NI 43 101 TECHNICAL REPORT

on the

HAMAK GOLD PROPERTIES

in

LIBERIA

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TABLE OF CONTENTS:

LIST OF TABLES

LIST OF FIGURES

LIST OF PHOTOS

EXECUTIVE SUMMARY

Upon IPO, Hamak Gold Limited will hold seven Mineral Exploration Licences (MELs) across Liberia covering an area of 4,956 km². The minerals covered by the licences are principally for gold, however, some also include lithium, base metals, and diamonds. This Report only aims to address the potential for gold mineralisation within the seven licences.

The main mineral exploration focus of Hamak Gold is orogenic gold, Archaean and Paleoproterozoic greenstone hosted gold, and shear zone hosted gold type mineralisation.

This Report is based on site visits to Liberia between March and May 2021. An initial "fact finding" site visit was made to all seven MELs between 24th March and 27th April 2021 by an experienced exploration geologist; the aim being to obtain geographical and geological information as well as to observe and record the artisanal gold mining activity. During the first two weeks of May 2021, the Author visited six of the seven Hamak Gold MELs upon which this Report is based. The licences are spread across the whole of Liberia as shown in Figure A.

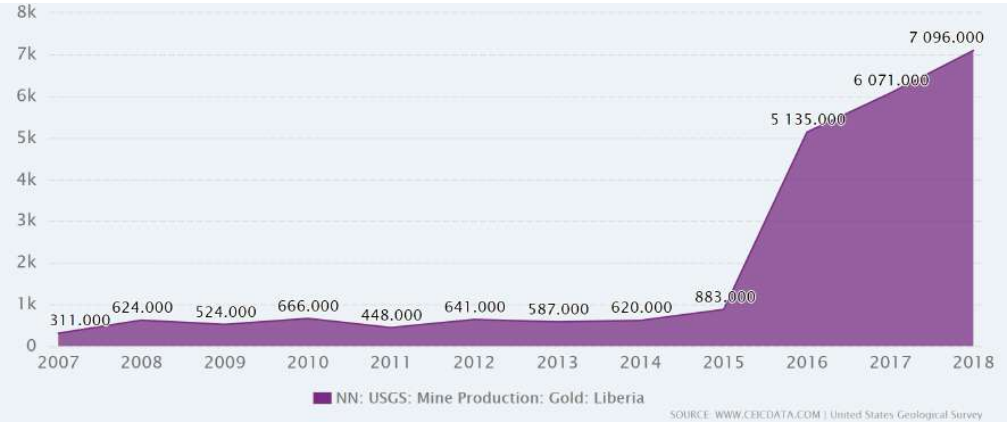
Figure A: Location of Hamak Gold seven properties

There has been a long history of artisanal gold mining in Liberia from alluvial deposits. Following the end of hostilities (2003) and the 2005 democratic election, a number of private and public Junior companies have undertaken systematic gold exploration in Liberia and within the last decade, the gold sector of Liberia has seen considerable expansion. Operational and in production since 2015, Avesoro Resources Inc. (a subsidiary company of the MNG Group) continues to develop Liberia's first and largest commercial gold mine at New Liberty which has mineral Resource estimate of 9.6 M tonnes grading 3.2 g/t for 985,000 ounces in the Measured and Indicated category and 6.4 M tonnes grading 3.0 g/t for 620,000 ounces in the Inferred category.

Discovered originally by Amlib Holdings Plc, the MNG Group operates the Kokoya gold mine which has a 2013 declared resource of 410,000 oz at 2.6 g/t Au. The mine has been in production since 2016 initially producing ~ 7,000 oz / month at a mined grade of 4.6 g/t Au.

Having started exploration in Liberia in 2005, Hummingbird have identified two significant deposits associated with the Dugbe shear zone on their Dugbe project. The deposits of Dugbe F and Tuzon comprise a 3.56 M oz resource at 1.5 g/t Au. Hummingbird is currently in joint venture with Pasofino Gold Limited who will fund and deliver a defined feasibility study and continue with exploration over the next two years.

Liberia is an emerging gold producing country having attracted considerable exploration interest and expenditure over the last 10 years. This transformation of the country's gold sector is evident from the graph below showing annual production (in Kgs) increasing significantly since 2007 from a little over 300 kg (10,500 oz) to 7,096 kg (250,300 oz).



Liberia did not experience the gold exploration boom during the 1980s and 1990s that took place in neighbouring West African countries mostly due to political instability and therefore has remained relatively under-explored and can be considered largely prospective for gold.

Under the Liberian Minerals and Mining law, revised in April 2000, all minerals are vested in the state of Liberia. The Ministry of Mines and Energy (MME) is the Government Agency responsible for the administration of the mineral and mining sector of the country, including the granting of exploration & mining licences.

The right to carry out exploration, under Liberian mining law, requires a Mineral Exploration Licence (MEL). This exploration title provides the holder with exclusive rights for three years. This "Initial Term" may be extended for a further two-year period upon surrender of 50 per cent of the original licence area. The Author has reviewed Hamak Gold's valid MELs and confirms that the company has been granted an additional one-year extension, under the initial three-year entitlement, due to the impact of Covid-19 on the minerals sector. This extension was granted by the Minister of Mines on 28th April 2021. The MELs details and their expiry dates are shown on the table below:

Licence Name	Licence Holder	Licence Number	Mineral Type	Status	Licence Expiry Date	Area (Km²)
Lofa	Hamak Gold Ltd	MEL 7002118	Gold, Diamonds & Base metals	Exploration	24-Jun-22	367
Fasama	Hamak Gold Ltd	MEL 7002518	Gold & Base metals	Exploration	19-Aug-22	776
Nimba	Hamak Gold Ltd	MEL 7001518	Gold, Diamonds & Base metals	Exploration	02-May-22	986
Gozohn	Hamak Gold Ltd	MEL 7002318	Gold, Lithium & Base metals	Exploration	19-Aug-22	766
Cestos	Hamak Gold Ltd	MEL 7002418	Gold & Base metals	Exploration	19-Aug-22	482
Sinoe	Hamak Gold Ltd	MEL 7002018	Gold, Diamonds & Base metals	Exploration	24-Jun-22	615
River Gee	Hamak Gold Ltd	MEL 7001618	Gold, Lithium & Base metals	Exploration	02-May-22	973
						4,965

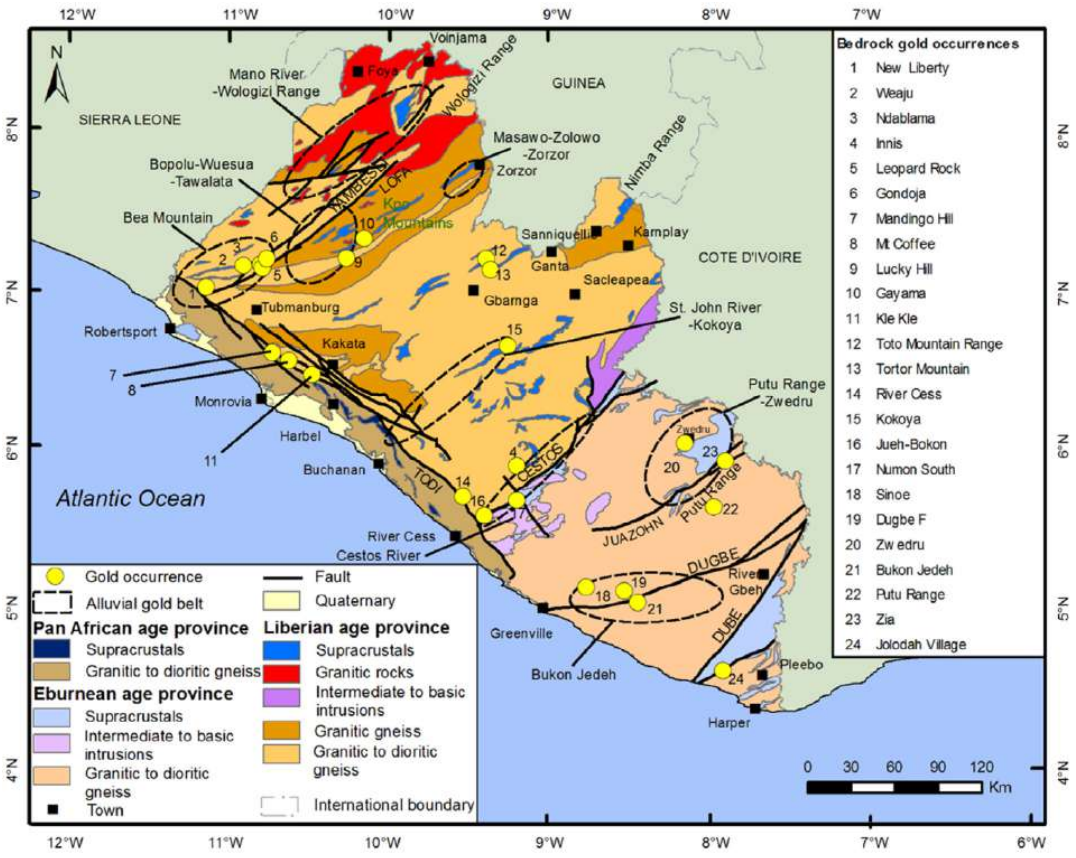
The climate of Liberia is tropical and humid with distinct wet and dry seasons, with the former lasting from late April to mid-November. Fieldwork can be carried out all year around, however there are practical considerations. Access to remote areas during the rainy season can be challenging or impossible due to the poor condition of roads and tracks. Exploration companies active in Liberia, such as Hummingbird, have demonstrated that drilling or soil grid and traverse sampling can take place throughout the year while stream sampling and trenching is best undertaken during the dry months (between November and June).

Liberia is located within the Man Shield which is part of the West African Craton which is itself composed of Precambrian basement rocks of the Archaean and Paleoproterozoic that crop out over an area of approximately 4.5 million km². These rocks result from a process of progressive accretion of a series of younger oceanic arcs or orogenic belts onto the oldest crustal core of early Archaean age; the Leo Man or Man Shield. Western and much of central Liberia comprises Archaean gneisses of the Kenema-Man domain which are separated from the eastern Paleoproterozoic Baoule-Mossi domain by a complex zone in Liberia, comprising a number of shear zones, which may extend to a width of up to 200 km. The Paleoproterozoic comprises large sedimentary basins and volcanic belts, collectively known as the Birimian, that were affected by regional greenschist facies metamorphism. Similar supracrustal rocks, comprising greenstone belt lithologies, are found within the Archaean but are metamorphosed to higher amphibolite to granulite facies. The greenstone belts are important hosts for lode gold mineralisation.

Multiple phases of deformation have resulted in regional scale north-east trending fault-thrusts in the Archaean and Paleoproterozoic domains. In Liberia, these structures include the Lofa, Yambesei, Cestos, Juazohn, Dugbe and Dube shear zones which are associated with important occurrences of gold mineralisation.

The geology and distribution of the main known gold occurrences are shown in Figure B.

Figure B: Regional & structural geology and gold occurrences in Liberia



Alluvial gold is found throughout Liberia and has been worked, mostly on a small scale, for the last 100 years. Some 600 occurrences were recorded by the USGS in the early 1970s from which the alluvial "gold belts" are derived, however these placer deposits are of limited extent and not amenable to large scale modern mechanised mining methods. The discovery of bedrock gold mineralisation in Liberia during the early 2000's, has centered all subsequent systematic exploration on these primary sources. Hamak Gold's exploration strategy is focused on the rapid discovery of bedrock source mineralisation.

Orogenic gold in West Africa is hosted in a range of rock types including mafic-hosted, granitoid-hosted, sediment-hosted, carbonate-hosted and BIF-hosted deposits. In the Archaean in Liberia, the dominant style of lode gold mineralisation is in quartz veins, breccia zones, stringers and dissemination. In the Birimian-age greenstone belts of the Paleoproterozoic, most gold deposits are focused along regional shear zones with mineralisation styles including intrusion related stockworks, quartz-sulphide vein type, disseminated sulphide type and breccias.

The Author has ranked Hamak Gold's MELs individually and in accordance with their geological and spatial relationship with specific geological structures as well as on the scale of gold mining activity in or near the licences. The MELs are grouped according to their prospectivity and proximity and are ranked accordingly (Figure C):

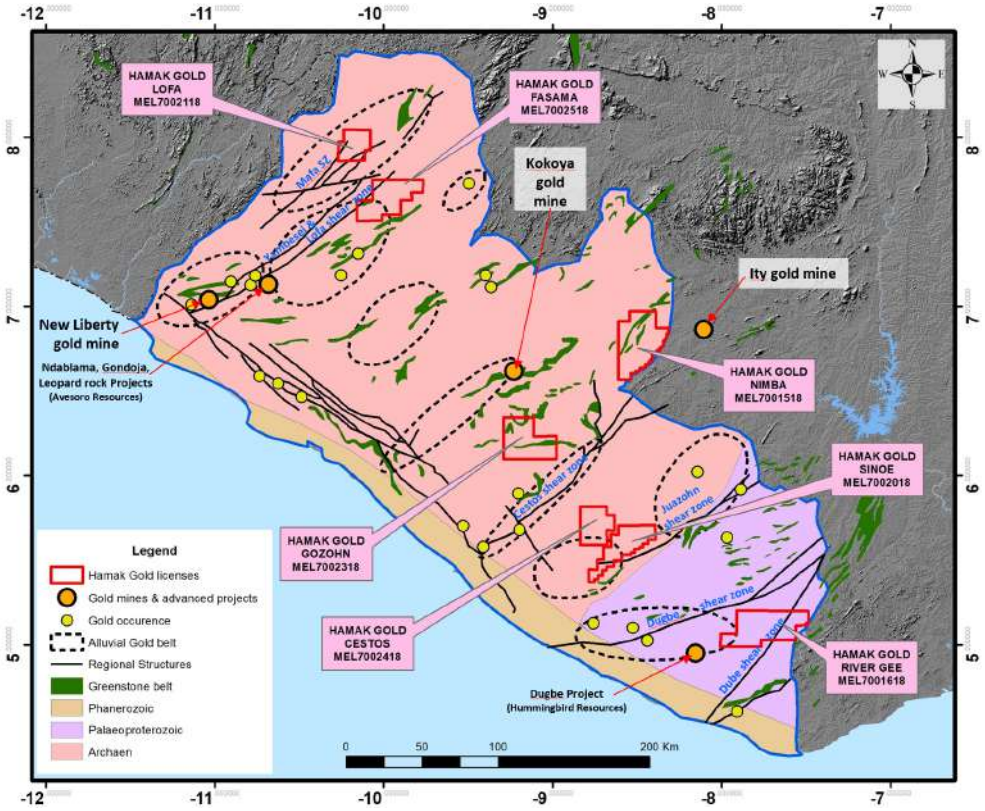
Rank No. 1: **Cestos shear zone and greenstone belts**
Nimba and Gozohn Licence

Rank No. 2: **Dube shear zone and Birimian greenstones**
River Gee Licence

Rank No. 3: **Lofa and Yambesei shear zones and greenstones**
Fasama and Lofa

Rank No. 4: **Juazohn shear zone and amphibolites**
Cestos and Sinoe Licence

Figure C: Ranked Hamak Gold licences and geological setting



Hamak Gold has selected ground along major crustal-scale shear zones and, or in proximity to greenstone belts of the Archaean and Paleoproterozoic where gold mineralisation is believed to have occurred within deformed and metamorphosed rocks as a result of hydrothermal mineralizing fluid systems associated with extensional veining within localised structures.

Based on the site visits, a brief technical review of each of the Hamak Gold licences follows:

NIMBA – MEL 7001518:
The licence (covering 986 km²) is located in Nimba County in north central Liberia and is accessible along a well-maintained bitumen road from Monrovia to Ganta via Gbarnga (256km) and then via Saclepea, Gbloulay to Buutuo along a dirt and gravel road of variable condition (111 Km); a total of 367 km and an 8 hour drive from the capital.

From field evidence and reported results from previous regional exploration activities, the Hamak Gold Nimba licence can be considered highly prospective for gold mineralisation.

There are two geologically distinct provenances for mineralisation within the licence both associated with the structurally complex Cestos Shear Zone. To the west of a regional probable fault thrust lies long narrow quartzite ridges, with iron-formation caps. The most common geology is a combination of mica schist, a variety of quartzites and oxide-facies banded iron-formation and are considered typical greenstone belt assemblages. Gold mineralisation is evident from active diggings observed at two locations.

To the south of the main thrust lies an unmetamorphosed massive diorite intrusion which appears to have intruded the widespread leucocratic gneiss that occupies large tracts of the county. There is a lack of geological definition within this dioritic landscape where rounded hills and less pronounced ridges are evident. Gold diggings were observed at three locations which appear to be active downstream of a distinct NE and southerly trending elongated hill. While the regional geology needs to be better understood, it would appear that either the elongated hill or the contact zone between the hill and the diorite is mineralized.

That the licence lies within the renowned and mineralized, crustal scale, Cestos shear zone, as well as the 3.8 M oz Ity gold mine (situated some 25 km due east of Buutuo), is significant and upgrades the potential for discovering bedrock primary sources for gold. The Author has recommended that Hamak Gold plan a systematic soil geochemical line traverse sampling programme over a number of identified priority targets, initially on a widely spaced grid. Any trenching programme undertaken, as a result of well-defined soil sampling anomalies, would be aimed at generating targets for scout drilling.

GOZOHN – MEL 7002318:
The MEL (covering 766 km²) is located within River Cess and Nimba Counties in central Liberia and can be reached from Monrovia along a tar road to Buchanan (133km) and then via Trade Town, Bojesi to Gozohn and Kangbo village along a dirt and gravel road (142 Km); a total of 275 km and a 6 hour drive from the capital. The licence is also accessible from the Nimba licence along a gravel road from Tapeta (101 km) and a 3½ hour drive to the south-west.

This licence is considered highly prospective for gold mineralisation based on both field evidence as well as the proximity to MGN's Kokoya mine (some 30 km to the north of the MEL), which is situated within a similar greenstone setting.

Leucocratic gneiss underlies more than 85% of the MEL, however three distinct greenstone belt lithologies outcrop with larger units being mapped to the north and, to a lesser extent, to the south of the licence. These units comprise an assemblage of interlayered strongly deformed amphibolite, quartzite, schist, and iron-formation (BIF) and generally form the slopes of the ridges. Analogous with similar terrains in Liberia, contacts with the gneiss are reported to be structurally controlled. The presence of BIF, often along the centre and crest of the ridges, are distinctive in the USGS aeromagnetic maps.

Intensive gold digging is active at two locations situated along the western flank of Mt Koklun, comprising greenstone belt lithologies, which are suggestive of a proximal primary bedrock source for gold. At one of the sites, quartz veins were observed within bedrock along the hill slope diggings while tunnelling was evident within the thick lateritised saprolite.

Not all hill slopes of these greenstone ridges are mineralized as evidenced by modest digging within the drainages along the eastern side of Mt Koklun. A west-east trending quartz-mica amphibolite schist belt (with itabirite) within the central part of the licence is associated with some gold diggings and appears to be mineralized and is therefore a viable target for gold.

Widespread regional reconnaissance stream sampling may be forgone in favour of a more intense traverse soil sampling and trenching campaign concentrating on the hill slopes and along the ridge crests. Any trenching programme embarked upon, as a result of well-defined soil sampling anomalies, would be aimed at generating targets for scout drilling.

RIVER GEE – MEL 7001618:

Covering 973 km², the River Gee licence is located within the counties of River Gee and Maryland in east Liberia with its eastern boundary adjoining the border with Côte d'Ivoire.

The MEL can be reached from Monrovia along a tar road to Buchanan (133 km) and along a gravel road to Pyne Town via Yarpah Town, Kopo (Nyennueh Junction), Juazohn and Shabli (371 km). A well-maintained logging road, to the south of the Putu mountain range, connects Pyne Town to the main Zwedru highway at Duabo Junction and to the SE towards Fish Town (116 km). The total distance is 620 km, requiring an overnight stop en route.

The NE orientated Dube shear zone is the most prominent structural feature within the eastern part of the licence and separates an extensive quartz diorite granitic gneiss (to the west), from a more complex micaceous schist to the east, which is interbedded with fine-grained quartzites associated meta-sedimentary manganese-formation beds and is of undisputed Birimian age. The manganese-formation rocks are resistant to erosion and hence form prominent steep-sided discontinuous ridges and are recognizable from the colluvial manganiferous float along the ridge flanks.

Only two USGS derived gold occurrences are evident within the licence area, each in the southeast and south-western parts of the permit, respectively. The single occurrence located along the southern border of the licence, and east of the Dube shear zone, is probably related to mineralisation associated with the manganese-formation. This observation is further supported by alluvial diggings (inactive) observed south of Sweaken. It is significant that these occurrences are located to the east of Dube shear zone and within be Birimian age rocks.

Active river dredging activity was observed within the Kia Creek near the village of Feloken and upstream at a location known as Big Jay. The source this alluvial gold points to a regional, possibly local, source, however given the ability of rivers to transport detrital gold some

distance from source, it is possible that such primary sources may be located upstream and within the neighbouring Hummingbird MDA at the Tiehnpo prospect which hosts hard rock sources for gold and is the focus of alluvial artisanal mining. A low density, 1st pass stream sediment sampling programme is proposed to the north of the Kai creek.

The Dube shear zone is an obvious exploration target based on the premise that the main episodes of gold mineralisation in the Birimian appears to have been controlled by regional-scale shear zones. Gold occurrences and artisanal mining activity is known to have taken place regionally, and specifically to the east of the shear zone. It is possible that some of these occurrences may be related to mineralized zones within the manganese-formation. A focused soil geochemical sampling programme to the east of the shear zone is recommended.

FASAMA – MEL 7002518:

Covering an area of 744 km², the Fasama MEL is located in Gbarpolu County in north-west Liberia. An application for a 32 km² extension, situated along the southern boundary of the existing MEL, was granted in 2019 hence the revised licence area is 776 km².

The licence can be reached from Monrovia along a tar road via Clay to Tubmanburg (77 km) and then to Fasama village via Gbarpolu and Henry Town along a gravel road; a total of 235km and a 7-8 hour drive.

Most of the licence comprises Archaean basement characterized by tonalite-trondjemite-granodiorite (TTG) gneisses. From a regional perspective, the licence is proximal to two major NE trending structural lineaments known as the Yambesei and the Lofa shear zones. These zones or corridors are associated with the best known, and economically important, Archaean gold deposits in Liberia, including the New Liberty mine and advanced evaluation gold projects at Ndablama, Weaju, Gondoja and Leopard Rock. The geological settings for the licence is therefore prospective for orogenic (mesothermal) gold mineralisation.

Within the MEL are two discrete supracrustal sequences of highly deformed metavolcanic and metasedimentary, mafic to ultramafic rocks, which form discontinuous narrow linear greenstone belts, surrounded by TTG gneisses. One of these ridges, comprising an assemblage of interlayered strongly deformed amphibolites, quartzite, schists, and banded iron-formation (BIF), is located within the southern extension of the MEL, and forms part of the Kpo Range.

Exploration of the Kpo Mountains area, by previous explorers, has identified gold-bearing quartz veins with the mineralisation being related to and controlled by sheared lithological contacts between the TTG and greenstone rocks. Such mineralisation is associated with deposits at Lucky Hill (Gblita) along the southern part of the Kpo Range as well as at Belle Yella and the Tenkeh and Glubai Hills located due south of Fasama and the Kpo mountains. Historically, Henry Town and the surrounding region to the west of the MEL has been the focus of significant artisanal gold digging.

Active gold digging, within a more recently acquired extension to the south of the licence, is ongoing and a systematic grid soil sampling programme is recommended, along widely spaced traverse lines, aimed at covering the greenstone rocks and all areas where there is ASM activity. Follow up, closer spaced soil sampling, should pursue if anomalies are found aimed at generating justifiable trenching and, or drill testing targets.

The western boundary of the Fasama licence is proximal to the northeast extension of the Lofa shear zone or corridor. It is possible that gold vein type mineralisation could be associated with localised secondary faults and splays related to the shear zone. Furthermore, it is probable that more greenstone belt "inliers" exist within the licence area which will require a detailed structural and lithological mapping programme during the first phase of exploration, including the use of new and improved Landsat- 8 and Sentinel-2 multispectral satellite data to assist in the identification of ASM activity.

LOFA – MEL 7002118:

The Lofa MEL covers an area of 367 km² and is located in Lofa County in north-west Liberia. It can be reached from Monrovia along a tar road via Totota to Gbarnga (189 km) and then to Kolahun via Zorzor and Voinjama along a gravel road (243 km); a total of 432 km and 13 hours.

From Kolahun, the northern boundary of the licence can be accessed via two possible routes along gravel roads of varying condition to the villages of Madina also Mania (61 km, 4 hrs) or Pasolahun (66 km, 3½ hrs). Thereafter access within the licence is via motorbike or on foot.

The northern part of the licence in underlain by massive granitic rocks which have a close genetic relation to the gneisses; the contact being gradational. The granitic gneiss in the southern part of the licence is characterized structurally by a consistent NE 40° trend.

From a regional perspective, at least three major structural lineaments trending NE – SW are recognized within the Archaean (Kenema-Man domain) of northwest Liberia. The best known of these are the Yambesei and the Lofa shear zones which form a corridor along and within which economically important, gold mineralisation has taken place. Mines such as New Liberty, advanced evaluation gold projects at Ndablama, Weaju, Gondoja and multiple gold targets are testimony to the importance of these crustal scale structures. The third less well understood structural feature, often offset, includes the Mafa shear corridor which is believed to extend as far as north as Madina village and the western part of the Lofa licence.

Associated with these main shear zones are local faults or splays which appear to be mapped in the USGS map of the region and can be found to the west and in the southeast of the MEL. Such structures are typically formed at, or close to, contacts between rock types of contrasting competencies, such as the granites and gneisses. Gold mineralisation is often localised at bends or splay intersections in or near the shear systems and thus the geological and structural setting of this MEL can be considered prospective.

At the time of the USGS survey, numerous alluvial gold occurrences were identified (early 1970s) in the northern part of the MEL and while these localities could not be verified during the site visits, their presence suggests the potential for bedrock-hosted gold mineralisation and provides a useful guidance for Hamak's exploration targeting.

The licence should be considered underexplored where north-east extensions of the Archaean shear zones are potential targets. Geological and lithological mapping, together with regional stream sampling, is the recommended exploration approach for this MEL.

CESTOS – MEL 7002418:

The Cestos MEL covers an area of 482 km² and is located within Sinoe County in south-eastern Liberia, with a small proportion of the licence falling within Grand Gedeh County.

The MEL can be reached from Monrovia along a tar road to Buchanan (133 km) and to Mile 38 via Yarpah Town, Kopo (Nyennueh Junction), Juazohn and Shabli (321 km) along a dirt / gravel road which is in a variable to poor condition. A rough track, heading northwest from Mile 38, leads to Pelokon village (13 km), being the nearest access point to the Cestos licence. The total distance is 467 km. Access can also be achieved from the north (and the Nimba MEL) via Tapeta and Zwedru and then south along the national highway towards Juazohn.

Amphibolites are evident within this MEL predominantly to the north and along the northwestern flank of the massive igneous diorite Jubo batholith. The thicker resistant units form narrow ridges that commonly reflect the local structure and appear to be most associated with quartz diorite gneiss.

To the west-north-west and outside of the licence (north of Pyne Town) are a series of east-west trending elongate amphibolite ridges which were explored by Hummingbird at their Jababli project. During geological mapping, Hummingbird geologists recognized that these amphibolites comprise metavolcanics and metasediments and contain calc-silicate alteration suggesting greenstone hosted gold skarn mineralisation and mapped numerous artisanal gold workings draining the north face of the 9 km long amphibolite and pyroxenite ridge. Quartz veins were observed within saprolite diggings confirming the presence of bedrock mineralisation and returned values of up to 2.28 g/t Au in channel samples.

The Author believes that a direct analogy can be made between the geological setting of the resistant amphibolite (and pyroxenite) ridges, located to the north of Pyne Town and at Peace Camp, and the amphibolite rocks recorded within the Cestos licence. It is possible that the, presumed same, amphibolites, may also be mineralized for gold but are unexplored.

The socio-economic history of this part of Liberia, particularly the civil strife, has resulted in the isolation of the Cestos licence area. The lack of ASM gold activity within the Cestos licence does not necessarily preclude the absence of gold mineralisation and therefore is a reasonable target area for grass roots exploration and should be investigated.

The mapping of the Cestos amphibolite bodies by the USGS was done from analyzing the USGS aeromagnetic survey data and have probably not been field verified. Therefore, a geological and structural mapping programme of the Jubo amphibolites would be a useful exploration starting point. This work would also determine whether there has been previous ASM activity. This under-explored MEL should undergo 1st pass stream sediment sampling, after mapping, at a low density of perhaps 1 samples / 25 km² to more clearly define targets.

SINOE – MEL 7002018:

The Sinoe MEL cover an area of 615 km² and is located within Sinoe County in south-eastern Liberia. The licence can be reached from Monrovia along a tar road to Buchanan (133 km) and to Pyne Town via Yarpah Town, Kopo (Nyennueh Junction), Juazohn and Shabli (311 km) along a dirt / gravel road which is in a variable to poor condition. The total distance is 444 km. From Pyne Town the national road continues to the north to Zwedru (60 km) and hence provides access to the Nimba licence via Diallah or Tapeta.

Much of the MEL is underlain by a quartz diorite gneiss which is a typically medium-grained, medium to light coloured rock of quartz diorite to granodiorite composition in the northern part of the licence. The Juazohn shear zone, although of more limited strike length within Liberia, is in the vicinity of the south-eastern boundary of the licence where a number of USGS gold occurrences have been recorded which may be associated with this shear zone. Known

bedrock occurrences, alluvial deposits and gold geochemical anomalies are correlated with this structure and can be considered prospective for greenstone hosted gold mineralisation.

Ten kilometres to the east of the northeastern boundary of the Sinoe licence commences the NE trending Ghi mountain of the Putu Range where BIF-hosted gold deposits occur (as well as iron ore). High grade gold mineralisation has also been reported at several locations including Zia in the north and near Zwedru to the west which straddles the Juazohn shear zone.

Outcrop of amphibolite is evident within the licence, however the lateritic weathering profile is thick and hence the mapping of rock outcrops proved challenging for the USGS geologists except where more resistant quartzite, schist, amphibolite, and diabase features were encountered in the field. In the vicinity and to the south of Pyne Town an outcrop of micaceous schist has been identified in the USGS map of the area. This distinctive unit may be related to the regional amphibolites described above.

Currently there is very little gold ASM activity within the Sinoe licence although there is a history of alluvial mining at locations along the national road bearing SW towards Juazohn. Many of these alluvial diggings, including the 1970's USGS occurrences, are located to the southeast of this road; an area which adjoins the northwestern boundary of the Sapo National Park (SNP) where artisanal mining is illegal and strictly patrolled by the Forestry Development Authority. The lack of current digging in this area may be testimony to the effectiveness of the FDA patrols and MME mining agents.

The Sinoe licence is a reasonable target area for grass roots exploration and should be investigated. Mapping by means of remote sensing, using Landsat-8 imagery, would be a useful starting point. Once targets have been generated, 1st pass reconnaissance stream samples should be collected at a low density and should these produce anomalies for follow up stream sampling or perhaps the initiation of soil sampling.

Hamak Gold exploration budget:

A provisional sampling exploration and assay budget is presented below based on different exploration methods and sample quantities per licence, from which has been derived respective assay costs. Clearly Nimba and Gozohn are the primary exploration target areas.

	Stream samples Reconnaissance	Stream samples Follow up	Soil Samples 1st Pass	Soil Samples Follow up	Trench Samples	Grab / Rock Samples	Total Samples	Budget (US$)
Nimba			5,800	4,000	1,000	20	10,820	165,400
Gozohn			6,000	3,500	1,000	30	10,530	161,100
River Gee	25		1,500	800	800	20	3,145	49,525
Fasama			1,800	700	600	20	3,120	48,900
Lofa	20	60	800	200	600	15	1,695	26,800
Centos	20	50	600	300	400	10	1,380	22,200
Sinoe		15	500	300	400	10	1,225	20,560
	65	125	17,000	9,800	4,800	125	**31,915**	**494,485**

1.0 INTRODUCTION

1.1 Preamble

I, Derek Rowan Carr, (the "Report Provider"), was requested by Hamak Gold Limited ("Hamak Gold") to prepare this competent person's report (the "Report") on the gold properties in Liberia held by Hamak Gold.

This Report, which summarises the findings of the Report Provider's review, has been prepared to satisfy the requirements of the prospectus regulation rules made by the Financial Conduct Authority (the "FCA") pursuant to section 73A (4) of the Financial Services and Markets Act 2000, as amended ("FSMA") (the "UK Prospectus Regulation Rules") and the UK version of Regulation (EU) 2017/1129 of the European Parliament and of the Council of 14 June 2017 and repealing Directive 2003/71/EC and the delegated acts, implementing acts and technical standards thereunder as such legislation forms part of retained EU law by virtue of the European Union (Withdrawal) Act 2018 (the "EUWA"), in conjunction with the European Securities and Markets Authority ("ESMA") update of the Commission of European Securities Regulators ("CESR") recommendations for the consistent implementation of the European Commission's Regulation on Prospectuses No 809/2004 (CESR/05-054b) issued ("ESMA Recommendations"), specifically, Clauses 131 to 133 and Appendices I and II.

Hamak Gold intends to include this Report in a prospectus for the purpose of a prospectus in connection with its admission to listing on the standard segment of the Official List of the FCA and to trading on the main market for listed securities of London Stock Exchange plc (the "Prospectus").

The Report Provider has given and has not withdrawn its written consent to the inclusion of information extracted from or sourced to this Report in the part of the Prospectus entitled "Information on the Company", and the references in the Report to the Report Provider's name in the form and context in which they are included, and has authorised the contents of this Report and references thereto as part of the Prospectus for the purposes of Rule 5.3.2R(2)(f) of the UK Prospectus Regulation Rules and Item 1.3 of Annex 1 of Commission Delegated Regulation (EU) 2019/980 as it forms part of UK law by virtue of the EUWA.

In compliance with Item 1.2 of Annex 1 of Commission Delegated Regulation (EU) 2019/980 as it forms part of UK law by virtue of the EUWA, the Report Provider accepts responsibility for this Report and any information extracted from or sourced to this Report which is included in the Prospectus and, to the best of the Report Provider's knowledge, declares that the information set out in this Report and any information extracted from or sourced to this Report which is included in the Prospectus is in accordance with the facts and that this Report and any information extracted from or sourced to this Report which is included in the Prospectus makes no omission likely to affect its import.

This Report is issued by the Report Provider, and accordingly the Report Provider assumes responsibility for this Report and confirms that the information contained is true and accurate as of 30th June 2021.

The Report Provider visited or acquired knowledge of all seven of Hamak Gold's Mineral Exploration Licences (MELs) between March and May 2021. Extensive discussions were held with Hamak Gold's Founder and Executive Director, Amara Kamara, as well as members of the Liberian Ministry of Mines, Bureau of Mines and Liberian Geological Survey whose willing help and assistance is acknowledged.

1.2 Issuer and Terms of Reference

This Report was prepared by Mr. D Rowan Carr, who is the sole author (the "Author").

Mr. Carr gained a B.Sc (Hons) in geology at the Ulster University in 1983 and went on to obtain his M.Sc in Mineral Exploration from the Royal School of Mines, Imperial Collage, London in 1985. He is a Fellow of the Geological Society of London and a Chartered Geologist.

Mr. Carr provides a wide range of geological, exploration and evaluation experience gained from 34 years on the African continent, across eight different countries, including 13 years in West Africa, of which six years included conducting extensive exploration programmes in Liberia. Specializing in diamonds and in gold, he has participated in or been responsible for a number of new mineral discoveries, evaluations and feasibility studies.

In the early 1980's, Mr. Carr was part of Ennex International's (formerly Irish Base Metals) prospecting team which led to the discovery of Northern Ireland's first modern gold discovery at Curraghinalt Burn in the Sperrin Mountains, Omagh, where quartz vein-pyrite-gold mineralisation was established within the Dalradian Supergroup. He further contributed to the exploration effort through his (company sponsored) M.Sc which reviewed the regional structural setting of gold vein type mineralisation in the Irish Caledonides. Two other Dalradian-hosted deposits have been discovered regionally with an estimated total resource of approximately five million ounces (5 Moz) of gold.

Following a 21 year career with De Beers Group Exploration engaged in grass roots exploration and evaluation in often remote locations in countries such as Botswana, South Africa, Angola, DRC Congo, Guinea and the Central African Republic, Mr. Carr joined Stellar Diamonds (an AIM listed company) as VP Exploration in 2007; advancing to Chief Operations Officer in 2009. This Junior explorer concentrated its efforts on an array of early-stage exploration, brown fields evaluation, alluvial and trial mining projects in DRC (Congo) but principally in Liberia, Guinea and Sierra Leone in West Africa ultimately culminating in a merger with Newfield Resources in 2018 and the establishment a new underground diamond mine in Sierra Leone.

Prior to the 2008 global financial crisis Stellar Diamonds, through its Liberian subsidiary Western Mineral Resource Corp (WMRC established in 2004), extensively explored 15,000 Km^2 covering most of north western Liberia under an exclusive Mineral Cooperation Agreement (MCA awarded in 2007) collecting samples for gold geochemistry (1,820 samples) and kimberlite indicator mineral analysis. The Author led the WMRC exploration teams.

Over the last decade, Mr. Carr has presided over the delivery of maiden Inferred and Indicated mineral resources statements for six diamond deposits located in Guinea and Sierra Leone amounting to some 11 million carats in resource.

Hamak Gold has accepted that the qualifications, expertise, experience, competence, and professional reputation of Mr. Carr are deemed appropriate and relevant for the preparation of this Report.

This Report is compliant with the ESMA Recommendations.
https://www.esma.europa.eu/sites/default/files/library/2015/11/11_81.pdf

1.3 Disclaimer

Hamak Gold was warranted that full disclosure of all material information in its possession or control has been made to the Author. Hamak Gold has agreed that it will not make any claim against the Author to recover any loss or damage suffered as a result of the Author's reliance upon the information provided by Hamak Gold for use in the preparation of this Report. Hamak Gold has also indemnified the Author against any claim arising out of the assignment to prepare this Report, except where the claim arises as a result of any proved willful misconduct or negligence on the part of the Author. This indemnity is also applied to any consequential extension of work through queries, questions, public hearings, or additional work arising from the Author's performance or engagement. The Author of this Report (nor family members or associates) does not have any business relationship with Hamak Gold or any associated company, which is likely to materially influence his impartiality or create a perception that the credibility of this Report could be compromised or biased in any way. The views expressed herein are genuinely held and deemed independent of Hamak Gold.

Hamak Gold has reviewed draft copies of the Report for factual errors. Hence, the statement and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false and misleading at the date of this Report. The Authors opinion is provided solely for the purposes outlined in Section 1.1 (Preamble) of this Report and the Author consents to the use of this Report for this purpose. The Author reserves the right to, but will not be obligated to, revise this Report and conclusions thereto if additional information becomes known subsequent to the date of this Report.

1.4 Units

All units of measurement used in this Report are metric unless otherwise stated. Precious metals values in geochemical analysis are in parts per million (ppm) or parts per billion (ppb). Gold grades are expressed in grams per tonne (g/t). Currency is expressed in US Dollars unless stated otherwise. Universal Transverse Mercator grid coordinates (UTM) are based on the WGS 84 datum. The properties are located in UTM Zone 29 North.

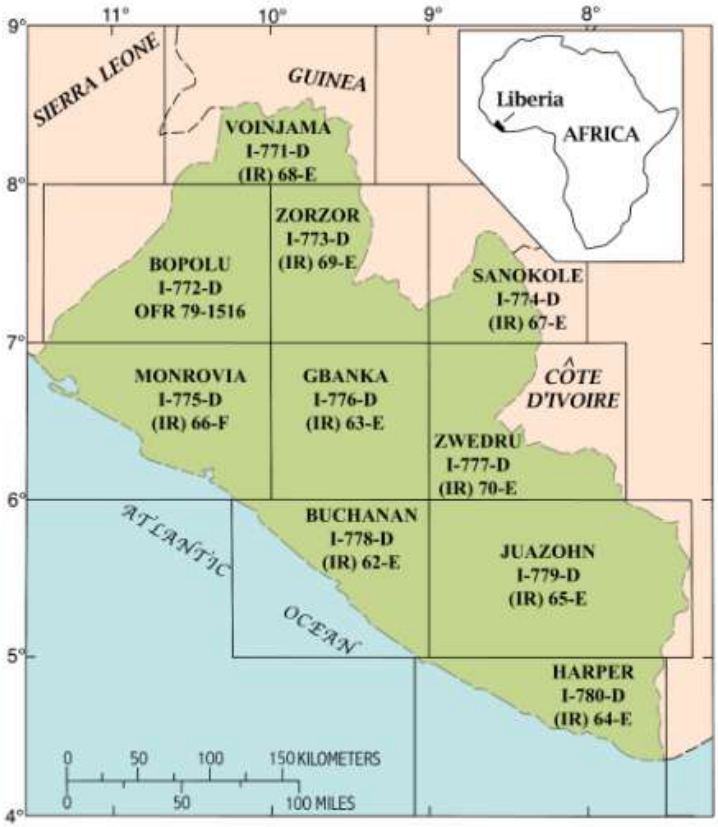
1.5 Sources of Information

In writing this Report, the Author has relied on a number of sources of information including published maps and scientific papers, exploration and mining company websites and technical reports, e.g. NI 43 101, available in the public domain.

Between 1965 and 1972, a major geo-technical programme funded by the US Agency for International Development (USAID) and the then Liberian Ministry of Lands and Mines was carried out by the United States Geological Survey (USGS) in collaboration with the Liberian Geological Survey (LGS). Topographic, geological, geophysical (aeromagnetic, total-count gamma radiation & Bouger gravity) maps, as well as mineral locality maps were issued (with accompanying descriptive geological reports) for each of ten quadrangles covering Liberia at a scale of 1:250,000. The location of the quadrants, map and internal report reference numbers are shown in Figure 1. Each quadrangle contained a suite of folios based on the interpretation of the airborne geophysical data and aerial photos, supplemented by field based geological investigation.

The regional aeromagnetic survey comprised some 140,000 line kilometres, with lines spaced 800 km apart with the sensor flown 150 m above the ground. This USGS geo-technical programme constitutes the first and only nationwide survey conducted in Liberia.

Figure 1: Index for mapped quadrants for USGS maps (with reference numbers)



Subsequently, in 2007, the geological, geophysical and mineral occurrence data were compiled by the USGS into a digital format including the release of a new series of four national maps at a scale of 1:350,000. This database is available on the USGS official website (Open-File Report No. 1258 by Ronald R. Wahl, 2007) at the link below:
https://pubs.er.usgs.gov/publication/ofr20071258

The USGS database provides the basis for the gold occurrences recorded throughout Liberia in the early 1970's and is an integral starting point for the Hamak Gold GIS compilation.

Between 2013 and 2016, in collaboration with the Liberian Geological Survey, the British Geological Survey played a significant role in promoting the minerals industry of Liberia enabled by a programme of technical assistance with finance being provided by the UK Department for International Development (DFID). As a result of this programme, a number of brochures were published including a comprehensive review of the mineral potential of Liberia (Gunn et al. 2018), (BGS, 2015 & 2018).

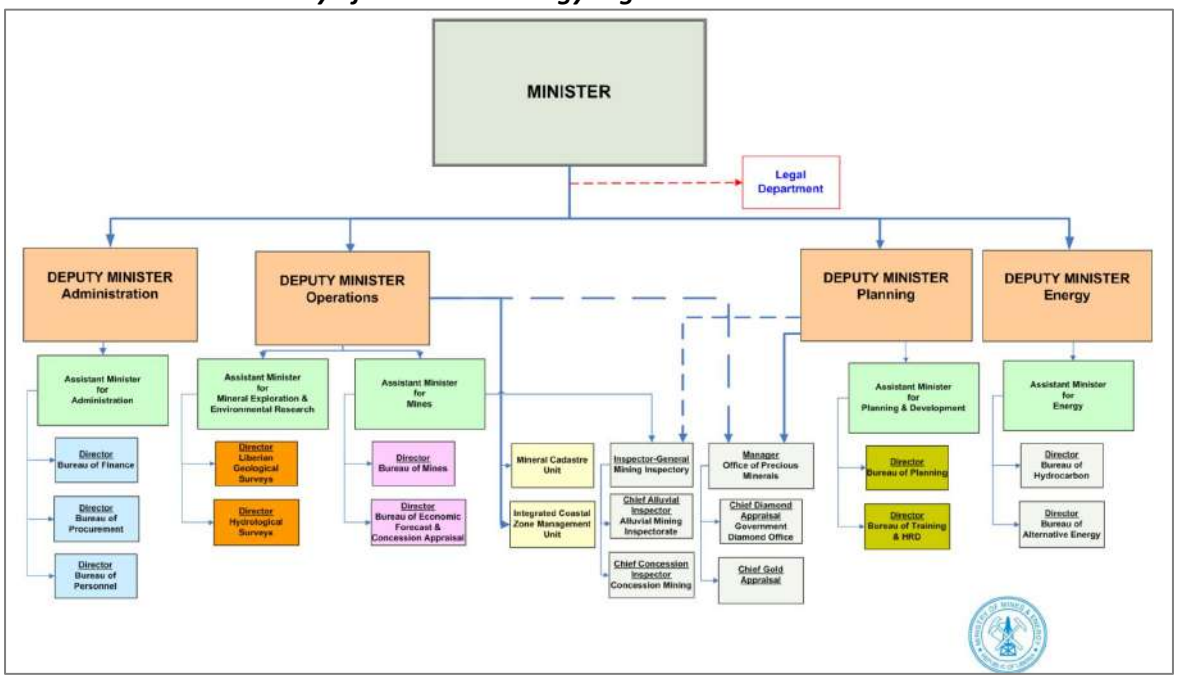
Another source of information on the spatial distribution and endowment of mineral deposits, including gold, is the West African Mineral Deposit Database (WAMDD) which was first established in 2016 (Markwitz, V. et al, 2016). The multi-commodity WAMDD was compiled from published scientific journals and books, published databases, company reports and company websites. Of the 442 mineral deposits in the WAMDD covering 18 commodities in 11 countries some 28 are attributed to Liberia. With 198 gold deposits described in the WAMDD (*as of 2016*), gold is the most explored, known, and mined mineral in West Africa (Table 1).

Table 1: Frequency distribution of West African gold and copper/gold deposits.

	Deposit types	Frequency	Archean	Paleoproterozoic	Pan-African	Intracratonic and coastal basins
Gold/copper-gold	Orogenic	153	16	133	3	
	Alluvial/Paleo-placer	27	9	18		
	Intrusion-related (+ skarn)	5	1	4		
	Porphyry Au-Cu	10	1	6	3	
	IOCG	3			3	
		198				

In addition, some information is available from the Bureau of Mines which falls under the auspice of the Ministry of Mines: Deputy Minister – Operations. For ease of reference the organisational structure of the Liberian Ministry of Mines and its various departments and sections of shown in Table 2.

Table 2: Liberian Ministry of Mines and Energy organisation structure



Liberia is divided into 15 Counties each of which has an Administrative Superintendent who interacts with a number of regional mining agents within the County. There are 55 mining agency subdivisions spread across Liberia and the job of the mining agents is to administer and monitor mining activities of mineral and mining licence holders including artisanal and small-scale mining activities (ASM). Unfortunately, however most of the information relating to artisanal gold-digging activity, including coordinates, is not in a digital format but rather captured manually (from information gathered in the field) on a variety of maps and by different entities, i.e. mine surveyors, mining agents. The accuracy of the source of these gold occurrences is unknown and unreliable.

A number of "in-house" reports have been prepared for Hamak Gold based on a limited overview of the seven MELs and brief site visits. One such report is entitled:

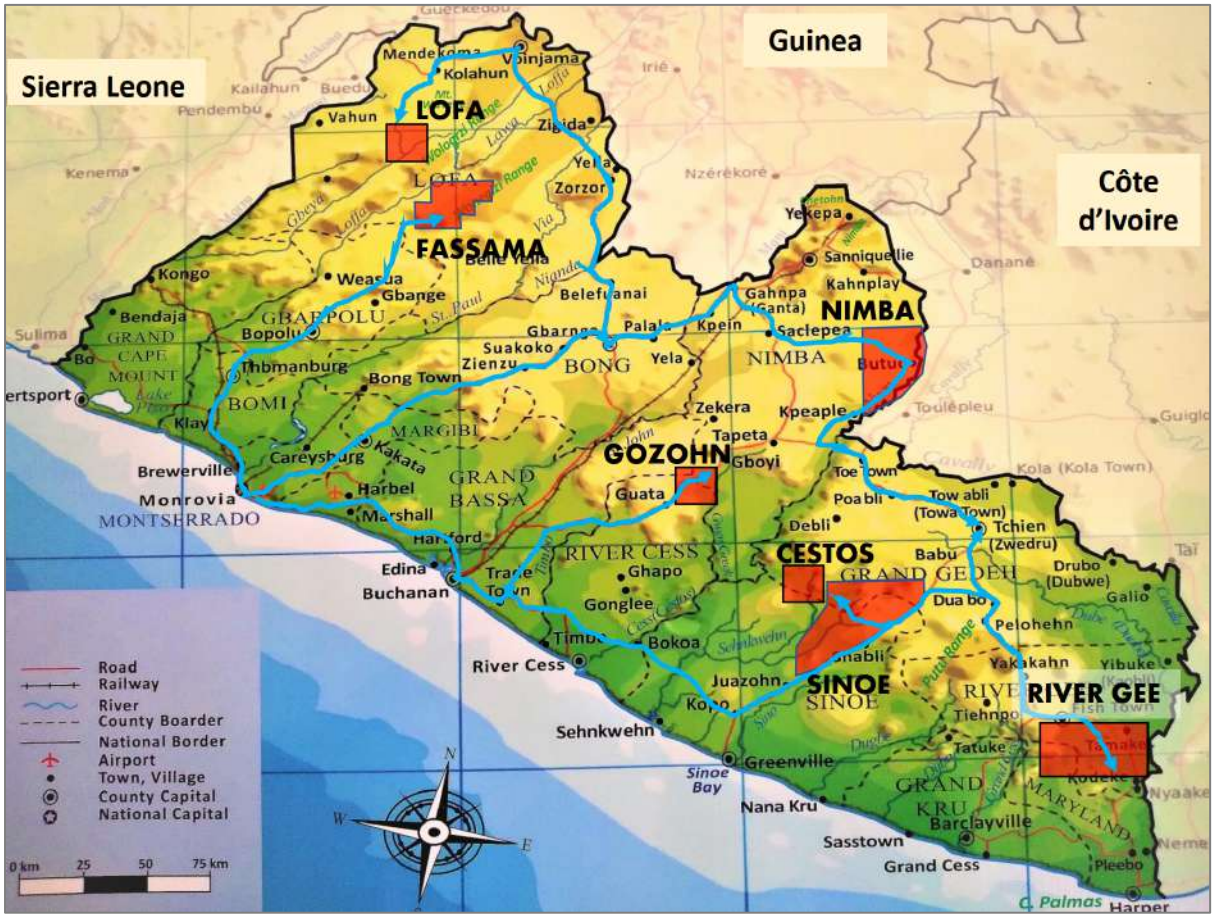
- Preliminary Geology Report for Hamak Mining Company, dated September 2018, prepared by Igor Ussoltev (Mining Engineer geologist – Kazakhstan State Commission for Reserves) and Mayeh Younh (Chief geologist – Liberian Geological Survey).

Other short field excursion reports were compiled by local Liberian geologists engaged by Hamak however these tend to be of limited scope.

1.6 CPR Site Visits

In accordance with NI 43 101 Guidelines, the Author visited and reviewed six of the seven MELs between 1st and 15th May 2021. However, prior to this visit Consultant geologist, Fode Camara, who has 25 years of field exploration experience conducted a verification site visit to all seven MELs between 24th March and 27th April 2021 over a period of 35 days. The aim of this initial exercise was to obtain geographical and geological information as well as to observe and record the artisanal gold digging activity, including Class C mining sites, within each of the MELs. To facilitate this initial site visit, field maps were prepared recording the geology and location of historic USGS gold occurrences. Limited information on the location of some of the Class C licence locations was also obtained. The first due diligence exercise provided useful orientation for the author's site visit. Some 5,000 km was covered during these site visits while the route taken to review the licences is shown in Figure 2.

Figure 2: Route taken to conduct site visits of the Hamak Gold licences



Note: the licence outlines are approximated in this figure. See Figure 5 for the actual licence boundaries.

Prior to and in order to facilitate the site visits, Hamak Gold sought from the Director of the Liberian Geological Survey a "Letter of Introduction" presenting the company and its team of geologists to each of the regional Administrative Superintendents under whose jurisdiction the licence areas fall. Each letter refers to the relevant licence number and is accompanied by a map of the licence. An example of such an introductory letter is shown Figures 3.

Figure 3: Example Letter to Administrative Superintendent with map of licence

REPUBLIC OF LIBERIA
Ministry of Mines & Energy
P. O. Box 10-9024
1000 Monrovia 10
LIBERIA, WEST AFRICA

The Liberian Geological Survey
Sekor, Old Road
Monrovia, Liberia

RL/MME/LGS/22-3/21-006 March 22, 2020

Hon. William Lambe Kamba
Superintendent
Lofa County
Republic of Liberia

Dear Honorable Superintendent,

REF: INTRODUCTION OF HAMAK MINING COMPANY

We are pleased to introduce to your Honorable office a team of geologists of the HAMAK MINING COMPANY that is in your County to conduct mineral exploration activities within the company's licensed area.

The company holds an exploration license with License number MEL 7002118 through the Ministry of Mines & Energy which covers an area that is situated within Kolahun District, Lofa County. The main objective of the license is to allow the company search for primary minerals deposit they are licensed to explore.

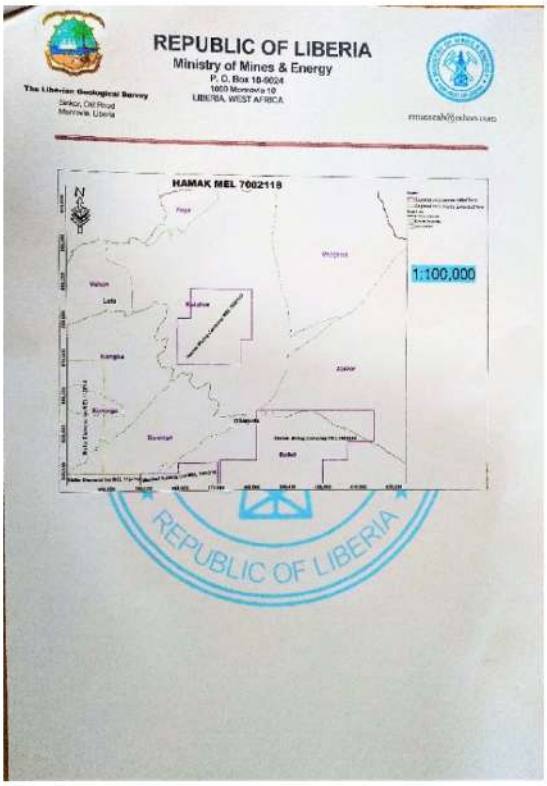
In view of this, the ministry asks that you afford the team all necessary assistance that will enable the company achieve their goal.

Honorable Superintendent, please accept the assurances of our highest esteem.

Yours sincerely,

Ernest M. Mannah
Director
Liberia Geological Survey

Cc: Min. Rexford C. Sarlue, Assistant Minister for Exploration, Hon. Emmanuel O. Sherman, Deputy Minister for Operation, Mines & Energy
Map attached:



1.7 Minerals and Mining Sector of Liberia

The mineral industry of Liberia, particularly iron ore, has played a significant role in the nation's economic development. While the country is endowed with an impressive range of mineral resource types, and has traditionally relied on mining as a major source of income, nearly 14 years of civil conflict (1989 – 2003) destroyed much of the country's productive infrastructure and brought mining to a virtual halt.

There are different categories of mining activity in the Liberian mining sector, including artisanal small-scale miners (ASM), medium sized domestic enterprises, large scale mining and exploration companies. A short description of the main minerals exploited follows below.

Iron ore:

Prior to the conflict and from the early 1950's, the iron ore mining sector was the mainstay of the Liberian economy contributing more than 60% of the country's export earnings and between 20% - 25% of its GDP, ranking Liberia as the then largest exporter of iron ore in Africa and the third largest in the world (Gunn, A.G. 2018). This sector employed more than 50,000 people or approximately 15% of the country's total workforce. Ore from the principal mines at Mount Nimba and the "Western Cluster" was exported via railways through the ports of Buchanan and Monrovia.

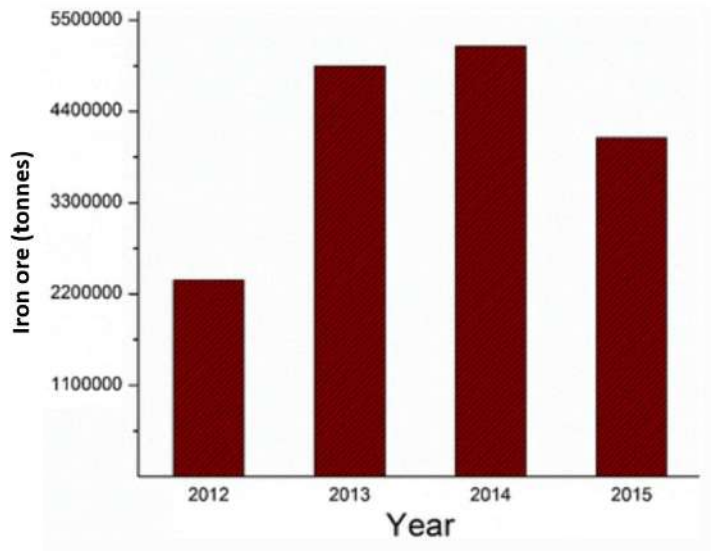
The iron ore deposits of Liberia are Archaean age iron formations of the Itabirite (Banded Iron Formation) type and are associated with metavolcano-sedimentary formations overlying and tightly infolded into the predominantly gneissic basement complex.

Following the cessation of civil unrest, coupled with the optimism in the mining sector resulting from rising commodity prices from around 2000 onwards, Liberia experienced a revival of interest in exploration and mining with most of the growth being in the iron ore sector, but also considerable interest in gold. A mining friendly Minerals and Mining Law and strong government support for the sector underpinned growth by leveraging the country's

rich natural resources to the extent of attracting major foreign investment mostly in the large iron ore project at Nimba where production resumed and increased sharply between 2011 and 2013. Investment in this sector included improved domestic infrastructure for ore handling, rehabilitation of old and installation of new mining plants, construction of railways, roads, and bridges.

Production levels were sustained in 2014 as exports rose to about US$ 561 M of which iron ore accounted for 70% of the total (with rubber answering for 17.5%). However, by 2015, revenue from exports had declined sharply due to the collapse of global iron ore prices while the country was simultaneously devastated by an outbreak of the Ebola Virus Disease (EVD) which seriously impacted on the Liberian economy as foreign investment declined significantly (LEITI Final Report, 2016; Ministry of Finance, 2013, Annual Economic Review), (Wilson, S.T.K., 2017). Table 3 records the tonnage peak of production in Liberia until the 2015 ore price slump and the Ebola crisis.

Table 3: Production of iron ore in Liberia (2012 - 2015)



With the gradual recovery in global iron ore prices since 2016, iron ore mining is once again playing a significant role in the economy, accounting for 42 percent of total export earnings in 2019. ArcelorMittal SA, which has invested heavily in the sector, has an estimated iron ore reserve of 417 Mt. within the world renown Mount Nimba range and exports to Europe and Asia. ArcelorMittal's multi-billion US dollar investment includes 243 kilometers of rail line connecting its Mount Gangra (60% FE) mine in Nimba County to the port of Buchanan, construction of roads, electrical plants, housing facilities for workers, and other critical physical infrastructure. Other less successful iron ore companies have included Russian owned Severstal which formerly operated the Putu Iron Ore Mine from 2015 and China-based China Union Investment (Liberia) which operated the Bong Mine (2014 – 2017) despite declaring a US$2.6 billion investment in the project.

Gold:

Liberia did not experience the gold exploration boom that took place in the neighbouring countries of West Africa over a decade ago, mostly due to political instability. Apart from the USGS geological and geophysical survey work (Section 1.5), the geology of the country is not well understood. There has been little systematic modern exploration carried out in comparison with other West African countries and hence Liberia is considered to be largely under-explored for gold.

The geological setting of Liberia, within the West African craton, is highly prospective for a variety of metallic mineral deposits. Much of the bedrock geology comprises Archaean to Paleoproterozoic gneisses hosting a number of greenstone belts similar to those with which most of the gold and iron ore deposits in West Africa are associated.

There has been a long history of artisanal gold mining in Liberia from alluvial placers with production peaking at more than 30,000 ounces (850 Kgs) per annum in the 1940s. Between 2008 and 2012 annual production was estimated to have been about 20,000 ounces per annum (BGS, 2015) while more recent production is detailed in Section 5.2.

Following the end of hostilities (2003) and the 2005 democratic election, up to the global financial crisis of 2008, a number of mostly public Junior explorers became engaged in gold exploration across the country including Mano River Resources Inc. (which became African Aura Resources and then Aureus Mining) and Hummingbird Resources Limited. Alongside these were privately owned companies such as Amlib United Minerals, Freedom Gold and Liberty International Mineral Corporation.

Over the last decade, the gold sector of Liberia has seen a number of these original companies undergo mergers and / or have been acquired while new players such as Turkish owned MNG Group have successfully emerged. Since 2013, some publicly traded companies such as Hummingbird Resources Limited and Aversoro Resources (formerly Aureus Mining) have invested heavily in exploration and evaluation of gold deposits including the delivery of resource statements and feasibility studies.

Operational and in production since 2015, Avesoro Resources Inc. continues to develop Liberia's first and largest commercial gold mine at **New Liberty** located within the Bea Mountain Mineral Development Agreement (MDA) property in Grand Cape Mount County. The New Liberty mine has a NI 43-101 compliant Proven and Probable Mineral Reserve estimate of 7.4 million tonnes grading 3.03 g/t for 717,000 contained ounces of gold and a NI 43-101 compliant Mineral Resource estimate comprised of 9.6 million tonnes grading 3.2 g/t for 985,000 ounces in the Measured and Indicated category and 6.4 million tonnes grading 3.0 g/t for 620,000 ounces in the Inferred category.
(Avesoro website: https://avesoro.com/operations/liberia/new-liberty-gold-mine/).

New Liberty is an open-pit mining operation with a processing plant consisting of a two stage crushing section, ore stockpiling, milling and gravity including a Carbon in Leach (CIL) plant with an annual throughput capacity of 1.1 million tonnes of ore. Underground feasibility studies are under consideration.

As well as Avesoro's 457 Km^2 MDA mining licence, the company holds five contiguous exploration licences of some 581 Km^2 which has been systematically explored since 2012. Along the structural corridor extending north-east of New Liberty (discussed in Section 6.1), hosting multiple greenstone belts and shear zones, are a number of major gold occurrences prominent of which are the Ndablama and Weaju deposits with a mineral resource of 2.8 Moz at 2.5 g/t Au and 178 Koz at 2.1 g/t Au respectively.
(Aversoro website: https://avesoro.com/operations/liberia/exploration/).

In March 2019, the legislature ratified a 25-year (2,355 Km^2) MDA for Hummingbird Resources, on their **Dugbe** Project with the option to extend by mutual consent and a framework for further exploration, mine development and production.

Hummingbird identified two significant deposits associated with Dugbe shear zone, namely the Dugbe F and Tuzon deposits and has established a 3.56 Moz resource at 1.5 g/t Au and is currently in joint venture with Pasofino Gold Limited who will fund and deliver a defined feasibility study and continue with exploration in order to earn in a 49% stake of the project (SRK Consulting, 2020).

Discovered originally by Amlib Holdings Plc, the **Kokoya** gold project (located in Toto Mountain Range of Bong County) has a 2013 declared resource of 410 Koz at 2.6 g/t Au. The property was acquired by MNG Group (a privately own Turkish gold exploration and mining company) in April 2014; an MDA / Class A mining licence being granted in 2015. The mine has been in production, under the direct management of MNG, since 2016 initially producing around 7,000 Oz / month at an average mined grade of 4.6 g/t Au (Avesoro, 2018). Open pit mining operations have come to an end and plans are in place to take the mining underground following authorisation having been granted by the Ministry of Mines and Energy in July 2020.

Diamonds:

Liberia is well positioned within the West African Craton and in an area of thickened lithosphere with a low geothermal heat flow and hence has a favourable tectonic environment to host economic kimberlites; a number of which (pipes and dykes) have already been discovered with some known to be diamondiferous. No primary deposits have been or are being commercially exploited to date.

Liberia has a long history of alluvial diamond production particularly in the central and western parts of the country and has produced some 14 million carats during the last 55 years with production peaking at about 600,000 carats per annum during the early part of the 1970s (Gunn, A.G. 2018). Diamond production was tarnished by its association with the prolonged civil conflict in the region. UN attempts to curb illicit diamond mining through the imposition of export sanctions depressed production between 2002 and 2007 however since then, and having become a compliant Kimberley Process participant, Liberia's diamond production rose to approximately 74,000 carats in 2015 (Central Bank of Liberia, 2016).

Due to the artisanal nature of alluvial diamond mining in Liberia, production figures are not guaranteed to represent the entire national production of diamonds. This is particularly the case with regards the current Weamah alluvial diamond "rush" in Central-western Liberia (Gbarpolu and Bong Counties) where a significant secondary deposit (with a high gem to non-gem quality component) is being exploited by artisanal miners and Class C licence holders. The pristine nature of the Weamah diamonds suggests a unique source, as yet undiscovered (Dorbor, S.B. 2018).

Liberia is amongst the least explored countries in the sub-region for diamonds and there has been very limited exploration work for kimberlites outside of the Weasua and Kumgbo-Camp Alpha mining districts.

Other metallic minerals:

There has been very little systematic modern exploration for resources of other metallic minerals in Liberia. Limited studies by the USGS, Liberian Geological Survey and industry, mostly undertaken in the 1960s and 1970s, identified a number of potentially significant occurrences of various metals and minerals including uranium, barite, bauxite, manganese, base metals, platinum-group metals (PGM) as well as technology metals such as niobium, tantalum, rare earth elements, lithium and beryllium (BGS, 2018).

2.0 RELIANCE ON OTHER EXPERTS

The technical background information in this Report has been mostly derived from the public domain namely published maps, scientific papers and the websites of exploration and mining companies either currently or formally active in West Africa and Liberia. There are a number of active gold mines (New Liberty, Kokoya) in production in Liberia as well as former gold exploration companies, such as Mano River Resources Inc, African Aura, Amlib, Aureus, Liberty International Mineral Corporation, and current organisations, such as Hummingbird Resources Limited and Pasafino Gold Limited, who have issued NI 43 101 standard technical reports over the past 15 years. These include renowned resource consultancies such as SRK Consulting, AMC Consultants (UK) Limited, & ACA Howe International Limited from which the author has sought source data.

The source data is believed to be reliable and reasonable care has been taken to ensure that this Report is accurate and factual. In this regard the Author has made all reasonable effort, including site visits to each of the seven Hamak Gold's MELs, to confirm the authenticity and completeness of the technical data and observations made upon which this Report is based.

Maps and documents (including copies) relating to the licences and their tenure, as described in this Report, have been supplied to the Author by Hamak Gold.

3.0 PROPERTY LOCATION, DESCRIPTION AND TITLE

3.1 Mineral Tenure

Under the Liberian Minerals and Mining law, revised in April 2000, which was later strengthened by the Public Procurement and Concessionary Commission Act (PPCCA) of 2006, and subject to Regulations of March 2010, all minerals are vested in the state of Liberia. The Ministry of Mines and Energy (MME), formerly the Ministry of Lands, Mines and Energy (MLME), is the Government Agency responsible for the administration of the mineral and mining sector of the country, including the granting of exploration & mining licences, and has statutory oversight of the energy sector.

A national Mineral Policy for Liberia was created in March 2010 to complement the 2000 Mining and Minerals Law which aims to deliver "equitable and optimal exploitation of Liberia's mineral resources to underpin broad-based sustainable growth and socio-economic development" (MME 2010). It provides a coordinated policy framework to facilitate the development of an internationally competitive mining sector and to promote regional and international trade. It also aims to improve the knowledge of Liberia's mineral endowment and to provide a stable and effective legal and regulatory framework to ensure transparency, security of tenure and to regulate and monitor exploration and mining activity. All the relevant legal & tenure documents may be found on the Ministry's well managed website: https://mme.gov.lr/laws-and-regulations/

Under the Minerals and Mining law, there are 6 classes of mineral titles as shown in Table 4.

Table 4: Key features of mineral title in Liberia

Mineral Title/ License Type	Maximum Area	Duration	Conditions and Restrictions	Other Key Aspects
Reconnaissance	2000 km²	6 months	No drilling, trenching or pitting.	One six month extension allowed.
Exploration	1000 km²	3 years	Land area contiguous. Exclusive rights. Programme of work approved by MLME.	One 2-year extension permitted, subject to surrender of 50% of original area.
Prospecting	100 acres (0.4 km²)	6 months	Commercial mining not allowed.	One six month extension allowed.
Class A Mining		25 years, renewable	Approved feasibility study and environmental impact study required.	Demonstrated technical competence and financial resources to undertake the work.
Class B Mining		5 years, renewable	Industrial mining allowed. Up to 15 license holders may work in cooperation.	
Class C Mining	25 acres (0.1 km²)	1 year, renewable	Citizens of Liberia only.	Cooperative mining activities allowed.

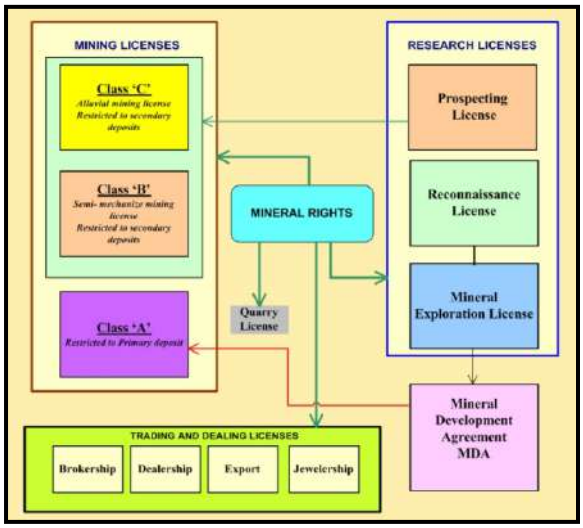
Exploration Licences:

Rights to carry out prospecting or exploration are divided into three types, namely Reconnaissance, Exploration and Prospecting. Relevant to this Report, is the exploration title which provides the holder with exclusive rights for three years. This "Initial Term" may be extended for a single two-year period (the "Extended Term") upon surrender of 50 per cent of the original licence area. Under the teams of Section 3 of the Regulations governing **Mineral Exploration Licences** (MEL), it states that "the Initial Term or the Extended Term of a licence may also be extended as provided in Section 7.4, 8.3 or 20.5, or pursuant to relief granted in a proceeding referred to in Section 18". In other words, if there is due cause on either the State's or the Licencee's part and appropriate justification is provided then an extension may be applied for and granted at the discretion of the Minister. Given the disruption caused by the global Covid-19 pandemic during 2020, such an extension was sought from and granted by the MME for one year for each of the Hamak Gold licences.

Mining Licences:

The mineral titles, linkages involved in acquiring mineral and mining licences is shown in Figure 4. There are three types of Mining Licence in Liberia, denoted Class A, B and C, according with the scale of mining being applied for.

Figure 4: Mining Licences and linkages



- **Class A** Mining Licences are for large scale operations and are issued for an initial period of 25 years based on an approved feasibility study (to international standards) and an approved Environmental Impact Assessment (EIA) study. An application for a Class A Mining Licence must also conclude a Mineral Development Agreement (MDA). The MDA sets out the basis to acquire a Class A mining licence and details the operational and fiscal terms for both exploration and mining and ensures that there is a smooth transition from the exploration / evaluation phase to the mining phase.
- A **Class B** Mining Licence is issued for an initial period of five years subject to an approved production plan for semi-mechanised mining. The terms of the licence, allows for up to 15 licence holders to collectively mine through a cooperative scheme.
- A **Class C** Mining Licence is granted for an initial period of one year over an area not exceeding 25 acres (or 100m by 100m area, i.e. 0.1 Km²). The licence holder is restricted to "small-scale" alluvial mining but can hold up to 4 claims and engage in cooperative mining activities.

3.2 Hamak Gold Properties and Location

In 2018, Hamak Mining Company, applied for and was granted 10 exclusive MELs strategically located across Liberia. Of these, seven MELs will be transferred into a newly created company named Hamak Gold Limited at the time of the IPO. The locations of the 10 MELs are shown in Figure 5. The seven MELs, listed in Table 5, are the subject of this Report. Although the MELs are also valid for lithium, base metals and diamonds only gold is reviewed in the Report.

The remaining three licences are held by third parties and are not the subject of this Report. The Kumgbo licence (for diamonds) is under consideration for a Joint Venture with Newfield Resources (ASX: NWF) while the Gbarpolu and Grand Bassa licences remain part of Hamak Mining Company.

Figure 5: Location map of Hamak Gold Mineral Exploration Licences

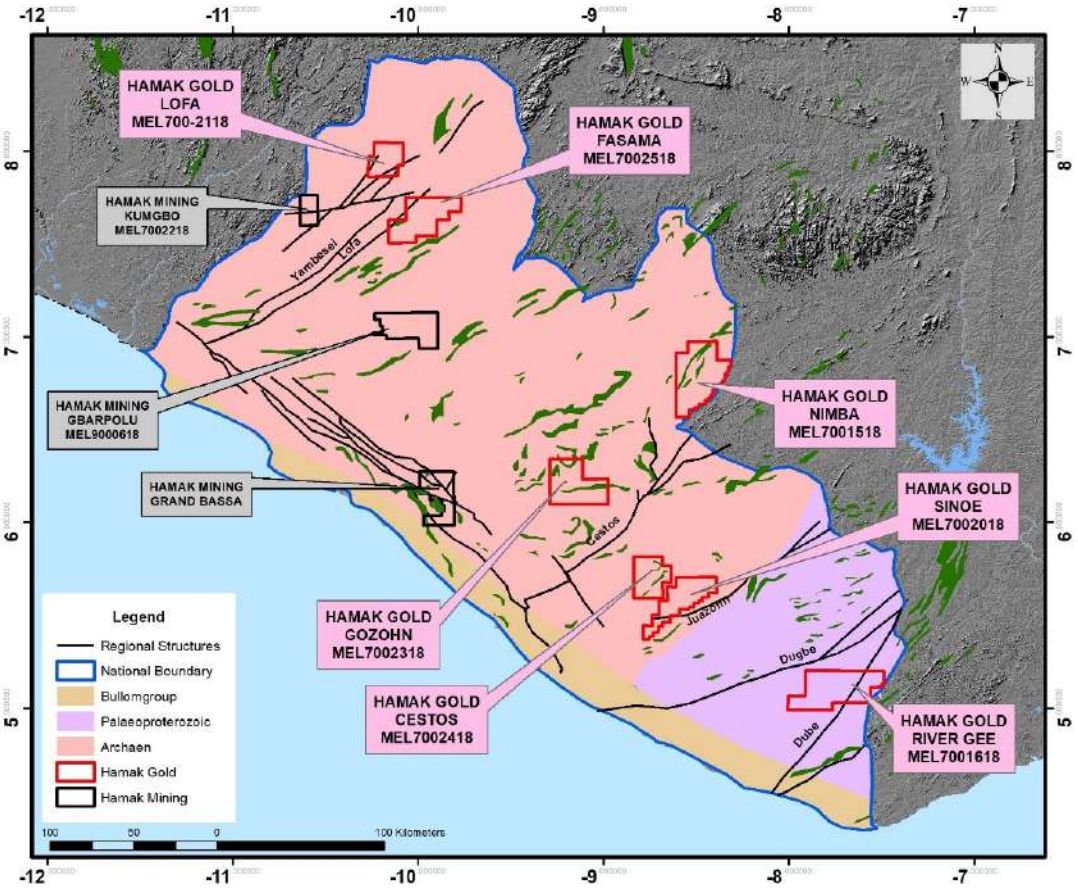


Table 5: Hamak Gold assets and mineral exploration tenure

Licence Name	Licence Holder	Licence Number	Mineral Type	Status	Licence Expiry Date	Area (Km²)
Lofa	Hamak Gold Ltd	MEL 7002118	Gold, Diamonds & Base metals	Exploration	24-Jun-22	367
Fasama	Hamak Gold Ltd	MEL 7002518	Gold & Base metals	Exploration	19-Aug-22	776
Nimba	Hamak Gold Ltd	MEL 7001518	Gold, Diamonds & Base metals	Exploration	02-May-22	986
Gozohn	Hamak Gold Ltd	MEL 7002318	Gold, Lithium & Base metals	Exploration	19-Aug-22	766
Cestos	Hamak Gold Ltd	MEL 7002418	Gold & Base metals	Exploration	19-Aug-22	482
Sinoe	Hamak Gold Ltd	MEL 7002018	Gold, Diamonds & Base metals	Exploration	24-Jun-22	615
River Gee	Hamak Gold Ltd	MEL 7001618	Gold, Lithium & Base metals	Exploration	02-May-22	973
						4,965

Due to the Covid-19 Pandemic and the associated global disruption during 2020, including the restrictions imposed by the crisis, Hamak Gold wrote to the Ministry of Mines and Energy in May 2021 seeking an additional year to be appended to the "Initial Term" for all the seven MELs. After due consideration this request for an additional year of exploration was granted by the Minister on 28 April 2021 and this approval has been verified by the Author of the Report.

Section 12 of the Regulations (Minerals and Mines Law of 2000) details the licence fees and surface rights / rental payments required from applicants and existing licence holders as well as the terms and conditions governing their payment. On application, a licence fee of US$ 5,000 per licence is payable regardless of the size of the licence. Thereafter an annual licence fee of US$ 5,000 is due for each year of the licence term. In addition, a licence holder must make a "Surface Rights" payment for the right to explore the licence area. This payment is calculated as being US$ 0.5 per hectare (linked to a GDP inflationary index). A summary of the mineral licence conditions is included in Table 6.

Table 6: Summary of mineral licence conditions in Liberia

Licence	Reconnaissance	Exploration	Mining
Application Fees	USD15,000	See notes	USD50,000
First Renewal Fee	USD15,000	USD5,000	Subject to agreement by negotiation
Second Renewal Fee	N/A	Negotiated with Minister and subject to fee to be determined	
Annual Maintenance Fee	USD0.50 / hectare (paid in advance)	USD0.50 / hectare (paid in advance)	
Minimum Expenditure	Agreed in work programme	Yr 1: USD3.75 / hectare Yr 2: USD7.50 / hectare Yr 3: USD11.25 / hectare Renewed term: USD11.25/hectare	
Min Size	N/A	N/A	
Max size	2,000 km²	1,000 km²	
Reporting requirements	Quarterly, Annual	Quarterly, Annual	
Initial term	6 months	3 years	
Renewals	1 x 6 months	1 x 2 years	
Area Relinquished Upon Renewal	0%	50%	
Notes	Application fee is USD0.50/hectare but this includes land rent. Four individual quarterly reports. In addition to quarterly reports, annual report is a requirement under the Mineral Exploration Regulations. Minimum expenditures are recalculated at the start of each year based on the base rates (presented above) plus the percentage change from "revised" GDP Implicit Price Deflator for the third quarter of 2008 to Q4 of the preceding year the base case figures presented and increasing them by the percentage change from USA 2008		

A schedule for the 2021-2022 licence fees and surface rent due for the Hamak Gold licences is presented in Table 7.

Table 7: Hamak Gold licence fee and surface rent payment schedule (2021-2022)

Licence name	Licence number	Expiry Date	Fee type	Area rate ($)	Area (Ha)	US$	Inflationary rate	Total Amount Due ($)
Lofa	MEL7002118	24th June '22	Surface Rent	0.5	36720	18,360	1.141764	20,962.8
			Licence Fee			5,000	1.141764	5,708.8
								26,671.6
River Gee	MEL7001618	2nd May '22	Surface Rent	0.5	97300	48,650	1.141764	55,546.8
			Licence Fee			5,000	1.141764	5,708.8
								61,255.6
Fasama	MEL7002518	19th Aug '22	Surface Rent	0.5	74440	37,220	1.141764	42,496.5
			Licence Fee			5,000	1.141764	5,708.8
								48,205.3
Sinoe	MEL7002018	24th June '22	Surface Rent	0.5	61510	30,755	1.141764	35,115.0
			Licence Fee			5,000	1.141764	5,708.8
								40,823.8
Cestos	MEL7002418	19th Aug '22	Surface Rent	0.5	48160	24,080	1.141764	27,493.7
			Licence Fee			5,000	1.141764	5,708.8
								33,202.5
Nimba	MEL7001518	2nd May '22	Surface Rent	0.5	98600	49,300	1.141764	56,289.0
			Licence Fee			5,000	1.141764	5,708.8
								61,997.8
Gozohn	MEL7002318	19th Aug '22	Surface Rent	0.5	76603	38,302	1.141764	43,731.3
			Licence Fee			5,000	1.141764	5,708.8
								49,440.1
								321,596.7

There are a number of other obligatory requirements relevant to licence holders as follows:

- The Regulations specify a minimum work programme expenditure, as defined in the "Adjusted Per Hectare Expenditure Requirement", is applicable to the "Initial Term" and "Extended Term" according to the following rates:

Initial Term first year per hectare base rate	$3.75
Initial Term second year per hectare base rate	$7.50
Initial Term third year per hectare base rate	$11.25
Extended Term per hectare base rate	$11.25

- A royalty of 3% is payable to the Liberian government on any gold exported under bulk sampling or trial mining programmes during the exploration period.

- With relevant motivation and documentation (including maps), the License may, from time to time, apply to add additional ground to its licence area (not exceeding 20% of the original area) with at least one border aligned with a border of the original licence area.

- The following application processing fees, pertaining to the Licensee, are payable:

1. US$ 5,000: Any application to add one or more additional areas.
2. US$ 2,500: Application to suspend exploration (under Section 8.3 of the regulations)
3. US$ 2,500: Application to amend an approved work program or budget
4. US$ 10,000: Application to undertake a bulk sample or pilot / trial mining exercise
5. US$ 2,500: Application of a Transfer or Change of Control

Additional obligations and / or conditions which apply to the licence holder include:

- The Ministry may, from time to time, second up to two geologists or mining engineers from the Ministry to a Licensee's operations after consultation with the Licensee as to the identity, skills of, stipend / remuneration, and the work to be performed by the secondees. There is a requirement to employ and train Liberian nationals where possible however, in practice, there will likely be a need to employ a limited number of expatriate (West African) geologists to head the exploration effort.

- The holder of a MEL may transfer its rights to a third party, subject to the approval of the Minister. As mentioned above, seven of the Hamak Mining Company MELs were transferred into the name of Hamak Gold Limited in June 2021.

- The holder of a MEL has the exclusive right to apply for a Mineral Development Agreement is respect of the specified mineral and are granted subject to normal environmental and planning constraints.

3.3 Environmental and Social Considerations

The principal agency for the management of the environment in Liberia is the Environmental Protection Agency (EPA). The EPA was established under an Act of Legislature approved on November 26, 2002 and promulgated on April 30, 2003. However, the Agency did not become fully operational until 2005 / 2006. The Environmental Protection Agency Act of Liberia mandates the EPA to coordinate, monitor, and supervise all activities in the field of the environment and for implementing the government's policy on the environment under the Environment Protection and Management Law of Liberia which contains rules, regulations and procedures for environmental impact assessment, auditing and monitoring.

The Law provides the tools for environmental management; a framework for the effective enforcement of environmental standards; sector-specific regulations, and an integration of concepts of international environmental laws into national environmental protection and development frameworks.

With the passing of the Environment Protection & Management Law, the EPA has the following four main functions in relation to environmental assessment of proposed projects:

- Take steps necessary to effectively manage the natural environment to ensure conservation, protection and sustainable use of its natural resources;
- Promote public participation in the process of integrating environmental concerns in planning for development on a sustainable basis;
- Ensure that any development activity which may cause an adverse effect on the natural environment be assessed, and that adverse effects are taken into account when deciding whether or not to authorise the activity; and
- Provide development consent which entitles the developer to proceed with the project.

Furthermore, the Mineral and Mining Law of 2000 states that minerals on the surface and under the surface or in the soil or subsoils, rivers, streams, watercourses, territorial waters, and continental shelf are the property of Liberia. Chapter 8: Environmental Protection, of this law deals with environmental protection and management.

In addition, under the Mineral and Mining Law Regulations, Section 9 (Social obligations of a licence holder), a licensee is required to adhere to a number of specific social obligations as detailed below.

3.3.1 Environmental Requirements

In compliance to the Mineral Exploration Regulations and the Environmental Protection and Management Law, all exploration licence holders are required to submit the necessary application and **Environmental Project Brief** for its project activities to the Environmental Protection Agency (EPA) prior to commencing activities on the ground. Once approved the EPA will issue an environmental permit which is valid for two years. The conditions of the environmental permit are as follows:

5.0 CONDITIONS OF PERMIT:

a) This permit is restricted only to Exploration and associated activities;
b) This permit does not cover Protected Forest Areas including Forest Reserves, National Parks, Wildlife Reserves or natural Heritage Areas.
c) Considering the presence of some biodiversity species in the project area, the Company shall submit its drilling Plan upon completion of the soil sampling and pitting phases;
d) Company shall be responsible to conduct concurrent reclamation of all degraded areas as a result of her operations;
e) Company shall be responsible to obtain permits for the importation of any chemical used in the process of exploration;

Sections 11.0 and 16.0 of the issued environmental permit requires that the licensee monitors their operations and prepares and submits three **quarterly environmental monitoring reports** and one environmental **audit report** annually for the duration of the license.

Under Section 10.1. Environmental Protection, of the Minerals and Mining Law Regulations, "the licensee must use time preventative or corrective measures to ensure that all streams and water bodies within or bordering Liberia, all dry land surface, and the atmosphere, are protected from pollution, contamination or damage resulting from exploration operations pursuant to its licence, and shall construct its access roads and other facilities so as to limit the scope for erosion and felling of mature trees." The section goes on to state that "if the exploration operations of a licensee violate any requirement referred to in this Section or otherwise damages the environment, the Licensee must proceed diligently to mitigate and / or restore the environment as much as possible to its original and natural state and to take preventative measures to avoid further damage…"

Under Section 10.2. Environmental Protection, of the Minerals and Mining Law Regulations, the licensee must deliver to the Minister and the EPA, an **environmental audit and assessment of** the licence area (inclusive of amounts expended on restoration and remediation), supervised and signed off by an environmental consultant.

With an application for a Mining Licence (Class A or B) or for an MDA, the EPA makes mandatory to file an **Environmental Impact Assessment** (EIA) accompanied by an Environmental Impact Statement (EIS) to obtain government approval prior to initiating mining activities. An EIA declaration format has been specifically designed for mining activities; these having a significantly higher impact upon the environment than during the exploration phase.

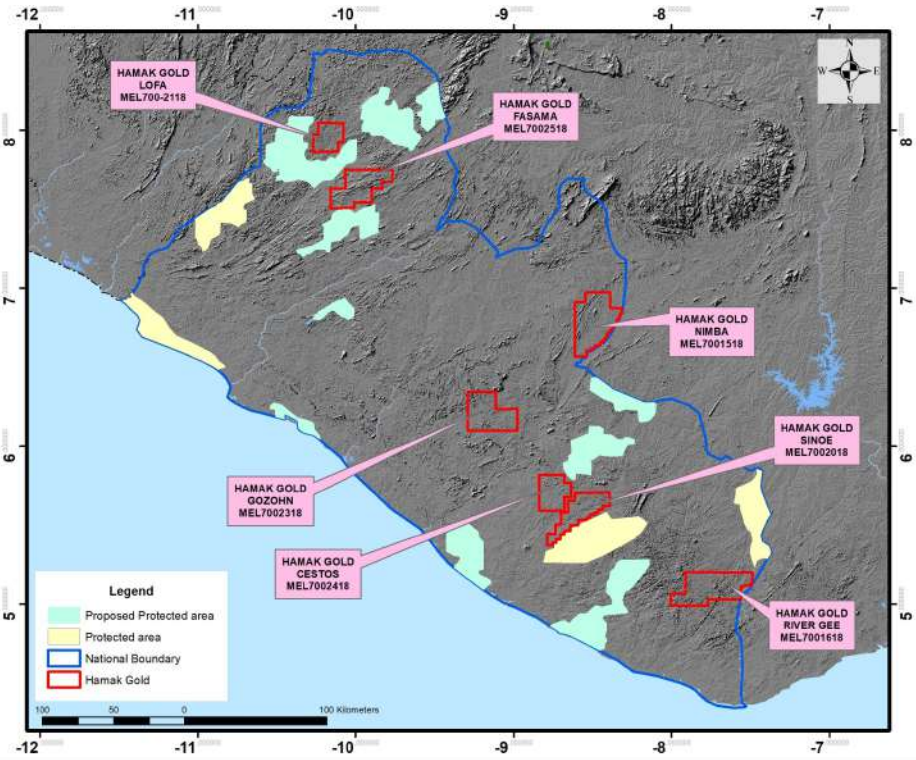
On 5th May 2021, Hamak Gold commenced the process for the application of environmental permits for the seven MELs. In keeping with the standards and regulations of the EPA, Hamak Gold has committed to undertake the requirements of an Environmental and Social Impact Assessment (ESIA) through the preparation of an Environmental Project Brief (EPB) for each of the licences. Approved and certified independent environmental consultancy, Earth

Environmental Consultancy Inc, has been engaged by Hamak Gold to prepare the relevant EPB's for each licence.

3.3.2 Protected Areas

The protected area network of Liberia has grown considerably since its start in 1983 with creation of the Sapo National Park, while the number of proposed areas has been growing steadily. Liberia has four areas protected and 11 others proposed (Figure 6).

Figure 6: National Park and Protected Areas of Liberia



The use of wildlife corridors in Liberia has been proposed as a means of expanding the Protected Area Network of the country. To this effect, two new forested regions were recently protected in Liberia, the Gola National Forest in the west (bordering Sierra Leone) and the Grebo-Krahn National Forest in the east (bordering Côte d'Ivoire). These are close to other protected areas, in neighbouring countries, and hence promote regionally coordinated conservation. However, the increasing price of precious metals, such as gold, has launched mineral "rushes" in Liberia attracting people engaged in artisanal mining activities into previously untouched places, including within protected areas. The protected areas of Liberia cover in total an area of 4,548 Km², which represents some 4.1 % of the country's surface area.

In Liberia, National Park legislation forbids any economic activity from taking place, and as such includes any mining activity, within a National Park boundary. The MME has not issued licences for mining within national parks however it maintains that it is legally permitted to award mining licences the boundaries of which may overlap with national forests and proposed protected areas; which is something of a contention.

Currently none of the Hamak Gold MELs fall within protected areas however the Sinoe MEL eastern boundary borders the western part of the Sapo National Park. There is no overlap with the Lofa and Fasama licences with the proposed Wologozi and Foya protected areas.

3.3.3 Artisanal and Small-Scale Mining (ASM)

The artisanal and small-scale mining (ASM) sector for gold and diamonds in Liberia is estimated to involve as many as 100,000 artisanal miners. Gold mining, itself, in Liberia is reported to have begun at the turn of the 19th Century with the first significant "rush" taking place in 1943 in Grand Cape Mount County. Comprising mostly Liberian nationals, the miners are attracted to ASM as a primary source of livelihood, because agricultural production often does not serve to be a viable income-generating activity. Agriculture declined significantly during the civil war period because of a lack of input, capacity and technical knowhow in the farming sector quite apart from the disruptive nature of the civil war related hostilities and the displacement of the mostly rural population (Artisanal mining in critical ecosystems, World Bank and Small, S., 2012).

Artisanal and small-scale mining is regulated and administered by the MME through the 2000 Minerals and Mining Law. Other government bodies that are relevant with regards ASM include the EPA, the Land Commission, the Public Procurement and Concessions Commission and the Forest Development Authority (FDA). While the MME focuses much of its attention on promoting the mining sector and the establishment of large scale mines, ASM is seen as an impediment to progress in this sector. A resultant consequence is that the regulatory framework around ASM is a significantly lower priority and ASM provisions in the mining code are unsupportive of its intentions, making it extremely difficult and expensive for an artisanal miner to be legal. In order to be legal, artisanal miners and diggers, are required to pay for a yearly mining licence, i.e. the Class C licence. Each Class C miner may apply for up to four licences covering a maximum area of 100 acres. The Class C licence is obtained for an official fee of US$ 350 which includes a US$ 50 Clearance fee, a US$ 150 demarcation fee and US$ 150 actual licence fee however there are other related costs, e.g. surveyor and transport, making the attainment of such a licence exorbitant for many.

Although attempts have been made to reform the policies and regulations relating to ASM, the MME lacks the financial and human resources to effectively monitor ASM sites, including those which surround protected areas, despite having mining inspectors, agents and superintendents at the county level. Problems caused by overlapping mandates between government bodies are further consolidated by poor interdepartmental co-ordination and communication. In recognition of this, in October 2020, the MME announced that in collaboration and consultation with the UNDP and relevant government ministries, agencies and commissions, a five-year programme would be implemented to intervene in the environmental and human rights issues associated with the artisanal sector (MME, 2020).

Artisanal gold miners, illegal or those holding Class C licences, are active to varying degree on al of Hamak Gold's MELs. Not surprisingly in a tropical climate with a pronounced wet season, ASM varies in intensity during the year with a crescendo of digging activity occurring between February to May, i.e. during and at the tail end of the dry season.

A detailed review of ASM activity and the presence of Class C licences within each of the Hamak Gold MELs is discussed under Section 8 of this Report.

3.3.4 Social Obligations

Under Section 9: *Social obligations of a licence holder*, of the Regulations, there are a number of specific issues the Minerals and Mining Law focuses upon as follows:

Employment and training

It is a requirement that the licence holder provides for, on an ongoing basis, the training of Liberian employees in order to quality them for skilled, technical, administrative and managerial positions. In addition, the company must employ and give preference to the employment of qualified Liberian citizens for skilled positions as and when such persons and positions become available.

Liberian Goods and Services

The Licensee is encouraged to give preference, as far as it is possible and practical, to purchase materials and goods produced in Liberia, and to services or Liberian service providers.

Local community enhancement obligations

The licensee must encourage economic and social development in or adjacent to its licence areas during the terms of its licence and must provide for meetings on a regular basis between representatives of the company and of local communities and civic leaders affected by its exploration operations in order to maintain cordial relations and minimise any adverse impact upon local communities.

Furthermore, there is a stipulation (under Section 9.3 (b)) that the licence holder must expend each year an amount equal to at least 2% of its approved budget on the construction, maintenance or rehabilitation of schools or clinics within its licence area or within other local communities affected by the company's exploration programme.

4.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

4.1 Accessibility

By air

The Republic of Liberia lies on the West African coast and is centered on latitude 6° 30` North, longitude 9° 30` West (~UTM 450000E / 740000N) and is some 700 Km north of the equator and bordered by Sierra Leone, Guinea and Côte d'Ivoire (Figure 7). It has an area of 96,320 km^2, made up of an extensive coastal plain which rises inland to a rolling plateau with low mountains in the northeast, the highest point being Mount Wuteve at 1,380 m.

Figure 7: Location map of Liberia, including Counties

Liberia has an international airport (Roberts International) located ~ 50 Km from Monrovia with direct flights from Europe, namely Brussels Airlines and Air France operating 6 flights / week. The airport is also served by a number of regional flights including ASKY Airlines, Africa World Airlines, Royal Air Maroc and Air Côte d'Ivoire. There are no direct flights from the United States and there are no commercial scheduled air services within Liberia. A new US$ 80M two-story terminal building was conceived in 2015 and was fully operational in September 2019. There is a small airport within the city suburbs of Monrovia (5 Km from the city centre) known as Spriggs Payne airport with a 1,850 m runway suitable for small props and small jet aircraft which was refurbished in 2011.

By road

Although many of Liberia's highways and tarred roads suffered neglect and damage during the civil unrest, some rebuilding and rehabilitation of the main roads has been carried out since 2003 however travel throughout the country principally remains by way of gravel or dirt roads. All of Hamak's licences can be reached by some form of road, however road access within the licences is of variable quality and usually dependent upon whether logging companies are active within the region as these organisations help to maintain the road network. In the more remote parts of the licences, e.g. Lofa, Fassama, Cestos, access is only possible by motorbike or on foot.

4.2 Climate and Operating Season

The climate is tropical and humid, with little change in temperature throughout the year. The mean is 27° C (81° F), with temperatures rarely exceeding 36° C or falling below 20° C. There is a rainy season from late April to mid November with some rain in the other months. Yearly rainfall can be as high as 510 cm on the coast decreasing to about 200 cm in areas farthest

inland. The dry season runs from December to February during which the rains are rare in the center and north, with abundant sunshine, although some showers are still possible. Average relative humidity in the coastal area is about 82% during the rainy season and 78% in the dry season, but it may drop to 50% or lower between December and March when the dust-laden *Harmattan* blows south from the Sahara.

Fieldwork can be carried out all year around, however there are practical considerations. Access to remote areas during the rainy season can be challenging or impossible due to the poor condition of roads and tracks or the state of the locally constructed wooden bridges which require regular rehabilitation or reconstruction. Exploration companies active in Liberia, such as Hummingbird, have demonstrated that drilling or soil sampling can take place throughout the year while stream sampling and trenching is best undertaken during the dry months, i.e. between November and May / June.

4.3 Infrastructure and Local Resources

The road network of Liberia comprises some 10,600 Km of which only 657 Km is paved with the remainder being gravel and dirt roads as discussed in Sections 1.6 and 4.1. Recent road rehabilitation efforts have focused on the main routes between the cities and main mining areas, e.g. Nimba.

Mobile cellular phone coverage is available in and close to the larger villages and towns throughout the country and is becoming ever more widespread. In the more remote parts of the Hamak Gold licences, satellite phone usage and internet access are necessary for effective communication.

The national electricity grid ceased to function during the Civil war and has not been restored. Electricity is available in Monrovia and the larger cities by means of state or private generators, while power within the licences areas and field camps will be by company generators.

Basic field exploration and logistics service providers and local contractor or consultancy companies exist and are available, usually from Monrovia, however Hamak Gold will be establishing its own organisational structure including field-based teams with, initially, appropriate experienced Expatriate management and supervision. As discussed under Section 3.2.1., the MME will second Liberian geologists to the company while others will need to be recruited. Liberian geologists with gold exploration experience are present in country (having been trained by former companies) but are in short supply and not readily available.

Other local exploration services formally included a sample preparation laboratory in Monrovia run by Alex Stewart Limited which prepared rock pulps and sieved soil and stream sediment samples however this facility is no longer functioning. Since 2010, there is a Liberian company, Liberia Geochemical Services Inc., affiliated with the Mining Engineering Department of the University of Liberia, which offers quality geological ore sample preparation services to the industry. The facility was manned by the Department which is a center for training and research to grow professionals for the mining and allied industries in Liberia. The unit was upgraded to a commercial status and incorporated as an independent body to provide quality geological ore sample preparation services in 2019. The facility has a capacity to process up to 600 geochemical samples per day and includes clients such as Hummingbird, SRK Exploration Services Limited and Solway Mining (Liberia) Inc. A list of the sample preparation equipment at the facility is present in Table 8.

Table 8: Sample preparation equipment at Liberia Geochemical Services Inc.

Equipment Name	Qty/pcs	Use
TM Laboratory Jaw Crusher	2	Crushing rocks and heavy clay samples to manageable particle size
LM2 Milling Machine	3	Milling crushed rock and clay samples into fine powder
Riffle Splitter	1	Splits large samples into manageable portions with good homogeneity
Donaldson Dust Collector	1	Collection of particulate material during crushing and milling of samples.
Heavy Duty Air Compressor	1	Generates dry air for cleaning crushing and milling equipment
Electric Drying Oven	1	Drying of rock and heavy clays
Diesel Power Generator 120kva	1	Provides electrical power for running laboratory equipment
Work Stations	4	Staff work area for sample preparation
Sample Layout Benches	4	Benches for sorting samples in numerical order
Sample Drying Trolley	15	Carriers for drying samples in oven
Sample Drying Trays	800	Sample pans for drying
Weighing Balance	2	Capturing of sample weight before and after drying
HP Desktop Computer	2	Data processing and storage

For fire assay services, there are currently no laboratory service companies present in Liberia and as a results samples need to be sent for analysis outside the country, for instance OMAC Laboratories in Ireland (which is part of the Alex Stewart Group).

A number of drilling contractors, including Boart Longyear, provide diamond and reverse circulation drilling services in West Africa and would have to be mobilised to Liberia when required. Track mounted rigs would be more practical given the remoteness of some of the licences and likely inaccessibility of some of the drilling targets.

For a newly established local company engaged in grass roots exploration, most hardware items and equipment for sampling and setting up base camps can be purchased from the myriad of shops and warehouses located in Monrovia. Four-wheel drive vehicles are available for purchase or rental. Hamak Gold will operate from a small office (with accommodation) in a suburb of Monrovia while field exploration camps, comprising tents or building constructed out of locally available materials, will be established where sampling work is being focused. Communication at the larger camps will be maintained using VSAT broadband satellite equipment.

4.4 Physiography

Liberia comprises three distinct topographic belts lying parallel to the coast. The low laying coastal belt is between about 15 and 80 Km wide, with tidal creeks, shallow lagoons, sandy beaches and mangrove swamps. The land, coming away from the coast, then rises to rolling hills with elevation of 60 to 150 m. The third belt, comprising the bulk of the country, is marked by abrupt changes of elevation in a series of low mountains and plateaus which are less densely forested than the hilly regions. These mountainous regions include the Nimba (near the Guinea frontier) and Wologisi ranges.

Six principal rivers of Liberia, namely the Mano, Lofa, St Paul, St John, Cestos and Cavalla, all flow southwest into the Atlantic Ocean.

All of Liberia was formerly vegetated by tropical rain forest but many parts, especially in the west, have now been deforested due to agriculture, rubber plantations, logging and for fuel (for local communities) with significant areas now covered by secondary growth. This is evident within the Fasama licence and less so in Lofa. Primary forest covered most of the eastern part of the country as evidenced in Cestos, Sinoe and River Gee licences, with secondary growth mostly restricted to populated areas.

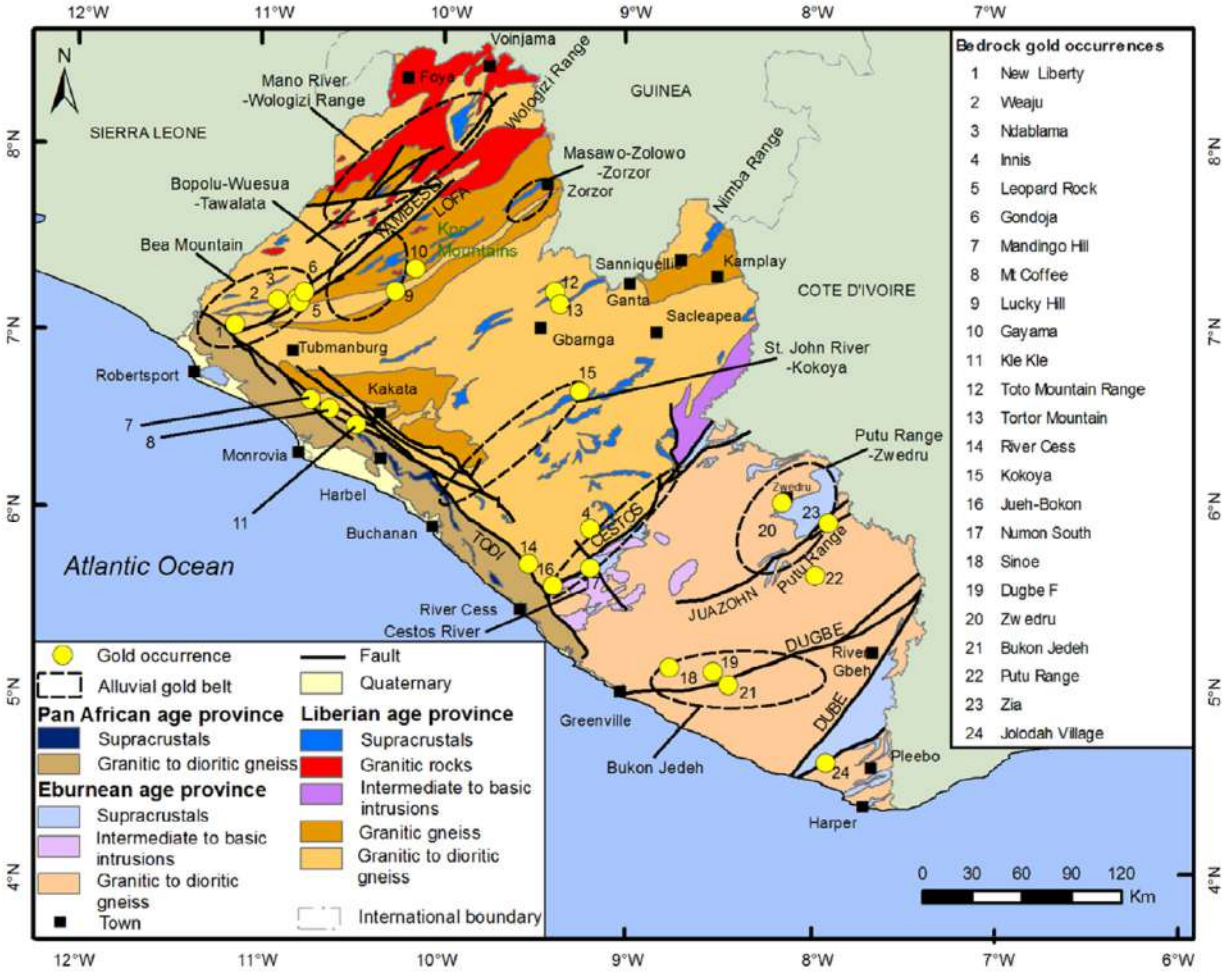
5.0 HISTORY

5.1 Previous Exploration

USGS and BGS

As mentioned in Section 1.5, a large-scale US AID funded programme was carried out by the USGS in collaboration with the Liberian Geological Survey between 1965 and 1972. The main outputs from this work were systematic files of basic geological information together with airborne magnetic, radiometric and gravity maps and accompanying descriptive geological reports. In 2007, this data was compiled into a digital format resulting in a substantial geological, geophysical, and mineral occurrence database which was made available in the public domain through the USGS website. Through this work, a regional distribution of some 600 gold occurrences across the country was revealed. As a result of more recent mineral reviews of Liberia (Gunn, A.G. 2018), the location of bedrock gold occurrences has been better defined. The regional distribution of 24 of the best known bedrock sources for gold are located in Figure 8.

Figure 8: Simplified geology of Liberia showing the principal gold occurrences



It should be remembered that the 600 USGS derived gold occurrence locations reflect the extent of regional artisanal mining over four decades ago whereas the “alluvial gold belts”, shown in Figure 8, have been more recently defined the British Geological Survey (**BGS**), (BGS, 2018) in collaboration with the Liberian Geological Survey. ASM for gold, being a transitory occupation, continued during the Civil war and is still very much active throughout Liberia today however some of their locations remain poorly known and / or recorded.

MME & Class C mining licences:
A minority of artisanal miners hold small scale "Class C" mining licenses as referred to in Section 3.1 and 3.3.3. In 2016, the MME developed a roadmap to regulate artisanal and small-scale miners and to encourage them to organise into cooperatives which could improve working conditions and, potentially, attract foreign investments, however implementation of the roadmap is still pending. Some of the most lucrative *mines* are located in remote and inaccessible areas often in forest regions. Unfortunately, the MME lacks the necessary resources or capacity to monitor these mining activities however a database for the issuing of these "Class C" licences exists and is administered through the Bureau of Mines. Prior to Hamak Gold conducting the site visits (Section 1.6), time was spent with the Bureau of Mines collating a database on the Class C licences registered within or adjacent to the seven MELs held by Hamak Gold. Many of the Class C licence boundaries did not have accurate GPS derived coordinates and hence the location of these claims is approximate at best.

Part of Section 8 is dedicated to describing ASM and Class C mining activity as observed to be present within each of the Hamak Gold MELs.

Exploration conducted by foreign investors:
In 2005, it was reported that approximately 23 international and local mineral exploration companies had either mining, reconnaissance or mineral exploration agreements in Liberia. In 2007, Liberty International listed 19 companies which were then operating in Liberia as shown below (Whiteaker, R.J., 2007):

- Africa Aura Resources – 8 blocks
- AMA – 3.5 blocks
- Amlib United Minerals – 22 blocks
- Bea Mountain Mining Corporation – 10 blocks
- Broadway Mining – 30.5 blocks
- Diamond Fields International – 33 blocks
- Diamond Mineral Trading and Investment Company – 6.5 blocks
- Ducor Minerals – 19 blocks
- Earthservices – 1 block
- Freedom Gold – 9 blocks
- Hope National Investment Corporation – 9.5 blocks
- Intervest – 3 blocks
- Kpo Resources – 2 blocks
- Precious Minerals Mining Company – 5 blocks
- Sino King International Holdings – 12 blocks
- Yamereco – 1 block
- Africa West Minerals—6 blocks
- MaxTech Ventures—unknown number of holdings
- Fundy Minerals—unknown number of holdings

Due to lapses in the filing of quarterly and annual reports with the MME on field activity (and the results thereof) by most of these companies, it has proven difficult for the Author to acquire detailed information about former exploration activity however some information is available in the public domain from websites or technical reports.

A partially successful attempt has been made by the Author to research former exploration activities on or near the Hamak Gold licences and the findings of this investigation, where such information was obtained, is presented for each licence described under Section 8.

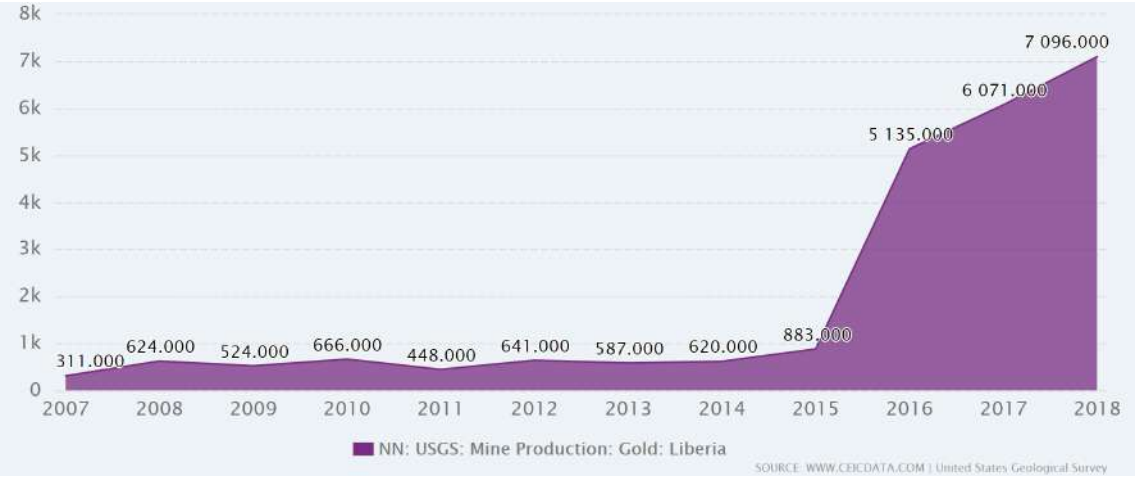
Due to a lack of funding, poor investment market conditions and the recent Covid-19 Pandemic, Hamak Gold has been unable to conduct any meaningful exploration within its licences.

5.2 Historical Production

In 2015, New Liberty mine poured its first gold from open cast production. Prior to that gold production was modest averaging around 21,000 oz / annum. According to the USGS, Liberian gold production was reported at 250,304 oz (7,096 kg) in December 2018 which reflects an increase from 214,148 oz (6,071 kg) from the previous year (Table 9). This record high production decreased to 157,640 kg in 2019.

https://www.ceicdata.com/en/indicator/liberia/gold-production
https://www.trade.gov/country-commercial-guides/liberia-mining-and-minerals

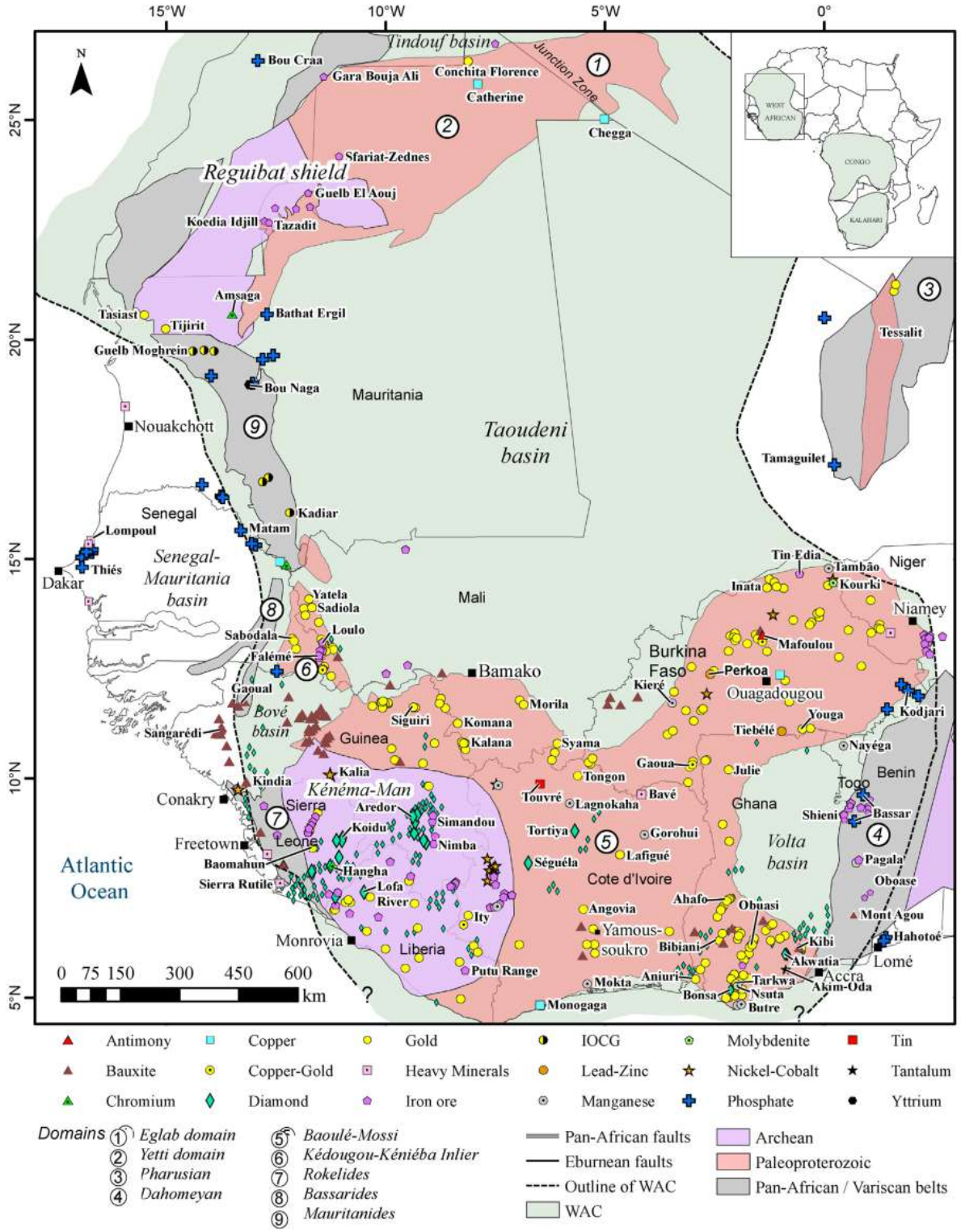
Table 9: Liberian gold production (2007 – 2018) in kgs



6 GEOLOGICAL SETTING AND MINERALISATION

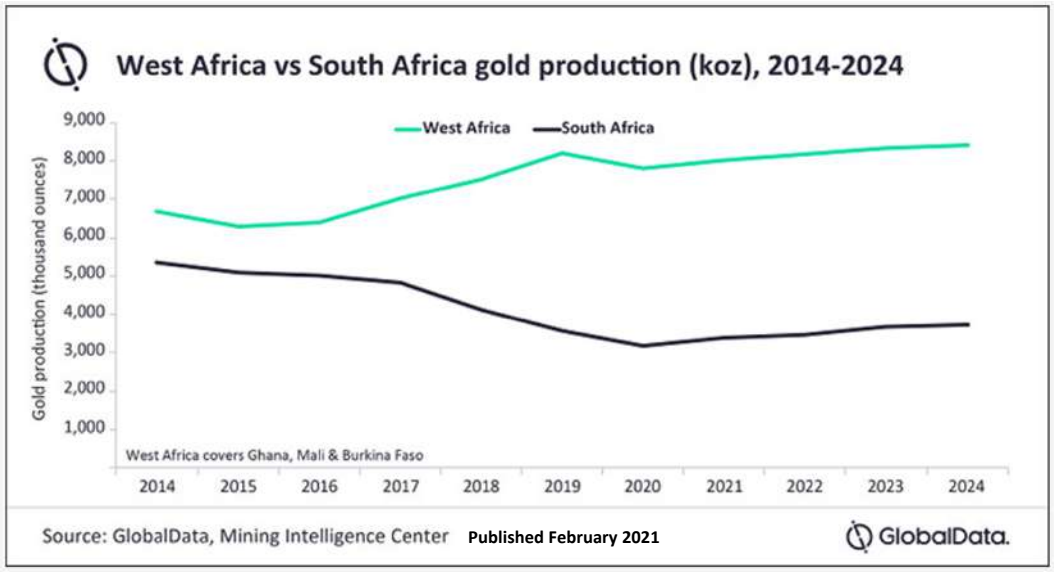
Over the last two decades West Africa has become a focus for mineral exploration and exploitation with regards world-class resources of gold, iron ore, diamonds, bauxite, phosphate, uranium and other commodities being declared. The majority of these deposits are situated in the vast West African craton, the largest on the African continent, or are situated in the intra-cratonic and coastal basins (Markwitz, V., Hein, K.A.A., Miller, J., 2016). Gold exploration activities have mostly been limited to greenstone belts and over the last 30 years the number of gold discoveries has exceeded all other commodity types by volume. Economic gold deposits have been discovered, delineated and developed in Mali, Mauritania, Senegal, Burkina Faso, Ghana, Guinea, Cote d`Ivoire and Liberia (Figure 9). Almost all the lode gold endowment of West Africa is present in deposits that are best classified as orogenic and are of the same magnitude as the giant Late Archaean gold provinces of the Yilgarn craton and the Superior Province (Australia and Canada respectively). Compared to these orogenic gold deposits, placer or paleo-placer deposits are not widespread or common in West Africa, although they do contain a very significant gold resource.

Figure 9: West African craton highlighting the distribution of known mineral deposits



The gold endowment of West Africa stands out as exceptional, with combined past production and resources of close to 10,000 metric tonnes (t) Au. Since 2015, gold production in West Africa has been steadily on the rise until 2020 when production was (temporarily) hit by the Covid 19 pandemic. Table 10 shows the current and predicted gold production for West Africa. West African production is set to steadily rise and continue to outstrip South Africa's gold production over the next 3 – 4 years (Matthis, S. 2021).

Table 10: West Africa versus South Africa gold production, 2014 - 2024

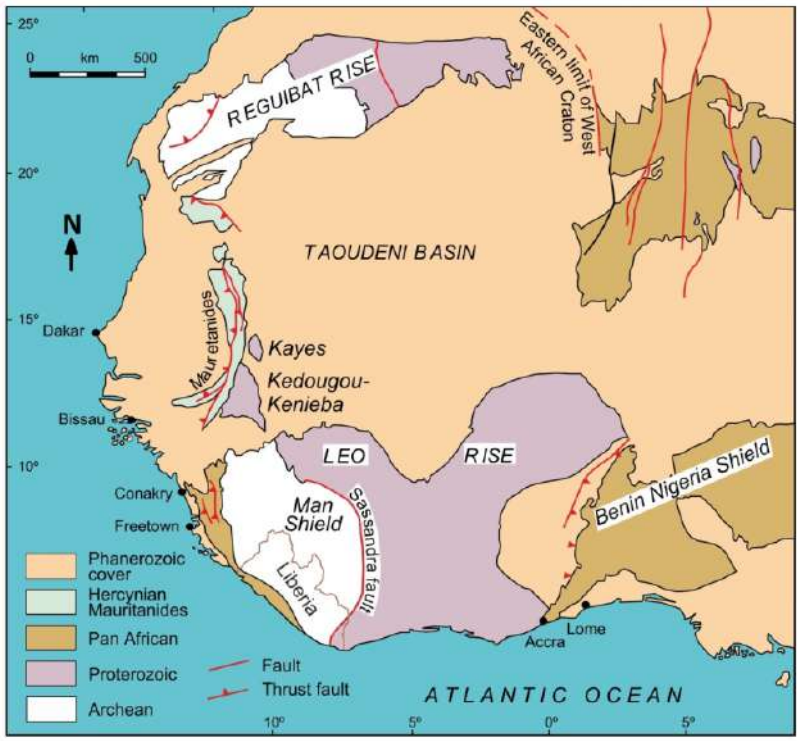


A total of 12 gold projects are currently under development across Ghana, Burkina Faso and Mali which are expected to be operational by 2024, by which time West Africa's gold production is expected to increase by 2.7% in 2021 to 8 Moz and grow to 8.4 Moz by 2024.

6.1 Regional Geology – West Africa

The West African craton is composed of Precambrian basement rocks of the Archaean and Paleoproterozoic that extend over an area of approximately 4.5 million km². These rocks resulted from a process of progressive accretion of a series of younger orogenic belts onto the oldest crustal core of early Archaean age. There are two Archaean domains; the Reguibat Shield (or Rise) to the north and the Man-Leo (also Leo-Rise) Shield in the south (Goldfrab, R.J., 2017) as shown in Figure 10. The two shields are separated by the Taoudeni basin of Proterozoic to Paleozoic age.

Figure 10: West African craton and regional geological setting *(after Milesi et. al. 1992)*



In both shields, the western portion consists of Archaean rocks that are separated from the Paleoproterozoic rocks in the east by major faults and shear zones, for example the Sassandra fault, while the western boundaries are defined by major regional thrust systems of Pan-African age. The two Shields have similar ages of crustal formation and tectonic overprint and were affected by at least three major tectono-thermal events as follows:

Leonean Orogeny (3.5-3.0 Ga)

Liberian Orogeny (2.9-2.8 Ga)

Eburnean Orogeny (2.13-1.98 Ga)

The huge gold resource of the West African craton is mostly hosted by the Paleoproterozoic lithologies of the Man-Leo shield (sometimes referred to as the Baoulé-Mossi domain). The greenstone belts (of between 2.25 and 2.0 Ga), belonging to the Birimian Supergroup, host the most important gold deposits and are best recognized in southwest Ghana, northeast Guinea and along the Senegal / Mali border. Other less well-defined gold districts in Paleoproterozoic rocks are scattered throughout belts in the Ivory Coast, in the northwestern corner of Niger, and in south-east Liberia.

The Archaean part of the Man-Leo shield (also referred to as the Kénéma-Man domain) is less well exposed than the Paleoproterozoic and lacks a comparable high density of gold occurrences and is separated from the Baoulé-Mossi domain by the regional Sassandra fault system (also the Cestos shear zone in Liberia) along its eastern edge (Figure 10).

Figure 11: West African craton with the distribution of gold deposits

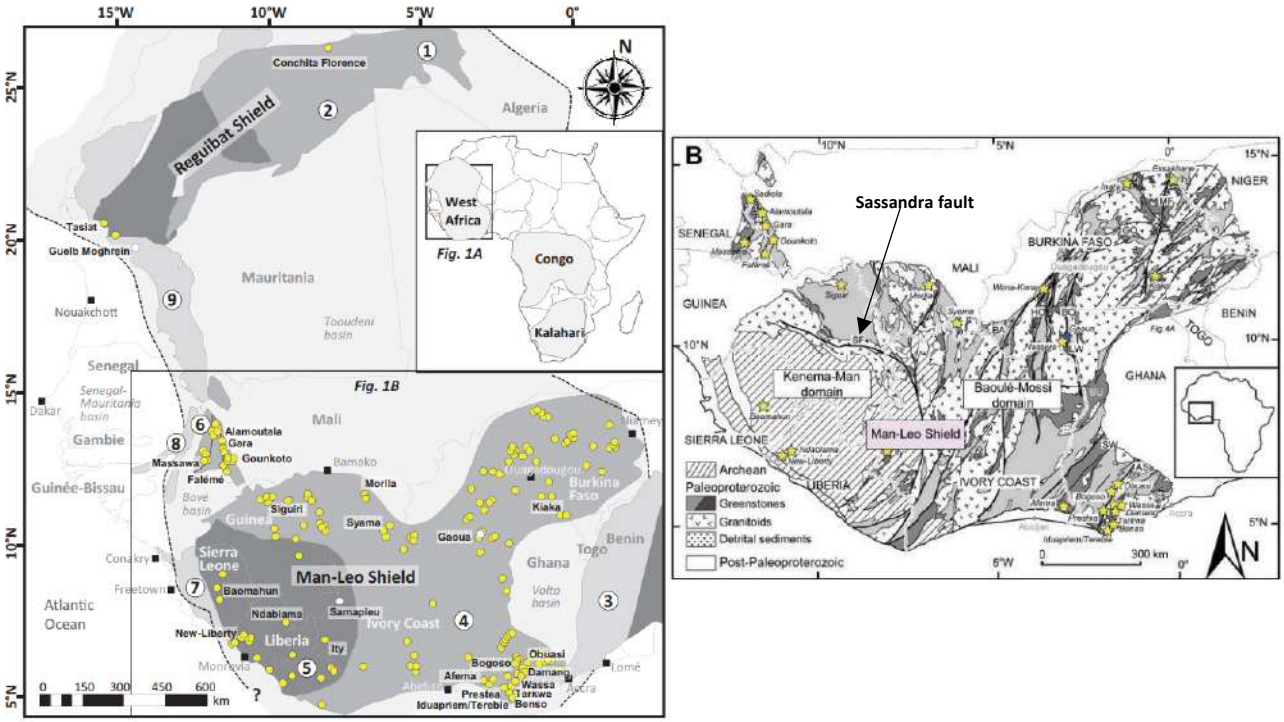


Fig. 2. A. Simplified map of the West African craton with distribution of gold deposits. The limit of the craton is shown as a dashed line. Numbers 1 to 9 outline the different Archean, Proterozoic, and Hercynian domains: 1 = Eglab, 2 = Yetti, 3 = Daomeyan, 4 = Baoulé-Mossi, 5 = Kenema-Man, 6 = Kédougou-Kénébia Inlier, 7 = Rokelides, 8 = Bassarides, 9 = Mauritanides. B. Zoom on the southern part of the West Africa craton (modified after the BRGM SIG Afrique map, Milesi et al., 2004), outlining the main shear zones, the gold deposits (yellow stars), and the Cu deposit (blue star). AS = Ashanti belt, BA = Banfora fault, BO = Boromo belt, BU = Bui belt, GO = Goren belt, HO = Houndé belt, LW = Lwara belt, MF = Markoye fault, SF = Sassandra fault, SW = Sefwi belt.

A contributing factor for the less endowed Archean setting is also reflected in the abundance of higher grade of metamorphism for the Archean gneisses (of amphibolite to granulite facies), although there are local (less metamorphosed, i.e. greenschist facies) infolded granite-greenstone belts that generally formed at 2.9 – 2.8 Ga. In general, the higher grade facies of the Man-Leo shield are not as favourable as lower grade greenschist facies rocks of the Paleoproterozoic rocks to the east. Having said that, late Archean sheared mafic-

ultramafic rocks and iron-rich schists in some of the greenstone belts in western Liberia host well known orogenic gold deposits, e.g. New Liberty and the Ndablama deposits, and Baomahun deposit in Sierra Leone.

The gold bearing, most commonly NE-NNE trending, narrow, linear greenstone belts of the Man-Leo shield comprise calc-alkaline or tholeiitic metamorphosed volcanic rocks and sedimentary rocks. These greenstone belts are widely accepted as juvenile oceanic arcs accreted during lateral modern-style plate tectonics. The basinal sedimentary rocks (accumulated within the arcs) include argillites, phyllites, graywackes, and chemical sediments. Later deformation during the tectonic evolution of the Eburnean Orogeny resulted in widespread lower to upper greenschist facies metamorphism of most of the volcanic and sedimentary rocks in the greenstone belts.

All lithologies of the Man-Leo shield host economic gold deposits which demonstrate typical characteristics of an orogenic model (as discussed in Section 7.2) that specifically describes gold-rich lodes in deformed and metamorphosed rocks. The deposits are mainly focused along regional fault systems and shear zones, all of which formed as compressional structures. Mineralisation styles include stockworks, veins, disseminations and breccias with mineralisation defining a single deposit extending for as much as 20 Km along strike and to depths of 2.7 Km.

Pyrite, arsenian pyrite and / or arsenopyrite are the dominant sulphide minerals in the West African deposits and are disseminated in wall rocks or in quartz-carbonate veins. The gold can be free milling (non-refractory) or refractory, with the latter typically characterizing disseminated wall-rock lodes with mining at some deposits occurring only within the shallower oxide zones. The most common gangue and alteration phases reported from different Man-Leo shield deposits include quartz, ankeritic and sideritic carbonate, sericitic, chloritic or fuchsitic mica and albite.

6.2 Regional Geology - Liberia

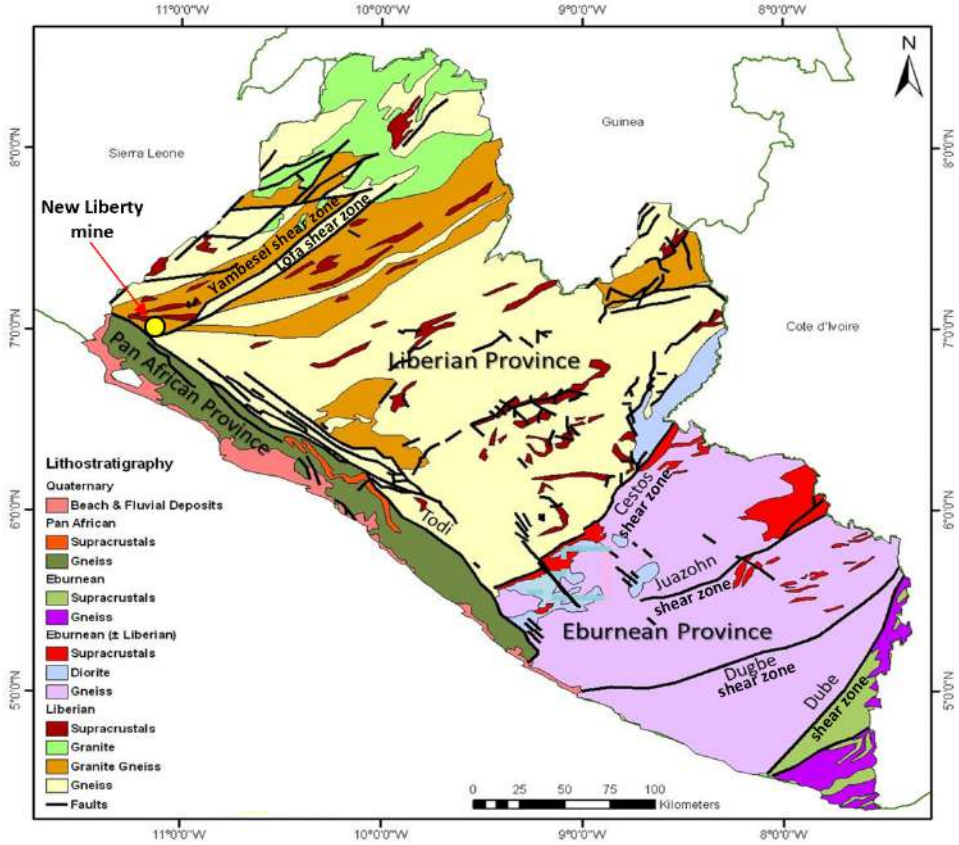
While the geology of Liberia is not as well understood in comparison with that of neighbouring West African countries, recent mineral deposit compilations and endowment reviews have greatly improved this situation and better integrated Liberia into the regional geological setting (Markwitz, V., et al, 2016), (Gunn, A.G. et al, 2018), (British Geological Survey, 2015 and 2018). Furthermore since 2015, considerable strides have been made in better understanding the Archaean rocks of Sierra Leone, Liberia, Guinea and the western part of Ivory Coast (Rollinson, H., 2016) while the Paleoproterozoic of West Africa, considered a world premier gold province, is best presented by Goldfarb. (Goldfarb, R.J. et al., 2017).

Liberia lies in the centre of the Man-Leo shield and across the boundary between the Archaean age granite gneisses in the west and centre of the country while the Paleoproterozoic domains, including the Lower Proterozoic volcano-sedimentary sequence of the Birimian, can be found in the eastern part of the country. The boundary between the Archean (of Liberian age ~ 2.7 Ga) and Paleoproterozoic age rocks (of Eburnean age 2.3-1.9 Ga) is not well defined in eastern Liberia but is generally considered to lie along, and within a complex zone to the east of, the NE trending Cestos Shear Zone. A belt of Phanerozoic Pan-African event rocks outcrop along the coastal margin and are separated from the Archean and Paleoproterozoic by the Todi shear zone.

Archaean:
In Liberia, the Archaean basement is characterized by TTG (tonalite-trondjemite-granodiorite) gneisses (3.5-3.6 Ga), locally migmatitic, of generally amphibolite facies metamorphism which are infolded with supracrustal metavolcanic and metasedimentary rocks and intruded by late-Archaean granitoids dated at 2.7-2.8 Ga. The supracrustal rocks form discontinuous narrow, elongate greenstone belts of generally greenschist facies.

An Archean mobile belt along the border between northwest Liberia and Sierra Leone represents a collision orogeny (aged 3.2-2.6 Ga) comprising two structural trends: a) a north-east trend and b) a north-westerly directed closure. Ocean crust, overlain by sediments, is preserved as tectonic inliers and forms the Bea Mountains, Kpo Range and associated greenstone belts. These two tectonic closure elements produced complex structures with a strong deformation component and hosts the best known and economically most important gold occurrences in the Archean greenstone belts found in north-west Liberia to date. These Archaean mafic and ultramafic rocks, representing relict greenstone belts, are associated with a series of major, crustal scale, north-east trending structure lineaments, principally imbricate shear zones such as the **Yambesei** and **Lofa** (BGS, 2018) (Figure 12).

Figure 12: Geological setting and structures (including Yambesei and Lofa shear zones)



Avesoro's New Liberty gold mine (Figure 12) is a shear hosted gold deposit in Archean age rocks with a greenstone belt affinity with the mineralisation located in a structurally controlled 100 m wide steeply dipping silicified and sheared ultramafic unit (SRK Consulting, 2017). Numerous additional major gold occurrences, such as Weaju, Koinja, Ndablama, Leopard Rock and Gondoja deposits, occur along a structural corridor, extending to the north-east. At Ndablama, in an area of established alluvial gold mining, gold mineralisation is hosted in sheared and deformed ultramafic and mafic rocks intercalated in a gneiss sequence above a buried granite batholithic body and is flanked by the prominent Yambesei and Lofa shears zones. Gold is localized along sheared contacts between the ultramafic and mafic units with mineralisation associated with phlogopite, tremolite, chlorite and talc zones of alteration. It

is believed that the shears and associated splays acted as structural channels for hydrothermal solutions, which deposited gold in suitable structures or chemical traps, typical of Upper Archean to Lower Proterozoic styles of metallogeny within greenstone belts.

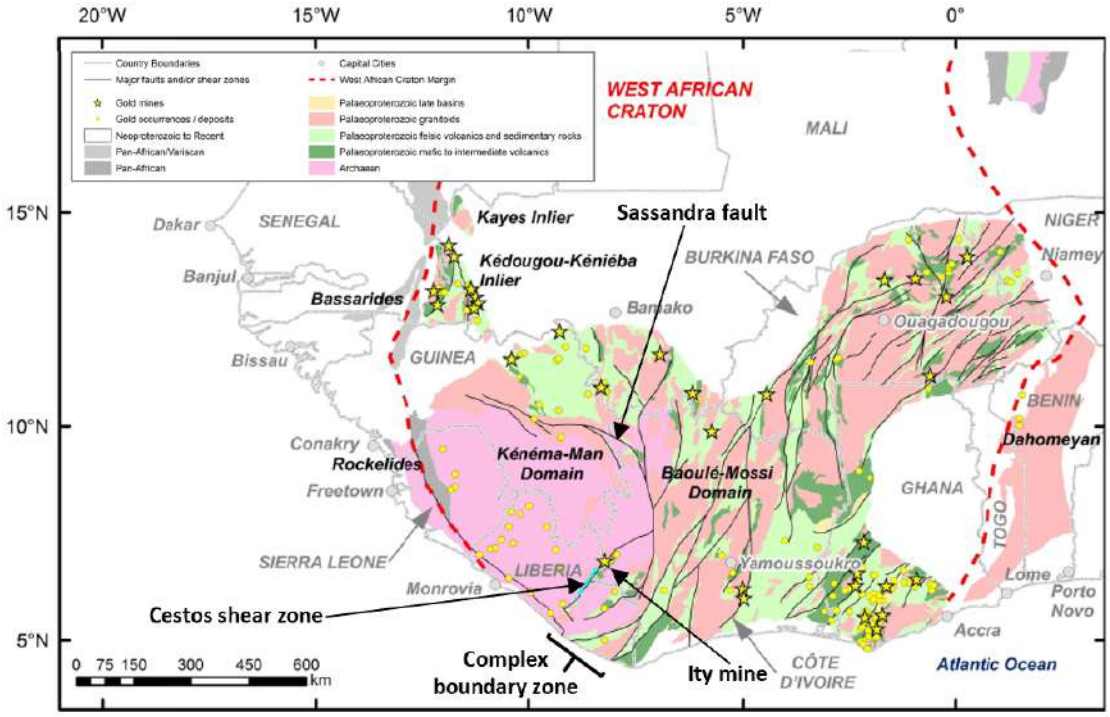
Gold bearing quartz veins have been identified during exploration in the Kpo Mountains located in Gbarpolu County. Mineralisation is thought to be related to sheared lithological contacts between granite, granitic gneiss and supracrustal rocks, consisting of banded iron formations (BIF), schist and amphibolite.

To the south of the Kpo Range, occur a number of gold diggings including at Henry Town, Lucky Hill (Gblita) area and at Belle Yella where mineralisation appears to be controlled by the lithological contact between granite and granitic gneiss.

Quartz vein-hosted and disseminated gold mineralisation also occurs in strongly sheared schists in the Toto Mountain range area in Bong County. To the south, a mineral resource containing 410,000 oz at a grade of 2.6 g/t Au is report at MGN's Kokoya mine which has been in production since 2015. The mineralisation is structurally controlled and hosted in a package of strongly deformed greenstone amphibolites and gneisses.

Archaean – Paleoproterozoic contact zone:
The boundary between the Archaean and Paleoproterozoic age rocks (Eburnean age) is not well defined in central eastern Liberia, however, based on 1970's USGS geological mapping and geophysical data it was thought to lie along the north-east trending Cestos shear zone (Figure 13) which extends NE into Côte d'Ivoire where it originates as the Sassandra fault. However, recent authors have placed this boundary further to the east (Rollinson, 2016, Markwitz et al, 2016) and have demonstrated the complex nature of this possibly 200 Km wide contact zone in central Liberia.

Figure 13: The Cestos shear zone and complex boundary zone



Geological and geochronological work carried out by Feybesse and Milési (1994) over the contact zone between the Archaean and Paleoproterozoic / Birimian terranes showed that there are extensive areas of Archaean and reworked Archaean basement located south-east

of the Cestos shear zone and extending into the Ivory Coast. Within this zone a number of elongate, fault-bound tracts of Birimian sedimentary rocks are intercalated with mafic volcanic rocks together with Paleoproterozoic (Eburnean) granitoid intrusions. The Archaean and Paleoproterozoic boundary in Liberia should not be considered as being marked by a single fault but rather as a broad complex boundary zone possibly bounded by the Cestos shear zone to the west and the Dugbe / Dube shear zones to the east and incorporating the Juazohn shear zone (Figure 12). These major north-east trending regional structures appear to be extensions of similar structures which continue into Côte d'Ivoire and exert a strong control on the distribution of important gold occurrences.

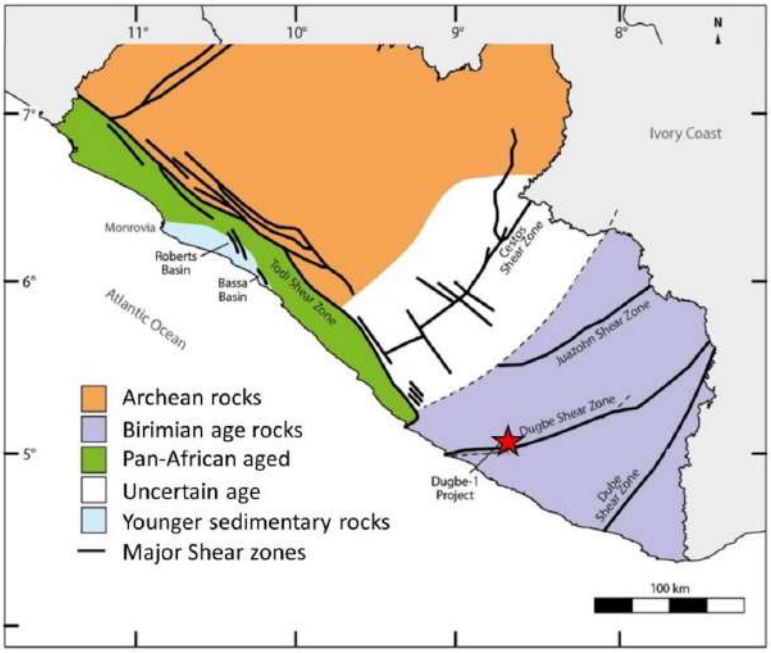
Some 25 km to the east of the Nimba Country and national border lies the Ity gold mine in neighbouring Côte d'Ivoire, which is a structurally controlled, predominantly carbonate-hosted gold mineralized system comprising a series of moderate to steeply dipping orebodies hosted in Birimian rocks. The Ity gold deposits are classified as skarn type but also consist of typical shear-hosted greenstone deposits. The mineralisation is located within skarns generated at the contact between granodiorite and marble. The deposits are sulphur-rich and are characterized by epidote, carbonate, diopside, chlorite, tremolite, magnetite and garnet with gold associated with pyrite.

The Ity "corridor", bordering the two countries, comprises a NE-SW trending belt ~ 10 - 15 Km wide which is interpreted as a nappe remnant, named the Toulépleu-Ity Klippe (Endeavour Mining Corp, 2020) and incorporates the Nimba MEL. The sequence forms the centre of a northeast – southwest oriented syncline with a granitoid core dating at 2.1 Ga. The Birimian units of the Toulépleu-Ity Klippe include the "Ity Sequence", which comprises banded amphibolites and ultramafic rocks overlain by a carbonate sequence.

Paleoproterozoic:
The Paleoproterozoic rocks of the Baoulé-Mossi domain in southern Liberia, extending west from the Côte d'Ivoire border to Greenville, comprise tightly folded paragneiss, migmatite and amphibolite and are considered to be part of the Birimian-age greenstone belt sequences. These include host rock lithologies such metavolcanic and metasedimentary rocks, mafic and granitic intrusives, pegmatites and sulphide-rich schists and gneisses.

South-eastern Liberia is transected by three major northeast-southwest oriented crustal-scale shear zones, namely the **Juazhon**, **Dugbe** and **Dube** shear zone. These deep-seated steeply dipping faults are extensions of regional structures which continue into Côte d'Ivoire and are characterized by broad mylonitic zones that mark major lithological and structural domains and are associated with important occurrences of gold (Figure 12 and 14).

Figure 14: Paleoproterozoic of south east Liberia and shear zones



The Juazohn shear zone is considered highly prospective on account of known bedrock occurrences, extensive alluvial deposits and gold geochemical anomalies. BIF-associated gold deposits are the principal target in this area. High grade mineralisation has been reported at several locations including Zia in the north, Zwedru to the west and in the Putu Range area which straddles this shear zone.

In 2005, Hummingbird acquired a number of exploration licences mostly in the southeast of the country. By 2011 the company was targeting areas around the Dugbe shear zone, and a significant amount of exploration was undertaken up to 2014. The highest interest deposits on the Dugbe Project are the Dugbe F and Tuzon discoveries. A 4.4 Moz mineral resource has been estimated for these deposits (Table 11).

Table 11: Summary mineral resources for Hummingbird's Dugbe and Tuzon deposits

Category	Tonnes (M)	Gold Grade (g/t)	Gold (M oz)
Tuzon Deposit			
Indicated	41.9	1.51	2.03
Inferred	10.4	1.31	0.44
Dugbe F Deposit			
Indicated	5.8	1.46	0.27
Inferred	16.3	1.57	0.82
Total Indicated	**47.7**	**1.51**	**2.30**
Total Inferred	**26.7**	**1.47**	**1.26**

Source: Pasofino Gold website - https://pasofinogold.com/dugbe-gold-project

The Dugbe and Tuzon disseminated gold deposits are shear-zone hosted in high-grade, migmatitic rocks with feldspar-biotite-quartz-othrophroxene gniesses. Dugbe F is a shallow-dipping, 8-15 m wide tabular mineralized body with a ~2.5 Km strike length while Tuzon comprises a wider mineralized "folded nose" ore body. The mineralisation is associated with increased sulphide content. Free gold occurs as very fine grains along microfractures, at grain boundaries and in quartz-sulphide-bearing veins.

7.0 DEPOSIT TYPES

There is a long history of artisanal gold mining in Liberia from alluvial placers with production peaking at more than 1 ton of gold / annum on the 1940's. The USGS recorded 600 gold occurrences (Section 1.5) during the early 1970's in Liberia, with gold placer deposits accounting for almost 80% of the total (Wahl, 2007). The Hamak Gold licences are widely distributed over both the Archaean and Paleoproterozoic terranes, some of which are located on or near to major regional shear zones and belts of known alluvial gold.

7.1 Placer Gold Deposits

Concentrated mostly in the west and east of Liberia, the deep and intense tropical weathering since the Pleistocene together with persistent erosion in areas of moderate to low relief, favour the development of gold placers. The deposits worked by artisanal miners are generally less than 2m thick and are narrow and discontinuous in form. Reviewing the USGS 1970's gold occurrences, the British Geological Survey identified a number of "alluvial gold belts" which incorporate a large number of alluvial placer deposits, some of which have been worked in the past, and some where significant resources probably still remain (Figure 8). Due to the limited spatial extent of individual placer deposits, it is unlikely they are amenable to modern mechanised mining methods but can be attractive for small scale (Class C licence) mining. The widespread occurrence of placer gold deposits in Liberia suggests significant potential for bedrock-hosted gold mineralisation and provides useful guidance for exploration targeting. Some of the Hamak Gold licences include areas of placer gold which have been exploited by artisanal miners as detailed in Section 8.

7.2 Orogenic Gold Deposits

Orogenic gold in West Africa is hosted in a range of rock types including mafic-hosted, granitoid-hosted, sediment-hosted, carbonate-hosted and BIF-hosted deposits. Orogenic gold in shear zones, commonly in quartz veins, is the dominant style of mineralisation in Liberia and occurs within Archaean and Paleoproterozoic rocks.

Shear Zone related lode-gold deposits of the Archaean:
Lode gold deposits in Archaean rocks in Liberia are found in association with a wide variety of greenstone-belt lithologies with metamorphic grade ranging from lower greenschist to upper amphibolite facies. The mineralisation, which may comprise quartz veins, breccia zones, stringers and disseminations, typically extends over widths of 10–20 m and may have a strike extent of more than a 1,000 m. Structure exerts a strong control on its distribution with north-east trending zones of intense shearing being particularly important. Other favourable sites include zones of polyphase deformation, fold limbs and closures, and competency contrasts such as sheared lithological contacts between greenstone belts and gneisses and granites. The mineralisation comprises free gold closely associated with a range of silicates, including quartz, tourmaline, chlorite and sericite, and various sulfide minerals (Gunn, A.G. 2018).

The gold-bearing mineralisation may be associated with local development of a range of alteration minerals including, most commonly, chlorite, carbonate and sericite. In some deposits, dependent on host rock lithology, the alteration assemblages may include phlogopite, talc, magnetite, hematite, iron sulfide, tourmaline and tremolite. A range of metals may be enriched in the gold-bearing ores including arsenic, tungsten, cadmium, copper, lead and zinc. Similar structurally controlled gold mineralisation is found within the Archaean greenstone belts of Sierra Leone. The Archaean gold mineralisation appears to have

formed at somewhat higher pressure than that of other greenstone belts worldwide (Gunn, A.G. 2018).

The timing of gold mineralisation is not well known, but is generally considered to be late Archaean, potentially associated with the c. 2800 Ma granitoid intrusions that occur throughout the Kénéma-Man domain (Foster and Piper, 1993). Perhaps the best known and economically most important gold occurrences in the Archaean greenstone belts are found in north-west Liberia associated with previously described major north-east-trending structurally controlled shear zones. With the discovery and the mining of the New Liberty shear zone-hosted gold deposit, the nature and origin of the Archaean gold mineralisation is much better understood due to renowned consultancies, including SRK Consulting, AMC Consultants, being involved in the geology and measurement of this resource (SRK Consulting, 2017) on behalf of Avesoro Resources Inc.

Many other major gold occurrences occur along a structural corridor, bounded by the Yambesei and Lofa shear zones, extending north-east from New Liberty with prominent examples including Weaju and Ndablama where Avesoro Resources continues to explore and announce significant gold resources. Exploration in the Kpo Range area of Gbarpolu County has identified gold-bearing quartz veins where mineralisation is thought to be related to shear zones at the margin of an Archaean greenstone belt consisting of banded iron formation, schist and amphibolite. In the southern part of the Kpo Range gold-bearing veins, hosted in granite and granitic gneiss, occur in the Lucky Hill (Gblita) area (Liberty, 2008).

Shear Zone related lode-gold deposits of the Paleoproterozoic:
Birimian-age greenstone belts host major gold deposits in a number of West African countries and most West African gold production has been derived from these rocks rather than the Archaean. As discussed in Section 6.2, Birimian terrane is evident in south-east Liberia where gold deposits are focused along regional structures such as the Cestos, Juazohn, Dugbe and Dube shear zones with mineralisation styles including stockworks, veins, disseminations and breccias (Goldfarb et al., 2017). With the exploration and evaluation of the Dugbe F & Tuzon shear zone-hosted gold deposits, owned by Hummingbird Resources Ltd, the nature and origin of this Paleoproterozoic gold mineralisation is much better understood as a result of consultancies such as ACA Howe and SRK Consulting being involved in the technical reporting of these projects (ACA Howe, 2010 and SRK Consulting, 2020).

Host rock lithologies are varied but the mineralisation may occur within metavolcanic and metasedimentary rocks and/or mafic and granitic intrusives. The mineralised bodies in Liberia have variable morphology, ranging from irregular sheets to quartz-carbonate sulfide-bearing veins, disseminated sulfides and sulfide stringer veins. As in the Archaean terrane, geological structure is the dominant control on the location of gold mineralisation. Particularly favourable sites include second-order structures to regional shear zones, structural intersections, lithological contacts, grain-size variations within sedimentary packages and zones of polyphase deformation. The gold occurs as free grains commonly closely associated with sulfide phases, chiefly pyrite, arsenopyrite and pyrrhotite. Hydrothermal alteration is present in some deposits, commonly with attendant enrichment in arsenic, bismuth and silver.

As mentioned above, the most important known bedrock gold deposits in this terrane are spatially associated with major regional shear zones trending either north-east or east-north-east. Numerous gold occurrences have been identified in the following environs:

1. Cestos Shear Zone (e.g. Jueh Bukon, Numon South), which marks the approximate limit of Eburnean deformation and reworking and represents a near vertical, crustal-scale structure.
2. The Juazohn Shear Zone, where BIF-hosted "Homestake type" gold deposits are the principal target where BIF occurs within the Archaean supracrustal rocks, e.g. Zia and Kana Hills
3. The Dugbe Shear Zone, where disseminated gold deposits are hosted in high-grade migmatitic rocks, e.g. Dugbe F, Tuzon and Sackor.

Skarn-hosted gold deposits:
While Skarn-hosted gold deposits are rarer than Orogenic gold in shear zones, the proximity of the profitable Ity gold mine in the Côte d'Ivoire to the Hamak Gold Nimba licence (~ 25 Km) makes this an important deposit type in the Liberian context.

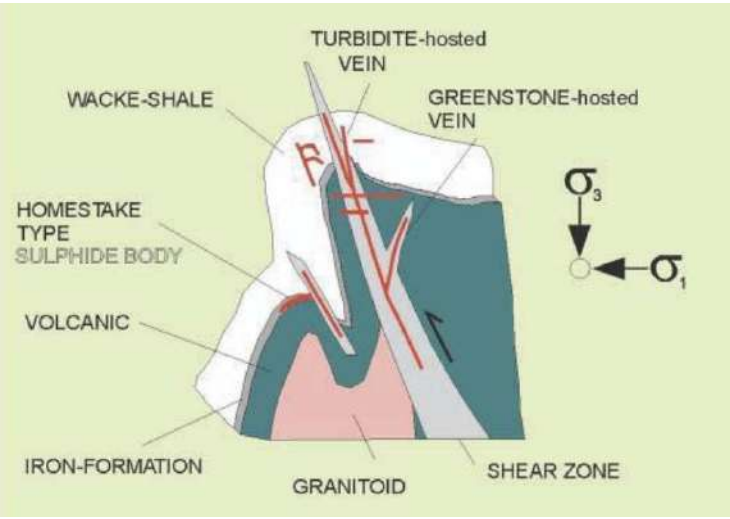
The skarn-type deposit is hosted in a Paleoproterozoic inlier within the Archean Kénéma-Man domain. The inlier is composed of Birimian metasedimentary units that unconformably overlie the Archean basement. The deposit is hosted in Birimian meta-carbonates adjacent to a tonalite intrusion (Toulépleu-Ity, 2.1 Ga).

The mineralisation at Ity is sulphur-rich (pyrite-pyrrhotite-chalcopyrite ~3% to 10%), typically developed as discontinuous, sub parallel lenses at contacts between granodiorite intrusive bodies and host carbonate sediments, both of which have been overprinted by greenschist facies metamorphic assemblages. The mineralised rock represents a proto-skarn where weathering has resulted in severe supergene alteration and enrichment and created economic gold concentration within the saprolite and laterite horizons. Dissolution of sulphide-rich material contributed to the generation of karstic cavities into which the saprolite material collapsed, producing chaotic, non-linear mineralisation geometries across the deposit. The presence of chalcopyrite in the skarn-type mineralisation results in variable amounts of cyanide-soluble copper in these deposits (Endeavour Mining, 2019).

At Jababli (north of Hamak's Sinoe licence), Hummingbird targeted amphibolite hosted skarn gold deposits of the Nevoria (SW Australia), Kolar (India) and Hemlo (Canada) type.

The figure below is a schematic diagram illustrating the various settings for gold deposits in Liberia (Figure 15).

Figure 15: Gold deposit settings encountered in Liberia



Gold deposits in tropical laterite and saprolite environments:

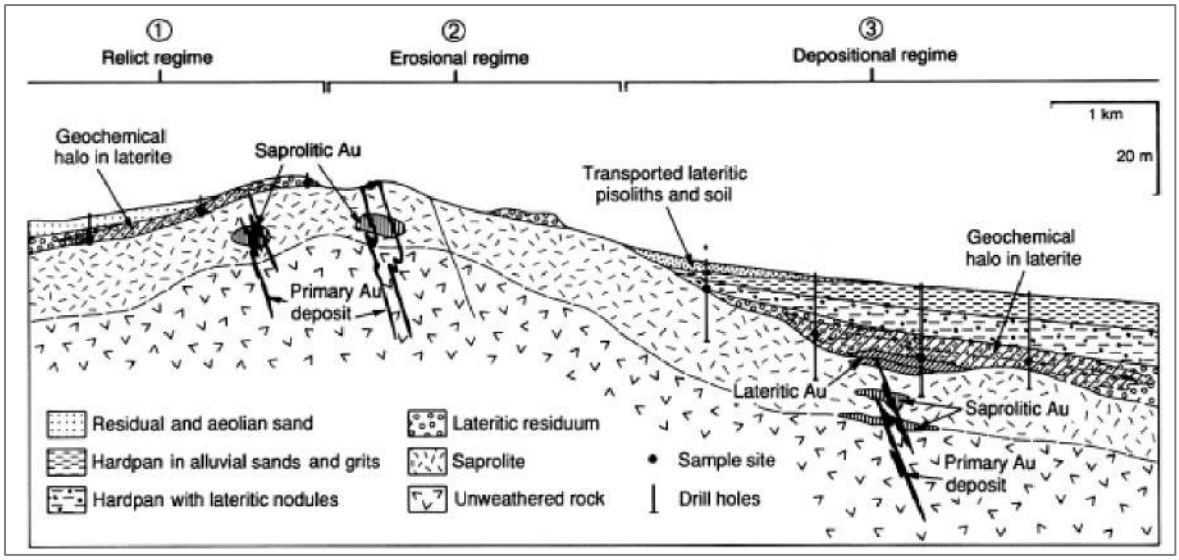
The tropical weathering that is ubiquitous in Liberia has resulted in significant redistribution of gold within surface layers, with important consequences for the grade and morphology of the deposits and the exploration procedures required to detect them. Tropical lateritic weathering regimes pose a number of primary barriers to mineral exploration as follows (Liberty International, 2006 & 2007):

1. The subsurface may be obscured firstly by a thick blanket of lateritic residuum (lateritic gravel and ferruginous duricrust) and associated soils.
2. Deep zones of clay-rich weathering covering the potential ore body.
3. The presence of duricrust cover, particularly along hill and ridge crests (which can render soil geochemistry ineffective).

By understanding the palaeo-weathering history of a region and the dispersion patterns of gold (which is inherent in the weathering of these systems), it is possible to utilise geochemistry to locate concealed bedrock mineralisation and gold-bearing structures. However, it should be noted that the development of lateritic profiles in Liberia is very variable. In the eastern part of Liberia, for example, there is little or no laterite development, weathering depths are very shallow (commonly less than 5m) and standard soil geochemical techniques work excellently as opposed to western Liberia where the lateritic weathering profile can reach depths of up to 20m.

The relationship between relict, erosional and depositional regimes of laterite surfaces and the landscape as well as the dispersion of gold into the regolith is best illustrated in the sectional profile below (Figure 16).

Figure 16: Sectional profile of relict, erosional and depositional regimes in laterite environments



8.0 EXPLORATION

8.1 NIMBA Licence

8.1.1 Location and Access

The Nimba Licence (MEL 7001518), issued on 3rd May 2018, covers an area of 986 km², located within Nimba County in northern central Liberia with its eastern boundary adjoining the border with Côte d'Ivoire.

The MEL is centered on Latitude 752,000 North, Longitude 558,800 East (UTM WGS 84). The licence can be reached from Monrovia along a well-maintained bitumen road to Ganta via Gbarnga (256 km) and then via Saclepea, Gbloulay to Buutuo along a dirt and gravel road of variable condition (111 Km); a total of 367 km and an 8 hour drive. Altitudes range from sea level (Monrovia) to 325m at Ganta and 272m at Buutuo close to the Nuon River along the Côte d'Ivoire border. Alternatively, the licence can be reached from a more southerly approach from Monrovia to Gbarnga (189 Km) and on to Tapeta and Saale (149 Km) on poorly maintained dirt / gravel roads; a total of some 338 km. The roads within the concession are all dirt and gravel roads.

Approaching from the north, the topography of the area is of low lying relief until reaching Glarlay or Saale (along the western licence boundary) where long continuous NE trending narrow ridges are encountered. Composed of metamorphosed supracrustal (metasedimentary and metavolcanic) and quartzite rocks these ridges stand as much as 800 m above the rolling terrain. Mt Blah (also referred to as Mt Pita in the USGS topographic and geological 1:250,000 maps) is the most prominent geomorphic feature within the licence. Proceeding to the east and away from the resistant ridges, a large body of quartzitic diorite underlies more rolling terrain within which less prominent, discontinuous, ridges are found. The drainage is towards the south-east (these being right bank tributaries of the SW flowing Nuon River) with the Ban and Gboye creeks being locally the largest rivers traversing the licence.

8.1.2 Local Geology

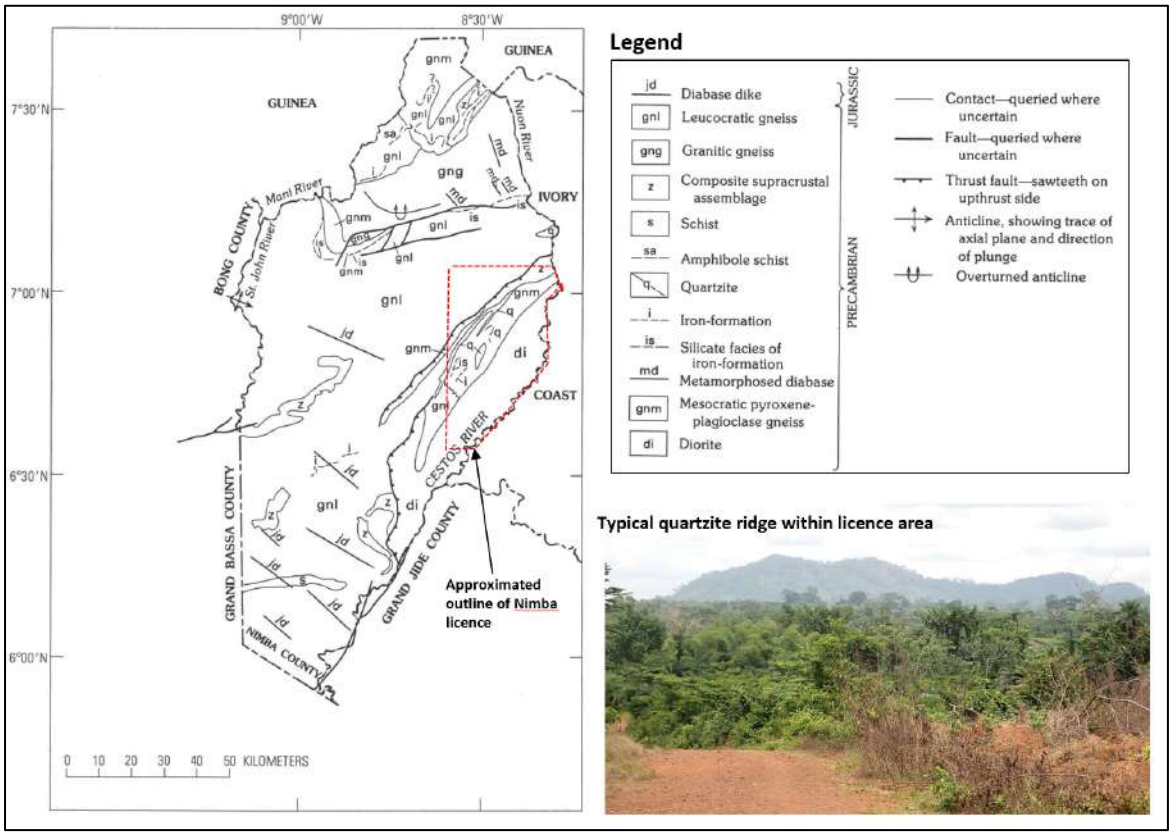
The main source of geological information is derived from the 1:250,000 scale geological map published by the USGS and the accompanying geological report (Force, E.R., 1983). The licence is divided diagonally into two distinct units, one metamorphosed, the other non-metamorphosed and intrusive in nature, separated by a major NE trending thrust fault.

To the south of the main thrust lies an unmetamorphosed massive to slightly foliated diorite intrusion (designated "di" in the USGS geology map) which appears to have intruded the widespread quartzo-feldspathic leucocratic gneiss (gnl) that occupies large tracts of the county.

To the north of the thrust fault are a series of long narrow quartzite (q) ridges interlayered with meta-supracrustal rocks which, although designated by the USGS as composite units (z), these can be considered typical greenstone belt rocks comprising meta-sedimentary and meta-volcanic units. The most common assemblage is a combination of mica schist, pure quartzite, magnetite quartzite, garnet-kyanite quartzite and oxide-facies itabirite banded iron-formation (i) which are manifest as NE trending resistant ridges set within a background geology of melanocratic pyroxene-plagioclase gneiss (gnm).

Another thrust fault is implied to the north of this belt separating it from the leucocratic gneiss (gnl). Within the granulite facies greenstone belt are imbricate thrusts which dip gently east and are marked (although not observed) by thick mylonitic zones and it is likely these are associated with the crustal-scale Cestos shear zone. The regional and local geology, with the position of the Nimba licence, is depicted in Figure 17.

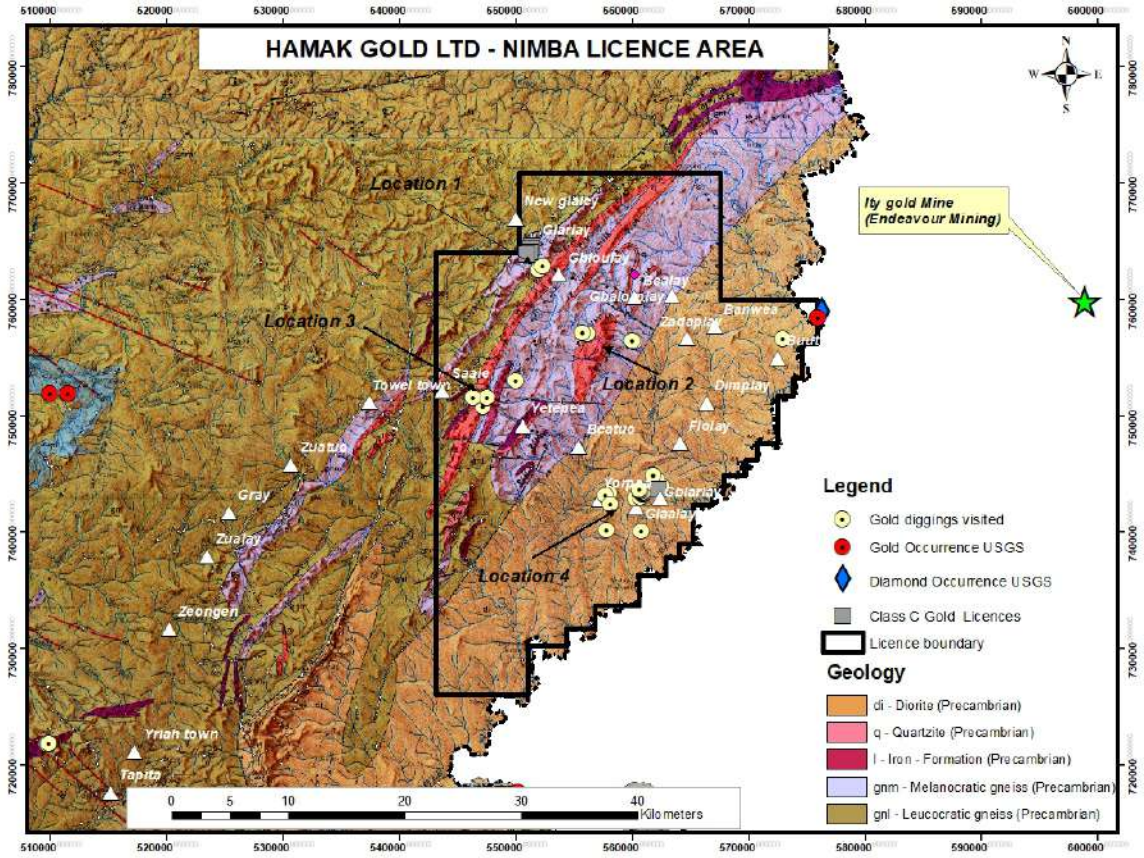
Figure 17: Geology of Nimba County (*based on USGS Geological Survey Bulletin 1540****)***



8.1.3 Gold occurrences and mining activity (ASM / Class C)

The USGS mineral locality map only records one gold occurrence within the licence located to the east of Buutuo (which may have resulted from sampling along the western bank of the Nuon River). At the time of the USGS survey of the Zwedru Quadrant (Figure 1) in 1977, no occurrences of bedrock gold mineralisation were observed within the concession area. The site visits, relevant for this CPR, revealed numerous more recent ASM / digging activity related to gold mineralisation and are shown in Figure 18 and the localities discussed below.

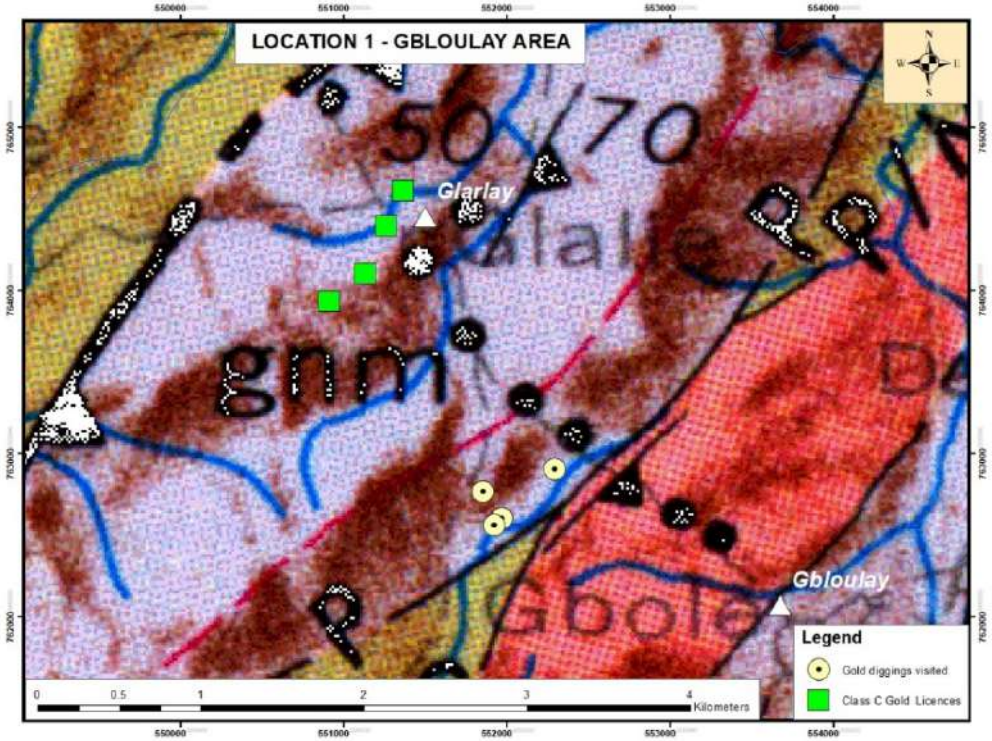
Figure 18: Gold mineralisation and location map of occurrences within the Nimba licence



8.1.3.1 Locality 1 - Gbloulay

One site was visited in the Gbloulay area and highlighted in Figure 19. Note that the location of the four Class C licences (as provided by the Bureau of Mines) could not be confirmed on the ground however this may be the result of inaccurate surveying / GPS recording.

Figure 19: Nimba licence, Locality 1 – Gbloulay



Note: The GPS positions of the sites visited and their spatial relationship on the USGS generated map suggests an off-set as the occurrences are clearly associated with the quartzite ridge (as opposed to the melanocratic gneiss – gnm).

Site 1: Gboun hill and Bougueyea creek

The owner of this site claimed to have 4 Class C licences either granted or in the process of being granted. Digging activity comprised surface workings with flakes and fine gold being reportedly recovered from the in-situ weathering of the upper 1-2m of lateritised regolith and immediate downslope accumulated eluvium. These eluvial workings are limited in extent to approximately 50m by 100m below the headwater and are focused along the base of an elongated quartzite ridge as seen in Photos 1 & 2.

Photos 1 & 2: Quartzite ridges and eluvial workings along edge of Gboun ridge

Rocks from spoil or waste heaps consist of metavolcanics and metasediments, schists and BIF indicating a potential for greenstone hosted gold mineralisation (Photo 3 & 4).

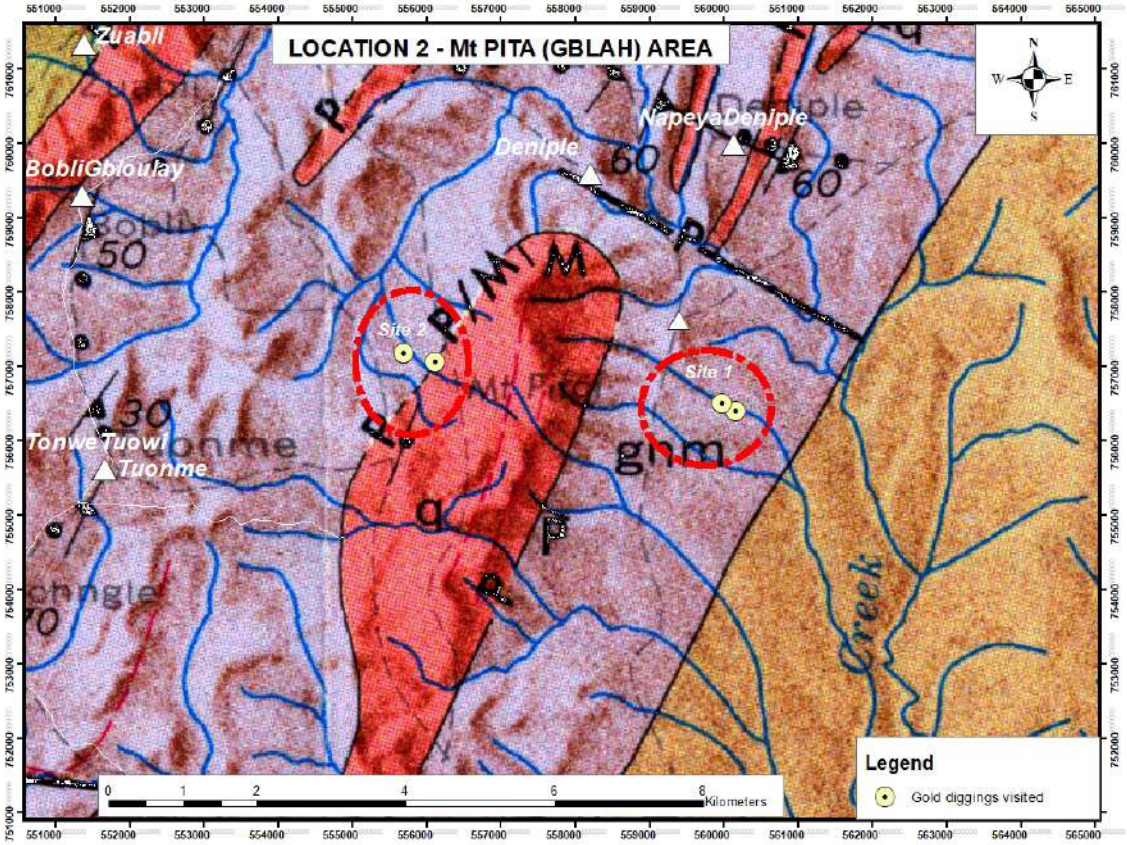
Photo 3 & 4. Carbonaceous metasediment sample, with schist, quartzite & banded iron-formation

Until recently, this site was being worked by 35 diggers or "gold boys", however most of these have since moved off to more promising locations within the Nimba concession. Nuggets of gold ranging from 5 – 7 grams were reported from the eluvial workings but not observed by the Author. Further downstream, within the Bougueyea valley, typical alluvial gold diggings were observed with small amounts of gold being recovered from coarse angular basal gravel.

8.1.3.2 Locality 2 - Mt Blah (also Mt Pita)

Site 1 was visited by the Author to the ESE of Mt Blah within the Glakpahyeepea creek as shown in Figure 20 and discussed below.

Figure 20: Nimba licence, Locality 2 – Mt Blah and sites visited



Mt Blah (also Mt Pita) is a prominent 8 km long NE trending quartzite ridge which appears to host gold mineralisation as evidenced by ASM and digging activity along the east flank (active), Site 1, and to along the west slope (abandoned) of the peak (Site 2).

Site 1: Mt Blah and Glakpahyeepea creek

Although initially worked in 2013, the owner of this Class C licence has been operating the site for the last 17 months, supported until recently by 28 “gold boys”. Site 1 is within the upper reaches of the Glakpahyeepea creek and below the ridge break-in-slope. The targeted alluvial deposit comprises a thin (30cm) coarse angular sandy gravel overlying a pale green highly weathered gently undulating gneiss bedrock. The waste heap is predominantly comprised of quartzite clasts (Photos 5 & 6).

Photo 5 & 6: Extraction of alluvial gravels and waste heap at Glakpahyeepea creek

The claim holder indicated that he was recovering 6 – 7 grams of gold from stockpiled gravel heaps; each heap equating to approximately one day's "processing". On occasion, nuggets weighing up to 7½ grams have been recovered from this working indicating an upstream proximal source. Three shovels' worth of gravel were washed and panned during the 1st site visit which yielded a relatively coarse gold concentrate as shown in Photo 7.

Photo 7: Coarse gold recovered from Glakpahyeepea creek

Site 2 was visited but only abandoned previous works of limited scale were encountered at this site.

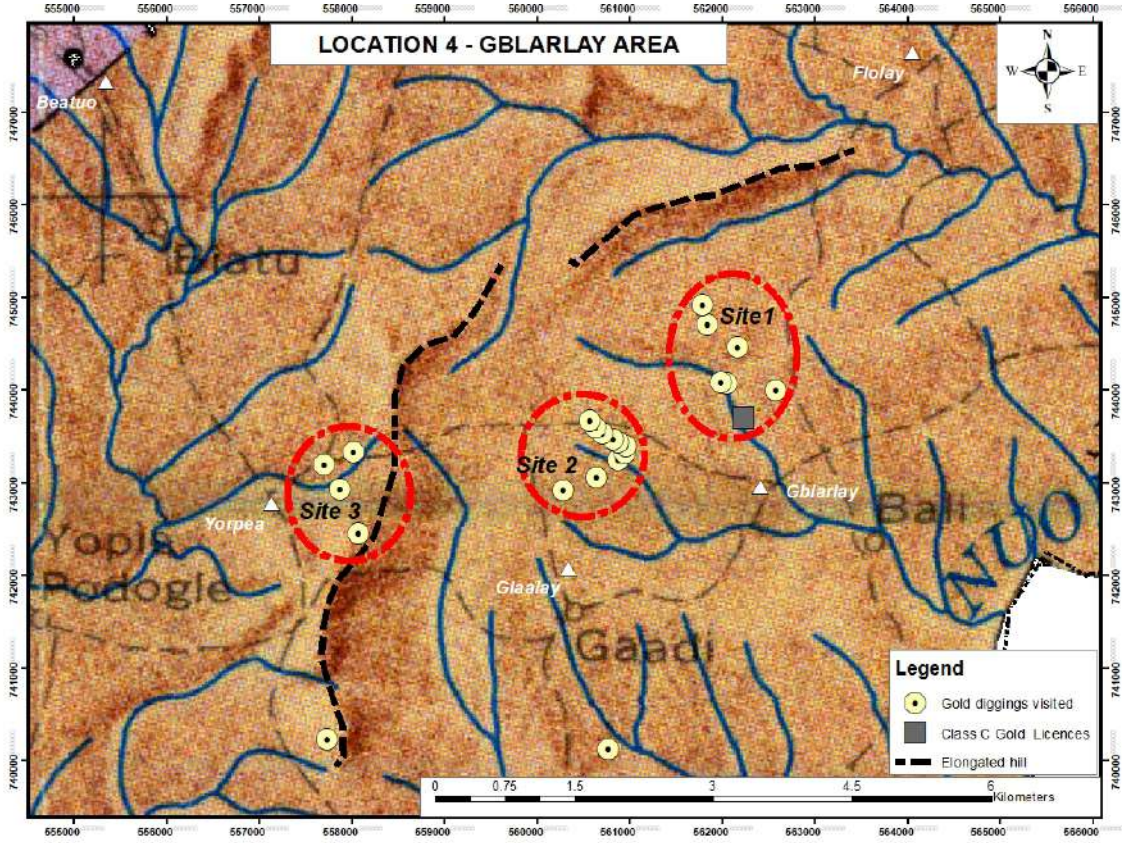
8.1.3.3 Locality 3 - Saale

A number of isolated sites were visited to the east of Saale town along the base of the quartzite ridge as shown on the USGS geological map (Figure 18), however all of the diggings were of limited extent and abandoned some years ago. No further information could be gathered on these occurrences.

8.1.3.4 Locality 4 - Gblarlay

A number of sites were visited in the vicinity of Gblarlay and Yorpea villages at Locality 3 which proved to be a significantly active area for ASM activity (Figure 21). All the diggings discussed below are located immediately downstream of a NE and southerly trending elongated hill which, in all probability, is mineralized. Unlike the prominent resistant quartzite ridges observed at Localities 1 and 2, this feature is more rounded and perhaps half the average height of the ridges to the NW and is some 18 Km long commencing south of Flolay village to east of Yorpea and then south towards the Nuon river.

Figure 21: Nimba licence, Locality 4 – Gblarlay and Yorpea villages



According to local residents, gold digging has been taking place in the area around Gblarlay since the 1960's, however this is not supported by the USGS fieldwork which was based on the *traverse* method whereby traverses were made along tracks / trails, roads, railroads and by rubber boat during low water, i.e. dry season, along main rivers. It is, of course, possible that these early workings were not known about by the USGS geologists at the time of the survey of this, then isolated and thickly forested, part of Nimba.

This supposition is partially supported by the lack of geological definition within this dioritic landscape where rounded hills and less pronounced ridges are evident, but which were not mapped by the USGS. It is also possible that these hills and ridges are devoid of iron-formation and hence were not "visible" from the aeromagnetic and radiometric survey data. Whatever the reason, a rounded, relatively low lying, elongated hill was observed in the surrounding area. The downstream diggings at Sites 1 to 3 would suggest that this feature is mineralized in places and to varying degrees.

Site 1: Gblarlay, Boepue creek

Located to the north of Gblarlay village, and more or less in the area depicted by the position of the Class C licence (Figure 21), this is the largest ASM working observed by the Author within the licence area. Organised by the son of the licence holder, some 70 "gold boys" are active at this site which is supported by 6 x Chinese made rudimentary crushing machines known locally as "Catacata" as well as numerous water pumps. The Catacata comprises a headfeed bin which channels the gravel or quartz vein material (and water) to a compartmentalized unit containing rotating short elongate metal bars or "teeth" which are off set along an axle connected by pullies to a motor. Supplied by water, the rotating teeth flail / thrash the gravel within the crusher unit which disaggregates the material liberating any fine gold and flakes. The sludge is then sluiced in boxes over synthetic tuff (Astrotuff), known locally as "carpet", which assists with trapping the heavier gold particles. The Catacata assembly is illustrated in Photo 8.

Photo 8: Catacata machine assembly

The workings at Site 1 comprise a combination of in-situ mineralized quartz veins, which appear to be located along the edge of the hill at the break-in-slope contact zone, as well as immediate downslope colluvium material. Individual quartz veins are of limited thickness and are contained within a zone of weathered host rock as shown in Photo 9 and in more detail in Photos 10 and 11. The mining of gold hosting bedrock quartz veins is significant and bodes well for other zones of mineralisation at this site.

Photos 9, 10 & 11: Excavated quartz veins and mineralized zones

The host rock appears to be a highly foliated granite gneiss as shown in Photo 12 however the relationship with the quartz veining is not well understood.

Photos 12: Quartz vein in gneiss host rock

Digging is very active within the surrounding colluvium where the regolith as well as weathered lateritised overburden is being extracted down to bedrock and processed through Catacata's as shown in Photos 13 & 14. The site is littered with blocks of foliated gneiss with gold probably being trapped in immature basal gravels overlying the irregular bedrock.

Photo 13: Digging within the downslope colluvium and boulder jumble

Photo 14: Digging the headwater alluvial deposit

In discussion with the licence holder, daily production was reported to range from 12 to 70 grams / day with nuggets being recovered occasionally from the quartz vein and eluvial material. A sample of 7.7 grams of gold, treated using mercury, was shown to the Author and was purported to represent 3 days washing through the Catacata machines (Photo 15) in nearby Zetoya creek.

Photo 15: Sample of 7.7 grams of gold recovered over three days from Zetoya creek

Site 2: Glaarlay, Bleyeepea creek

The owner of this Class C licence was extracting the saprolitic cover from a 200 m by 350 m area along the lower slope of a hill of shallow gradient. This was an unusual deposit in that sub-surface bedrock was not readily apparent and gold bearing structures were not observed, however clearly the upper regolith contains detrital gold.

The digging method commences with the demarcation of a 7 m to 10 m long and 4 m to 6 m wide rectangular pit. Excavation proceeds uniformly across the pit to a depth of between 1 – 2 metres of which the lower 10 to 20 cm is gravel. All the extracted material is then stockpiled at surface locations, where the coarser material, judged to be ore, is hand crushed using crude mortar and pestle technique and examined for visible gold. All the crushed and remaining stockpiled material is then washed in large plastic basins or within a half 200 litre drum; from which the pebble oversize is removed. The washing process is an essential step in liberating the gold from the surface and interstices of the gravel. The silty sand flows through crudely punched holes at the base of the drum and is channeled to one or two rudimentary sluice boxes which are floored with “carpet” (Astrotuff mats) which traps the free gold. Usually at the end of each day, the “carpets” are removed from the sluice boxes and repeatedly washed (in large basins) in a nearby stream. The resultant concentrate is then panned by hand to recover the gold which can be further treated / concentrated using mercury (if fine grained). The manual washing process is illustrated in the photo mosaic below (Photo 16)

Photo 16: Extraction and washing of hill slope gold bearing saprolite and gravel

The Bleyeepea creek claim was being worked by sizeable number of "gold boys" ranging from 72 to 91 individuals. It was reported that the gold recovery was 15 – 17 grams / stockpile with each stockpile taking 2 days to wash (on average) which equates to 8 – 10 grams / day. Fine and flake gold is the predominant product with no nuggets being recovered.

An adjacent claim, bounded by the Blayee and Boetee creeks which supports 60 "gold boys", was also observed during the site visit. Along the southern flank of the same elongated hill, extensive excavations within the lower slopes have revealed a highly weathered mineralized "vein type" zone which is being actively trenched and exploited with the aid of Catacata machines. Although quartz veining was not observed within the lateritised overburden, gold recovery was taking place (Photo 17).

Photo 17: Excavation of mineralized weathered laterite & processing through Catacata

Site 3: Yorpea, Zoyee creek

The Class C licence holder for this claim is mining alluvial basal gravels from a SW flowing stream which has its headwaters within the western flank of the SSW trending elongated hill. Due to the requirement of local farming activity, only 5 – 6 people were active at this site. It was reported that 2.5 grams of gold could be recovered from a single day of hand washing. A typical stockpile, measuring 3m x 3m and 1m (high), comprises a coarse angular quartz rich basal sandy gravel which was being extracted from a 10-20cm thick gravel horizon beneath 4.3m of overburden as shown in Photo 18.

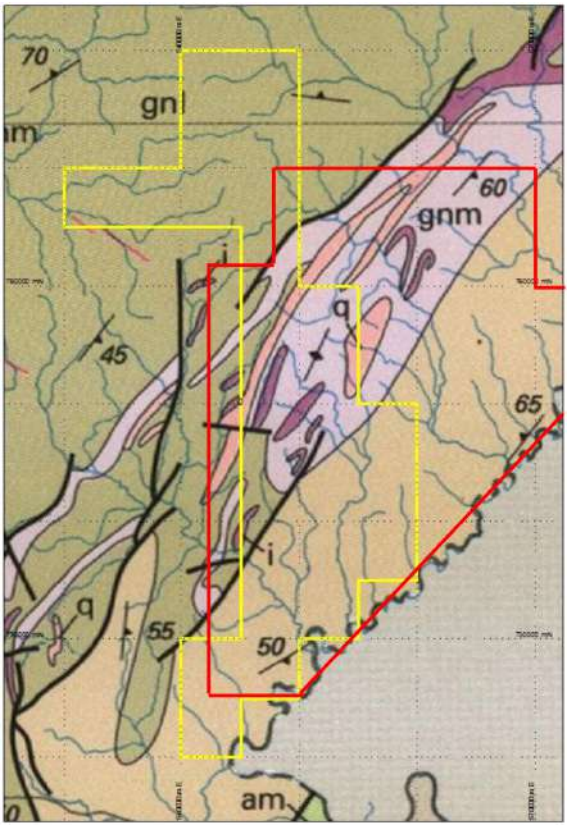
Photo 18: Profile of alluvial workings at Site 3, gravel stockpile and quartz rich washed material

8.1.4 Previous Exploration and Adjoining Properties

In 2004, Liberty International Mineral Corporation (Liberty) applied for and held a number of mineral concessions spread across Liberia for both gold and diamonds either in its own right or in joint venture with numerous Liberian companies. Initially commencing with an extensive regional stream sampling programme over Reconnaissance licences, the company then selected and retained the most prospective of these properties for mineral exploration licences for intensive geochemical soil sampling and mapping. In 2005, T Rex Resource Inc. was incorporated in Liberia which applied for a MEL in Nimba County.

This MEL covered 675 km² and was known as Nimba East. The outline of this licence (in yellow), in spatial relation to the Hamak Gold Nimba licence (in red), is shown in Figure 22.

Figure 22: Liberty JV T Rex Resources Nimba East licence and Hamak Gold Nimba licence



In Liberty's 2006 Annual report, T Rex reports that much of the property had been retained for the exploration for diamonds and mentioned that regional "stream sediment sampling for gold had returned a few scattered highly anomalous results". The background gold values averaged 10 ppb Au.

According to Liberty's website some 206 samples were collected with anomalous thresholds ranging from 150 – 400 ppb AU from spot samples collected in streams that drained from the iron-capped quartzite ridges comprising the mafic greenstone belt as referred to in Section 8.1.2 above. Liberty states that a regional 400m x 50m soil sample grid was sited over the NE – SW trending greenstone belt however it does not appear that this work was ever carried out.

Liberty pulled out of Liberia following the 2008 international financial crisis. While quarterly and annual reports might have been filed with the Ministry of Mines and Energy between 2004 and 2008, the author has not attempted to seek or verify the results indicated above.

Between 2011 and 2017 three companies held ground which partially overlapped with the current Hamak Gold Nimba licence (Figure 23). Gryphon Minerals Ltd (MEL67/11) held ground between February 2011 and February 2014 while Nimba Resources Ltd (MEL1208) and Manicka Resources Ltd (MEL1061/14) held ground between 2014 and 2017. In 2010, Tawana Resources (Tawana) established an alliance with Gryphon Minerals to acquire all of the latter's Liberian permits including two licences totaling 1,473 km² (Figure 24) covering the entire NE trending inferred greenstone belt from the Ivorian border to Tapeta.

By the end of 2011, Tawana had collected some 355 stream sediment samples with peak anomalies being recorded at 16 ppb from the southwest corner of the licence where a 10 Km strike length ridge, with two smaller sub-parallel ridges on either side of the main trend, had been mapped from the re-processing of the USGS aeromagnetic survey data (Figure 25).

However by 2013, Tawana made the strategic decision to focus all its efforts on its iron ore Mofe Creek Project in the Sinje District and dropped licence MEL67/11 for gold.

Figure 23: Former overlapping Nimba licences

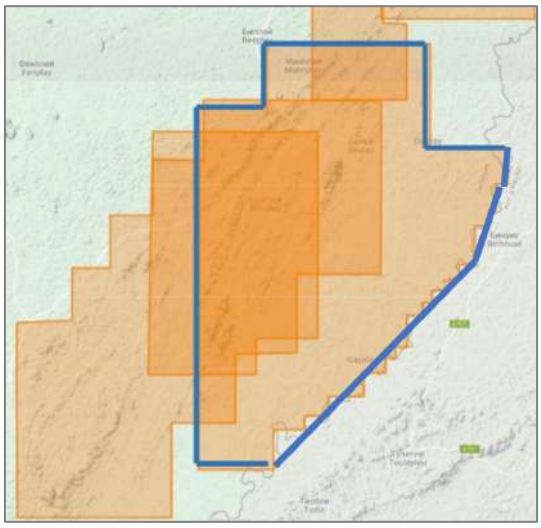


Figure 24: Tawana licences (2011) incl. Nimba

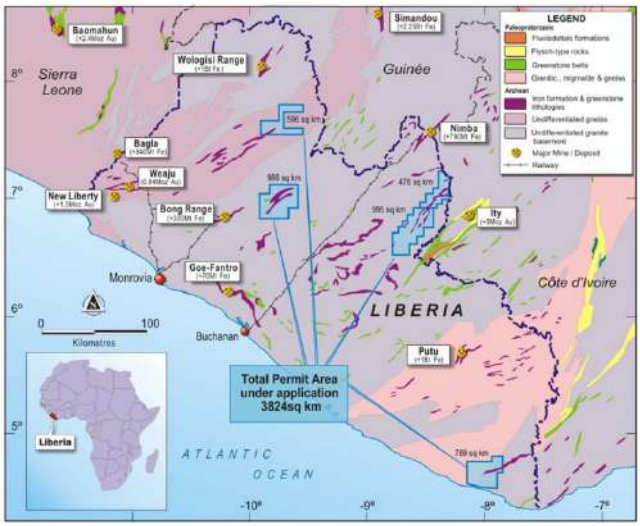
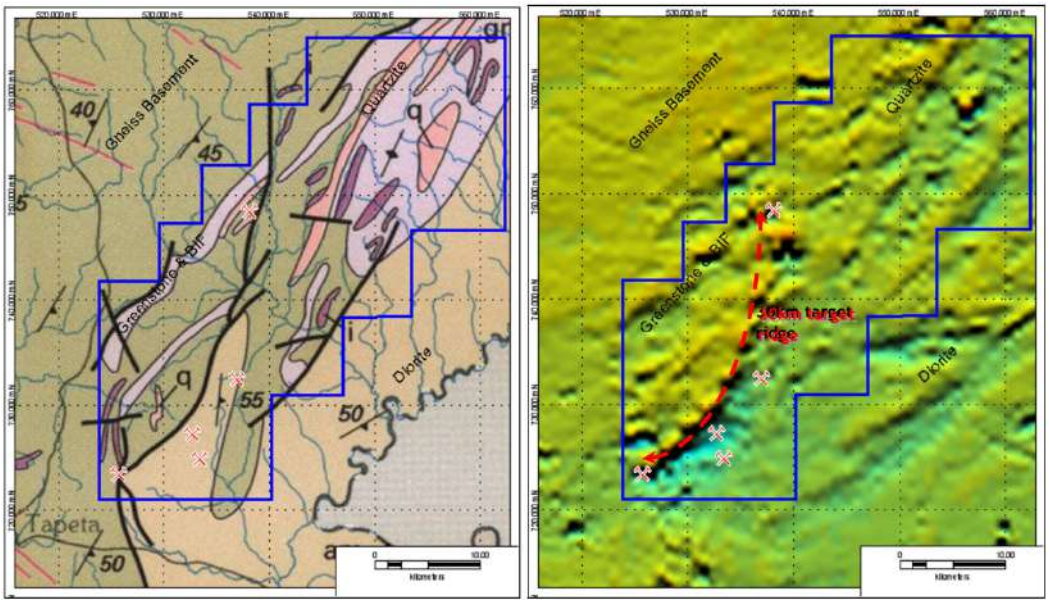


Figure 25: Geology and geophysical interpretation of Tawana Nimba licence



Some 25 km to the east of the Nimba licence and national border lies the Ity gold mine in neighbouring Côte d'Ivoire, which is a structurally controlled, predominantly carbonate-hosted gold mineralized system comprising a series of moderate to steeply dipping orebodies hosted in Birimian rocks. The Ity gold deposits are classified as skarn type but also consist of typical shear-hosted greenstone deposits. The mineralisation is located within skarns generated at the contact between granodiorite and marble. The deposits are sulphur-rich and are characterized by epidote, carbonate, diopside, chlorite, tremolite, magnetite and garnet with gold associated with pyrite.

The Ity "corridor", bordering the two countries, comprises a northeast-southwest trending belt approximately 10 Km to 15 Km wide which is interpreted as a nappe remnant, named the Toulépleu-Ity Klippe (Endeavour Mining Corp, 2020). The sequence forms the centre of a northeast – southwest oriented syncline with a granitoid core dating at 2.1 Ga. The Birimian

units of the Toulépleu-Ity Klippe include the “Ity Sequence”, which comprises banded amphibolites and ultramafic rocks overlain by a carbonate sequence.

The Hamak Nimba Permit is situated along this northeast-southwest trending “Ity corridor” gold belt and incorporates secondary fault splays emanating from the Cestos shear zone. Within the licence are also a number of small outcropping iron formations which appear to be associated with gold mineralisation. The mineralization styles of the Ity deposit are surely not unique to the area and its proximity to the Nimba property makes it highly prospective for a number of types of gold deposits and mineralisation.

8.1.5 Conclusion and Recommendations

From field evidence gathered during the site visits plus (unconfirmed) results from the exploration activities of previous companies operating in the region, the Hamak Gold Nimba licence can be considered highly prospective for gold mineralisation. Clearly there are two geologically distinct provenances for mineralisation within the licence both associated with the structurally complex Sassandara fault system (Côte d’Ivoire) and the Cestos Shear Zone (Liberia). That the licence lies within the renowned and mineralized, crustal scale, Cestos shear zone is significant. With the 3.8 Moz Ity gold mine situated some 25 km due east of Buutuo more field geological work is required within the Nimba licence before a correlation can be made with the Ivorian deposit.

As mentioned above, the licence is almost equally diagonally divided into two geological terrains. To the west of the regional probable fault thrust lies long narrow quartzite ridges, with iron-formation caps. The most common geology is a combination of mica schist, pure quartzite, magnetite quartzite, garnet-kyanite quartzite and oxide-facies itabirite banded iron-formation (i) which are typical greenstone belt assemblages in Liberia. Gold mineralisation is evident from active diggings at Locality 1 (Gboulay) and 2 (Mt Blah).

To the south of the main thrust lies an unmetamorphosed massive to slightly foliated diorite intrusion (designated “di” in the USGS geology map) which appears to have intruded the widespread quartzo-feldspathic leucocratic gneiss (gnl) that occupies large tracts of the county. There is a lack of geological definition within this dioritic landscape where rounded hills and less pronounced ridges are evident, but which were not mapped by the USGS. Furthermore, the absence of BIF from spoil / waste heaps from diggings would suggest that these hills would not have shown up in the USGS aeromagnetic and radiometric survey data.

Diggings visited at Locality 4 are all located downstream of a distinct NE and southerly trending elongated hill which is more rounded and perhaps half the average height of the ridges to the NW. While the regional geology needs to be better understood it would appear that either the elongated hill or the contact zone between the hill and the diorite is mineralized in places and to varying degrees.

8.2 GOZOHN Licence

8.2.1 Location and Access

The Gozohn Licence (MEL 7002318), issued on 20th August 2018, covers an area of 766 km², located within River Cess and Nimba Counties in central Liberia and is centered on Latitude 688,000 North, Longitude 482,500 East (UTM WGS 84). The licence can be reached from Monrovia along a well-maintained bitumen road to Buchanan (133 km) and then via Trade Town, Bojesi, Gozohn to Kangbo Town along a dirt and gravel road maintained by logging companies (142 Km); a total of 275 km and a 6 hour drive (by 4x4). Alternatively, the licence can be accessed from the north along a gravel road from Tapeta (101 km) and a 3½ hour drive which conveniently makes accessible Hamak's Nimba licence situated to the north west. The roads within the concession are adequate dirt and gravel roads maintained by various logging companies.

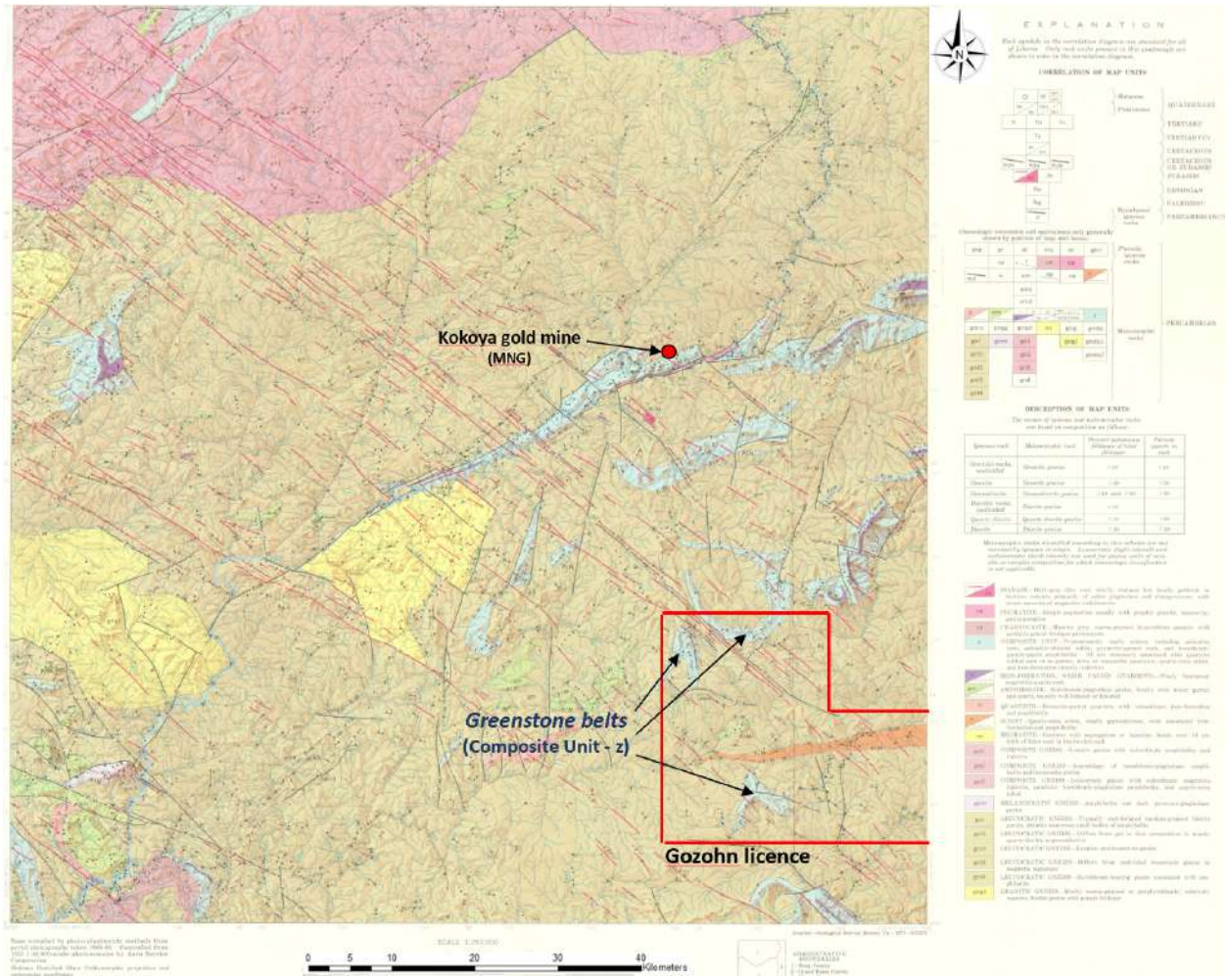
Altitudes range from sea level (Monrovia) to 150m at Yarpah Town and 271m at Kangbo Town in the north central part of the licence. The topography of the licence is gently undulating and typical of the underlying leucocratic gneiss terrain of central Liberia. This low-lying geomorphology, however, is conspicuously interrupted by a number of elongated, and occasionally curved, discrete hills and ridges, most notably Mt Koklun in the NW of the licence and the Zua range to the NE and just outside the licence (Photo 19). A sizeable, isolated ridge is easily visible some 10 km SW of the village of Wensahn.

Photo 19: Zua range, comprising resistant greenstone rocks with BIF, viewed from Deka village

8.2.2 Local Geology

The main source of geological information is derived from the 1:250,000 scale geological map of Gbanka (Map No. I-776-D) published by the USGS in 1977 and an accompanying geological report (Force, E.R. and Dunbar, J.D.N. 1974). Figure 26 shows the location of the licence on the USGS geology map.

Figure 26: USGS 1:250,000 Geology map of Gbanka and the Gozohn licence outline



Leucocratic quartzo-feldspathic gneiss underlies more than 85% of the licence area which is cut by swarms of northwest – southeast trending diabase dykes, with a notable swarm NE of Mt Koklun. Three distinct, USGS defined, Composite units (z), commonly associated with greenstone belt lithologies, occur within the licence with larger units being mapped to the north and, to a lesser extent, to the south of the licence (Figure 26). These units comprise an assemblage of interlayered strongly deformed amphibolite, quartzite, schist, and iron-formation (BIF) and generally form the slopes of most of the ridges and ranges with a relatively thin laterite covering or regolith. Contacts with the gneiss are reported to be structurally controlled. The presence of BIF, often along the centre and crest of the ridges, are distinctive in the USGS aeromagnetic maps. The assemblage was assigned a metasedimentary and metavolcanic origin and are typical of other greenstone belts in Liberia. The proven and producing Kokoya gold mine is situated some 30 km to the north of the northern licence boundary within a similar structurally controlled greenstone belt setting.

A road cutting, excavated through greenstone assemblages, was observed along the southern flank of Mt Koklun, some 2 km north of Gozohn village at coordinates E 471082, N 696044 UTM WGS 84. Steeply dipping and striking 220-280°, these tightly layered partially weathered units were observed to comprise schist and banded iron formation as shown in the photo mosaic below (Photo 20). According to the local Mining Agent, nuggets of gold were found within the broken rock and laterite during the excavation of the cutting.

Photo 20: Greenstone assemblage exposed in Gozohn roadside cutting

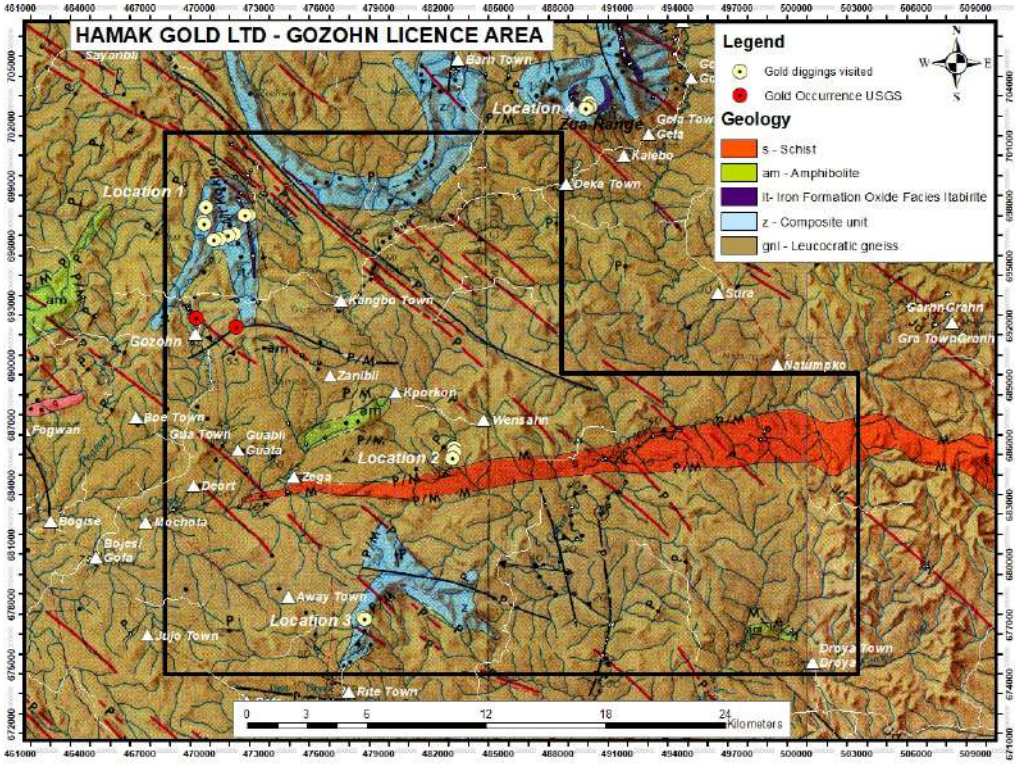
A west to east trending quartz-mica schist unit cuts across the southern part of the licence, the boundaries of which were determined from the USGS magnetic survey data. Amphibolite schist and itabirite are also associated with this unit. Located to the south of Wensahn village, the contacts with the gneiss are concordant and gradational with the muscovite content decreasing from schist into gneiss. The unit forms a topographic high as evident in Photo 21 and is interpreted to be of metasedimentary and metavolcanic origin. Gold diggings are associated with this feature (See Section 8.2.3.2 – Locality 2).

Photo 21: East-west trending hill comprising schist and itabirite south of Wensahn village

8.2.3 Gold occurrences and mining activity (ASM / Class C)

The USGS mineral locality map only records two gold occurrences located in the NW part of the licence which are certainly related to the resistant greenstone ridges of Mt Koklun. At the time of compiling the USGS geological report (in 1974), no mining or gold digging was recorded within the area, however clearly this has changed as shown in Figure 27, where a number of gold diggings and Class C licences are now being actively worked; many of which were visited during the site visits.

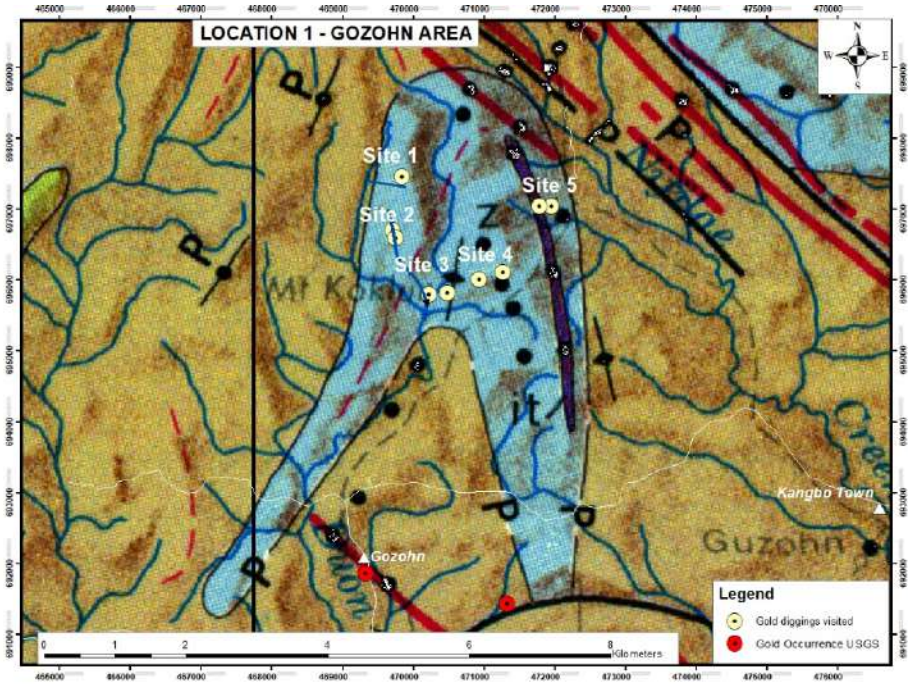
Figure 27: Gold mineralisation and location map of occurrences within the Gozohn licence



8.2.3.1 Locality 1 - Gozohn north

Substantial ASM gold activity, some under Class C licences, is currently taking place at this location which are clearly associated with mineralized lithologies within the greenstone belt; of which Mt Koklun forms the peak. The diggings vary from i) alluvial mining within the numerous creeks draining the flanks of the elongated, north / south orientated, ridges to ii) active hill slope mining where there appears to be localized bedrock mineralisation. The various sites visited are shown in Figure 28 & described below.

Figure 28: Gozohn licence, Locality 1 – Gozohn north



Site 1: Mt Koklun (north)

The operator of this site has a Class C licence and is actively working a 400m x 200m wide strip of cleared hill slope along the western flank of Mt Koklun. Digging activity at this site is confined to surface workings only with detrital gold being recovered from the excavation and washing of the upper 1-2 m of lateritised regolith (Photo 22).

Photo 22: Location 1, Panoramic view of cleared hill slope and regolith mining at Site 1

Rocks and clasts from spoil or waste heaps, as well as in outcrop, comprise quartzites and BIF as shown in the photo mosaic (Photo 23).

Photo 23: Greenstone quartzites and banded iron-formation at Site 1

Some 82 “gold boys” are employed by the licence holder which is supported by six Catacata machines and two water pumps and is the largest operation within the licence area. Being on

the steep hill slope, access to water to wash the gravel is challenging and must be relayed by pumps from the nearest flowing stream via a series of dams to the Catacata washing sites. The mining tends to be piecemeal with selected sites being excavated to bedrock serviced by one Catacata and "carpet" laid sluices and channels (Photos 24 & 25).

Photo 24 & 25: Location 1, Site 1 - Worked out mining area, spoil heaps & Catacata sites

On two separate occasions, the licence holder gave permission for his production to be photographed. In Photo 26, the parcel of gold was reported to weigh 206 grams and amounted to approximately one months' worth of washing at the site while Photo 27 is a subsample of the same parcel.

Photo 26 & 27: 206 grams of gold recovered from ~ 4 weeks of washing gravel

Photo 28 shows some 56 grams of gold representing 4 – 5 days of washing. The recovered gold has been mixed with mercury which forms an amalgam consisting of 50% mercury and 50% gold. The amalgam *balls* are then heated to evaporate off the mercury and the resultant "sponge" gold residue is shown in the photograph below.

Photo 28: 56 grams of gold recovered from 4 -5 days of washing gravel

Site 2: Mt Koklun (South)

This site is located approximately 900 m south of Site 1 and is a combination of hill slope and base-of-slope colluvium mining along the same mineralized western flank of Mt Koklun. Initially mining started downstream with mining focused on exploiting the alluvial deposits located around Site 3, however these have been worked out and mining has advanced upstream and is now being concentrated on the hill slope as shown in Photos 29 and 30. The photos were shot viewing downslope and give an idea of the scale of mining which is concentrated in a narrow 200 m wide belt. Mining is on a smaller scale than at Site 1 with ~25–30 "gold boys" being engaged, with two operating Catacata machines and a couple of water pumps.

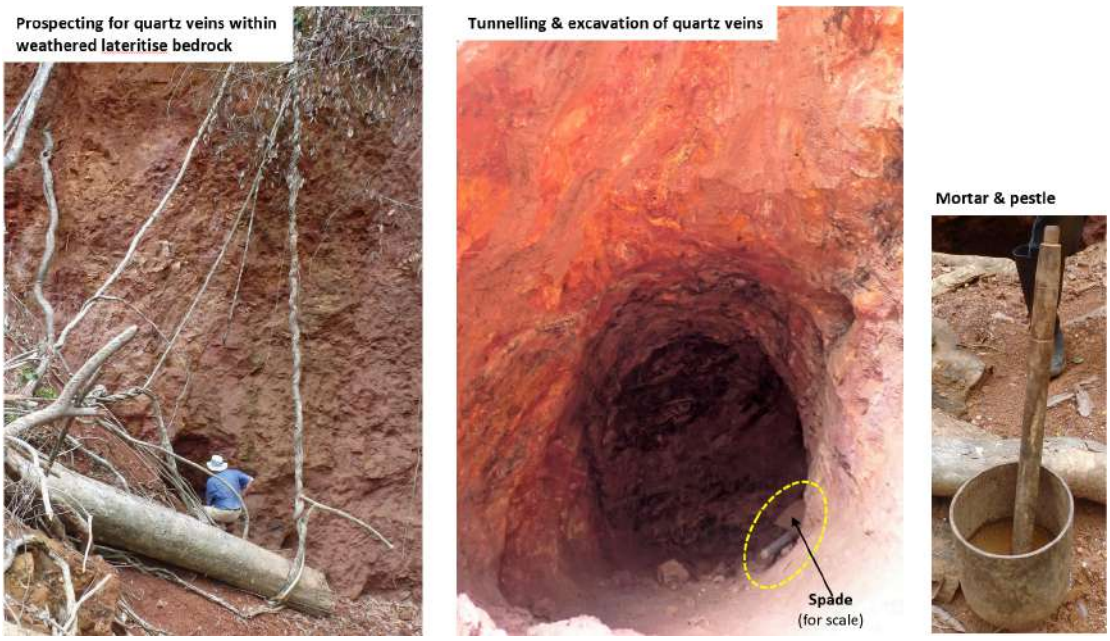
Photos 29 and 30: Hill slope mining at Location 1, Site 2 viewing downslope

Bedrock is well exposed with quartz veining clearly evident within the greenstone units. Strongly foliated gneiss with schists, quartzite, and amphibolite together with what appears to be highly weathered steeply dipping metasediments (similar to those seen at the Gozohn roadside cutting), were observed in outcrop (Section 8.2.2). Banded iron-formation is present with concentrations of magnetite and hematite evident in the fine fraction of the washed material. Photo 31 shows the variety of rocks described by the USGS as Composite unit (z) and evident at Site 2.

Photo 31: Various rock types exposed within the hill slope of Site 2

The laterite cover is considerably thicker at this site compared to Site 1 averaging 3 – 4 m but reaching 6 m in places. The diggers have, on occasion, tunneled into the weathered bedrock following narrow, gold bearing, quartz veins. Where such quartz veins are encountered, the mineralized zone is extracted and manually crushed in a crude mortar and pestle as shown in Photo mosaic 32.

Photos 32: Tunneling beneath the laterite within the weathered bedrock to access quartz veins



The extracted broken-up material is hand jigged and panned. Mercury is added to the dried concentrate to recover the “free” gold. The licence holder reported that between 35 g to 140 g of gold has, on occasion, been recovered from 3 – 4 m³ of crushed material, including gold nuggets. Average gold production was reported to be between 5 and 8 grams / day. No gold parcels were presented or reviewed.

Site 3: Domneny

This site is downstream of the two very active hill slope diggings viewed at Sites 1 and 2. The deposit being targeted is alluvial in nature and although much of the valley, up to and within the headwaters, has been mostly worked out re-working of former diggings (or pockets of pristine gravel) remains viable for the local artisanal miners. Six artisanal miners have removed the 2 – 3 m overlying riverine silt and sand to expose a coarse blocky basal gravel (often containing cobble sized clasts). A few shovels of gravel were washed which yielded 18 – 20 gold colours (Photo mosaic 33)

Photo 33: Locality 1, Site 3 mining of alluvial basal gravels at Domneny

Sites 4 & 5: Gblinny, Jorjor and Kangbo

These sites are associated with another north - south trending ridge located to the east of Mt Koklun which is believed to form part of the same greenstone belt. Following the crest of the ridge is a USGS mapped elongated narrow itabirite lens (Figure 28).

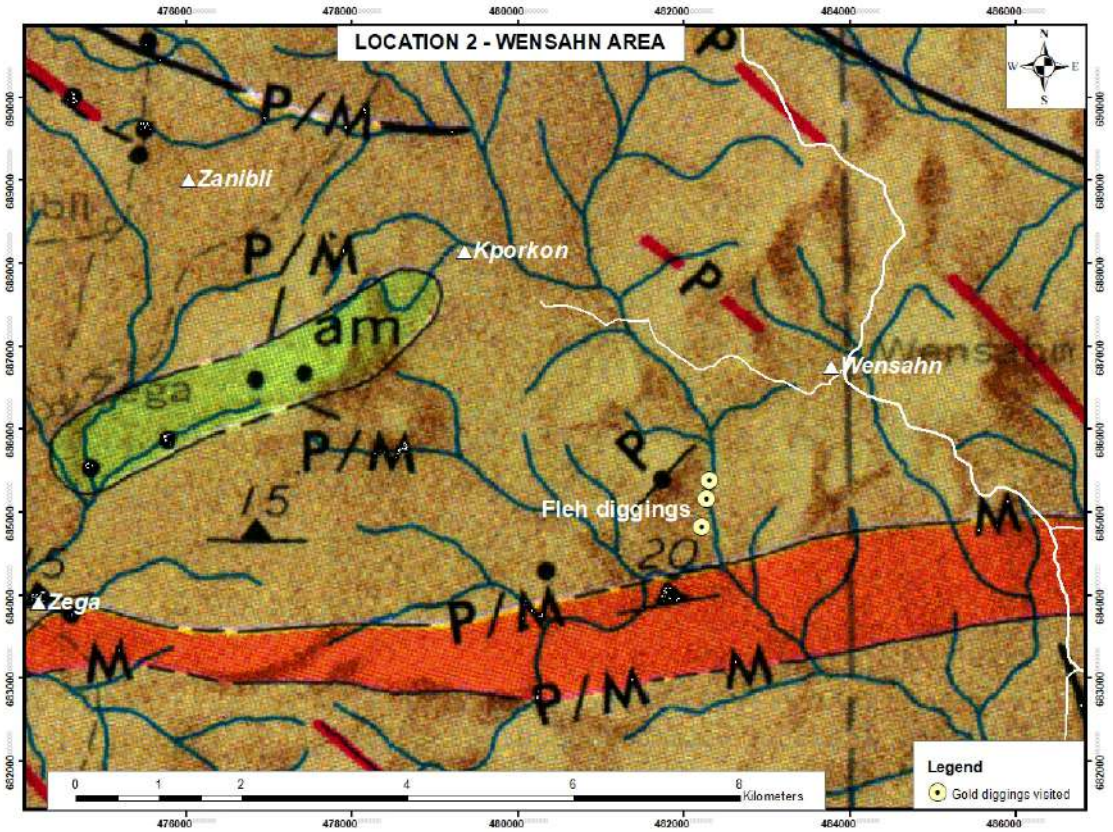
The digging here is not regulated by any Class C licence holders and was described as being the domain of the local villagers (mostly from Kangbo) where activity appears to have been much less intense than on the western slopes of Mt Koklun. The diggings reviewed are all small scale and alluvial in nature with quartzite clasts making up most of the washed spoil heaps (Photos 34 & 35). The workings have all but been abandoned within the Duan creek which would suggest that the eastern flank of Mt Koklun is less mineralized that the western slopes.

Photos 34 & 35: Abandoned diggings at Locality 1, Sites 4 & 5

8.2.3.2 Locality 2 - Fleh digging (SW of Wensahn village)

The site was briefly visited and is some 2 km to the south of Wensahn village (Figure 29). Given the USGS geological map sheet suspected spatial "off set", is it probable that these diggings are on or near the schist unit and / or contact zone as described in Section 8.2.2. This is significant as it implies that this purported metasediment – metavolcanic sequence (Force, E.R. and Dunbar, J.D.N. 1974) is mineralized with 80% of the mapped unit lying within the confines of the licence.

Figure 29: Gozohn licence, Locality 2 – Fleh digging



Only a few people are currently active at the site; the diggings being solely alluvial within southward draining streams with attempts at minor river diversion to gain access to the auriferous basal gravels (Photo 36). The washed spoil heaps comprise predominantly quartzite (Photo 37).

Photos 36 & 37: Inactive / periodic digging at Fleh creek (including modest diversions)

8.2.3.3 Locality 3 - Gbotor digging (E of Away Town)

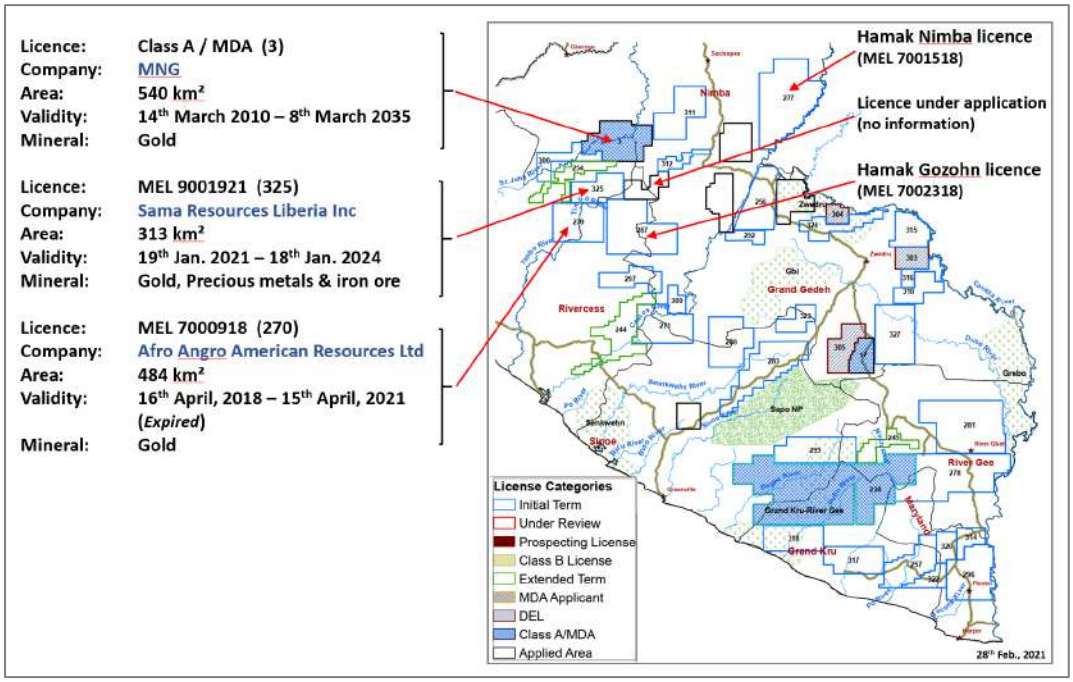
This site is very isolated without easy access through the forest which probably accounts for the current inactivity, while more accessible productive sites are available. An abandoned Catacata alludes to a possible lucrative digging given the effort required to transport it to the site. Apart from evidence of alluvial mining, excavation of laterite embankments, containing quartz veins, was attempted (Photo 38 & 39). The locality is on the southern ridge of a curved range of ridges and is mapped as Composite unit (z) comprising greenstone belt assemblages. No information on production could be gleaned from this site.

Photos 38 & 39: Laterite, with quartz veins, and abandoned Catacata at Gbotor

8.2.4 Previous Exploration and Adjoining Properties

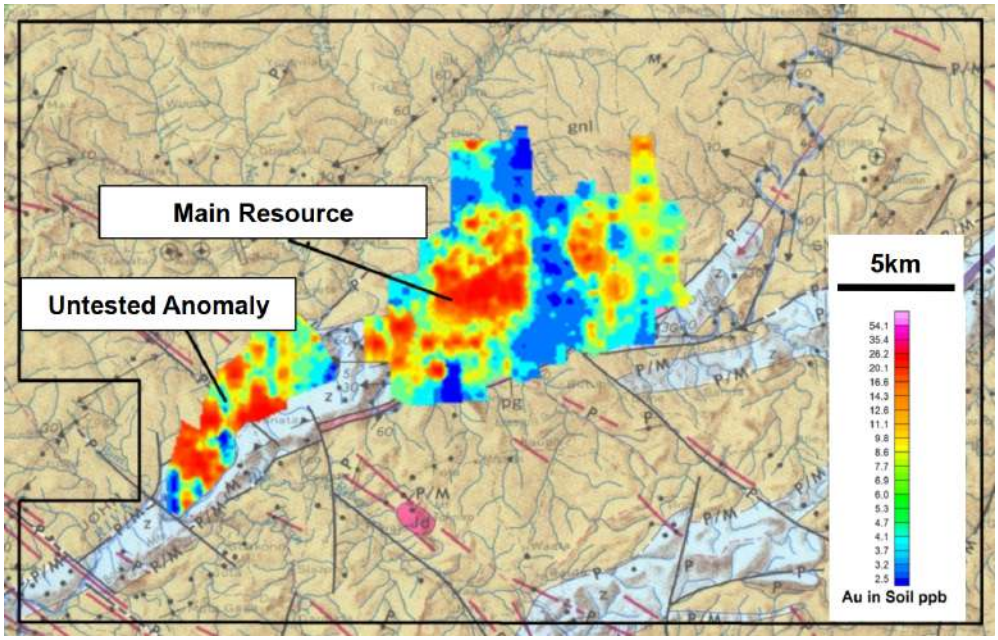
A due diligence research of exploration activities carried out by previous licence holders was not conducted by the Author for this area, however the Gozohn licence itself currently has a number of licences adjacent to its northern and western boundaries (Figure 30).

Figure 30: Hamak Gold Gozohn licence and adjoining properties



As mentioned in Sections 1.7 and 8.2.2, the Kokoya gold mine (100% owned by MNG) is located some 30 km to the north of the Gozohn property within a similar geological setting. Prior to completing a Prefeasibility Study in 2014 the then licence holder, Amlib Holdings Plc (Amlib), took cognisance of the intense artisanal digging activity in the area either along the banks of the St John river, its' tributaries or within the subcrop of the extensive greenstone rocks prevalent there. Figure 31 is taken from a 2013 Amlib investor presentation and highlights the extent to which the NE trending greenstone belt has been mineralized with a resource average grade of 2.6 g/t Au and a mined grade of 4.6 g/t Au.

Figure 31: Amlib gold in soil ppb results for the Kokoya exploration & evaluation project



An analogy can be reasonably made between the discovery of Kokoya within greenstone geological terrain and the surrounding extensive artisanal activity and the potential future discoveries that may lie within the Gozohn licence area.

Located between MNG's Class A Kokoya MDA and the Gozohn licence lies a 313 km² exploration permit (MEL 9001921) which incorporates all the mapped greenstones in that area, and is under licence to Sama Resources Liberia Inc. (Sama) for 3 years as of January 2021. On 30th April 2021, Sama (who has Robert Friedland of Ivanhoe Mine Ltd as a major shareholder) signed a deal with Seahawk Gold Corp. of Canada to sell all three of Sama's Liberian gold licences, one of which is MEL 9001921, for a consideration of 8.5 M shares worth approximately £ 2.6M as at the date of the announcement.
(https://seahawkgoldcorp.com/seahawk-gold-corp-announces-liberian-property-acquisition)

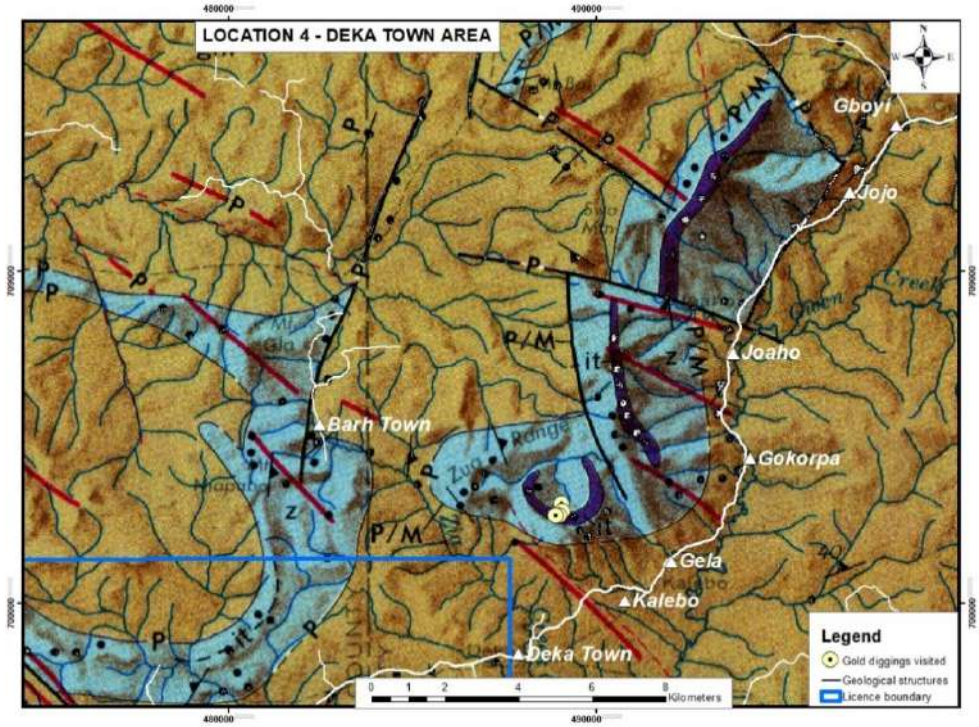
Given the increasing value of gold, global industry leaders (as reported by Africa Intelligence on 26th May 2021) are predicting a "land grab" for West African gold projects by Canadian and Australian listed Junior mining companies looking to acquire prospective properties that are "non-core" assets for larger industry leaders. The proximity of the former Sama licence and its' perceived potential is significant with regards the Gozohn licence which contains similar greenstone outcrop of within the licence area.

Immediately to the west of the Gozohn licence lies a 484 km² square licence (MEL 7000918) in the name of Afro Angro American Resources Ltd. No information could be found on this company or any work carried out. The licence expired on 15th April 2021.

8.2.4.1 Location 4, Zua Range

Along the north eastern boundary of the Gozohn licence lies the southern boundary of an area under application (Figure 30). No information was available about the applicant, however during the site visit, an excursion was made to an active digging site at Location 4 (Figure 32), some 5 km NNE of Deka village, and within the Zua Range (Photo 19).

Figure 32: Gozohn licence, Locality 4 – Zua Range



The Zua Range comprises a series of resistant, steep sided, elevated greenstone ridges sloping at an estimated 5° to 7°, similar to those found elsewhere within the Gozohn licence. Banded

iron-formation is strongly associated with this particular range of ridges. At the digging site, excellent bedrock outcrop was observed, exposed as a result of the excavation of the relatively shallow 1 – 3m lateritised regolith immediately overlying BIF as shown in Photo mosaic 40.

Photo 40: Exposed, steeply dipping, banded iron-formation at Location 4 - Zua Range

The Class C licence holder, through progressively exploiting auriferous gravels upstream, towards the southern slopes of the Zua Range, has commenced mining the hill slope at specific pre-tested locations. Although an entirely manual small-scale operation comprising 15 “gold boys”, unaided by the use of Catacata, the licence holder has made effective use of the sloped terrain to assist with the trapping and recovery of gold from the excavated material.

Having cleared a part of the hill slope, one or two small channels or “runs” are cut into the bedrock and then floored with lengths of “carpet”. Initially the loose red brown upper laterite is washed and, with the aid of gravity, guided by tapered water hoses towards the pre-cut channels. From the lower slope, mining, washing and sluicing advances uphill with additional “carpet” being added incrementally. As excavation approaches the bedrock, special care is taken to “clean” the rock surface, including the cracks and joints, to ensure all the gold bearing soil and gravel is removed and efficiently sluiced as highlighted in Photo mosaic 41. The extent to which the hill slope is mined (upslope) is practically determined by the water pump head-of-pressure and length of laydown hose pipe!

The miner recognized that specific quartz veins, referred to as “sugar rock”, were lode gold bearing however the steeply dipping nature of the Composite unit, layered sub-parallel to the slope angle of the hill, meant that these veins often become obscured by hard impenetrable overlying sequences and hence inaccessible.

Photo 41: Hill slope mining methodology at Location 4 - Zua Range

The licence holder intimated that he was recovering approximately 10 grams of gold / day however washing of the "carpets" generally takes place once and at the end of the week or twice a week if the "grade" increases. Because he is working the hill slope directly on top of the mineralized BIF and is aware of the need for bedrock cleaning, his production is high in the recovery of nuggets; more so than any other operation seen within the licence area. An example of the licence holders' production is shown in Photo 42.

Photo 42: Example of gold recovered from Location 4 with a high percentage of nuggets

8.2.5 Conclusion and Recommendations

Similar to the Nimba licence, the Hamak Gold Gozohn licence from both field evidence during the site visits plus the proximity of a producing mine can be considered highly prospective for significant gold mineralisation. With three mapped greenstone belt outcrops (as yet unexplored by modern techniques) with at least two being mineralized as verified by artisanal activity, the prospects of discovering gold bearing source deposits within this licence is high. The extensive digging activity at Location 1, Sites 1 and 2, both situated along the western flank of Mt Koklun, are suggestive of a proximal primary bedrock source for gold. In fact, at

Site 2, quartz veins were observed within bedrock along the hill slope diggings while tunnelling was evident within the thick lateritised saprolite.

Clearly not all hill slopes of steep ridges within the licence are mineralized. For example, at Location 1, Sites 4 and 5, ASM activity is low key suggesting weaker upslope mineralisation. Furthermore, between Mt Koklun and the Zua Range (due north of Kangbo village), lies a curved east – west trending exposure of greenstone belt which appears to be absent of known gold workings. Having said that, the west-east trending quartz-mica amphibolite schist belt (with itabirite) within the southern central part of the licence appears to be mineralized which is encouraging.

As described above, it is evident that the geology within the licence is relatively straight forward which will allow for a focused initial exploration programme. Widespread regional reconnaissance stream sampling may be forgone in favour of a more intense traverse soil sampling and trenching campaign concentrating on the hill slopes and along the ridge crests. The trenching programme would be aimed at generating targets for scout drilling. This is further discussed in detail under Section 11.

Finally, the licence is within relatively easy access from Monrovia and Buchanan along a tarmac surfaced road and along well-maintained stretches of road to the centre of the licence at Kangbo village.

8.3 RIVER GEE Licence

8.3.1 Location and Access

The River Gee licence (MEL 7001618), issued on 3rd May 2018, covers an area of 973 km² and is located within the counties of River Gee and Maryland in east Liberia with its eastern boundary adjoining the border with Côte d'Ivoire.

The MEL is centered on Latitude 640,000 North, Longitude 564,500 East (UTM WGS 84). The licence can be reached from Monrovia along a well-maintained bitumen road to Buchanan (133 km) and to Pyne Town via Yarpah Town, Kopo (Nyennueh Junction), Juazohn and Shabli (371 km) along a dirt / gravel road which is in poor condition. A well-maintained logging road, constructed to the south of the Putu mountain range, connects Pyne Town to the main Zwedru highway at Duabo Junction. Sections of this road (after the junction) to the SE towards Fish Town are in very poor condition (116 km). The total distance is 620 km, requiring an overnight stop en route. Alternatively, the licence can also be accessed via Buchanan, Greenville and Barclayville to Fish Town and is approximately 500 km from Monrovia but the latter part of the route is impractical due to the state of the road. The main road from Fish Town traversing the licence to the east and south is along a newly constructed bitumen road while all other routes leading off this highway are on dirt and gravel roads.

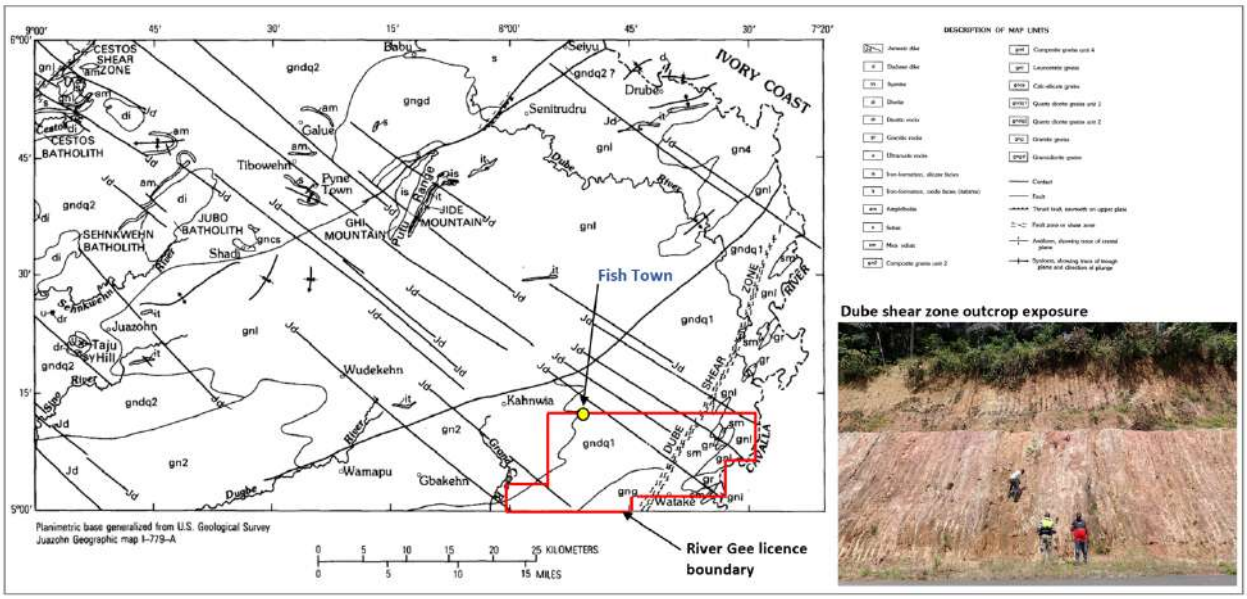
Approaching from the north, the topography of the area is gently undulatory, occasionally hilly, ranging from 190 m at Fish Town to 136 m at Wessatoken and to 90 m at the Dube shear zone (Location 1 – Figure 34). Two main rivers flow from the NW towards the SE, across the licence, namely the Goe River which traverses the NE corner and the Kai Creek within the south-western quadrant of the licence. The tributaries of these two rivers flow in a south-easterly dendritic drainage pattern with the principle hydrographic basins culminating as right bank tributaries of the southern draining Cavalla river; being the border with Côte d'Ivoire.

8.3.2 Local Geology

The main source of geological information is derived from the 1:250,000 scale geological map of Juazohn (Map No. I-779-A) published by the USGS and the accompanying geological report (Tysdal, R., 1978). Due to field access conditions in the late 1960's, the USGS made extensive use of the magnetic survey data in compiling the geological map for this quadrangle whereas the radiometric data was of limited value. The quality of the USGS topographic map for the Juazohn quadrant, based on aerial photographs flown in the late 1950's, is poor due to cloud cover and poor quality.

The NE orientated Dube shear zone is the most prominent structural feature within the eastern part of the licence and separates an extensive quartz diorite granitic gneiss (to the west), from a more complex micaceous schist to the east, which is interbedded with fine-grained quartzites associated meta-sedimentary manganese-formation beds and is considered to be of Birimian age (Figure 33).

Figure 33. Geology of the Juazohn quadrangle relevant to the River Gee licence



A quartz diorite gneiss (gndq1) covers the greater part of the River Gee licence, west of the Dube shear zone, and forms undulating to hilly terrain with few exposures. Small granitic to dioritic bodies are present locally while migmatitic rocks are common. The gneissic rocks in some areas have complex folds and segregations of quartz-rich layers that weather differentially. A coarse grained granitic gneiss is found to the south of the "gndq1" gneiss (and west of the shear zone).

Isoclinally folded micaceous schist (sm) comprising fine-grained muscovite-plagioclase-quartz rock can be found to the east of the shear zone. Fine-grained equigranular quartzite is commonly interbedded with the schist while beds of meta-sedimentary rocks, as much as 2 m thick, are associated with the quartzite and are of undisputed Birimian type lithologies. These metasedimentary rocks are bedded manganese-formation comprising manganese silicate consisting of black fine-grained finely laminated units and containing abundant spessartite. The manganese-formation is resistant to erosion and hence form prominent steep-sided discontinuous ridges ranging from 30 to 100 m in height and up to 2 km long and are recognizable from the colluvial manganiferous float along the ridge flanks.

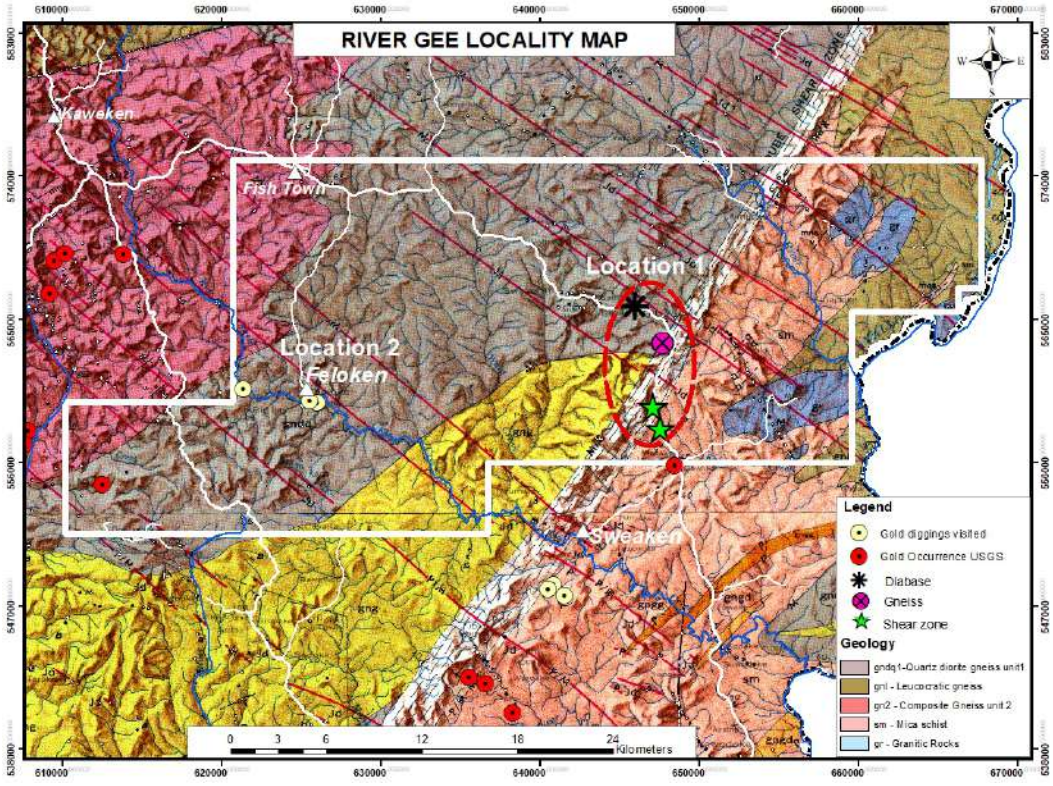
A swarm of Jurassic age diabase dykes trend northwest across the licence area, are fine grained and composed of labradorite and as much as 10% magnetite and ilmenite. Usually not more than 30 m thick, some of the wider dykes show coarse-grained (gabbroic) textures. These dykes appear to be intruded into a system of faults, dip steeply to the south (or are vertical) and due to their resistance to weathering, form narrow linear ridges. A well exposed outcrop was observed and recorded at Location 1 (Lat. 645,966 North, Long. 565,843 East WGS 84).

The Dube shear zone is discussed in detail under Section 8.3.3.1.

8.3.3 Gold occurrences and mining activity (ASM / Class C)

Only two USGS derived gold occurrences are evident within the licence area, each in the southeast and south-western parts of the permit, respectively. It is possible that the single occurrence located along the southern border of the licence and east of the Dube shear zone may be related to mineralized parts of the manganese-formation described above. This observation is further supported by alluvial diggings (inactive) observed south of Sweaken within the Togbolo and Yangbayain creeks (located outside the licence) as well as other USGS occurrences recorded further to the southwest. It is significant that all of these occurrences are located to the east of Dube shear zone within what are considered to be Birimian age rocks where some degree of gold mineralisation may be present (Figure 34).

Figure 34: Gold mineralisation, geology and location map of the River Gee licence



Historic USGS gold occurrences are recorded within the graphite-bearing quartz diorite gneiss (gn2) located to the northwest of the licence area, known as the “graphite” belt. At the time of the USGS survey and before the significant gold discoveries in western Liberia (at New Liberty, Weaju, Ndablama etc), this area historically yielded more gold than any other part of Liberia. One of the earliest gold bearing quartz vein deposits was discovered at Bukon Jedeh, situated within the centre of Hummingbird’s MDA, where the intrusive contact of a granite body has resulted in a favoured site for high grade gold.

Currently within the far eastern boundary of the Hummingbird MDA (which adjoins the western boundary of the River Gee licence) gold activity, usually river dredging, is known to be actively taking place but was not verified during the site visit. Through this region traverses the NE trending Dugbe shear zone which has been the focus of significant gold exploration and to date the most significant discoveries are the Dugbe F and Tuzon deposits within the Hummingbird MDA.

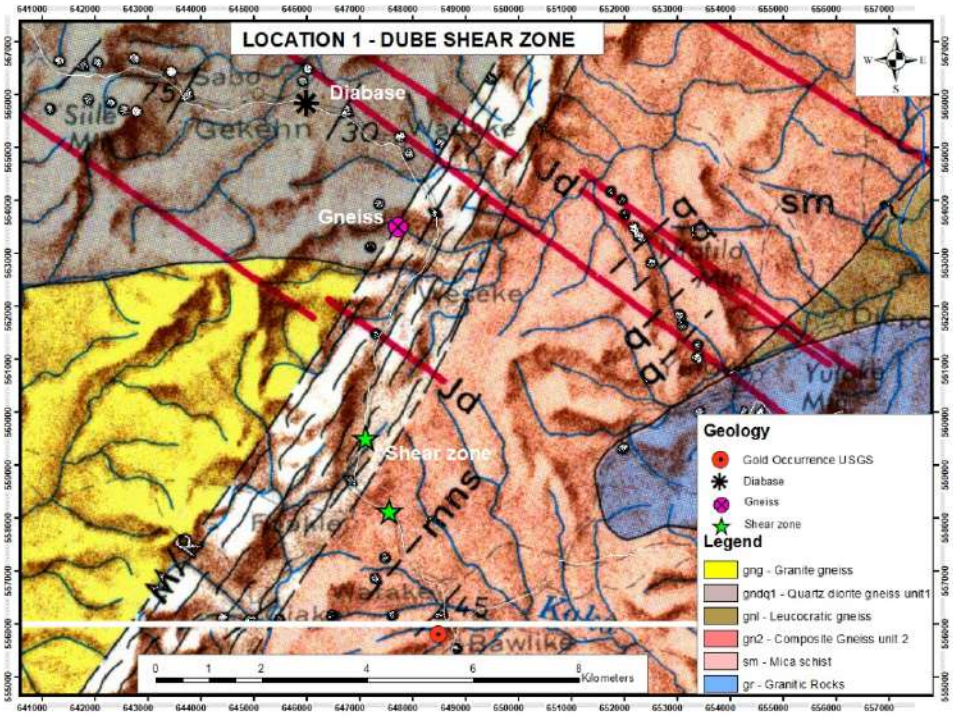
The only active Class C gold mining activity within the licence, observed during the site visit, are dredging operations within the Kia Creek near to the village of Feloken and upstream at a location known as Big Jay. At these locations, rudimentary barges have been fitted with suction pumps which extract gravel excavated from the central channel basal gravels (and riverbank) to a reception bin which feeds onto sluice boxes lined with "carpet" mats as discussed under Section 8.3.3.2.

8.3.3.1 Locality 1: Dube Shear Zone

The Dube shear zone is recognized by magnetic, radiometric, and gravity characteristics from the USGS survey (as strong linear treads) as well as geologically in the form of an 800m to 1 km wide mylonitic zone, suggesting this is a deep seated, crustal scale, structure possibly comprising a series of closely spaced faults.

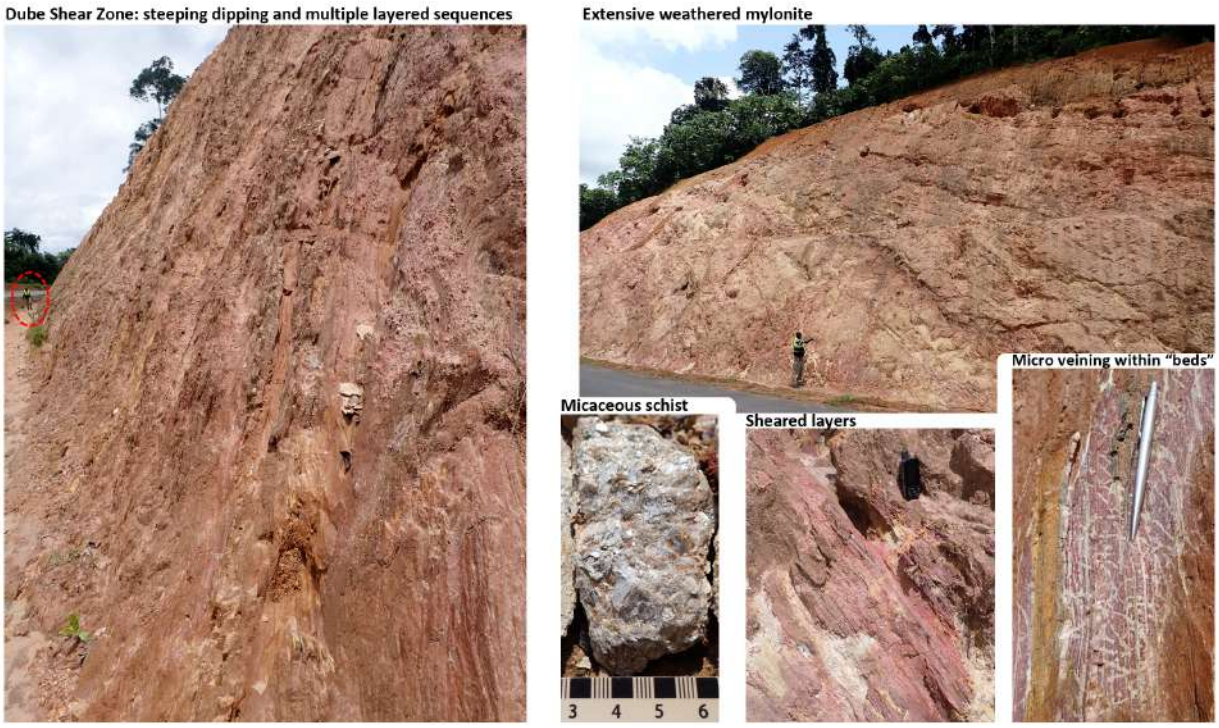
The USGS Bouguer gravity map shows a negative anomaly for the rocks southeast of the shear zone and a positive one to the northwest of the zone, suggesting a relative down faulting of the schistose sequence to the southeast. A left-lateral strike-slip movement has been noted (Brock, Chidester, and Baker, 1977). Most of the sheared rocks along the Dube fault are dark in colour except for the upper level leached lateritised units as observed at Location 1 (Lat. 647,560 North, Long. 558,136 East and Lat. 647,102 North, Long. 559,507 East WGS 84) where the shear zone is exposed as an extensive mylonite (Figure 35).

Figure 35: River Gee licence, Locality 1 - Dube shear zone



The sheared rocks along the Dube fault are fine to very fine grained and, when fresh, hard, and dense, and hence resistant to erosion. However, at the road cutting along the newly reconstruction road from Fish Town, at Location 1, excellent exposure of highly weathered, red brown to pink, layers of mylonite were observed (Photo 43).

Photo 43: Road cutting exposure of Dube shear zone



A quarry, established for the crushing of aggregate for road stone, was visited also at Location 1 (Figure 34). Within the fresh quartz diorite gneiss, the magnitude of the stress and deformation associated with the Eburnean orogeny and evolution of the Dube shear zone is abundantly apparent (Photo 44). Recent scholars and academic authors consider this crustal structural feature to be the eastern definitive boundary and contact zone between the Archaean and Palaeoproterozoic Birimian terranes in West Africa.

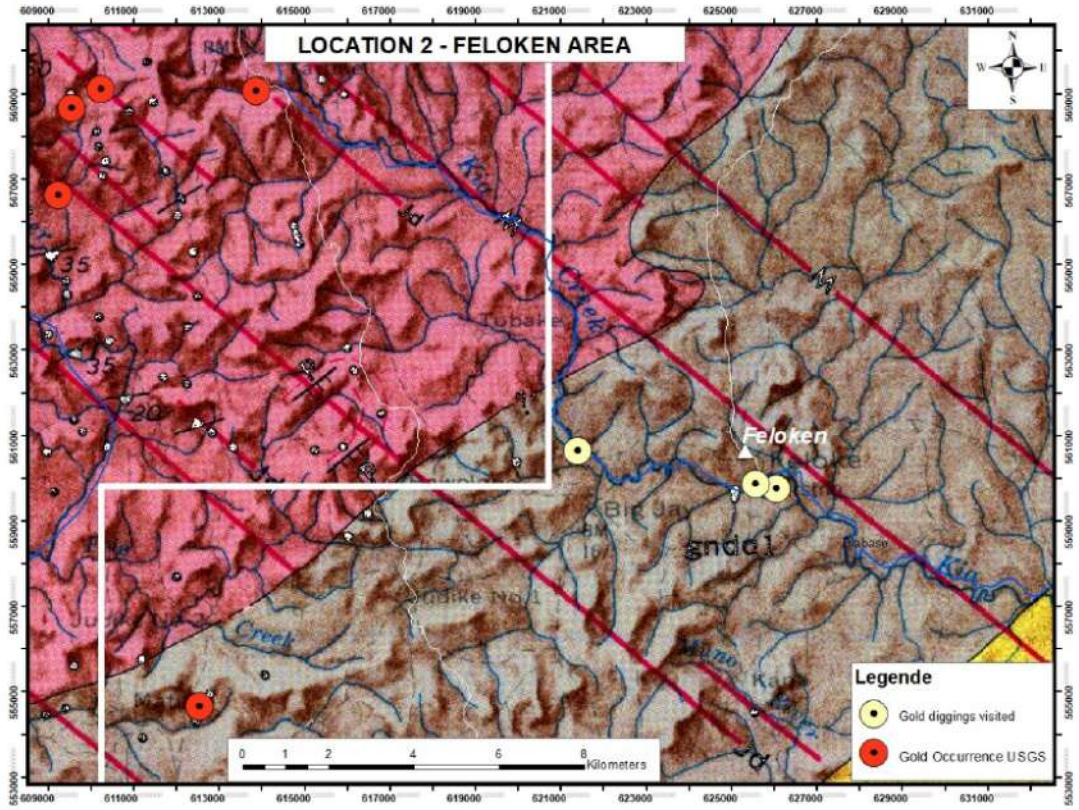
Photo 44: Faulting & fracturing associated within gneiss outcrop in proximity to the Dube SZ

Jointing & fracturing of quartz diorite gneiss (striking 50° to NE) parallel to the Dube shear zone

8.3.3.2 Locality 2 - Feloken & gold dredging activity

During the site visit of the River Gee licence, no terrestrial gold digging activity was encountered. However, at the village of Feloken two dredging operations were observed within the Kia creek near to the village and some 4 km upstream at a location known as Big Jay (Figure 36).

Figure 36: River Gee licence, Locality 2 - Kia creek dredging activity



At these locations, a number of floating barges or dredges have been constructed upon which are mounted suction pumps and gold washing and recovery equipment (Photo 45).

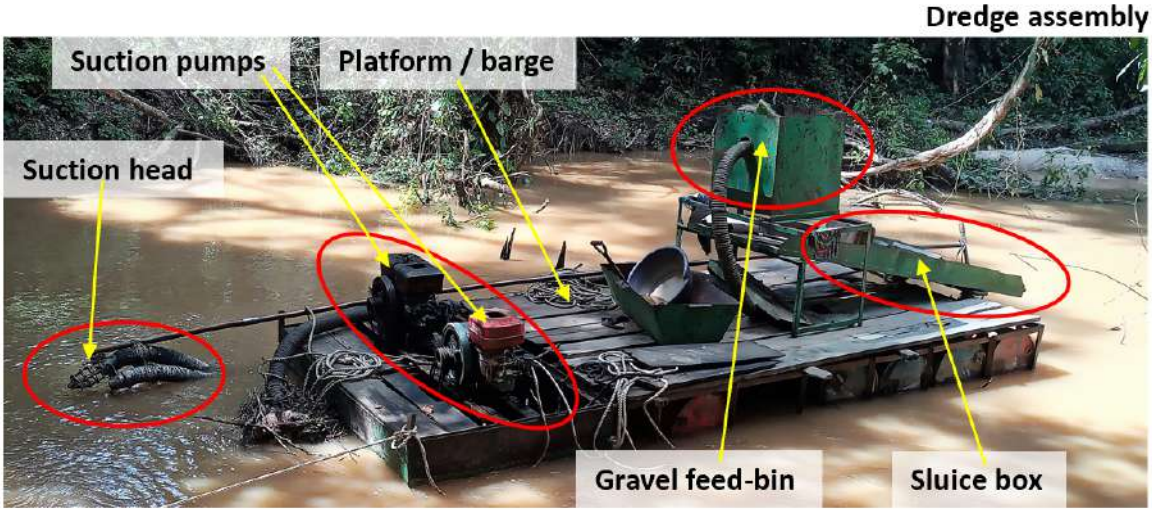
Photo 45: Gold washing dredges located on the Kia creek

Note: No dredging was taking place on the Sunday that the site was visited.

The depth of the river is relatively shallow, i.e. 1 – 2m, and so the basal gravel, once cleared on the overlying sand, is extracted from the river bed manually through the use of a suction

hose with an armoured head. Coarse pebbles and cobbles are avoided and only the finer gold bearing gravel and sand is "vacuumed" from the riverbed via pumps and into the feed-bin which is fixed upon the floating pontoon or barge. The sandy gravel material is then directly sluiced over the riffled "carpet" laid at an angle in parallel sluice boxes, trapping the gold liberated from the basal gravels extracted from the riverbed (Photo 46).

Photo 46: Dredge assembly for gold extraction and recovery



A Class C licence holder was interviewed and explained that the gravel layer varied in thickness from a few centimeters to 1 m in places. Similarly, production varied according to whether good trapsites were encountered such as potholes or boulder jumbles.

A parcel of +100 grams of gold, treated by mercury, was exhibited (Photo 47). It was reported that average daily production ranged from 40 – 50 grams with occasionally 300 grams / day being achieved when "sweet spots" were found. It was not clear whether the average daily production came from one (as reported) or from all three dredges (as suspected).

Photo 47: Parcel of gold produced from dredging operations on the Kia Creek – Feloken

8.3.4 Previous Exploration and Adjoining Properties

Since 2003, there have been a number of companies which have taken out licences which either overlap or adjoined with the Hamak River Gee licence.

In 2010, Hummingbird acquired four Mineral Exploration Agreements (MEA), for a three year period, amounting to a total of 2,135 Km² of ground straddling approximately 65 km strike length of the Dube shear zone (ACA Howe International Ltd, 2010). These licences were selected on account of the mica schists being Birimian in age and located to the east of the shear zone where they generally are of a lower metamorphic grade than the quartz diorite gneiss located to the west (Figure 37).

By 2012, Hummingbird had collected 567 1st pass stream sediment samples over the 795 km² Gekehn licence, at a density of 1.4 samples / km², which yielded no significant gold anomalies, (Hummingbird, 2012 & 2014). No further details are available to the Author. The coverage of the stream sampling for all four Hummingbird licences is shown in Figure 38 with the boundary of the River Gee licence superimposed. Clearly much of the River Gee licence was covered by the Hummingbird 1st pass reconnaissance stream sampling programme.

Figure 37: Hummingbird's Eastern Licences

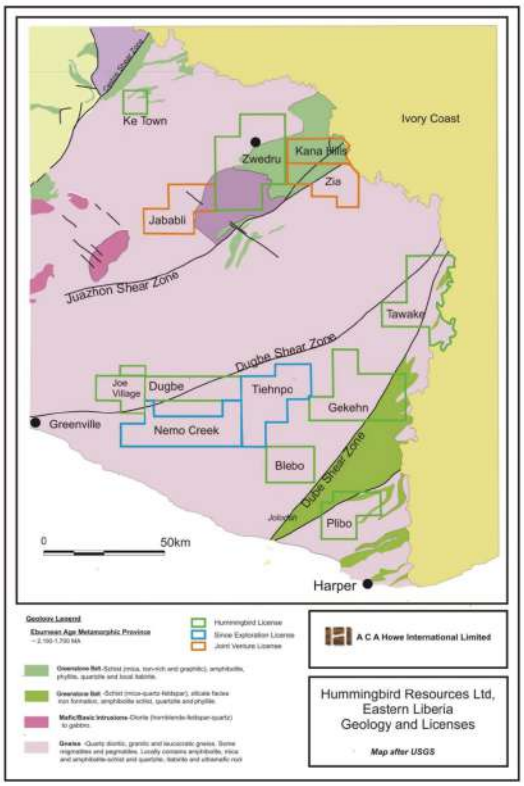
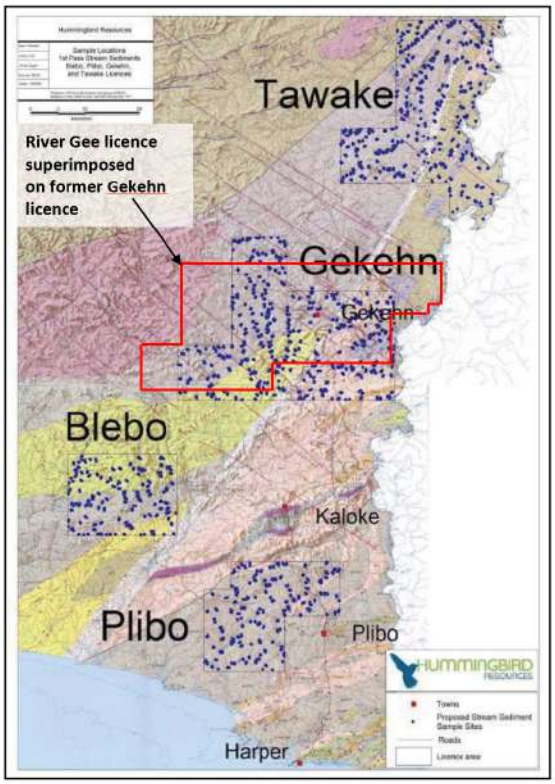


Figure 38: Stream samples & River Gee licence



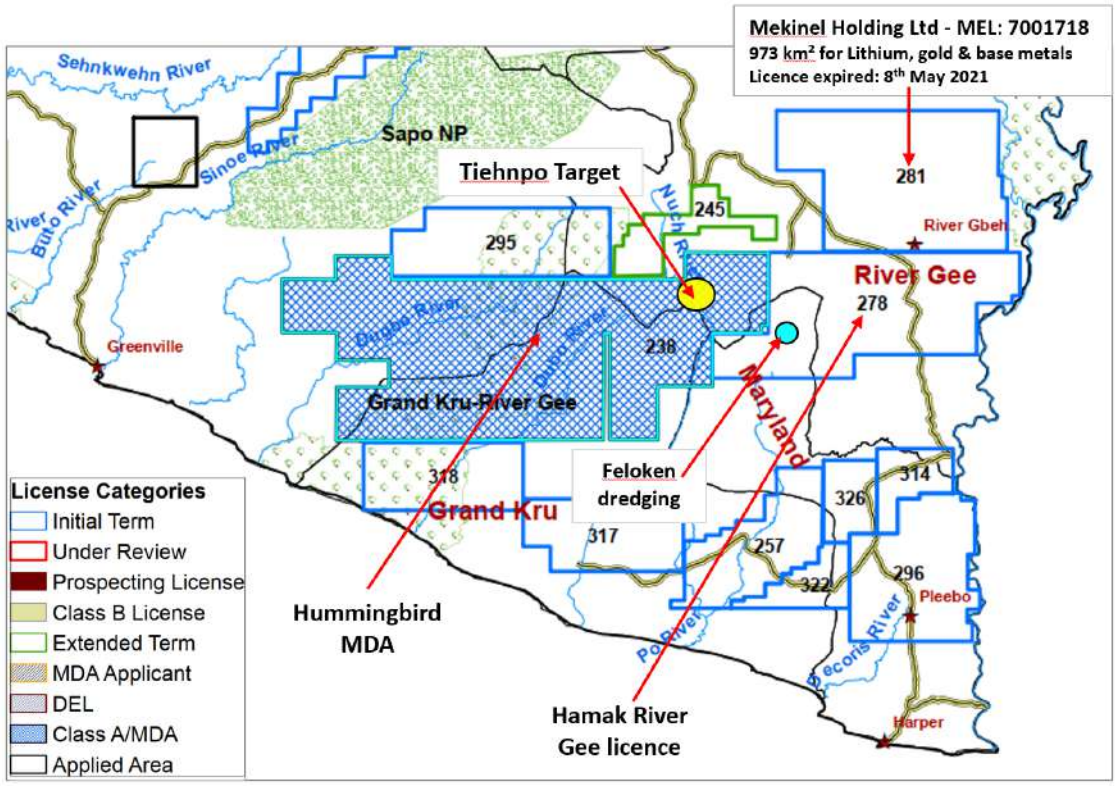
After a number of relinquishments, the remainder of the Gekehn licence was dropped in 2013. However, a broad zone showing anomalous lithium results was delineated but never followed up. No further information was available to the Author as to the positiveness of the lithium results or the location of the anomalous zones.

In January 2019, Hummingbird was granted a 25 year Class A / MDA (mining licence) covering an area of 2,254 km². A part of the eastern border of this MDA adjoins the entire western boundary of the River Gee licence. Within the MDA lies the Tiehnpo target which has long been known to host extensive artisanal workings in an alluvial setting which Hummingbird

have targeted to establish the hard rock source of this gold. Figure 39 shows the location of the Hummingbird MDA in respect to the River Gee MEL as well as other adjoining licences.

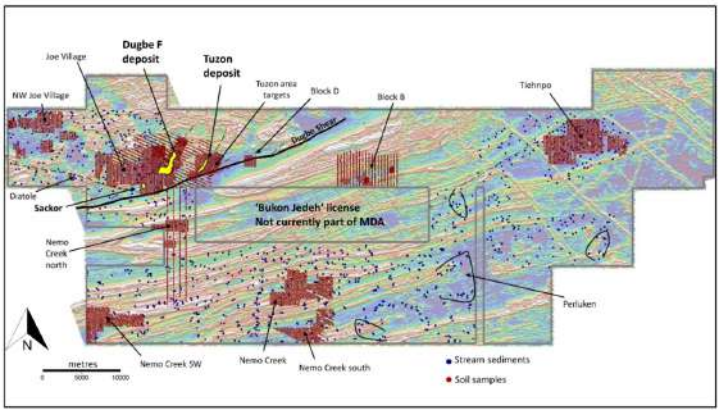
No information could be gathered in the Mekinel Holding MEL 7001718 which expired in May 2021.

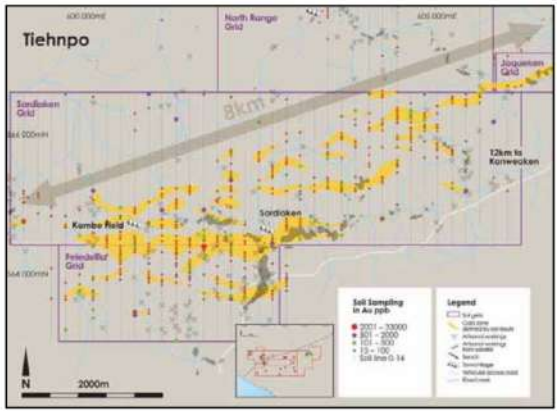
Figure 39: Location of River Gee MEL in relation to Hummingbird's MDA



At Hummingbird's Tiehnpo prospect, some 4,600 soil samples have been collected which revealed a broad swarm of east-northeast trending gold-in-soil anomalies with a positive zone measuring 7 km long by 2 km wide, with individual anomalies stretching up to nearly 4 km in length (Figure 40). In 2012 / 2013, an extensive trenching programme was undertaken which returned a strong correlation between the occurrence of arsenic and gold from samples tested with handheld XRF instruments. Values averaging 250 ppm over mineralized zones ranging up to 60m have been encountered. While gold mineralisation has been defined by trenching, drill testing has yet to take place.

Figure 40: Hummingbird's MDA, Tiehnpo prospect, sample coverage and results





8.3.5 Conclusion and Recommendations

The Dube shear zone is an obvious exploration target based on the premise that the main episodes of gold mineralisation in the Birimian appears to have been controlled by regional-scale shear zones. Gold occurrences and artisanal mining activity is known to have taken place regionally, and specifically to the east of the shear zone, as recorded by the USGS or more recently during the site visit as observed south of Sweaken within the Togbolo and Yangbayain creeks (albeit inactive at present). It is possible that some of these occurrences may be related to mineralized zones within the manganese-formation described in Section 8.3.2. A focused soil geochemical sampling programme to the east of the shear zone is warranted.

The source of the gold currently being recovered from the Feloken dredging operations clearly points to a regional, possibly local, source, however given the ability of rivers to transport detrital gold some distance from source, it is possible that such primary sources may be located within the Tiehnpo target area of the Hummingbird MDA. It is probable that the Tiehnpo prospect hosts hard rock sources for gold which account for the extensive alluvial workings both beside and within the streams and tributaries of the Kia creek, which flows across the River Gee licence. A low density 1st pass stream sediment sampling programme is proposed to the north of the Kai creek.

8.4 FASAMA Licence

8.4.1 Location and Access

The Fasama licence (MEL 7002518), issued on 20th August 2018, covering an area of 744 km² and is located in Gbarpolu County in north-west Liberia and is centered on Lat. 392,800 North, Long. 844,400 East (UTM WGS 84). An application for a 32 km² extension, situated along the southern boundary of the existing MEL was granted on 8th February 2019, hence the revised licence area is 776 km².

The licence can be reached from Monrovia along a well-maintained bitumen road via Clay to Tubmanburg (77 km) and then to Fasama village via Gbarpolu and Henry Town along a poorly maintained road with the Henry Town to Fasama track being currently upgraded by a Chinese logging company (158 km); a total of 235 km, 7-8 hours. Fasama village is located to the south of the Tuma creek which is a sizeable river traversing the southern part of the licence and flowing towards the southwest; its course being structurally controlled. Only the southern part of the licence (and extension) was reached during the site visit as other approaches from the east or west of the licence were reported to only accessible by foot on a network of bush tracks linking villages.

Approaching the licence from the south (from Gbarpolu), the lowland topography is undulating and set within one of the most densely forested parts of Liberia including the Kpelle National Forest. Between Gbarpolu and Henry Town the route traverses the southern part of the steep, narrow and elongated Kpo mountain range which rises to an elevation of 470 m. The range is also the watershed between the southern flowing drainages towards the Ba Creek and St. Paul River and the Lofa River hydrographic to the north. The licence is situated immediately to the north of the Kpo Range with the village of Fasama located on the southern boundary of the licence.

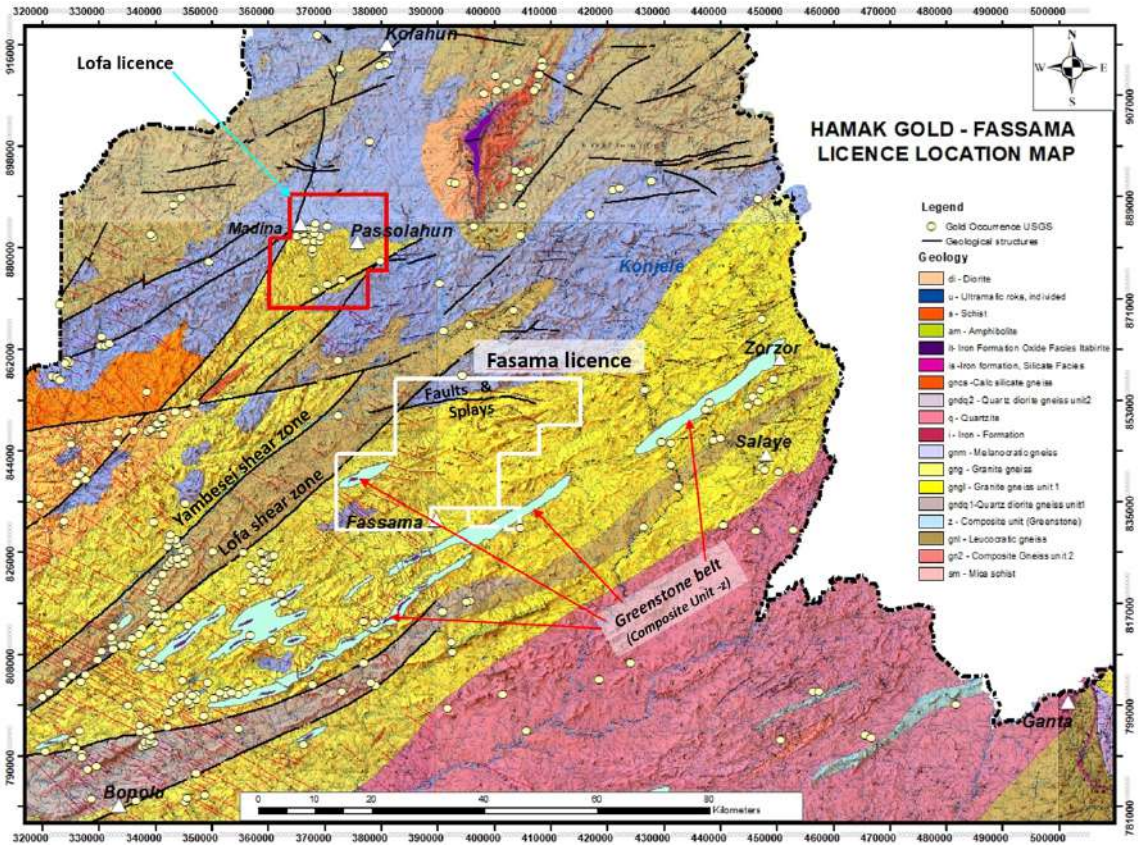
8.4.2 Local Geology

The main source of geological information is derived from the two 1:250,000 scale geological maps of Bopolu (Map No. I-771-D) and of Zorzor (Map No. I-773-D) published by the USGS and the accompanying geological reports by Wallace, R.M. 1974 and Seitz, J.F., 1977, respectively.

The Archaean geology of western Liberia comprises basement characterized by tonalite-trondjemite-granodiorite (TTG) gneisses, locally migmatitic, which have been subjected to deformation and shearing, with steeply dipping regional structures acting as conduits for large and long-lived traps for mineralizing fluids associated with extensional vein systems. From a regional perspective, the licence is proximal to two of these major NE trending structural lineaments known as the Yambesei and the Lofa shear zones. These zones or corridors are associated with the best known, and economically important, Archaean gold deposits in Liberia, including the New Liberty mine and advanced evaluation gold projects at Ndablama, Weaju, Gondoja and Leopard Rock.

In addition, surrounded by the leucocratic granite and gneiss suites, are supracrustal sequences of highly deformed metavolcanic and metasedimentary, mafic to ultramafic rocks, which form linear greenstone belts throughout the region as well as within and to the south of the licence area. These supracrustal rocks form discontinuous narrow elongated greenstone belts with lower greenschist to upper amphibolite facies metamorphism dominating the sequences (Figure 41).

Figure 41: Regional structures, greenstone belts and the location of the Fasama Licence



Two distinct greenstone belt lithologies (described as Composite Units in the USGS geological maps) occur within the licence, with the larger unit being mapped along the southern boundary and forms part of the Kpo Range. These units comprise an assemblage of interlayered strongly deformed amphibolite, quartzite, schist, and iron-formation (BIF) which form the slopes of the Kpo ridges. Contacts with the gneiss are reported to be structurally controlled. The presence of BIF, often along the centre and crest of the ridges, are distinctive in the USGS aeromagnetic maps.

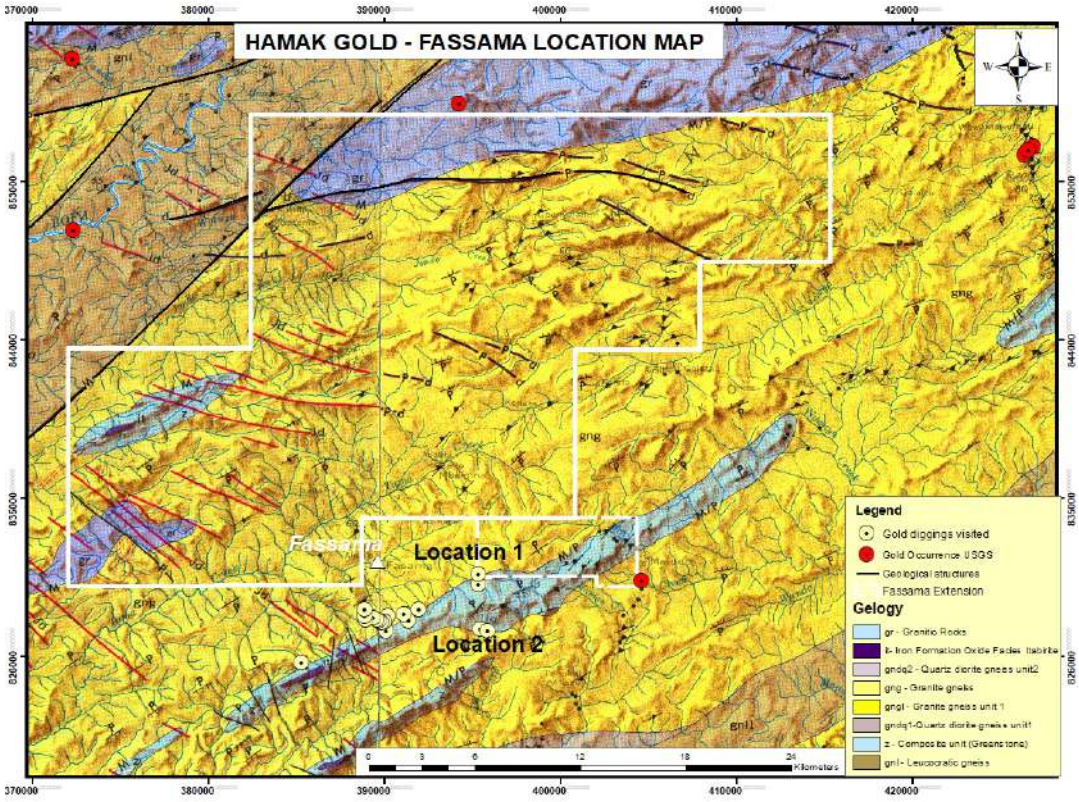
Exploration of the Kpo Mountains area has identified gold-bearing quartz veins with the mineralisation being related to and controlled by sheared lithological contacts between the TTG and greenstone rocks. Such mineralisation is associated with deposits at Lucky Hill (Gblita) along the southern part of the Kpo Range as well as at Belle Yella and the Tenkeh and Glubai Hills located due south of Fasama and the Kpo mountains.

Historically, Henry Town and the surrounding region has been the focus of significant artisanal gold digging and as recently as April 2020, amidst the Covid crisis, a gold rush ensued with hundreds of diggers descending upon the Belle Yella region.

8.4.3 Gold occurrences and mining activity (ASM / Class C)

During the time of the USGS survey, only a few isolated gold occurrences were identified near to the licence area while Henry Town was recognized as the centre for gold digging within the County. In discussion with the local mining agent and residents at Fasama and neighbouring Konjele village, it was evident (during the site visit) that most of the current active digging was predominantly taking place within streams draining the northern flank of the Kpo Mountains. A number of these sites were visited, however only one of them was within and at the edge of the licence area (Figure 42).

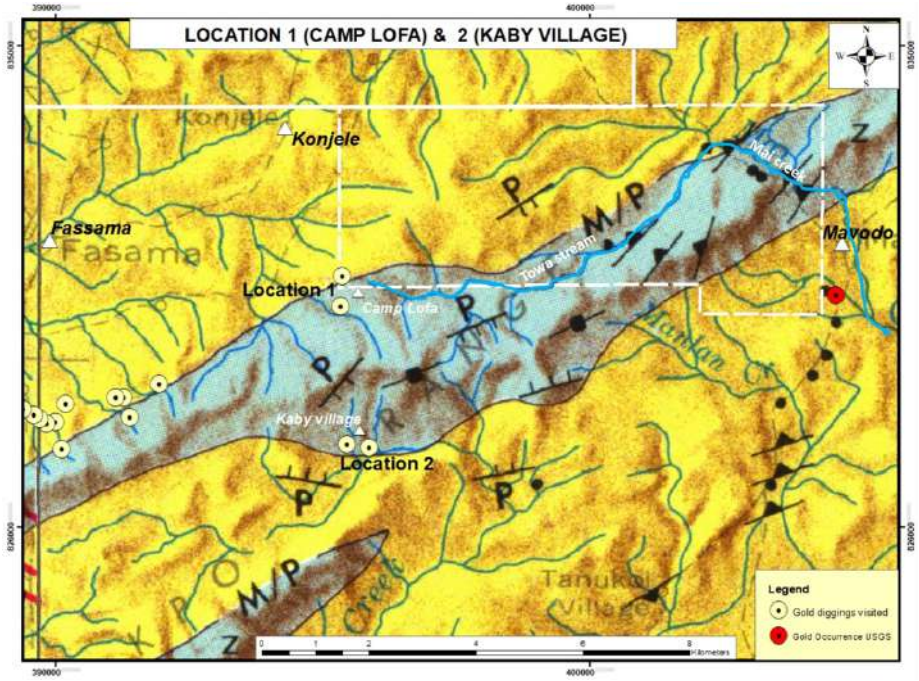
Figure 42: Gold occurrences and ASM activity in and around the Fasama licence



8.4.3.1 Location 1 - Camp Lofa and Manhun

The diggings associated with Camp Lofa are alluvial in nature and follow the course of the Towa stream which flows south of Konjele and eastward along the northern slope of the Kpo Range before joining the Mai creek which cuts through the greenstones and continues southward towards the Mavodo village (Figure 43).

Figure 43: Location 1 - Camp Lofa and Location 2 - Kaby and Savay diggings



At the time of the site visit, digging activity within the licence extension area had been brought to a halt due a dispute between the downstream village of Mavodo and the upstream artisanal diggers whose activities, and hence sedimentation and silt input, was impacting upon the quality of water of the Mai creek.

The modest alluvial diggings at Camp Lofa are focused on the basal gravels of creeks draining the northern slopes of the greenstone belt. The spoil heaps comprise predominantly quartzite however the presence of banded iron formation is evident by the abundance of fine grained magnetite / hematite in the discarded sorted concentrate (Photo 48).

Photo 48: Camp Lofa alluvial diggings

8.4.3.2 Location 2 - Kaby camp and Savay creek

These diggings are located along the southern flank of the Kpo Range within southward flowing tributaries of the Ba Creek. For the most part, the alluvial gravels at the Kaby camp digging have been mined out and appear to be modest in scale (Photo 49).

Photo 49: Mined out alluvial workings along the Kaby creek

The ASM activity within the Savay creek is of a larger scale than at Kaby camp and has a similar geology to Camp Lofa in that the spoil heaps comprise predominantly quartzite with gneiss as well as banded iron formation clasts (Photo 50). While there are no "Catacata" machines on site, the local artisanal miners reported that a claim could produce 10 to 11 grams / day through manual washing of the gravel material. They also indicated that 0.5 to 1.0 gram gold nuggets were occasionally recovered. With these diggings being situated close to the southern slopes of the Kpo range, this would indicate that mineralisation in the form of gold bearing quartz veins is proximal.

Photo 50: Alluvial mining at Savay creek

River-bank alluvial diggings focusing on basal gravels

Waste heaps comprised of mostly quartz clasts

8.4.4 Previous Exploration and Adjoining Properties

Over the last 18 years there have been a number of exploration companies that have acquired prospective ground within the Kpo Mountain Range and the surrounding area, all focused on the greenstone belts and NE trending regional structures and shear zones. Where information is available, a short resumé follows on their activities.

Liberty International Mineral Corporation (Liberty):
In 2004 Liberty, through its local subsidiary company - Liberty Gold, acquired 1,000 km² of property incorporating part of the Kpo Mountain Range. This former licence was situated to the southwest of the current Hamak Gold Fasama licence. Liberty selected their Gbarpolu concession on account of the numerous alluvial gold ASM activity within the alluvial plains adjacent to the Kpo mountain ranges and surrounding areas, namely at Henry Town, Zelegai, Gyama, Tawalata, Gblita (Lucy Hill) and Gold Camp.

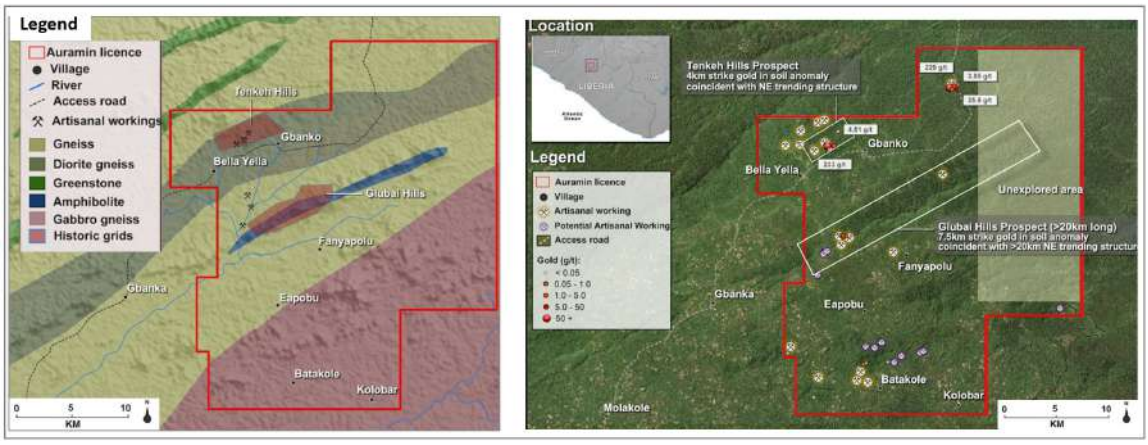
Reconnaissance and initial soil and stream sampling was concentrated in the Gblita area focusing on the geological boundaries between the TTG and mafic greenstone units. Grab samples from quartz veins in the Lucky Hills area reportedly returned assay values ranging from 5.9 g/t Au to around 45 g/t Au with a couple attaining values of 70 g/t & 88 g/t Au. Following the global financial crisis of 2008, Liberty departed Liberia.

Samlec Resources and Belle Resources Ltd:
In January 2011, Samlec Resources acquired a 532 km² exploration licence (MEL 12001) incorporating the greater part of the Kpo Range. Transferred into the name of Belle Resources in the same year, the Author could find no information relating to exploration field work having been carried out by the licence holder.

Adamus Resources Ltd:
In April 2011, Adamus Resources, a Junior Australian company listed on the ASX, announced the acquisition of a 1,368 km² exploration licence immediately to the north of the Belle Resources licence area. This licence incorporated all of the existing Hamak Fasama licence as well as additional ground to the north. The licence expired in 2014. No information on Adamus's exploration activities could be obtained by the Author.

Altus Strategies / Auramin (Belle Yella licence):
In 2014, Auramin (part of the Altus Strategies Group) acquired a 640 km² exploration licence (MEL 11108) in the name of local subsidiary, Mineral Exploration Services (Liberia) Ltd. Much of the work carried out on this licence centered around Belle Yella – Tenheh Hill and the Glubai Hills area and was based on 15 positive drainages identified from African Aura's historical data (Figure 44). Soil sampling at Tenkeh Hills returned gold-in-soil grades of 5.35 g/t Au along a 1.4 km NE-SW striking anomalous zone, while at Glubai Hills soil sampling defined a 7.5 km NE-SW anomalous zone open along strike in both directions and following a geological structure that can be traced for over 20 km. Multiple ASM camps were identified including hard rock and alluvial workings. Rock chip samples from outcrops and quartz veins returned high grades, including 233 g/t Au, 229g/t Au and 35g/t Au (Figure 45). The licence was not renewed at the end of 2016.

Figure 44: Auramin Bella Yella prospect ***Figure 45: Auramin assay results and ASM workings***



Altus Strategies / Auramin (Zolowo licence):

In November 2017, Auramin acquired a 466 km² exploration licence (MEL 3304/17) which is located some 20 km to the northeast of the Fasama licence. The MEL, known as the Zolowo project, contains 22 km of a significant 33 km long NE-SW trending Archaean-aged greenstone belt which is aligned with the same greenstone belt found within the Hamak Fasama extension block. The Auramin greenstone belt forms a prominent elongate 2.5 km wide ridge that traverses the licence (Figure 46).

Figure 46: Auramin – Zolowo gold project (MEL 3304_17)

Similar to the geology of southeast Fasama licence, amphibolites and felsic gneisses area common within the Zolowo licence with mylonites and chloritized mafic schists being found within the greenstone belt hosing prospective mineralogical assemblages including chlorite, tremolite, actinolite, serpentine and talc. The lithologies are notably sheared and exhibit foliation parallel to the NE-SW regional trend. Numerous quartz veins have been recorded, ranging from a few centimetres up to 2-3 m in width, including both blue-grey smoky and white-pink amorphous types and typically pinch and swell or are folded and boudinaged.

ASM has been ongoing in the Zolowo & Toota areas since the 1930's, however more recently some 300 sites of ASM activity have been recorded with most along 1st and 2nd order drainages within a 14 km zone (Auramin, Q2 2019). While alluvial workings most commonly target fine gold "dust", colluvial mining has yielded the coarsest and most angular gold indicating proximity to hard-rock sources. Anecdotal reports recall locals finding nuggets weighing up to 250 grams.

A rock-chip sample taken from an *in-situ* smoky quartz vein exposed in the base of a sizeable colluvial working returned a value of 3.0 g/t Au. Four samples of white quartz spoil taken from an artisanal working returned values of 30.7, 9.1, 8.8 g/t Au (white-pink) and 4.3 g/t (blue-grey smoky).

Regional scale soil sampling (470 samples) results returned 56 samples having a ppb greater than 5, i.e. above the background threshold, with four samples having values higher than 100 ppb; two of which were 494 ppb and 278 ppb. Initial soil sampling has tentatively defined a NE-SW trending gold anomaly within the greenstone belt.

8.4.5 Conclusion and Recommendations

From the USGS geological mapping of the region, two mapped greenstone units occur within the Fasama licence, one located in the southwest and another within the extension block. There is a direct analogy with the geological and structural setting of the Auramin Zolowo project and the greenstone rocks outcropping within the Fasama licence. Gold digging is active within the Fasama licence along the northern slopes of the greenstone belt (which make up part of the Kpo Mountain Range). No information is currently available on ASM activity associated with the greenstone unit identified within the southwestern part of the licence and hence must be considered an exploration target.

It is probable that more greenstone belt "inliers" exist within the licence area which will require a thorough geological mapping programme to be initiated during the first phase of exploration including the use of new and improved Landsat- 8 and Sentinel-2 multispectral and spatial data to assist in the identification of ASM activity.

The Archaean geology of western Liberia comprises basement characterized by tonalite-trondjemite-granodiorite (TTG) gneisses, locally migmatitic, which have been subjected to deformation and shearing, with steeply dipping regional structures acting as conduits for large and long-lived traps for mineralizing fluids associated with extensional vein systems.

The western boundary of the Fasama licence is proximal to the northeast extension of the Lofa shear zone or corridor and hence has a similar geological setting for gold mineralisation as the New Liberty gold mine which was discovered along the same NE-SW geological trend. It is possible that gold vein type mineralisation could be associated with localised secondary faults and splays related to the shear zone. It should be remembered that the majority of gold deposits within greenstone belts (including in the Birimian) are associated within structures that are subsidiary to major shear zones, i.e. splays, and include disseminated sulphide type, quartz-sulphide vein type and intrusion related stockworks.

The Fasama licence has the advantage of being in proximity to a major crustal-scale shear zone as well as hosting greenstone belt lithologies. These two geological settings make the

licence prospective for orogenic (mesothermal) gold mineralisation which should be investigated by soil grid sampling.

8.5 LOFA Licence

8.5.1 Location and Access

The Lofa licence (MEL 7002118), issued on 25th June 2018, covers an area of 367 km² and is located in Lofa County in north-west Liberia and is centered on Lat. 370,700 North, Long. 879,360 East (UTM WGS 84).

The licence can be reached from Monrovia along a well-maintained bitumen road via Totota to Gbarnga (189 km) and then to Kolahun via Zorzor and Voinjama along a poorly maintained gravel road (243 km); a total of 432 km and 13 hours. From Kolahun, the northern boundary of the licence can be accessed via two possible routes along gravel roads of varying condition to the villages of Madina also Mania (61 km, 4 hrs) or Pasolahun (66 km, 3½ hrs). These villages are located to the west and east of the main drainage, i.e. Kaihai River, respectively, and marks the "end of the line" for vehicular traffic to the south. Thereafter access is via motorbike or on foot.

Approaching the licence from the north, the topography ranges from rolling to rugged with distinctive bare granitic domes rising with steep sides and rounded tops as much as 300m above the surrounding terrain as shown in Photo 51. Most of the area is underlain by granitic gneiss and massive granite rock which renders a dendritic drainage pattern.

Photo 51: Rolling rugged terrain between Kolahun and the Lofa licence

To the northeast of the licence, some 30 km from Pasolahun, lies the Wologizi Range which rises 1,000 m with Mt Wuteve forming the summit at ~ 1,400 m above sea level.

8.5.2 Local Geology

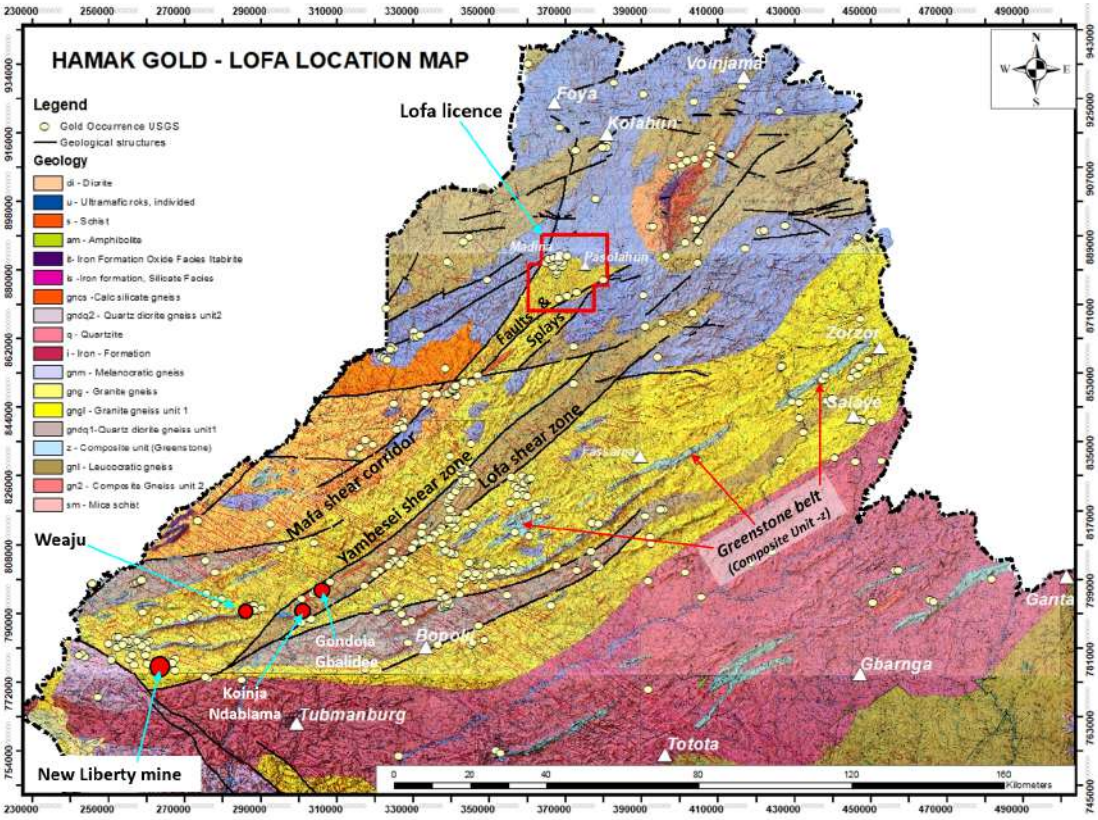
The main source of geological information is derived from the two 1:250,000 scale geological maps of Voinjama (Map No. I-777-A) and of Bopolu (Map No. I-771-D) published by the USGS and the accompanying geological reports by Seitz, J.F., 1977 and Wallace, R.M. 1974, respectively. Intense weathering has formed a saprolitic soil as much as 7 m thick in places and hence fresh bedrock outcrops are scarce with exposure limited mostly to road cuttings & streams.

The northern part of the licence in underlain by massive granitic rocks (gn) that range in composition from granite to quartz diorite and trondjemite and have a close genetic relation to the gneisses; the contact being gradational. Depending on the presence of potassium feldspar, the granites range in colour from grey to pink. The granitic gneiss (gng) in the

southern part of the licence is characterized structurally by a consistent NE 40° trend which is reflected in the USGS radiometric and magnetic maps and in the foliation of these rocks. The gneisses are layered and are predominantly granodioritic but range from granite to granodiorite in composition and can be intercalated with amphibolite and pegmatite.

From a regional perspective, at least three major structural lineaments trending NE – SW are recognized within the Archaean (Kenema-Man domain) of northwest Liberia. The best known are the Yambesei and the Lofa shear zones which form a corridor along and within which economically important, gold mineralisation has taken place. Mines such as New Liberty, advanced evaluation gold projects at Ndablama, Weaju, Gondoja and multiple gold targets are testimony to the importance of these crustal scale structures (Figure 47). The third includes the Mafa shear corridor which is believed to extend as far as north as Madina village and the western part of the Lofa licence.

Figure 47: Structural geology of northwest Liberia, the location of shear zones and the Lofa licence



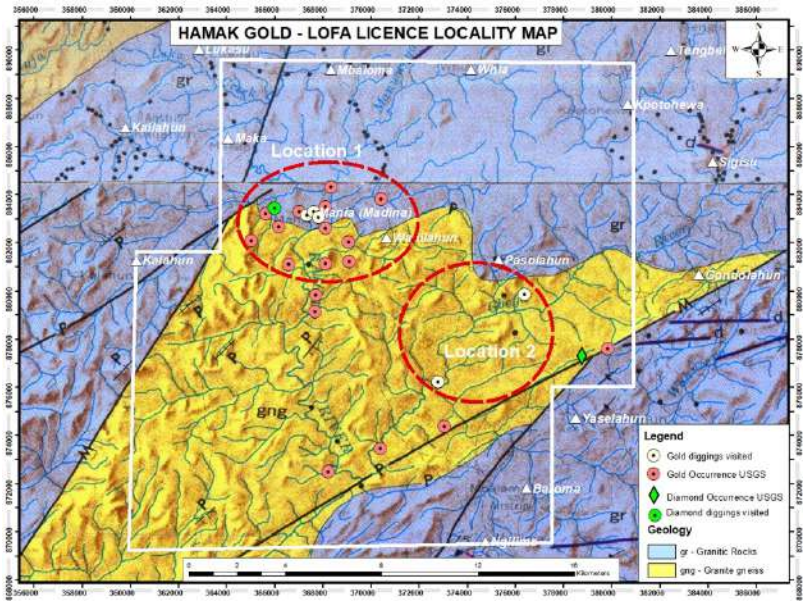
The known bedrock deposits in the Kenema-Man domain of western Liberia are comparable with structurally – controlled lode gold mineralisation found in Sierra Leone and in other Archaean terranes worldwide (Markwitz et al., 2016).

As well as the proximity of two, north-east trending, major shear zones there are also local faults or splays together with contact zones between the granite and gneiss. Such contacts can be found to the west and in the southeast of the licence area. These structures are typically formed at, or close to, contacts between rock types of contrasting competencies, and gold mineralisation is often localised at bends or splay intersections in or near the shear systems. The geological and structural setting of the Lofa licence therefore has considerable potential for orogenic gold mineralisation.

8.5.3 Gold occurrences and mining activity (ASM / Class C)

At the time of the USGS country-wide geological and geophysical survey, there appears to have been considerable digging activity for diamonds and gold around the Madina / Mania area and within the southward flowing Kaihai river and its tributaries (Figure 48).

Figure 48: Gold occurrences, geology and location map of the Lofa licence

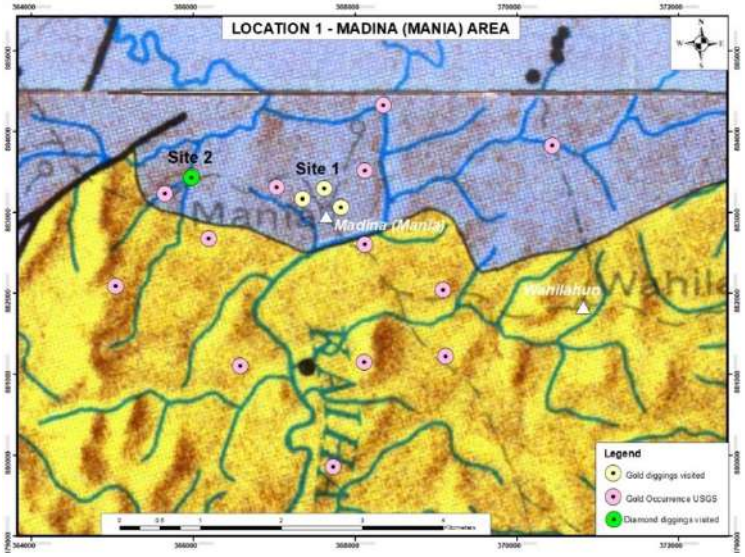


The Lofa licence is located within an under-explored region and indications of alluvial mining activity elevate the prospectivity of the concession. Although seemingly absent of greenstone belts and banded iron formation, the source of this placer gold could be related to the, as yet unmapped, presence of amphibolites or pegmatites within the gneiss and / or the splays and faults west of Madina and south of Pasolahun. As part of the due diligence exercise for the site visits, a number of the suspected USGS gold occurrence locations were investigated as well as more recent, albeit inactive, sites.

8.5.3.1 Locality 1 - Madina and River Kaihai

The village of Madina is nestled within a wide meander loop of the Kaihai river where a number of the USGS gold occurrences are recorded (Figure 49).

Figure 49: Location 1 – Madina and the Kaiha river flood plain



With the help of some of the village residents, an attempt was made to relocate some of these occurrences but to no avail. However, a number of other sites, i.e. Sites 1 and 2, were identified which were reported to have been worked during 2019 (Photo 52). One of the gold miners reported that a small dredging operation on the Kaihai river downstream of the village had been attempted in 2020 by a group of Ghanaians but low returns, i.e. 5 grams after 2 – 3 days dredging and washing, curtailed this work after 4 months.

Photo 52: Kaihai river and localized inactive diggings around Madina

Kaihai River: Site of small dredging operation (2020)

Recently abandoned gold digging site. Sluice box still present

Former gold digging site

Large quartz vein-type clasts at former gold digging site

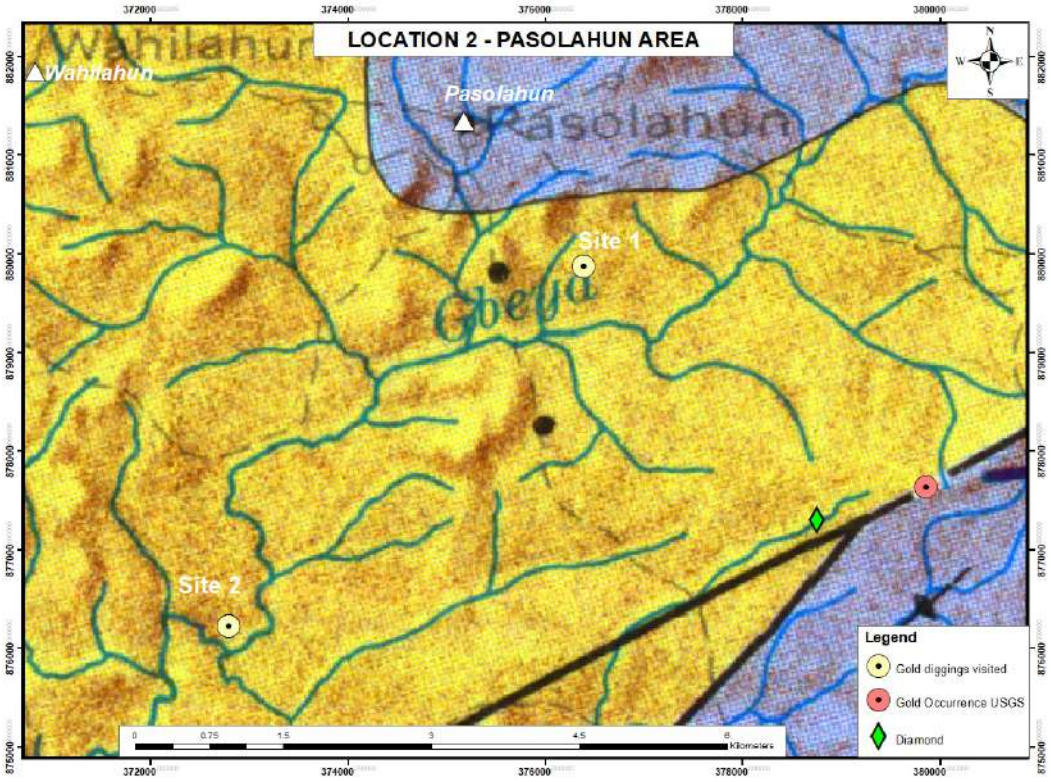
With as much accuracy as the USGS generated gold occurrence locations allowed, coordinates of gold occurrences around Madina were captured and entered into a hand held GPS. Sites were inspected according to the positions determined on the ground. However, unfortunately, none of the USGS generated sites could be verified. Bearing in mind that the geographic recording of these sites was carried out before the advent of GPS technology, it is perhaps not surprising that these locations could not be accurately relocated in the field, some 50 years since they were identified by the USGS geologists.

A diamond digging was visited at Site 2, however similar to the purported gold diggings, the digging was of very limited extent and the site had been abandoned some time ago.

8.5.3.2 Locality 2 - Pasolahun and Borgo and Wendeah creeks

Similar to Madina the village of Pasolahun, which is located in the north-centre part of the licence, marks the end of the dirt road useable by vehicle. After discussions with the residents, a number of sites purported to host alluvial gold were visited (Figure 50).

Figure 50: Location 2 – Pasolahun and the Borgo and Wendeah creeks



Despite an extensive field investigation, little evidence of digging south of Pasolahun, including the USGS gold occurrence, could be verified on the ground (Photo 53).

Photo 53: Evidence of digging activity at Borgo and Wendeah creeks

Site 1: Borgo creek

Inactive diggings at Borgo creek

Abundant quartz clasts make up the digging spoil heap

Site 2: Wendeah creek

Testing alluvial gravels along the bank of Wendeah creek

8.5.4 Previous Exploration and Adjoining Properties

Avesoro's Bea-MDA:

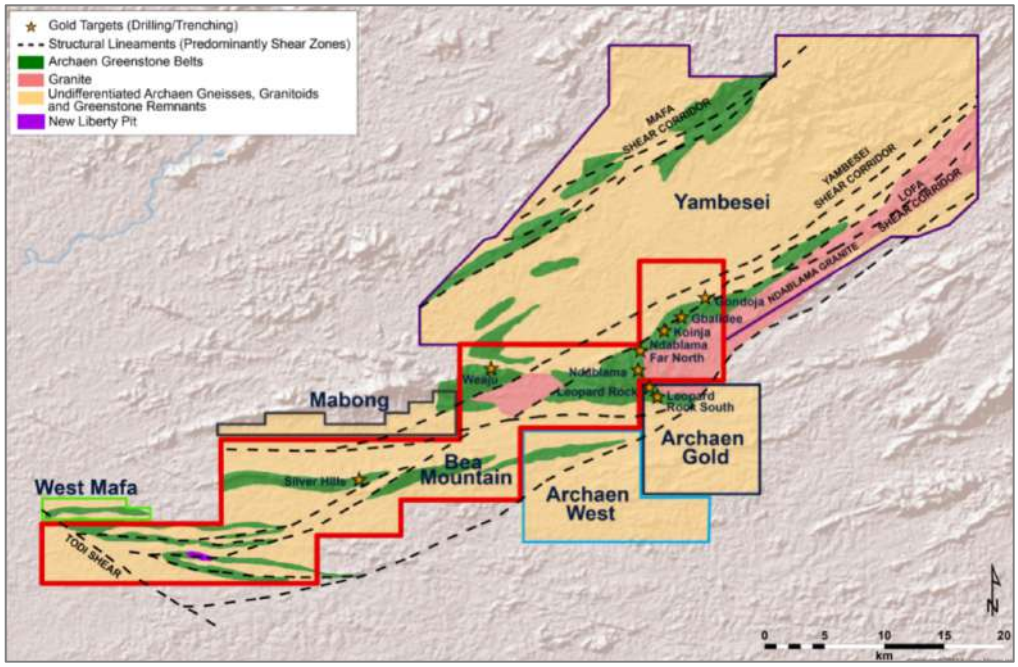
Although located some distance to the southwest of the Lofa licence, the Bea Mountain Mining Corp. (BMMC) and its MDA, including deposits such as New Liberty, Ndablama, Gondoja and Weaju are relevant to understanding the potential of the Lofa MEL on account of its geological setting and proximity to the Yambesei and Lofa shear zones and associated faults and splays (Figure 49).

Gold mineralisation in the area now covered by the Bea-MDA has been known about since 1949. The first exploration work at the property was carried out by Golden Limbo, as a subsidiary of Mano River Resources Inc. Exploration by Aureus Mining Inc., BMMC, and Avesoro Resources since 2011 has followed a systematic process of reconnaissance work, soil geochemistry, mapping, trench sampling and eventually drilling resulting in a feasibility study in October 2012 for the New Liberty Project. A measured and indicated resource (including reserves) of 1.75 M oz Au has been established at a grade of 2.7 g/t.

The primary targets of Avesoro's mineral exploration programme are focused on shear-zone hosted gold systems, whether associated with quartz, granite veins, breccia zones, or granite bodies. A structural control to gold mineralisation is evident in areas where multiple structures intersect, and resultant deposits are thought to have been emplaced by gold-bearing hydrothermal solutions / fluids flowing into dilatational or imbricated zones formed by faults or fold hinges in high strain zones close to greenstone belt contacts. The shear zones and associated splays acted as structural channels for the hydrothermal fluids, which deposited gold in suitable structures or chemical traps, typical of Upper Archaean or Lower Proterozoic styles of metallogeny.

The Bea-MDA incorporates over 80 km of NE to SW trending shear corridors belonging to the Mafa, Yambesei and Lofa fault structures which can be traced for over 250 km within north western Liberia (Figure 51).

Figure 51: Regional geology schematic of Avesoro's MDA and exploration licences



More than 50 gold occurrences and gold geochemical anomalies have been located and associated with the two primary shear systems. At Ndablama gold mineralisation is hosted in shallow westerly dipping sheared ultramafic and mafic rocks, intercalated in a gneiss sequence, at the contact with a granite batholith. An inferred mineral resource of 2.8 Moz at 2.5 g/t Au has been determined for this deposit. Mineralisation at Weaju, similar to New Liberty, is concentrated in shear zones along contacts between granite and ultramafic lithologies and is associated with disseminated sulphides. Soil geochemistry and mapping have revealed a strike length of over 500m. An inferred mineral resource of 178 Koz at 2.1 g/t Au was determined for this deposit in 2013. The Yambesei corridor, itself, hosts the Gondoja gold deposit where drilling intercepts of 30m at 3.9 g/t, 6m at 11.7 g/t and 4.3m at 3.6 g/t. The 8 km long structural corridor hosts the Gondoja, Gbalidee and Koinja prospects.

8.5.5 Conclusion and Recommendations

From the USGS mapping of the region, there does not appear to be any Composite units (z), commonly associated with greenstone belt affinities, within the Lofa licence. Clearly the granite and gneiss terrains appear to be bounded by faults which could be interpreted as splays associated with the Yambesei and Mafa shear zones. Such splays could have acted as structural channels for hydrothermal fluids, which may have deposit gold in suitable structures or chemical traps.

The Lofa licence is proximal to the northeast extension of the Yambesei shear which extends over 8 km (within the MDA) with major gold deposits being associated with this corridor. The Mafa shear corridor, associated with USGS gold occurrences, is also believed to extend as far north as Madina and the western part of the Lofa licence. By analogy, the extension of these shear zones and corridors together with associated structures, into the Lofa licence, could have resulted in the establishment of similar geological settings for gold mineralisation to those situated further to the south west, along strike. Gold bearing quartz veins and disseminated mineralisation could also be associated or localised secondary faults and splays.

At the time of the USGS survey, numerous alluvial gold occurrences were identified (early 1970s) in the northern part of the MEL and while these localities could not be verified during the site visits, their presence suggests the potential for bedrock-hosted gold mineralisation and provides a useful guidance for Hamak's exploration targeting.

The licence therefore represents an underexplored area where north-east extensions of the Archaean Kenema-Man domain, which is bounded by shears zones such as the Lofa, Yambesei and Mafa shear corridors, are targets for gold exploration. Geological and lithological mapping together with regional stream sampling is the recommended exploration approach for this licence.

8.6 SINOE & CESTOS Licences

From a spatial and geological perspective, the two MEL licences of Sinoe and Cestos are herein described together, however under Section 11 the specific exploration and work programmes, together with proposed budgets, are discussed separately.

8.6.1 Location and Access

The Sinoe (MEL 7002018) and Cestos (MEL 7002418) licences cover an area of 615 km² and 482 km² which were issued on 25th June 2018 and 20th August 2018 respectively. They are

located predominantly within Sinoe County in south-eastern Liberia, with a small proportion of the Cestos licence falling within Grand Gedeh County.

Sinoe - MEL 7002018 is centered on Lat. 543,000 North, Long. 614,100 East (UTM WGS 84).
Cestos - MEL 7002418 is centered on Lat. 528,800 North, Long. 631,300 East (UTM WGS 84).

Both licences can be reached from Monrovia along a well-maintained bitumen road to Buchanan (133 km) and to Pyne Town via Yarpah Town, Kopo (Nyennueh Junction), Juazohn and Shabli (311 km) along a dirt / gravel road which is in a variable to poor condition. The total distance is 444 km, requiring an overnight stop en route. From Pyne Town the national road continues to the north to Zwedru (60 km) and hence provides access to the Nimba licence via Diallah or Tapeta. Also from Pyne Town, access to the River Gee licence can be reached via a well-maintained logging road, constructed to the south of the Putu mountain range, which joins the main Zwedru highway at Duabo Junction. The national highway continues to SE to Kaweaken and Fish Town along a gravel road currently in poor condition.

Whereas there is reasonable access to the Sinoe licence along the Zwedru – Shabli - Juazohn national road, there is no access possible (by vehicle) into the Cestos licence. The nearest vantage point is the isolated village of Peloken, from where only hunting paths lead into the concession area. During the years of civil unrest, this part of Liberia was extensively depopulated and with the rehabilitation of the Zwedru – Juazohn road (following the cessation of hostilities) many villages, including Peloken, relocated from their remote settlements within and west of the Cestos licence to a position closer to the national route.

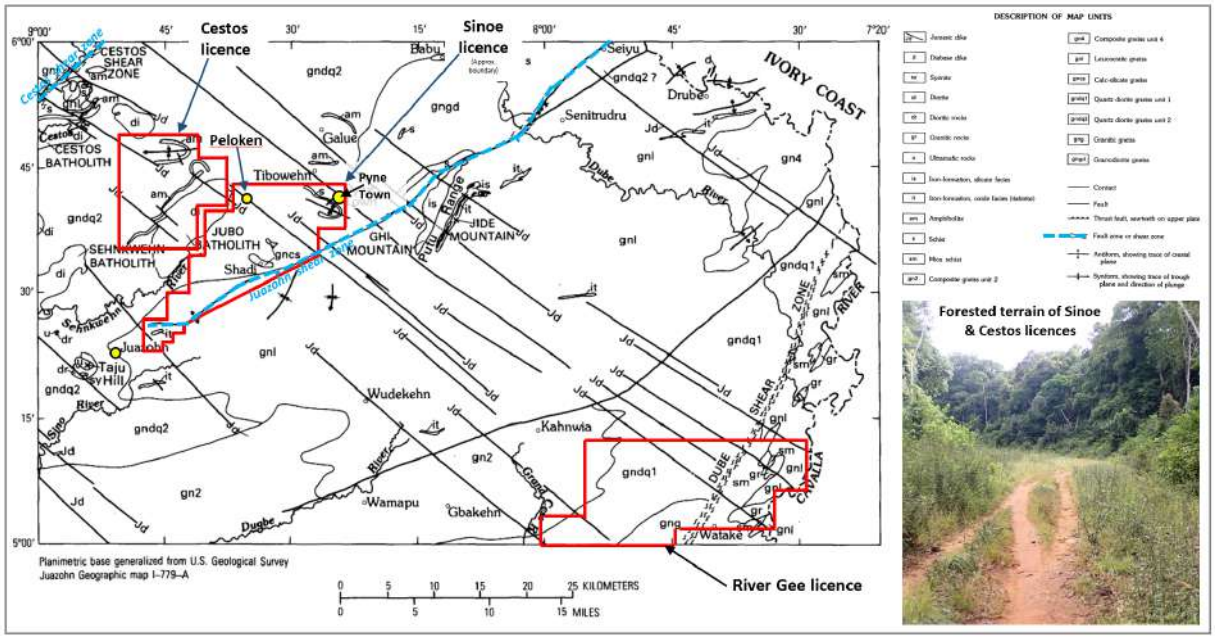
Approaching from the north along the road from Zwedru, the topography is hilly, rising from 190m to 460m with a number of ridges caused by relatively resistant amphibolite. These are replaced by a few schistose ridges south of Pyne Town which are characterized by a lower topographic relief. Progressing towards the southwest of the Sinoe licence the southeastern boundary of the licence forms the watershed between the River Sino to the southeast and the River Sehnkwehn to the northwest. Both rivers flow in a southwesterly direction toward the ocean. In the Cestos licence, the prominent northeast trending Jubo diorite batholith acts as the watershed between the Sehnkwehn which drains the southeastern flank and the River Jubo which captures the northwestern drainages of this relatively low-lying gneissic topography.

The region is vegetated predominantly by primary tropical forest, however significant areas have been cleared for subsistence agriculture or abandoned to secondary growth. Towards the southeastern boundary of the Sinoe licence, the forest becomes more pristine being in close proximity to the protected, 1983 established, Sapo National Park.

8.6.2 Local Geology

The main source of geological information is derived from the 1:250,000 scale geological map of Juazohn (Map No. I-779-A) published by the USGS and the accompanying geological report (Tysdal, R., 1978). Within this central part of Liberia, the lateritic weathering profile is thick and hence the mapping of rock outcrops proved challenging for the USGS geologists except where more resistant quartzite, schist, amphibolite, and diabase features were encountered in the field or traverses along the larger rivers. Two NE orientated regional faults are recognized within the northwest quadrant of the geological map of Juazohn, namely the Cestos and the Juazohn shear zones (Figure 52).

Figure 52: Geology of the Juazohn quadrangle relevant to Sinoe and Cestos licences



Both of these deep seated structures are associated with important occurrences of gold, iron ore and base metals over a wide area along their strike length. The Cestos shear zone marks the approximate limit of Eburnean deformation. It represents a near vertical, crustal-scale structure that has been compared with the Ashanti Gold Belt in Ghana (Gunn, A.G., 2018). The Juazohn shear zone, although of more limited strike length within Liberia, is also highly prospective for gold mineralisation of the greenstone and banded-iron hosted types.

Of the metamorphic rocks within both licences, the quartz diorite gneiss unit 2 (gndq2) is predominant. This rock is melanocratic and fine to medium grained with hornblende being the common mafic mineral (15 to 25%) which increases within the Cestos licence area to between 20 and 35% of the rock. Within the Sinoe licence the percentage of hornblende decreases to 10 to 20% and is replaced by biotite as the main mafic mineral. The gneiss in the northern part of the Sinoe licence is a typically medium-grained, medium to light coloured rock of quartz diorite to granodiorite composition.

A number of massive igneous diorite batholiths occur within the northwestern part of the USGS Juazohn geological map of which the most prominent is the Jubo batholith, comprising some 30% of the Cestos licence. This medium to coarse grained rock consists, in decreasing quantities, plagioclase, hornblende, quartz and potassium feldspar and tends to exhibit low-lying topography.

Outcrop of amphibolite is widely distributed within the licences but particularly so within the Cestos licence where the surface outcrop can be curved and linear in form, predominantly to the north and along the northwestern flank of the Jubo batholith (Figure 41 & 42). The thicker resistant units form narrow ridges that commonly reflect the local structure and appear to be most associated with quartz diorite gneiss (gndq2). Of interest and to the north of Tibowehn, outcrops an east west trending amphibolite ridge that grades westward into a 2.5 km long ultrabasic pyroxenite body. Gold mineralisation has been associated with this ridge for at least a decade and is discussed in detail in Section 8.4.4.1 below.

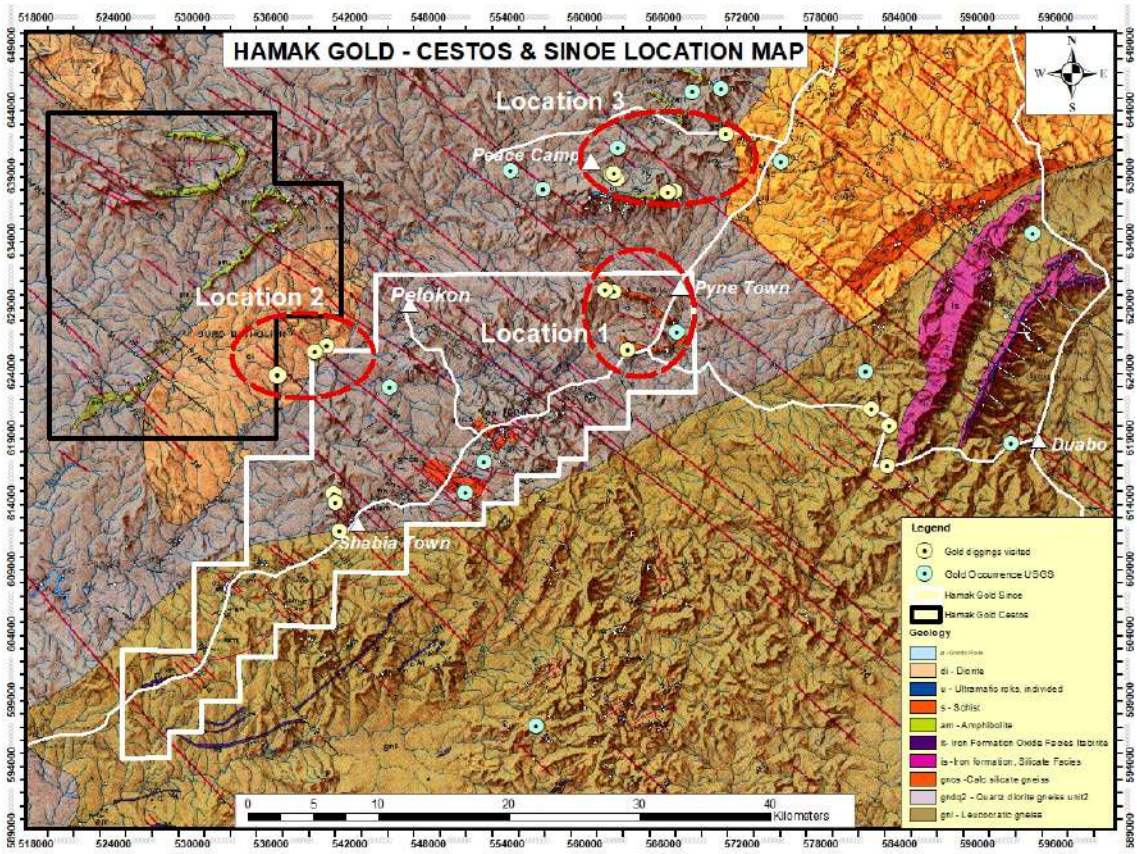
In the vicinity and to the south of Pyne Town an outcrop of micaceous schist has been identified in the USGS map. This unique unit may be related to the regional amphibolites described above.

A swarm of NW trending diabase dykes traverse both licences. Containing 10% magnetite and ilmenite, they are magnetic and resistant to weathering forming narrow linear ridges and are often less then 30m thick but can form ridges as much as 60m high.

8.6.3 Gold occurrences and mining activity (ASM / Class C)

Figure 53 highlights the geology as well as the USGS gold occurrences together with locations of other gold diggings (active or abandoned) reviewed during the site visit.

Figure 53: Gold mineralisation, geology and location map of the Sinoe and Cestos licence



Along the southern end of the Cestos shear zone, gold occurrences such as Innis, Jueh-Bukon and Numon South are well documented, while the Ity gold mine in Côte d'Ivoire is located on the north-eastern extension of this shear corridor. While there are no USGS gold occurrences associated with the Cestos licence area, a number of gold occurrences were recorded within the Sinoe licence which may be associated with the Juazohn shear zone. Known bedrock occurrences, extensive alluvial deposits and gold geochemical anomalies are correlated with this structure.

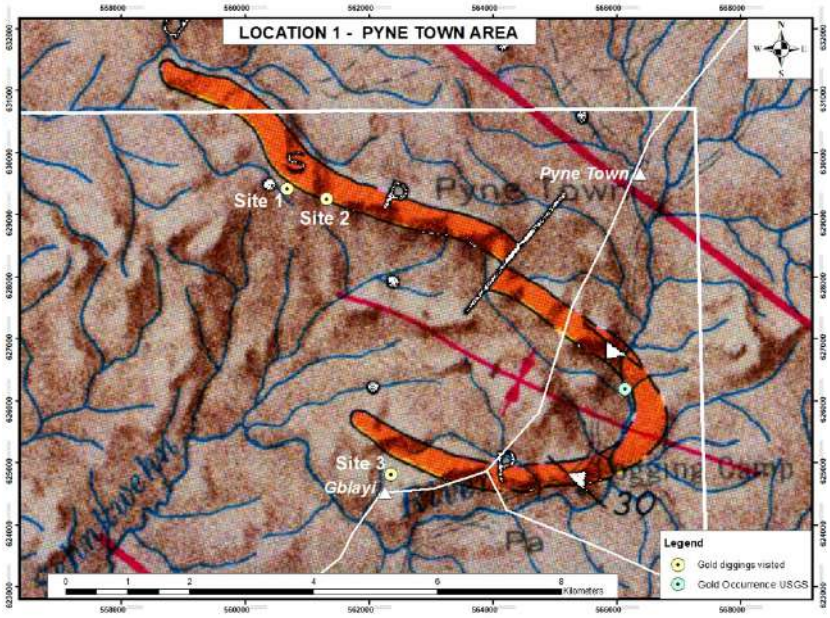
Ten kilometres to the east of the northeastern boundary of the Sinoe licence commences the NE trending Ghi mountain of the Putu Range where BIF-hosted gold deposits occur (as well as iron ore). High grade gold mineralisation has also been reported at several locations including Zia in the north and near Zwedru to the west which straddles the Juazohn shear zone. At least a decade of gold ASM activity to the north of Pyne Town at Peace camp has

significant potential for greenstone hosted gold (orogenic) mineralisation and is discussed in detail under Section 8.4.4.1.

8.6.3.1 Locality 1 - Pyne Town

Within the northern part of the Sinoe licence are scattered historic USGS occurrences as well as more recent gold digging sites with the latter, upon field inspection, being found to be dormant or abandoned (Figure 54)

Figure 54: Historic USGS and other gold diggings associated with schist ridge



The historic USGS gold occurrence site on the inside axis of the schist outcrop could not be verified in the field, however in discussion with the local mining agent at Pyne Town, a number of digging sites (Sites 1 & 2) were visited along the southern flank of the northern part of the schist belt within the Copiwe and Nysane creeks while a further site (Site 3) was visited along the southern part of the belt at Gblayi creek (Photo 54).

Photo 54: Inactive & abandoned diggings at schistose ridge southwest of Pyne Town

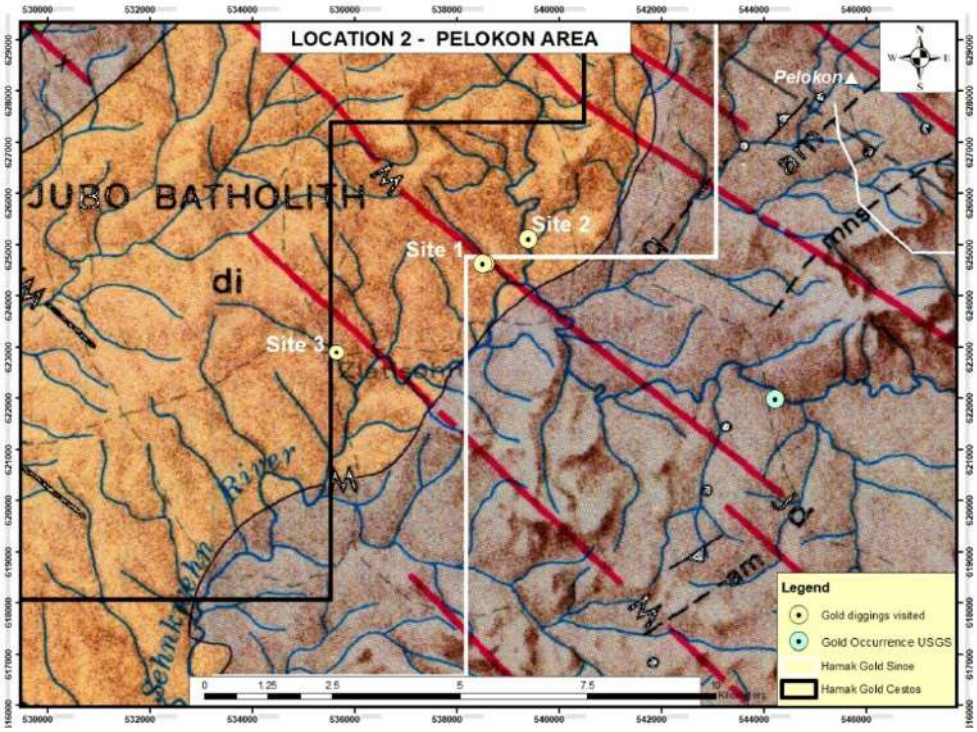
Abandoned diggings at Copiwe & Nysane creeks

Former diggings at Gblayi creek

8.6.3.2 Locality 2 - Pelokon

As mentioned above, access to the Cestos licence is only possible via hunting tracks leading west from Pelokon village (Figure 55). A number of sites were visited which were purported to be associated with gold digging activity.

Figure 55: Locality 2, Pelokon village and purported gold digging sites



After discussing at length with the local population at Pelokon, in the company of the mining agent based out of Pyne Town, an attempt was made to locate digging sites described by the residents of Pelokon. Two tributaries of the Djibo river were reached at Sites 1 and 2, however little in the way of active digging was found (Photo 55).

Photo 55: Pelokon village and isolated inactive gold diggings

Access to Pelokon village & local hunters (below)

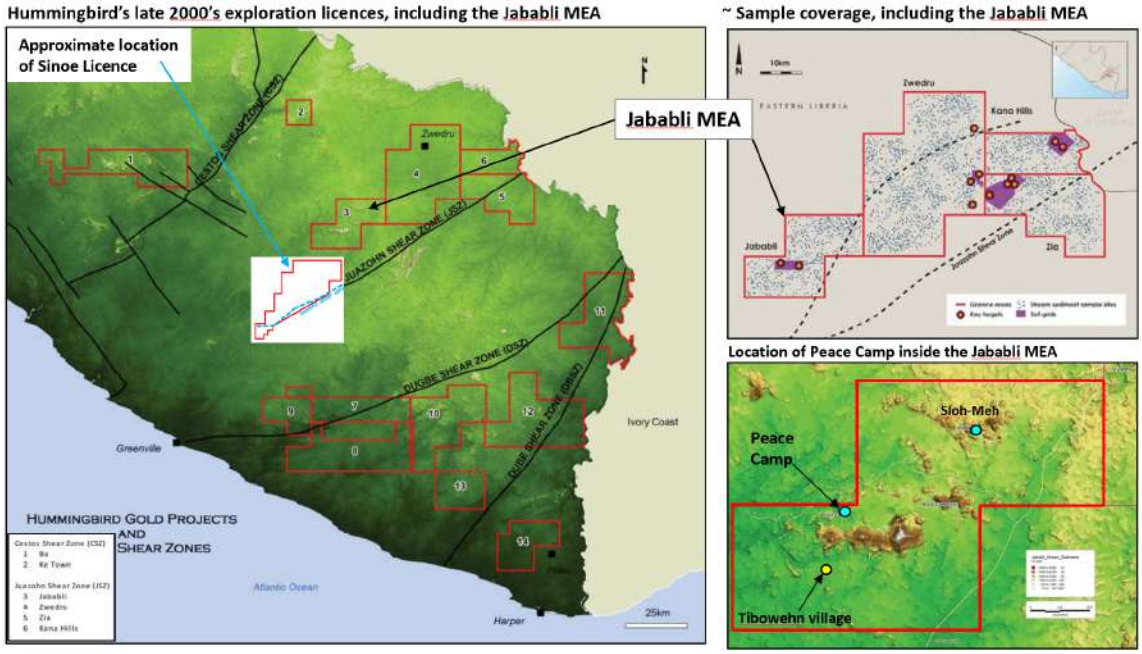
Finding some evidence of digging along the banks of the Djibo river

Site 3 was reached after a considerable trek through the forested area, however no evidence of digging activity was found at this site or in the surrounding area.

8.6.4 Previous Exploration and Adjoining Properties

In 2008, Hummingbird (in joint venture with Deveton Mining Company) acquired a 800km² exploration licence (MEA) known as the Jababli project which was situated adjoining the current northern boundary of the Sinoe licence (Figure 56).

Figure 56: Location of Hummingbird Jababli MEA (2008 – 2011)



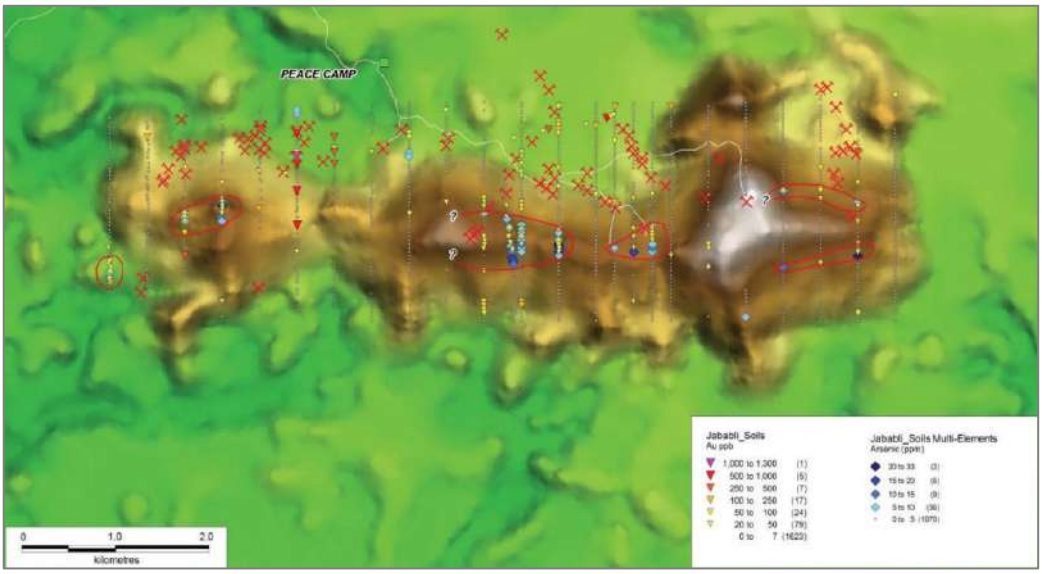
The topography of the former Jababli licence area is hilly, with a number of resistant amphibolite ridges such as the one to the north of Tibowehn village. During geological mapping, Hummingbird geologists recognized rocks of amphibolite facies consisting of metavolcanics and metasediments which contain calc-silicate alteration suggesting greenstone hosted gold skarn mineralisation. Furthermore, banded gossanous float was recorded on the ridge above the workings at Peace Camp, indicating probable derivation from massive or semi-massive sulphide mineralisation.

Some 600 reconnaissance stream samples were collected between 2007 and 2008, the gold analysis results of which identified 31 strongly anomalous results above 1,000 ppb Au of which five exceeded 5,000 ppb (including a peak value of 8,667 ppb Au). Detailed follow up stream sampling (200m interval) of these anomalous zones returned generally irregular and sporadic anomalous gold values although a very high result of 8,881 ppb Au was located 1.5 km east of Sloh-Meh (Hummingbird, 2010 and Annual Report 2012).

Soil samples collected along traverses in the Peace Camp area returned coherent anomalous values between 50 and 1,500 ppb Au with associated weakly anomalous arsenic values along the ridge crest suggesting that the Peace Camp alluvial gold is derived from a local source.

Hummingbird's geological mapping identified numerous artisanal gold workings draining the north face of the 9 km long amphibolite and pyroxenite ridge. Quartz veins were observed within saprolite diggings confirming the presence of bedrock mineralisation and returned values of up to 2.28 g/t Au in channel samples (Figure 57).

Figure 57: Gold and arsenic geochemical results at Peace Camp amphibolite ridge

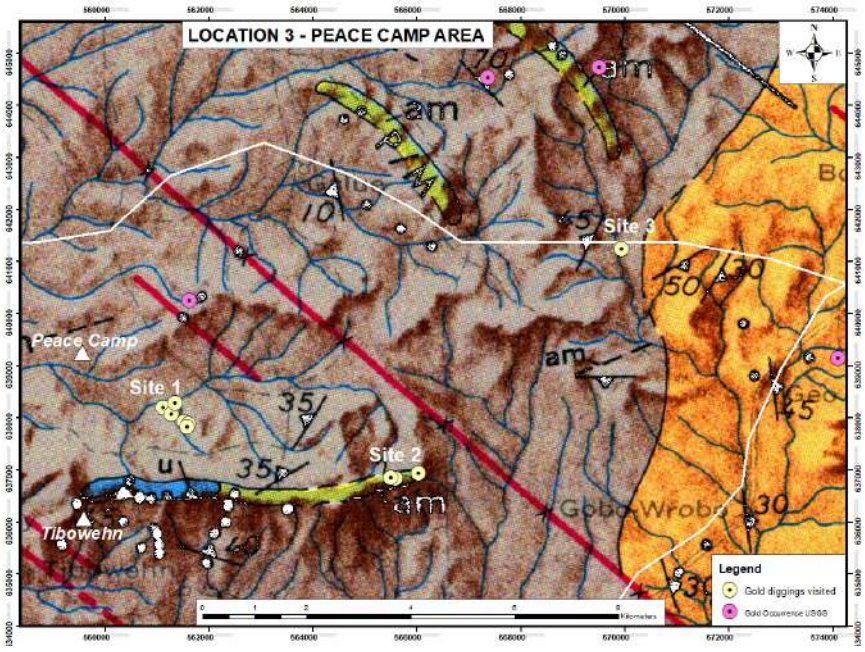


During 2012, a trenching programme amounting to a total of 2,250 m was completed in traverses sited perpendicular to the strike of the ridge, however these samples were disappointing, indicating narrow mineralized gold zones rather than substantial mineralized systems (Hummingbird, Interim Results 2012). No drilling was ever undertaken. In 2013 the Jababli MEA, and all the Hummingbird Juazohn licences, were dropped presumably in favour of consolidating their ground holding that eventual led to the granting of an MDA centered around the Dugbe and Tuzon deposits.

8.6.4.1 Locality 3 - Peace Camp

Aware of the ongoing gold digging activity at Peace Camp along the northern flank of the amphibolite / pyroxenite ridge, known as Mt Zion, the Author paid a visit to Peace Camp and reviewed the current digging site in May 2021. The location of Peace Camp and various sites visited are shown in Figure 58.

Figure 58: Location 3 - Peace camp & ASM activity along the northern slope of Mt Zoin



Access to Peace Camp is via a forest logging track which has a heading due west of the Zwedru – Juazohn national road, some 11 km north of Pyne Town at Gandueh village (and outside the Sinoe licence area). Along this gravel track at a bridge crossing (Site 3), it was apparent from the muddy colour of the stream that digging was active upstream probably at the Sloh-Meh site. Peace Camp itself was reached by foot via a forest path to the south of the logging track at Trongba junction, some 18 km from the main road (Photo 56). The settlement supports some 700 people.

Photo 56: Peace Camp

Alluvial diggings, while widespread along the base of the 9 km long amphibolite ridge during Hummingbird's trenching programme, has now dwindled to one main location, i.e. Site 1. Site 2 was abandoned however a further site, known as Flat Rock, is situated along the southern flank of Mt Zion not far from the village of Tibowehn, however this site was not visited.

The diggings comprise shallow pits extending over an area of approximately 400m by 200m longitudinally with a flat lying valley floor that is sloping at an estimated 6° and is bound by a fairly steep slope to the south which rises an estimated 50m to 70m, i.e. the top of the ridge. The digging within the valley floor is extensive and there appears to be re-working of the gravel in places. Approaching the lower hill slope, only the upper 1m – 2m of laterite or saprolite is being excavated, however this profile increases to 4m to 5m at the break of slope (Photo 57). This geomorphology suggests a local source for the gold, and that the deposit may be partly eluvial / colluvial.

Photo 57: ASM activity along northern flank of amphibolite ridge (Mt. Zion)

The colluvial diggings, close to the hill slope, plus the presence of quartz (white to grey) in spoil heaps supports the supposition of a local source (Photo 58).

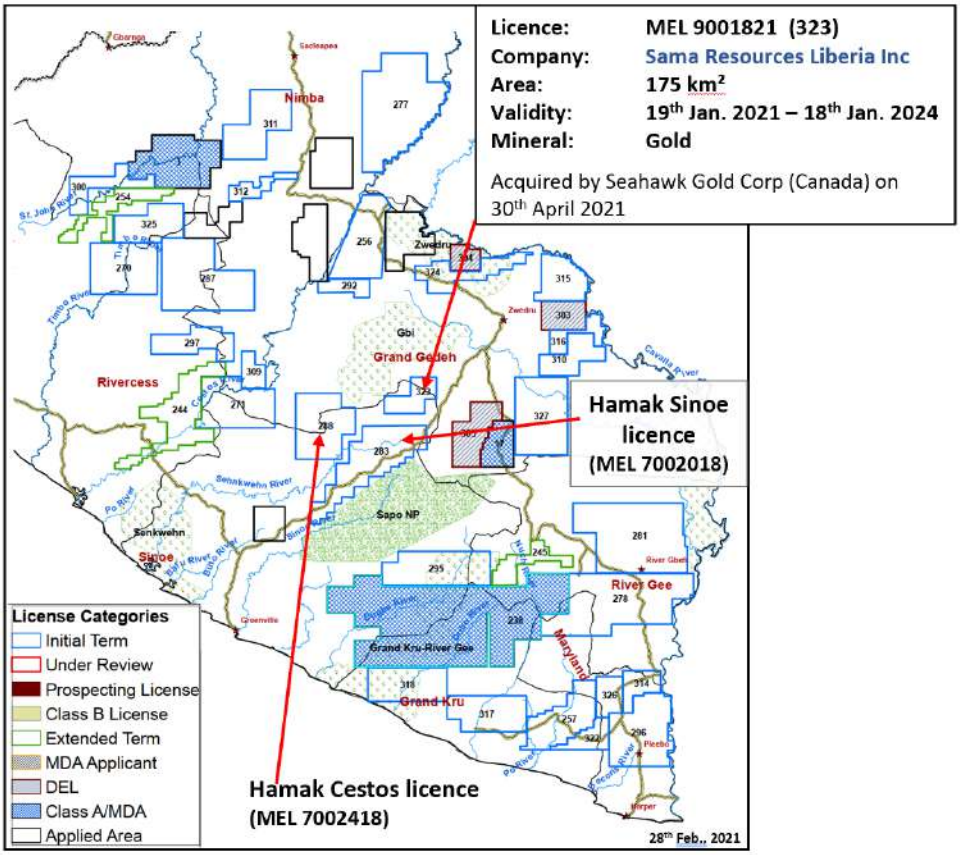
Photo 58: Quartz in spoil heaps and greenstone belt rocks

The Peace Camp mining chairman explained that collectively the artisanal miners had 13 Class C licences (although five remained to be registered) and that they were in the process of forming a cooperative to better consolidate and organize their activities. The local mining agent noted, from records he maintained and observed by the Author, that during a nine day period some 33.7 grams of gold was recovered ranging from 1.7 g/day to 6.0 g/day from two or three claim holders. A parcel of ~12 grams was presented representing what was purported to be one day's production from active Peace Camp claim holders engaged in the manual washing of dug ground (Photo 59).

Photo 59: Parcel of gold viewed at Peace Camp purporting to weigh 13 grams.

In 2021, Sama Resources Inc, acquired an exploration licence (MEL 9001821) covering 175 km² over an area similar to the former retained (400 km²) Hummingbird Jababli licence which includes the Peace Camp workings and the amphibolite ridge (Figure 59).

Figure 59: New MEL adjoining the Hamak Sinoe licence



On 30th April 2021, Sama (who has Robert Friedland of Ivanhoe Mine Ltd as a major shareholder) signed a deal with Seahawk Gold Corp. of Canada to sell all three of Sama's Liberian gold licences, one of which is MEL 9001821, for a consideration of 8.5 M Seahawk shares worth approximately £ 2.6M as at the date of the announcement. (https://seahawkgoldcorp.com/seahawk-gold-corp-announces-liberian-property-acquisition)

Given the increasing value of gold, global industry leaders (as reported by Africa Intelligence on 26th May 2021) are predicting a "land grab" for West African gold projects by Canadian and Australian listed Junior mining companies looking to acquire prospective properties that are "non-core" assets for larger industry leaders. The proximity of the former Sama licence, similar geological setting and its' perceived potential is significant with regards the Cestos licence which contains similar amphibolite outcrops within the licence area.

8.6.5 Conclusion and Recommendations

Sinoe Licence:

Currently there is very little gold ASM activity within the Sinoe licence although there is a history of alluvial mining at locations such as Congo Camp near the village of Chebioh, at Korjahyee Town and Gbalawein which are located along the national road bearing SW towards Juazohn. Many of these alluvial diggings, including the 1970's USGS occurrences, are located to the southeast of this road; an area which adjoins the northwestern boundary of the Sapo National Park (SNP) which has had a long and unhappy history of ASM incursions (Small, R., 2012).

Evictions of illegal miners within the SNP have been ongoing since 2005 (specifically in 2010) and although there is currently no ASM activity taking place inside the SNP, it is likely that all

digging along or in the vicinity of the northwestern boundary of the Sapo National Park have either been discouraged or curtailed by the MME hence the lack of digging activity observed during the site visits.

Gold was reportedly found in the SNP in the late 1990s, and during the closing phase of the civil war two main diggings camps were established inside the SNP. It is probable that primary source bedrock gold deposits exist within the SNP and that the former diggings found within the Sinoe licence are downstream alluvial expressions of these upstream deposits which are being eroded by the headwaters of the right bank, westward flowing, tributaries of the sizeable Sehnkwehn River.

The lack of active digging associated with the low-lying schist ridge located to the south of Pyne Town would suggest that this outcrop is weakly mineralized.

Cestos Licence:
A direct analogy can be made between the geological setting of the resistant amphibolite (and pyroxenite) ridges, comprising probable greenstone metavolcanics and metasediments, located to the north of Pyne Town and at Peace Camp with the amphibolite rocks recorded within the Cestos licence. These latter discontinuous bodies, which also take on a sinuous or linear surface outcrop pattern, are situated to the north and along the northwestern flank of the Jubo batholith. The mapping of most of these amphibolite bodies by the USGS was done from the aeromagnetic survey data and have probably not been field verified.

The extensive and thorough exploration work carried out at Peace Camp and Sloh-Meh (by Hummingbird), together with the positive results obtained, indicate that the amphibolites host greenstone styled gold skarn mineralisation. It is therefore possible that the, presumed same, Jubo amphibolites, may also be mineralized for gold but are unexplored to date.

The socio-economic history of this part of Liberia, particularly during and immediately after the civil strife, has resulted in the isolation of the Cestos licence area, which is inaccessible, apart from hunters who use small pathways and trails. The interviews held with residents of Pelokon village revealed that this settlement has relocated at least twice to its current position over the last two decades and that their knowledge of the region to the west is now very limited. Thus, it is possible that ASM gold “prospecting” and testing of streams and rivers, in recent times, has been restricted or even avoided within this densely forested area in favour of more lucrative accessible sites such as Peace Camp.

In this particular case, the lack of ASM gold activity within the Cestos licence does not necessarily preclude the absence of gold mineralisation and therefore is a reasonable target area for grass roots exploration and should be investigated.

9.0 OTHER RELEVANT DATA AND INFORMATION

9.1 Management and Organisation

Hamak Gold was established in 2015 by local businessman and entrepreneur, **Amara Kamara**, who is aligned with the Liberian government’s efforts in attracting meaningful foreign investment in the mining sector of the country. Acquired in 2018, Mr. Kamara holds a large land package of 6,362 km² mostly for gold (but includes diamonds, lithium and base metals).

Some 78% of this prospective geological terrain is the focus of this Report. Mr Kamara has established an excellent relationship with the government authorities in Monrovia.

Supporting Mr. Kamara is Mining Engineer, **Walter McCarthy**, former Country Manager for Hummingbird Resources, arguably the most successful gold explorer company in Liberia since starting exploration in 2005. While CEO of Mac-Africa Consultants (Liberia), Walter provided technical exploration and environmental advice and services to a wide range of public and private companies operating in Liberia including Aureus Mining, Chine Union, MNG Gold, and Digby Wells. Prior to that, Walter served as Assistant Minister and Deputy Minister for the MME. Mr. McCarthy has a wealth of experience in the Liberian minerals industry, particularly gold, and will be a advisor for Hamak Gold.

As the Hamak Gold exploration work advances, the anticipated mineral resource and evaluation effort will be guided by **Kenneth Niall Young** who has over 35 years' experience in exploration, evaluation, R & D and mining. In addition to his technical capability, Niall brings significant corporate experience to the organisation having served in a number of senior managerial positions as well as founding his own financial advisory group, Windmill Hill Capital Partners, in 2016. WHCP introduces clients to private equity and institutional investors and family investment office and provides support and advice through board representation. Through WHCP, Niall is also involved in evaluating gold projects in West Africa, including Guinea and Liberia.

Corporate and sound business acumen will be provided by **Karl Smithson** who has over 30 years' experience in the resources sector in Africa. Mr. Smithson has held senior management positions at De Beers, SouthernEra Resources, Mano River Resources, Stellar Diamonds and Newfield Resources. He was formerly CEO of Stellar Diamonds and drove the acquisition in 2018 of Stellar by ASX listed Newfield Resources. He currently is executive director of Newfield Resources and CEO of subsidiary company Sierra Diamonds and is leading the construction and development of the underground Tongo Diamond Mine in Sierra Leone. In addition, Karl possesses an in-depth knowledge of exploration, evaluation and production of diamond and other mineral resources, and has the capability to undertake detailed financial modelling of projects. Throughout Karl's career, he has established strong government and local stakeholder relationships in numerous African countries and has successfully secured a number of joint venture agreements with both major and junior resource companies.

10.0 INTERPRETATION AND CONCLUSIONS

Hamak Gold has selected licences over a wide range of favourable geological terrains for gold mineralisation. Some of the licences are situated along strike or adjacent to major crustal-scale thrust faults or shear zones either within the Archaean (in western and central Liberia), e.g. Lofa and Fasama MELs, or within the Paleoproterozoic (in eastern and central Liberia), Sinoe and River Gee MELs. Furthermore, a number of licences incorporate Archaean and Paleoproterozoic supracrustal lithologies, i.e. greenstone belts or are situated at the contact between these greenstones and domains of the Man Craton, e.g. Nimba, Gozohn, Cestos and Sinoe MELs. Whether associated with shear zones (with or without greenstone or associated lithologies) and / or basement contacts, the various geological settings represent areas of repeated deformation and magmatic activity which were accompanied by magmatic and metamorphic hydrothermal systems which make all the

licences prospective for orogenic type gold mineralisation.

This opinion is based on the following geological premises:

- Analogies of the regional geology of West Africa with other similar Archaean and Paleoproterozoic shear zones and greenstone belts, which are known to host numerous multi-million ounce gold deposits.
- Widespread and extensive artisanal gold mining activity within some of the Hamak Gold licences. While some of the diggings are alluvial in nature, others include limited bedrock mining activity as well, e.g. Nimba and Gozohn.
- The presence of bedrock gold mineralisation on adjacent properties or neighbouring countries, for example:
    a) Aversoro's New Liberty gold mine located along the same structures near to or adjacent with the Lofa or Fasama licence.
    b) MNG's Kokoya gold mine located 30 km to the north of the Gozohn licence.
    c) Ity gold mine in Côte d'Ivoire being some 25 km due east from the eastern boundary of the Nimba licence.
    d) Hummingbird's resource stage Dugbe project to the west of River Gee licence.
    e) The discovery of greenstone hosted gold vein type mineralisation within amphibolite ridges at Hummingbird's Jababli project located to the north and north-east of the Sinoe and Cestos MELs respectively.

- Encouraging results or prospective ground as determined by other companies operating on licences adjacent to the Hamak Gold licences, for example:

    a) Altus / Auramin obtained interesting results in their Zolowo Project situated to the east of Fasama.
    b) Aversoro's ongoing exploration and evaluation of their Weaju, Koinja, Ndablama, Leopard Rock and Gondoja deposits which occur along the same structural corridor which extends to the north-east and in the vicinity of the Lofa licence.
    c) The recent sale by Sama Resources to Seahawk Gold Corporation of three gold licences, two of which are neighbouring Hamak Gold's Gozohn and Sinoe properties, for a consideration of 8.5 million Seahawk shares valued at £ 2.6 M. This is significant in that the former licence holder (Sama) had not begun exploration prior to the sale and that the purchaser appears to have relied on the sellers' ability to identify high-potential projects.
    d) Trenching at Hummingbird's Tiehnpo project, immediately adjacent to the west of Hamak Gold's River Gee licence, has revealed a gold-in-soil anomalous zone measuring 7 km long 2 km wide, with XRF arsenic values averaging over 250 ppm. The company believe bed-rock deposits when discovered within this prospect will have mineralisation comparable with their Dugbe F deposit.

The Author has identified a number of risks relating to grass roots exploration in Liberia as follows:

- Reliance upon the historic USGS database, from surveys conducted in the late 1960's / early 1970's, as one of the sole sources of digital information in the public domain for Liberia. The government of neighbouring Sierra Leone has set a precedent with the recent flying of a 71,740 km² high-resolution airborne geophysical survey covering the entire country. The survey records magnetic and radiometric data with a 150m flight

line spacing and 50m nominal terrain clearance. By comparison, the USGS digital survey data is dated.

- Lack of available trained up Liberian geologists with more than five years of gold exploration experience. Initially a number of Expat geologists, sourced from within West Africa, should be recruited in order to train local Liberian geologists to required professional standards. These experienced geologists will have to nurture and grow the technical team through the open interchange of ideas and learning.
- Deeply weathered regolith and subsequent lack of outcrop in some areas.
- Liberia tends to exhibit a higher grade of metamorphism than other parts of West Africa which tends to obliterate or overprint visible signs of mineralisation particularly within the Archaean terrain.
- The poor condition of the internal road infrastructure makes access to some of the licences difficult and challenging.

Hamak Gold's licences are at a very early stage of exploration and the success of the future programme will depend upon the efficient and practical application of exploration methodologies in a planned and phased manner according to best industry practices. As is evident from the above interpretation, each of Hamak Gold licences have differing geological and structural settings requiring the deployment of a variety of sampling techniques. These, plus recommendations, are discussed in more detail under Section 11.

11.0 RECOMMENDATIONS

11.1 Exploration Techniques and Methodology

Hamak Gold is advised to take a multidisciplinary and phased approach with regards to its exploration strategy and initial on-the-ground exploration work programme in Liberia, in an efficient and practical manner according to best industry practices. The company should be innovative, yet at the same time use tried and tested field exploration techniques and sampling methodologies.

Initially work will concentrate on gathering and researching as much geological information as possible to build a foundation GIS database for the MELs. Fortunately, in this respect, the USGS made available (in digital format) all the topographic, geological, regional-scale geophysical data collected during the country wide geo-technical survey during the late 1960's and early 1970's, which is accessible on the USGS official website – see Section 1.5. This USGS multisource database provides the basis for the gold occurrences recorded throughout Liberia in the early 1970's and should be an integral part of Hamak Gold's GIS.
Field work should be organised based on a number of highly mobile field teams that can move from one priority area to the next, within and between one or two MELs, to cover as many of the identified high priority targets by (predominantly) soil sampling as quickly as possible. Follow-up programmes should be planned based on the results of the first pass sampling. The overall objective is to screen all high priority target areas, carry out follow-up work to generate justifiable trenching and, or scout drill testing targets. Assuming practical field work can begin in October / November, two 6 – 7 month field seasons are envisaged over an 18 months period, both taking place during the dry season to maximise the time for field work.

Remote sensing & mapping:
Research of the seven MELs should include remote sensing. In recent times, the remote sensing community has witnessed the launch of the new and technologically advanced

Landsat-8 and Sentinel-2 multispectral sensors, the latter being linked to the Sentinel-mission launched by the European Space Agency (ESA). While remote sensing is a more powerful exploration tool in arid and semi-arid regions, this is not necessarily the case in humid and tropical climatic zones with dense vegetation (Adiri, Z., et al., 2020).

Some of the Hamak Gold's MELs include areas of placer gold which have been exploited by artisanal miners as detailed in Section 8. In general, these are creek placers that are developed in and immediately adjacent to the present drainages. The distribution of creek placers is in most cases probably related closely to the primary distribution of gold mineralisation in bedrock, and the identification and mapping of placers and associated ASM activity will provide a valuable exploration guide. Satellite imagery will provide a practical application in mapping the artisanal mining in the forested areas, where strong contrasts are anticipated between disturbed forest and ground (brown) and intact forest and terrain (green). Hamak Gold should undertake an ASM mapping exercise where appropriate.

In 2015, Nasa's Shuttle Radar Topography Mission (SRTM) began releasing data which is very useful for the generation of Digital Elevation Models (DEM) which will greatly assist in the mapping of terrain, delineating drainage basins and designing stream sampling programmes as well as the potentially locating gold hosting greenstone-BIF hills and ridges.

Soil geochemistry:
Considerable gold ASM activity is currently taking place within some of Hamak Gold's MELs, e.g. Nimba, Gozohn, Fasama. Where ASM is concentrated, these "target areas" should be delineated based on additional extant geological and structural data. Soil geochemistry sampling grids should be planned to cover these priority areas using, initially, a wide spaced grid with sample traverse lines spaced 400 m apart and a sampling interval of 100 m. Soil samples of 1-2 kg should be collected from the B and C soil horizons (25 cm to 70 cm depth) with all relevant sample site features recorded. The soil samples should then be dried and sieved to 170 microns to produce a 150 gram sample, of which some 50 grams should be for fire assay analysis while additional quantities of this fine fraction sample can be retained for portable XRF analysis (see below).

If the gold-in-soil results identify anomalous areas, infill soil sampling grids should be sampled on traverse lines spaced 200 m apart with samples collected every 50 m, with the objective of rapidly defining justifiable trenching and, or scout drill targets. A soil anomaly of 1-3 km long and perhaps 200 – 300 m wide with clusters of high soil values (> 50 ppb), with multiple samples with > 250 ppb and up to 500 – 1,000 ppb, would be considered highly significant.

Reconnaissance and follow up stream sediment sampling:
In some of Hamak Gold's MELs, there is little or no ASM activity however the permits remain prospective due to their proximity to active mining areas or geological structures and, or greenstone terrains, e.g. Lofa, River Gee, Sinoe and Cestos. In these MELs, due to the lack of obvious clear targets, a different exploration strategy should be adopted. Topographic maps based on DTM's (generated from SRTM data) should assist with a drainage basin analysis which will drive the planning and execution of an initial moderate to low density stream sediment sampling programme. Bulk cyanide leach extractable gold (BLEG) samples will also be collected particularly to cover large hydrographic basins where gold distribution may be erratic. These stream samples and can provide detection limits as low as 0.1 ppb.

At a reconnaissance density of 1 sample per 10-20 km², a number of different sample types and techniques are recommended to be collected from each sample site to identify anomalous catchments and drainage basins as follows:

a) Fine fraction (0.25mm) of active stream sediment for fire assay analysis
b) Medium fraction (-1mm +0.5mm) active stream sediment, wet screened, from selected trap sites for panning to produce a heavy mineral concentrate
c) BLEG sample (500-1000g) from which is extracted flocculated ultrafine material

This first stage (Recce) stream sampling will help to screen out large areas effectively where no clear targets are evident. Should interesting results emerge, follow up stream sampling at a higher density (1 sample / 1 km²) will speed up the definition of target areas for soil sampling with the ultimate aim of rapidly defining justifiable trenching targets.

Trenching:
While it might be optimistic to suggest that trenching will be carried out on all seven MELs within the first 18 months of exploration, the higher ranked licences may warrant this methodology early on during the exploration programme. Trenching, where prominent geochemical soil anomalies are revealed, must be hand dug to a depth of 2 m (if no bedrock is encountered) and orientated perpendicular to the regional or local strike direction which is likely to be parallel to the trend of the anomalous soil sampling results. Trench walls should be logged for lithology and structure. Sampling should take place along a cut channel in one wall of the trench and 40 cm above the bottom of the trench to avoid the possibility of water flow and sediment deposition (contamination) or removal (bias).

The objective of any trenching programme, resulting from promising soil anomalies, will be to narrow down and pin point the bedrock gold source beneath wide dispersion halos in overlying soil cover and to obtain geological and structural information. Interpretation of this data will enable more accurate drill hole positioning as well as drill hole azimuth and hence maximise the efficient use of expensive drilling metres.

Scout Drilling:
While the objective of the initial 18 month exploration programme must be focused on carrying out exploration across as many of the priority target areas as possible aimed at delineating trench or drilling targets, drill testing of one or two robust soil anomalies may also be possible within the 18 month initial period.

Due to the challenging field conditions and remoteness of many of the Hamak Gold MELs, any future drilling programme would likely be designed based on the deployment of man portable core rigs and a meaningful quantum of metres (~ 2,000 m), given the expense of mobilizing a drilling company and executing the programme. With this in mind, tentative figures have been included (as contingency) in Table 12 & 13 below for such a drilling programme should exploration results justify this work.

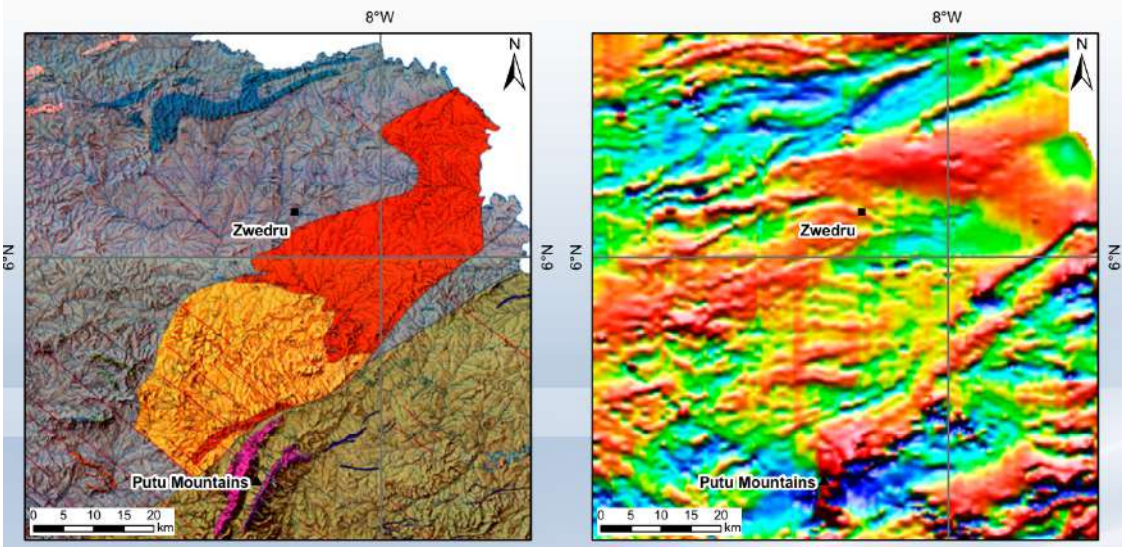
XRF Analysis using portable devices:
Multi element analysis has demonstrated that gold mineralisation is often correlated closely with the presence of arsenic and other elements associated with orogenic gold deposit mineralisation and alteration systems. The use of portable X-ray fluorescence (XRF) analysers should be considered a continuation of the exploration geologists' "tool box" and results can be obtained within a few days of collecting and drying samples. This immediacy will be of

great value in the Liberia bush, particularly in remote locations and where the field season can be limited. In gold exploration, portable XRF instruments can provide acceptable data for important pathfinder elements and for "lithological" mapping and this data can be generated from sieved and dried soil samples in the field. It is recommended that one of these instruments are acquired for the project for use at a permanent field base under controlled laboratory conditions.

Geophysics:

As discussed above, the digital compilation of the USGS nationwide geophysical survey database is a very useful "1st pass" for the identification of prospective targets for gold mineralisation. Further processing of the legacy aeromagnetic data, using modern software processing algorithms, has the potential for generating additional geological detail useful for grass roots exploration (Figure 60).

Figure 60: Re-processed aeromag. data for Zwedru area revealing new geological info.



Re-processed aeromagnetic and radiometric data may be useful to investigate regional structures and broad geological domians. Ground geophysics, such as induce polarization (IP) is appropriate at detecting disseminated sulphides in shear zone hosted gold deposits, while electromagnetics (EM) is more orientated towards detection of massive sulphides. However, the use of ground geophysical techniques are more applicable once interesting mineralisation has been found and are likely to be introduced at the end of the initial 18 month exploration period.

11.2 Sample Preparation and Analysis

Although there is a Liberian company, Liberia Geochemical Services Inc. (LGS), which offers sample preparation services to the industry, Hamak Gold is advised to prepare its own steam sediment and soil samples for assay to reduce costs and to build internal capability and capacity. Grab samples of rocks and any drill samples (core or reverse circulation samples) would have to be prepped by a commercial laboratory in the region. Should additional sample preparation capacity be required, the LGS's services can be looked at as a possibility.

Soil samples should be either sun or oven dried before disaggregating and then sieving using -80 mesh (170 microns) screen cloth sieves. The stream sediment and soil sample field preparation facility can be established in a local village or town or at the project base in

Monrovia. Each sample should be weighed to approximately 150 g and then submitted to a fully accredited commercial laboratory in the region or Europe, i.e. ALS Group in Ireland, for sample analysis.

Bulk Leach Extractable Gold (BLEG) is a geochemical sampling and analysis tool extensively used during gold exploration worldwide and has gained traction as an effective sampling tool. However, Hamak Gold is advised to maximise the data that can be extracted from drainage sample sites and to take not only BLEG samples but also active stream sediment samples from trap sites for field screening and panning to produce a heavy mineral concentrate (HMC). For BLEG samples, some 20 kg of stream sediment is collected in the field from which a 500 – 1,000 g sample of ultrafine material is generated by field laboratory processing and then subjected to analysis using the BLEG method which has a detection limit of 0.1 and 1 ppb Au depending on the weight and laboratory analysis method code.

An appropriate Quality Assurance and Quality Control (QA/QC) programme should be implemented by Hamak Gold aimed at providing confidence that the sample and assay data can be relied upon for follow-up surface exploration programmes, as well as for drill samples, to ensure that analytical results can be used for mineral resource estimation. Sample Blanks, Certified Reference Material (CRM) or Standard materials as well as duplicate samples should be used to monitor laboratory performance (analytical precision and accuracy) and would be added into sample batches randomly based on 5% for each of the QA/QC sample types.

11.3 Target Selection and Ranking of Hamak Gold licences

Hamak Gold has selected ground along or near to major crustal-scale thrust faults or shear zones either within the Archaean basement, the Paleoproterozoic (Birimian) rocks or within the complex boundary zone, believed to be some 200 km wide, between the Kenema-Man and the Baoule-Mossi domains. In addition, within most of the licences are supracrustal metavolcanic and metasedimentary rocks which form discontinuous narrow, elongate, greenstone belts of Archaean and Birimian age which lie between several northeast-southwest deep-seated crustal shear zones. These terrains are prospective for orogenic gold mineralisation.

Little in the way of previous exploration work and certainly in the modern period (post 1990), but more importantly geological or geochemical results, are available for the Hamak Gold MELs. As a result, the Author's recommendations rely extensively upon observations made in the field during the site visits. Thus, when assessing each of the MELs with the aim of ranking them in terms of their prospectivity, the presence (or absence) of ASM activity within a licence is particularly relevant.

The Author has ranked Hamak Gold's MELs individually and in accordance with their geological and spatial relationship with specific geological structures as well as on the scale of gold mining activity in or near those licences. Often licences can be grouped according to their prospectivity and relative proximity to each other. Thus, the following ranking of the licences is advised:

Rank No. 1: Cestos shear zone and greenstone belts
Nimba Licence
Gozohn Licence

Rank No. 2: **Dube shear zone and Birimian greenstones**
River Gee Licence

Rank No. 3: **Lofa and Yambesei shear zones and greenstones**
Fasama
Lofa

Rank No. 4: **Juazohn shear zone and amphibolites**
Cestos Licence
Sinoe Licence

11.4 Proposed Exploration Work Programme and Budget

11.4.1 Nimba Licence

Two geologically distinct provenances for gold mineralisation exist within this licence both of which are associated with the structurally complex Sassandara fault system (Côte d'Ivoire) which continues as the Cestos Shear Zone in Liberia. To the west of this regional fault-thrust system occurs a series of long narrow quartzite ridges, with iron-formation caps. The most common geology is a combination of mica schist, pure quartzite, magnetite quartzite, garnet-kyanite quartzite and oxide-facies banded iron-formation which comprise a typical Archaean greenstone belt lithological package in Liberia. Gold mineralisation is evident from active diggings at Locality 1 (Gboulay) and Locality 2 (Mt Blah) and should be targeted for grid soil geochemical sampling.

To the south of the main thrust fault lies an unmetamorphosed massive to slightly foliated diorite intrusion; the landscape of which comprises rounded hills and less pronounced ridges that were not mapped (in any detail) by the USGS. Diggings visited at Locality 4, Site 1 (Gblarlay) and Site 2 (Glaarlay) are all located downstream of a northeasterly and southerly trending distinctive elongated hill which is more rounded and perhaps half the average height of the Greenstone ridges to the NW. While the regional geology needs to be better understood, either the elongated hill or the contact zone between the hill and the diorite appears to be mineralized and should be targeted for grid soil geochemical sampling.

Similar exploration sampling strategies are envisaged despite the different geological terrains with the priority being focused on the greenstone belt rocks. The extensive ASM activity at Gboulay, Gblarlay and Glaarlay, including ASM mining of quartz veins within bedrock, warrants prioritizing the Nimba MEL. Stream sampling is subordinated to systematic grid soil sampling along wide spaced traverse lines aiming to cover the greenstone rocks and in particular any areas where there is ASM activity. Closer spaced soil sample grids (200 m traverse lines with sample 50 m apart) would follow if anomalies are found with the aim of defining trenching and, or drill targets. A sampling programme and suggested budget is presented in Table 12.

Table 12: Exploration work programme and budget for Nimba licence

Licence Name		NIMBA		
Licence No.		MEL 7001518		
Expiry Date		2nd May 2022		
Licence Area		986 Km²		
	Unit cost	**Description of work, targets**		**Total US$**
MAPPING (Incl. REMOTE SENSING)		Acquire USGS data & Satellite imagery		
and RECONNAISSANCE		Build up a Liberian GIS database		
Expected Cost (USD)			3,000	3,000
STREAM SEDIMENT SAMPLING		Reconnaissance and follow-up		
No. samples to collect				
Expected Cost (USD)				-
SOIL SAMPLING				
1st Pass		Target 1: Gboulay:	2,500	
(400m traverse line spacing)		Target 2: Mt Blah:	1,500	
(100m sampling interval)		Target 3: Gblarlay:	1,000	
		Target 4: Glaarlay:	800	
No. sample to collect		Total:	5,800	
Expected Cost (USD)	15 / sample		87,000	87,000
SOIL SAMPLING (Follow-up)				
(200m lines, 50m sample spacing)				
No. sample to collect		All targets:	4,000	
Expected Cost (USD)	15 / sample		60,000	60,000
TRENCHING		Targets 1 & 2: 800m, Targets 3 & 4: 500m		
No. metres excavated			1,000	
No. samples to collect			1,000	
Expected Cost (USD)	15 / sample		15,000	15,000
ROCK SAMPLING		Grad sampling of quartz veins		
No. sample to collect			20	
Expected Cost (USD)	20 / sample		400	400
Scout DRILLING (optional)		Target: 6 - 7 holes		
No. metres to be drilled	130 / metre	Includes mobilisation & demobilisation	1,000	130,000
No. samples to collect	20 / metre		1,000	20,000
Expected Cost (USD)				150,000
Total Surface Exploration costs				**165,400**
Total Drilling Programme Costs	**(Contingency)**			**150,000**

11.4.2 Gozohn Licence

The Gozohn licence has three mapped greenstone belt outcrops (yet unexplored in the modern era) with at least two being mineralized based on ASM activity, albeit of differing intensity. The Author considers the prospects of discovering primary sources of gold in bedrock within this MEL to be high. The extensive digging activity at Location 1, Sites 1 and 2, which are both situated in proximity to each other along the western flank of Mt Koklun, suggests nearby primary bedrock source. In fact, at Site 2, quartz veins were observed within the exposed bedrock, while limited tunnelling along the strike of quartz veins was evident within the thick overlying laterite. In addition, the west-east trending quartz-mica amphibolite schist belt (with itabirite), within the southern central part of the licence at Location 2, appears to be mineralized which is also encouraging.

However, not all the hill slopes and greenstone ridges within the MEL are mineralised sufficiently to attract persistent and intense ASM. For example, at Location 1, Sites 4 and 5, ASM alluvial activity is low key suggesting weaker upslope mineralisation. Furthermore, between Mt Koklun and the Zua Range lies a curved, east – west trending, ridge of greenstone belt which does not appear to have any ASM activity.

Satellite and on the ground reconnaissance geological mapping should help identify most of the gold workings and the geological context at Mt Koklun. Grab sampling of quartz veins may determine the presence of bedrock mineralisation, however a large soil grid covering the Mt

Koklun target and associated ASM mining (outside of the drainages) will be carried out initially along the western flank of Mt Koklun (Location 1) and extending to all the greenstone rocks within the licence area including the quartz-mica amphibolite schist south of Wensahn (Location 2). To some extent, widespread regional reconnaissance stream sampling within the gneissic terrain may be forgone in favour of a planned traverse line soil sampling campaign concentrating on the greenstone belts.

Assuming elongated (but relatively narrow) soil anomalies are found, a trenching programme should be undertaken with the aim of generating targets for scout drilling. A suggested budget is presented in Table 13.

Table 13: Exploration work programme and budget for Gozohn licence

Licence Name		**GOZOHN**		
Licence No.		MEL 7002318		
Expiry Date		19th August 2022		
Licence Area		766 Km²		
	Unit cost	**Description of work, targets**		**Total US$**
MAPPING (Incl. REMOTE SENSING)		Acquire USGS data & Satellite imagery		
and RECONNAISSANCE		Build up a Liberian GIS database		
Expected Cost (USD)			3,000	3,000
STREAM SEDIMENT SAMPLING		Reconnaissance and follow-up		
No. samples to collect				
Expected Cost (USD)				-
SOIL SAMPLING				
1st Pass		Target 1: Mt Koklun:	3,000	
(400m traverse line spacing)		Target 2: Kangbo ridge:	2,000	
(100m sampling interval)		Target 3: Wensahn:	1,000	
No. sample to collect		Total:	6,000	
Expected Cost (USD)	15 / sample		90,000	90,000
SOIL SAMPLING (Follow-up)				
(200m lines, 50m sample spacing)				
No. sample to collect		All targets:	3,500	
Expected Cost (USD)	15 / sample		52,500	52,500
TRENCHING		Targets 1: 300m, Targets 2 & 3: 350m each		
No. metres excavated			1,000	
No. samples to collect			1,000	
Expected Cost (USD)	15 / sample		15,000	15,000
ROCK SAMPLING		Grad sampling of quartz veins		
No. sample to collect			30	
Expected Cost (USD)	20 / sample		600	600
Scout DRILLING (optional)		Target: 6 - 7 holes		
No. metres to be drilled	130 / metre	Includes mobilisation & demobilisation	1,000	130,000
No. samples to collect	20 / metre		1,000	20,000
Expected Cost (USD)				150,000
Total Surface Exploration costs				**161,100**
Total Drilling Programme Costs	**(Contingency)**			**150,000**

11.4.3 River Gee Licence

The Dube shear zone is an obvious exploration target based on the premise that the main episodes of gold mineralisation in the Birimian appears to have been controlled by regional-scale shear zones. Gold occurrences and artisanal mining activity are known to exist mostly to the east of the shear zone, as recorded by the USGS or more recently during the first site visit to the south of Sweaken within the Togbolo and Yangbayain creeks (albeit inactive at present). It is possible that some of these occurrences may be related to mineralized zones within ridges hosting manganese-formation as described in Section 8. Soil sampling grids should target the ridges & surrounding areas. Initially, sampling should be on a wide spaced grid with sample traverses spaced 400 m apart and a sampling interval of 100 m. Soil samples of 1-2 kg should be collected from the B and C soil horizons and all sample features recorded.

The source of the gold being recovered from the Feloken dredging operations points to a likely regional source possibly related to Hummingbird's Tiehnpo target area, however a more local source should not be ruled out. Much of the River Gee licence was covered by reconnaissance stream sampling (Hummingbird, 2010) and in 2014 the company reported that no significant gold anomalies were found. No further details are available to the Author however it is possible gold may occur north of the Kia Creek. This area coincides with the north central part of the River Gee licence (Section 8.3.4). Limited 1st pass stream sediment samples (including BLEG samples) should be collected at a low density. Higher density sampling can follow depending upon the results obtained. A proposed budget is included as Table 14.

Table 14: Exploration work programme and budget for River Gee licence

Licence Name		**RIVER GEE**		
Licence No.		MEL 7002618		
Expiry Date		2nd May 2022		
Licence Area		973 Km²		
	Unit cost	**Description of work, targets**		**Total US$**
MAPPING (Incl. REMOTE SENSING) and RECONNAISSANCE		Acquire USGS data & Satellite imagery Build up a Liberian GIS database		
Expected Cost (USD)			2,000	2,000
STREAM SEDIMENT SAMPLING		Reconnaissance and, or BLEG sampling 1 sample per 25 km² (625 km²)		
No. samples to collect			25	
Expected Cost (USD)	25 / sample		625	625
SOIL SAMPLING (1st Pass)				
(400m traverse line spacing)		Target 1: SE Dube Shear zone:		
(100m sampling interval)				
No. sample to collect		Total:	1,500	
Expected Cost (USD)	15 / sample		22,500	22,500
SOIL SAMPLING (Follow-up)				
(200m lines, 50m sample spacing)		Follow up of interesting results		
No. sample to collect		All targets:	800	
Expected Cost (USD)	15 / sample		12,000	12,000
TRENCHING		Trenching of soil anomalies		
No. metres excavated			800	
No. samples to collect			800	
Expected Cost (USD)	15 / sample		12,000	12,000
ROCK SAMPLING		Grad sampling of quartz veins		
No. sample to collect			20	
Expected Cost (USD)	20 / sample		400	400
Total Surface Exploration costs				**49,525**

11.4.4 Fasama Licence

Two mapped greenstone units occur within the Fasama licence. Active gold digging, within the southern licence extension, along the northern slopes of the part of the Kpo Mountain Range is ongoing, while little is known about the southwestern unit. Further, it is probable that more greenstone belt "inliers" exist within the licence area requiring extensive geological mapping aided by the acquisition of satellite multispectral spatial as well as SRTM data, which will be useful in mapping the ridges and possibly large scale structures.

The western boundary of the Fasama licence is proximal to the northeast extension of the Lofa shear zone or corridor. It is possible that gold vein type mineralisation could be associated with localised secondary faults and splays related to the shear zone. Structural and lithological mapping should be the initial focus of exploration in this licence; the results from which will determine the nature of further exploration work.

In the southern part of the MEL, soil sampling along the northern flank of the greenstone ridge within the extension area of the licence should be carried out, given the amount of ASM activity observed or reported at this site. Systematic grid soil sampling along wide spaced traverse lines should be aimed at covering the greenstone rocks and all areas where there is ASM activity. Closer spaced soil sample grids should follow if anomalies are found. A proposed budget is present in Table 15.

Table 15: Exploration work programme and budget for Fasama licence

Licence Name		FASAMA		
Licence No.		MEL 7002518		
Expiry Date		19th August 2022		
Licence Area		776 Km²		
	Unit cost	**Description of work, targets**		**Total US$**
MAPPING (Incl. REMOTE SENSING)		Acquire USGS data & Satellite imagery		
and RECONNAISSANCE		Build up a Liberian GIS database		
Expected Cost (USD)			2,000	2,000
STREAM SEDIMENT SAMPLING				
No. samples to collect				
Expected Cost (USD)	25 / sample		0	-
SOIL SAMPLING (1st Pass)				
(400m traverse line spacing)		Target 1: Fasama extension		
(100m sampling interval)				
No. sample to collect		Total:	1,800	
Expected Cost (USD)	15 / sample		27,000	27,000
SOIL SAMPLING (Follow-up)				
(200m lines, 50m sample spacing)		Follow up of interesting results		
No. sample to collect		All targets:	700	
Expected Cost (USD)	15 / sample		10,500	10,500
TRENCHING		Trenching of soil anomalies		
No. metres excavated			600	
No. samples to collect			600	
Expected Cost (USD)	15 / sample		9,000	9,000
ROCK SAMPLING		Grad sampling of quartz veins		
No. sample to collect			20	
Expected Cost (USD)	20 / sample		400	400
Total Surface Exploration costs				**48,900**

11.4.5 Lofa Licence

The Lofa licence comprises only granite and gneiss terrains which appear to be bounded by faults, which could be interpreted as splays, associated with the Mafa shear corridor. Such splays could have acted as structural channels for hydrothermal fluids, which may have deposit gold in suitable structures or chemical traps. The distribution of alluvial gold within the Lofa licence, as evidenced from the numerous occurrences in the USGS mineral locality map, provides a useful starting point for gold exploration in the Lofa licence. Sentinel-2 satellite imagery, with a high spatial resolution of 10 m, has the potential to assist with gold exploration, especially in the mapping of AMS activity.

Despite not encountering any active digging during the site visit, the source of the numerous USGS (1970's) gold occurrences recorded within the northern part of this MEL need to be resolved. With no obvious geological targets, the Author recommends a good quality 1st Pass BLEG stream sampling programme at a relatively low density of 1 sample / 20 km². Some 20 BLEG samples will quickly determine which main drainages need to be followed up with higher density stream sampling.

The licence represents an under-explored area where north-east extensions of the Archaean Kenema-Man domain, which are bounded by the Mafa shear zone, are targets for gold exploration. Geological and lithological mapping together with classic regional BLEG stream sediment sampling is the recommended exploration approach for this licence and a budget for this work is presented in Table 16.

Table 16: Exploration work programme and budget for Lofa licence

Licence Name		**LOFA**		
Licence No.		MEL 7002118		
Expiry Date		24th June 2022		
Licence Area		367 Km²		
	Unit cost	**Description of work, targets**		**Total US$**
MAPPING (Incl. REMOTE SENSING)		Acquire USGS data & Satellite imagery		
and RECONNAISSANCE		Build up a Liberian GIS database		
Expected Cost (USD)			2,000	2,000
STREAM SEDIMENT SAMPLING		BLEG stream sampling		
		1 sample per 20 km²		
No. samples to collect			20	
Expected Cost (USD)	25 / sample		500	500
STREAM SEDIMENT SAMPLING		Follow up stream sampling		
		1 sample per 5 km²		
No. samples to collect			60	
Expected Cost (USD)	15 / sample		900	900
SOIL SAMPLING (1st Pass)				
(400m traverse line spacing)		Dependant upon anomalous drainages		
(100m sampling interval)		being located by stream sampling		
No. sample to collect		Total:	800	
Expected Cost (USD)	15 / sample		12,000	12,000
SOIL SAMPLING (Follow-up)				
(200m lines, 50m sample spacing)		Follow up of interesting results		
No. sample to collect		All targets:	200	
Expected Cost (USD)	15 / sample		3,000	3,000
TRENCHING		Trenching of soil anomalies		
No. metres excavated			600	
No. samples to collect			600	
Expected Cost (USD)	15 / sample		9,000	9,000
ROCK SAMPLING		Grad sampling of quartz veins		
No. sample to collect			15	
Expected Cost (USD)	20 / sample		300	300
Total Surface Exploration costs				**26,800**

11.4.6 Cestos Licence

A series of discontinuous elongate amphibolite bodies, which take on a sinuous or linear surface outcrop pattern, are situated to the north and along the northwestern flank of the Jubo batholith within the MEL. A direct analogy can be made between the geological setting of these amphibolites, and the resistant amphibolite (and pyroxenite) ridges located to the north of Pyne Town and at Peace Camp which are known to be mineralized and described by Hummingbird as potentially hosting greenstone (skarn-styled) gold mineralisation.

The Ity deposit, hosted in a Birimian greenstone keel, has mineralisation mostly located at the contact between a granodiorite-tonalite intrusive body and a metasedimentary sequence of volcano-sediments and carbonates. Primary gold mineralisation occurs in the form of veinlets and, mostly, skarn at the contact between the granitic intrusion and limestone.

The Jubu batholith is a diorite intrusive with amphibolite bodies in proximity, which may comprise greenstone lithological packages. It is possible that mineralisation has occurred along the contact between the batholith and the amphibolites. The regional mapping of most

of these amphibolite bodies by the USGS was achieved from the aeromagnetic survey data and have probably not been field verified, hence geological and structural mapping of these amphibolite bodies would be a useful exploration starting point for the MEL. This work would also determine whether there has been previous ASM activity.

The Cestos licence is also a reasonable target area to conduct grass roots stream sediment sampling which should be initiated at a low density of perhaps 1 samples / 25 km² in order to identify drainage catchment targets within the licence area for soil sampling follow-up work if warranted. A proposed budget is presented for this work in Table 17.

Table 17: Exploration work programme and budget for Cestos licence

Licence Name		CESTOS		
Licence No.		MEL 7002418		
Expiry Date		19th August 2022		
Licence Area		482 Km²		
	Unit cost	**Description of work, targets**		**Total US$**
MAPPING (Incl. REMOTE SENSING)		Acquire USGS data & Satellite imagery		
and RECONNAISSANCE		Build up a Liberian GIS database		
Expected Cost (USD)			2,000	2,000
STREAM SEDIMENT SAMPLING		Reconnaissance and BLEG sampling		
		1 sample per 25 km²		
No. samples to collect			20	
Expected Cost (USD)	25 / sample		500	500
STREAM SEDIMENT SAMPLING		Follow up stream sampling		
		1 sample per 5 km²		
No. samples to collect			50	
Expected Cost (USD)	15 / sample		750	750
SOIL SAMPLING (1st Pass)				
(400m traverse line spacing)		Dependant upon anomalous drainages		
(100m sampling interval)		being located by stream sampling		
No. sample to collect		Total:	600	
Expected Cost (USD)	15 / sample		9,000	9,000
SOIL SAMPLING (Follow-up)				
(200m lines, 50m sample spacing)		Follow up of interesting results		
No. sample to collect		All targets:	300	
Expected Cost (USD)	15 / sample		4,500	4,500
TRENCHING		Trenching of soil anomalies		
No. metres excavated			400	
No. samples to collect			400	
Expected Cost (USD)	15 / sample		6,000	6,000
ROCK SAMPLING		Grad sampling of quartz veins		
No. sample to collect			10	
Expected Cost (USD)	20 / sample		200	200
Total Surface Exploration costs				**22,200**

11.4.7 Sinoe Licence

Currently there is very little gold ASM activity within the Sinoe licence although there is a history of alluvial mining at locations such as Congo Camp near the village of Chebioh, at Korjahyee Town and Gbalawein which are located along the national road bearing SW towards Juazohn. This suggests some form of gold mineralisation may be associated with a number of amphibolite belts identified, but poorly defined, in the USGS geological map of Juazohn, within the licence area.

The Sinoe licence is a reasonable target area for grass roots exploration and should be investigated. Mapping by means of remote sensing, using Landsat-8 imagery, would be a useful starting point. Once targets have been generated, 1st pass reconnaissance stream samples should be collected at a low density and should these produce anomalies for follow

up stream sampling or perhaps the initiation of soil sampling. A proposed budget is presented for this work in Table 18.

Table 18: Exploration work programme and budget for Sinoe licence

Licence Name		SINOE		
Licence No.		MEL 7002018		
Expiry Date		24th June 2022		
Licence Area		615 Km²		
	Unit cost	**Description of work, targets**		**Total US$**
MAPPING (Incl. REMOTE SENSING)		Acquire USGS data & Satellite imagery		
and RECONNAISSANCE		Build up a Liberian GIS database		
Expected Cost (USD)			2,000	2,000
STREAM SEDIMENT SAMPLING		Reconnaissance sampling		
		1 sample per 25 km²		
No. samples to collect			24	
Expected Cost (USD)	15 / sample		360	360
STREAM SEDIMENT SAMPLING		Follow up stream sampling		
		1 sample per 5 km²		
No. samples to collect			15	
Expected Cost (USD)	15 / sample		225	225
SOIL SAMPLING (1st Pass)				
(400m traverse line spacing)		Dependant upon anomalous drainages		
(100m sampling interval)		being located by stream sampling		
No. sample to collect		Total:	500	
Expected Cost (USD)	15 / sample		7,500	7,500
SOIL SAMPLING (Follow-up)				
(200m lines, 50m sample spacing)		Follow up of interesting results		
No. sample to collect		All targets:	300	
Expected Cost (USD)	15 / sample		4,500	4,500
TRENCHING		Trenching of soil anomalies		
No. metres excavated			400	
No. samples to collect			400	
Expected Cost (USD)	15 / sample		6,000	6,000
ROCK SAMPLING		Grad sampling of quartz veins		
No. sample to collect			10	
Expected Cost (USD)	20 / sample		200	200
Total Surface Exploration costs				**20,560**

Given the wide range of geological terrains and potential for varied mineralised settings across the seven licences, different sampling strategies will be required for each licence as detailed above. Field work should be organised based on a number of highly mobile field teams that can move from one priority area to the next, within and between one or two MELs, to cover as many of the identified high priority targets as quickly as possible. A budget is presented in Table 19 based on different exploration methods and sample quantities per licence, from which has been derived respective assay costs.

Table 19: Hamak Gold exploration sampling assay budget

	Stream samples Reconnaissance	Stream samples Follow up	Soil Samples 1st Pass	Soil Samples Follow up	Trench Samples	Grab / Rock Samples	Total Samples	Budget (US$)
Nimba			5,800	4,000	1,000	20	10,820	165,400
Gozohn			6,000	3,500	1,000	30	10,530	161,100
River Gee	25		1,500	800	800	20	3,145	49,525
Fasama			1,800	700	600	20	3,120	48,900
Lofa	20	60	800	200	600	15	1,695	26,800
Centos	20	50	600	300	400	10	1,380	22,200
Sinoe		15	500	300	400	10	1,225	20,560
	65	125	17,000	9,800	4,800	125	**31,915**	**494,485**

12. REFERENCES

ACA Howe International Ltd, 2010. Technical review of Hummingbird Resources Limited Gold and Iron Ore Exploration project in Liberia.

Adiri, Z., Lhissou, R., El Harti, A., Jellouli, A., & Chakouri, M., 2020. Recent advances in the use of public domain satellite imagery for mineral exploration: A review of Landsat-8 and Sentinel-2 application. Ore Geology Reviews, 117.

Auramin, 2019. Zolowo gold project, Liberia. Q2 Presentation

Aversoro Resources, 2018. Corporation presentation March 2018.

British Geological Survey (BGS), 2015, World mineral production, 2009-2013.

British Geological Survey (BGS), 2018, Investing in the minerals industry in Liberia.

British Geological Survey (BGS), 2018, The potential for gold in Liberia.

Central Bank of Liberia, 2016. Annual Report

Dorbor, S.B., 2018. A review of the diamond potential of Liberia

Endeavour Mining Corporation, 2020. Technical report on the Ity gold mine, Republic of Côte d`Ivoire.

Force, E.R., 1983, USGS, Geological Survey Bulletin 1540 p. 1 – 37, Geology of the Nimba County, Liberia.

Force, E.R. and Dunbar, J.D.N. 1974, USGS, Geology of the Gbanka Quadrangle, Liberia. Project Report (IR) LI 63B.

Foster, R.P., Piper, D.P., 1993. Archaean lode gold deposits in African: crustal setting, metallogenesis and cratonisation. Ore Geol. Rev. 8, 303-347.

Goldfarb, R.J. et al 2017, West Africa: The World's Premier Paleoproterozoic Gold Province. Economic Geology, v. 112, pp. 123-143.

Gunn, A.G., Dorbor, J.K., Mankelow, J.M., Lusty, P.A.J., Deady, E.A., Shaw, R.A., Goodenough, K.M., 2018. A review of the mineral potential of Liberia. Ore Geology Reviews 101 p. 413-431.

Liberty International Mineral Corporation, 2006 & 2007. NI43 101 Technical Repors on Exploration activities on mineral concessions of Liberia prepared by Whiteaker, R.J. of Whiteaker Geoscience, Canada.

Markwitz, V., Hein, K.A.A., Miller, J., 2016, Compilation of West African mineral deposits: Spatial distribution and mineral endowment. Precambrian Research, 274, pp. 61-81.

Matthis, S., 2021, West Africa gold production to bounce back with 2.7% growth in 2021. Global data mining intelligence center https://www.miningmetalnews.com/20210219/1745/west-africa-gold-production-bounce-back-27-cent-growth-2021

Ministry of Mines and Energy, March 2010, Mineral Policy of Liberia

Ministry of Mines and Energy, October 2020, Request for the Expression of Interest to provide consultancy services. https://mme.gov.lr/news/

Rollinson, H., 2016, Archaean crustal evolution in West Africa: a new synthesis of the Archaean geology in Sierra Leone, Liberia, Guinea and Ivory Coast. Precambrian Research, 281:1

Seitz, J.F., 1977. Geology of the Voinjama quadrangle, Liberia. USGS Project Report (IR)68-E.

Small, R., 2012, Artisanal and small scale mining in and around protected areas and critical ecosystems project (ASM-PACE): Liberia Case Study Report. WWF Report. Also Artisanal Mining in Critical Ecosystems: A look at Gabon, Liberia and Madagascar. World Bank – Africa Region, Sustainable Development, 2012.

SRK Consulting, 2017. New Liberty gold mine, BEA Mountain mining licence Southern Block, Liberia, West Africa. NI43 101 Report prepare for Avesoro Resources Inc.

SRK Consulting, 2020. Dugbe Gold Project, Liberia – NI43 101 technical report prepare for Pasofino Gold Ltd.

Ussoltsev, I., 2018, Preliminary Geology Reports by Team of Consultant Geologists for Hamak Mining Company

Wahl, R., 2007, USGS: Geologic, Geophysical and Mineral Localities maps of Liberia: A digital compilation Open-File 2007-1258

Wallace, R.M., 1974, Geology of the Bopolu quadrangle, Liberia, USGS Project Report (IR) LI-61B

Whiteaker, R.J., 2007, NI43 101 Technical Report on exploration activities on the mineral concessions of Liberty International Mineral Corp. June 2006-May 2007

Wilson, S.T.K. et al, 2017, The mining sector of Liberia: current practices and environmental challenges. Environ. Sci. Pollut. Res. 24: p. 18711-18720.

CERTIFICATE OF QUALIFIED PERSON

I, Derek Rowan Carr, MSc., CGEOL do hereby certify that:

1. The Technical Report to which this certificate applies is titled "NI 43 101 Technical Report on the HAMAK GOLD PROPERTIES in Liberia" with an effective date of 30th June 2021, prepared for Hamak Gold Ltd.
2. I am a graduate with a Master of Science in Mineral Exploration gained from Imperial College, Royal School of Mines, London in 1985 and I have practiced my profession continuously since that time. Since graduating I have worked for De Beers Group Exploration on a wide range of diamond projects. Since 2007, I have work on diamond and gold projects in West Africa. I have undertaken many geological investigations, resource estimations and technical studies including due diligence reports. I am a Chartered Geologist and a Fellow of the Geological Society of London
3. I have read the definition of "Qualified Person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of NI 43-101 reporting.
4. I visited six of the seven Hamak Gold Projects between the 1st and 15th May 2021.
5. I am responsible for all sections of this Technical Report and have relied on input from other experts as cited in the report.
6. I am independent of Hamak Gold as described in Section 1.5 of NI 43-101
7. I have had no prior involvement with the properties that are the subject of this Technical Report.
8. I have read NI 43-101 and the parts of the Technical Report that I am responsible for have been prepared in compliance with NI 43-101
9. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the parts of the Technical Report that I am responsible for, contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 1st day of October 2021.

*signed*_____

Rowan Carr
(BSc Hons., MSc., DIC, FGS, CGEOL)