REPORT on the KIBARA MINERAL EXPLORATION PROPERTY

of TANZANIAN ROYALTY EXPLORATION CORPORATION

in the BUNDA DISTRICT, MARA REGION

of the UNITED REPUBLIC OF TANZANIA, EAST AFRICA

Toronto, Canada
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TABLE of CONTENTS

Figures

Tables

Plates

1.0 SUMMARY

Martin Taylor, P. Geo., was retained by Tanzanian Royalty Exploration Corporation ("Tanzanian Royalty") in June 2009 to prepare a technical report to the standards of NI 43-101 on their Kibara mineral property in the United Republic of Tanzania. The author is familiar with gold exploration in Tanzania, having spent 8 years working there in that regard in 1999-2009, and visited the Kibara property in July 2009.

Tanzanian Royalty is a publicly-traded financial gold company whose business strategy is to acquire royalty interests in gold production from its core assets in the Lake Victoria Goldfields of Tanzania. As of December 31, 2008, the company had 88,793,958 common shares issued and outstanding. Tanzanian Royalty's head office is in South Surrey, British Columbia, Canada and it trades on the TSX Exchange under the symbol TNX and on the AMEX as TRE. The company operates in Tanzania through two wholly-owned, Tanzanian-registered companies, TANCAN Mining Company Ltd. and Tanzam 2000 Ltd.

The Kibara Project is at an early exploration stage and consists of 6 granted Prospecting Licences plus 5 approved applications covering a total area of approximately 375.91 km^2. The property is located in northern Tanzania within the Musoma-Mara Greenstone Belt, towards the western end of a large peninsula extending into Lake Victoria from its eastern shore. Kibara lies 145 km southwest of the North Mara gold mine of Barrick Gold Corp. The large village of Kibara lies to the south of the property on the gravel road linking the village of Nansio on Ukerewe Island with Bunda on the paved highway between Mwanza and Kenya.

The Archaean Tanzanian Craton and its surrounding Proterozoic mobile belts underlie much of the Central Plateau of Tanzania. Tertiary volcanics of mafic to intermediate composition occur primarily in the Kilimanjaro and Eastern Rift areas in the north. The producing gold mines of the Lake Victoria Goldfields are hosted within a series of Archaean greenstone belts, similar in age, lithologies and mineralization to the Abitibi Belt of northern Ontario and Quebec. These east-trending linear greenstone belts are separated by granite-gneiss terranes. Tanzania is the 3rd largest gold producer in Africa, after South Africa and Ghana. This has been achieved with the opening of five open-pit mines (Golden Pride, Geita, North Mara, Tulawaka and Buzwagi) and one major underground mine (Bulyanhulu) in recent years. Mining of gold from bedrock deposits around Lake Victoria was recorded as early as 1898 and continued intermittently on a limited scale into the 1970s in the Mara, Musoma, Serengeti, Iramba Plateau and Geita areas. Some mineralized zones are sub-parallel to lithologic layering in the greenstones, and others cut across layering, especially in the more competent units. Dilational openings along shear zones are common hosts for the mineralization, which is often open space filling.

The bedrock lithologies at Kibara are dominated by Nyanzian-age (Archaean) mafic volcanics, intruded by granites. Tanzanian Royalty commenced exploration on the Kibara Project in 2002 with mini-BLEG sampling in the precursor to PL 2308/2003. This was followed by rock and termite mound sampling to validate BLEG anomalies and then by trenching, biogeochemical (BGC) sampling and gradient IP surveys. The other licences were covered with BGC sampling, mapping and chip sampling and limited auger soil follow-up. None of the geochemical or other targets throughout the Kibara Project have yet been tested with any form of drilling.

The trenching on Nyakona Hill in PL 2308/2003 exposed a gossanous quartz vein with up to 40% malachite in a felsic tuff/feldspar porphyry package. Neither the later soil sampling nor IP gradient survey were able to confirm the extent of the mineralization beyond the 160 m of strike shown in the trenches. This mineralization, however, with gold values up to 14.80 g/t Au and copper up to 29.15 % Cu, constitutes the principal target on the property for follow-up with RAB/RC drilling. On PL 2785/2004 grab samples from muck piles at an abandoned artisanal mining site confirmed the presence of gold mineralization with values up to 18.75 g/t Au. Soil and BGC sampling did not detect a significant gold anomaly around the artisanal workings, but a gradient IP grid did reveal a chargeability anomaly. On PLs 2931/2004, 3146/2005 and 3314/2005 scattered BGC gold anomalies were detected. The strongest ones were followed up with auger soil sampling, but no BGC anomalies were confirmed.

Initial preparation of soil samples was done by Tanzanian Royalty at their own facility in Mwanza. All other preparation and analysis was carried out at internationally-recognized laboratories with ISO certification. The quality-control programs implemented by Tanzanian Royalty conform to industry standards and show that the sampling procedures and analyses received were acceptable. The author is of the opinion that the programs were carried out in a professional manner, to industry-standard procedures.

The favourable lithogies and presence of significant gold mineralization in trenches on Nyakona Hill in PL 2308/2003 and in artisanal gold workings in PL 2785/2004 make those two areas in the Kibara Project targets for initial RAB/RC drilling. The objectives would be to confirm the existence at depth of gold/copper-in-quartz mineralization sampled in the trenches at Nyakona Hill and to extend the gold mineralization in the artisanal workings. This should be done with lines of heel-to-toe RAB or RC drilling, possibly preceded by additional trenching on Nyakona Hill to extend the surface strike of the mineralization. If the Phase I RAB/RC program provides suitable confirmation of mineralization and significant intersections at either or both target areas, the next phase should consist of additional RC drilling to expand the mineralization from Phase I along strike and to depth.

Table 1.1. Budget Summary for Proposed Exploration, Kibara Project

Phase	**Trenching**	**Drilling**		**Assays**	**Support**	**Licences/Options**	**Total (US$)**
		Type, Metres	**Cost**				
Ia	24,035			4,600	89,800	66,500	184,935
Ib	0	RAB 4,100	139,000	41,000	77,800		257,800
Sub-Total	24,035		139,000	45,600	167,600	66,500	442,735
II	0	RC 4,500	273,000	41,000	77,800		391,800
Total	24,035		412,000	86,600	245,400	66,500	834,535

In the author's opinion, the character of the Kibara Property and its current stage of exploration are of sufficient merit to justify the nature and scale of the programs outlined above. The budgets are considered appropriate by the author.

2.0 INTRODUCTION and TERMS of REFERENCE

Martin Taylor, P. Geo., was retained by Tanzanian Royalty Exploration Corporation ("Tanzanian Royalty") in June 2009 to prepare a technical report to the standards of National Instrument 43-101 on the Kibara mineral property in the United Republic of Tanzania (Tanzania) in which Tanzanian Royalty holds an interest. Mr. Taylor visited the property in July 2009. The author is aware that Tanzanian Royalty may use this report in support of future fundraising efforts, or as required for other purposes by the TSX Exchange and the relevant provincial Securities Commissions.

In writing this report the author relied on corporate and extensive property data provided by Tanzanian Royalty, his observations in the field, his knowledge of Tanzania and its geology obtained from his many visits, and public information from his own files and websites of other companies operating in Tanzania. Government of Tanzania reports and maps, and other relevant reports, papers and data in the public domain were also examined. All available data on Tanzanian Royalty's Kibara property was reviewed in Toronto, including reports on recent exploration programs. Copies were examined in Toronto of the original licence documents for each of the Prospecting Licences.

All of the licence documents issued by the Minerals Development Division of Tanzania and examined by the author appear to be in order. Although the author is familiar with both the procedure of acquiring Prospecting Licences in Tanzania and the nature of the relevant documents pertaining to them, as a Professional Geoscientist he is not qualified to give a formal legal opinion on the validity of the licence or agreement documents and takes no responsibility for any errors or omissions within said documents that might affect Tanzanian Royalty's title or interest in the properties.

Recommendations for a phased exploration program together with budgets were prepared by Mr. Taylor, the latter in consultation with the management of Tanzanian Royalty. These programs reflect the minimum work considered appropriate to advance or evaluate the properties rather than what is merely required to maintain the properties in good standing.

3.0 PROPERTY DESCRIPTION AND LOCATION

The Kibara mineral property in which Tanzanian Royalty holds an interest and described in this report is located within the United Republic of Tanzania, in East Africa. The following section (3.1) provides background information on Tanzania.

3.1 The United Republic of Tanzania

Tanzania covers a total area of 945,087 sq. km between longitudes 29°E - 41°E and latitudes 1°S - 12°S. It is bounded on the north by Kenya and Uganda, on the east by the Indian Ocean, on the south by Mozambique, Malawi and Zambia, and on the west by The Democratic Republic of Congo, Burundi, and Rwanda (Figure 1). Three of Africa's largest lakes, Victoria in the north, Tanganyika in the west, and Nyasa in the south, lie within Tanzania. Mount Kilimanjaro (5,895m) in northern Tanzania is the highest point on the African continent.

The original hunter-gatherers in Tanzania were absorbed by successive pastoralist migrants from the north and west, especially in the 15th and 16th centuries. Coastal Tanzania included important trading posts as early as 400 BC, and permanent settlements were established in the early centuries AD by Phoenician and later Arab and Persian traders. Intermixing of these traders with the indigenous Bantu speakers giving rise to the development of the Swahili language. Islam was introduced from Arabia and was dominant by the 11th century. Portuguese explorers reached the Tanzanian coast by the beginning of the 16th century, and controlled trade from 1525 until the early 1700s when local control was re-established. Omani Arab influence was growing, however, and soon came to dominate all trade, including that of slaves. European explorers began to penetrate the interior in the mid-19th century, culminating with a British Protectorate being established over Zanzibar, and most of what is now mainland Tanzania being administered as German East Africa. After WWI the mainland was administered by Britain under a League of Nations mandate and renamed Tanganyika. The country achieved independence on December 9, 1961, and became a republic one year later. Zanzibar achieved independence in December 1963 and the two countries merged on April 26, 1964 to form the United Republic of Tanganyika (renamed the United Republic of Tanzania in October 1965).

Julius Nyerere became prime minister of Tanganyika on Independence in 1961 and president in 1962 with the adoption of a republican constitution. In 1977 a new party (CCM) was formed by merging the dominant parties of the mainland and Zanzibar, ruling a one-party state until 1995 when opposition parties were legalized. Jakaya Kikwete of the CCM won the 2005 election and continues as President in 2009.

Tanzania is divided into 27 administrative regions, each headed by a Regional Commissioner and subdivided into districts administered by a District Commissioner. Twenty-one of the regions cover the mainland, comprising a total of 86 districts. Tanzania’s population is estimated at about 35 million, 95% of Bantu origin. The largest tribal group, the Sukuma, comprises about 13% of the population with the balance made up of about 120 smaller tribal groups.

Figure 3.1. Administrative Regions of Tanzania

The main urban centres are Dar es Salaam, the largest city and port on the Indian Ocean, commercial capital and seat of government with a population of about 3 million; Dodoma, the appointed capital, where some government offices are located; Mwanza, a major city and the principal port on the south shore of Lake Victoria; Tanga, an industrial centre and the second seaport; Mbeya in the southwest and Arusha in the north. Roughly one third of Tanzanians are Moslem, another third Christian with most of the remainder following traditional beliefs. Swahili and English are the official languages, the former being the most important universal language amongst Tanzania's ethnic groups and Arabic is widely spoken in Zanzibar. Tanzania's legal system is based on English common law. The currency is the Tanzanian shilling, Tshs 1,330=US$1.00 in May 2009. Since the liberalization of the financial sector in the 1990s, many private foreign and local banks now operate in the country, as well as numerous Bureaux de Change.

Tanzania is one of the least urbanised countries in sub-Saharan Africa, agriculture providing some 60% of GDP in 2007 and employing about 80% of the workforce. Major commercial crops include coffee, tea, cotton, cashews, sisal and cloves. Tourism plays an important role, especially in the game parks in the north of the country. Industry accounts for 17% of GDP and is mainly limited to processing agricultural products and light consumer goods. Mining is becoming increasingly important to the Tanzanian economy, especially with the opening of the major Geita (Anglogold/Ashanti), Bulyanhulu (Barrick) gold mines in 2000 and 2001, plus North Mara (Barrick) and Buzwagi (Barrick) in 2005 and 2009. Gold sales comprised about 86% of the total mineral exports of about US$886.5 million in 2007, with the balance coming mainly from diamonds and other precious stones.

The Mineral Resources Department (MRD) is an integral part of the Ministry of Energy and Minerals and consists of the Mines and Minerals Development Divisions. The MRD is based in Dar es Salaam, with zonal offices in Mwanza, Arusha, Shinyanga, Mpanda, Morogoro, Mbeya, Mtwara and Singida. The Mines Division is responsible for health and safety standards in mines, enforcement of environmental regulations and standards, production statistics and services to mineral producers, particularly to small scale miners. The Minerals Development Division issues mineral licences, maintains the mineral rights registry and the mineral occurrence database and archive, and is responsible for mineral sector promotion and review of minerals policy.

The Tanzania Geological Survey is an executive agency within the Ministry of Energy and Minerals, and consists of the Regional and Engineering Geology, Economic Geology and Geophysics, and Laboratory Services and Research Directorates. The Survey's headquarters are in Dodoma and it is responsible for: undertaking reconnaissance mineral exploration and basic regional geological mapping of the country; preparation and publication of geological maps, reports and drawings; analysis of rocks, soils, water and minerals, and provision of mineral processing services; maintenance of mineral resources databases; and investigating and assessing earthquakes, volcanic activity, landslides etc.

The Government of Tanzania has recognised the importance of the mineral sector in the future development of the country. The revision of the Mining Act in 1998 and the Mining Regulations in 1999 were directed at attracting private sector investment in the exploration, mining development, mineral beneficiation and marketing of Tanzania's mineral resources. Details of the Mining Act and Mining Regulations are included in Appendix I. The government is also focussing on regulation and improvement of the artisanal mining sector, ensuring that revenue from mining supports sustainable economic and social development, and minimizing the potential adverse social and environmental impacts of mining development through the use of best practices and community participation.

Title to minerals in the ground is vested in the United Republic of Tanzania, and no prospecting or mining operations can be carried out without the appropriate mineral rights licence granted by the government. Of the various levels of licensing available to local companies working in mineral exploration (which may be wholly-owned by a foreign company such as Tanzanian Royalty), almost all companies work under a Prospecting Licence in the exploration stage and a Mining Licence in the exploitation stage. A Prospecting Licence grants exclusive exploration rights over an area not exceeding 200 km^2 for a period of three years, after which the licence may be renewed for two 2-year periods with a 50% reduction in area for each extension. Required work expenditures and land fees per sq. km increase with each renewal. Annual work expenditures are US$300/$km^2$ for the initial 3-year period, increasing to US$1,000/$km^2$ and US$3,000/$km^2$ for each successive 2-year period. Annual land rents are US$20/$km^2$ for the initial 3-year period, increasing to US$30/$km^2$ and US$50/$km^2$ for each successive 2-year period. A Mining Licence can be granted for a period not exceeding 10 years, renewable for a period of up to 10 years, on presentation of a suitable feasibility study, environmental impact study and employment plan.

The mining taxation, fiscal and legal frameworks were designed to attract investors to the mining industry through a stable and internationally competitive regime. In the Investment Act of 1997 Tanzania recognises the investor's need to recover exploration and development costs, to achieve a rate of return commensurate with risk, to repatriate dividends and to meet financial obligations with creditors and suppliers. The 1998 Mining Act and Regulations are also designed to deter hoarding of data on new discoveries and speculative freezing of exploration lands. The State does not participate directly in exploration or mining operations. Royalties payable to the government are 3% of net-back value for minerals, and 5% of net-back value for diamonds.

3.2 Description of Kibara Property

The Kibara property is located in northern Tanzania within the Musoma-Mara Greenstone Belt, towards the western end of a large peninsula extending into Lake Victoria from its eastern shore. The property is bounded to the north by Baumann Gulf and the south by Speke Gulf.

The large village of Kibara lies to the south of the property on the gravel road linking the village of Nansio on Ukerewe Island with Bunda on the paved highway between Mwanza and Kenya. The town of Bunda serves as the headquarters for the Bunda District with the offices of the District Commissioner and the District Courthouse.

Figure 3.2. Kibara Project Licences and Applications

The Kibara property originally comprised four Prospecting Licences, PLs 2308/2003, 2785/2004, 2931/2005 and 3146/2005, with the additional sliver of PL 3314/2005 added between 2308/2003 and 2931/2004. On September 1, 2003, Tanzania American International Development Corporation 2000 ("Tanzam 2000") (a Tanzanian subsidiary of Tan Range, which is now Tanzanian Royalty) signed an option agreement with the licence holder of PL 2308/2003, Eb-Hance Company Limited ("Eb-Hance"), whereby Tanzam 2000 could acquire 90% of Eb-Hance's interest in the property by making cash payments and exploration expenditures. All required payments and expenditures have been made and Tanzanian Royalty, through its wholly-owned Tanzanian subsidiary Tanzam 2000, now owns 90% of the property covered by PL 2308/2003 and its subsequent splits.

On September 28, 2004, Tanzam 2000 entered into an option agreement with Givex Company Limited ("Givex"), the holders of PL 2785/2004, whereby Tanzam 2000 could acquire 90% of Givex's interest by making cash payments and exploration expenditures. All required payments and expenditures have been made and Tanzanian Royalty, through its wholly-owned Tanzanian subsidiary Tanzam 2000, now owns 90% of the property covered by PL 2785/2004 and its subsequent split.

On April 18, 2005, Tanzam 2000 entered into an option agreement with Fadhili D. Mbaga, the holder of PL 2931/2004, whereby Tanzam 2000 could acquire 85% of Mr. Mbaga's interest by making cash payments and exploration expenditures. All required payments and expenditures have been made and Tanzanian Royalty, through its wholly-owned Tanzanian subsidiary Tanzam 2000, now owns 85% of the property covered by PL 2931/2004 and its subsequent split.
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Also on April 18, 2005, Tanzam 2000 entered into an option agreement with A.P. Mdabwa and T. Yusufu, the holders of PL 3146/2005, whereby Tanzam 2000 could acquire 90% of Mdabwa/Yusufu's interest by making cash payments and exploration expenditures. All required payments and expenditures have been made and Tanzanian Royalty, through its wholly-owned Tanzanian subsidiary Tanzam 2000, now owns 90% of the property covered by PL 3146/2005 and its subsequent split.

Renewals and divisions of the four original optioned licences plus PL 3314/2005 have resulted in the property now consisting of 6 Prospecting Licences and 5 application areas covering an area of approximately 375.91 km^2.

All of the 11 sectors of the Kibara property have valid Prospecting Licences granted or, as in the case of the application areas, the acquisition of a new Prospecting Licence is in progress. Due to a serious administrative backlog in the Minerals Development Division, applications accepted as far back as February 2008 have still not had their licences granted, nor have the letters of offer (the last step before the actual licence grant) been received. Copies of the original documents for the six granted Prospecting Licences were verified by the author in June 2009, as were those for the five pending applications accepted by the Ministry. These documents show accepted payment of annual land rents for the PLs and application fees plus the dated stamp of acceptance by the Ministry for the application areas.

None of the exploration licences on the Kibara Project have been legally surveyed. This is not a requirement of the 1998 Mining Act where Prospecting Licences are issued with a list of the latitude and longitude coordinates of the corners. Licence holders are, however, required to mark each corner with a post and a short ditch pointing to the next post. This will be attended to, using GPS control, as part of future exploration programs. As far as is known, none of the Prospecting Licences in the Kibara property are subject to any environmental liabilities.

Prospecting Licences, under the 1998 Mining Act, are issued for an initial period of 3 years, renewable for two 2-year periods with a reduction in area of 50% in each case. Annual land rental fees are charged per square kilometre of the licence and minimum exploration expenditures are calculated on the same basis. Both land fees and exploration expenditures increase per sq. km with each renewal of a licence. The turn-around time for renewals and applications at the Ministry of Energy and Minerals is currently between 6 and 24 months. For both processes a Letter of Offer is first received from the Ministry. This letter, or notice of grant, notifies the applicant that the renewal or licence will be granted providing the applicant confirms acceptance of the description of the property; gives notice within 28 days of willingness to accept the proposed licence; and pays the required preparation fee. Once the licence fee has been paid the applicant is effectively guaranteed that the renewal or licence will be granted. Typically at least more three months will lapse before the actual grant of the renewal or new licence.

In the case of renewal of an existing licence the applicant may commence work on the ground once the Letter of Offer has been received. For new licence applications, however, exploration can only commence once the new licence has actually been granted.

Table 3.1. Coordinates of Kibara Project Licences

PL	Area km²	Region	District	Map	Corner	UTM E	UTM N	Latitude	Longitude
2308/2003	13.12	Mara	Bunda	QDS	A	537709	9777795	02º 00’ 37.8”S	33º 20’ 20.7”E
				22/2	B	540715	9777794	02º 00’ 37.8”S	33º 21’ 58”E
					C	540714	9773429	02º 03’ 00”S	33º 21’ 58”E
					D	537708	9773429	02º 03’ 00”S	33º 20’ 20.7”E
2785/2004	45.00	Mara	Bunda	QDS	A	546338	9778954	02º 00’ 00”S	33º 25’ 00”E
				22/2	B	549396	9778952	02º 00’ 00”S	33º 26’ 39”E
					C	555604	9775175	02º 02’ 03”S	33º 30’ 00”E
					D	555604	9772841	02º 00’ 19”S	33º 30’ 00”E
					E	546336	9772844	02º 03’ 19”S	33º 25’ 00”E
2931/2004	63.25	Mara	Bunda	QDS	A	534258	9773000	02º 03’ 14”S	33º 18’ 29”E
				22/2	B	540282	9772999	02º 03’ 14”S	33º 21’ 44”E
					C	540279	9762499	02º 08’ 56”S	33º 21’ 44”E
					D	534256	9762501	02º 08’ 56”S	33º 18’ 29”E
3146/2005	49.89	Mara	Bunda	QDS	A	555602	9767776	02º 06’ 04”S	33º 30’ 00”E
				23/1	B	564869	9767772	02º 06’ 04”S	33º 35’ 00”E
					C	564867	9762369	02º 09’ 00”S	33º 35’ 00”E
					D	555600	9762372	02º 09’ 00”S	33º 30’ 00”E
3314/2005	1.38	Mara	Bunda	QDS	A	537501	9773429	02º 03’ 00”S	33º 20’ 14”E
				22/2	B	540714	9773429	02º 03’ 00”S	33º 21’ 58”E
					C	540714	9772999	02º 03’ 14”S	33º 21’ 58”E
					D	537501	9773000	02º 03’ 14”S	33º 20’ 14”E
4606/2007	28.52	Mara	Bunda	QDS	A	530583	9778865	02º 00’ 03”S	33º 16’ 30”E
				22/2	B	535803	9778864	02º 00’ 03”S	33º 19’ 19”E
					C	535802	9773430	02º 03’ 00”S	33º 19’ 19”E
					D	530582	9773431	02º 03’ 00”S	33º 16’ 30”E
HQ-P17009	46.05	Mara	Bunda	QDS	A	546336	9772844	02º 03’ 19”S	33º 25’ 00”E
				22/2	B	555604	9772841	02º 03’ 19”S	33º 30’ 00”E
					C	555602	9767898	02º 06’ 00”S	33º 30’ 00”E
					D	546335	9767901	02º 06’ 00”S	33º 25’ 00”E
HQ-P17392	64.00	Mara	Bunda	QDS	A	540282	9772999	02º 03’ 14”S	33º 21’ 44”E
				22/2	B	546336	9772997	02º 03’ 14”S	33º 25’ 00”E
					C	546333	9762498	02º 08’ 56”S	33º 25’ 00”E
					D	540279	9762499	02º 08’ 56”S	33º 21’ 44”E
HQ-P18109	53.00	Mara	Bunda	QDS	A	555604	9773425	02º 03’ 00”S	33º 30’ 00”E
				23/1	B	564871	9773422	02º 03’ 00”S	33º 35’ 00”E
					C	564869	9767772	02º 06’ 04”S	33º 35’ 00”E
					D	555602	9767776	02º 06’ 04”S	33º 30’ 00”E
HQ-P18524	1.40	Mara	Bunda	QDS	A	534258	9773430	02º 03’ 00”S	33º 18’ 29”E
				22/2	B	537501	9773429	02º 03’ 00”S	33º 20’ 14”E
					C	537501	9773000	02º 03’ 14”S	33º 20’ 14”E
					D	534258	9773000	02º 03’ 14”S	33º 18’ 29”E

HQ-P19022	10.30	Mara	Bunda	QDS	A	535803	9778864	02º 00' 03"S	33º 19' 19"E
				22/2	B	537710	9778863	02º 00' 03"S	33º 20' 20.7"E
					C	537708	9773429	02º 03' 00"S	33º 20' 20.7"E
					D	535802	9773430	02º 03' 00"S	33º 19' 19"E
Total	375.91								

Table 3.2. Status of Kibara Project Licences

PL or Application		Name of	Date				
Current	Previous	Holder	Applied	Grant	Ren 1	Ren 2	Expiry
2308/2003		Eb-Hance Company Ltd		2003-09-05	2006-09-04	2008-09-04	2010-09-04
2785/2004	1705/2001	Givex Company Ltd		2004-10-30	2007-10-29	2009-10-29	2011-10-29
2931/2004	1706/2001	F.D. Mbaga		2004-12-14	2007-12-13	2009-12-13	2011-12-13
3146/2005	1823/2001	A.P. Mdabwa+T. Yusufu		2005-04-21	2008-04-20	2010-04-20	2012-04-20
3314/2005		Tanzam 2000		2005-06-14	2008-06-13	2010-06-13	2012-06-13
4606/2007	2308/2003	TANCAN Mining Co. Ltd		2007-08-06	2010-08-05	2012-08-05	2014-08-05
HQ-P17009	2785/2004	Tanzam 2000	2007-10-30				
HQ-P17392	2931/2004	Tanzam 2000	2007-12-14				
HQ-P18109	3146/2005	Tanzam 2000	2008-04-21				
HQ-P18524	3314/2005	TANCAN Mining Co. Ltd	2008-06-14				
HQ-P19022	2308/2003	TANCAN Mining Co. Ltd	2008-09-05				

Table 3.3. Ownership of Kibara Project Licences

PL or Application		Licence Name	Licence in the Name of	% held by	Area
Current	Previous			Tanzanian Royalty	km²
2308/2003		Buguma	Eb-Hance Company Limited	90	13.12
4606/2007	2308/2003	Buguma North	TANCAN Mining Co. Ltd	90	28.52
HQ-P19022	2308/2003		TANCAN Mining Co. Ltd.	90	10.30
2785/2004		Namhula	Givex Company Limited	90	45.00
HQ-P17009	2785/2004		Tanzam 2000 Ltd	90	46.05
2931/2004		Kurwirwi	Fadhili D. Mbaga	85	63.25
HQ-P17392	2931/2004		Tanzam 2000 Ltd.	85	64.00
3146/2005		Kalukekele	A.P. Mdabwa and T. Yusufu	90	49.89
HQ-P18109	3146/2005		Tanzam 2000 Ltd	90	53.00
3314/2005		Namarama	Tanzam 2000 Ltd	100	1.38
HQ-P18524	3314/2005		TANCAN Mining Co. Ltd	100	1.40
Total					375.91

3.2.1 PL 2308/2003

PL 2308/2003, known as Buguma, was originally granted to Eb-Hance Co. Ltd. on September 5, 2003, covering an area of 51.94 km² in the Igundu area of Bunda District. In September 2003 Tanzam 2000 signed an option agreement with Eb-Hance and has now earned 90% of the property. On second renewal of the licence in September 2008 the area was reduced to approximately 13.12 km². The northeast part of the current licence lies in Mkoko Bay, part of Baumann Gulf on Lake Victoria. The licence is centred about 17 km northwest of the village of Kibara, 70 km west of the town of Bunda. The main Bunda–Nansio graded road passes about 12 km south of the licence.

Figure 3.3. Outline of PLs 2308/2003, 4606/2007 and HQ-P19022.

3.2.2 PL 4606/2007

PL 4606/2007, known as Buguma North, was originally the western half of PL 2308/2003. The area of approximately 28.52 km² was relinquished on first renewal of PL 2308/2003 and was applied for by TANCAN Mining Company in September 2006. The licence was granted as PL 4606/2007 on August 6, 2007 and forms part of the option agreement signed with Eb-Hance on PL 2308/2003. The licence is centred about 22 km northwest of the village of Kibara, 75 km west of the town of Bunda. The main Bunda-Nansio graded road passes about 5 km south of the licence.

3.2.3 HQ-P19022

On second renewal of PL 2308/2003 in September 2008 the western 10.30 km² of the licence was relinquished and applied for by TANCAN Mining Company Ltd. This application, HQ-P19022, is pending as of the date of this report. The property is part of the Eb-Hance option agreement and is situated approximately 72 km west of Bunda and 19 km northwest of Kibara. The main Bunda–Nansio graded road passes about 10 km south of the licence.

3.2.4 PL 2785/2004

PL 2785/2004, known as Namhula, was granted to Givex Company Ltd. on October 30, 2004. The original licence covered an area of approximately 90.96 km², reduced to 45.00 km² on first renewal in September 2007. Tanzam 2000 signed an option agreement with Givex on September 28, 2004 and has earned 90% of the property. The licence is about 60 km northwest of Bunda and 14 km north of the village of Kibara on the main Bunda–Nansio graded road.

Figure 3.4. Outline of PL 2785/2004 and HQ-P17009

3.2.5 HQ-P17009

On first renewal of PL 2785/2004 in October 2007, the southern half of the licence covering about 46.05 km² was relinquished and applied for by Tanzam 2000. This application, HQ-P17009, remains pending as of the date of this report. The property is part of the Givex option agreement and is situated approximately 60 km west of Bunda and 8 km north of the main Bunda–Nansio graded road at Kibara.

3.2.6 PL 2931/2004

PL 2931/2004, known as Kurwirwi, was granted to Madanganyale Kitinga on December 14, 2004, over an area of approximately 127.5 km². The licence was transferred on March 10, 2005, to Fadhili D. Mbaga who entered into an option agreement with Tanzam 2000 on April 18, 2005. Under this agreement Tanzam 2000 has earned an 85% interest in the property. On first renewal in December 2007 the western half of the licence, covering approximately 63.25 km², was retained. The licence is about 60 km west of Bunda and 12 km west of Kibara. The main Bunda-Nansio graded road crosses the southwest corner of the licence.

3.2.7 HQ-P17392

On first renewal of PL 2931/2004 in December 2007, the eastern half covering approximately 64.00 km² was relinquished. This was applied for by Tanzam 2000 and accepted as HQ-P17392, though grant of the new licence is still pending as of the date of this report. The Mbaga option remains in force on this application area which is situated immediately north of the main Bunda–Nansio graded road, approximately 55 km west of Bunda and 8 km west of Kibara.

3.2.8 PL 3146/2005

PL 3146/2005, known as Kalukekele, was granted to Anderson P. Mdabwa and Tatu Yusufu on April 21, 2005 over an area of approximately 103.00 km². Tanzam 2000 entered into an option agreement with Mdabwa/Yusufu on April 18, 2005 and has earned a 90% interest in the property. On first renewal of PL 3146/2005 in April 2008, the southern half of the licence was retained over approximately 49.893 km². The licence is immediately north of the Bunda-Nansio road, 10 km east of Kibara and 40 km west of Bunda.

Figure 3.5. Outline of PL 2931/2004 and HQ-P17392

3.2.9 HQ-P18109

On first renewal of PL 3146/2005 in April 2008, the northern half covering approximately 53.00 km² was relinquished. This was applied for by Tanzam 2000 and accepted as HQ-P18109, though grant of the new licence is still pending as of the date of this report. The Mdabwa/Yusuf option remains in force on this application area which is situated 9 km north of the main Bunda–Nansio graded road, approximately 40 km west of Bunda and 12 km northeast of Kibara.

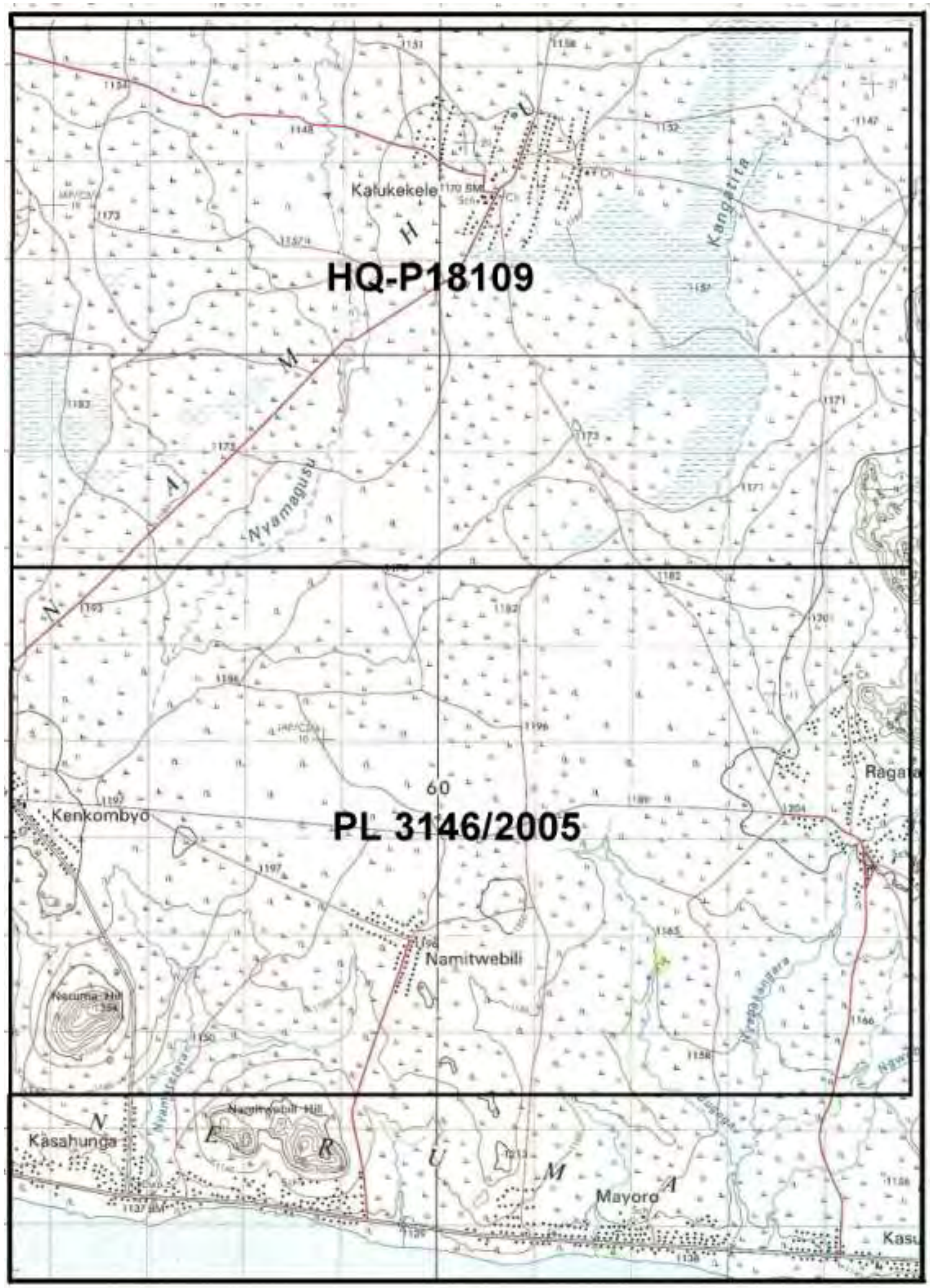

Figure 3.6. Outline of PL 3146/2005 and HQ-P18109.

3.2.10 PL 3314/2005

PL 3314/2005, known as Namarama, was granted to Tanzam 2000 on June 14, 2005, over an area of 2.79 km², filling in a gap between PLs 2308/2003 and 2931/2004. In June 2008 the eastern half of the licence covering approximately 1.38 km² was renewed. The property is 15 km northwest of the village of Kibara and 60 km west of Bunda.

Figure 3.7. Outline of PL 3314/2005 and HQ-P18524.

3.2.11 HQ-P18524

On first renewal of PL 3314/2005 in June 2008 the western half of the licence, covering 1.40 km², was relinquished and applied for by TANCAN Mining. The application was approved as HQ-P18524 but the grant of the new licence is still pending.

4.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

4.1 Introduction

Most of mainland Tanzania consists of a central plateau from 900-1,800 metres above sea level (averaging about 1,200 m), rising gently from a fertile coastal belt that is about 15-65 km wide. The western arm of the Great Rift Valley runs down the west side of the plateau and contains Lakes Tanganyika and Nyasa, while the eastern arm cuts through the central part of the plateau. The Lake Victoria basin lies in the northwest of the country between the arms of the rift valley. The principal mountain ranges are the Eastern Arc, in the northeast of the country, the Southern Highlands in the southwest, and the volcanic mountains in the north (Mt. Kilimanjaro, 5,896m, Mt. Meru, 4,566 m, and the Crater Highlands including Ngorongoro and Oldoinyo Lengai). The interior plateau is covered by dry thorn scrub, savannah grasslands and a variety of deciduous woodlands and forests. About 30% of the country, mainly in the south and west, is covered by miombo woodland. The largest river is the Rufiji, draining from the Southern Highlands to the Indian Ocean and including much of southern Tanzania in its catchment.

The Zanzibar archipelago, including the principal coral island of Unguja (1,650 sq. km) lies about 40 km from the mainland. Pemba, about 984 sq. km, lies 50 km east of the mainland and 50 km northeast of Unguja.

Tanzania’s climate varies markedly with its topography. There are four main climatic zones: the hot, humid coastal plain with average temperatures of 27-29ºC and maximums of 29-34ºC; the hot, semi-arid central plateau where maximum daytime temperatures average 20-27ºC from June through August and 29-32EC from December to March; the high-moist lake regions; and the temperate highland areas. Throughout the country there are two rainy seasons, the long rains from mid-March through May, and the short rains which fall primarily in November and December. Much of central Tanzania is semi-arid with less than 500 mm of rain per year, though the western part of the plateau is generally moister. In the Lake Victoria basin, especially west of the lake, annual rainfall usually exceeds 800 mm. The mountains in the northeast and southwest may receive over 2,000 mm annually, while rainfall on the coast ranges between 1,000 and 1,900 mm.

Tanzania has an extensive network of over 88,000 km of classified roads, most of which are unpaved away from the main routes from Dar es Salaam to Arusha, Tanga, Mbeya and Dodoma. A paved road that has particular importance for access to the area southwest of Lake Victoria runs south from Mwanza through Shinyanga and Kahama and west to the Burundi border. The Government is working to upgrade and maintain roads, especially to improve access for major agricultural, tourism and mining areas. Tanzania Railways Corporation (TRC) runs passenger and cargo services on a 1.067 m gauge line from Dar es Salaam to Mwanza on Lake Victoria, Kigoma on Lake Tanganyika, and from Tanga to Moshi and Arusha. The Tanzania-Zambia Railway Authority (TAZARA) operates a standard gauge line between Dar es Salaam and Kapiri Mposhi in Zambia via Mbeya.

Tanzania has three major ports on the Indian Ocean, Dar es Salaam, Tanga and Mtwara. An alternative route for large freight shipments to the Lake Victoria area is through the port of Mombasa in Kenya and then along good roads to Mwanza. The principal ports on Lake Victoria are Mwanza and Bukoba, while Kigoma handles most of the trade on Lake Tanganyika. Major airports at Dar es Salaam (DIA), Kilimanjaro (KIA), and Zanzibar (ZIA) are served by many international airlines. Domestic scheduled and charter flights connect the major centres, especially Mwanza which can handle jet aircraft, and utilize over 50 local airports and airstrips.

Domestic and international telephone and facsimile services are provided by the Tanzania Telecommunications Company Limited (TTCL). The system is fair, operating below capacity and being modernized for better service. Five private companies provide good cellular service in the main population centres and along major roads, with adequate reception over much of the area around Lake Victoria. Internet cafés are now available in the cities and most towns.

4.2 Kibara Project

The Kibara Project consists of six Prospecting Licences and five application areas covering a contiguous area of 375.91 km² on the eastern shore of Lake Victoria in northern Tanzania. The area typically has two rainy seasons, the "small rains" from mid-November through December and the "big rains" from mid-March into May, though significant rain often falls in January and February. The months of June through October are usually dry, with occasional thunderstorms. Annual rainfall averages 750-900 mm. Access along the dirt tracks within the PLs may be impaired directly after heavy rainfall, though exploration activities should not be seriously affected during a normal rainy season unless access is required across areas of mbuga soils.

The property is centred approximately 50 km west of the district headquarters in Bunda. Principal access is north to Bunda from Mwanza on the paved highway that continues to Nairobi in Kenya. From Bunda a graded gravel road extends west to Nansio on Ukerewe Island in Lake Victoria, passing through the southern edge of the Kibara property. Various minor roads and dirt tracks provide good access across the property. The large village of Kibara is located on the Bunda-Nansio road just south of the centre of the property. Small villages, hamlets and farms are scattered throughout the property. Fishing on Lake Victoria is the principal activity of the communities around the lake shore.

The project area covers much of the western part of the Mwibare Peninsula extending into Lake Victoria, between Speke Gulf to the south and Baumann Gulf to the north. Much of the property is gently rolling hills below 1,200 m asl, with some of the intervening low-lying areas covered with mbuga soils. Sediments from Lake Victoria cover the lower areas around the shore. The Kurwirwi Hills in the western part of HQ-P17392 are underlain by greenstones and reach an altitude of 1,605 m asl. Their northern extension into PL 2308/2003 includes Mwigundu Hill at 1,309 m and Nyakona Hill at 1,292 m asl. The northwest corner of PL 2785/2004 includes part of the granitic Iramba Hills, reaching 1,407 m asl. The isolated granitic Neruma Hill in the southwest corner of PL 3146/2005 reaches 1,354 m asl.

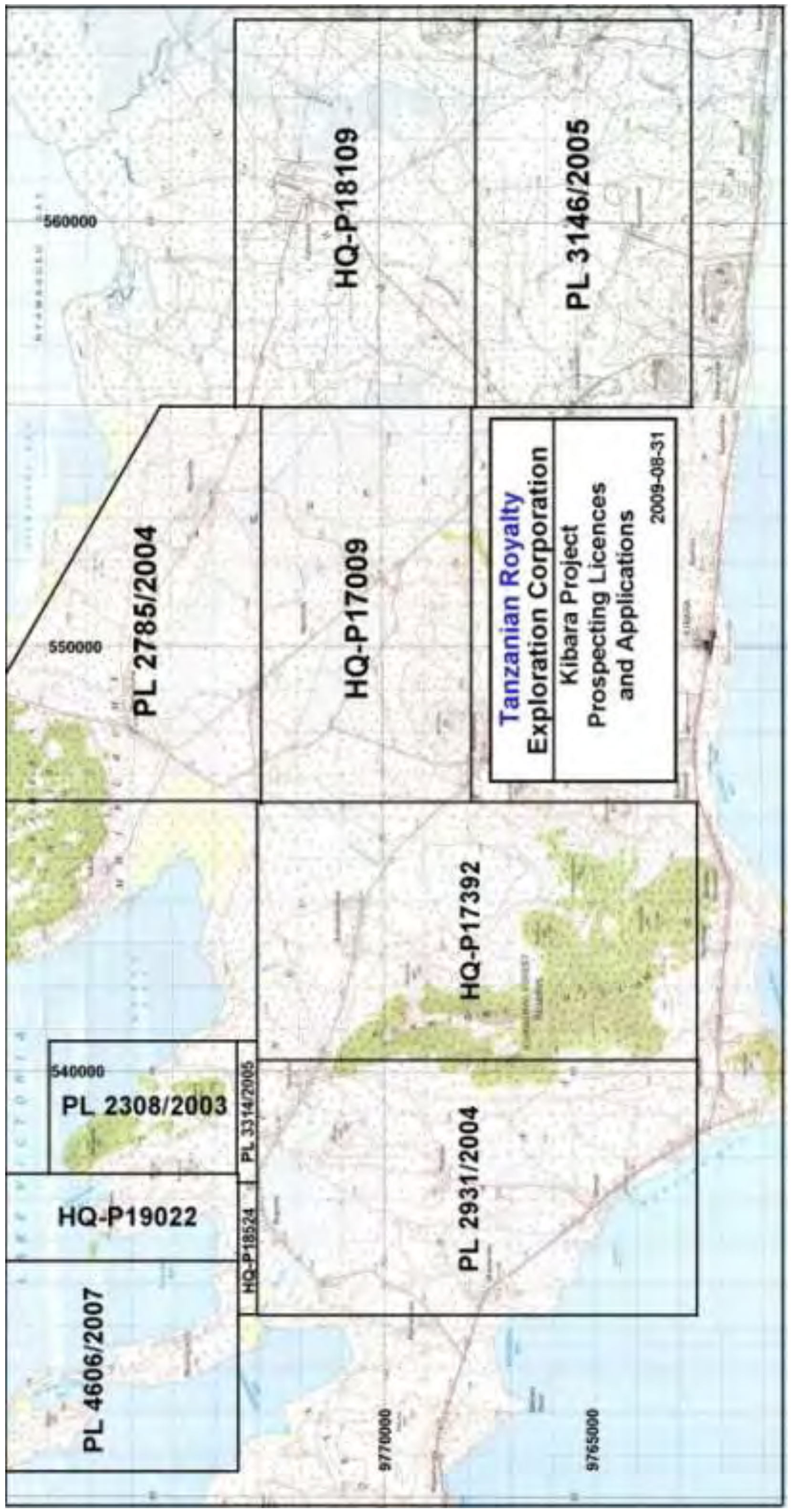

Figure 4.1. Licence and Application outlines on 1:50,000 topography

4.2.1 PL 2308/2003 and HQ-P19022

The Buguma property is situated approximately 70km northwest of the town of Bunda in Mara Region and 17 km northwest of Kibara village. The main Bunda–Nansio graded road passes about 12 km south of the licence. Mwigundu (1,309 m) and Nyakona (1,292 m) Hills form prominent topographic highs in the northwest and southeastern areas of the licence. HQ-P19022 has a similar east-southeast trending line of hills, from Nyakongobera Hill (1,227 m) in the northwest to Mangire Hill (1,259 m) in the southeast. Red-brown lateritic soils cover the eastern slopes in PL 2308/2003 with some granitic soils in the southwest. The lower slopes are covered by mixed transported soils and by Lake Victoria sediments near the shoreline.

4.2.2 PL 4606/2007

The Buguma North property is situated approximately 75 km west of Bunda and 22 km northwest of Kibara. The main Bunda–Nansio graded road passes about 5 km south of the licence. The property straddles a low narrow peninsula extending into Lake Victoria with the highest point at 1,202 m asl on Mbeni Hill.

4.2.3 PL 2785/2004 and HQ-P17009

The Namhula property is situated approximately 60 km northwest of the town of Bunda with the contiguous PL 2785/2004 and HQ-P17009 centred 14 km and 8 km north of Kibara respectively. The main Bunda–Nansio graded road passes about 6 km south of the southern boundary. The small settlements of Namhula, Mwiruruma and Muranda lie within the property as well as many scattered farms throughout the mostly low-lying area. The northwest corner of the property includes part of the granitic Iramba Hills, rising to 1,407 m asl above the current lake level of 1,135 m. Drainage is primarily north and west towards the lake with much of the surface being covered by various transported soils and mbuga. Light brown lateritic soils occur in the centre of the property around scattered mafic volcanic exposures.

4.2.4 PL2931/2004 and HQ-P17392

The Kurwirwi property is centred 57 km west of Bunda and 10 km west of Kibara. The Bunda-Nansio road runs just south of the property and cuts across the southwest corner. The volcanic Kurwirwi Hills run southwards across the east-central part of the property and reach a maximum 1,605 m asl. Drainage is largely to the west and northeast into Lake Victoria. Several small villages occur along the main tracks across the property as well as scattered farms throughout the lower areas.

4.2.5 PL3146/2005 and HQ-P18109

The Kalukekele property lies about 40 km west of Bunda and 10 km east of Kibara. The Bunda-Nansio road runs just to the south. The granitic Ragata Hills rise to about 1,320 m asl on the eastern edge of the property and the isolated Naruma Hill reaches 1,354 m asl in the southwest corner. The rest of the area has a gently rolling aspect with much of the northeast covered by mbuga. The principal settlement is Kalukekele village in the north of HQ-P18109, with scattered farms throughout the lower areas.

4.2.6 PL 3314/2005 and HQ-P18524

This licence and its recent split lie between PLs 2308/2003 and 2931/2004, immediately south of Buguma Bay on Lake Victoria with the hamlets of Buguma and Igundu just south of the boundary. The area is low-lying and largely covered by sediments of Lake Victoria. Small farms are scattered throughout.

5.0 HISTORY

There were no records available of any exploration conducted on the area of the Kibara Project prior to the licences being optioned by Tanzam 2000. Through cash payments and exploration expenditures Tanzam 2000 has acquired 85-90% interest in the optioned licences.

6.0 GEOLOGICAL SETTING

6.1 Introduction to the Geology of Tanzania

The Archaean Tanzanian Craton and its surrounding Proterozoic mobile belts underlie much of the Central Plateau of Tanzania. The craton is bounded to the east by the polymetamorphic Mozambique Belt, to the southwest by the Ubendian Belt and to the northwest by the Karagwe-Ankolean System. Continentally-derived sediments of Mesoproterozoic and younger age cover part of the craton, especially in the east. Tertiary mafic to intermediate volcanics including carbonatites occur mainly in the Kilimanjaro and Eastern Rift areas of the north of the country.

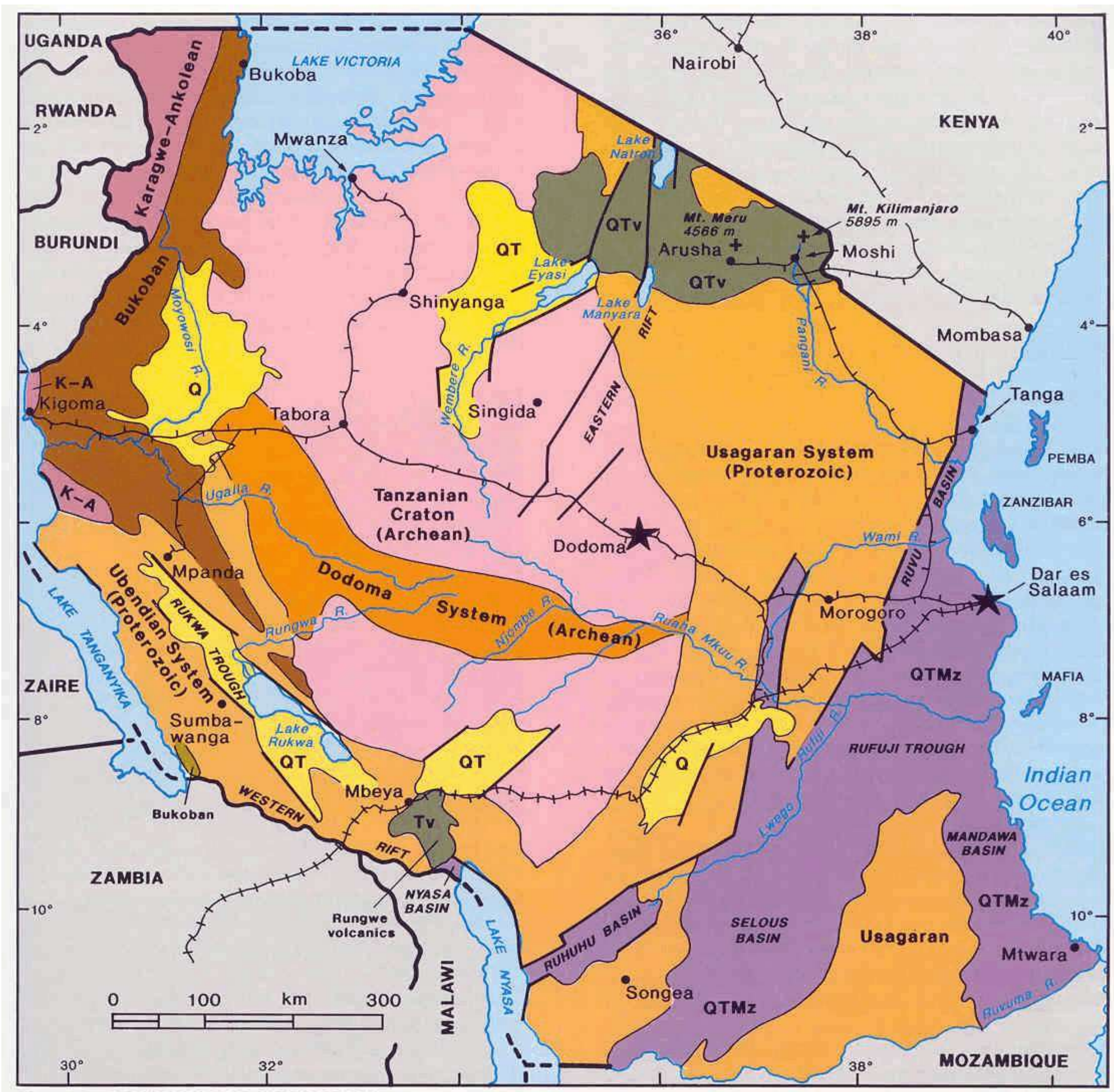

Figure 6.1. General Geology of Tanzania (*after* Hester, 1998)

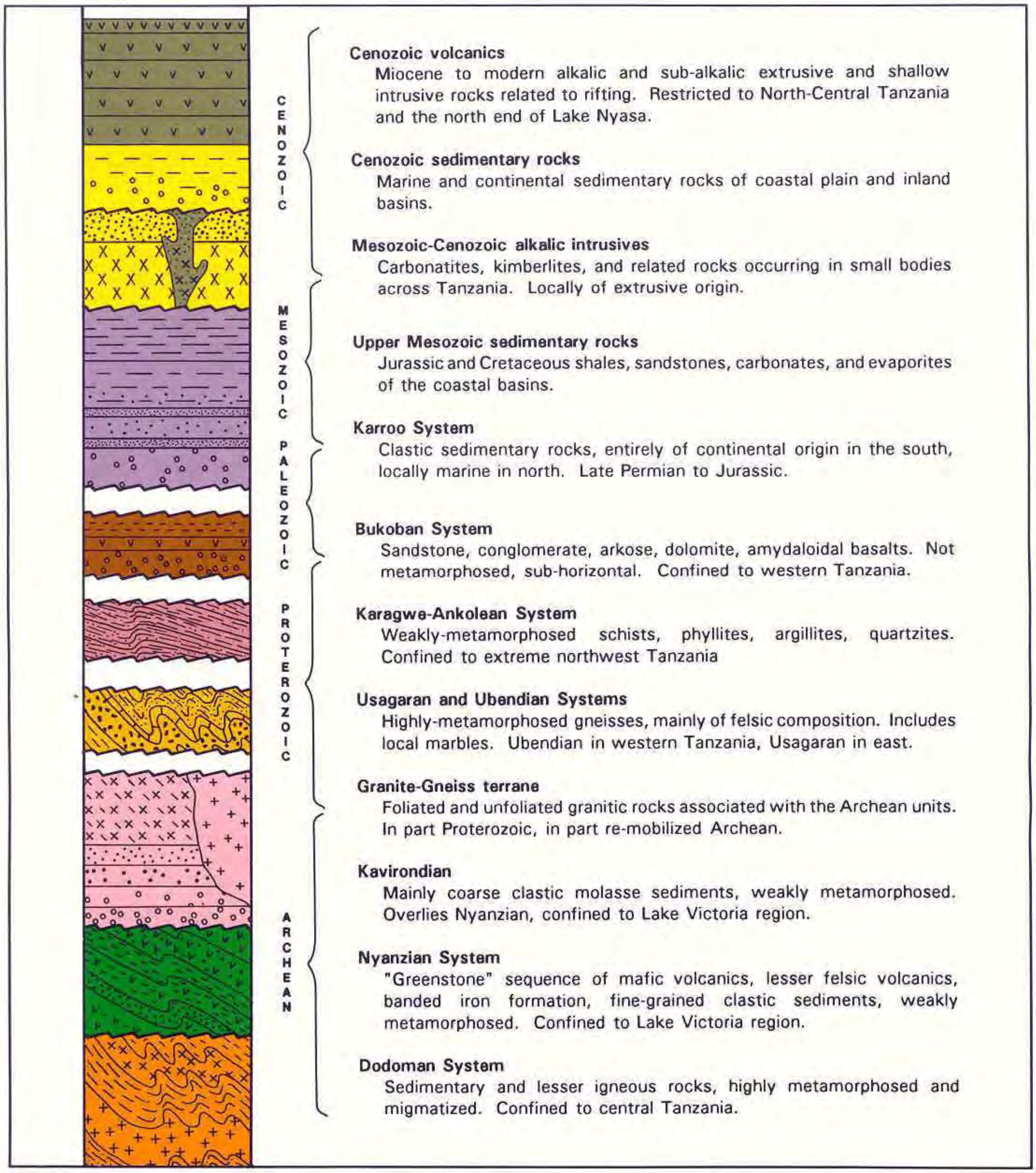

Figure 6.2. Stratigraphic Column for Tanzania (*after* Hester, 1998).

Tanzania is now the third-largest gold producer in Africa, after South Africa and Ghana. This has been achieved with the opening of three major open-pit mines (Golden Pride, Geita and North Mara) and one major underground mine (Bulyanhulu) in recent years. These mines are all within the Nyanzian greenstone belts in the Lake Victoria Goldfields. Diamonds are produced from kimberlites within the Archaean craton, principally from the Williamson Mine at Mwadui. Other gemstones, especially tanzanite (a blue zoisite), are produced from gneisses of the Usagaran mobile belt. A major undeveloped resource is the nickel sulphide deposit at Kabanga; where close to 1 million tonnes of contained nickel has been outlined. The general geology of Tanzania is shown in Figure 6.1, and the stratigraphic table in Figure 6.2.

6.1.1 Archaean

The oldest rocks of the craton are highly metamorphosed and migmatized sediments and minor igneous rocks of the Dodoman System, forming a band across the central part of the craton. These rocks are predominantly gneissic sediments, granites, schists and migmatites, with minor quartzites and amphibolites occurring in the southern part. The main part of the Archaean craton comprises migmatites, biotite gneisses, gneissic granites and local massifs of biotite granites, and includes the Nyanzian greenstone belts to the south and east of Lake Victoria. These greenstone belts host the major gold deposits in Tanzania and are the principal focus of current exploration.

The greenstones of the Nyanzian System can be divided into a Lower Series of dominantly mafic volcanics and associated sediments that include banded iron-formation, cherts, shale and conglomerate, and an Upper Series characterized by felsic volcanics, cherts and banded iron-formation. The greenstones are generally metamorphosed to lower to middle greenschist facies, locally to almandine amphibolite facies. They are commonly folded about steeply dipping axial planes, generally striking east-west.

The Nyanzian is unconformably overlain (locally) by conglomerates, arkoses and quartzites of the Kavirondian System. These rocks appear to have been derived, at least in part, from the Nyanzian and contain clasts of all Nyanzian lithologies, some apparently deformed. A major period of granitoid emplacement followed the Kavirondian, and was followed in turn by major tectonic deformation.

Syntectonic granitoids have been dated at 2450-2500 Ma while some unfoliated granitoids may be post-tectonic. Many hypabyssal intrusives cut these Archaean sequences, including feldspar-porphyries and lamprophyres. Abundant younger dykes are related to Mesozoic and Tertiary tectonic events. The ages of the granite-gneiss terranes surrounding the greenstones are confusing, with the structural relationships not clearly understood. Some granites are discordant and intrusive; others display conformable contacts with the greenstones, though most are of indeterminate affinity. Both Proterozoic and Archaean ages have been obtained from the granite-gneiss terranes and it is locally difficult to distinguish the two components.

6.1.2 Proterozoic

The NW-trending Paleoproterozoic Ubendian ductile shear belt occurs on the southwest side of the Archaean craton and consists of a variety of medium to high-grade metamorphic rocks, much of which are reworked Archaean. Gneisses and schists predominate with minor amphibolites and marbles, and late granitoids along the craton/belt boundaries. The metamorphic grade is mostly almandine-amphibolite, locally up to granulite, the latter dated to 2.1-2.0 Ga and likely related to the Usagaran orogeny.

The Usagaran tectonic domain, which forms part of the Mozambique Belt on the eastern side of the craton, is of similar age to the Ubendian. It consists mainly of biotite-gneisses of pelitic origin and lesser granulites and quartzites. The structural trends are dominantly southwest, but the Neoproterozoic-Palaeozoic Pan-African deformation and granulite facies metamorphism has obliterated most of the signature of the older structures and metamorphism. The Usagaran granulites host a variety of gemstone deposits, including the unique tanzanite, a blue zoisite.

The Mesoproterozoic Karagwe-Ankolean System forms part of the Kibaran Belt which extends from Uganda to Zambia, west of Lake Victoria, including the northwestern edge of Tanzania. The Karagwe-Ankolean is clearly younger than the Ubendian and Usagaran and is made up of phyllites, quartzites and sericitic schists derived from shallow-water sediments. The Tanzanian part of the belt includes both the Western Internal and the Eastern External Domains, their border zone marked by major mafic and granitic intrusives of 1250-1275 Ma and post-orogenic tin-bearing granites ~1000 Ma. The Kabanga nickel deposit, on the border with Burundi, is hosted by the feeders to a major gabbroic sill.

Neoproterozoic to early Palaeozoic? sedimentary and volcanic rocks of the Bukoban System occur in western Tanzania between the Kibaran Belt and the Archaean craton. The Bukoban includes sandstone, chert, plateau-type basalts, dolomitic limestones and red beds, weakly deformed and unmetamorphosed. These continental clastic sediments were deposited on a peneplain of the Archaean craton and older Proterozoic belts. Abundant mafic dykes cut the sequence, predominantly trending north-northeast and appear to have been essentially contemporaneous with sedimentation. Most of the Bukoban rocks have subsequently been removed by erosion, but the major outlier in western Tanzania includes one formation, the Bukoba Sandstone, which forms part of the Eastern External Domain of the Kibaran orogenic zone and may be of Mesoproterozoic rather than Neoproterozoic age. A significant outlier of Bukoban sediments occurs south of the Musoma-Mara greenstone belt.

6.1.3 Palaeozoic - Mesozoic

Continental sediments of the Karoo System, named after the type locality in South Africa, reach their northern limit in Tanzania. The Karoo sediments were deposited from Late Carboniferous to Jurassic times during a long period of erosion of the Archaean highlands, punctuated by episodes of glaciation, volcanism and marine incursions. The

Karoo rocks are predominantly coarse sandstones, shales and siltstones with coal, unconformably overlying the Precambrian basement in eastern and southeastern Tanzania. North of Dar es Salaam these rocks pass into marine sediments of similar age.

Sediments of Upper Mesozoic age only occur in the coastal basins that were formed during the breakup of Gondwana in the Mesozoic. These sediments include limestone, sandstone, shale, marl and local evaporites. The major rifting commencing at this time was accompanied by the intrusion of alkalic rocks (carbonatites, kimberlites, alkali syenites) within the Archaean craton and into the Karoo.

6.1.4 Tertiary

The break-up of the eastern part of the African Plate that commenced in the Upper Mesozoic accelerated considerably in the late Tertiary. The East African Rift system consists of a series of en echelon grabens, often with associated volcanism. In Tanzania the rifting is primarily along the Western Rift occupied by lakes Nyasa and Tanganyika and the Eastern (or Gregory) Rift passing through lakes Natron and Manyara in the north to Lake Nyasa. Subsidiary rifts occur around Lake Rukwa, Lake Eyasi, in the Selous Basin and elsewhere. The Lake Victoria basin is generally interpreted as being formed by gentle down-warping between the Western and Eastern Rifts.

The rifts have preserved the Karoo rocks and are locally sites for Tertiary sedimentation. The coastal basins contain thick Miocene and younger marine sediments. The volcanism associated with the rifting is mostly intermediate to mafic alkalic, with carbonatite lavas continuing to the present day on Oldoinyo Lengai. Intrusion of kimberlites continued into the early Tertiary, with some diamondiferous kimberlites being less than 50 Ma old.

Much of the Archaean craton and surrounding rocks was subject to extensive lateritic weathering in the Tertiary. The resulting ferricretes and saprolites, and their subsequent weathering products, are an important focus of mineral exploration efforts in Tanzania given the general paucity of outcrop. Thin lacustrine sediments of proto-Lake Victoria locally overlie the Nyanzian and granitoid rocks in the Lake Victoria Basin, between about 1,170 m asl and the current lake level of 1,135 m.

6.2 Archaean Greenstone Belts of the Lake Victoria Goldfields

The Lake Victoria Goldfields consists of a number of distinct east-trending linear greenstone belts separated by granite-gneiss terranes, together with several inliers or roof pendants of the greenstone lithologies within the granite-gneiss. Recent work, including exploration drilling, has shown that some of the greenstones are more extensive than was previously realised. The greenstone belts have undergone a varied nomenclature during the history of geological mapping in the country. The nomenclature used in this report is based on that in Hester, B.W., 1998 (ed.), Tanzania - Opportunities for Mineral Resource Development. The outline of the principal greenstone belts in the Lake Victoria Goldfields area of Tanzania is shown in Figure 6.3.

6.2.1 Musoma-Mara Greenstone Belt

The Musoma-Mara Greenstone Belt (Figure 6.4) is the most northerly in Tanzania, from just south of the Kenyan border west to (and presumably under) Lake Victoria. In the northern section, termed the Mara Belt, the rocks are predominantly mafic flows and tuffs with minor felsic volcanics and banded iron-formation. These are locally overlain by gneisses and schists possibly of Nyanzian age and by Kavirondian molasse sediments containing varied clastic fragments of the Nyanzian. The southern section, the Musoma Belt, has generally similar lithologies though with a higher incidence of felsic flows and tuffs and banded iron-formation. Much of the area around the Mara River, between the two sections of the belt, is covered by Quaternary and Tertiary sediments.

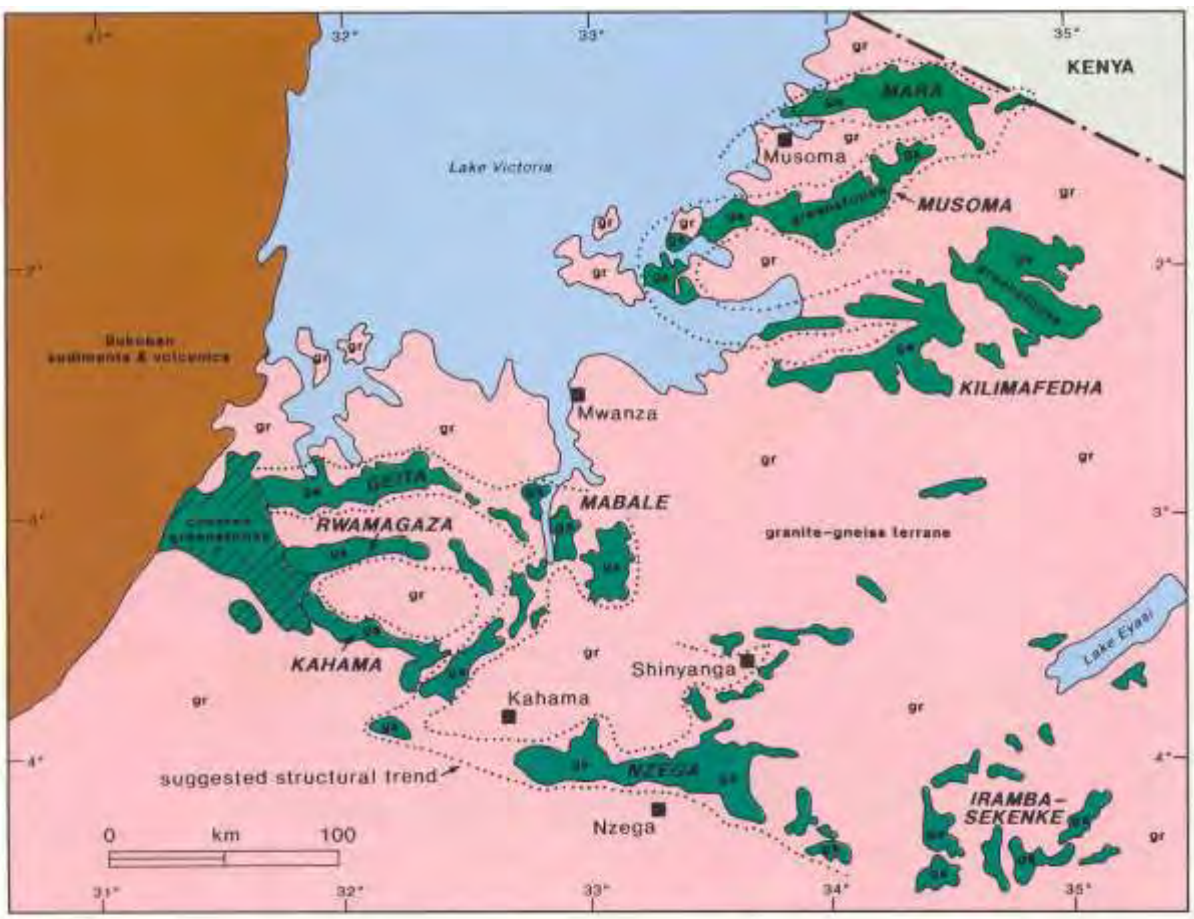

Figure 6.3. Greenstone Belts of Lake Victoria Goldfields (*after* Hester, 1998)

The greenstones have been metamorphosed to lower to middle greenschist facies, generally of somewhat higher grade in the Mara area. Fold axes are dominantly east-northeast, along with other minor trends. Regional geophysical data indicates that two major faults oriented 060° occur between the Mara and Musoma sections, and many of the known gold occurrences are closely related to these structures. A second prominent structural direction is at 130°, the most marked expression being the Suguti Shear Zone that cuts across and displaces the southern part of the Musoma greenstones. A similarly-oriented structure occurs in the eastern part of the Mara area, and may be a significant control on the gold mineralization of the North Mara Mine.

Most of the gold deposits in the Mara-Musoma Belt consist of gold associated with pyrite and minor base metals in flat to steeply-dipping quartz veins, with carbonatized wall rocks, spatially related to the regional faults at 060° and 130°. Banded iron-formation is locally associated with the auriferous quartz veins. Bedrock gold was first discovered at Buhemba in the early 1920's. The principal mine in the Mara-Musoma Belt is the North Mara Mine which is unusual in having a granite host proximal to the greenstones. North Mara was discovered by Afrika Mashariki and put into production by Placer Dome with reserves of 4.2 million ounces of gold. The mine is now owned and operated by Barrick Gold Corp. The second largest deposit is Buhemba, northeast of Bunda, with a reported production of 12,213 kg of gold between 1927 and 1970. Kiabakari, northwest of Bunda, produced 8,814 kg of gold between 1935-1940 and 1959-1966, the Mara mine produced about 2,000 kg of gold from 1932-1970 and the Ikungu mine 587 kg of gold.

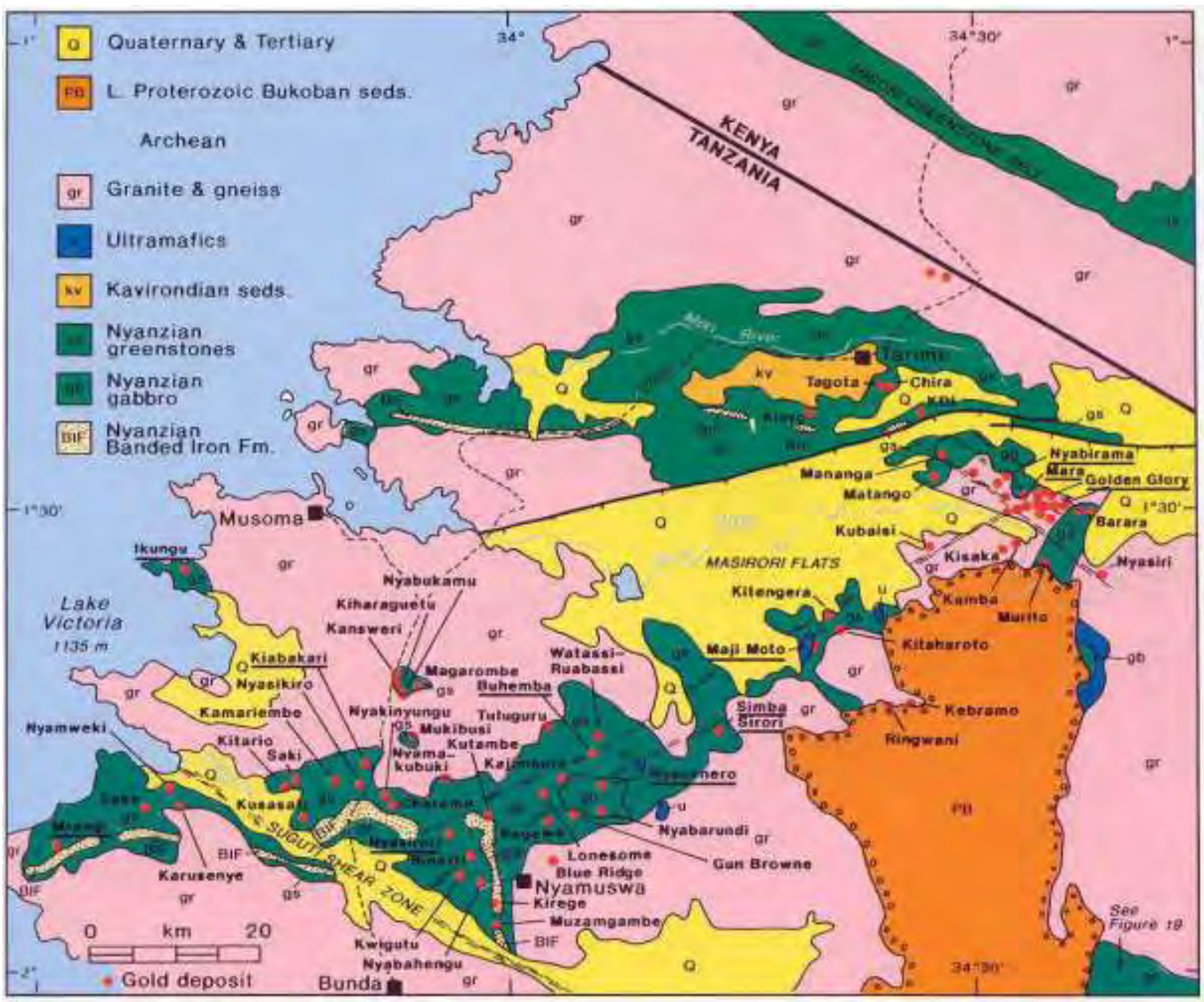

Figure 6.4. Mara and Musoma Greenstone Belts (*after* Hester, 1998)

6.3 Geology of the Kibara Project

The regional geological mapping published by Barth in 1990 shows the western half of the property to be largely underlain by volcanic rocks and the eastern half underlain by granites (Figure 6.5). In February 2009 Tanzanian Royalty prepared a new geological interpretation map (Figure 6.6) from the geochemical, regolith, outcrop and satellite image data. Unfortunately the area falls outside the coverage of the government airborne magnetic survey. This mapping confirmed the dominantly granitic eastern half of the area with a raft of mafic volcanics and a western half dominated by various greenstone lithologies and minor intrusives.

6.3.1 PL 2308/2003 + HQ-P19022

The licence and application area include five main geological units: mafic flows and tuffs on the flanks of Mwigundu Hill and on the north of Nyakona Hill; intermediate tuffs on Nyakona Hill; quartz-feldspar porphyry intrusives on the southern part of Nyakona Hill and in much of HQ-P19022; granite underlies the southwest corner of PL 2308/2003; and Kavirondian conglomerates, grits, lithic sandstones and shales occur on both Nyakona and Mwigundi Hills.

Nyakona Hill in the south of the licence trends roughly north-south and includes a gossanous quartz vein in a felsic tuff/syenite package that returned 18.75% Cu and 3.33 g/t Au from one sample. This vein strikes 115º and dips 70ºS.

On Mwigundu Hill in the north of PL 2308/2003 shales interbedded with laminated sandstones and conglomerates outcrop on the upper slopes and chert plus banded iron-formation occurs on top of the hill. These rocks strike north-northwest and dip steeply west. Mafic volcanics occur on the lower slopes and presumably underlie the Kavirondian sediments.

Within HQ-P19022 a feldspar porphyry/porphyritic dacite outcrops on Nyakongobera, Mabiga and Mangire Hills.

6.3.2 PL 4606/2007

The southern part of the licence was interpreted by Tanzanian Royalty to be underlain by mafic volcanics and a syenitic porphyry. The northern part of the peninsula was interpreted as granite while the western part was interpreted to contain mafic volcanics, quartz-porphyry and syenite porphyry.

6.3.3 PL 2785/2004 + HQ-P17009

Granite outcrops in the Iramba Hills in the northwest of PL 2785/2004 and on Miramba Hill in the southwest of HQ-P17009. Tanzanian Royalty has interpreted much of the southern part of the licence and the northern part of the application area to be underlain by mafic to intermediate volcanics. Some 30% of the licence is covered by mbuga and various transported soils.

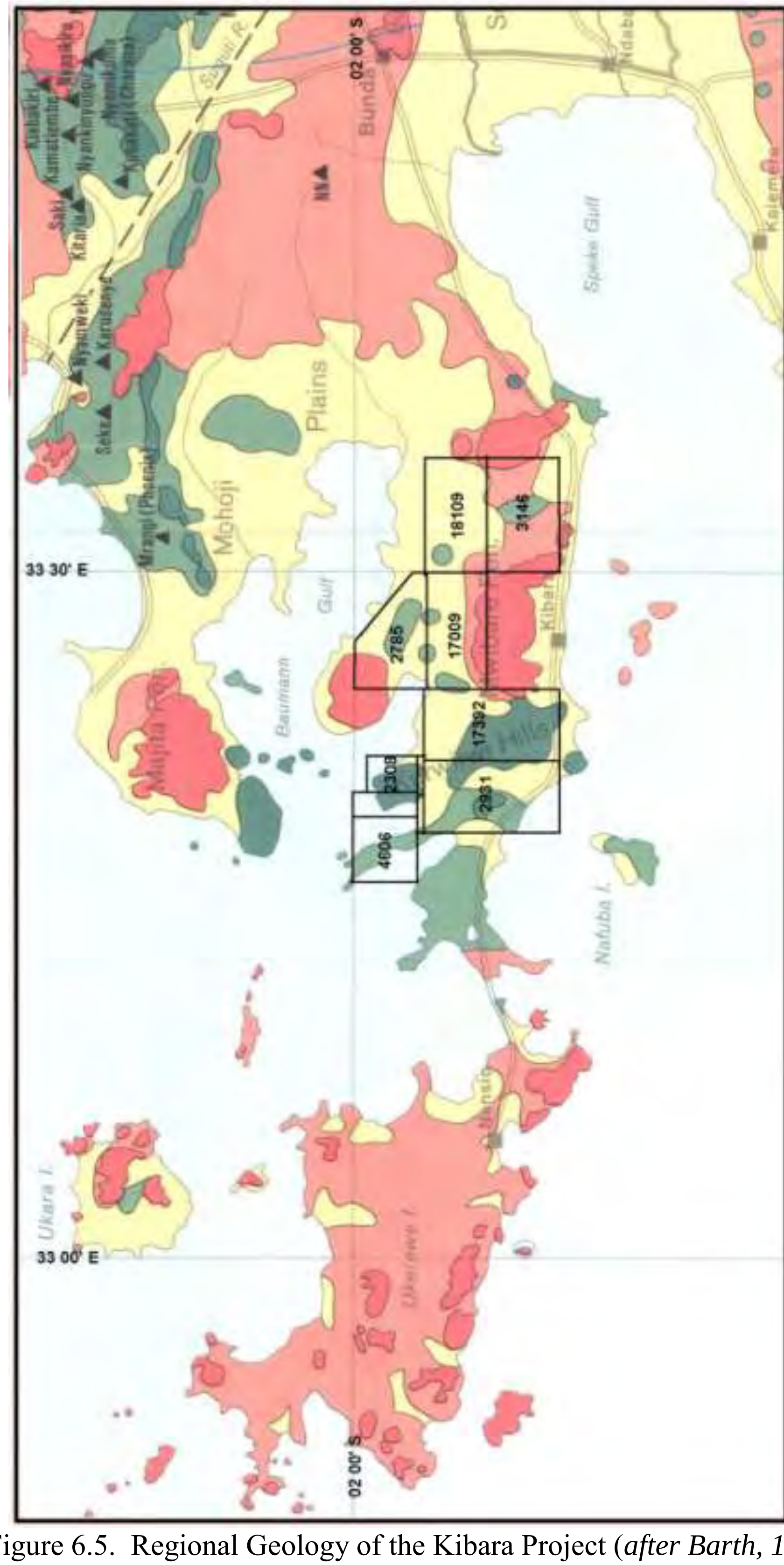

Figure 6.5. Regional Geology of the Kibara Project (*after Barth, 1990*)

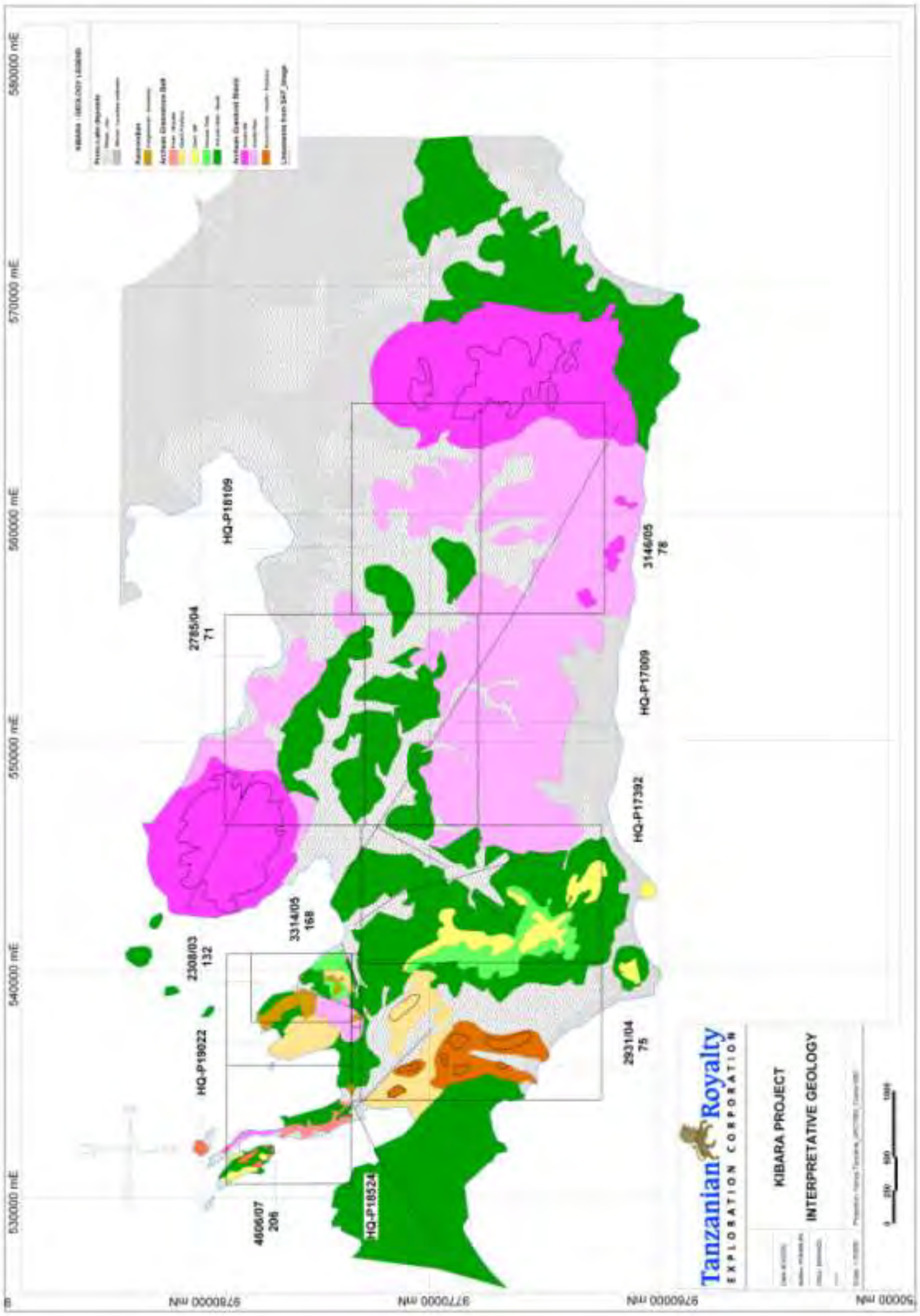

Figure 6.6. Geology of the Kibara Project Area.

The Miramba Hill granite is composed of equigranular feldspar, quartz, biotite +/- hornblende, is light grey in colour and has no obvious foliation. The Iramba Hills granite in the northwest of the licence is pinkish (K-feldspar?) composed of 50% feldspar, 30% quartz and 20% biotite. Similarly no foliations were noted by Tanzam 2000 and feldspar phenocrysts were locally evident.

Mafic volcanic rocks, largely basalt to andesite, were mapped along road cuts and on slightly elevated areas, especially in the vicinity of Namhula school and the abandoned Namhula artisanal mining site. In the southwest of the licence Tanzam 2000 mapped a sheared felsic volcanic with cross-cutting quartz veins.

Two other quartz veins were mapped. One milky-white vein striking 235º was exposed for about 200 m close to Namhula village in the vicinity of the artisanal site. The other occurs as a 2 m wide zone in a granite\/ in the northeast of the licence.

6.3.4 PL 2931/2004 + HQ-P17392

The published geological map (Barth, 1990) shows HQ-P17392 is essentially underlain by Nyanzian greenstones, with granite interpreted along the eastern edge. Tanzanian Royalty's reinterpretation has largely confirmed this and better defined the banded iron-formation and tuffs that occur in the upper parts of the Kurwirwi Hills. These volcanogenic/chemical sediments occur within largely mafic volcanics. The eastern part of PL 2931/2004 to the west is underlain by the same mafic volcanics while most of the centre and west is underlain by the Kurwirwi Diorite and quartz-porphyry. As much as 40% of the property is covered by lake deposits of proto-Lake Victoria, including limestone, sandstone, mudstone and cemented beach conglomerates.

6.3.5 PL 3146/2005 + HQ-P18109

The published geological map (Barth, 1990) shows PL 3146/2005 to be underlain by granite, and by greenstones in the centre of the current licence. Tanzanian Royalty's reinterpretation suggests the entire licence is underlain by granite that outcrops on the Ragata Hills along the eastern edge and on Neruma Hill in the southwest corner. HQ-P18109 to the north is interpreted to be largely underlain by granite, with greenstones extending southeast from PL 2785/2004 in the western part. Much of the lower-lying area is covered by lake deposits of proto-Lake Victoria including limestone, sandstone, mudstone and cemented beach conglomerates.

6.3.6 PL 3314/2005 + HQ-P18524

PL 3314/2005 and HQ-P18524 to the west are interpreted as being underlain by Nyanzian greenstones, extensions of the belt that forms the Kurwirwi Hills to the south.

7.0 DEPOSIT TYPES

7.1 Introduction

The granite-greenstone sequences of the Tanzanian craton show many features that are typical of other Archaean cratons around the world, including the existence of numerous granitoids within and around substantial masses of greenstones, a predominance of greenschist facies regional metamorphism, regional scale crustal deformation and the existence of numerous gold deposits.

Most of the giant gold deposits in the world are spatially associated with regional first-order structures, the deposits usually hosted by late-tectonic splay faults or shear zones. The first-order structures may have acted as major conduits for fluid transport from deep in the crust while the secondary structures acted as the loci for mineral deposition with locally-reduced fluid pressure. Although granites typically occupy more than 50% of the exposed Archaean cratons, where they are in proximity to the greenstone belts they also host significant gold deposits containing over 1 million ounces (e.g. Buzwagi and North Mara in Tanzania, Renabie in Ontario, Woodcutters, Tarmoola and Granny Smith in Western Australia, and Freda-Rebecca in Zimbabwe).

The dominant orientation of gold-bearing structures in the Tanzanian craton is northwest (e.g. Bulyanhulu, Tulawaka and Buck Reef) and structures with this general orientation can be traced across the Tanzanian and Ugandan cratons and into the Democratic Republic of Congo. More subtle northeast trends may control the mineralization in banded iron-formation at Geita and Golden Ridge and are also clearly visible on airborne magnetic maps west of Bulyanhulu. North-south structures appear to be significant at the Nyakafura deposit as are east-west structures at Golden Pride.

Mining of bedrock gold was recorded as early as 1898 in the Lake Victoria Goldfields and continued intermittently into the 1970s in the Mara, Musoma, Serengeti, Iramba Plateau and Geita areas. These operations were primarily on mesothermal lode-type deposits within the greenstone belts, most of the veins being associated with faults and shear zones though no major regional shear zones like the Cadillac Break of the Abitibi Belt in Canada have been recognized. Some mineralized zones are sub-parallel to lithologic layering in the greenstones, and others cut across layering, especially in the more competent units. Dilational openings along shear zones are common hosts for the mineralization, which is often open space filling accompanied by replacement of adjacent wallrock at some sites.

In his 1990 compilation, Barth listed 237 gold mines and occurrences in the area to the south and east of Lake Victoria, some of which remain the focus of small-scale artisanal mining. This is particularly of eluvial and alluvial deposits and, locally, quartz veins within the upper weathering profile. With the advent of widespread modern exploration in the 1990s, several major gold discoveries have been made. By the end of 2008 four new large-scale gold mines had been put into production (Golden Pride, Geita, Bulyanhulu and North Mara) as well as the smaller Tulawaka Mine, while other projects were at an advanced stage and the Buzwagi Mine was commissioned in the second quarter of 2009.

7.2 Golden Pride Mine

The Golden Pride Mine, located north of the town of Nzega, is owned and operated by Resolute (Tanzania) Ltd., the Tanzanian subsidiary of Resolute Mining Limited of Australia and was the first major gold mine in Tanzania when it was officially opened in February 1999. In 2008 the plant throughput was 2.5 million tonnes at a head grade of 2.04 g/t Au, the mill recovery of 90% producing 150,000 ounces for the year at a cost of $449/oz. Since commissioning the mine has produced in excess of 1.55 million ounces of gold. 2009 is expected to see a decrease in gold production with completion of mining in the western (main) pit and the central pit coming on stream later in the year.

The mine lies in the Nzega Greenstone Belt and the area is underlain by intermediate to felsic tuffaceous volcanics and intercalated terrigenous sediments of Nyanzian age, with minor banded iron formation units (to the north of the mine). The Nyanzian is intruded by various granitic rocks and overlain by Kavirondian shales, sandstones and conglomerates. South of the deposit is a pile of rhyolitic volcanics lying on granitic basement, while to the north the volcanics are more dominantly extrusive and interfingered with the terrigenous sediments. Within the mine area, the ratio of volcaniclastics to sediments is approximately 1:1.

The mineralization of the Golden Pride deposit lies within a major shear zone, some 200 metres wide and approximately 15º to the strike of the local stratigraphy. The shear zone strikes 080-090ºE with a steep south dip to the foliation. The bedding dips 70-80º S. There are no apparent chemical controls on the mineralization; rather it appears that the competency contrast between the tuffs and sediments has resulted in cracking during shear movements. The saprolite zone extends down to about 90 m below surface, and there is no apparent change in gold grade within the saprolite. A narrow graphitic zone lies along the footwall of much of the significant mineralization, though it is not a clear indicator of the edge of the ore zone. The gold mineralization completely crosses lithologic boundaries and it is very hard to visually correlate between sections with no preferential direction to the mineralization. Arsenopyrite is common throughout the shear zone and usually associated with the better gold grades but there is no direct correlation between gold and arsenic values. Narrow subvertical quartz veins occur within the main shears and may contain higher grade gold mineralization. Their overall effect on the gold resource, however, is minor. Banded iron formation has little effect on the deposit and is only important where BIF units are folded into the main shear. Small drag folds within the shear zone may suggest larger-scale folding within the shear zone, but no further evidence has been noted in the pit.

7.3 Bulyanhulu Mine

The Bulyanhulu Mine is owned and operated by Kahama Mining, a 100%-owned subsidiary of Barrick Gold Corporation of Canada, and was officially opened in July 2001. Bulyanhulu is the only major underground gold mine in Tanzania and had proven+probable reserves of 34.22 Mt averaging 10.86 g/t Au or 11.98 Moz Au plus contained copper at 0.589% or 444.3 million lb Cu as of December 31, 2008. Production in 2008 was 200,000 ounces at a cash cost of US$ 620/oz. Mill recoveries are approximately 89%, with 42% of the gold recovered by gravity and 47% in a copper concentrate.

No outcrops are known on the property. The main rock types in the mine area are bimodal mafic and felsic volcanics rocks of the West Kahama segment of the Nyanzian age Kahama Greenstone Belt. The mafic rocks are predominantly flows, overlain by a series of felsic pyroclastics and ash tuffs. Argillites occur within the mafic flows and at the mafic/felsic contact and are the principal host for the mineralization. Mafic dykes/sills, commonly lensoid along their northwest strike, are a significant part of the lithological package southwest of the deposit itself. The Bukoli Granite, which separates the Kahama belt from the Rwamagaza belt to the west, lies approximately 3 km southwest of the mine. Together with regional faults, the Bukoli Granite forms the bounds of a rhomboid-shaped greenstone domain at Bulyanhulu.

The gold mineralization, together with copper sulphides and silver, occurs in quartz veins localized along steeply-dipping structures parallel to the regional northwest strike. Nine of these extensive quartz vein systems have been discovered so far with Reef 1, hosted by a shear zone developed preferentially along the most extensive sedimentary unit, the most significant. The ore is characterized by sub-continuous lenses and veins of black quartz concentrated in narrow shear zones. An initial stage of syn-depositional barren clastic pyrite has been identified, overprinted by a polymetallic hydrothermal event associated with gold and copper mineralization. Alteration, dominantly carbonatization with the major introduction of Fe, Ca, As, Zn and S, is largely restricted to <5 m around the mineralized quartz veins. Initial fluid inclusion studies suggest the mineralizing fluid was carbonic and methane-bearing at 300-450ºC.

Three separate deposits have been outlined within Reef 1, the Main, East and West Zones, extending over a strike length of at least 5 km and down dip for at least 2 km. The bulk of the current reserves are contained within the Main Zone, which has the highest average grade at more than 14 g/t Au and is open to depth. A 1,090 m shaft in the centre of the Main Zone provides the principal underground access, with three internal ramps. The East Zone contains at least 1.2 Moz in reserves averaging 12 g/t Au, close enough to surface to be mined from a ramp access. The West Zone contains at least 2.0 Moz of gold in reserves averaging 14.0 g/t Au, in deeper mineralization that was discovered beneath a series of earlier shallow, barren drill holes. Development in 2009 is focussing on Reef 2 and Reef 0, east and west of Reef 1 respectively. Additional mineralization has been discovered west of the Bulyanhulu River, west of the West Zone, in what is termed the Far West Zone. The gold mineralization is unusually continuous, and limited deep drilling to about 2,000 m below surface suggests the continuity along strike at that depth may be similar to that demonstrated by the more detailed drilling closer to surface. Mining width varies from 2-6 m, depending on the orientation of the quartz vein.

A 138 km powerline carrying 220 kV was brought in from the national grid, but the power is dependent on good seasonal rains so Barrick installed stand-by generators to meet the 14.5 MW required. A water pipeline was constructed between the mine and Lake Victoria and the existing airstrip has been upgraded to 1,700 m. A dedicated satellite link provides communications.

7.4 Geita Mine

The Geita Mine, operated by AngloGold-Ashanti, was opened in June 2000 with reserves of 49.1 Mt averaging 4.05 g/t Au, or approximately 6.4 Moz Au. The mine is located immediately west of the town of Geita, in the centre of the Geita Greenstone Belt. Between 1936 - 1966, the Geita area produced an estimated 940,000 oz Au from 5.5 Mt of ore at an average recovered grade of 5.3g/t Au from five underground deposits. In 2008 the mine produced 264,000 ounces of gold at a recovered grade of 1.92 g/t Au, cash cost of $728/oz and total production cost of $929/oz. Q1 2009 production was 44,000 oz Au at a total cost of $1,018. The mine currently operates several open pits, serviced by a 5.2 million tonnes/year CIL plant. The lack of access to higher-grade orebodies following a major wall collapse in the Nyankanga pit in Q1 2007 continues to affect production grades in 2008. The Star and Comet pit was commissioned in 2008 and Lone Cone was depleted. Pushback 5 at Nyankanga will provide ore access in Q1 2009.

The Geita belt is the most northerly of the greenstone belts south of Lake Victoria, and is part of the “outer arc” of the regional Sukumaland Greenstone Belt. The Geita belt is dominated by isoclinally folded oxide facies BIF ridges averaging 500m in thickness and flanked by younger felsic pyroclastics. The ridges have been later deformed into west-plunging open folds with WNW axial trends. These have subsequently undergone major displacement along NW trending shears. Regional Proterozoic quartz-gabbro dykes intrude along reactivated NE-SW faults.

Most of the Geita gold occurrences are related to BIF and chert within tuffaceous/volcaniclastic sediments where this sequence is intruded by dioritic to monzonitic dykes. The BIF is considered to be a favourable site for gold mineralization as it can be chemically reactable during shearing.

Emphasis was made by AngloGold personnel that there are over “21” individual gold deposits and major gold occurrences within their Geita land package in the Geita belt and that while all of the deposits bear some relation to the presence of chemically reactable BIF, and that the deposits exhibit a wide range of structural and lithological settings. It was emphasized that no single model described completely the settings of all of the gold occurrences discovered to date. Clearly the exploration criteria important to the discovery of Geita style deposits, is the presence of BIF, abundance of parasitic folding and shearing, felsic to intermediate composition intrusives present within the BIF sequences and the presence of gold mineralization with the latter often indicated by previous artisanal and/or colonial mining.

The Nyankanga, Lone Cone and Geita Hill deposits form a semi-continuous NE mineralised trend (the Geita Trend) near the hinge of the principal west-plunging synform. All deposits dip northwest to west, sub-parallel to stratigraphy. They are located on structures subsidiary to the regional NW trending shears close to which local compression causes breaks in continuity.

Nyankanga was discovered in the late 1990s after a review of exploration drilling results. The thrust zone hosting the deposit has little surface expression and is masked by thick ferricrete on the flanks of a hill. At Nyankanga a granodiorite-diorite suite has intruded as dykes and sills into banded iron-formation with lesser mudstone and siltstone from a plug centred on a WNW fault. This has produced a suite of alteration assemblages similar to Cu-porphyry systems as well as sulphide and gold deposition. The main gold mineralization, however, is controlled by lowangle sigmoidal northeast-trending structures dipping northwest and north with numerous splays in the hanging wall. High grade shoots at Nyankanga plunge to the west (lithologically-controlled) and to the northwest (fault-controlled). The deposit subcrops in low ground below 10-15m of barren, transported laterite cover. NNW to NW-trending regional shears form the strike limits of the deposit.

The main orebody ranges up to 50m thick in the central part of the deposit, with areas of higher-grade mineralization ranging up to 45 g/t Au over 18 m generally representing uniformly mineralized BIF units. A wide zone of anomalous mineralization up to 60 m thick occurs within the microdiorite, typically containing multiple intersections of 1-2 g/t Au over 5-8 m. Rheological contrast with the diorite has focussed shearing within the BIF and mineralization has followed these units wherever possible. Where BIF is absent or the shear zone cuts a thicker diorite sill, the lack of stress focus has dispersed mineralizing fluids resulting in a wider orebody with a more erratic gold distribution and lower average grade. Two phases of syn- to post-mineralization dykes occur throughout the deposit and are thought to represent late felsic evolution of the intrusive system at Nyankanga. Late stage deposition and/or re-mobilization of gold may have occurred during emplacement as grades up to 200 g/t Au have been observed where the dykes cross-cut the orebody.

Gold is closely associated with fine pyrite and silicification. Free gold occurs as inclusions, in fractures in pyrite and as discrete grains within secondary quartz. Mineralization and ductile shearing have occurred preferentially in magnetite bands in BIF and along magnetite-chert bedding contacts. Brecciation has occurred in higher strain areas, the resultant higher fluid flow causing silica flooding and pervasive pyrite mineralization, eventually leading to total replacement of the protolith in areas of very high grade (approx. >50g/t). Within the diorite, pyrite occurs as fracture fill in biotite/calcite stockworks and in quartz veins. In areas of higher grade (approx. >3g/t), pyrite is also finely disseminated throughout the groundmass and silica replacement is pervasive.

The Geita Hill succession is similar to Nyankanga, though felsic pyroclastics are more common. Mineralization is controlled by a major northeast-trending shear dipping 50-55E NW. This shearing is sub-parallel to the regional strike of the BIF sequence but cross-cuts local folding and lithological contacts. The outer contacts of the orebody are sharp with a rapid drop in grade over 1 or 2m to background levels < 0.02 g/t Au. Economic mineralization continues on strike for 2.3 km, including four lithologically-controlled shoots up to 8 g/t Au over 40 m that plunge to the north. These are the historic Geita and North East Extension mines (BIF dominated) and the previously undiscovered Gap (interbedded BIF & felsic tuff) and Geita West (interbedded BIF & microdiorite) shoots. Gold mostly occurs as fine-grained inclusions and fracture-filling in fine-grained pyrite (and locally pyrrhotite) mineralization, the sulphides typically being 10-20%. The sulphide mineralization within the BIF is similar to Nyankanga, and is generally disseminated in other lithologies.

At Lone Cone the North Zone (mined between 1940 and 1953 on 3 levels) is hosted by a distinct BIF unit within interbedded BIF and microdiorite, while the South Zone is hosted by BIF with minor interbedded felsic tuffs. Both deposits strike ENE (the North Zone over at least 480m and the South Zone 240 m) and dip 50E to the north. The North Zone has a total width of up to 25 m, with footwall and hanging-wall zones of 6-7 g/t over 5-8m separated by lower grade material. The South Zone is made up of various thin, patchy sections over a total width of up to 40m. Gold mineralization and wallrock alteration are similar to Geita Hill.

The Kukuluma Trend comprises five NW trending areas of significant gold mineralization along a 3 km ESE-trending gold in soil anomaly (+80ppb Au) that cuts obliquely across a NW trending horseshoe ridge (Bukolwa Hill) of BIF and chert interbedded with mudstone, siltstone and wacke. The BIF sequence is underlain by a distinctive carbonaceous pyritic mudstone and overlain by felsic tuffs that flank the ridges. Tight anticlinal folding, with the BIF and pyritic mudstone in the core, has been refolded along a NW axis to produce the horseshoe ridge.

The Kukuluma and Matandani deposits are located in topographic bowls incised into the Cretaceous ferricrete plateau. The host lithologies at Matandani tend to be more clastic than those at Kukuluma and include shaly BIF and wackes. Gold mineralization is fault controlled, stratabound and localised by the intersection of steeply-dipping shears with ferruginous lithologies of a similar northwest strike but shallower dip. Gold mineralization at Kukuluma below the limit of weathering is very fine- grained, included in magnetite and arsenopyrite within fibrous grunerite aggregates, spatially associated with pyrrhotite and pyrite, and confined to the iron-rich mudstone. Most of the mineralization at Matandani is contained in discrete BIF units, with minor quartz vein-hosted gold in the other sediments and tuffs. Both deposits have been weathered to over 100m in places, with major redistribution of gold. Extensive leaching of gold appears to have taken place near surface, while exploration drilling at Kukuluma has revealed a general 2 to 3 g/t Au increase in mean grade between 60 and 105m depth and a planar zone of gold enrichment, the latter at least in part due to stringer zones coalescing in this area.

Area 3 comprises three mineralized zones along the eastern limb of Bukolwa Hill. The BIF sequence (vertical, northwest strike) includes more chert than at Kukuluma although the same carbonaceous pyritic mudstone is seen at the core of the limb and iron-rich sediments are found interbedded with the BIF at the southeast end of the ridge. Mineralization at two locations along the limb occurs at the intersection of crosscutting NE faults with the principal NW shear. Gold is associated with arsenopyrite in magnetite-rich bands or occurs with silicification and quartz veins at the sheared contact between the BIF and the felsic tuff.

7.5 North Mara Mine

The North Mara Mine is situated within the Mara Greenstone Belt. The underlying geology comprises felsic and mafic volcanics intercalated with sediments which are intruded by various granitoid and gabbroic plutonic rocks. Tertiary volcanic lava flows partially cover the underlying Archaean geology and the ore bodies are structurally controlled, shear-hosted lode gold deposits.

The mine is located in Tarime District of Mara Region, about 100 km east of Lake Victoria, 20 km south of the Kenyan border and 200 km northeast of Mwanza. The mine was originally developed by Afrika Mashariki then by Placer Dome and currently by Barrick Gold Corp after their 2006 takeover of Placer. The operation comprises three open pit deposits. Mining is under way at Nyabirama and the Nyabigena pit is in the development phase. The Gokona pit is currently being prepared for development. The mine plan is to exploit the Nyabirama open cut to a depth of 325 m, Nyabigena to 160 m and Gokona to 280 m.

North Mara produced approximately 197,000 ounces of gold in 2008 at a total cash cost of $757 per ounce. Proven and probable mineral reserves as of December 31, 2008 were estimated by Barrick at 3.0 million ounces of gold.

Ore is fed from the run-of-mine pad to a crushed ore stockpile via a single jaw crusher and a secondary crusher. The crushed ore is conveyed into an open circuit SAG mill before passing to a closed circuit ball mill regrind. A gravity separation circuit is used to scalp free gold from regrind circuit. The ore is then processed via cyanidation and carbon-in-leach, followed by electrowinning and gold refining to doré on site. The plant was expanded from 2.0 to 2.8 million tonnes annual capacity in 2004.

8.0 MINERALIZATION

The gold mineralization in the Lake Victoria Goldfields in northwestern Tanzania occurs in all units of the Nyanzian greenstone belts as well as certain of the major felsic intrusives as at Buzwagi and North Mara. The known gold mineralization within the area of the Kibara Project is restricted to historic artisanal mining activity and to a gold+copper-bearing quartz vein exposed by trenching.

The mineralization on Nyakona Hill within PL 2308/2003 occurs as narrow gossanous quartz veins with abundant malachite (up to 40%) apparently along the contact between felsic-intermediate tuffs and a feldspar porphyry intrusive. The quartz veins are sub-parallel to observed bedding at 115º/70ºS.

9.0 EXPLORATION by TANZANIAN ROYALTY

Tanzanian Royalty commenced exploration on the Kibara Project in August 2002 with mini-bleg sampling in the precursor to PL 2308/2003. This was followed by rock and termite mound sampling to validate BLEG anomalies and then by trenching, biogeochemical (BGC) sampling and gradient IP surveys. The other licences were covered with BGC sampling, mapping and chip sampling and limited auger soil follow-up. None of the geochemical or other targets have yet been tested with any form of drilling. Year-by-year and total expenditures for the Kibara Project were not available as these had been included in "other projects" in the annual reports of Tanzanian Royalty.

9.1 PL 2308/2003, PL 4606/2007 and HQ-P19022

9.1.1 BLEG Geochemistry

The first phase of exploration on PL 2308/2003 was a mini-BLEG sampling survey carried out in August 2002. A total of 128 samples were collected over the licence and sent to SGS in Mwanza for analysis. Six of the samples returned anomalous gold values greater than 10 ppb Au, with the highest value of 27 ppb Au coming from Nyakona Hill. Follow-up termite mound (14 samples) and grab sampling (14 samples) in October 2003 reported anomalous gold values of 49 ppb Au and 6.67 g/t Au, respectively, from the same area. Termite mound and grab samples were also taken to check the elevated gold BLEG results from Mwigundu Hill, with inconclusive results.

Also in 2002 a total of 27 BLEG samples were collected from the western half of PL 2308/2003, in what is now PL 4606/2007. All samples returned low gold results.

Tanzanian Royalty reports describe a further 198 BLEG samples being taken in March 2004 on 50 x 100 m spacing over an area of 0.7 x 1.0 km on Nyakona Hill. The available data, however, does not include any mention of these samples. The survey was intended to validate the BLEG, termite mound and grab gold anomaly and was reported by Tanzanian Royalty to return encouraging gold values up to 27 ppb Au.

The BLEG anomalies were field-checked in 2004 and it was apparent that the BLEG anomalies were related to Kavirondian sediments forming the top of the hill.

9.1.2 Soil Sampling

In November 2004 a follow-up soil sampling program was carried out over a 600 x 600 m grid on the eastern side of Nyakona Hill. This was centred on an anomalous grab sample collected in June 2004 (J-3881, 6.0 g/t Au and 13.8% Cu). There is no mention of this grab sample, however, in the available data spreadsheets nor is there an assay certificate including it. A total of 45 samples were collected at 100 m x 100 m spacing. Results for this program were encouraging with values up to 230 ppb Au and 2760 ppm Cu. The cluster of anomalous gold values appears to be open to the east where there is mbuga cover, while the copper anomaly is open to the south. The results are shown on Figure 9.1.

In the first quarter of 2008 60 soil samples were collected in PL 4606/2007 on a 200 x 200 m grid. These were submitted to ALS-Chemex for analysis together with 2 standards and 1 blank. No anomalies were detected with most samples below detection for gold.

In November-December 2008 a combined soil and auger sampling program was carried out to extend the anomalous gold-copper zone on Nyakona Hill. Totals of 269 soil samples, 12 termite mound samples and 120 auger samples (from areas covered by mbuga or lake sediments) were collected, together with 8 duplicates. The majority of these samples were collected from PL 2308/2003 (see Table 9.1) and those from adjoining areas have been included in this description for simplicity. The gold and copper results are shown on Figure 9.2.

Table 9.1 2008 Soil and Auger Sampling, Nyakona Hill

Licence	Soils	Auger	Termite	Sub-Total	Duplicate	Blank	Standard	Total
PL2308	208	52	9	269	6	4	5	284
PL2931	30	6	2	38	1	1	1	41
PL3314	28	58	1	87	1	0	0	88
17392	3	4	0	7	0	0	0	7
Total	269	120	12	401	8	5	6	420

There is an apparent northeast trend to the copper-gold anomalies within a broad zone outlined by the 90 ppm Cu contour, extending over 1,800 m north-south and over 1,000 m east-west in PL 2308/2003. The copper-gold anomalies are open to the east as no sampling was possible in the deeper sediments close to the shore of Lake Victoria. A smaller group of weaker anomalies is similarly outlined south of Nyakona Hill, straddling the boundary between PLs 3314/2005 and 2931/2004.

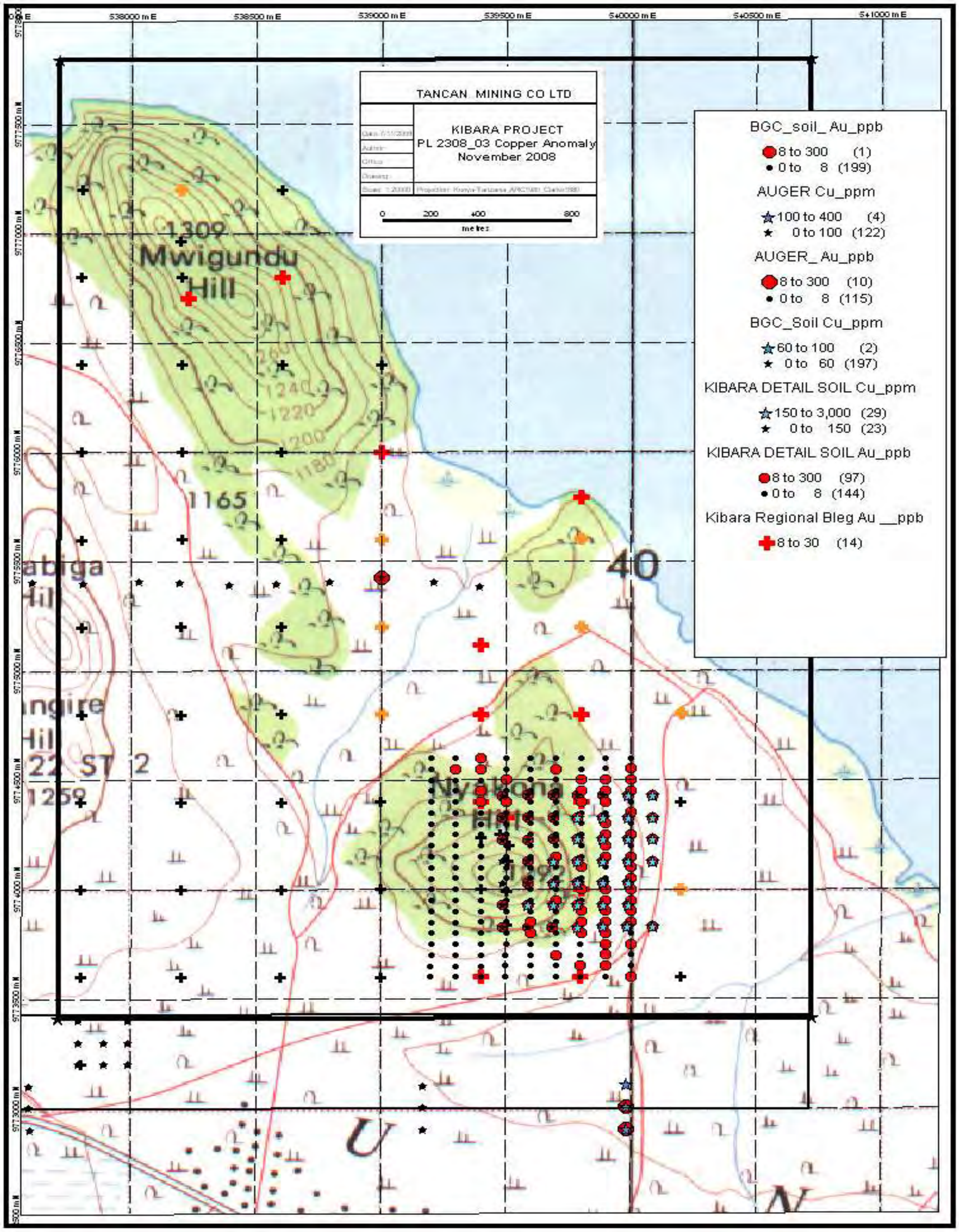

Figure 9.1 PL2308/2003 Geochemical Results pre-2008

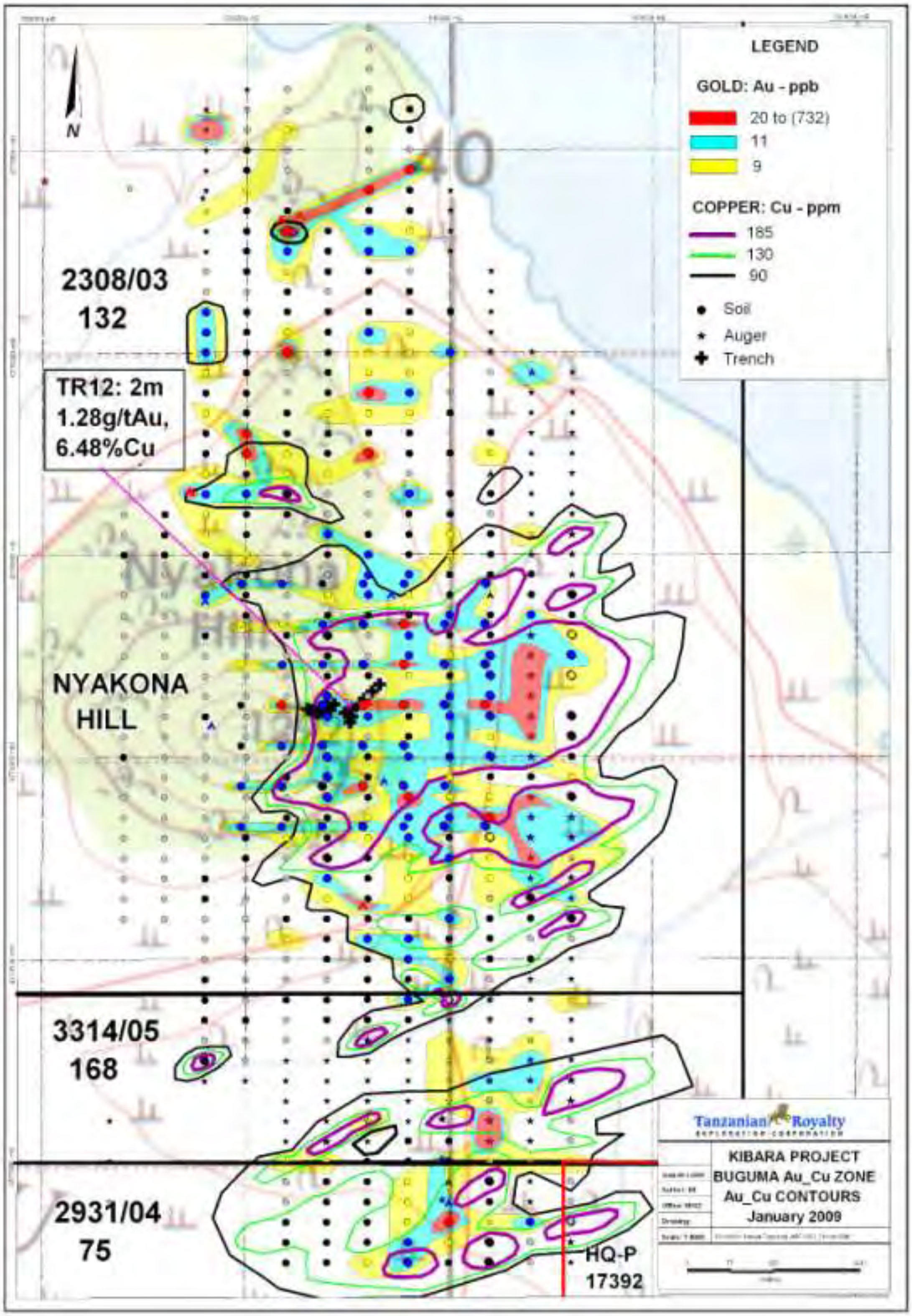

Figure 9.2 Nyakona Hill Copper-Gold Results.

9.1.3 Biogeochemical (BGC) Sampling

BGC sampling of the Buguma licence (PL 2308/03) was carried out from 16th to 25th January 2006. A total of 468 samples plus 17 duplicates were collected over 25 traverses covering 69.6 line km. Of this 254 samples were collected at 400 m x 200 m spacing while 231 samples were derived from a small tighter sampling grid covering a known copper-gold soil anomaly, where sampling was carried out in 100m intervals along 200m spaced lines. The licence was also botanically mapped to establish plant associations and distribution patterns. The preferred sampling species, MLJ, was abundantly present, especially in the southern and central parts of the licence and constituted 429 samples or 88.5%. TBT becomes more dominant towards the north. A sample station located directly on the soil anomaly provided four different species for comparison studies.

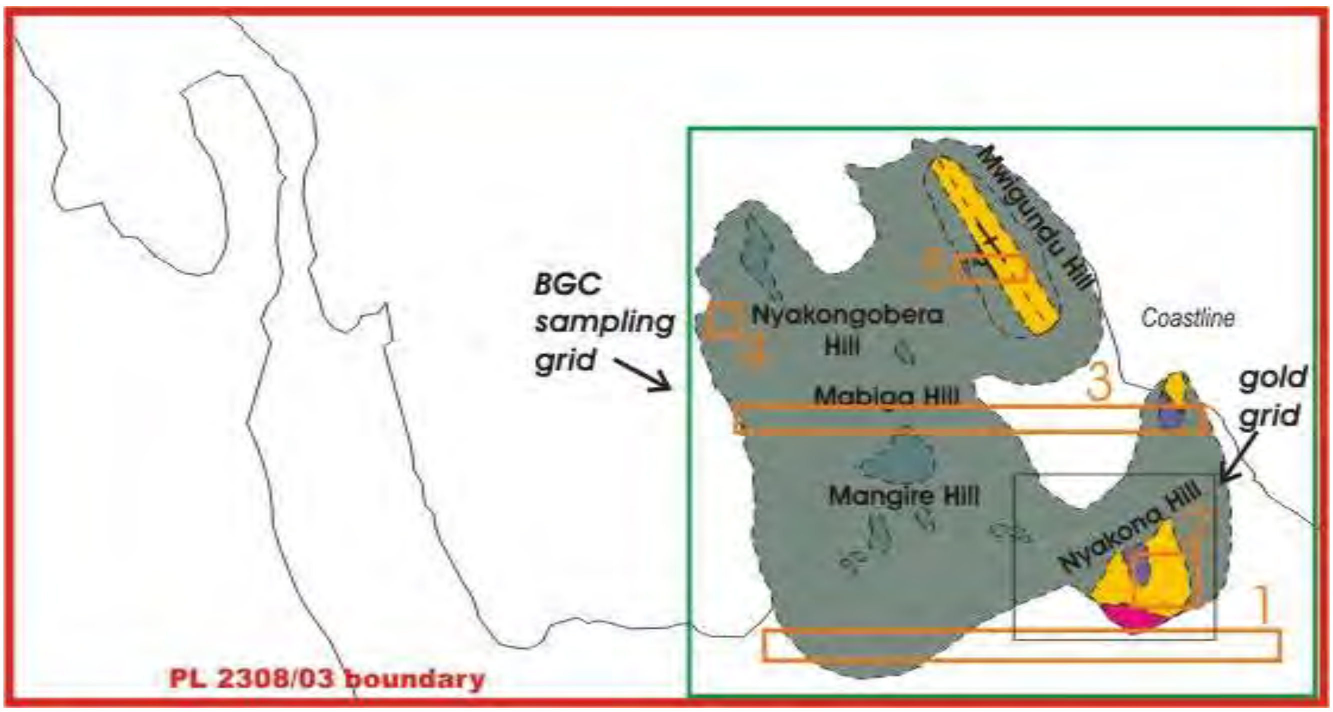

Figure 9.3 Location of BGC Gold Anomalies, PL 2308/2003

All samples were prepared at the TANCAN facility in Mwanza then submitted to ACME Laboratories in Vancouver for ICP-MS gold+37 element analysis. The gold values were mostly low to moderate and ranged from below detection limit (0.1 ppb Au) to a maximum of 3 ppb Au. The mean plus 2 and 3 standard deviations (M+2 and M+3) for gold approximate the 95th and 98th percentiles.

Table 9.2 Summary of BGC statistics, PL 2308/2003

	Ag ppb	**As** ppm	**Au** ppb	**Co** ppm	**Cu** ppm	**Hg** ppb	**Mn** ppm	**Mo** ppm	**Ni** ppm
Mean	3.58	0.28	0.27	0.60	6.24	12.01	79.97	0.39	1.08
St Dev	5.46	0.33	0.31	1.27	3.73	5.38	66.17	0.67	1.78
M+1	9.04	0.61	0.58	1.86	9.97	17.39	146.13	1.06	2.86
M+2	14.51	0.93	0.89	3.13	13.70	22.77	212.30	1.74	4.64
M+3	19.97	1.26	1.21	4.40	17.43	28.15	278.46	2.41	6.42
Max	53	1.9	3	10.71	28.26	32	863	6.13	20.8
Hicut	none	none	none	none	none	none	500	none	15
>M+3	9	17	9	12	10	2	9	11	10
>M+2	22	28	20	15	21	18	21	17	24
n	468	468	468	468	468	468	468	468	468

Contour maps were generated by Tanzam 2000 for all 38 assayed elements. Au anomalies were recorded by species MLJ, MLM, TBT and NTG, the MLJ anomalies possibly being enhanced by its generally lower uptake rate compared to MLM and TBT. The anomalous gold values from the BGC sampling lie outside and primarily to the north of the detailed grid covering the gold-in-soil anomaly and the trenches. The initial statistical analysis by Tanzam 2000 showed only As and Sc had a substantial peripheral relationship to gold. An external statistical analysis was carried out by Tom Woolman of OnTarget and this predicted the source gold mineralization would be located just off-shore to the north of the BGC sampling area. The multiple regression equations and linear regression analysis pointed to a moderate relationship of Th to Au. Primary precursor elements to Th were shown to be Fe, Cr and As, with a moderate relationship calculated for Na, U and Cu.

Five distinct east-west gold anomalous zones were detected by the BGC (Figure 9.2). No single element or a combination of elements could be seen as pathfinders for the BGC gold anomalies. Elevated Ag and Cs were recorded at two or more anomalous zones; Co, Cu, Pb and U at only one zone. Of the remaining elements, elevated Cd, Fe and Na are commonly found to be associated with elevated Au, while elevated Ni, P, Pb, Ti, Th and Zn are limited to a single anomalous gold zone. As and Sc form strong east-west envelopes paralleling some of the gold anomalies.

The strongest gold trend observed is 090°, supported by As, Cu, Hg and Mo (99th percentile) and subordinately supported by Ag, Co, Cs and Cu (95th percentile) plus La and Ni. Minor gold trends at 065° and 130° parallel major structural trends in the Musoma-Mara Greenstone Belt.

A strong Ni-Cu-Ti anomaly was recorded in the NE of the peninsula, best delineated by species TBT. This species possesses high uptake rates for these elements hence the anomaly may be species- rather than geology-related.

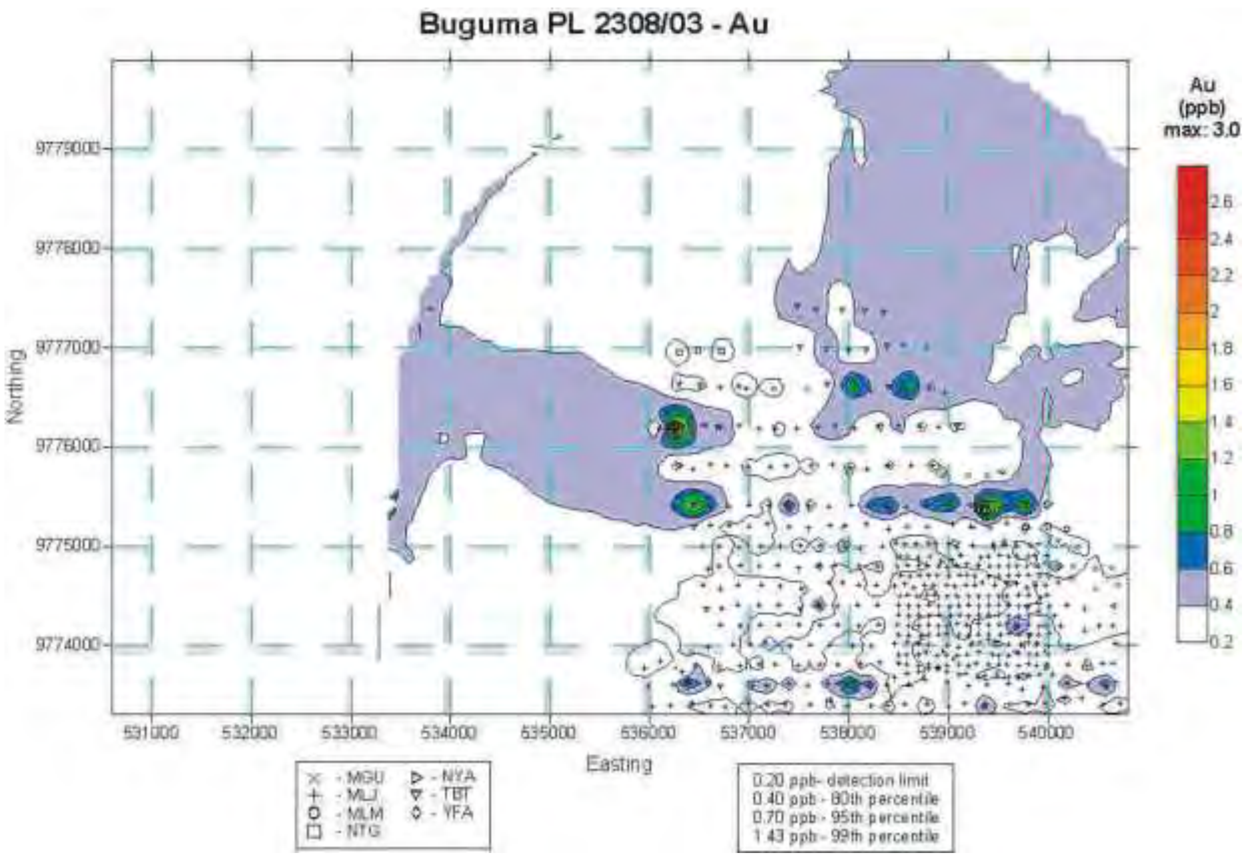

Figure 9.4 BGC Gold Contour Map, PL 2308/2003

9.1.4 Geological Mapping and Grab Sampling

The area of PL 2308/2003, including what is now PL 4606/2007 and HQ-P19022, was mapped in the latter part of 2004 along approximately 50 line km of traverses. A significant part of the original licence is covered by Lake Victoria and much of the lower-lying ground is covered by sediments of proto-Lake Victoria.

Five main geological units were identified within PL 2308/2003 and HQ-P19022. Mafic flows and tuffs outcrop on the flanks of Mwigundu Hill and on the north of Nyakona Hill; intermediate tuffs on Nyakona Hill; quartz-feldspar porphyry intrusives on the southern part of Nyakona Hill and in much of HQ-P19022; granite underlies the southwest corner of PL 2308/2003; and Kavirondian conglomerates, grits, lithic sandstones and shales occur on both Nyakona and Mwigundi Hills.

Nyakona Hill in the south of the licence trends roughly north-south and includes a gossanous quartz vein, striking 115º and dipping 70ºS in a Nyanzian? felsic tuff/feldspar porphyry package that returned 18.75% Cu and 3.33 g/t Au from one sample. A typical bedding trend in Kavirondian shales on the upper slopes is 297º/56º/202º.

On Mwigundu Hill in the north of PL 2308/2003 shales interbedded with laminated sandstones and conglomerates outcrop on the upper slopes and chert plus banded iron-formation occurs on top of the hill. These rocks strike north-northwest and dip steeply west. The chert and BIF resemble the same units found elsewhere in the Nyanzian of the Mara-Musoma Belt but their relationship to the Kavirondian is not clear at Kibara. Mafic volcanics that are clearly Nyanzian occur on the lower slopes and presumably underlie the Kavirondian sediments.

The southern part of what is now PL 4606/2007 was interpreted by Tanzanian Royalty to be underlain by mafic volcanics and a syenitic porphyry. The northern part of the peninsula was interpreted as granite while the western part was interpreted to contain mafic volcanics, quartz-porphyry and syenite porphyry.

Initial grab sampling to follow-up the 2002 BLEG anomalies included a result of 6.67 g/t Au, reportedly from quartz veining although the internal reports did not describe the program. Tanzanian Royalty also mention a gold-copper grab sample assaying 6 g/t Au and 13.0% Cu from Nyakona Hill (sample J-3881) but this was not described in the reports provided to the author nor was it included in the grab sample database provided.
In November 2004 the source of the anomalous Nyakona Hill grab samples was re-checked by Tanzam 2000. Twelve grab samples of mineralized float material were collected, most with up to 40% malachite. No bedrock with similar mineralization was detected.

Plate 9.1 Mineralized quartz vein Nyakona Hill, PL 2308/2003

Table 9.3 Significant results, Nyakona Hill grab samples

Sample No.	UTM E	UTM N	Description	Au g/t	Cu %
J-6733	539784	9774128	Quartz vein with 40% malachite	3.33	18.15
J-6734	539780	9774124	Quartz vein with copper oxide?	2.20	7.70
J-6735	539780	9774124	Conglomerate with 20% Qv	1.33	1.25
J-6737	539774	9774130	Qv / Cc with 30% malachite	2.80	17.15
J-6738	539774	9774130	Brecciated quartz	1.26	0.46
J-6740	539791	9774112	Brecciated qtz with 30% malachite	3.44	6.61
J-6741	539800	9774104	Brecciated qtz with 10% malachite	3.27	5.70

During a further field visit in December 2004 Tanzam 2000 identified an outcrop 45 m southwest of J-6733 as the source of the mineralized float. The outcrop included quartz veining and cherty gossan with up to 40% malachite in a syenitic tuff striking 115º and dipping 70º SSW. Plate 9.1, showing a sample of mineralized rock from the outcrop, was taken by the author in July 2009.

9.1.5 Trenching

In February and March 2006 approximately 410 m of trenching was done on the east side of Nyakona Hill, across the area where several grab samples had returned copper values up to 13.0% Cu and gold up to 6.0 g/t Au. All 16 trenches, KB132TR01-KB132TR16, were dug to bedrock and all except KB132TR01, KB132TR06, KB132TR07, KB132TR10 and KB132TR11 intersected quartz veins and gossan. The lithologies intersected were primarily a fine-grained, massive intermediate tuff / syenite and feldspar porphyry. There is an apparent southwest trend to these rocks with a shallow southeast dip. The highly weathered quartz veining with gossan and malachite is parallel to the strike of the host rocks.

A total of 52 samples were collected from 11 trenches and sent to Humac Laboratories in Mwanza for gold analysis by fire assay with atomic absorption finish (method Au4). The samples were mainly taken from quartz vein/gossan material with one footwall and one hanging-wall sample at each location. Significant gold assay results included 20 samples with values ≥1.22 g/t Au, the highest being 14.80 g/t Au from trench KB132TR02. Significant copper and silver values were also received with 17 samples greater than 1% Cu with a high of 27.4% Cu and silver values ranging up to 87 g/t Ag.

Most of the hanging-wall and footwall rock samples had elevated gold, copper and silver values, suggesting that hydrothermal activity had extended outside the vein structure. The hanging and footwall rock samples returned values between 0.01 and 0.83 g/t Au.

Table 9.4 Significant Trenching Assays PL 2308/2003

Trench	Sample	Au g/t	Cu %	Ag g/t	Comments
KB132TR02	E-10946	14.80	29.15	11.25	Quartz Vein/gossan w/malachite
	E-10949	1.34	9.50	3.25	Quartz Vein/gossan w/malachite
KB132TR03	J-8113	1.55	10.45	15.05	Quartz Vein/gossan
	J-8115	1.22	10.80	2.30	Quartz Vein/gossan
KB132TR04	J-8110	3.60	2.79	5.15	Quartz Vein/gossan w/malachite
KB132TR05	J-8105	5.02	7.55	11.35	Quartz Vein/gossan w/malachite/boxworks
	J-8107	10.20	6.01	8.85	Gossan with malachite
KB132TR08	E-12302	1.31	5.34	4.30	Quartz Vein/gossan w/malachite
KB132TR09	J-8102	3.40	9.20	6.60	Quartz Vein/gossan w/malachite
KB132TR12	J-4938	3.24	15.10	10.95	Quartz Vein/gossan w/malachite
	J-4939	2.38	13.55	9.65	Quartz Vein/gossan w/malachite
	J-4942	1.46	4.07	2.95	Quartz Vein/gossan w/malachite
KB132TR13	E-12306	2.03	8.30	63.50	Quartz Vein/gossan w/malachite
	E-12307	2.33	0.18	17.70	Quartz Vein/gossan w/malachite
	E-12308	5.53	22.50	87.00	Quartz Vein/gossan w/malachite
KB132TR14	J-4949	3.65	1.61	14.30	Quartz Vein/gossan w/malachite
	J-4950	1.74	0.64	0.90	Quartz Vein/gossan w/malachite
KB132TR15	E-12310	4.55	10.00	24.10	Quartz Vein/gossan w/malachite
	E-12311	2.89	1.07	5.05	Quartz Vein/gossan w/malachite
KB132TR16	J-8120	5.78	27.14	33.30	Quartz Vein/gossan w/malachite

Table 9.5 Location of Trenches, PL 2308/2003

Trench	Start Point			Azimuth	Length	Samples
	UTM E	UTM N	RL		m	
KB132TR01	539652	9774118	1235	180º	36.0	0
KB132TR02	539662	9774115	1229	180º	30.0	6
KB132TR03	539675	9774112	1219	180º	25.0	4
KB132TR04	539686	9774112	1217	180º	24.0	3
KB132TR05	539697	9774132	1214	180º	39.0	7
KB132TR06	539706	9774116	1211	180º	6.0	0
KB132TR07	539717	9774130	1209	180º	30.0	0
KB132TR08	539744	9774109	1202	180º	25.0	4
KB132TR09	539760	9774100	1199	270º	20.6	6
KB132TR10	539756	9774086	1200	270º	19.0	0
KB132TR11	539771	9774122	1195	270º	28.4	0
KB132TR12	539760	9774122	1197	180º	22.0	6
KB132TR13	539790	9774143	1190	180º	25.0	4
KB132TR14	539810	9774161	1181	180º	30.0	2
KB132TR15	539828	9774179	1179	180º	30.0	4
KB132TR16	539678	9774108	1220	270º	22.0	6

Table 9.6 Logging of Trenches, PL 2308/2003

Trench	From (m)	To (m)	Description
KB132TR01	0.00	31.00	Fine-grained syenitic tuff. Bedding @ 11m 260º/30º/S
	31.00	36.00	Medium-grained quartz-feldspar porphyry w/qtz frags
KB132TR02	0.00	5.00	Fine-grained syenitic tuff
	5.00	5.30	Grey-brown gossan
	5.30	7.30	Medium-grained weathered feldspar porphyry
	7.30	7.50	Quartz vein/gossan
	7.50	12.00	Feldspar Porphyry
	12.00	13.00	Syenitic tuff
	13.00	15.00	Feldspar Porphyry
	15.00	17.70	Syenitic tuff
	17.70	30.00	Feldspar porphyry
KB132TR03	0.00	3.40	Fine-grained syenitic tuff
	3.40	3.60	Quartz vein 255º/50º/SSE
	3.60	12.60	Syenitic tuff
	12.60	25.00	Feldspar Porphyry
KB132TR04	0.00	6.00	Syenitic tuff
	6.00	6.10	30 cm quartz vein/gossan w/malachite (235º/50º/SSE)
	6.10	9.00	Syenitic tuff
	9.00	24.00	Feldspar porphyry
KB132TR05	0.00	20.00	Feldspar porphyry
	20.00	20.02	Quartz vein/gossan w/malachite (245º/45º/SSE)
	20.02	21.00	Syenitic tuff
	21.00	21.05	Quartz vein/gossan w/malachite (240º/45º/SSE)
	21.05	35.00	Feldspar porphyry
	35.00	35.50	Quartz vein/gossan w/malachite (255º/55º/SSE)
	35.50	36.50	Dark grey, massive syenitic tuff
	36.50	39.00	Feldspar porphyry
KB132TR06	0.00	6.00	Feldspar porphyry
KB132TR07	0.00	30.00	Feldspar porphyry
KB132TR08	0.00	5.30	Feldspar porphyry
	5.30	9.00	Greenish-pink syenitic tuff
	9.00	11.30	Feldspar porphyry
	11.30	11.35	Green quartz vein/gossan (235º/30º/SSE)
	11.35	16.50	Feldspar porphyry
	16.50	16.51	Thin quartz vein/gossan
	16.51	25.00	Feldspar porphyry
KB132TR09	0.00	4.20	Greenish-pink syenitic tuff
	4.20	4.40	Quartz vein/gossan (220º/65º/ESE)
	4.40	10.00	Kaolinized feldspar porphyry
	10.00	10.30	Quartz vein/gossan with malachite
	10.30	20.60	Feldspar porphyry

KB132TR10	0.00	12.00	Green syenitic tuff (225º/55º/125º bedding at 8.5 m)
	12.00	19.00	Highly weathered feldspar porphyry
KB132TR11	0.00	3.60	Feldspar porphyry
	3.60	5.00	Light green syenitic tuff
	5.00	28.40	Highly weathered feldspar porphyry
KB132TR12	0.00	11.00	Highly weathered feldspar porphyry
	11.00	11.50	Quartz vein/gossan (boulder?)
	11.50	12.60	Highly weathered feldspar porphyry
	12.60	13.00	Quartz vein/gossan (220º/30º/130º)
	13.00	20.00	Highly weathered feldspar porphyry
	20.00	20.02	5 cm quartz vein/gossan (220º/55º/125º)
	20.02	22.00	Light green syenitic tuff
KB132TR13	0.00	11.80	Highly weathered feldspar porphyry
	11.80	12.30	5 cm quartz vein/gossan (230º/35º/145º)
	12.30	15.20	Feldspar porphyry, 5cm qv at 13.30 (345º/60º/245º)
	15.20	15.25	Thin quartz vein (220º/70º/SE)
	15.25	25.00	Highly weathered feldspar porphyry
KB132TR14	0.00	15.00	Highly weathered feldspar porphyry
	15.00	17.90	Light green syenitic tuff
	17.90	17.92	Thin quartz vein/gossan
	17.92	19.20	Light green syenitic tuff
	19.20	19.22	Thin quartz vein (225º/45º/SE)
	19.22	30.00	Light green syenitic tuff
KB132TR15	0.00	13.10	Highly weathered feldspar porphyry
	13.10	13.12	Thin quartz vein
	13.12	14.00	Highly weathered feldspar porphyry
	14.00	14.02	Thin quartz vein (190º/30º/ESE)
	14.02	30.00	Light green syenitic tuff
KB132TR16	0.00	8.50	Greenish-pink syenitic tuff
	8.50	12.00	Highly weathered feldspar porphyry
	12.00	12.05	5 cm quartz vein (320º/85º/SW)
	12.05	19.00	Highly weathered feldspar porphyry
	19.00	21.70	Greenish-pink syenitic tuff
	21.70	22.00	Quartz vein/gossan with malachite (265º/30º/SSE)

9.1.6 2008 Review and follow-up.

During Q1 2008 Tanzanian Royalty compiled all the available data for PL 2308/2003 and imported it into Micromine. The two main hills, Mwigundu Hill to the north and Nyakona Hill to the southeast, were the main focus of the evaluation. As a result, follow-up auger sampling and IP gradient surveys were planned and executed. A single line of hand-auger sampling was done along an east-west trending BGC gold anomaly to establish the regolith profile. Three of the holes bottomed at 1 m or less in Kavirondian sandstone colluvium with minor cherty material while the other two passed through a sequence of mbuga and other clays, ending at 3 m and 7 m.

Figure 9.5 displays both the BLEG Au and the contoured BGC results with Au (red), Cu (green) and Ag (Dark brown). The contours are for the 95th percentiles for each element. Towards the north of the licence on Mwigundu Hill the BLEG and BGC anomalies coincide, although the BGC has an east-west trend that is not clear on the BLEG results. Other than a single-point plant anomaly on Nyakona Hill to the south, there is no correspondence between the BLEG and BGC results.

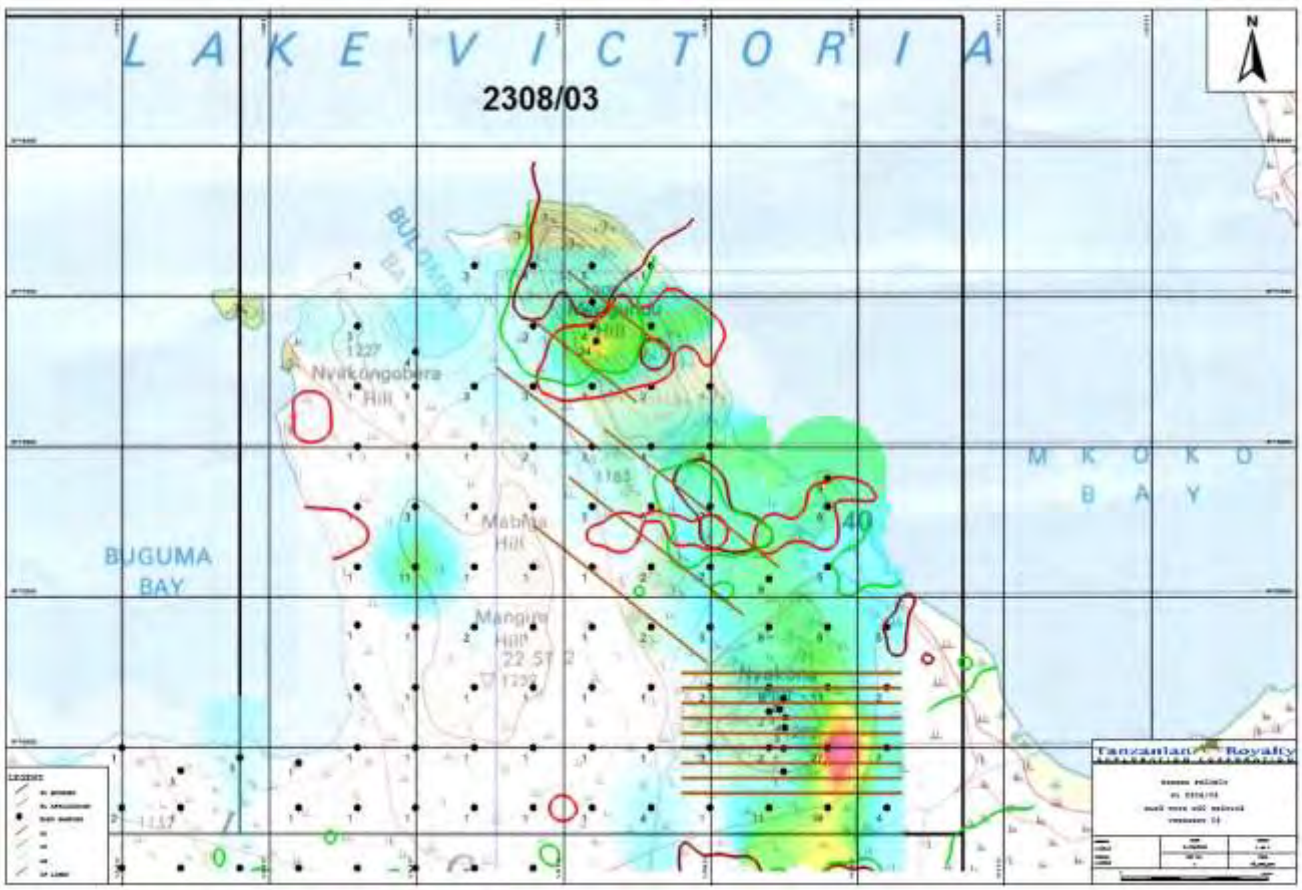

Figure 9.5 BLEG and BGC Results plus IP lines, PL 2308/2003

An IP gradient survey was carried by Tanzanian Royalty out over Nyakona Hill, on 100 m east-west line spacing and 25 m station intervals. Towards the east of the grid a chargeability zone of 8mV/V was detected that corresponds with the anomalous BLEG soil gold results, though not with the trench locations and high-grade grab results. Towards the west a chargeability of 12 mV/V was detected. There are no BGC, BLEG or soil anomalies in this area, and this chargeability anomaly is thought to be a specific geological unit.

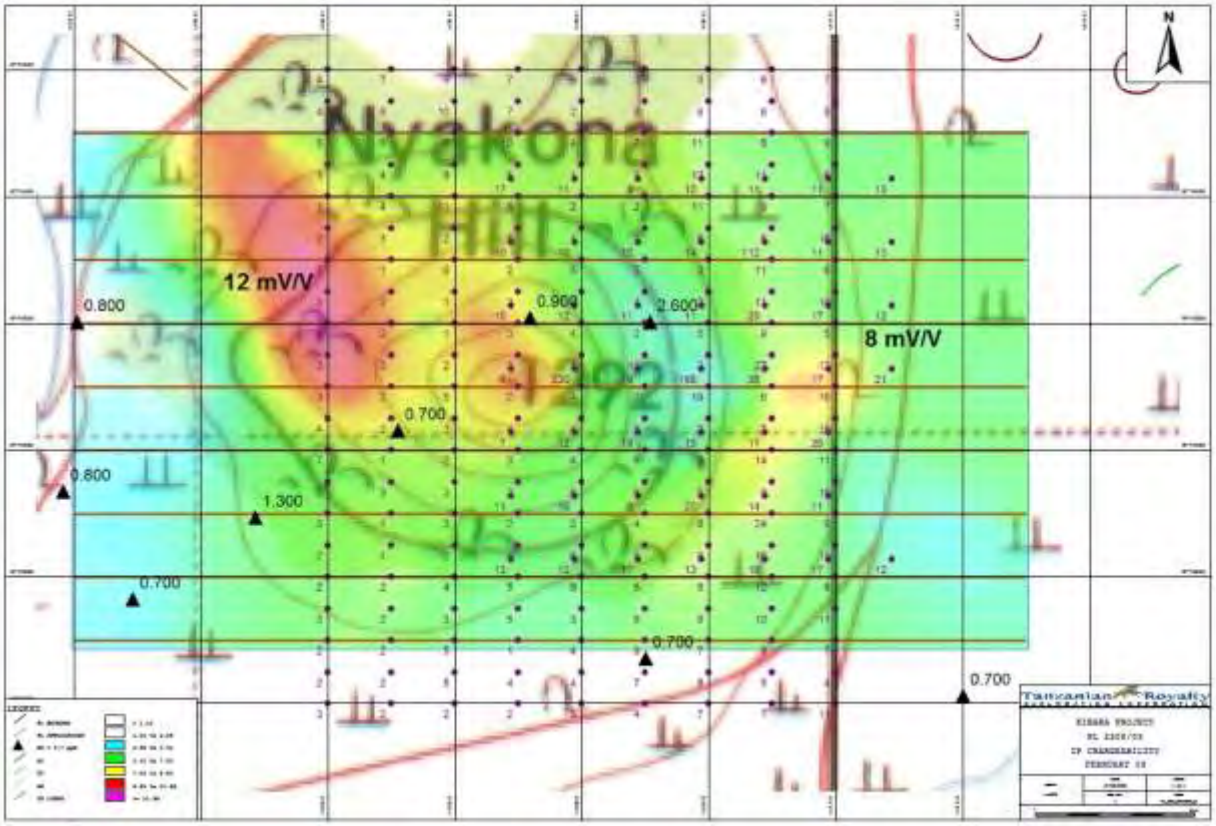

Figure 9.6 IP Chargeability Nyakona Hill, PL 2308/2003

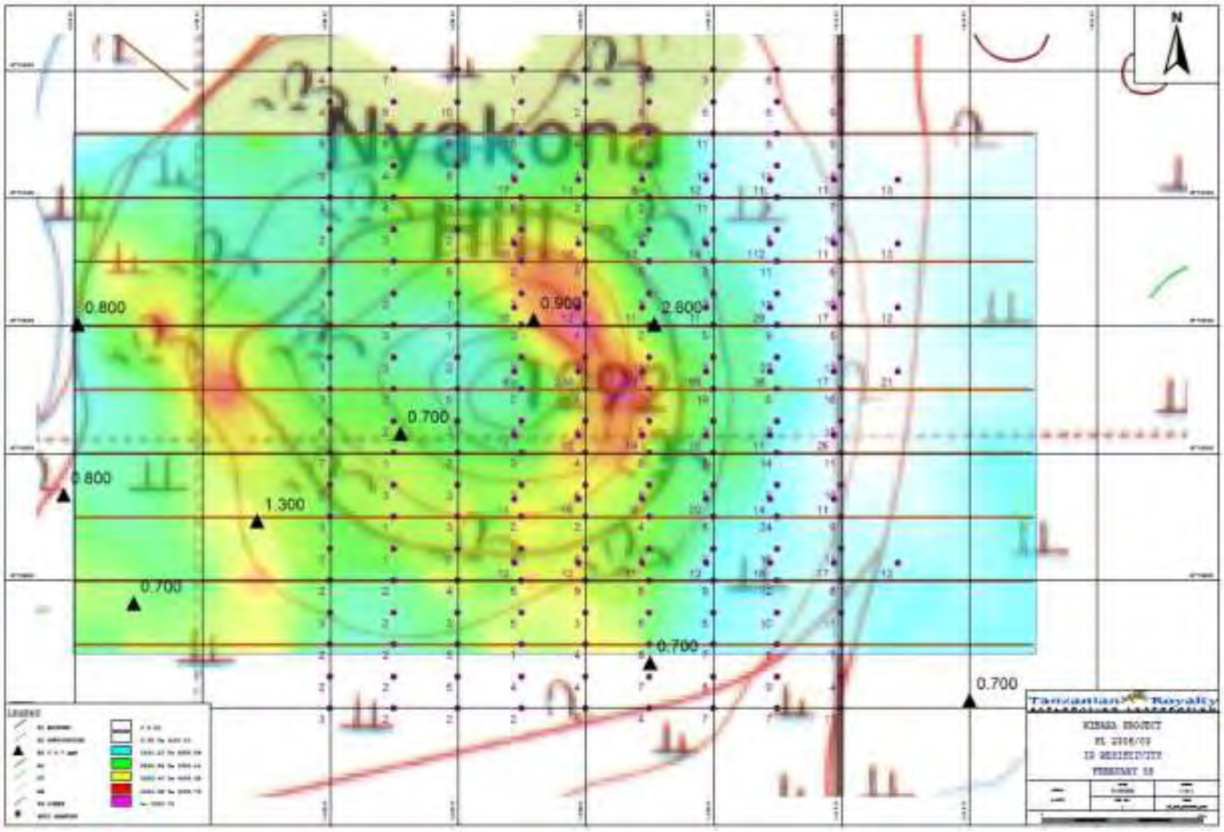

Figure 9.7 IP Resistivity Nyakona Hill, PL 2308/2003

Two additional IP gradient grids were surveyed, over Mwigundu Hill and the low ground between Nyakona and Mwigundu Hills (see Figure 9.x). These grids were oriented at 307º with 400 m line spacing and 25 m station intervals. Chargeabilities of 17mV/V and 24mV/V were detected that coincide with the contoured elevated BGC gold values. The IP results do not indicate any distinct east-west structures that would parallel the trend of the BGC gold results.

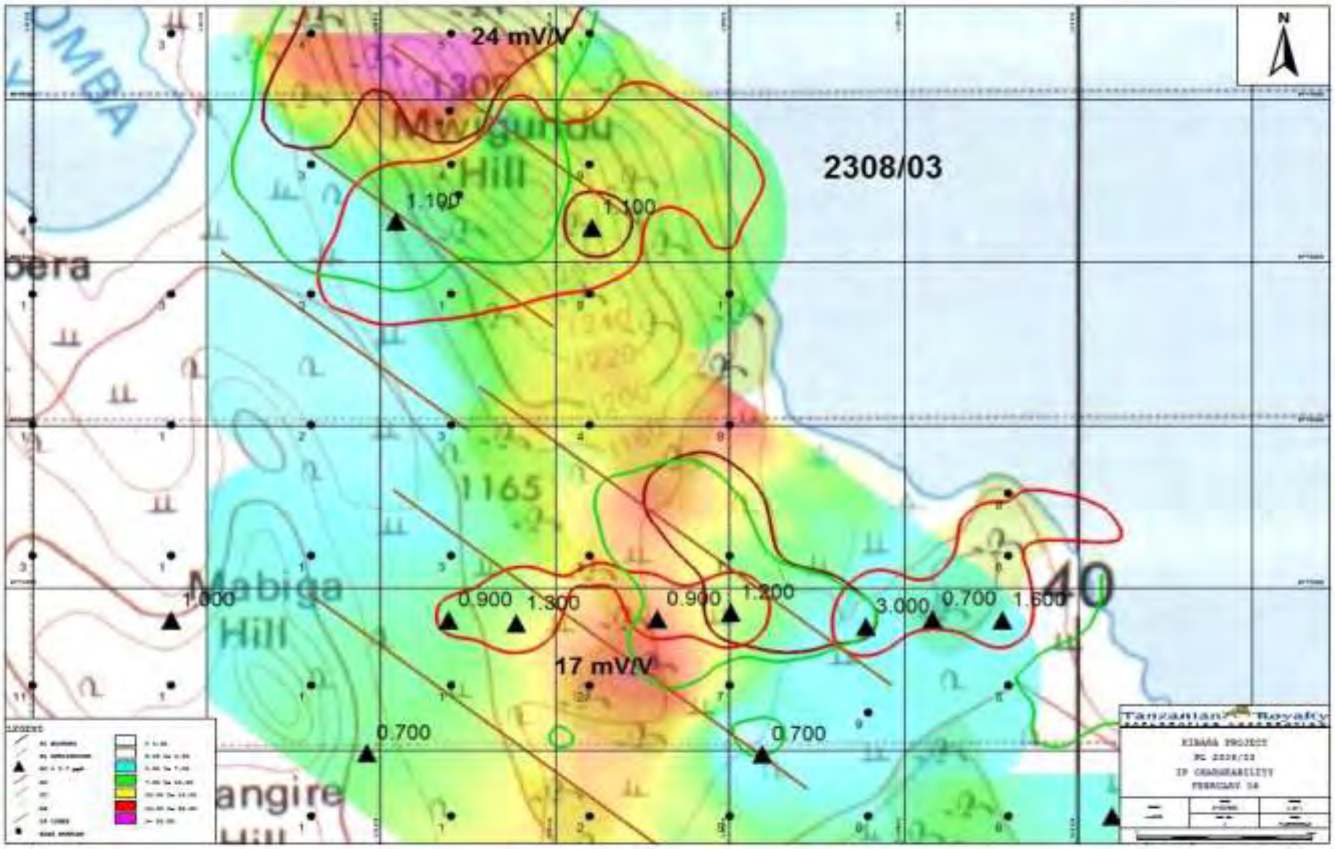

Figure 9.8 IP Chargeability Mwigundu Hill, PL 2308/2003

9.2 PL 2785/2004 and HQ-P17009

9.2.1 Mapping and Grab Sampling

In November 2004 reconnaissance geological mapping of the licence was carried out, primarily along the roads and tracks traversing the area. The central part of the licence is largely covered by light brown lateritic soils; the northwest and southwest by light grey sandy soils below granitic hills; the east-central and northeast areas by mbuga; and the shores of Lake Victoria by lake sediments.

Granite outcrops in the Iramba Hills in the northwest of PL 2785/2004 and on Miramba Hill in the southwest of HQ-P17009. Tanzanian Royalty has interpreted much of the southern part of the licence and the northern part of the application area to be underlain by mafic to intermediate volcanics. The Miramba Hill granite is composed of equigranular feldspar, quartz, biotite +/- hornblende, is light grey in colour and has no obvious foliation. The Iramba Hills granite in the northwest of the licence is pinkish (K-feldspar?) composed of 50% feldspar, 30% quartz and 20% biotite. Similarly no foliations were noted by Tanzam 2000 and feldspar phenocrysts were locally evident.

Mafic volcanic rocks, largely basalt to andesite, were mapped along road cuts and on slightly elevated areas, especially in the vicinity of Namhula school and the abandoned Namhula artisanal mining site. Two quartz veins were mapped other than those at the mining site. One milky-white vein striking 235º was exposed for about 200 m close to Namhula village in the vicinity of the artisanal site. The other occurs as a 2 m wide zone in a granite? in the northeast of the licence.

During the reconnaissance mapping in November 2004 17 grab samples were collected, primarily selected from muck-piles from the artisanal mining site plus pits and quartz veins near Namhula village and in the northeast of the licence. These were sent to Humac Laboratories in Mwanza for gold analysis by 50 g fire assay with a gravimetric finish. Five of the grab samples from the artisanal site returned gold values >1.0g/t Au with a maximum of 18.75 g/t Au from sample J-6713.

Table 9.7 Significant Results from Grab Samples, PL 2785/2004

Sample	UTM E	UTM N	Comments	Au g/t
J-6705	547402	9773570	Quartz vein with boxworks after sulphides	1.84
J-6708	547391	9773610	Quartz vein with boxworks after sulphides	1.07
J-6711	547359	9773634	Quartz vein from artisanal miner's muck pile	1.67
J-6712	547338	9773652	Felsic volcanic with spongy texture, 50% quartz vein	6.10
J-6713	547324	9773650	Argillite / BIF (?) with 30% Qv, laminated / sponge texture	18.75

9.2.2 Soil Sampling

In November 2004 18 holes totalling 76.3 m were drilled with hand augers. Thirteen of these holes intersected bedrock and the other five were stopped on reaching ferricrete or quartz gravels due to the hardness of the ground. The auger holes showed there were calcrete layers below the mbuga horizon and/or above the saprolite. All holes except KB71AUG11 were sampled, with a total of 18 samples prepared and analyzed by ALS-Chemex. All samples reported values less than 3 ppb Au.

9.2.3 Biogeochemical (BGC) Sampling

PL 2785/2004 and what is now HQ-P17009 were covered with biogeochemical (BGC) sampling in Q1 2006. A total of 1,132 leaf samples were collected plus 49 duplicates, on lines 400 m apart and 200 m station intervals. The predominant species sampled were YFA (60%) and MLJ (29%), with minor NTG, NYA and TBT. The samples were processed in the TANCAN preparation facility in Mwanza before being sent to ACME Analytical Laboratories in Vancouver for gold + 37 element ICP-MS analysis.

Clusters of low-anomalous Au values were recorded from the Lake Victoria shore in the northeast of the licence. 511 samples were below the detection limit of 0.2 ppb Au. The 80th percentile for gold is at 0.5 ppb Au and the 99th percentile at 1.2 ppb Au. The highest gold value of 2.10 ppb Au was recorded from a TBT specimen. All vegetation samples returned gold values at or below detection (0.2 ppb Au) from the abandoned artisanal area where 5 anomalous grab samples from 1.07 g/t to 18.75 g/t Au were collected.

Table 9.8 Summary of BGC Statistics PL 2785/2004

	Ag ppb	**As** ppm	**Au** ppb	**Co** ppm	**Cu** ppm	**Hg** ppb	**Mn** ppm	**Mo** ppm	**Ni** ppm
Mean	4.26	0.11	0.27	0.17	7.38	10.48	60.53	0.54	1.47
StDev	4.91	0.08	0.23	0.12	4.03	5.56	36.59	0.74	1.58
M+1	9.17	0.19	0.50	0.29	11.40	16.03	97.12	1.28	3.05
M+2	14.07	0.26	0.73	0.42	15.43	21.59	133.71	2.01	4.63
M+3	18.98	0.34	0.96	0.54	19.45	27.15	170.29	2.75	6.21
Max	64	0.7	2.1	5.76	31.89	39	437	7.48	25.3
Hicut	none	None	none	2	none	none	none	none	none
>M+3	28	12	15	13	16	5	16	28	12
>M+2	46	52	44	27	42	32	43	50	24
N	1132	1132	1132	1132	1132	1132	1132	1132	1132

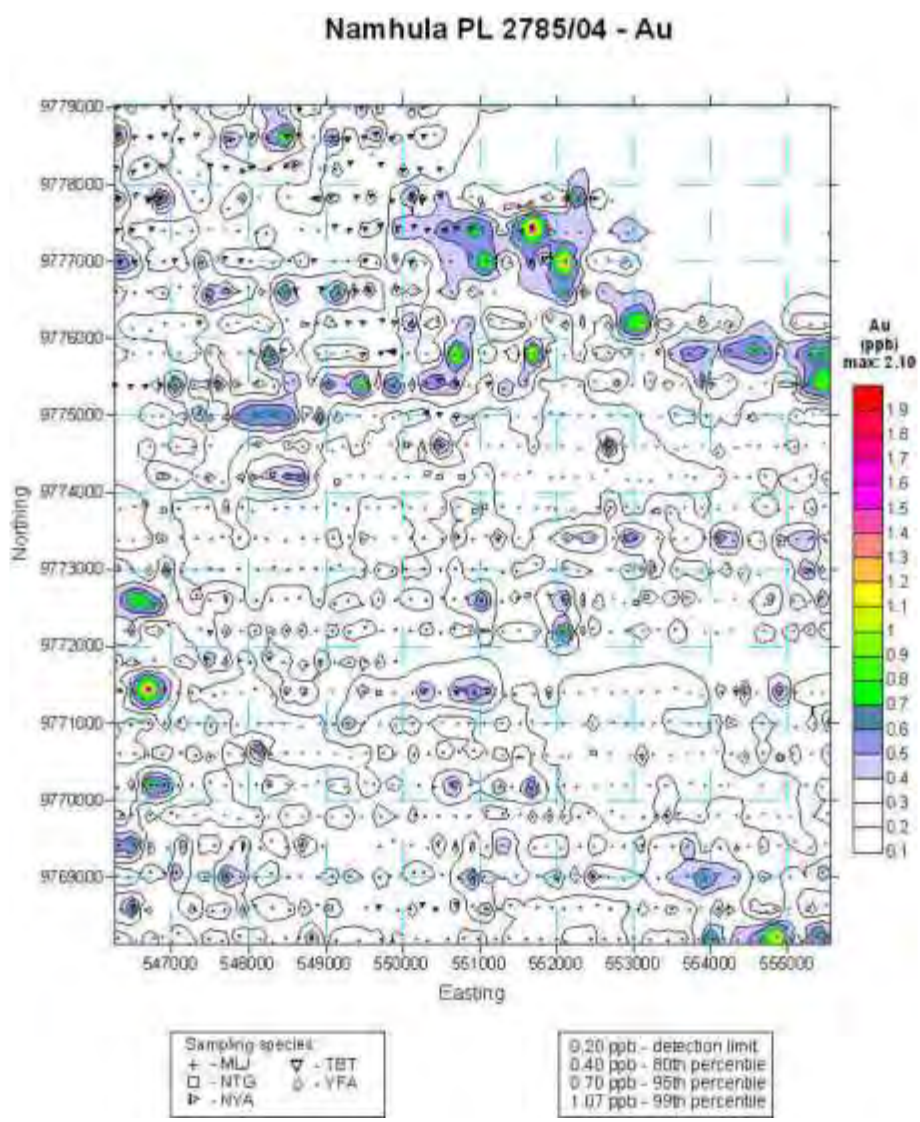

Figure 9.9 Gold BGC Results PL 2785/2004

9.2.4 2008 Follow-up Soil Sampling

In February-March 2008 Tanzanian Royalty carried out a program of soil sampling with hand augers to follow-up BGC targets. A total of 39 holes were drilled to depths of up to 5 m, a total of 116.1 m drilled. Six of these holes totalling 14.0 m were drilled on what is now HQ-P17009. Where possible the holes were drilled to bedrock, though many were stopped in ferricrete or quartz gravels that the auger could not penetrate. A total of 123 samples were collected, for each metre or partial metre drilled, together with 2 duplicates from PL 2785/2004 and one from HQ-P17009. These were prepared at the TANCAN facility in Mwanza and submitted to ALS-Chemex for ICP-MS analysis together with 5 blanks and 5 standards.

Table 9.9 Summary of Statistics, Soil Samples PL 2785/2004

	Au ppb	As ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ni ppm	Pb ppm	Zn ppm
Mean	2.85	2.36	24.41	26.65	29.63	2.41	34.29	10.47	43.41
StDev	3.79	1.83	22.89	14.95	14.27	1.18	24.50	9.96	16.16
M+1	6.64	4.19	47.30	41.60	43.91	3.59	58.79	20.43	59.57
M+2	10.43	6.03	70.19	56.55	58.18	4.77	83.28	30.39	75.73
M+3	14.22	7.86	93.07	71.50	72.45	5.95	107.78	40.35	91.89
Max	25	11	158	93	111	8.07	148	244	91
Hicut	none	none	none	none	none	none	none	100	none
>M+3	3	5	3	3	2	3	4	1	0
>M+2	6	6	5	7	4	7	6	3	3
n	123	123	123	123	123	123	123	123	123

9.2.5 2008 IP Survey

In March 2008 an IP gradient survey was completed over the Namhula artisanal workings. The grid was 1.5 km long with lines 400 m apart. Station interval was 25 m. A northwest-trending chargeability anomaly was indicated to the west of the abandoned workings. This zone is open to the northwest with a strike length of at least 800 m. Figure 9.z illustrates the chargeability, with the artisanal workings shown as blue dots on the northeast edge of the chargeability anomaly.

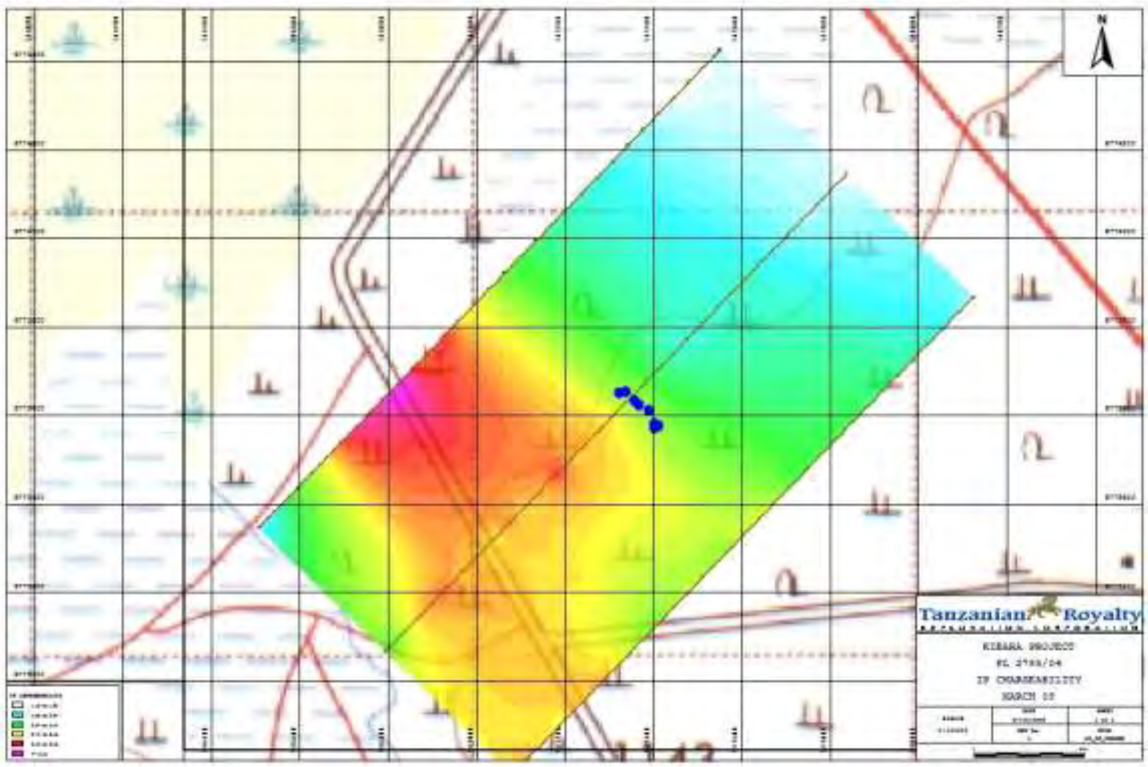

Figure 9.10 IP Chargeability PL 2785/2004

9.3 PL 2931/2004 and HQ-P17392

9.3.1 Mapping and Grab Sampling

In Q1 2006 approximately 21 days were spent mapping the geology and regolith of the licence. East-west traverses about 1 km apart were mapped across the Kurwirwi Hills in the eastern half of the licence (now HQ-P17392). The remainder of the area was mapped along road traverses and paths between them.

The published geological map (Barth, 1990) shows HQ-P17392 is essentially underlain by Nyanzian greenstones, with granite interpreted along the eastern edge. Tanzanian Royalty's reinterpretation has largely confirmed this and better defined the banded iron-formation and tuffs that occur in the upper parts of the Kurwirwi Hills. These volcanogenic/chemical sediments occur within largely mafic volcanics. The eastern part of PL 2931/2004 to the west is underlain by the same mafic volcanics while most of the centre and west is underlain by the Kurwirwi Diorite and quartz-porphyry. As much as 40% of the property is covered by lake deposits of proto-Lake Victoria, including limestone, sandstone, mudstone and cemented beach conglomerates.

The geology and regolith mapping indicated that reddish brown lateritic soil occurs on and around the Kurwirwi Hills, associated with ferricrete that includes chert/BIF/tuff fragments. Sandy soil light brown to light grey in colour was mapped in the southwest and west portion of the licence area. Black cotton soils (mbuga) occur in the northeast, northwest and southwest of the licence.

The Kurwirwi Hills trend northwest for almost 10 km and are up to 2 km wide. Mapping of the geology was hindered by heavy rainfall, thick forest cover and steep slopes especially in the eastern side. Outcrops of banded iron formation (BIF), chert and volcaniclastic sediments / felsic tuff were mainly encountered on top of the hills with the chert/BIF package more dominant to the west. Extensive scree deposits of all lithologies occur on the slopes. Structural measurements suggest outcrops on the east were 160º/80º/055º while those in the west were 320º/65º/225º. The shear fabric and fracture cleavage parallel and cross-cut bedding respectively at 330º/25º/245º and 060º/75º/335º. The mapping, especially in the BIF, suggested the entire range was a steep anticline with multiple minor folds. A Z-fold symmetry was noted in several outcrops by looking down the steep northerly plunge of the minor folds where bedding measurements on different limbs were 035º/70º/NW, 110º/70º/NE and 330º/70º/SW.

In the southeast corner of what is now HQ-P17392 a granite was mapped on Nyalulimi Hill. This rock is light grey-brown, coarse-grained, containing 50% feldspar, 35% quartz and 15% biotite. In the northeast part of PL2931/2004, around Mifube Hill, a porphyritic trachyte with feldspar phenocrysts in a dark grey groundmass was exposed. In the western part of the licence, west of Kigaga village, a light grey, medium-grained syenodiorite/monzodiorite with feldspar±quartz outcrops on the small low hills.

Seventy-three rock grab samples were collected during the mapping and sent to Humac Laboratories in Mwanza for gold analysis by fire assay with AA finish. Only 11 samples returned values ≥0.01 g/t Au with a highest value of 0.045 g/t Au.

9.3.2 Biogeochemical (BGC) Sampling

In January-February 2006 a total of 1561 vegetation samples including 50 duplicates were collected from the Kurwirwi licence (PL 2931/2004). Samples were collected at 200 m intervals along 25 lines 400 m apart, totalling 304.6 line km.

Table 9.10 Summary of BGC Statistics PL 2931/2004 and HQ-P17392

	Ag ppb	**As** ppm	**Au** ppb	**Co** ppm	**Cu** ppm	**Hg** ppb	**Mn** ppm	**Mo** ppm	**Ni** ppm
Mean	4.52	0.12	0.25	0.59	7.23	10.67	113.74	0.28	1.33
StDev	5.56	0.22	0.42	1.35	3.93	6.73	155.80	0.64	1.51
M+1	10.09	0.34	0.67	1.95	11.16	17.40	269.54	0.92	2.84
M+2	15.65	0.56	1.09	3.30	15.09	24.13	425.34	1.56	4.35
M+3	21.21	0.78	1.50	4.65	19.03	30.86	581.13	2.21	5.86
Max	70	6.8	8	24.7	28.16	46	2960	11.92	17.1
Hicut	none	5	none	none	none	none	1400	none	none
>M+3	29	10	25	22	12	11	36	25	32
>M+2	64	27	48	42	78	43	63	36	59
n	1511	1511	1511	1511	1511	1511	1511	1511	1511

Generally good sampling coverage was achieved, with the gaps principally on the upper slopes of the Kurwirwi Hills. MLJ was the preferred sampling species with 1402 or 92.8% of the samples collected. The samples were processed in TANCAN's Mwanza preparation facility before being sent to ACME Laboratories in Vancouver for gold+37-element ICP-MS analysis. The gold results were generally low to moderate with a highest value of 8 ppb Au. 74 samples exceeded the 95th percentile (0.8 ppb Au) and 29 samples exceeded the 98th percentile of 1.35 ppb Au.

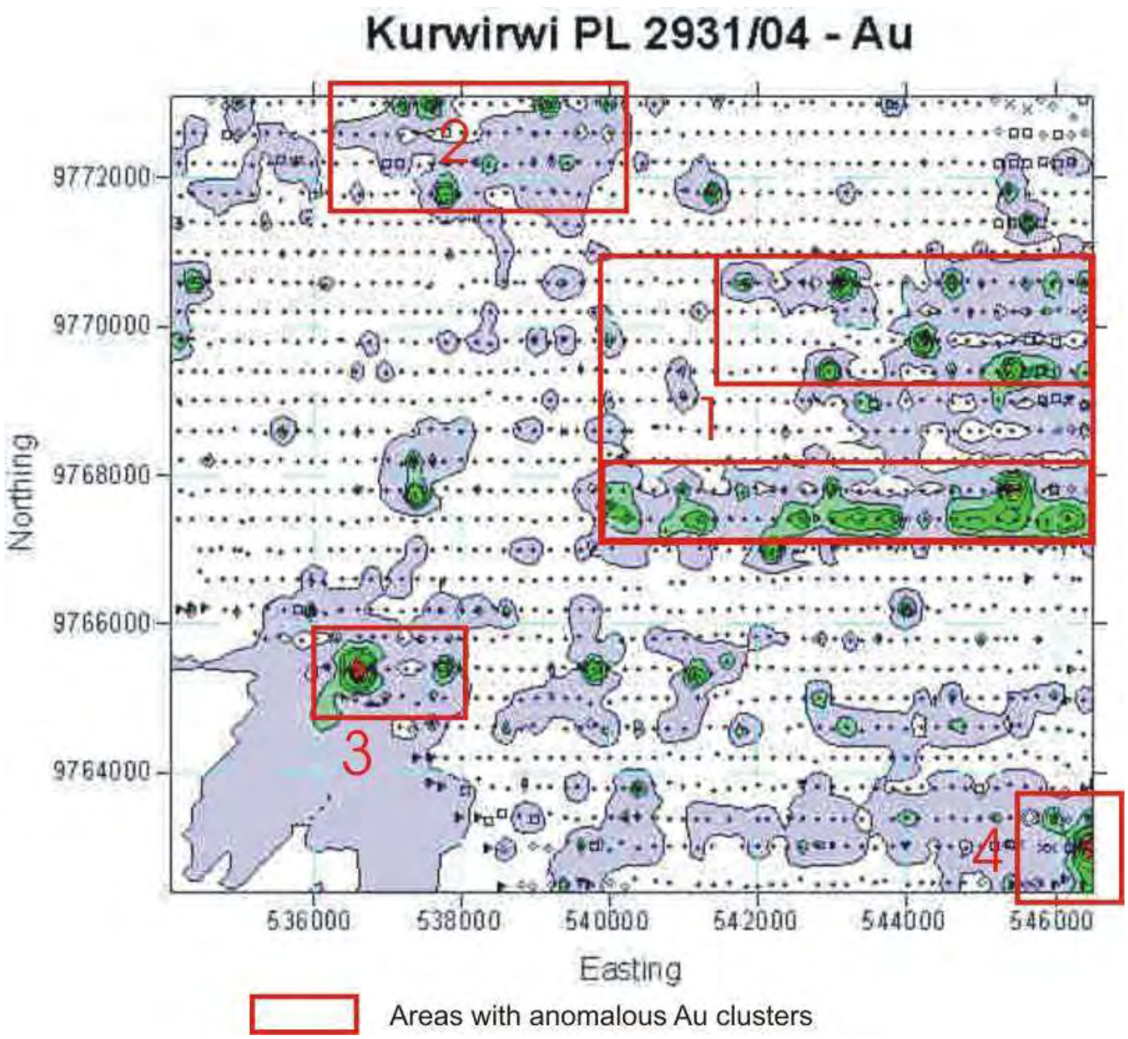

Figure 9.11 BGC Gold Results PL 2931/2004.

The anomalous gold values occur over a variety of regolith and bedrock types.

Area 1a includes multiple anomalies over 6.5 km trending east on 9767400. It stretches across the Kurwirwi Hills where it is underlain by greenstones, and to the east of the hills where it is underlain by granites. The soils are typically lateritic or mbuga respectively.

Area 1b includes multiple isolated anomalies on the eastern slopes of the Kurwirwi Hills and the lower (granitic) ground to the east. Cobalt is an associated element.

Area 2 consists of a group of small, scattered, low-level gold anomalies with associated thorium located in and between the Buguma and Igundu settlements along the main Buguma road. Sandy soils and mbuga overlie trachytic rocks.

Area 3 includes the highest gold value of 8.0 ppb Au, supported by adjacent lower anomalous values also from the MLJ species. Sandy soils and mbuga overlie syenodioritic rocks in an area where copper and sulphur are associated anomalous elements.

Area 4 consists of a small cluster of anomalous gold values with associated B, P, Se, Sr, Ti and U around a 4.8 ppb Au anomaly, in the southeast corner of the property. Sandy soils cover interpreted granites and the area is within the drainage off the greenstones of the Kurwirwi Hills to the northwest.

9.3.3 2008 Follow-up Soil Sampling

In the first quarter of 2008 the review of the property data was completed and 18 BGC targets were selected for follow-up geochemical sampling. 42 holes were dug, for a total of 77.7 m. A total of 91 soil/hand-auger samples plus one duplicate were collected and sent to ALS-Chemex in Mwanza for gold and multi-element ICP analysis together with three blanks and four standards. The gold results were low with only one clearly anomalous sample at 11 ppb Au. None of the BGC anomalies were confirmed.

Table 9.11 Summary of Statistics, Soil Samples PL 2931/2004 and HQ-P17392

	Au ppb	As ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ni ppm	Pb ppm	Zn ppm
Mean	1.98	20.00	33.40	33.76	40.80	4.02	38.37	21.90	43.25
StDev	2.01	27.36	30.40	19.64	34.20	1.92	26.53	13.14	11.04
M+1	3.99	47.36	63.80	53.40	75.00	5.93	64.91	35.04	54.30
M+2	6.00	74.72	94.20	73.05	109.19	7.85	91.44	48.18	65.34
M+3	8.01	102.09	124.60	92.69	143.39	9.77	117.97	61.32	76.38
Max	11	209	249	140	207	12.1	181	157	70
Hicut	none	200	200	none	none	none	none	100	none
>M+3	1	2	2	1	2	2	1	2	0
>M+2	5	4	4	3	6	5	4	4	4
n	91	91	91	91	91	91	91	91	91

9.4 PL 3146/2005 and HQ-P18109

9.4.1 Biogeochemical (BGC) Sampling

PL 3146/05 was sampled using the biogeochemical (BGC) method in Q1 2007. A total of 1299 vegetation samples, including 42 duplicates, were collected over an area of 103.0 km², at a grid spacing of 200 x 400 m. YFA was the dominant species with 801 samples or 63.7%. MLJ comprised 405 samples or 32.2%. The samples were processed in the TANCAN Mwanza preparatory laboratory, before being sent to ACME Laboratories in Vancouver for gold + 37-element ICP-MS analysis. The results were generally low with a maximum value of 2 ppb Au.

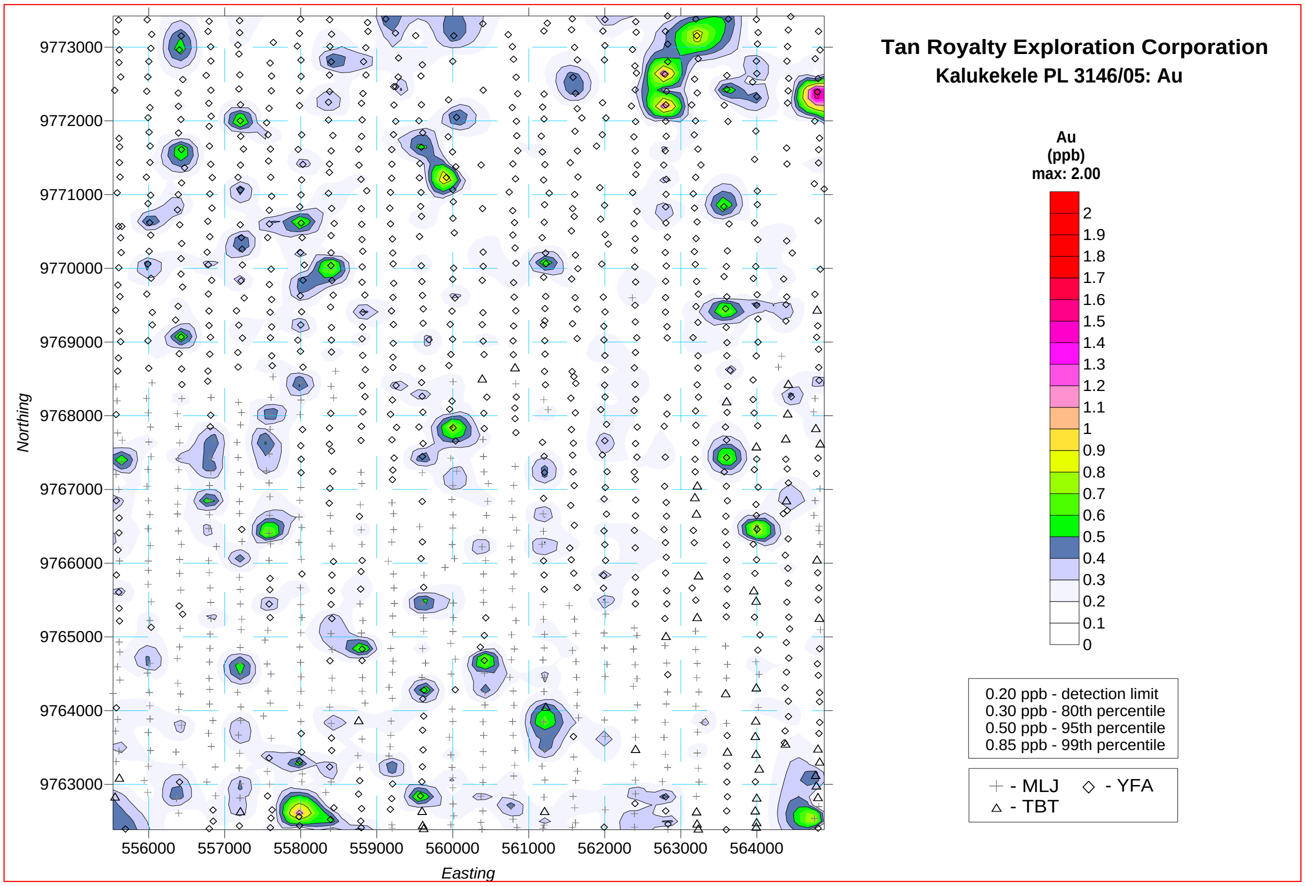

Figure 9.12 BGC Gold Results PL 3146/2005

Table 9.12 Summary of BGC Statistics PL 3146/2005 and HQ-P18109

	Ag ppb	**As** ppm	**Au** ppb	**Co** ppm	**Cu** ppm	**Hg** ppb	**Mn** ppm	**Mo** ppm	**Ni** ppm
Mean	2.69	0.09	0.19	0.23	6.09	13.59	64.88	0.57	1.21
StDev	3.71	0.07	0.17	0.22	3.55	7.03	43.77	0.74	1.90
M+1	6.41	0.16	0.35	0.45	9.65	20.62	108.66	1.30	3.11
M+2	10.12	0.22	0.52	0.67	13.20	27.65	152.43	2.04	5.01
M+3	13.84	0.29	0.69	0.89	16.75	34.68	196.20	2.78	6.91
Max	49	0.5	2	2.96	25.34	44	637	10.54	34.1
Hicut	none	none	none	none	none	none	none	none	none
>M+3	19	10	18	18	17	12	16	20	14
>M+2	32	45	42	35	66	46	37	51	29
n	1257	1257	1257	1257	1257	1257	1257	1257	1257

9.4.2 2008 Follow-up Soil Sampling

In the first quarter of 2008 the review of the property data was completed and 7 BGC targets were selected for follow-up geochemical sampling. 20 holes were dug, for a total of 49.3 m. A total of 51 soil/hand-auger samples plus one duplicate were collected and sent to ALS-Chemex in Mwanza for gold and multi-element ICP analysis. The gold results were low other than one clearly anomalous sample at 221 ppb Au from lacustrine sediments at the base of the hole at 562804/9772318, 100 m from BGC anomaly A-13192 in the northeast corner of the property. Otherwise, none of the BGC anomalies were confirmed.

9.5 PL 3314/2005 and HQ-P18524

9.5.1 Biogeochemical (BGC) Sampling

PL 3314/2005 was covered by BGC sampling in Q1 2006. A total of 97 samples were collected, including 3 duplicates, over an area of 2.97 km² at 200 m x 100 m spacing. YFA was the dominant species sampled (83 sites). All samples were processed in the TANCAN preparatory facility in Mwanza before being sent to ACME Laboratories in Vancouver for gold+37 element ICP-MS analysis.

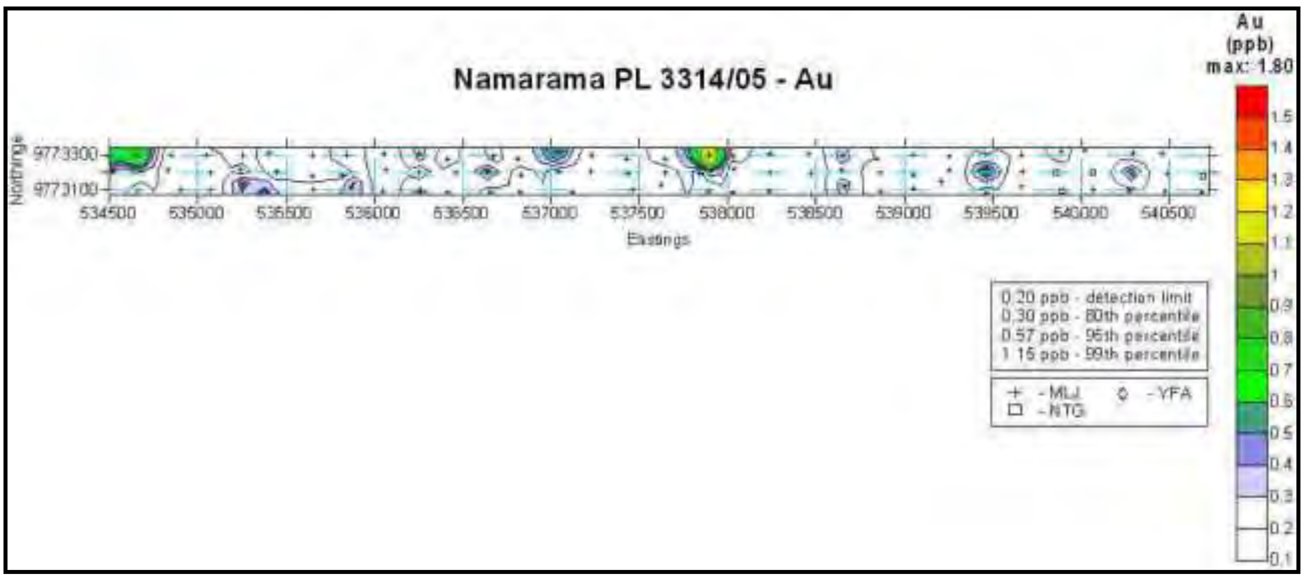

Figure 9.13 BGC Gold Results PL 3314/2005

The gold results were generally low with a highest value of 1.8 ppb Au. Five samples were greater than the 95th percentile of 0.65 ppb Au and two exceeded the 98th percentile of 1.0 ppb Au.

Table 9.13 Summary of BGC Statistics PL 3314/2005 and HQ-P18524

	Ag ppb	**As** ppm	**Au** ppb	**Co** ppm	**Cu** ppm	**Hg** ppb	**Mn** ppm	**Mo** ppm	**Ni** ppm
Mean	7.86	0.10	0.21	0.20	8.80	9.52	45.29	0.28	1.32
Stdev	10.15	0.07	0.25	0.14	4.10	8.00	30.65	0.52	2.07
M+1	18.01	0.16	0.46	0.33	12.90	17.52	75.94	0.80	3.39
M+2	28.15	0.23	0.71	0.47	17.00	25.52	106.59	1.31	5.46
M+3	38.30	0.30	0.95	0.60	21.10	33.51	137.24	1.83	7.53
Max	56	0.3	1.8	0.76	21.33	34	432	2.63	13.9
Hicut	none	none	none	none	none	none	200	none	none
>M+3	3	0	2	3	1	1	2	5	3
>M+2	7	2	4	6	5	7	3	6	5
N	94	94	94	94	94	94	94	94	94

9.5.2 2008 Follow-up Soil Sampling

In the first quarter of 2008 the review of the property data was completed and 4 BGC targets were selected for follow-up geochemical sampling. 13 holes were dug, for a total of 35.0 m. A further 51 holes totalling 92.8 m were dug in November 2008. Two sites didn't provide a suitable sample so overall a total of 87 soil/hand-auger samples plus one duplicate were collected and sent to ALS-Chemex in Mwanza for gold and multi-element ICP analysis. The gold results were low with none of the BGC anomalies confirmed.

Table 9.14 Summary of Soil Statistics PL 3314/2005 and HQ-P18524

	Au ppb	**As ppm**	**Co ppm**	**Cr ppm**	**Cu ppm**	**Fe %**	**Ni ppm**	**Pb ppm**	**Zn ppm**
Mean	5.19	4.37	46.90	121.91	110.53	3.93	106.87	18.55	40.04
StDev	2.68	4.01	47.93	175.86	70.10	2.04	145.70	10.13	11.59
M+1	7.86	8.38	94.83	297.77	180.63	5.97	252.57	28.68	51.64
M+2	10.54	12.40	142.76	473.64	250.72	8.02	398.27	38.81	63.23
M+3	13.22	16.41	190.70	649.50	320.82	10.06	543.98	48.94	74.82
Max	14	22	207	724	395	11.45	622	63	137
Hicut	none	none	none	none	none	none	none	none	100
>M+3	1	3	3	1	1	1	2	2	1
>M+2	4	6	8	6	4	5	6	5	1
n	89	89	89	89	89	89	89	89	89

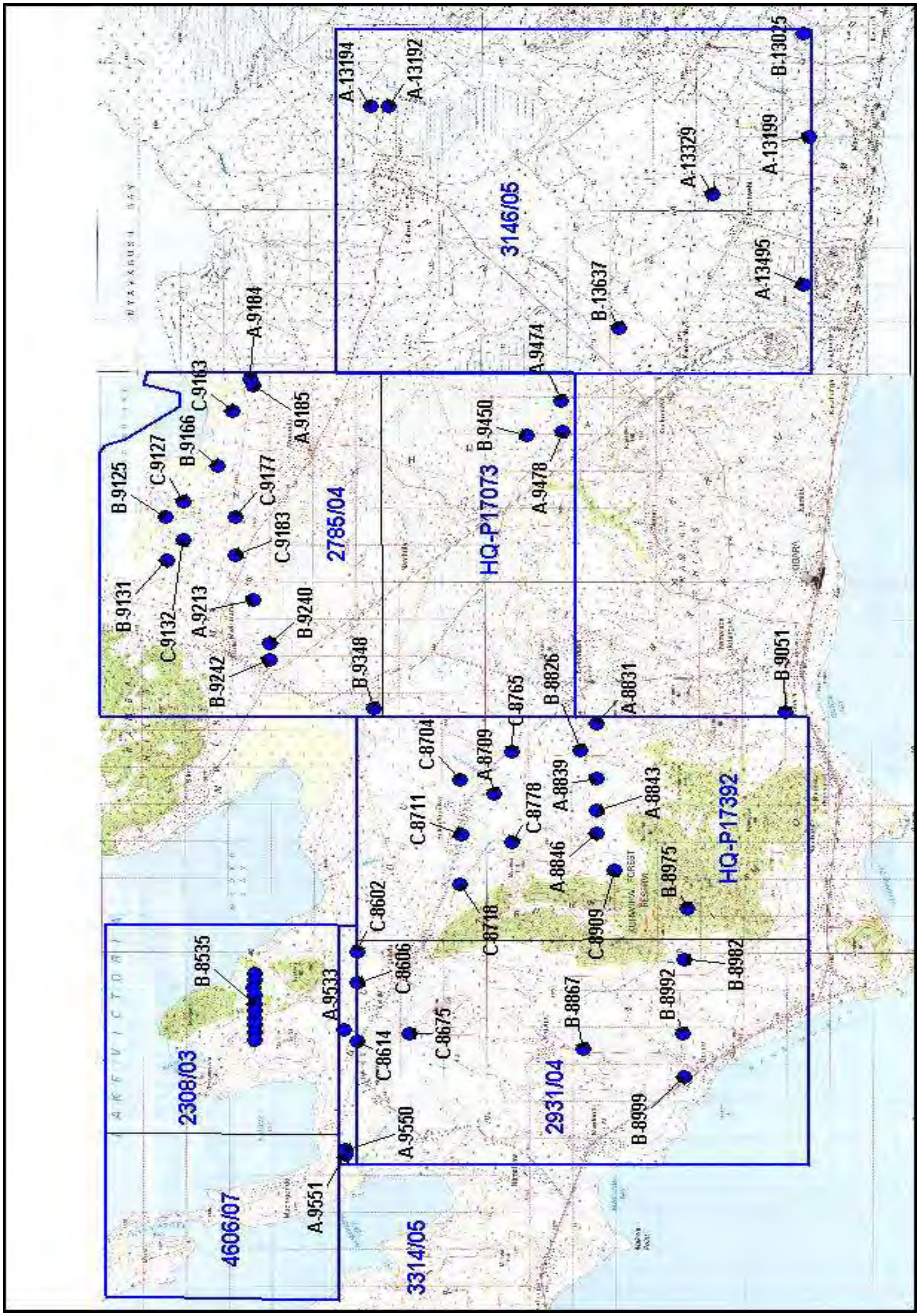

Figure 9.14 Map of BGC anomalies for Kibara Project Area.

10.0 SAMPLING METHOD AND APPROACH

The available information on the work by Tanzanian Royalty on the Kibara Project includes mostly brief descriptions of the sampling methods used to collect BLEG, soil, BGC and auger samples. These descriptions are summarized below. All sampling was carried out by personnel of TANCAN or Tanzam 2000, the Tanzanian subsidiaries of Tanzanian Royalty. All samples were transported by company vehicle from site to the TANCAN house/office in Mwanza.

10.1 BLEG Soils

BLEG soils were generally collected on 400 m x 400 m or 400 x 200 m spacing over areas covered by lateritic soils. At each site a hole was dug to approximately 50 cm depth and the soil from this depth was sieved on site. Approximately 500 g of -80 mesh material was collected, bagged and sealed at site. No further sample preparation was done by TANCAN/Tanzam 2000 and the entire sample was sent to SGS in Mwanza for cyanide leach and AA analysis for gold.

10.2 Conventional Soils

The conventional soil sampling programs targeted the top of exposed or buried ferricrete or laterite, or a sample at a depth of 0.5 m. Transported soils such as black cotton clays (mbuga) were not sampled. The sampling was carried out by TANCAN/Tanzam 2000 staff, supported by local personnel. Soil samples of between 1-2 kg were collected from holes dug to a depth of 50 cm, or to the top of ferricrete and laterite horizons. All organic material and any other potential contamination was cleared from the surface prior to digging. Each sample was placed in a plastic bag together with a sample tag, before the bag was sealed using rope. The samples were laid out in sequential order for checking then placed into large rice bags for transport to the laboratory. The sample field notes included a description of the soil type, soil colour, and any rock type as set out by a standard company coding system. Each sample was assigned a number, in sequential order, from pre-made sample tag books.

10.3 Biogeochemical (BGC)

Tanzanian Royalty chose biogeochemistry (BGC) as its exploration method for identifying shallow gold deposits under transported overburden such as mbuga. A company BGC sample preparation facility was set up in Mwanza to expedite the sample preparation. From February to April 2004 TANCAN conducted 6 orientation surveys across known mineral deposits in Tanzania. Although this orientation did not test over thick mbuga the results were sufficiently encouraging for BGC to be used as a grassroots exploration technique. The orientation surveys showed that only the leaves of the plant need to be sampled, not the bark as well. Leaves were picked from around the circumference of the plant and stored in calico bags. Sample numbers were placed on the field sheet and recorded on the calico bags. With the assistance of Colin Dunn and the Botany Department of the University of Dar Es Salaam, up to 15 tree and shrub species were identified as suitable for sampling.

Each plant species was sampled in a standard manner in order to obtain a representative sample. Field duplicates were inserted after approximately every 20^{th} field sample to check on the uniformity of the actual plant sampling process, possible nugget effects for individual elements and what species might be affected by this. Field duplicates were derived from a larger initial sample that was homogenized and split into the primary sample and it's duplicate. Each sample was assigned a unique number, and the duplicates were submitted for analysis in the same batch as the originals.

10.4 Auger Soils

Auger holes were drilled by hand to a depth where bedrock, ferricrete, or impenetrable coarse gravels were intersected. All organic material and any other potential contamination was cleared from the surface prior to use of the auger. The material in the auger bit was placed in separate consecutive piles on a plastic sheet for logging. It would appear from the auger database that each 1 metre (or less) interval was sampled, with the exception of the Q4 2008 sampling where a single (basal?) sample was taken. It is not clear where in the interval the sample was taken. Normal practice is to sample the base of each interval, however. Each sample was placed in a plastic bag together with a sample tag, before the bag was stapled shut. The samples were laid out in sequential order for checking then placed into large rice bags for transport to the laboratory. The sample field notes included a description of the entire profile intersected by the auger. All sample equipment was washed after completion of each hole.

10.5 Database

For all geochemical methods TANCAN/Tanzam 2000 prepared spreadsheets with all sample location, description and analytical data as well as date of sampling, PL#, sample type and number. Much of the older sampling dates and laboratory information were recorded as "historic". All data except the GPS location was recorded on field sheets and later transferred by hand to the computer files. This data was also prepared for each licence or application area. Sample location data was controlled by hand-held Garmin GPS units and recorded in UTM coordinates using the ARC 1960 datum. Analytical data was transferred to the database from the digital files received from the laboratory.

The field sheets were especially detailed for the BGC sampling, with species type, age and height as well as drainage data recorded.

11.0 SAMPLE PREPARATION, ANALYSES and SECURITY

11.1 Biogeochemistry

All BGC samples were brought from the field by TANCAN/Tanzam 2000 vehicles and personnel and delivered to the company sample preparation facility in Mwanza. This facility was designed and built in 2004 by TANCAN, the principal Tanzanian subsidiary of Tanzanian Royalty, when it became clear that sending raw vegetation samples to Acme Laboratories in Vancouver for preparation prior to analysis was too costly. The facility has not undergone an external audit though regular checks have been made by the Exploration Manager.

There is on-going debate among practitioners of biogeochemical exploration as to whether or not leaf samples should be washed prior to analysis. The orientation surveys conducted by TANCAN suggested that washing of leaf samples prior to analysis is not generally necessary. In areas where there may be dust contamination from artisanal mine sites, tailings dams, roads or RC drilling, the leaves should be washed. Washing of the leaves might break down the outer cells of the leaves and release some elements into the washing medium.

Samples were air-dried at the TANCAN sample preparation facility in an oven for 24 hours at 70º C, in their calico sample bags. Several sample bags were stained brown from the tannins that were released during washing. Dried leaves were further prepared by removing the stalks and any fibrous mid-ribs from the larger leaves, since these are typically of different composition from the main body of each leaf. Portions of 10-20 g were macerated (ground) to a powder in heavy-duty coffee grinders and placed in small cardboard envelopes. The coffee grinders were thoroughly cleaned after each sample. Two samples were prepared from each pulp, one for dispatch by courier to Acme Laboratories in Vancouver for analysis, and one as an archive to be stored in Mwanza. Field duplicates were collected during the surveys at approximately 5% frequency, and given a new number close to the original sample number. Field duplicates were derived from a larger initial sample that was homogenized and split into the primary sample and it's duplicate, both of which were submitted for analysis in the same batch.

ACME's standard procedure involved digesting 1g of each dry sample first in nitric acid and then in Aqua Regia, before analysis for gold + 37 elements by ICP-MS.

11.2 Soil Samples

In 2004 TANCAN set up its own sample preparation facility for soil samples in Mwanza. On receipt in Mwanza, the samples were first sorted to ensure agreement with the samples listed on the field shipping order. The soil samples were then dried on aluminum trays in the open air or in ovens, depending on the weather. The samples were then disagglomerated with a wooden mortar and pestle, with the equipment being cleaned between samples. The samples were then passed through a #80 sieve, with an approximately 100 g sub-sample of the fines being stored in wire-topped kraft envelopes and taken to ALS-Chemex in Mwanza. Commercial standards and blanks were inserted in the sample stream by TANCAN, the objective being at least one field duplicate, one blank and one standard every 50 samples.

The wire-top kraft packets were dried at 80°C overnight at the ALS-Chemex facility prior to shipment to Johannesburg, South Africa. Shipping and customs clearance were completely handled by ALS-Chemex. In Johannesburg the samples were homogenized prior to taking a split for analysis. Gold results were obtained by ALS's Au-ICP21 method whereby the 30 g split was fire-assayed with an ICP finish to a detection limit of 1 ppb Au. In addition a 34 element suite by ICP (method ME-ICP41) was requested for each sample.

Soil samples taken from termite mounds were processed according to the procedure above. Soil/regolith samples obtained with the hand augers were dried in the same manner then passed through 425 micron (Tyler 35 mesh) sieves before approximately 100 g of the fines were sent to ALS-Chemex for gold by Au-ICP21 and other elements by ME-ICP41.

ALS Chemex is the minerals division of ALS, a global company providing laboratory services to environmental, oil, food and pharmaceutical clients as well as to mining and exploration companies. The ALS group is owned by Campbell Brothers Limited, a publicly-listed Australian company. ALS Chemex has been certified under ISO 9002 in Peru and Australia as well as by KPMG in Canada, USA and Mexico.

12.0 DATA VERIFICATION

12.1 Soils

Quality control procedures for the analysis of conventional and auger soil samples included the insertion of blanks, duplicates and commercial standards with each batch of samples. Blanks consisted of finely crushed/pulverized granite from Humac Laboratories in Mwanza, certified by them to have a gold analysis of <3 ppb Au. These were inserted to check on possible contamination in the preparation process as well as the calibration in the analysis. Field duplicates were taken to determine the repeatability of results and verify the reliability of the sampling procedure. Pulp duplicates monitor the analytical precision as multiple assays are made from the same pulp. Commercial standards prepared by Gannet of Australia were inserted to verify instrument calibration within acceptable limits. Field duplicates were taken after approximately every 20^{th} sample while one blank and one standard were inserted for each 50 samples.

The standard reference materials were received from Gannet in 1 kg plastic bags and this pulverized material was split into samples of approximately 60 g and placed in the same kraft envelopes as the field samples. The blanks were received from Humac in 40 kg pails, already crushed and pulverized. As with the standards this material was transferred as 60 g samples into kraft envelopes. All blanks and standards were kept under strict control by TANCAN's laboratory manager in Mwanza or by the Exploration Manager.

ALS-Chemex have their own quality control procedures which involved the insertion of standard, blank and duplicate samples into every assay batch.

Analyses of the standards used by Tanzanian Royalty for the Kibara Project program were generally acceptable, with all 12 used for the conventional soils returning gold results very close to their expected values. Nine of the twelve standards used in the auger programs were similar, with two poor values for ST-299 and one for ST-195. In each case the multi-element data confirmed the standard used and the other standards inserted in those sample batches were acceptable. Most blanks returned values at or below the 1 ppb Au detection limit with the exception of one auger program blank at 5 ppb Au and one soil program blank at 4 ppb Au. Neither of these are thought to indicate any problems with sample preparation.

The majority of the sample pairs that included duplicates were above the 1 ppb Au detection limit. Some variations occurred between the original samples and both auger and soil field duplicates, but none of concern given the sampling medium and the inherently low gold values.

The 2002 BLEG soils were analyzed at SGS Laboratories in Mwanza. No assay certificates or description of QC were available but the method does not lend itself to conventional QC procedures. There is no preparation of the samples hence there is little need for blanks. The entire 500 g sample from the field is used in the analysis so no lab duplicates are possible. It is impractical at the geochemical level to use standards and the author is not aware of any commercial standards that are certified for the BLEG method.

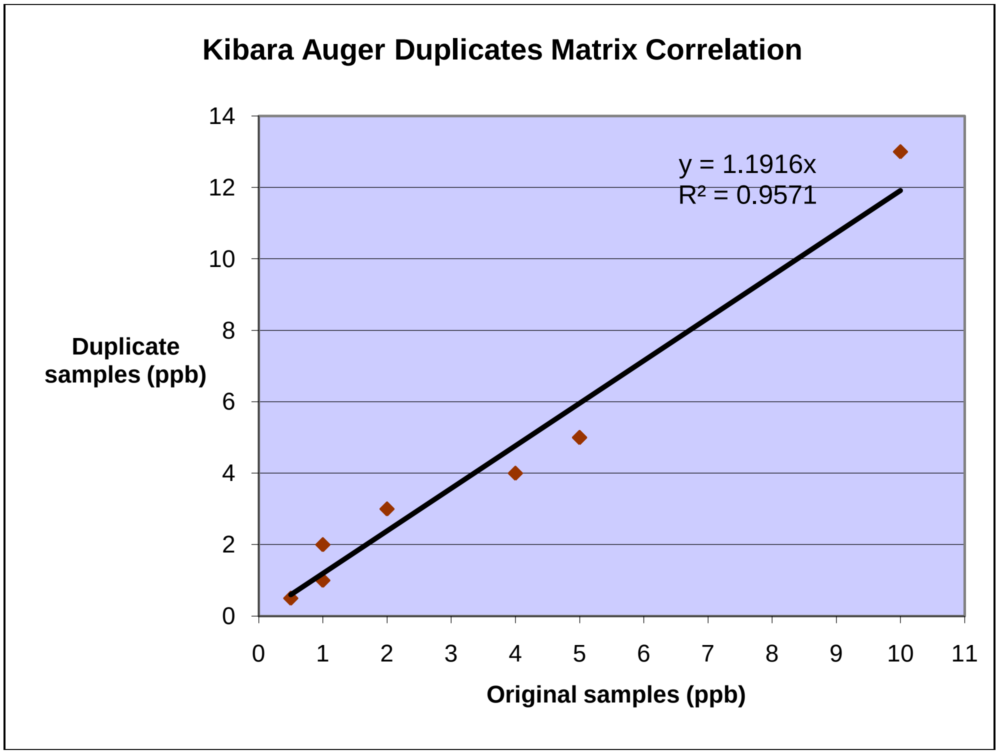

Figure 12.1. QC graph for Kibara Project Area auger field duplicates.

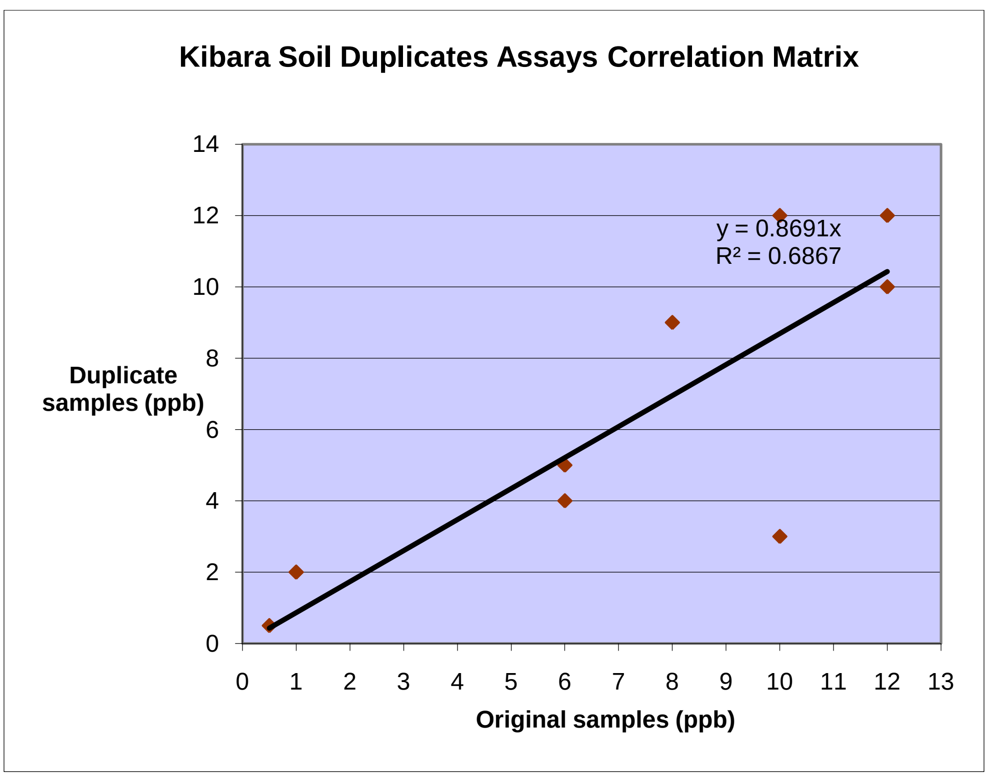

Figure 12.2. QC graph for Kibara Project Area soil field duplicates.

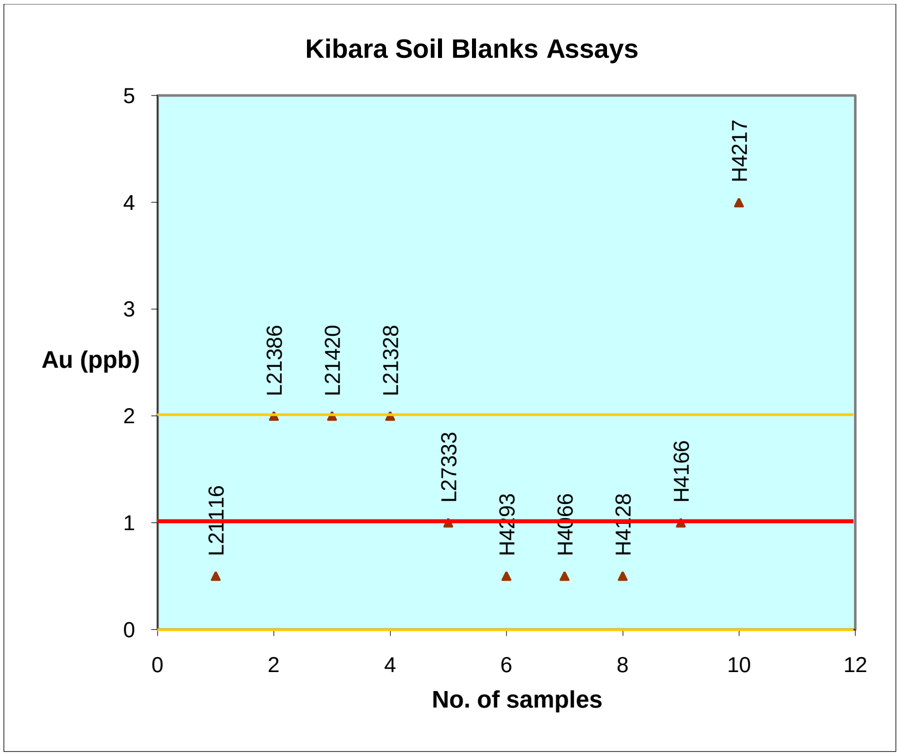

Figure 12.3 Plot of Kibara Soil Blanks

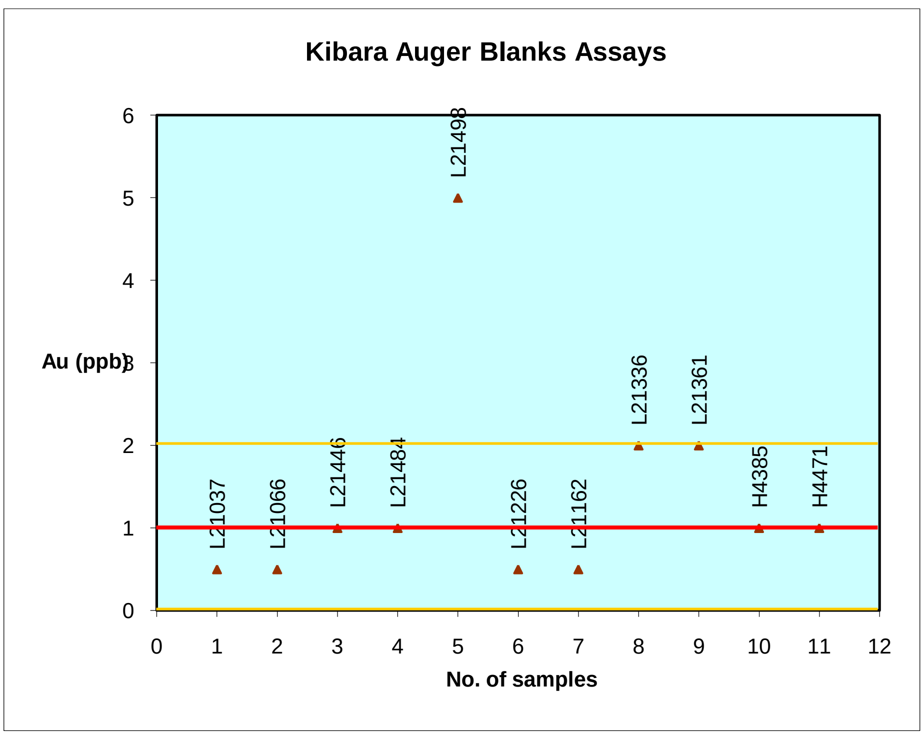

Figure 12.4 Plot of Kibara Auger soil blanks

12.2 Biogeochemical (BGC) Sampling

The precision and accuracy of the analysis were monitored through the insertion of field and preparation (laboratory) duplicates as well as and one or more standards with known values. ACME Analytical Laboratories ("ACME"), who carried out the analysis, routinely carry out repeat-sample measurements to test their own accuracy. Field duplicates were taken, always from the same species, to check on the uniformity of the actual plant sampling process, possible nugget effects for individual elements and what species might be affected by this. The laboratory duplicates were intended to check on possible nugget effects for individual elements as well as uniformity and possible contamination in the sample preparation process.

The BGC QC protocol requires the field crews to take field duplicates after every 20 samples and the laboratory staff to insert laboratory duplicates after every 20 samples processed. In the Kibara BGC programs, however, only 161 field duplicates were collected versus a total of 4462 field samples, well short of the 1 in 20 rule. A total of 194 laboratory duplicates were inserted in the sample stream, again well short of 1 in 20. For each collected sample and field duplicate 20g of prepared material is submitted for analysis. When the reserve fraction of the sample designated for a laboratory duplicate was insufficient, the closest sample with a large enough reserve fraction was selected for the duplicate, resulting in varying laboratory duplicate ratios for individual licences. Standards inserted by ACME included 109 V13 and 42 V14.

Table 12.1. BGC QC Samples, Kibara Project

Licence name	PL	Field Samples	Field Duplicates	Laboratory Duplicates	Std. V13	Std. V14
Buguma	2308/2003*	468	17	22	17	0
Namhula	2785/2004**	1132	49	44	38	0
Kurwirwi	2931/2004***	1511	50	60	50	0
Kalukekele	3146/2005****	1257	42	62	0	42
Namarama	3314/2005*****	94	3	6	4	0
Total		**4462**	**161**	**194**	**109**	**42**

* Now includes PL 4606/2007 and HQ-P19022.
** Now includes HQ-P17009.
*** Now includes HQ-P17392.
**** Now includes HQ-P18109.
***** Now includes HQ-P18524

ACME have their own internal quality control procedures that include samples from bulk mountain hemlock (*Tsuga mertensiana*) foliage collected from the vicinity of an unworked epithermal gold deposit on Vancouver Island.

Two external plant standards were prepared by biogeochemistry consultant Dr. C. Dunn. Standard V13 with gold value of 0.47 ppb Au was the principal standard used, but its value was only approximate and described by Dunn in a previous report as "not yet fully characterized". Standard V14 was used for PL 3146/2005. No target value was available for this standard, however. The external standards were inserted at approximately one per 30 primary samples. ACME also carried out repeat sampling to test their precision.

The author selected Ag, As, Au, Co, Cu, Hg, Ni and Zn as elements to be reviewed. Of these the Au and As results for field duplicate pairs, laboratory duplicate pairs and standards were particularly variable while the other elements generally showed good to excellent correlation.

Table 12.2 BGC Field Duplicate Species

Licence	Dups. MLJ	Dups. TBT	Dups. YFA	Total
2308/2003	17	0	0	17
2785/2004	21	6	22	49
2931/2004	50	0	0	50
3146/2005	17	3	22	42
3314/2005	3	0	0	3
Total	108	9	44	161

12.2.1 PL 2308/2003, PL 4606/2007, HQ-P19022

The comparison of field duplicates is typical of the pattern when analyzing vegetation tissue at a detection limit of 0.1 ppb Au. A significant number of the duplicate pairs (which were always taken from the same species) are within acceptable limits while 6 of the pairs show variable degrees of nugget effect. This is common at this level when there is a non-uniform distribution of metals within the plant biomass.

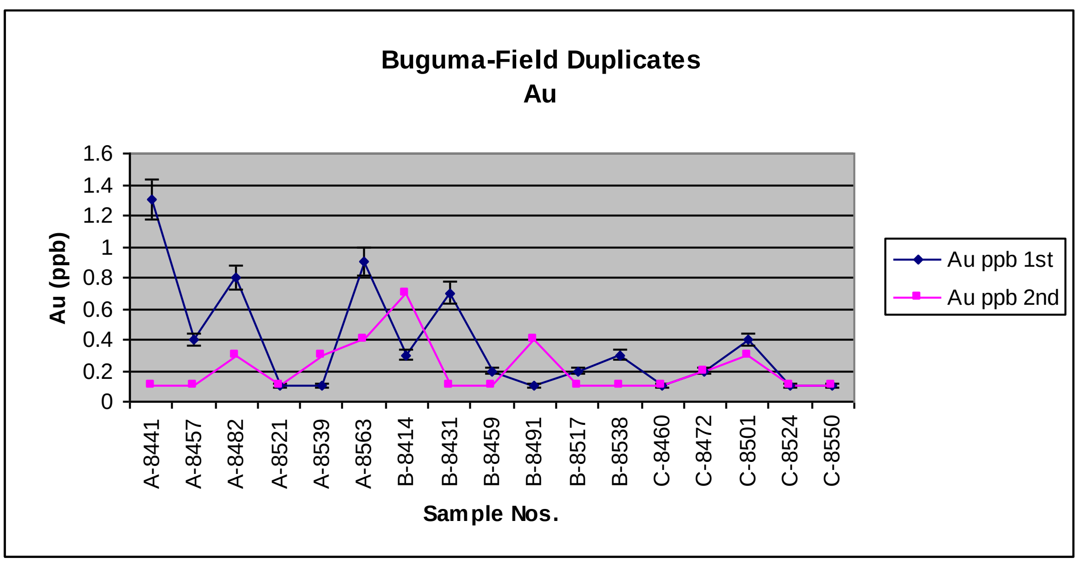

Figure 12.5. Graph of BGC field duplicates for Au values PL 2308/2003

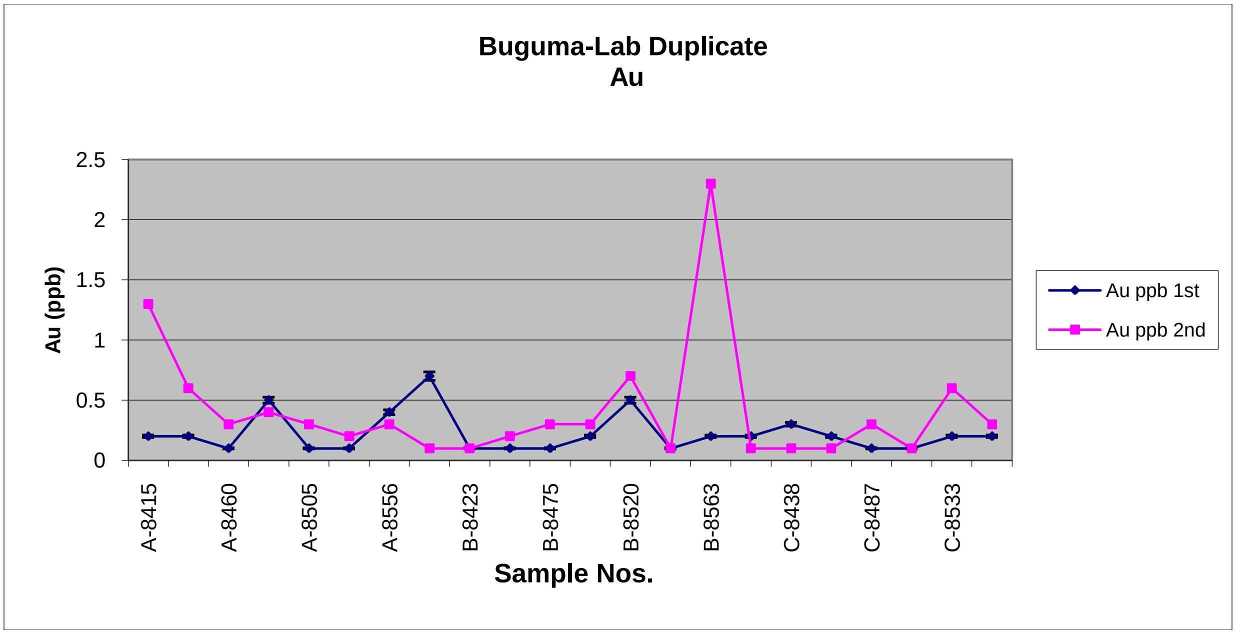

Figure 12.6 Graph of Laboratory Duplicates Au Pl 2308/2003

The laboratory duplicates show a similar variable nugget effect for gold and arsenic.

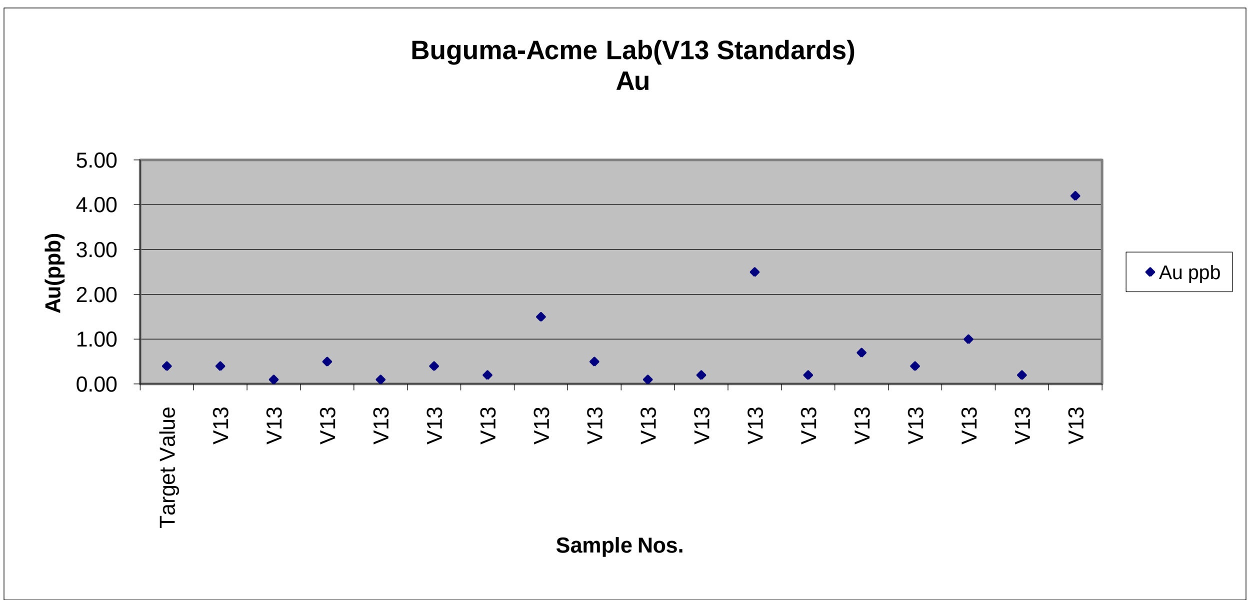

Figure 12.7 Graph of V13 standards Au PL 2308/2003

The results for the V13 standards inserted with the samples from P 2308/2003 showed a significant variance from the expected value for 4 Au samples and 3 As. This would tend to confirm the non-uniform distribution of these two elements within the plant biomass.

12.2.2 PL 2785/2004, HQ-P17009

The pattern of field duplicates for PL 2785/2004 is similar to that for PL 2308/2003, with a majority (39) of the pairs within acceptable limits for Au and 40 for As. The other 10 Au and 9 As duplicate pairs showed variable degrees of nugget effect. The laboratory duplicates were similarly variable. The V13 standards showed a significant variance from the expected value for 10 of the 38 samples, within a range of 0.1-1.2 ppb Au. Other elements reviewed were essentially within acceptable limits.

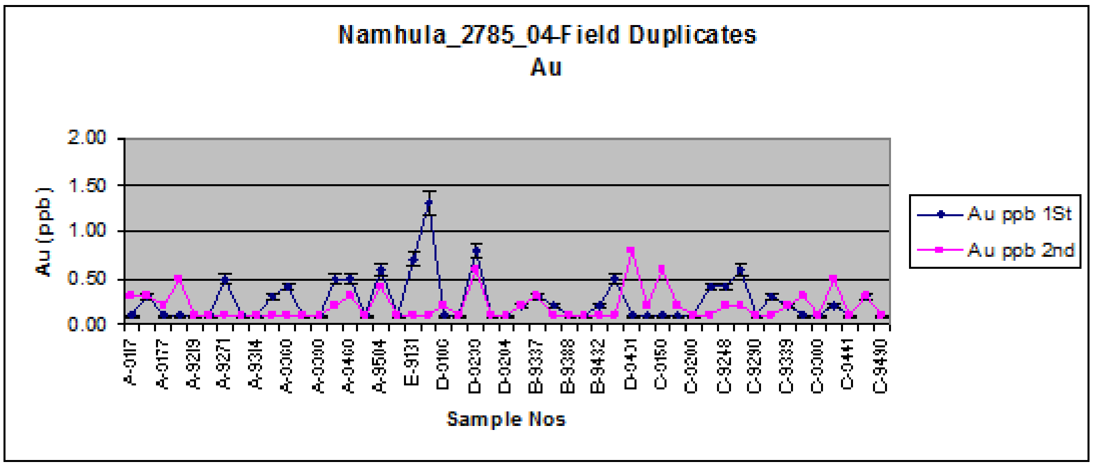

Figure 12.8. Graph of BGC field duplicates for Au values PL 2785/2004

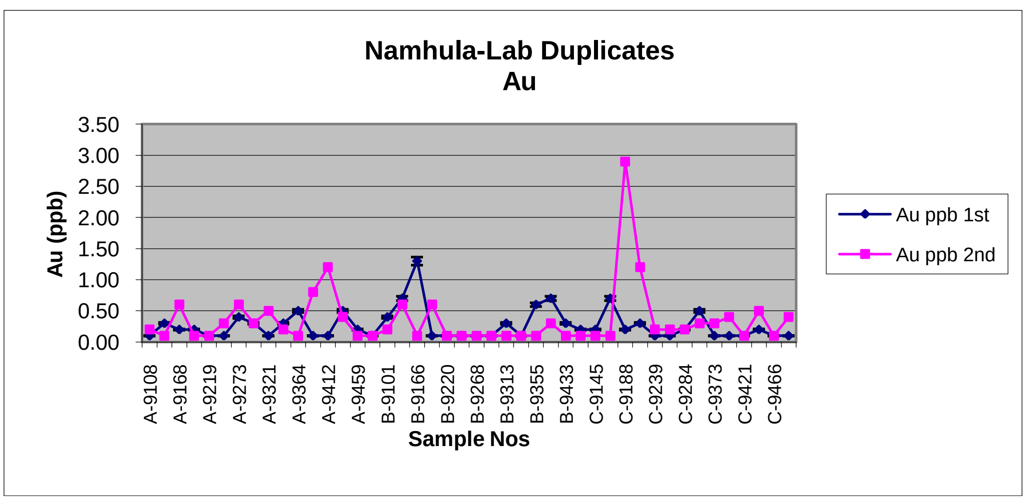

Figure 12.9 Graph of Laboratory Duplicates Au PL 2785/2004

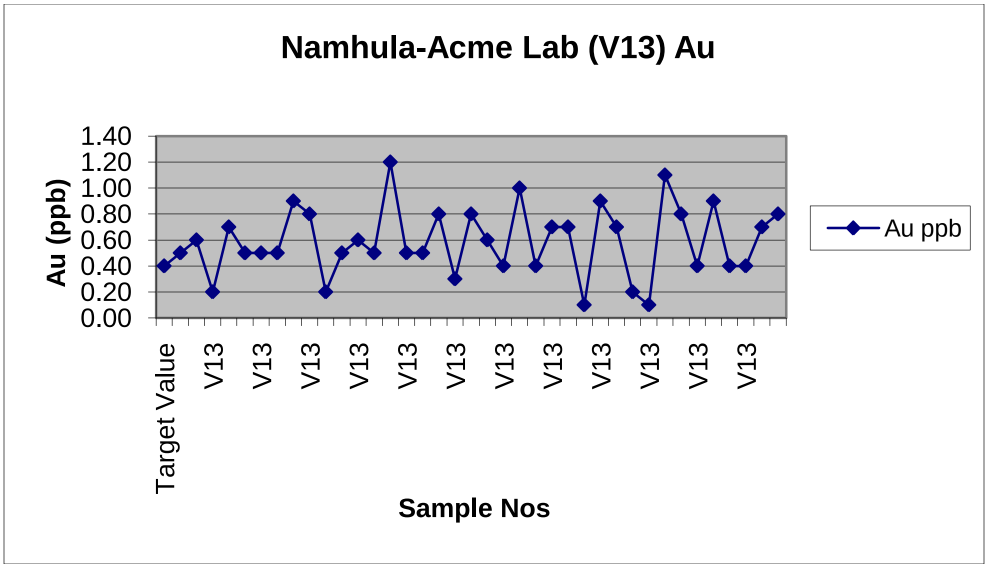

Figure 12.10 Graph of V13 standards Au PL 2785/2004

12.2.3 PL 2931/2004, HQ-P17392

The pattern of field duplicates for PL 2931/2004 is similar to that for PL 2308/2003, with a majority of the pairs (41 of 50) within acceptable limits for Au. A high proportion of pairs reported one or both samples at the detection limit of 0.1 ppb Au. A similar situation occurs with the laboratory duplicates, with 16 pairs showing significant nugget effects for Au and 15 for As. The V13 standards showed particularly poor correlation with the expected value of 0.40 ppb Au with values ranging from 0.1-1.7 ppb Au. This group of standards was unusual in also having 5 significantly low results for Ni.

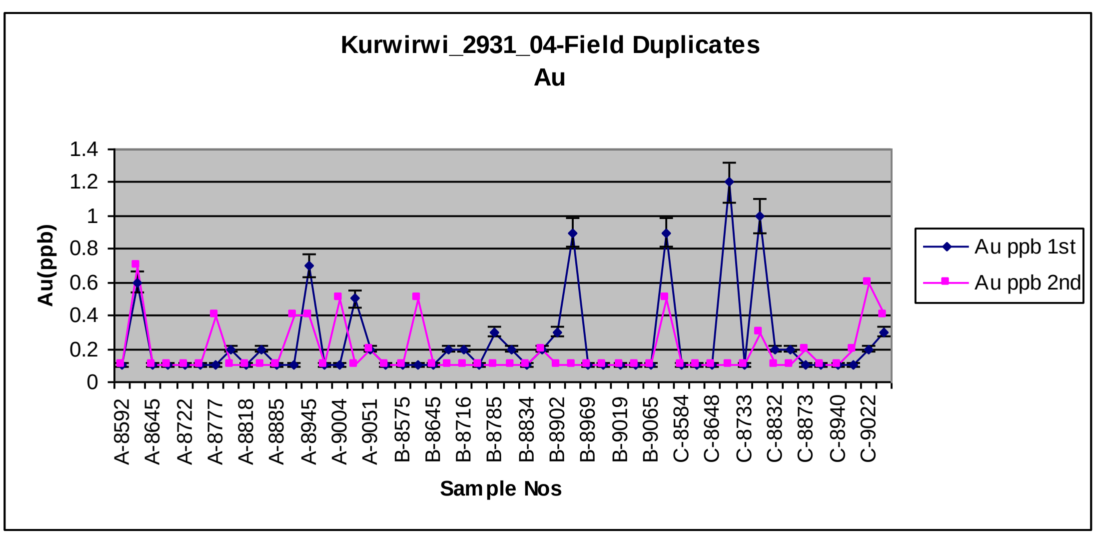

Figure 12.11 Graph of BGC field duplicates for Au values PL 2931/2004

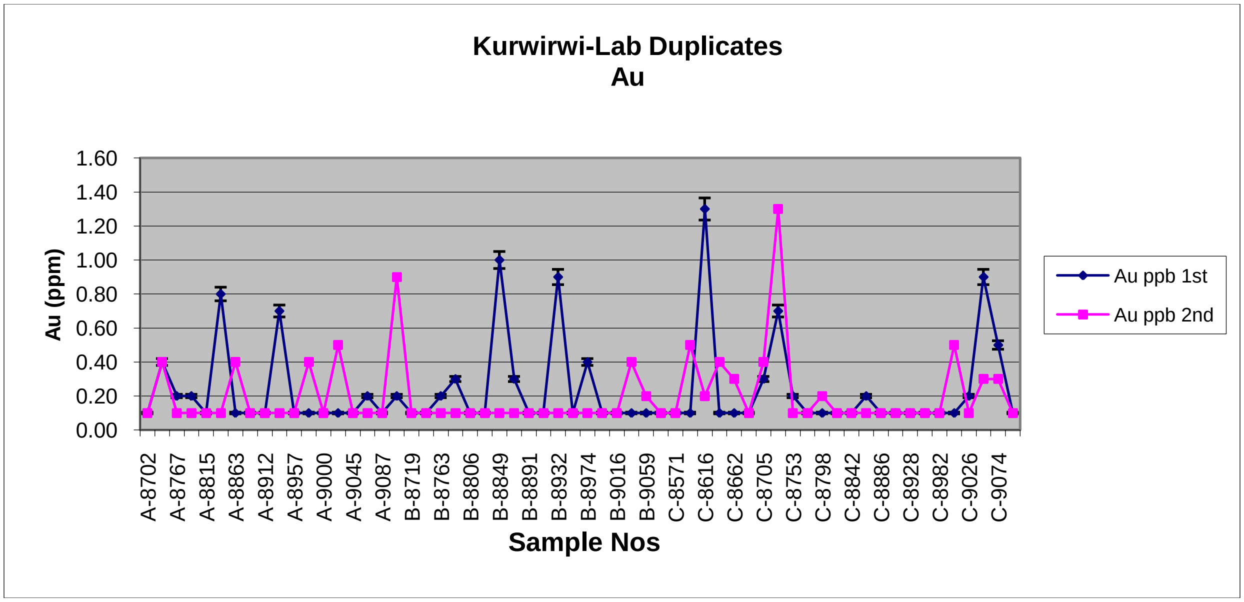

Figure 12.12 Graph of Laboratory Duplicates Au PL 2931/2004

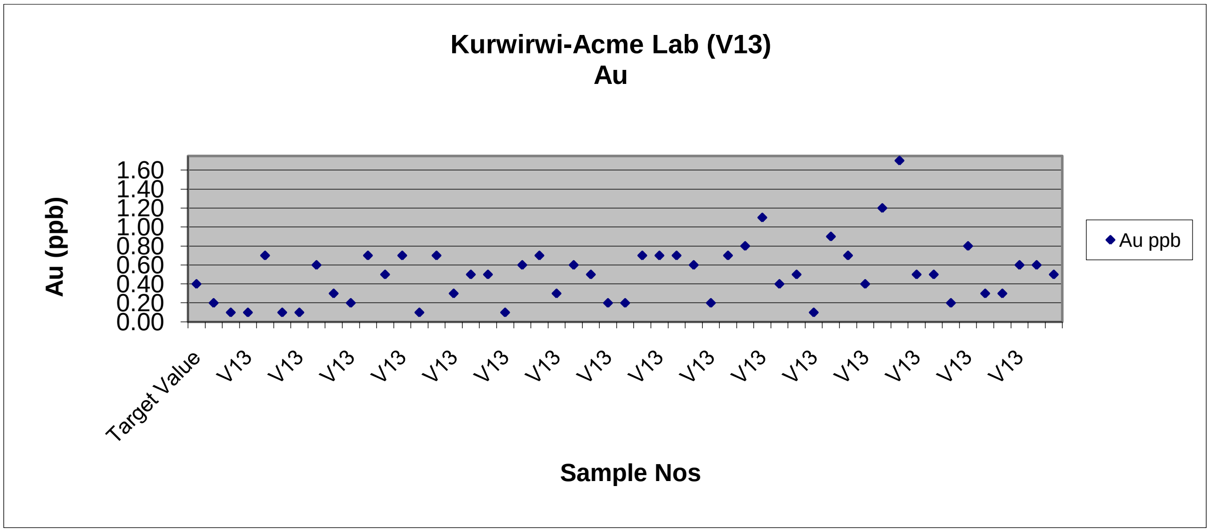

Figure 12.13 Graph of V13 standards Au PL 2931/2004

12.2.4 PL 3146/2005, HQ-P18109

All of the field duplicate pairs for PL 3146/2005 had one or both samples at the detection limit of 0.1 ppb Au. Ten of the 42 pairs showed variable degrees of nugget effect for Au, eight for As and 5 for Hg. As with PL 2931/2004 the variability was higher with the laboratory duplicates for each of Au, As and Hg. The V14 standards used in the analysis of sample batches from this licence showed a typical variability for Au with lesser variability for Ag and Hg.

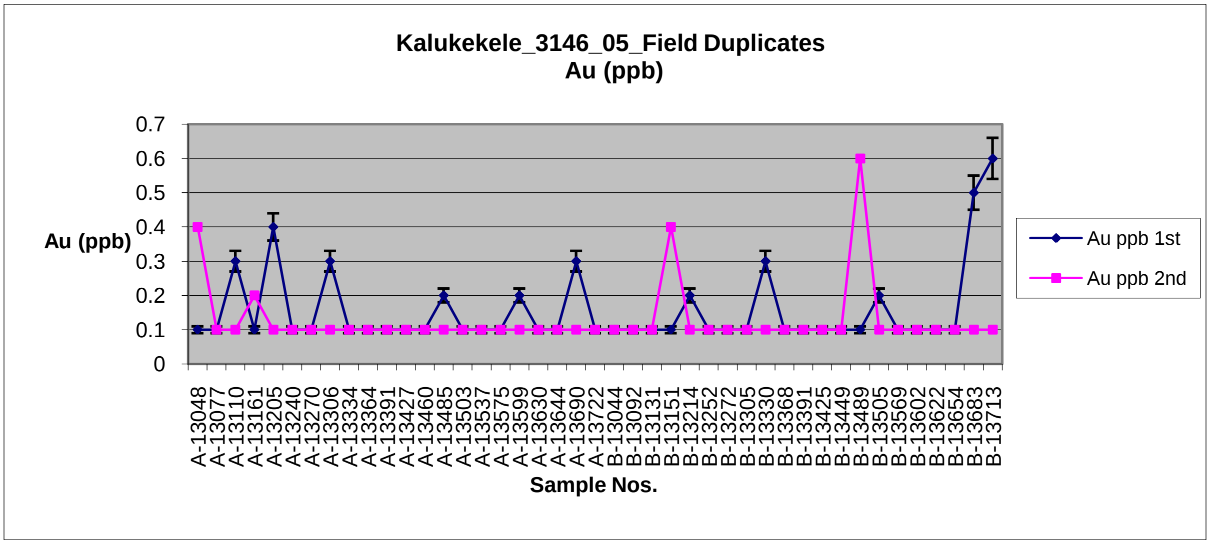

Figure 12.14 Graph of BGC field duplicates for Au values PL 3146/2005

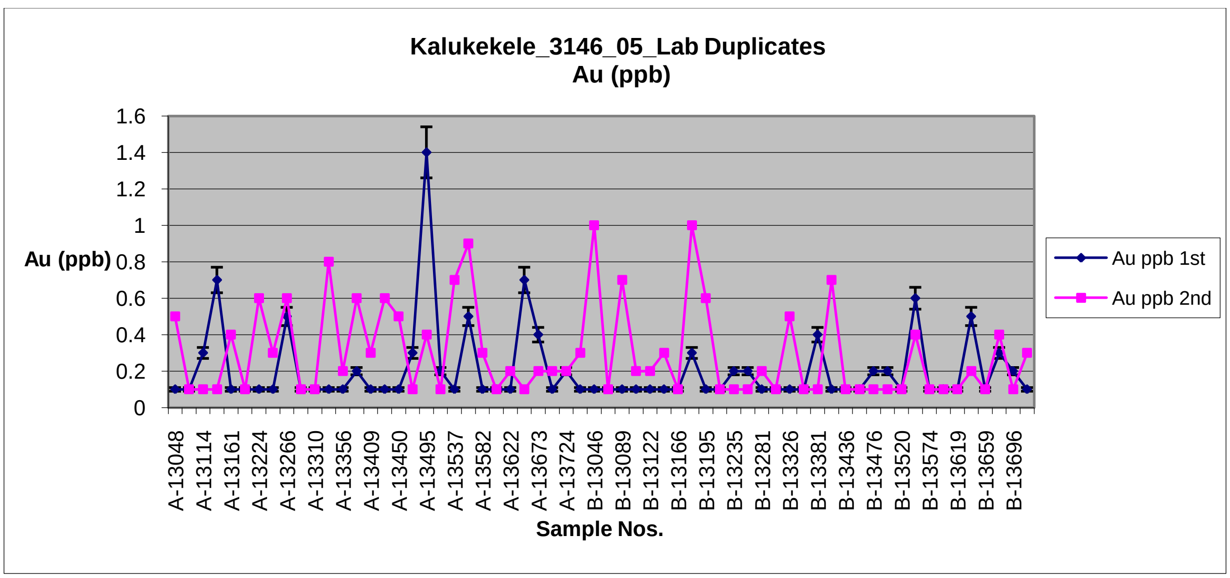

Figure 12.15 Graph of Laboratory Duplicates Au PL 3146/2005

12.2.5 PL 3314/2005, HQ-P18524

Two of the three duplicate pairs from PL 3314/2005 showed what is probably a slight nugget effect within the leaves, as did two of the five laboratory duplicate pairs, although all gold values were at or close to the detection limit of 0.1 ppb Au. The five V13 standards included two with significant nugget effects, of 1.1 and 4.8 ppb Au versus the expected value of 0.4 ppb Au.

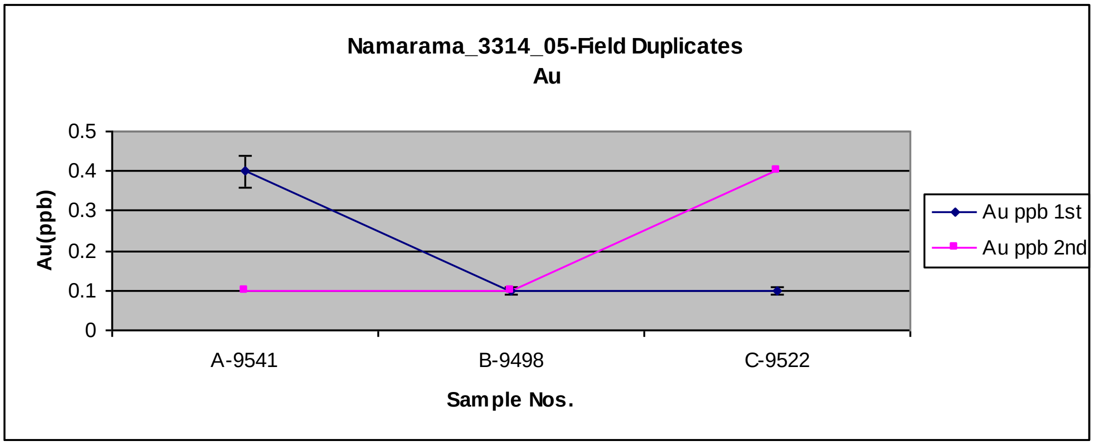

Figure 12.16 Graph of BGC field duplicates for Au values PL 3314/2005

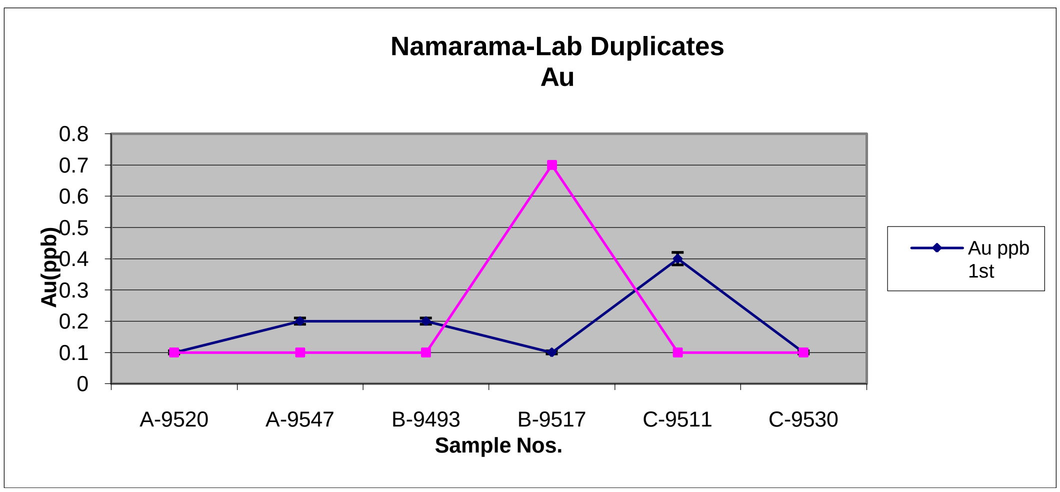

Figure 12.17 Graph of Laboratory Duplicates Au PL 3314/2005

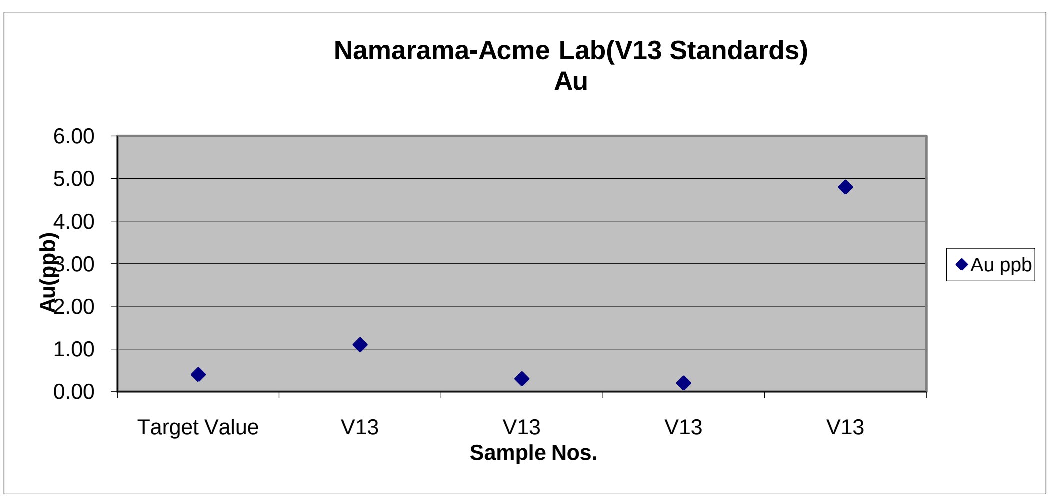

Figure 12.18 Graph of V13 standards Au PL 3314/2005

13.0 INTERPRETATION AND CONCLUSIONS

The Kibara Project of Tanzanian Royalty is at an early exploration stage. The property is located in the Lake Victoria Goldfields area within the Musoma-Mara Belt, one of the principal Archaean greenstone belts of Tanzania. The bedrock lithologies at Kibara are dominated by Nyanzian-age (Archaean) mafic volcanics, intruded by granites. These rocks host most of the gold mines and deposits in Tanzania and are both similar and time-equivalent to the greenstones of northern Ontario and Quebec. The Kibara Project lies about 145 km southwest of Barrick's North Mara gold mine.

Tanzanian Royalty commenced exploration on the Kibara Project in 2002 with mini-BLEG sampling in the precursor to PL 2308/2003. This was followed by rock and termite mound sampling to validate BLEG anomalies and then by trenching, biogeochemical (BGC) sampling and gradient IP surveys. The other licences were covered with BGC sampling, mapping and chip sampling and limited auger soil follow-up. None of the geochemical or other targets throughout the Kibara Project have yet been tested with any form of drilling.

The trenching on Nyakona Hill in PL 2308/2003 exposed a gossanous quartz vein with up to 40% malachite in a felsic tuff/feldspar porphyry package. Neither the later soil sampling nor IP gradient survey were able to confirm the extent of the mineralization beyond the 160 m of strike shown in the trenches. This mineralization, however, with gold values up to 14.80 g/t Au and copper up to 29.15 % Cu, constitutes the principal target on the property for follow-up with RC drilling.

On PL 2785/2004 the central part of the licence is underlain by mafic volcanic rocks and includes an abandoned artisanal mining site. Grab samples from the muck piles confirmed the presence of gold mineralization with values up to 18.75 g/t Au. Soil and BGC sampling were unable to confirm a mineralized system around the artisanal workings, but a gradient IP grid did reveal a chargeability anomaly. Further work should be done in the area around the artisanal workings, primarily fences of heel-to-toe RAB drill holes along the projected strike of the artisanal zone.

On PL 2931/2004 the greenstone rocks of the Kurwirwi Hills returned no significant gold values from grab sampling during the mapping program. Scattered BGC gold anomalies across the property were followed up with auger soil sampling, but none of the BGC anomalies were confirmed.

On PL 3146/2005 BGC sampling returned generally low gold results, with weak anomalies scattered across the property. Follow-up soil sampling on 7 BGC targets returned only low gold values, except for 221 ppb Au from one sample in lacustrine sediments. This is not considered significant for bedrock gold mineralization.

Similarly on PL 3314/2005 two weak BGC gold anomalies were followed up with soil sampling that failed to confirm the anomalies.

Initial preparation of soil samples was done by Tanzanian Royalty at their own facility in Mwanza. All other preparation and analysis was carried out at internationally-recognized laboratories with ISO certification. The quality-control programs implemented by Tanzanian Royalty conform to industry standards and show that the sampling procedures and analyses received were acceptable. The author is of the opinion that the programs were carried out in a professional manner, to industry-standard procedures.

The favourable lithogies and presence of significant gold mineralization in trenches on Nyakona Hill in PL 2308/2003 and in artisanal gold workings in PL 2785/2004 make those two areas in the Kibara Project targets for initial RAB/RC drilling.

14.0 RECOMMENDATIONS

In the next phases of work at the Kibara Project Tanzanian Royalty should focus on initial RAB and/or RC drilling on the two principal targets at Nyakona Hill on PL 2308/2003 and the artisanal workings on PL 2785/2004. The objectives would be to confirm the existence at depth of gold/copper-in-quartz mineralization sampled in the trenches at Nyakona Hill and to extend the gold mineralization in the artisanal workings. This should be done with lines of heel-to-toe RAB or RC drilling, possibly preceded by additional trenching on Nyakona Hill to extend the surface strike of the mineralization.

In the situation for most exploration companies, where they have to hire contract drillers, the cost of this work would mandate most if not all of the drilling in Phase I would be done with a RAB rig. Tanzanian Royalty, however, has an in-house drill rig and can justify using an RC string. While slower, RC would provide a larger sample as well as being less prone to sample contamination during drilling. In this instance RC data could potentially be used for resource purposes in the future.

If the Phase I RAB/RC program provides suitable confirmation of mineralization and significant intersections at either or both target areas, the next phase should consist of additional RC drilling to expand the mineralization from Phase I along strike and to depth.

Table 14.1. Budget Summary for Proposed Exploration, Kibara Project

Phase	Mapping/ trenching	Drilling		Assays	Support	Licences/Options	Total (US$)
		Type, Metres	Cost				
Ia	24,035			4,600	89,800	66,500	184,935
Ib	0	RAB 4,100	139,000	41,000	77,800		257,800
Sub-Total	24,035		139,000	45,600	167,600	66,500	442,735
II	0	RC 4,500	273,000	41,000	77,800		391,800
Total	24,035		412,000	86,600	245,400	66,500	834,535

In the author's opinion, the character of the Kibara Property and its current stage of exploration are of sufficient merit to justify the nature and scale of the programs outlined above. The budgets are considered appropriate by the author.

15.0 REFERENCES

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16.0 CERTIFICATE

to accompany the report entitled "Report on the Kibara Mineral Exploration Property of Tanzanian Royalty Exploration Corporation in the Bunda District, Mara Region, United Republic of Tanzania", dated October 31, 2009.

I, Martin J. Taylor, do hereby certify that:

1. I am an independent consulting geologist residing at 32 Raymond Avenue, Toronto, Ontario, Canada, M6S 2B3.
2. I graduated from the University of Bristol in Bristol, England in 1970 with a B.Sc. in Geology. I have practised my profession continuously since that time.
3. I am a practising member in good standing of the Association of Professional Geoscientists of Ontario, licence number 0040.
4. I have experience in exploration for gold deposits in Archaean and Proterozoic terranes in East Africa, including those in lateritic environments. I have 8 years previous experience in gold exploration in the Lake Victoria Goldfields of Tanzania.
5. 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 fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I have visited the property described in this report. I have also reviewed the available licence documents relating to the individual licences though, as a professional geoscientist, I am not qualified to verify their legal status. I am the sole author of this report.
7. I have no personal knowledge as of the date of this certificate of any material fact or change which is not reflected in this report.
8. Neither I nor any affiliated entity of mine is at present, or under an agreement, arrangement or understanding expects to become an insider, associate or affiliated entity of Tanzanian Royalty Exploration Corporation or any associated or affiliated entity.
9. Neither I nor any affiliated entity of mine own, directly or indirectly, nor expect to receive any interest in the properties or securities of Tanzanian Royalty Exploration Corporation or any associated or affiliated companies.
10. Neither I nor any affiliated entity of mine have earned the majority of our income during the preceding three years from Tanzanian Royalty Exploration Corporation or any associated or affiliated companies.
11. I have not previously worked on this property.
12. I have read the NI 43-101 and Form 43-101F1 and have prepared this technical report in compliance with these documents and in conformity with generally accepted Canadian mining industry practice.
13. I consent to public filing of this report with any stock exchange and other regulatory authority and any publication of the report by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public.

Dated this 31st day of October, 2009 at Toronto, Canada.

"Signed and Sealed"
Martin J. Taylor P.Geo
APGO #0040