



Ministry of
**Mines and Steel
Development**



Exciting

NEW GOLD FINDS IN NIGERIA

Introduction

Recent gold finds in areas outside the traditional gold belts (Schist belts) indicates the possibility of major discovery and change in the metallogenic configuration of the country. These new gold rich veins discovered in several location across the country are located in Nassarawa, Bauchi and FCT.

Gold production in Nigeria started by 1913 and peaked in the period 1933-1943 when about 1.4t of gold were produced. Subsequently gold production declined during the second World War period and never recovered as mines were abandoned by mostly colonial companies. The contention that Nigeria has gold mineralization is out of the question.

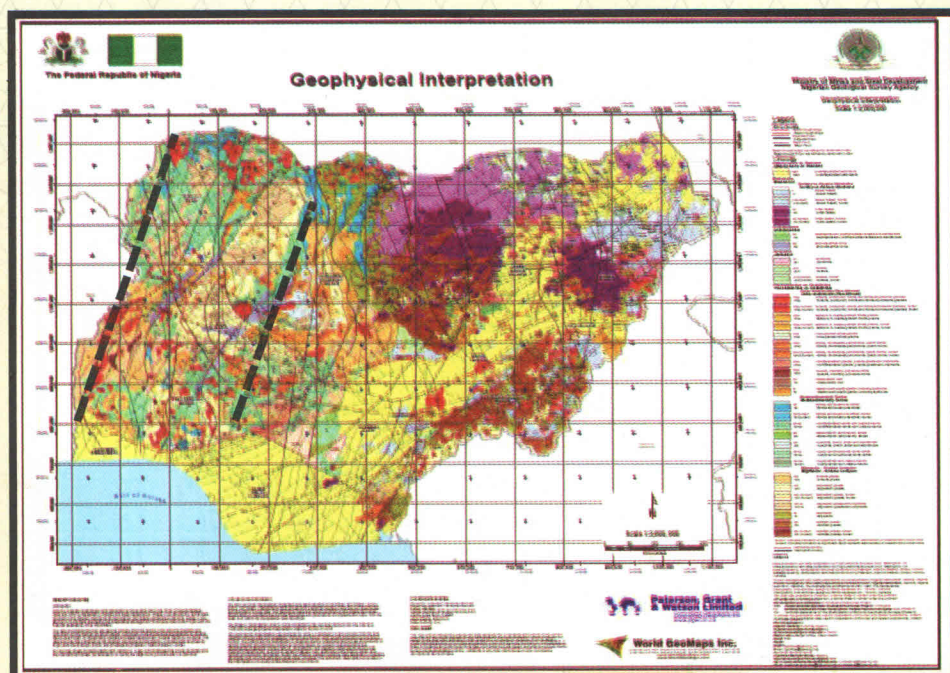
Modes of gold occurrences in Nigeria are:

Alluvial and eluvial placers

Primary gold mineralization which commonly occurs in quartz

Morphologic types include bedding concordant veins or discordant vein system.

Mineralized wall rocks are common adjacent to known veins and may be impregnated with fine grained sulphide minerals (Pb, Cu etc) or as free gold.



Aeromagnetic Map of Nigeria showing the Nigerian the broad outline of the schist belts

■ Uke, Nassarawa State

The geology of the Uke gold mineralization is typical the Nigerian Basement terrain consisting gneisses which may have proximal intrusions of granitoids of relatively younger age. Gold rich quartz veins or reefs hosted in biotite gneiss proximal to intrusions of granitoids of relatively younger age. These are also associated quartzofelsphatic veins. And the structural disposition of the gold bearing veins are consistent with the regional lineament trends of NNE/SSW direction deduced from airborne data (TMI, Ansig and 1VD).

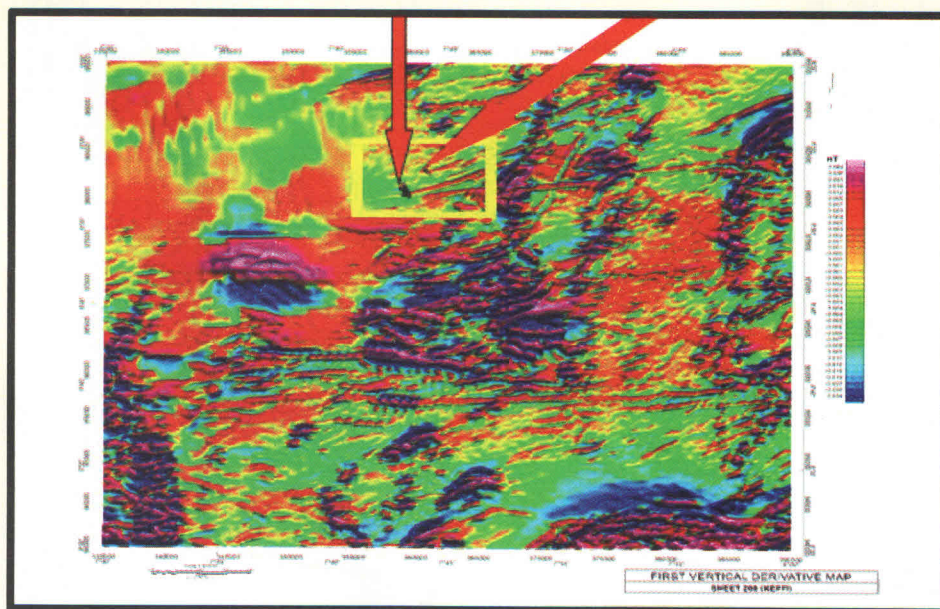
Field report from the area indicated that 20 - 30 ounces of gold are recovered on daily basis from the combined operations of artisanal miners and semi mechanized operators.

■ Gada Biyu, Toro, Bauchi State

Gold mineralization in Gada-Biu area is found in quartz veins hosted in gneisses as primary mineralization and secondary mineralization in alluvial placers within the sediments of the NW-SE flowing river Bangel. The primary mineralization often extends in to the gneissic wall rock providing localized haloes of enrichment.

The alluvial gold in the area is associated with buried alluvial flats of the drainage channels of river Bangel. Due to extensive weathering of bedrock materials including the veins, there is thick pile of overburden reaching >10m. This also forms a veritable source of elluvial materials which contains significant amount of gold.

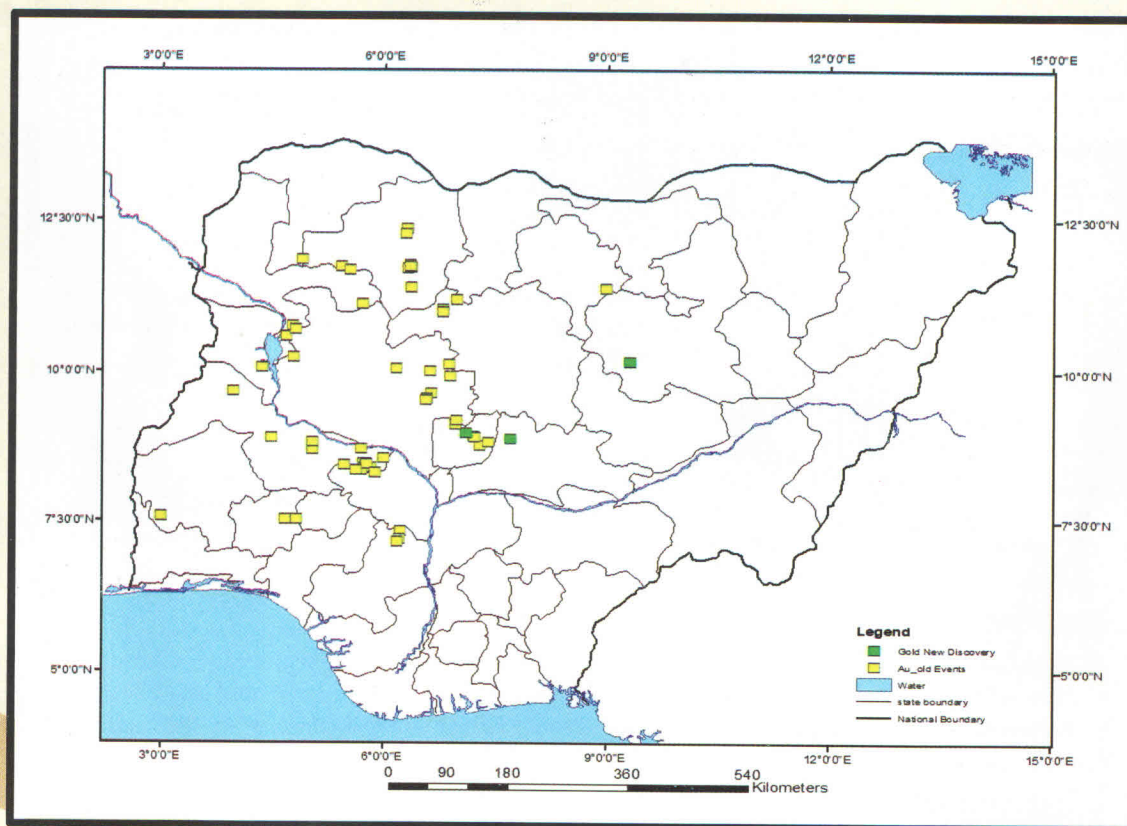
The mineralization in Gada Biyu occasionally yields about 2g gold from 5kg vein and wall rock material while weathered piles of bedrock materials around the mineralized area yields between 0.5-1g/t



Gold mining locations in Uke, Nassarawa State, lying on regional lineament NNE-SSW

■ Gwagwalada, FCT

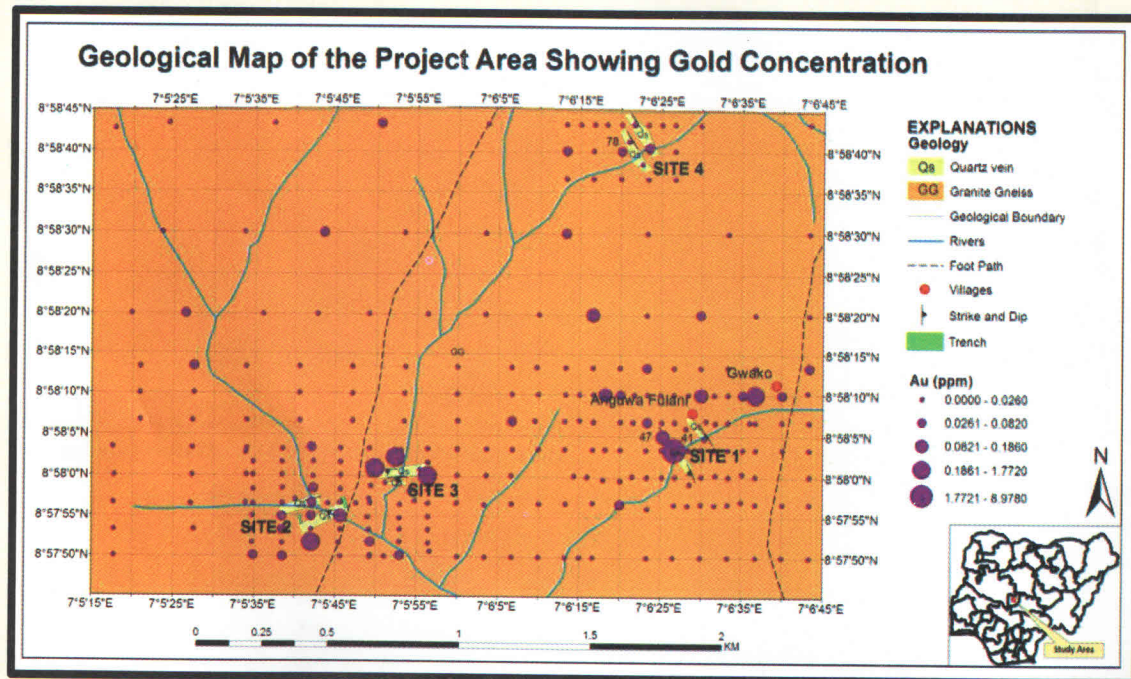
The Geology of Gwagwalada area is underlain by migmatitic-gneiss, banded-gneiss and granite-gneiss with occasional bodies of schist. These were intruded by the Pan-African Granitoids (Older Granites) mainly porphyritic granite, medium to coarse-grained granite and granodiorite. Quartz and pegmatitic veins which later intruded some of these older lithologies are occasionally noted to contain high gold content. These veins are variable in size (several cm to few meters) and sometimes occurring as concordant and discordant stringers and reefs in the host gneisses. Primary gold mineralization in Gwagwalada area is found in altered limonitic quartz veins, which is stained reddish brown to yellow in color. These are often associated with sulphides (galena or pyrite). The structural disposition of the gold bearing quartz veins trend in almost NW-SE and E-W orientations, occasionally swelling and pinching. Analytical results indicated stream sediments around mineralized areas have Au contents reaching between 15-25ppm and Pb content >10,000ppm. While soil samples within the investigated areas have gold concentrations between 1-8ppm. However, field estimation suggests recoveries from the limonitic quartz vein yielding between 45g/ton to 60g/ton gold.



Gold mining locations in Nigeria. The locations of new discoveries in red spots

Sample ID	Sample Type	PWE-100 Rec. Wt. kg	Method Analyte Units	FA-415 Au ppm	ICF-8Ag Ag ppm	ICF-6Pb Pb %	IMS-117 Ag ppm	IMS-117 Al %	IMS-117 As ppm	IMS-117 Au ppm	IMS-117 B ppm	IMS-117 Ba ppm	IMS-117 Bi ppm	IMS-117 Ca %
17 Glass Blank	QC-P-BK	0.01	LOR	0.05	1	0.01	0.05	0.01	0.01	0.001	<10	<10	<0.05	
18 FCG PSS1	Sediment	0.12					<0.05	1.01	0.9	0.005	<10	92	<0.05	
19 FCG PSS2	Sediment	0.12					<0.05	0.72	2	<0.001	<10	88	<0.05	
20 FCG PSS3	Sediment	0.12					1.7	0.94	3.3	0.41	<10	250	3.09	
21 FCG PSS4	Sediment	0.12					<0.05	0.58	1.3	<0.001	<10	109	<0.05	
22 FCG PSS5	Sediment	0.12					<0.05	0.61	1	1.229	<10	57	<0.05	
23 FCG PSS6	Sediment	0.12					<0.05	0.36	0.5	0.331	<10	42	<0.05	
24 FCG PSS7	Sediment	0.12					<0.05	0.65	0.7	0.007	<10	49	<0.05	
25 FCG PSS8	Sediment	0.12					<0.05	2.76	2.5	0.015	<10	164	0.08	
26 FCG PSS9	Sediment	0.12					<0.05	0.3	0.5	0.002	<10	40	<0.05	
27 FCG PSS10	Sediment	0.12					<0.05	0.83	0.8	0.015	<10	73	<0.05	
28 FCG PSS11	Sediment	0.13					<0.05	0.55	0.9	<0.001	<10	52	<0.05	
29 FCG SS8 PC	Sediment	0.04					<0.05	0.04	0.2	<0.001	<10	<10	<0.05	
30 FCG SS9 PC	Sediment	0.04						1.21	0.15	6.1	16.423	<10	51	0.25
31 FCG SS12	Sediment	0.12					0.97	0.92	1.3	0.277	<10	125	0.93	
32 FCG NAL GS1	Sediment	0.11					0.06	0.99	1.6	<0.001	<10	101	<0.05	
33 FCG NAL GS2	Sediment	0.13					<0.05	2.75	2.6	<0.001	<10	103	<0.05	
34 FCG NAL SS	Sediment	0.12					<0.05	1.31	1.5	<0.001	<10	94	<0.05	
35 FCG NAL PC	Sediment	ISS						ISS	ISS	ISS	ISS	ISS	ISS	ISS
36 FCG AL5 PC	Sediment	0.03		599.01			20.62	0.49	53.8	>25	<10	30	0.11	
37 FCG V1 PCa	Sediment	0.05					0.26	0.15	0.7	13.474	<10	31	<0.05	
38 FCG V1 PCb	Sediment	0.04					7.11	0.4	2.6	3.917	<10	58	1.94	
39 FCG V5 PC	Sediment	0.04					0.07	2.7	3.7	0.062	<10	317	<0.05	
40 FCG VEIN 2 LATERITE	Sediment	0.12					0.93	1.05	5.9	4.825	<10	108	0.06	
41 FCG VEIN 2 LATERITEPO	QC-PD						1.1	1.07	5.9	6.011	<10	108	0.06	
42 FCG VEIN 3 SITE 2 LATERITE	Sediment	0.11					<0.05	1.81	3.1	0.01	<10	98	<0.05	
43 FCG VEIN 3 SITE 2 SOIL	Sediment	0.13					0.07	3.17	2.8	0.031	11	166	0.06	
44 FCG VEIN 6 SITE 3 QUARTZ	Sediment	0.11					0.28	0.09	1	0.592	<10	22	<0.05	<0.0
45 FCG V3 PC	Sediment	0.05					0.56	0.24	2.1	7.047	<10	29	<0.05	
46 FCG V4 PC	Sediment	0.03					0.94	0.34	7.3	15.296	13	46	0.09	
47 FCG AL4 PC	Sediment	0.05					0.17	0.4	5.6	1.176	<10	52	<0.05	
48 VEIN 1 QUARTZ	Sediment	0.11			142	7.58	>100	0.12	3.1	24.022	<10	55	18.07	

Geochemical dataset for stream sediments, soil and rock



NEW INFORMATION ON GOLD EXPLORATION IN NIGERIA

Preliminary follow up assessment of Gwagwalada gold mineralization the Nigerian Geological Survey Agency has shed more light on the endowments and the potentials of the country in gold mineralization.

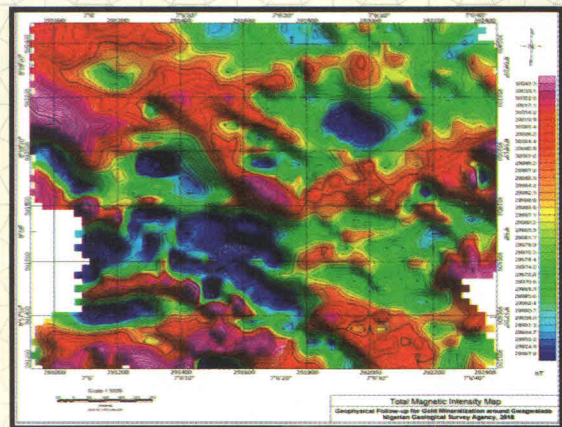
- Geological mapping on 1:10,000 scale over three identified prospects with $\text{Au} > 25\text{ppm}$ and $> 10,000$ in stream sediments
- Sampling of stream sediments soil and rock within the three major targets in the area
- Soil sampling in grid pattern and variable but expanding density of between 50m 100m and 200m from the mineralized vein
- Ground EM (VLF) and IP along the major vein
- Analysis of over 300 samples soil samples, stream sediments and rock samples
- Trench Data

Available Data

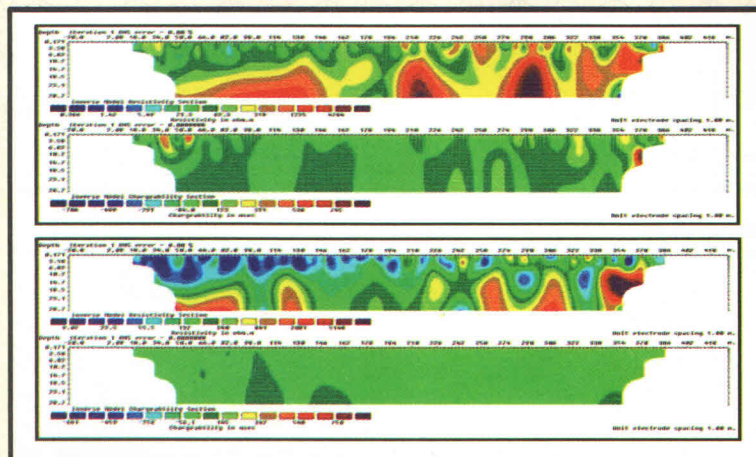
- Geochemical Maps
- Airborne and ground geophysical data
- Analytical data
- Reports



Rock sample of vein material showing lead with gold impregnations



Interpreted Airborne Magnetic Data of investigated area



EM and IP of major mineralised vein