	1137197	406.28	14	-60	220	F1	RAB
KRB360	652583	1137191	405.86	39	-60	220	F1	RAB
KRB361	652571	1137176	405.32	38	-60	220	F1	RAB
KRB362	652913	1137272	411.80	12	-60	220	F1	RAB
KRB363	652909	1137268	412.33	11	-60	220	F1	RAB
KRB364	652906	1137264	412.86	12	-60	220	F1	RAB
KRB365	652902	1137259	413.14	14	-60	220	F1	RAB
KRB366	652897.5	1137254	413.02	13	-60	220	F1	RAB

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Type
KRB367	652893.5	1137249	412.93	28	-60	220	F1	RAB
KRB368	652884	1137238	412.81	36	-60	220	F1	RAB
KRB369	652873	1137224	412.75	28	-60	220	F1	RAB
KRB370	652866	1137213	412.77	33	-60	220	F1	RAB
KRB371	652857	1137201	412.21	31	-60	220	F1	RAB
KRB372	652847	1137189	411.14	30	-60	220	F1	RAB
KRB373	652837.5	1137178	410.72	33	-60	220	F1	RAB
KRB374	652827	1137165	409.91	39	-60	220	F1	RAB
KRB375	652814	1137150	409.17	42	-60	220	F1	RAB
KRB376	652800	1137134	408.88	31	-60	220	F1	RAB
KRB377	653101	1137188	404.44	31	-60	220	F1	RAB
KRB378	653091	1137176	404.48	30	-60	220	F1	RAB
KRB379	653082	1137165	404.36	33	-60	220	F1	RAB
KRB380	653072	1137152	404.10	29	-60	220	F1	RAB
KRB381	653063	1137141	404.03	21	-60	220	F1	RAB
KRB382	653057	1137133	403.92	23	-60	220	F1	RAB
KRB383	653051	1137123	403.65	30	-60	220	F1	RAB
KRB384	653042	1137112	403.49	42	-60	220	F1	RAB
KRB385	653029	1137096	403.25	36	-60	220	F1	RAB
KRB386	653018	1137082	402.27	15	-60	220	F1	RAB
KRB387	653013	1137076	402.04	15	-60	220	F1	RAB
KRB388	653008	1137070	402.09	15	-60	220	F1	RAB
KRB389	653003	1137065	402.05	33	-60	220	F1	RAB
KRB390	652993	1137052	401.46	12	-60	220	F1	RAB
KRB391	652989	1137047	401.51	20	-60	220	F1	RAB
KRB392	655230	1133466	398.43	34	-60	220	Kehi	RAB
KRB393	655219	1133453	399.62	23	-60	220	Kehi	RAB
KRB394	655212	1133444	401.05	24	-60	220	Kehi	RAB
KRB395	655205	1133434	401.69	29	-60	220	Kehi	RAB
KRB396	655197	1133423	402.78	33	-60	220	Kehi	RAB
KRB397	655186	1133409	404.75	33	-60	220	Kehi	RAB
KRB398	655176	1133396	405.83	41	-60	220	Kehi	RAB
KRB399	655164	1133381	405.24	44	-60	220	Kehi	RAB
KRB400	655152	1133364	403.40	30	-60	220	Kehi	RAB
KRB401	655143	1133352	400.87	45	-60	220	Kehi	RAB
KRB402	655128	1133335	397.63	30	-60	220	Kehi	RAB
KRB403	655118	1133324	397.33	33	-60	220	Kehi	RAB
KRB404	655378	1133329	408.12	36	-60	220	Kehi	RAB
KRB405	655368	1133315	408.14	32	-60	220	Kehi	RAB
KRB406	655359	1133302	407.47	35	-60	220	Kehi	RAB

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Type
KRB407	655348	1133289	405.67	29	-60	220	Kehi	RAB
KRB408	655341	1133280	404.48	33	-60	220	Kehi	RAB
KRB409	655332	1133266	404.14	50	-60	220	Kehi	RAB
KRB410	655316	1133247	403.47	42	-60	220	Kehi	RAB
KRB411	655299	1133234	403.81	39	-60	220	Kehi	RAB
KRB412	655549	1133225	394.48	16	-60	220	Kehi	RAB
KRB413	655544	1133219	394.27	15	-60	220	Kehi	RAB
KRB414	655539	1133214	394.13	13	-60	220	Kehi	RAB
KRB415	655535	1133209	394.10	10	-60	220	Kehi	RAB
KRB416	655532	1133205	394.25	12	-60	220	Kehi	RAB
KRB417	655523	1133205	394.84	18	-60	220	Kehi	RAB
KRB418	655516	1133199	395.30	20	-60	220	Kehi	RAB
KRB419	655511	1133190	395.45	11	-60	220	Kehi	RAB
KRB420	655507	1133186	395.60	36	-60	220	Kehi	RAB
KRB421	655495	1133172	395.13	24	-60	220	Kehi	RAB
KRB422	655497	1133158	393.72	21	-60	220	Kehi	RAB
KRB423	655491	1133150	392.36	13	-60	220	Kehi	RAB
KRB424	655487	1133145	391.84	15	-60	220	Kehi	RAB
KRB425	655482	1133139	391.30	9	-60	220	Kehi	RAB
KRB426	655479	1133136	391.07	15	-60	220	Kehi	RAB
KRB427	655474	1133130	390.63	16	-60	220	Kehi	RAB
KRB428	655469	1133124	390.02	24	-60	220	Kehi	RAB
KRB429	655462	1133115	390.29	15	-60	220	Kehi	RAB
KRB430	655458	1133109	390.24	14	-60	220	Kehi	RAB
KRB431	655454	1133104	390.21	20	-60	220	Kehi	RAB
KRB432	655436	1133097	390.83	20	-60	40	Kehi	RAB
KRB433	655436	1133097	390.83	26	-60	220	Kehi	RAB
KRB434	655428	1133087	391.07	8	-60	220	Kehi	RAB
KRB435	655426	1133084	391.03	16	-60	220	Kehi	RAB
KRB436	655432	1133070	389.72	23	-60	220	Kehi	RAB
KRB437	655425	1133061	389.61	16	-60	220	Kehi	RAB
KRB438	655420	1133055	389.61	15	-60	220	Kehi	RAB
KRB439	655676	1133067	397.02	28	-60	220	Kehi	RAB
KRB440	655667	1133056	395.77	30	-60	220	Kehi	RAB
KRB441	655663	1133042	394.15	33	-60	220	Kehi	RAB
KRB442	655652	1133029	393.09	33	-60	220	Kehi	RAB
KRB443	655641	1133016	392.12	24	-60	220	Kehi	RAB
KRB444	655633	1133008	391.56	22	-70	220	Kehi	RAB
KRB445	655629	1133002	391.07	30	-60	220	Kehi	RAB
KRB446	655900	1133028	398.06	30	-60	220	Kehi	RAB

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Type
KRB447	655891	1133016	396.36	33	-60	220	Kehi	RAB
KRB448	655876	1132997	395.08	20	-60	40	Kehi	RAB
KRB449	655877	1132998	395.14	15	-60	220	Kehi	RAB
KRB450	655873	1132992	394.79	14	-60	220	Kehi	RAB
KRB451	655869	1132987	394.57	14	-60	220	Kehi	RAB
KRB452	655865	1132981	394.07	21	-60	220	Kehi	RAB
KRB453	655859	1132973	393.38	21	-60	220	Kehi	RAB
KRB454	655848	1132958	391.80	16	-60	40	Kehi	RAB
KRB455	655848	1132957	391.70	28	-60	220	Kehi	RAB
KRB456	655828	1132941	389.72	18	-60	40	Kehi	RAB
KRB457	655828	1132941	389.72	18	-60	220	Kehi	RAB
KRB458	655822	1132934	388.76	24	-60	220	Kehi	RAB
KRB459	655820	1132921	387.48	27	-60	220	Kehi	RAB
KRB460	655812	1132909	386.75	21	-60	220	Kehi	RAB
KRB461	655806	1132900	385.92	24	-60	220	Kehi	RAB
KRB462	655799	1132890	384.61	24	-60	220	Kehi	RAB
KRB463	655791	1132881	383.39	24	-60	220	Kehi	RAB
KRB464	655784	1132871	382.30	21	-60	220	Kehi	RAB
KRB465	655777	1132863	381.69	50	-60	220	Kehi	RAB
KRB466	655757	1132847	380.20	24	-60	220	Kehi	RAB
KRB467	656059	1132911	393.91	16	-60	220	Kehi	RAB
KRB468	656054	1132905	393.25	24	-60	220	Kehi	RAB
KRB469	656047	1132896	392.76	24	-60	220	Kehi	RAB
KRB470	656034	1132880	391.47	18	-60	40	Kehi	RAB
KRB471	656034	1132880	391.47	18	-60	220	Kehi	RAB
KRB472	656028	1132873	390.46	14	-60	220	Kehi	RAB
KRB473	656024	1132867	389.64	24	-60	220	Kehi	RAB
KRB474	656016	1132858	389.44	24	-60	220	Kehi	RAB
KRB475	656009	1132849	388.94	16	-60	220	Kehi	RAB
KRB476	656000	1132846	388.47	48	-60	220	Kehi	RAB
KRB477	655985	1132828	388.50	45	-60	220	Kehi	RAB
KRB478	655974	1132808	388.55	36	-60	220	Kehi	RAB
KRB479	655962	1132795	388.64	36	-60	220	Kehi	RAB
KRB480	655950	1132781	388.19	40	-60	220	Kehi	RAB
KRB481	655932	1132769	388.10	24	-60	220	Kehi	RAB
KRB482	655924	1132760	386.82	40	-60	220	Kehi	RAB
KRB483	655911	1132745	385.92	36	-60	220	Kehi	RAB
KRB484	655900	1132731	385.24	28	-60	220	Kehi	RAB
KRB485	656227	1132731	397.19	30	-60	220	Kehi	RAB
KRB486	656217	1132720	397.70	50	-60	220	Kehi	RAB

HOLE ID	Easting	Northing	Depth	EOH	Dip	Azimuth	Area	Type
KRB487	656201	1132701	398.00	47	-60	220	Kehi	RAB
KRB488	656186	1132683	397.36	44	-60	220	Kehi	RAB
KRB489	656167	1132671	396.00	39	-60	220	Kehi	RAB
KRB490	656156	1132655	394.04	37	-60	220	Kehi	RAB
KRB491	656151	1132633	392.30	36	-60	220	Kehi	RAB
KRB492	656139	1132619	390.87	48	-60	220	Kehi	RAB
KRB493	656124	1132601	389.35	47	-60	220	Kehi	RAB
KRB494	656109	1132583	388.29	42	-60	220	Kehi	RAB
KRB495	656096	1132566	387.58	30	-60	220	Kehi	RAB
KRB496	656087	1132554	386.98	36	-60	220	Kehi	RAB
KRB497	656079	1132537	386.02	36	-60	220	Kehi	RAB
KRB498	656066	1132524	385.20	42	-60	220	Kehi	RAB

TABLE 17.3: RC Collar.

HOLE ID	Easting	Northing	Z	EOH	Dip	Azimuth	Area	Date
KRC014	645830.0	1140106.0	388.80	100.0	-60	220	F2	23-06-2013
KRC015	645906.0	1140058.0	392.34	106.0	-60	220	F2	24-06-2013
KRC016	646023.0	1140029.0	396.10	100.0	-60	220	F2	26-06-2013
KRC017	646648.0	1139841.0	389.39	100.0	-60	220	F2	27-06-2013
KRC018	646980.0	1139619.0	406.00	97.0	-60	220	F2	28-06-2013
KRC019	647144.0	1139501.0	418.18	100.0	-60	220	F2	28-06-2013
KRC020	647231.0	1139333.0	418.75	93.0	-60	220	F2	01-07-2013
KRC021	649174.0	1138625.0	384.67	110.0	-60	220	F3	02-07-2013
KRC022	649103.0	1138539.0	386.95	100.0	-60	40	F3	02-07-2013
KRC023	649866.0	1138302.0	400.09	100.0	-60	220	F3	03-07-2013
KRC024	650104.0	1138202.0	405.20	100.0	-60	220	F3	04-07-2013
KRC025	650045.0	1138131.0	402.27	100.0	-60	40	F3	05-07-2013
KRC026	650368.0	1138120.0	402.09	100.0	-60	220	F3	06-07-2013
KRC027	650310.0	1138060.0	399.64	40.0	-60	40	F3	07-07-2013
KRC028	650326.0	1138060.0	399.95	75.0	-60	40	F3	08-07-2013
KRC029	651336.0	1137710.0	401.75	85.0	-60	220	F1	10-07-2013
KRC030	651742.0	1137589.0	400.02	100.0	-60	220	F1	11-07-2013
KRC031	651674.0	1137516.0	400.04	95.0	-60	40	F1	12-07-2013
KRC032	651970.0	1137545.0	390.68	90.0	-60	220	F1	13-07-2013
KRC033	651940.0	1137506.0	388.90	100.0	-60	220	F1	15-07-2013
KRC034	651887.0	1137435.0	387.09	100.0	-60	40	F1	15-07-2013

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