Independent Competent Persons Report

Of the

Nama Retention Licence

In

Northern Zambia

And held by

Caledonian Mining Limited

Effective Date: 1st May 2007

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3 Summary

Caledonia Nama Limited (Caledonia (Nama)), a subsidiary of Caledonia Mining Corporation is the sole owner of a Retention Licence over 80650ha of ground in the Solwezi District of the Northwestern Province of Zambia in sub-Saharan Africa. The licence has been granted for a period of three years from February 2007 after which it must be converted to mining titles. It lies on the northwestern flank of the Zambian Copperbelt and has potential for high tonnage, low-grade cobalt-copper-nickel mineralisation referred to as the Nama Project.

The area is underlain by strata of the Katanga Supergroup but paucity of outcrop and structural complexity has prevented accurate correlation of the stratigraphy intersected in the boreholes except that distinct mixtite units can be correlated with the lower Kundelungu Group. The mineralisation occurs in a deep weathered profile and is probably caused by the oxidation of primary disseminated cobalt-copper-nickel sulphides combined with supergene redistribution and precipitation, especially in the near surface environment. This has produced both flat lying and inclined resource bodies of mineralisation.

Caledonia started operations in the area in 1994 and in the ensuing years acquired five Prospecting Licences and undertook an exploration programme commencing with soil sampling supported by airborne geophysical surveys and concluded with a drilling campaign. The drilling amounted to 323 reverse circulation holes totalling 38,119 metres followed by five diamond drill holes totalling 1445m. This drilling is in addition to 25 diamond drill holes drilled by Roan Selection Trust, Zamanglo and JCI in the Nama area and on the flank of the Konkola dome and 23 auger holes drilled by Roan Selection Trust.

Exploration by Caledonia and its predecessors has identified 18 targets of which seven have been drilled to a greater or lesser extent. Most of the drilling activity has focussed on the A or Discovery Anomaly in the central-eastern parts of the Retention Licence area and on the C Anomaly. This work has enabled declaration of an Indicated Resource of 121.9Mt of oxide mineralisation in 8 blocks with a weighted average grade of 0.047%Co and 0.00.043%Cu to a depth of more than 210m below surface. The oxide mineralisation potentially extends below this depth. Other anomalies did not receive as much exploration attention but three anomalies require further investigation and the remaining 11 untested targets should be drilled.

Initial bench and limited bulk sample metallurgical testing has indicated that the oxide material can be upgraded into a concentrate by dense medium and magnetic separation and flotation techniques but this work should be repeated on material representative of the *in situ* grade of the resources. Further work is also required on the mineralogy of the material both in the near surface and deeper mineralisation to determine the mineral phases in which the cobalt, copper and nickel oxides reside. It is important to establish that the mineralogical and hence

processing characteristics of the material are maintained into the deeper parts of the mineralisation.

There is potential for high tonnage but low grade cobalt-copper deposits in the Nama Retention Licence area that could be extracted economically if a cost-effective metallurgical process for concentrating the metals from representative *in situ* grades can be found.

A study of the oxide mineralisation is required to identify the mineral phases that host the copper and cobalt salts. This study should include samples from various localities within the mineralised bodies and not just from mineralisation close to the surface. It is important to establish that the mineralogy and consequently the metallurgical characteristics associated with the near surface mineralisation can be applied to the deeper levels. The study should be extended to include the magnetic properties of the mineral phases and their particle sizes.

The soil and borehole chip sample data needs further statistical examination to identify correlations and trends. This examination will help identify the optimum borehole spacing and may compliment the proposed mineralogical study. All collars of boreholes drilled by Roan Selection Trust should be located and resurveyed.

Metallurgical test-work should continue on material from the Nama area with particular attention paid to using material with representative *in situ* concentrations of cobalt and copper. Accurate determinations need to be made of rock density. This can be done on near surface material by an elaborate process of bulk extraction combined with measuring the volume of the void and weight of the material extracted. The density of deeper material can be determined from core wrapped with a light-weight impervious skin to prevent the voids from being filled with liquid.

Follow-up drilling is required on some of the anomalies whilst those that remain should be drilled once metallurgical test-work has indicated that it is economically feasible to create a concentrate from the cobalt and copper mineralisation. It is important to ensure that holes are not drilled too far apart as widely spaced holes may miss intersections necessary for identifying continuity of mineralisation.

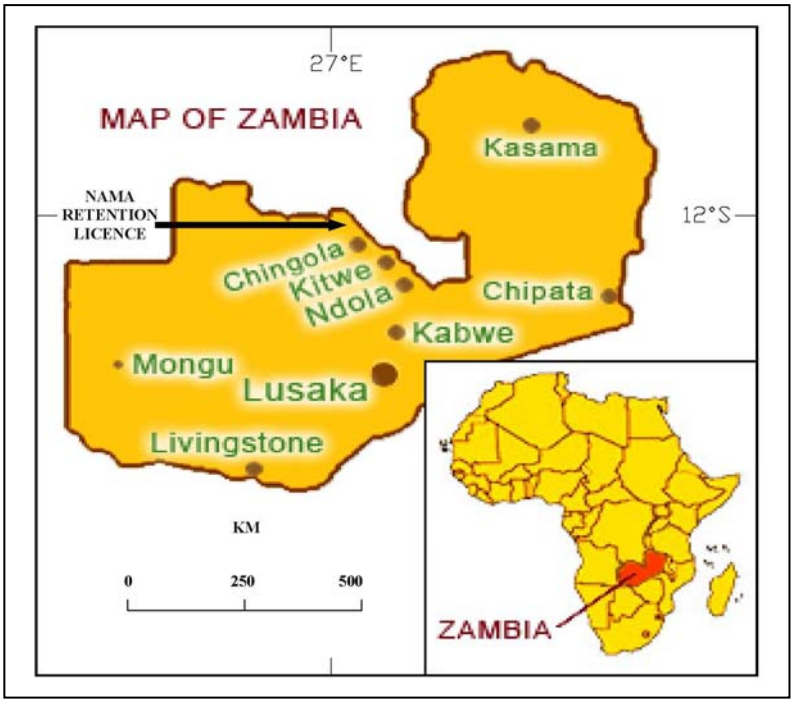
Further work is required on the correlation of the stratigraphy in the Nama area to establish the extent that the mixtite units correlated with the lower Kundelungu Group owe their presence in the A Anomaly area to structural disturbance.

Caledonia (Nama) should identify its objectives to explore, evaluate and test the existing resources and remaining anomalies within the Retention Licence and convert its holdings to mining titles. These objectives should be met by formulating, costing and implementing a work programme that can be completed in the three year period that remains.

4 Introduction

Caledonia Mining Corporation (Caledonia (Mining)), through its local subsidiary Caledonia Nama Limited (Caledonia (Nama)), holds a Retention Licence for cobalt, copper, manganese and nickel mineralisation in the Solwezi District of the Northwestern Province, Zambia. The regional locality of the licence is shown in Figure 1 and its detailed extent shown in Figure 2. The property represents a consolidated block of ground approximately 80 625 hectares in extent in which a number of loci of mineralisation have been identified. Some of these localities were explored by other companies prior to the ground being acquired by Kintyre Mining (Zambia) Ltd, a subsidiary Caledonia in October 1994, while other loci have been identified solely from the activities of Caledonia and its subsidiaries. The licence has the potential to yield economic, low-grade but high tonnage oxide cobalt-copper resources.

Figure 1 Locality map for the Nama Retention Licence Area



The licence is situated on the northwestern flank of the Zambian Copperbelt, adjacent to the border with Zambia and the Democratic Republic of Congo (DRC). The Zambian Copperbelt is a copper-cobalt metallogenic province that covers an area of approximately 2500km^2 and shares borders with the Democratic Republic of Congo (DRC) to the north and the Zambian Provinces of North-Western and Central on its western and southern flanks respectively. The total mined ore plus reserves and resources has been estimated at 3000 Mt at 2.9% Cu.

The Nama Retention Licence area has been explored utilizing a variety of techniques, including geochemical soil sampling, drilling (reverse circulation,

diamond and augers), photo interpretation, an aeromagnetic survey and a radiometric survey. The drilling programmes produced in excess of 38 000 metres of reverse circulation chips and core, from which lithological logs and analytical data has been generated. Several anomalies have been identified across the Nama project and a high tonnage cobalt oxide resource has been identified.

During the period 1996 to 2000, the exploration programme by Caledonia Nama Ltd included engineering studies into the feasibility of constructing a full scale hydro-metallurgical processing plant involving crushing, leaching, solvent extraction and electro-winning of the copper and cobalt. However the resultant economic study showed that the project was not, at the prevailing metal prices, robust enough to support the large capital investment required for such a plant. Recently with the increases in the commodity price and demand for cobalt and based on additional metallurgical test work conducted by the company during 2004 and 2005 there has been increased interest in the Nama project.

Applied Geology has been commissioned by Caledonia (Nama) to provide an independent assessment of the work completed to date, the Resources estimated to date in Anomalies A and C, and to compile a report compliant with the specifications and requirements of the Canadian National Instrument 43-101 that will supersede the report with the effective date of 8 March 2007.

Information upon which this report is based was provided to the authors by Caledonia (Mining) on behalf of Caledonia (Nama) in the form of an electronic database, reports, maps, plans, and diagrams generated during and after the main exploration programme, as well as original documentation such as assay sheets when requested.

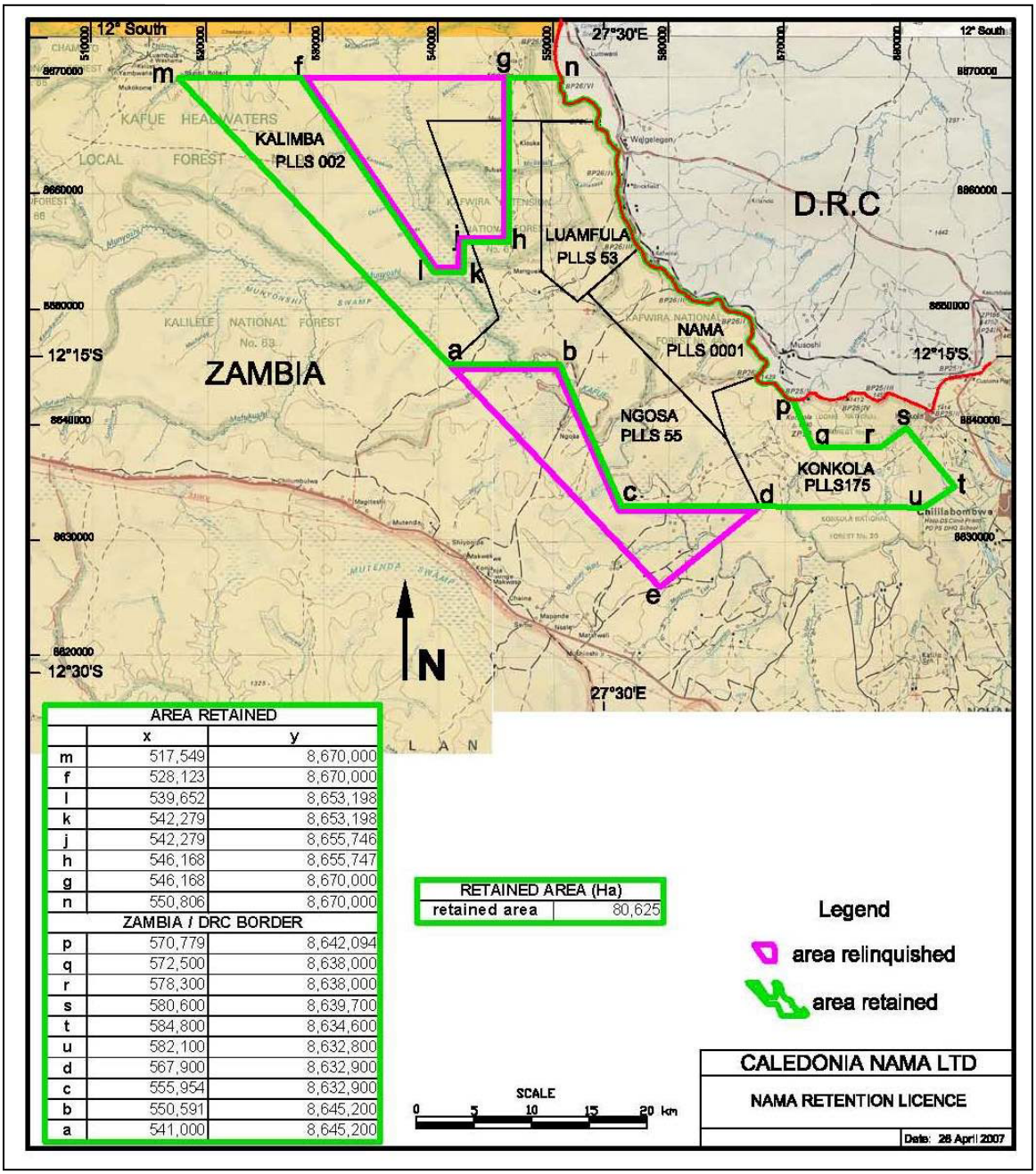
One of us, David Grant visited the Nama Retention Licence Area in the company of a Caledonia Geologist and assistant in mid-February 2007. The visit was made in mid-summer and the bush was thick as a result of the rains and summer growth. The visit included the area over the A or Discovery Anomaly and examination of the bulk sample trench, that was open and accessible, as well as some borehole collars over it and the nearby B anomaly. The field camp and core yard with core and duplicate RC samples was also visited. The core of both NDDH001 and NDDH004 was briefly examined.

5 Reliance on other experts

Compilation of this report has relied on information in the form of maps, plans, reports and an electronic database provided by Caledonia and which were prepared by Caledonia staff or acquired by Caledonia from previous operators in the area. In the case of most historic information from RST, Zamanglo, JCI and BHP it was not possible to verify the information but the authors of this report have no reason to doubt the integrity of the data originating from these sources.

Caledonia staff provided the metallurgical information and the proposed processing flow diagram illustrated in Figure 17. Caledonia staff also provided the assessment of the analytical quality control that was applied to the RC borehole samples.

Figure 2 Map showing details of the Nama Retention Licence



6 Property description and location

Caledonia (Nama) is the sole owner of prospecting rights in the Nama area as a Retention Licence issued on 23 February 2007. The detailed extent of the licence is shown in Figure 2 with reference to geographical and UTM zone 35S

coordinates. Originally, Caledonia acquired five Prospecting Licences viz. Nama PLLS0001, Luamfula PLLS53, Kalimba PLLS0002, Ngosa PLLS55 and the more recently acquired Konkola West PLLS175. These Prospecting Licences have been reduced in size in accordance with the Zambian law and those parts for which there are indications of mineralisation have been included into one contiguous area now covered by the Retention Licence. The rights and obligations of the holders of the licences are outlined in the summary below.

6.1 Overview of Zambia's Mines and Minerals Law

Zambia is endowed with substantial mineral resources and has been exploiting its copper resource for nearly a century. Copper has been and still remains the single largest contributor to the Zambian economy. Prior to 1995, depressed copper prices on the international market, plus the under-capitalisation of the copper mines, resulted in severe constraints on the country's economy. To address this problem and in order to ensure that the mining industry continues to play a crucial role in national development, the Zambian government changed their mineral and mining policy in 1995.

6.1.1 Mineral policy

The objective of the new minerals and mining policy is to develop a self-sustaining mineral-based industry with less reliance on copper through diversification and increased exports with a high value-added content. The policy is aimed at encouraging private investment in exploration and development of new large, medium and small scale mines to exploit metallic, gemstones, energy and industrial minerals. Privatisation of many state owned companies and especially the copper mining industry, formerly managed under the parastatal umbrella, Zambia Consolidated Copper Mines Ltd. (ZCCM), is a clear demonstration of this intent. The Ministry of Mines and Minerals Development are promoting enactment of this policy through the technical support available from its three constituent departments – Geological Survey, Mines Development and Mines Safety. Downstream processing is being encouraged.

The overall objectives of the government's new mining policy are as follows:

- To make the private sector the principle producer and exporter of mineral products by establishing a private sector initiative to develop new mines;
- To increase and diversify mineral and mineral based products and exports. This will maximize long-term economic benefits to the country;
- To promote and develop a small-scale mining industry which has the potential to significantly contribute to the economy;
- To promote and develop a gemstone mining industry;
- To promote exploration for, and exploitation of industrial minerals and to encourage the establishment of a ferrous industry.
- To reduce the danger of ecological damage arising from mining operations as well as damage to the health of workers and inhabitants of the neighbourhood through water, air and land.

- To promote the local processing of mineral raw materials into finished products for added value;
- To encourage foreign investment in exploration and new large-scale developments; and
- To encourage private investment in medium and small-scale mining.

In order to achieve the above, the Government of Zambia promulgated the Mines and Minerals Act in 1995. The new Act enshrines in the legislation the following basic assurances required for foreign investment:

- Secure title to mineral and mining rights;
- Stability of the fiscal regime;
- Foreign exchange retention;
- Right to market mine products;
- Right to assign (right to trade the mining right);
- Stability in environmental management;
- International arbitration; and
- Freedom of commercial operation.

The Government policy is not to participate in exploration or other mining activities or any shareholding other than regulatory and promotional role. The mining sector is dominated by copper and cobalt production and the country is a leading producer of cobalt, copper, and gem-quality emerald.

6.2 Mines and Minerals Development Law

Minerals in the ground are vested in the President on behalf of the state. Current Government policy is not to participate in exploration or other mining activities or any shareholding other than its regulatory and promotional role.

Mining operations in Zambia are regulated by the Mines and Minerals Act (No. 31), 1995. However the latter is currently being updated (2006). Issuance of licences was suspended from August 2005 to August 2006, to allow full conversion of the old licence registration system to the new digital cadastre.

In line with Government's stated Mining Policy, the 1995 Act greatly simplified licensing procedures, placing minimum and reasonable constraints on prospecting and mining activities, creating a very favourable investment environment, whilst allowing for international arbitration to be written into development agreements should it be deemed necessary.

The Government encourages private development and diversification of the mining sector and promotes small-scale mining. The Environmental Protection and Pollution Control Act (No. 12) of 1990, the Mines and Minerals (Environmental) Regulations of 1997 and the Environmental Protection and Pollution Control (Environmental Impact Assessment) Regulations, 1997, provide a framework for environmentally responsible development of mines.

6.3 Mines and Minerals Act

The regulatory documents governing the Mines and Minerals Act are available on file and are taken from the Laws of Zambia: Mines and Minerals Act, Consolidated version of Act No. 31 of 1995 as at 31 March 1997 and amended last by Act No. 8 of 1995. Part III provides for application for, rights in relation to, grant and renewal of prospecting licences, retention licences and large scale mining licences. A retention licence confers on the holder exclusive rights to apply for a large-scale mining licence within the area for which the retention licence has been granted. In deciding on any mining right, the Minister shall take into account the need to conserve and protect the air, water and soil, flora, fauna, fish, fisheries and the features of cultural, architectural, archaeological, historical or geological interests (sect. 75). The Minister may attach conditions regarding protection of environment to the granting of a licence. There shall be an Environmental Protection Fund, which shall be managed in such manner as the Minister may prescribe by Statutory Instrument (sect. 82).

6.4 Licensing System

Three types of licence are available to the large-scale operator:

- Prospecting Licence Large Scale (PLLS): this confers the right to prospect for any mineral over any size of area for a period of two years, and is renewable for two successive periods of two years each;
- Retention Licence: the right to retain an area, subject to the Minister's agreement, over which feasibility studies have been completed, but market conditions are unfavourable for the development of a deposit at that time. Size of the area may be that covered by a Prospecting Licence or smaller area as redefined by the licence holder. Duration is for three years, and it is renewable for another single period of three years;
- Large Scale Mining Licence: this confers exclusive rights to carry out mining operations and other acts reasonably required to carry out the proposed mining operations. Applications need to be accompanied by environmental protection plans and by proposals for the employment and training of Zambian citizens;
- Similar rights are available to smaller operators, but on a reduced scale:
- Prospecting Permits: relate to areas of 10km^2 and have a duration of two years non-renewable;
- Small Scale Mining Licences: relate to areas not exceeding 400 hectares and have a duration of ten years and are renewable;

6.5 The Nama Retention Licence

The Nama Retention Licence was granted to Caledonia (Nama) on 23rd February 2007 and has an area of 80 625ha. It lies within Zambia but along the Zambia/DRC border between 12º 01' 5.92"S and 12º 22' 06.24"S and between 27º 09' 40.32"E and 27º 46' 54.48"E. The licence has been granted for a period of three years without the option to renew for a one-off payment of approximately US$54000.00

The licence is the consolidation of five separate prospecting licences, viz. Nama PLLS0001, Luamfula PLLS53, Kalimba PLLS0002, Ngosa PLLS55 and the more recently acquired Konkola West PLLS175 out of which Caledonia was required to relinquish 30% of the combined area held under the original prospecting licences. The area and extent of the previous prospecting licences, as well as the retention licence and UTM coordinates for the boundary pegs, are depicted in Figure 2 and the accompanying table.

The corner points of the Retention Licence have been defined in terms of the UTM35S Zone and these have been registered with the Zambian authorities subject to resurvey and checking of the corner beacons by surveyors on behalf of the authorities. The authors of this report have been provided with a copy of the letter from the Mines Development Department dated 23rd February 2007 confirming the issue of a Retention Licence to Caledonia Nama Limited.

There is a statutory royalty of 0.6% net smelter return on Zambian mines although the Government advised mining companies in mid 2006 and confirmed early in 2007 that it was going to increase this to 3% subject to negotiation with the companies. The authors are unaware of any other back-in rights, payments, or other agreements or encumbrances to which the property is subject.

The Retention Licence permits the holder to carry out prospecting operations in the licence area, but additional permits supported by environmental impact assessments would be required for operations that would impact on the environment such as bulk sampling and road construction.

7 Accessibility, Climate Local Resources, Infrastructure and Physiography

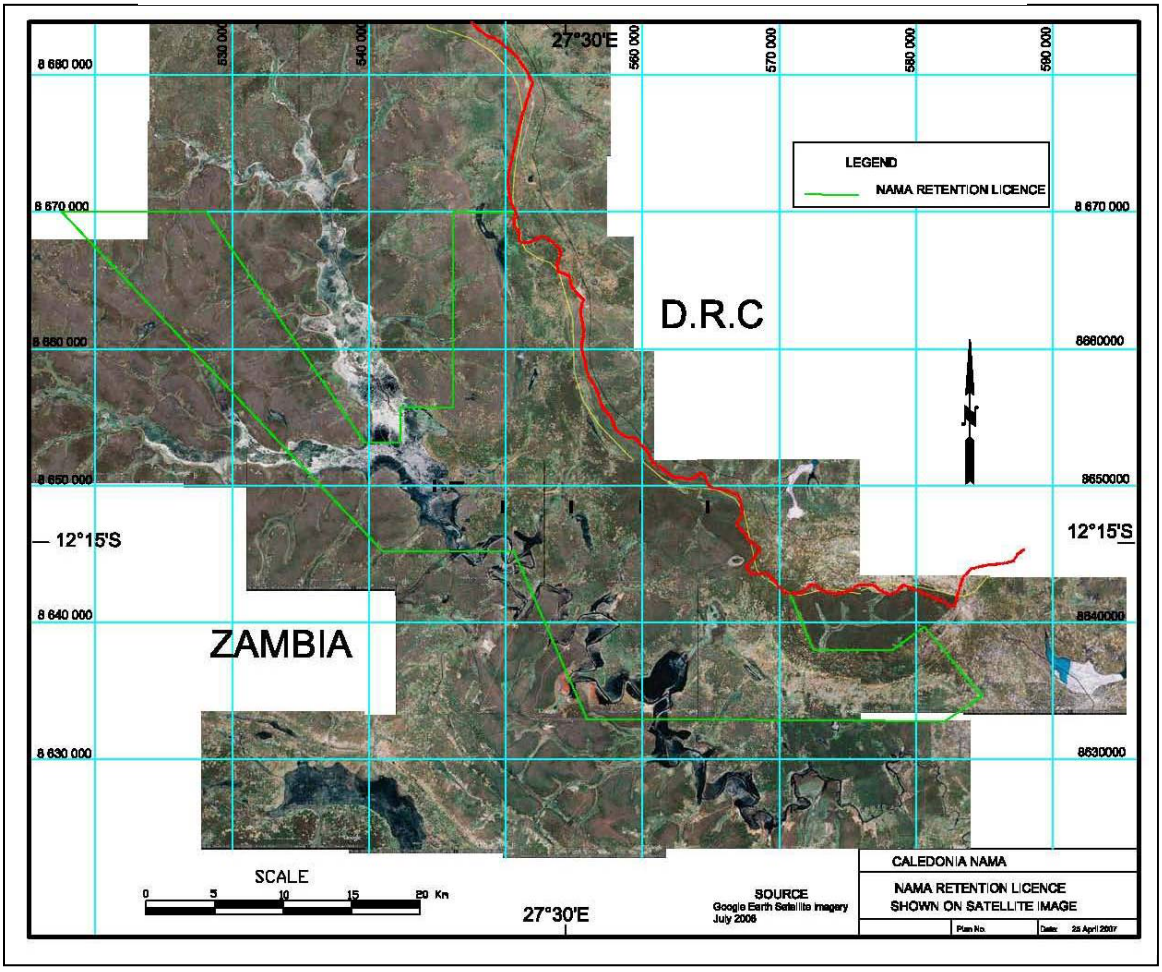
7.1 Topography, Climate and Vegetation

The topography of the region, especially along the project's western boundary is flat with wet lands that become water saturated during the rainy season. Eastwards, it becomes gently undulating and rises to elevations ranging between 1280 and 1450 metres above mean sea level (amsl) on isolated hills and low ridges along the eastern flank of the prospecting licences. The hills, ridges and elsewhere an almost imperceptible watershed demarcate the border between Zambia and the DRC. A satellite image of the Nama Retention Licence area is shown in Figure 3.

The project area lies at a latitude of about 12º south but owing to its altitude it has a relatively mild climate. The average temperature during July is about 17°C and during January the average temperature of about 22°C. The region has distinct dry (May to October) and wet (November to April) seasons. Rainfall occurs in summer and is mainly dependent upon the Intertropical Convergence Zone in which heavy afternoon thunderstorms can yield precipitation events of 20 to 40

mm. The annual rainfall varies from 700 to 1400mm. The winter months are mild and dry. There is no limit to the operating season except that flooding associated with heavy rains during the peak of the rainy season may cause delays of a few days.

Figure 3 Composite satelite image of the Nama retention licence area



A large portion of the project area lies within Kafwira National Forest No 44, Kafwira Extension National Forest No 61, Kalilele National Forest No 63, Konkola National Forest, and the Kafue Headwaters National Forest No 9. Only a small area in the south of the Retention Licence lies outside designated National Forest areas. National Forest areas are gazetted and activities within them are governed by the Forest Act No 7 of 1999. Forest reserves are either local or national forests that are protected from open access because of their national value such as protection of water catchment areas for river systems. Forests are administered by either the traditional chiefs or the Director of Forestry on behalf of the president. Licensed forest activities are allowed.

Vegetation in the forest areas in the Nama Retention Licence area, although locally disturbed by subsistence agriculture in the central and southern parts, as

well as by mineral prospecting activities, is still very typical of Miombo type woodland. The most common tree in the miombo woodlands are *Brachystegia, Julbernadia, Isoberlinia, Marquesia* and *Uapaca.* Tall deciduous trees interspersed with minor grass plains in low-lying wetland areas or swamps are also found in the area.

Figure 4 Vegetation and access roads in the Nama area

7.2 Accessibility

The project area is reached via bush tracks from the Konkola Mine Township near the No.2 Shaft in Chililabombwe or on a gravel road and bush tracks from the Solwezi-Chingola road. During the summer months, access to the project is

difficult due to grass and bush encroachment of the bush tracks, low-lying, waterlogged areas and flooded streams. The project area is not visible from the nearest villages. Pictures illustrating typical access and Miombo woodland vegetation in the Nama area are shown in Figure 4.

7.3 Proximity to population centres

The Nama Retention Licence lies in an undeveloped area at the northwest end of the Zambian Copperbelt Province which covers an area of about 31000km^2. The Copperbelt is the centre of the Zambian economy and through the production of copper accounts for about 80% of the Zambian GDP. It's principle towns and cities are Kitwe (439,000), Ndola (376,000), Mufulira (176,999), and Chingola (186,000), The main urban concentrations at or close to the main Copperbelt mining centres. The closes of these towns to the Nama Retention Licence is Chingola that lies about 60km to the southeast.

The Zambian Copperbelt is supported by numerous light and medium industries dependant on the copper mining as well as a number of smelters over and above the infrastructure associated with the operating open pit and underground mines. Most of these industries are based in and around the main Copperbelt towns that are connected by tarred roads, railways and telecommunications with an established transport network. The region is well populated with a large percentage of the population residing in urban areas. The main economic activity of the area is mining, and the region makes a significant contribution to the Zambian economy. Towns, cities, mines, farmland, exotic timber plantations, woodland and forest reserves dominate the Copperbelt landscape with degraded (indigenous) Miombo woodland covering approximately 30% of the region.

The Nama Retention Licence area is undeveloped and should provide sufficient space for surface rights for mining infrastructure and waste storage subject to approval of environmental impact studies and granting of licences for the operations by the Zambian authorities.

Electrical power to the Copperbelt is provided by the Copperbelt Energy Corporation PLC (CEC) which is a privately owned company. CEC's transmission and distribution network consists of 808 km of overhead lines and 36 high voltage substations. The current carrying capacity of the network is in excess 700Mw. CEC also serves the region by operating an interconnector with the Democratic Republic of Congo (DRC), through which power is wheeled to Zambia and other Southern African countries. A second 220kV line is planned between Chingola and the DRC that will pass close to the Nama Retention Licence area.

7.4 Soil and Land Use

Much of the Copperbelt is covered by deep, red, lateritic residual soils with sandy topsoil overlying more clay-rich subsoils or alluvial, dark grey to light grey clays or silts. These soils are generally strongly leached with low reserves of plant

available nutrients and low base saturation. The land immediately around the Nama project area is covered with Miombo woodland. The soils are rather poor and the trees have thus developed collaboration with mycorrhizal fungi. Subsistence agriculture and some rural residential areas are located about 7.5km from the exploration campsite. The nearest village is Kafwena.

7.5 Animal Life

Although the project area is well forested with minimal habitat disturbance in the forest reserve, a recent survey exhibited a conspicuous absence of wildlife except birds that are quite plentiful. According to the locals interviewed in a recent survey, reedbuck, bushbuck, duiker and buffalo were present in the area over 30 years ago but these populations have been decimated by poaching.

7.6 Surface Water and Groundwater

The project area lies in the generally south draining Kafue River catchment that is a tributary of the Zambezi River. The course of the Kafue meanders along the southwest boundary of the Ngosa PLLS including the common boundary between it and the Kalimba PLLS. Drainage in the project area is dependent upon water courses and small streams that follow south and southwest directions in most of the licence areas with a dominant eastwards direction in the Kalimba PLLS. In the flatter topography, poor surface drainage produces wetlands or dambos that become waterlogged during the rainy season.

Little information about the ground water regime within the project and surrounding areas is available. Observations made during the exploration drilling programmes showed that the water table appears to be between 3 and 15 metres below the surface over and in the vicinity of the deposits. Some of the old diamond drill holes in the project area are artesian especially those drilled close to the watercourses. There are no perennial natural springs although surface water seepage frequently occurs during the summer months.

7.7 Air Quality

The Nama Retention Licence lies in the northern part of Zambia on the border with the DRC where the prevailing wind is from the southeast throughout most of the year. The air quality in the area is good and the air is clean because of its remoteness and the absence of industry and infrastructure, but there is no supporting data available. There is a seasonal variation as well as localized and temporary deterioration in air quality, especially in the dry winter months, from smoke and dust due to grassland and forest fires, charcoal burning, village domestic fires and traditional Chitemene slash and burn agriculture. This air pollution hangs over the area and forms a distinctive haze. The haze layer is mainly visible from the air and is worst during the coolest months (June to July) when atmospheric temperature inversions tend to trap the smoke near ground level. The haze lasts until the arrival of the rains in November.

7.8 Noise

There is no historical data for the Nama Project area. Due to its remoteness and the absence of active industry in the area, current noise levels are associated with social activities and natural elements i.e. wind, rain and thunderstorms. Daytime noise levels are basically very low compared to other areas. Due to social activities in the evening at Kafwena village, noise levels are occasionally slightly elevated.

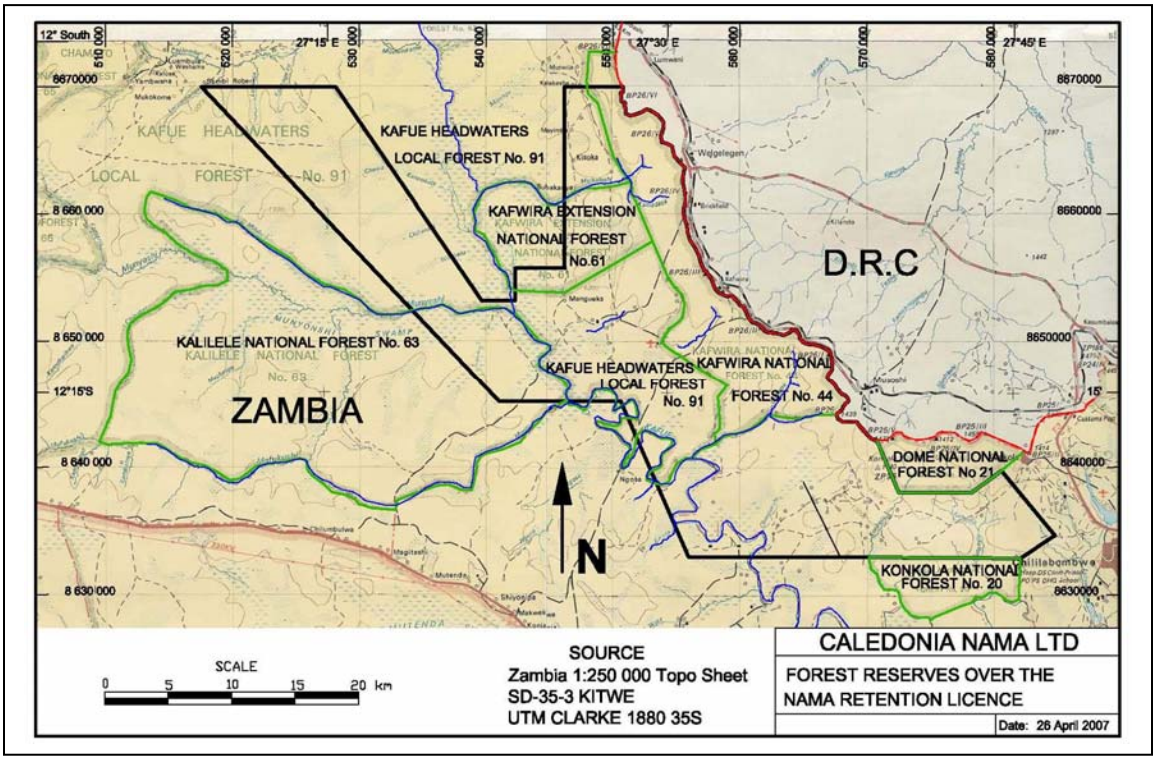
7.9 Sites of Archaeological and Cultural Interest

There are no recorded sites of archaeological or cultural importance in the project area.

7.10 Sensitive Landscapes

Most of the project area lies within National Forest Reserves which are gazetted and shown in Figure 5. Vegetation in these areas, although disturbed in several places by agriculture, logging and mineral prospecting activities, is still very typical of Miombo type woodland. Some parts of the forest have been heavily exploited for timber and are now in a regenerative stage.

Figure 5 Distribution of National Forest Reserves in the Nama area



The forestry sector in Zambia is regarded as very important to national development and human welfare. Forests provide a variety of benefits to the population including food, fuel wood, charcoal, building materials and medicines. Environmental degradation is a problem throughout Zambia with the most

pressing problems in the forestry sector being deforestation, forest degradation, soil erosion and fertility loss, watershed degradation, and loss of biodiversity.

Temporal and spatial changes in land use, vegetation cover, deforestation and reforestation in the Zambian Copperbelt were studied using a combination of aerial photograph analysis, literature review and inquiries among relevant government institutions. The study showed that between 1937 and 1984 loss of natural woodlands in the Copperbelt amounted to 41 per cent of the total woodland area estimated to be 8,419 km². Loss of natural woodlands in the area can be attributed to illegal and uncontrolled charcoal production, overexploitation, uncontrolled bush fires, land clearing for agriculture, and illegal settlements. Many people are turning to forest resource exploitation as a means of livelihood, which provides an alternative source of income and employment. Before 1962 the copper mining industry used large quantities of firewood to generate electricity and this resulted in the loss of 150,413 ha of woodland between 1937 and 1961. When the mining industry switched to hydroelectricity, urban households became the major users of wood fuel.

However, nearly all forests in Zambia lack proper management plans and the country as a whole lacks an up-to-date forest inventory data. The only management tool in the Forest Reserves under the Forestry Department has been licensing. A licence simply states the maximum amount of timber that may be removed annually. This system has not worked due to a number of problems, which, among others, include inadequate capacity of the Forestry Department to police forestry exploitation.

According to the Zambian Forestry Act (1999), part IX, a licence can be obtained from the Zambian Forestry Commission to operate within a forestry area for exploration purposes and in turn mining operations. Application for a licence to prospect within a forestry area does however require an Environmental Impact Assessment with clear plans for rehabilitation of the forest area after mining. Also the Forestry Act (Section 9 (2)) provides that in the case of National Forestry areas, a mining company may apply to the President for the forest area to be de-gazetted as a National Forest or that the boundaries of a National Forest can be altered or extended.

7.11 Socio-economic Structure

Subsistence farming is the dominant economic activity in and around the project area and is concentrated around the villages. The main non-farming economic activity is associated with Caledonia's exploration activities, which although erratic, contribute to local employment. Peripheral economic activity includes, fishing and small-scale business enterprises. The local population residing near the project area is mostly domiciled at Kafwena village, which is some 7.5 km northwest of the site. People in Kafwena go to Luamfula in order to access the medical facilities and school. Luamfula is located some 9 km from Kafwena village.

The main languages spoken in the project area are Lamba, Kalunda and Bemba. From a general survey of the area, it is estimated that over 80% of people embrace the Christian faith as a result of missionary activity in the area. Denominations found include the New Apostolic, Evangelical, Seventh Day Adventist, United Church of Zambia, the Catholic Church and others. Religion is a significant aspect of people's lives and the Church is an important institution in these communities. Christian religion and traditional beliefs including witchcraft co-exist in the area.

7.12 Interested and Affected Parties

Parties interested in and affected by the Nama project and the activities of Caledonia in the area are:

- Local communities in the surrounding villages,
- Local traditional leaders who would include Headmen and Chiefs,
- Local Authorities such as the Solwezi and Chililabombwe District Councils,
- Government Departments including the Zambia Police, Forestry Department, and the Ministry of Mines and Minerals Department, and
- Environmental Council of Zambia.

8 History

The earliest report of copper and cobalt mineralisation in the area was made by Rhodesia Congo Border Concession in 1928 and referred to a location just south of the Nama Licence area within the Konkola Dome Basement Complex. In 1930, geological mapping and pitting led to the discovery of copper-cobalt mineralisation within mostly unexposed carbonaceous shale on the eastern flank of the Konkola Dome. Since this time the area west of the Konkola Dome and extending northwest through the current Nama project area has attracted a number of exploration programmes undertaken by different companies.

8.1 Union Miniere du Haut Katanga

In 1935, Union Miniere du Haut Katanga discovered the Musoshi ore-body in the Lower Roan Ore Shale on the northern flank of the Konkola Dome in the DRC. The discovery was the incentive for Rhokana Corporation to trace the sub-cropping Lower Roan Ore Shale by drilling from the DRC border westwards along the south-east flank of the dome. This led to the discovery of the Konkola north orebody which lies along strike and is continuous with the Musoshi orebodies.

Surface geological mapping across the Nama area has been hampered by the poor rock exposure estimated at 1% of the total licence areas. Consequently, regional geological interpretation has been based largely on airborne geophysics, soil geochemistry, trenching and drilling.

8.2 Roan Selection Trust

The first exploration in the Nama area for which records are available was undertaken by RST in the 1950's and 1960's. This work consisted of gravity, IP, soil geochemistry, trenching and diamond drilling. Trenching and drilling confirmed mineralization at Yembela Clearing (now part of Anomaly 'E') and Nama (now part of Anomaly 'A' deposit).

Roan Selection Trust carried out a regional soil geochemical survey in 1965 over the Konkola Dome area with a view to locating north-western extensions of the mineralization then recently known to occur at Konkola and Musoshi. The sample traverse lines were put in by sighting from a surveyed base line. No survey record exists for these data and while the exercise was successful in locating the Nama (A Anomaly) and Yembela (K Anomaly) prospects, no other anomalies were identified or followed up. No records remain as to the specifics of the sampling procedure and the work has been superseded by Caledonia's own soil sampling program. The data has been used to corroborate the results of the later survey.

A series of 5 diamond drill holes and a number of shallow auger holes were drilled by RST to investigate the source of the geochemical anomaly at the Nama A Discovery site. The holes were coded CY 104 to CY 108, and totalled 1030 m. Both vertical and angled holes were drilled to intersect a generally north dipping mineralized zone. The positions of these boreholes have been located relative to the later drilling program by the CY104 collar beacon that is clearly marked in the field.

This exploration program was aimed at locating copper sulphide mineralization and the core was only sampled and assayed for Cu and Co where visible sulphide mineralisation was noted. The core was sampled by splitting with a diamond saw. The copper grades encountered were generally low with the best intersection being 1.03% Cu and 1.28% Co over 1.22 m. This was too low to warrant further exploration at the time. The analyses were later corroborated by the results from the Caledonia boreholes. On conclusion of the RST exploration programme, the core was transferred to ZCCM, Operation Centre Geological Department in Kalulushi for safe keeping.

A series of 9 diamond drill holes were drilled into the Yembela prospect or E anomaly as it is referred to by Caledonia staff.

8.3 Anglo American and Zamanglo

In 1956 Anglo American Corporation conducted a ground magnetic survey over the Konkola area and defined a magnetic field anomaly on the southern side of the Konkola Dome. In 1957, Chartered Exploration carried out orientation soil sampling on the orebody north of Konkola and defined a copper-cobalt anomaly. The low copper values were ascribed to leaching of the sub-cropping Lower Roan Ore Shale.

Reconnaissance stream sediment sampling was undertaken with follow-up sampling of the stream sediment anomalies by Zamanglo in 1966 and 1968. This defined polymetallic anomalies in the Konkola area roughly coincident with the geomagnetic trend. In the late 1960s while RST was exploring the Nama area, Zamanglo continued with extensive pitting, diamond drilling and surface mapping across the Konkola area. Further work was curtailed by nationalisation of the copper industry in Zambia.

Zamanglo, a then subsidiary of Anglo American PLC, initiated a program to explore for the western continuation of the Ore Shale known to occur at Konkola North mine. The program included soil sampling of the Konkola West area, a zone of southerly dipping strata that has been uplifted by the Konkola granite dome immediately to the north. The grid spacing was 1000 feet between lines with samples at 100 feet intervals. No detail is available on the sampling procedure. This survey has been geo-referenced using property boundaries so that it can be used in conjunction with the later soil survey conducted by Caledonia. The soil sampling indicated a very clear zone of copper enrichment following the western continuation of the Ore Shale at Konkola Mine.

Follow-up by Zamanglo involved a limited drilling program of eight diamond drill holes (KO1 to KO8). Five boreholes intersected mineralization, the deepest being 240 metres below surface. A resource of 5.3 million tonnes at 0.76% Cu (average thickness 5.5m) was estimated by Zamanglo from these results but the intersections were not assayed for Co. The results obtained by Zamanglo did not meet the desired criteria when compared to their other projects in the area, and the property was allowed to lapse.

8.4 Johannesburg Consolidated Investments Ltd

JCI's principle involvement in the area began in 1995 with acquisition of a Prospecting Licence over the southeastern, central and western flanks of the Konkola Dome. JCI drilled two diamond holes in the northwest of the Konkola West Licence but these were not fully logged and sampled.

8.5 Konkola West Licence

The Konkola West licence area is known to contain Ore Shale at its eastern extent due to on and off exploration work since 1927 and more recently exploration work by Zamanglo and JCI. The western limit of the Ore Shale in this area is still unclear but there appears to be some significant downthrow faulting or basic intrusive that has dropped the Ore Shale to an unspecified depth but there is excellent potential for westward continuation.

8.6 Caledonia

Following the liberalisation of the Zambian economy and changes in mining laws that started after the 1991 multi-party elections, Caledonia Mining Corporation moved into Zambia to search for mineral deposits. The company took out its first

licence in 1994 and increased the number of licences in the area to four by 1996 and the fifth licence in the Nama group by late 1998. During the period 1994 to 1996 the company focused on cobalt-copper oxide deposits located close to the surface.

Intensive drilling was conducted over oxide showings, which were selected from the initial soil sampling covering the Nama and Luamfula licences. The drilling encountered Katangan sediments consisting of conglomerates (mixtite), sandstones, siltstones and shales with carbonates in places. The exact stratigraphy of the area has not been properly understood largely due to the fact that the basement had not been encountered and no clear marker horizons identified. Dolerite or gabbroic intrusives, which are more widespread in the Upper Roan units, were also encountered. An advanced exploration stage was reached for the Nama 'A' deposit but at the time no further work was done due to a fall in cobalt prices.

In 1997 the company widened its scope of exploration targets to include sediment hosted and vein sulphide deposits due to the favourable lithology, structures and good geochemical anomalies in the area. Deposit types considered by Caledonia to have potential include:

- Sediment hosted stratiform copper deposits with or without cobalt, similar to other Zambian – Congolese Copperbelt deposits.
- Zn-Pb-Cu-Ni deposits in calcareous rocks such as at Kipushi in the DRC.
- Vein and structural deposits, which may contain gold.

Areas covered by the Nama Retention Licence have been covered completely by aeromagnetic surveys as shown in Figure 8 as well as airborne radiometrics shown in Figure 9. The results are available in digital form and prints of processed and contoured data. These images show folded and faulted sedimentary strata largely of Katanga age with numerous sites favourable for metal deposition. They also show possible sub-outcrops of the pre-Katanga Basement and numerous basic intrusive bodies.

To date there has been extensive soil sampling over most of the Nama Retention Licence with about 25000 samples collected. This work includes full coverage of over the central and central-north parts of the licence area including anomalies A to E. Samples from the western parts of the licence area were routinely analysed for 32 elements by ICP, but samples from the eastern parts were only analysed for Cu, Co, and Ni and about half the samples for Au. The early anomalies (A to F) were tested for oxides close to the surface though they have a potential for sulphides at deeper levels and laterally. The soil geochemistry has indicated the potential for metallic sulphides in sediments away from basic intrusive bodies.

In view of a downturn in the cobalt market, in the late 1990's further exploration was postponed until the findings of the initial work provided sufficient

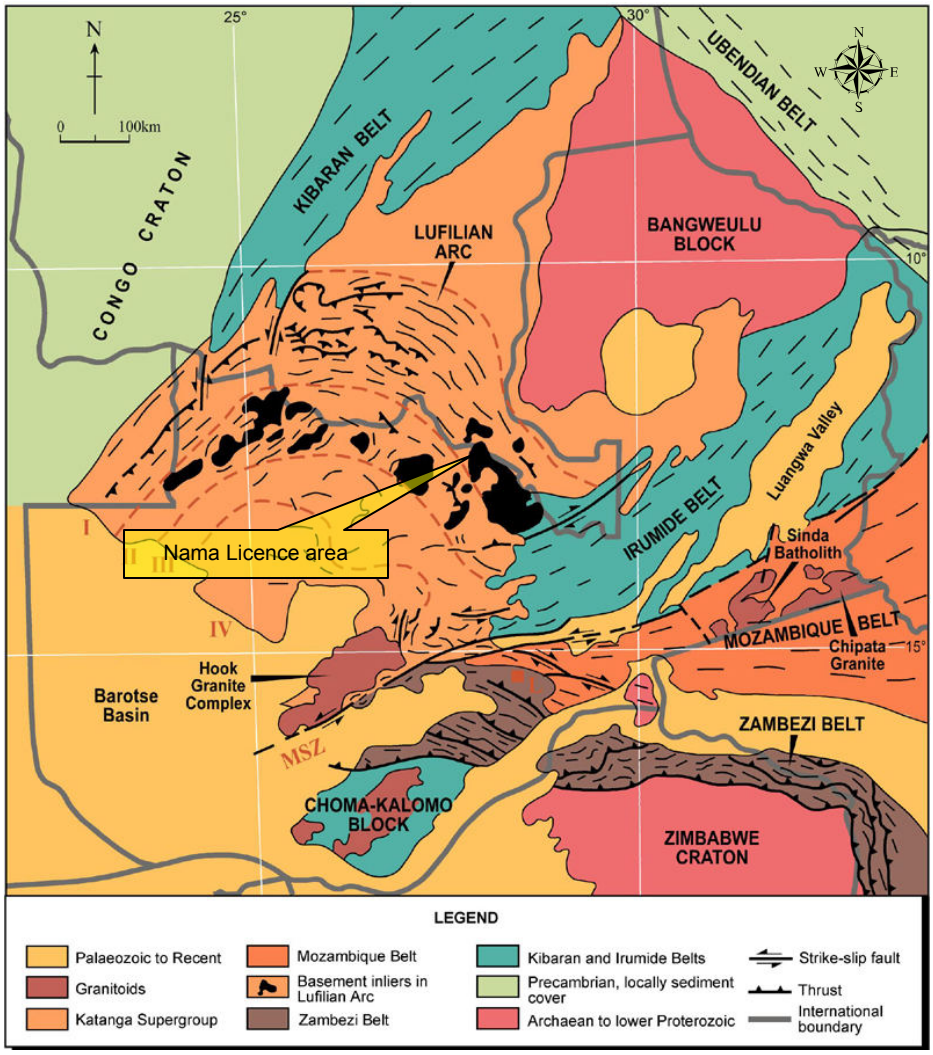
encouragement to proceed with drilling and opening up of the remaining anomalous areas.

8.7 BHP Joint Venture

In August 2000, Caledonia entered in to a joint venture agreement with BHP. This agreement allowed BHP to spend money on exploration for sulphides in the area to gain some interest in the mining rights of the Kalimba Project area. This agreement did not include cobalt-copper oxide resources that had been evaluated by Caledonia. Major field work during the JV period was done in September to December 2000 and largely consisted of soil sampling along 1000m spaced east-west cut lines. The fieldwork was preceded by a literature study aimed at refining geologic and exploration models.

BHP-Billiton concluded their joint venture agreement with Caledonia (Nama) and in terms of the agreement relinquished any further interest in the project.

Figure 6 Regional geology of Zambia and the Copperbelt



9 Regional Geology

The Zambian Copperbelt and the Cupriferous Arc of the neighbouring Democratic Republic of Congo (DRC) closely follows the Lufilian Arc as illustrated in Figure 6. The Arc is a complex structural zone that lies at the northeastern extremity of, and perpendicular to, the Damaran-Katangan belt of meso- to neo-Proterozoic sediments. This belt extends southwestward across the southern Africa subcontinent for over 2000km to the Atlantic seaboard.

The Zambian Copper Belt comprises two NW-SE trending parallel lines of Cu mineralization in neo-Proterozoic sediments some 20km apart, separated by the Palaeo-Proterozoic basement gneisses, granitoids and schists, and meso-Proterozoic conglomerates, quartzites and granitoids. The two lines follow the limbs of, and the basement makes up the core of the Kafue Anticline. Each of these belts is 5 to 20km wide and up to 150 km long. The economic mineralization however tends to occupy a linear, often more structurally complex band up to 2km wide on the SW limb, interrupted by narrow barren gaps and cross folded anticlinal basement cores. Within the two belts there are some 7 major and 25 minor stratabound deposits although the majority of these lie within the southwest belt. Since the 1930s the total mined ore plus reserves and resources has been estimated at 3000Mt @ 2.9% Cu.

Table 1 Stratigraphy of the Zambian Copperbelt

Stratigraphic Column

Lithology	Group	
Gabbro		Post Katanga Intrusives
Limestone, shale tillite	Kundelungu	Katanga Supergroup
Shale	Mwashia	
Dolomite, Dolomitic sandstone and laminated shale	Upper Roan	
Shale with grit Hangingwall Aquifer Hangingwall Quartzite Ore Shale Footwall Quartzite/Arkose Footwall Conglomerate	Lower Roan	unconformity
Granite Gneiss, grey		Basement Complex

9.1 Stratigraphy

The neo-Proterozoic strata hosting the copper mineralisation belongs to the Katanga Supergroup sediments and is preserved in a series of structural basins separated by domes. A stratigraphic column is shown in Table 1. The present axes and locations of the domes as can be seen in Figure 6 are the product of interaction between Irumide (NE) and Lufilian (NW) orogenic trends. Within these structural basins three main types of fold style can be recognised:

- parallel en echelon anticlines and synclines on basin flanks with E-W to WNW-ESE strikes;
- drape folds over basement topographic highs; and
- asymmetric synclines the axial planes of which strike between westerly to northwesterly and dip steeply north to northeast.

9.1.1 Basement Complex

The Basement Complex exposed in the Konkola Dome comprises biotite gneisses and schists intruded by granitic rocks. Orthogenesis and large granite masses outcrop in relatively equal proportions and form the cores of the Luina and Mokabo domes in the adjacent DRC.

9.1.2 Katanga Supergroup

The stratigraphic column in **Error! Reference source not found.** shows the general relations of the Katanga Supergroup in Zambia and the DRC. Age determinations combined with geological relationships indicate that the Katanga Supergroup was deposited between 900 and 620 My ago.

9.1.3 Lower Roan Group

The Lower Roan sediments are dominantly silici-clastic rocks, and were deposited unconformably on the basement complex, which had an irregular topography, with differences of elevation of several hundred metres. A basal conglomerate with cobble to boulder-sized clasts is progressively overlain by pebbly arkosic arenites, fine to medium grained argillaceous and carbonate rich arenites and an upward fining cycle, with arkosic conglomerate giving way to evaporitic dolomite at the top. The ore-shale overlies the lower clastic units and is a dark grey, siliceous, siltstone grading westward into carbonaceous shale.

9.1.4 Upper Roan Group

The Upper Roan is approximately 600m thick and comprises interbedded dolomite, dolomitic sandstone and dolomitic shale with considerable anhydrite. Locally the carbonate formation may be leached to depths of 300m and the shales weathered to red clays. Basic intrusives of gabbroic composition have intruded the Upper Roan as sills and dykes. These intrusives have been regionally metamorphosed with abundant amphibole, chlorite and scapolite.

9.1.5 Mwashia Group

This is approximately 600m thick and overlies the Upper Roan Formation. It consists of conglomerate, dolomite and shale with the latter generally pyritic and in parts carbonaceous.

9.1.6 Kundelungu Group

This overlies the Mwashia Group and is in excess of 6000m thick. The base of the Kundelungu Group is represented by a mixtite of granite, quartz, quartzite, dolomite and shale fragments in a massive argillaceous matrix up to 150m thick. It rests unconformably on basement granites and gneiss. The mixtite is interpreted to be a tillite or fluvio-glacial conglomerate and is in turn overlain by the Kakontwe limestone and dolomite.

9.1.7 Surface Cover

Alluvial and laterite deposits cover approximately 95% of the licence areas. Alluvial deposits have been deposited along the Kafue River flood plain, tributary rivers and dambos and account for 15% of the cover. They comprise sands, silts, grey clays and black soils. Laterite and lateritic or pisolitic soils account for the remaining 80% of the cover and is generally between 6 – 12m in thickness.

9.1.8 Structure

Regional mapping in the Nama Licence area have identified two distinct thrust systems. An earlier WSW trending thrust belt correlated with the Damaran-Katanga orogenesis is cut and displaced by a later NNE trending thrust belt which lies parallel to the limbs of major NW trending folds formed during the Lufilian orogenesis. In some Nama drill holes cobalt mineralization occurs along faults and thrusts but at this stage the geological information is insufficient for a detailed analysis of their patterns.

9.1.9 Regional metamorphism

Regional metamorphism accompanied deformation of the Katanga Supergroup sediments, with grade increasing from the lower greenschist facies in the east, to high greenschist facies over most of the mine areas, and to lower epidote-amphibolite facies in the southwest.

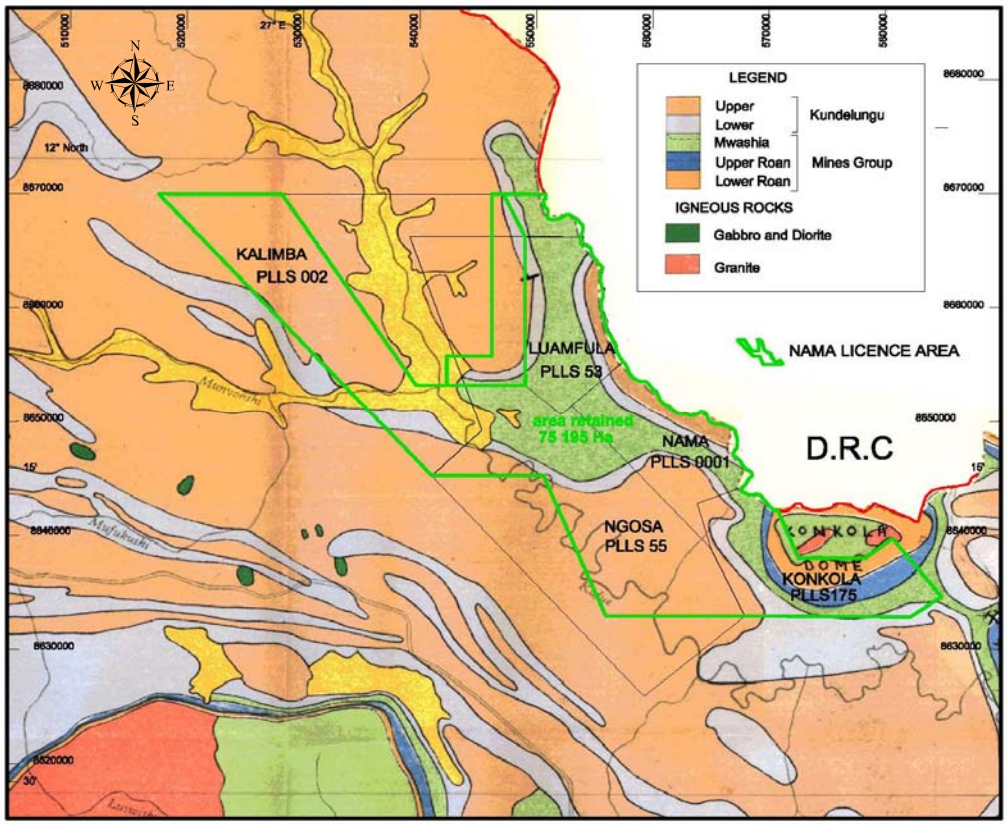
Traditionally the ore deposits of the Zambian Copper Belt have been interpreted to lie within the Lower Roan Group (up to 1000m thick) composed principally of coarse silici-clastics (conglomerate to arkose and siltstone, with lesser carbonates). Some 65% of the mineralization lies within a unit of generally carbonaceous argillites, carbonate-bearing argillites and interbedded arenites (the Ore Formation) within coarser clastic succession up to 100m thick. A further 25% of the mineralisation lies within coarser footwall clastic units and the remaining 10% within the coarse hangingwall clastic units. Lithologically 60% of the ore is hosted by argillites and 40% in arkose, quartzites and conglomerates.

Copper mineralisation of the Cupriferous Arc in the neighbouring DRC occurs in the Upper Roan Group.

9.2 Local Geology

Existing geological maps as illustrated in Figure 7 have been compiled from literature surveys, previous mapping, pitting, drilling data, inference from soil colour, texture and in many cases vegetation, especially tree species. Caledonia has supplemented this mapping with increased drilling, aeromagnetic and radiometric data. The airborne magnetic survey shown in Figure 8 has enabled the broad structural trends to be traced through the Nama Licence area which otherwise would not be evident from the very limited outcrop in the area. The radiometric map shown in Figure 9 shows high intensity radiation related to potassium associated with granite domes and accumulations of clay minerals that could be from alteration or the soil profile or both. Low radiation intensity occurs over standing water. Neither survey has data that can be directly linked to the Nama oxide mineralisation, but does provide information relevant to the regional geology of the area. A structural interpretation based on the geophysical data is presented in Figure 10.

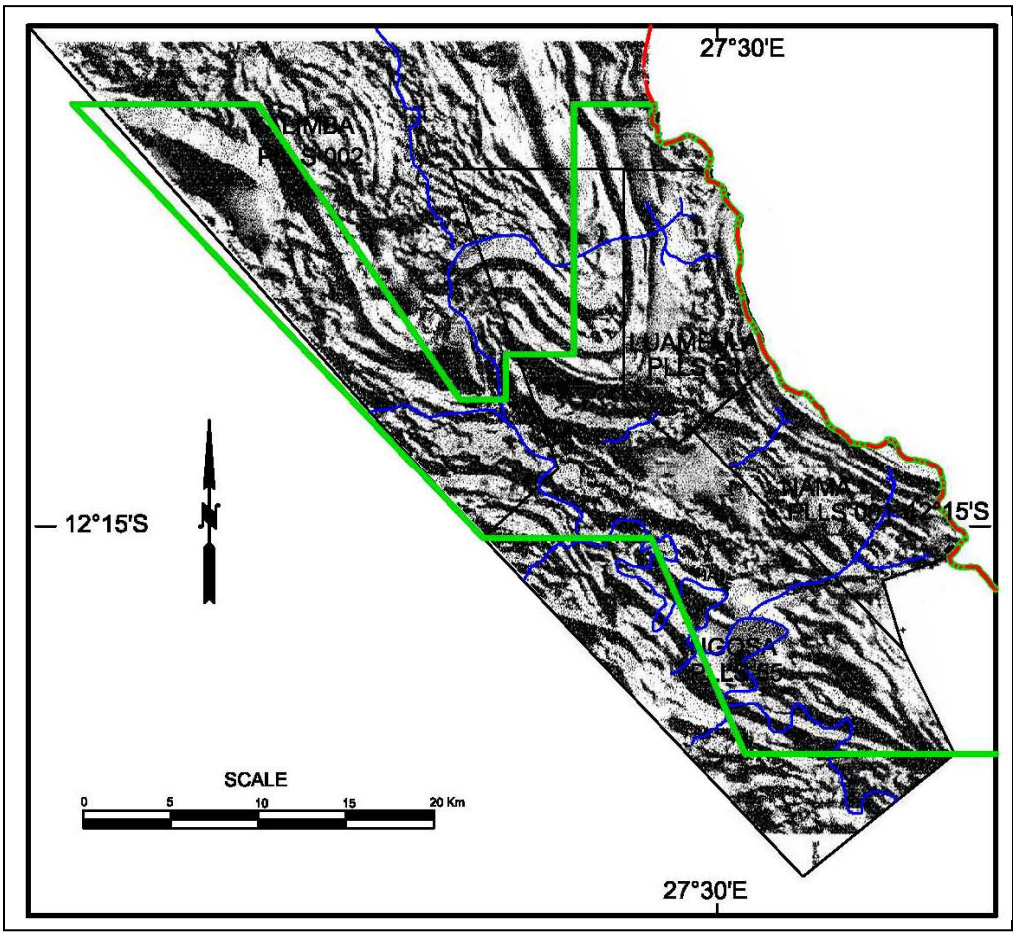
Figure 7 Geological map of the Nama Retention Licence



Caledonia's northern licences occupy the south-central part of the Lufilian Arc that extends for 800km into the DRC and Angola. The major copper-cobalt orebodies of the Zambian Copperbelt lie to the southeast and are hosted by

sediments of the Katanga Supergroup, which are believed to have been deposited in a northwesterly trending intra-cratonic basin.

Figure 8 Image of aeromagnetic data over the Nama Retention Licence Area



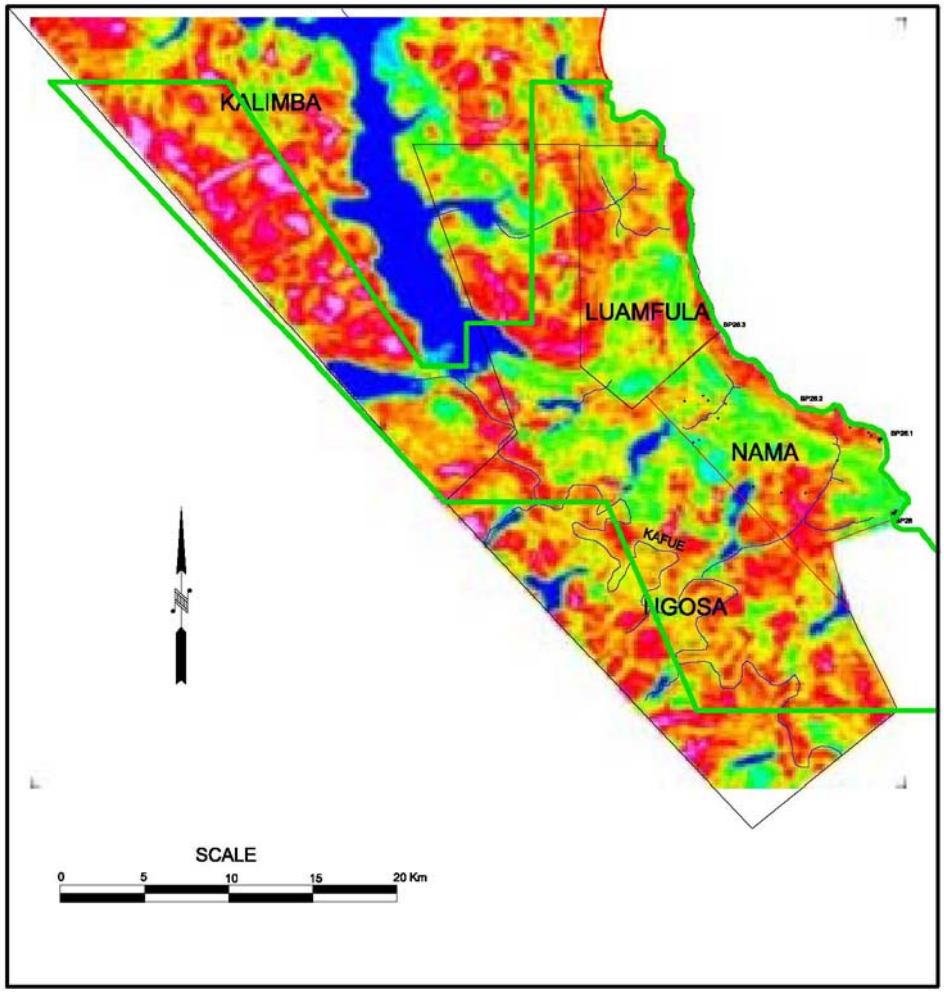
9.2.1 Geology of the Nama Retention Licence area

The lithologies present in the Nama licence area consist of sandstones, siltstones and argillites that could belong to either the Lower Roan or Upper Roan Groups, including a locally developed mixtite unit belonging to the Lower Kundelungu Formation. Detailed information on lithologies hosting the mineralisation in the various anomalies is largely dependent on drill logs due to the paucity of outcrops.

The sandstones and siltstones at Anomaly A are finely interbedded with argillites. The sandstones are pale grey to dark brown in colour and vary from arenites to sub-litharenites in composition, historically referred to as quartzites. In Anomalies B and C, sandstones are the dominant rock type and consist of white, fine to medium grained arenites, feldspathic arenites, lithic arenites and occasional wackes with fine bedding.

In Anomaly A, the arenites are occasionally finely interlaminated and interbedded with siltstones and argillites. Individual beds vary from millimetres to tens of centimetres. Siltstones are very siliceous, and generally melanocratic, due to finely disseminated specularite and magnetite. They are finely bedded or laminated and frequently fractured and broken.

Figure 9 Image of radiometric data over the Nama Retention Licence Area

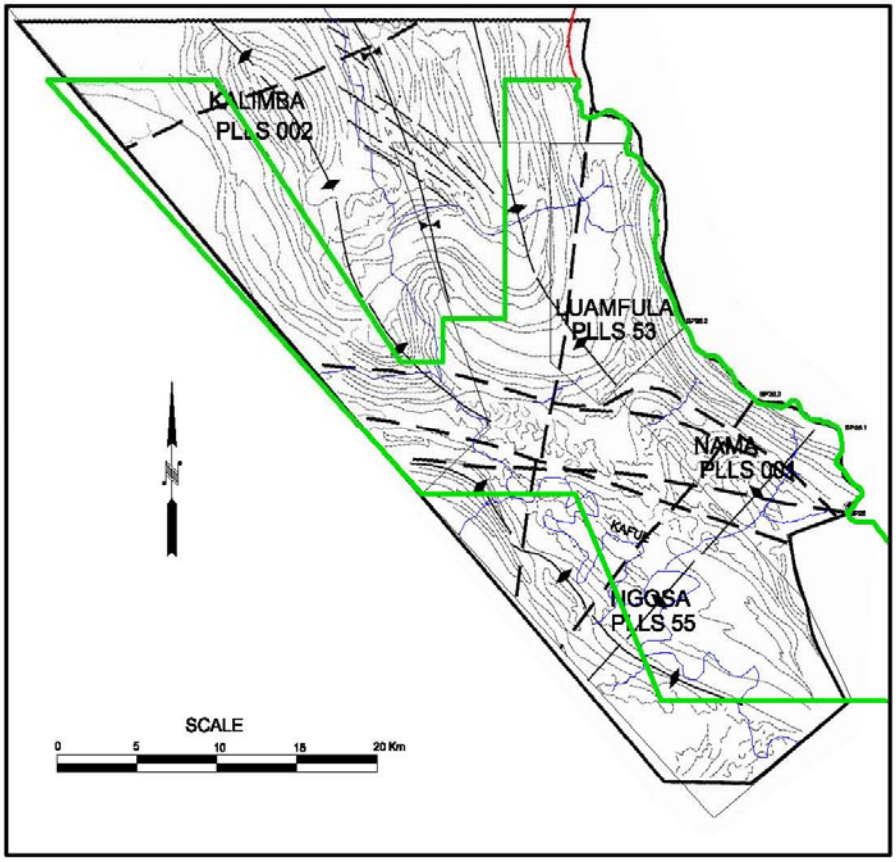


The mixtite is a competent rock that comprises granite, quartzite, dolomite and shale fragments in a massive argillaceous matrix. Mixtite commonly occurs at Anomaly A but not in Anomalies B, C., D and E. The siltstones are light to dark grey in colour, finely bedded or laminated. Argillites are finely interbedded throughout the sequence and, at the shallow depths drilled, contain large quantities of clay.

Basic intrusives occur at Anomaly B and have been interpreted as thick sills with gabbroic and metagabbroic compositions. They are fractured, sheared and brecciated with a lack of continuity. Fresh gabbro forms isolated cores while the metagabbro has developed within and along the deformed margins of fractures

and shears. They are generally dark in colour to black, with brown mottling were iron minerals have been weathered. The texture is dominantly coarse-grained but may be locally fine-grained, depending upon composition and alteration, if any. Epidote, chlorite and scapolite are widespread, especially in the metagabbros, and amphibole, scapolite and chlorite are ubiquitous especially at wall rock contacts and along fractures, shears and faults.

Figure 10 Structural map prepared by interpretation of the airborne geophysical data



.Clay alteration is present along the numerous fractures, shears and faults. Epidote alteration and scapolite have been noted along with abundant calcite around veins and fractures as well as close to the contacts with the basic intrusives. Clay zones, which in part are due to weathering and alteration, occur along narrow faults and shears, but also as broad zones around quartz veins, faults and shears. The clay zones contain abundant sericite and talc.

The structure at Anomaly A has still not been completely resolved, as a result of the poor outcrop, limited quantity of diamond core and the shallow depth of drilling. It would appear that the sequence has been overturned by recumbent folding, imbricated by thrusting or both, resulting in strata correlated with the Lower and possibly Upper Roan overlying units of the Lower Kundelungu Formation. A series of thrust splays and imbrications have been interpreted by

Caledonia staff in Anomaly A as well as a large normal fault, with some strike slip movement, trending SW-NE.

Veins commonly occur in the area and are filled with abundant quartz, calcite and specularite. Psilomelane is common.

10 Deposit Types

10.1 Main Copperbelt mineralisation

The main Copperbelt mineralization occurs at the interface between the Lower Roan and Upper Roan Groups. The Upper Roan in turn is overlain by the Mwashia Group which comprises dolomitic siltstones, carbonaceous shale, intercalated limestones and dolomite units. The Kundelungu Group, a massive tillite (locally termed mixtite) and dolomite unit unconformably overlies the Mwashia Formation.

The mines on the Zambian Copperbelt are generally hosted within and immediately adjacent to the OS 1 Member (Ore Shale). Copper mineralization hosted in the OS 1 Member occurs at the Konkola West property as well as at several nearby mines in Zambia and the DRC. Resources amounting to well in excess of a 100 million tonnes are known to exist within or adjacent to this stratigraphic unit in this region of the Copperbelt.

The mineralised portion of the OS 1 Member is typically between 15 and 20 metres thick and, at individual mines, may have a strike length of over 10 kilometres. A complex paragenesis of native copper, copper oxides and sulphides is present. The OS 1 Member is the lowest well defined and continuous shale-siltstone-schist unit of the Katanga Sequence and has been interpreted as a reducing impervious trap and depositional site for mineralizing fluids.

10.2 Nama Cobalt-Copper Mineralization

The Konkola West property appears to mark a broad scale change in the nature of the Copperbelt mineralization. East of this area the primary economic metal is copper (as in the major Copperbelt producers), while west of this area cobalt appears to be as important (if not more so) than copper. Based on the exposures and data available to Caledonia, a style of mineralization that is quite different from that of the main Copperbelt is evident.

The Nama Co-Cu mineralization occurs at the interface of the Kundelungu mixtite and overlying talcose and carbonate-bearing sediments. Since the mixtite is the footwall, an entirely new explanation is required for this style of mineralization. The overlying talcose sediments are highly sheared while the footwall mixtite is generally massive and competent. This contact has been interpreted to be a major fault trending NE-SW and dipping to the north. Sedimentary units on the northern side of the fault appear to have been drawn out against the fault in a left

lateral movement. Co and Cu mineralization is interpreted to have formed as a result of hydrothermal fluids rising up the fault/shear system and impregnating the sidewalls but focusing the majority of the mineralization along the mixtite contact zone.

Both Co and Cu mineralization is characterized by rapid fluctuations in grade with values rarely exceeding 3% of either metal. The highest grades are associated with a dark brown manganiferous horizon in which the Co and Cu are intimately associated with the manganese and iron oxides and hydroxides. Lower grade mineralization occurs disseminated in the talcose clay-sandstones overlying the above brown zone. Weathering of the deposit has resulted in a high grade dispersion anomaly spreading down the slight gradient to the NW and containing some of the higher Co grades.

The Nama deposit lies in the headwaters of the Kafue River, an area which is deeply weathered and lateritized. Extreme weathering has resulted in virtually all the ore minerals in the intersected zones being oxidized. While RC drilling is relatively easy in these soft materials, extreme care must be taken to ensure that the very fine oxide grains are captured with the drill chips and not washed away. Diamond drilling on the other hand has been unsuccessful in coring these oxidised materials. The oxide nature of the ores has a fundamental impact on the proposed metallurgical approach to the body. The only sulphide minerals encountered are pyrite and chalcopyrite relicts from the deeper zones of the body (100 m to 150 m depth).

In addition to the above style of mineralization, another zone distinct from the above has been defined by RC drilling. This zone is some 40 m thick and lies at a high angle to the main shear zone. Drag on the shear where this zone meets the shear zone has resulted in a drawn out convergence zone. Away from the main shear, this zone has values of approximately 0.04% Co while in the convergence zone the values are elevated considerably but erratically.

11 Mineralization

Two distinct mineralization events can be recognised in the Nama Licence Group area. The eastern third of the Lufilian Arc (Figure 6) is characterised by thrusts mineralised with copper, cobalt, lead and zinc during an event dated at about 750 Ma. The western part of the Lufilian Arc is characterised by later thrusts with copper-cobalt mineralisation in the DRC which post dates 690 Ma. The group of Nama Licences is located in a region where these two thrust systems cross one another at the NW end of the Kafue Anticline.

Primary cobalt-copper-nickel mineralization in the Nama area is commonly in the form of arsenides or sulphides and was precipitated slightly earlier than the copper as chalcopyrite and bornite. There are arsenic concentrations in the soil thought to be associated with both the early and the late thrust systems in the Nama area, and in some Nama drill holes, cobalt mineralization occurs along

faults and thrusts. This implies that cobalt and accompanying metals were introduced into the formations by hydrothermal solutions following conduits generated by both the early and the late thrust fault systems.

The predominant mineralization type found in the Nama area is a cobalt-copper oxide ore occurring close to surface and formed most likely from the weathering and surface enrichment of pre-existing primary sulphide deposits. Very little is known at this stage about the mineral phases in which the cobalt, copper and nickel occur.

The mineralization on the Nama 'A' deposit occurs in two zones. The upper zone follows the subsurface contact between the overburden and bedrock. The lower zone comprises three bodies that appear to follow the Lower Kundelungu mixtite and Lower or Upper Roan Group sandstone, siltstone and argillite contacts. The mineralization is also thought to follow faults, shears and thrusts.

Low-grade oxide mineralization was encountered across the "D" Anomaly, where the sediments show intense alteration of chlorite, talc, epidote and silica closely associated with sediment-intrusive contacts. Away from this alteration zone haematite and magnetite alteration occurs within the sediments and gives rise to ridges of gossanous outcrops. The gossanous material or oxidised zones coincide with elevated cobalt values.

In the Ngosa area some 6 reverse circulation holes were drilled on the 'E' Anomaly on a fault-controlled ridge with outcropping haematite, magnetite altered sandstones and siltstones. The mineralization encountered in the reverse circulation holes appears to be related to alteration around the faulting.

In the Konkola licence area the earlier exploration over the Konkola Dome located two copper-cobalt occurrences within the Basement Granite. Subsequent exploration work outlined the presence of the Ore Shale, which led to the discovery of the Musoshi and Konkola orebodies. The Ore Shale extends from the eastern boundary some 3.5 km across the Konkola West licence area. The mineralization within the Ore Shale is mainly chalcopyrite and pyrite, which occurs both as fine disseminations and concentrations along bedding planes. Mineralization is usually best developed towards the top of the unit. Deep weathering and leaching of the Ore Shale has resulted in a discontinuous low order copper and cobalt anomaly detectable in the C-horizon of the soil profile. In the eastern part of the Konkola licence area Zamanglo identified the presence of Cu-Co showings with peak values of 4.25% total Cu and 0.37% total Co.

12 Exploration

This section describes the exploration work undertaken by Caledonia (Nama). Exploration activities that occurred in the area prior to the involvement of Caledonia are dealt with in section 8 History.

12.1 Geochemistry

Initial exploration by Caledonia involved a geochemical soil sampling programme that covered all accessible parts of the licence areas at a line spacing of 500 metres, with samples taken at 100 metre intervals along lines. Some 1000 kilometres of line cutting was undertaken and about 300 kilometres of roads made for access to the licence areas. Thick vegetation, watercourses and dambos were often inaccessible. Field screened soil samples were submitted for 32-element chemical analysis using the ICP technique at ALS Chemex in Canada (at the time of doing this work, the company's name was simply Chemex). The full extent of the soil geochemical coverage is shown in Figure 11.

Regional grid cutting and soil sampling commenced in October 1994 over the Discovery or A anomaly. A total of 35 lines orientated NE and 500 m apart were completed. Soil samples were collected 250 m apart and amounted to 800. The samples were taken at a depth of between 400 mm and 500 mm and screened to minus 80 mesh in the field before being packed into paper sample sachets.

The samples were sent to SGS Zimlab Ltd in Harare, Zimbabwe for determination of Co, Cu and locally Ni. The samples, approximately 200 g in mass, were put through a fine pulverising ring mill to pass 75 micron. A 5 g sub-sample of the pulp was digested with Aqua-Regia, the liquor diluted and analysed for Co and Cu by Atomic Absorption Spectroscopy. Laboratory standards were inserted every 20 samples and 1 in 20 samples was analysed in duplicate.

In March 1996, a follow up infill soil sampling program commenced to acquire local detail over the identified anomalies. The separation of the soil lines was reduced to 100 metres apart with samples collected every 25 metres.

The other parts of the Nama Retention Licence area corresponding to the original Luamfula, Ngosa and Kalimba Prospecting Licences were covered with east orientated soil geochemistry lines spaced 250m apart. The reason for this was to orientate the survey perpendicular to the N-S strata, and to match the grid of the aeromagnetic data being flown at the time.

The initial sampling program undertaken during 1996 covered 520 line km that amounted to 6,100 soil samples. A later exercise in early 1998 was required to complete the program over the Kalimba area, with a further 200 line km and 2,300 soil samples. These samples were collected at depths from 400 mm to 500mm and sieved to minus 80 mesh in the field.

Samples from this part of the programme were sent to the Chemex laboratories in Canada. Samples were sealed in manila sample packets and packed in batches generally a line at a time. These packages were air freighted to Toronto, Canada up to three batches a week depending on the quantity of samples produced. It was arranged with Chemex that they would collect the samples at

the airport for transport to the laboratory. On receipt at the laboratory, these samples were pulverised in a ring mill to pass 75 micron screen. The resulting powder was analysed for 32 elements using the ICP-AES technique. The technique analyses liquids by vaporizing them in the very hot core of an argon plasma. Since the technique analyses liquids rather than solid samples, samples need to be dissolved prior to analysis. The dissolution technique used to dissolve these samples was a Nitric- Aqua-Regia leach. The elements analysed are listed together with laboratory detection limit for geological materials in Table 2. Most geochemical procedures are specified to have a precision of ± 10%. Analytical

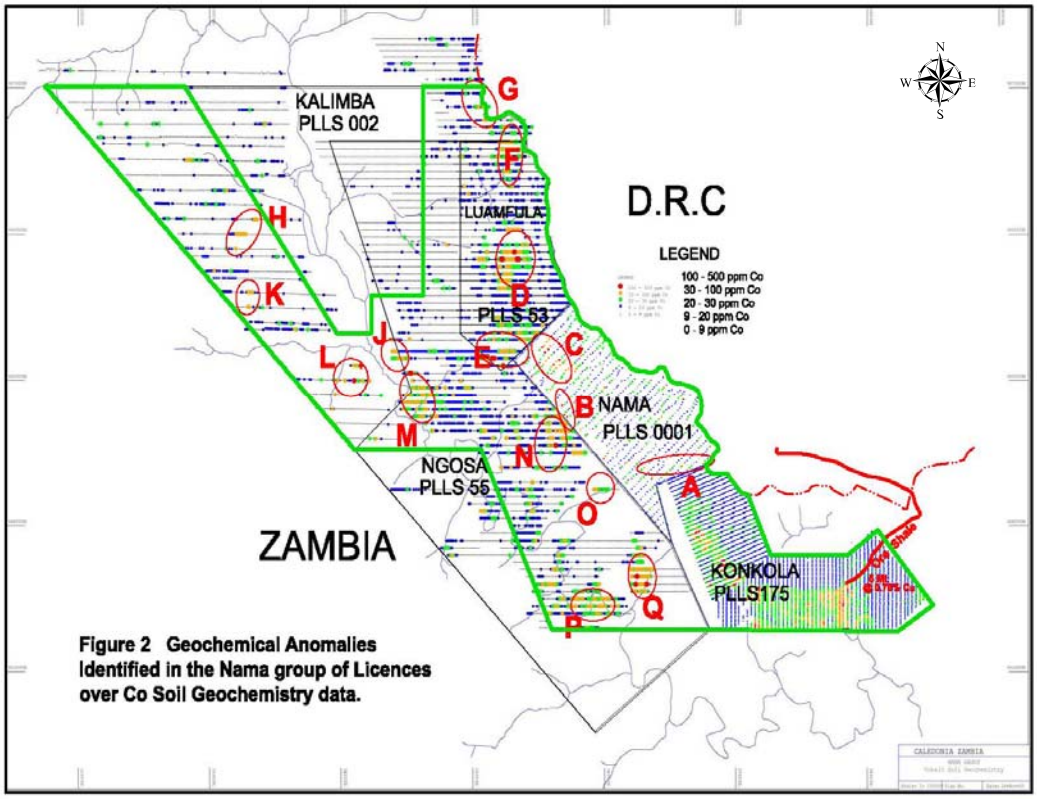
Table 2 Detection limit and accuracy of geochemical analyses of Nama samples by the Chemex laboratories

ICP-AES MULTI-ELEMENT ANALYSIS Nitric-Aqua-Regia leach		
Element	**Lower Limit of Detection**	**Upper Limit of Accuracy**
Al	0.01 %	15%
Sb	2 ppm	1%
As	2 ppm	1%
Ba	10 ppm	1%
Be	0.5 ppm	100 ppm
Bi	2 ppm	1%
Cd	0.5 ppm	500 ppm
Ca	0.01 %	15%
Cr	1 ppm	1%
Co	1 ppm	1%
Cu	1 ppm	1%
Ga	10 ppm	1%
Fe	0.01 %	15%
La	10 ppm	1%
Pb	2 ppm	1%
Mg	0.01 %	15%
Mn	5 ppm	1%
Hg	1 ppm	1%
Mo	1 ppm	1%
Ni	1 ppm	1%
P	10 ppm	1%
K	0.1 %	10%
Sc	1 ppm	1%
Ag	0.2 ppm	100 ppm
Na	0.01 %	10%
Sr	1 ppm	1%
Tl	10 ppm	1%
Ti	0.01 %	10%
W	10 ppm	1%
U	10 ppm	1%
V	1 ppm	1%
Zn	2 ppm	1%

quality controls were implemented in the form of a laboratory standard every 40 samples, and a quartz blank included by the field team. The results were reported electronically to Caledonia and supported by a faxed copy of the analytical certificate.

Statistical analysis of the geochemical data has shown that 13 of the 32 elements analysed have been found at sufficiently high levels above detection and at sufficient accuracy and precision for the data to be of use geochemically. The survey revealed a total of 18 sites of mineralisation defined by cobalt with co-incident copper and nickel geochemical anomalies widely spread over all of the licences and regarded as targets for further investigation (Figure 11). These have been identified with the letters A to Q with the letters not assigned in any order of priority except that the original discovery site was assigned the letter A.

Figure 11 Location of anomalies within the Nama Retention Licence



Soil sampling by BHP during the BHP-Caledonia JV was undertaken in the Kalimba Prospecting Licence area on the western side of the Nama Retention Licence. Sampling was at intervals of 100m along cut lines spaced 1000m or 500m apart. Rock exposure in the area is very poor. White to grey medium to coarse grained fractured re-crystallised sandstone outcrops were observed on the western edge of the license while hematite float was observed near these sites. Ironstone slag possibly originating from ancient mining activity was found at

the northern edge of the license. The soils collected were dried and sieved to minus 180# and 30-50grams placed in packets in the field ready for assaying. The samples were air-freighted to Chemex in Canada for ICP-32 multi-element analysis.

12.1.1 Geochemical database

The soil geochemistry data amounting to 26484 samples was compiled into an electronic database by Caledonia staff. Data for the Luamfula and Ngosa Licences was imported from the digital Chemex Lab assay sheets with sample coordinates imported from spreadsheet data on computer. This data has been assigned a licence code of CHEMEX. The result sheets were coded with batch numbers.

The Nama Licence soil geochemistry was not analysed by Chemex and the full set of SGS data sheets were not available electronically. This data was captured from hard copy maps using coordinates for the samples from line checks that were recorded in the AutoCAD drawing of the Nama Licence. This data was checked against the SGS data that was available electronically. The Nama Licence soil sample numbers are prefixed by SSNAMA (digitally present in the database) and have a Licence code of SGS2 and KIN (captured from hardcopy) with a Licence code of SGS. Both sets are at present in the Soil database table.

The Kalimba soil data (2000) was handed over by BHP-Billiton in Chemex.xls and wk4 spreadsheets. This data was imported and also has a code of CHEMEX. The Konkola West (1966 Z.A.M.S.) soil geochemistry data generated by Zamanglo was captured from hard copy plots in January 2007. This data was also imported into the Soil table in the electronic database. The regional data has a Licence code of KW and a later infill grid in Block C has a Licence code of KWCD. The JCI soil sampling is not yet in our records.

12.2 Geophysics

During the later phase of the exploration programme, Geodass (now Fugro Airborne Surveys) flew a 6235 line kilometre survey for Caledonia that covers the Nama Retention Licence area. These data included magnetic and radiometric measurements which have been used to assist in defining targets in the area (Figure 8 and Figure 9). Based on the total magnetic signature, a structural map of the general Nama area has been prepared (Figure 10) with the assistance of a Fugro and SL Earthscience. This structural analysis shows that the area is crossed by a number of shear zones and suggests that the rocks hosting the cobalt mineralization in the east are likely to continue into the western licence areas as well.

13 Drilling

Seven targets were drilled in the course of the Caledonia exploration programme. This involved 323 reverse circulation holes amounting to some 38,000 metres of drilling. They intersected cobalt-copper oxide mineralisation in all of the main

targets investigated. Reverse circulation drilling commenced soon after the first geochemical anomalies were delineated and before the soil sampling was complete. Drilling commenced on Nama A or Discovery anomaly and 29 holes were drilled in the first campaign. Later in the programme, (after a further 106 RC holes had been drilled at Anomaly A) a further 1445 m of cored holes were drilled for stratigraphic purposes in Anomaly A in the central eastern and northern parts of the Retention Licence area. A drilling summary is set out in Table 3.

Table 3 Summary of boreholes drilled in the Nama Retention Licence area

Anomaly	RC	Diamond	Auger	Total
A (Discovery)	135	11	23	169
A (Peripheral)	9			9
B	21			21
C	73			73
D	67			67
E (Yembela)	6	9		15
F	3			3
R	9			9
Konkola West		10		10
Totals	323	30	23	367

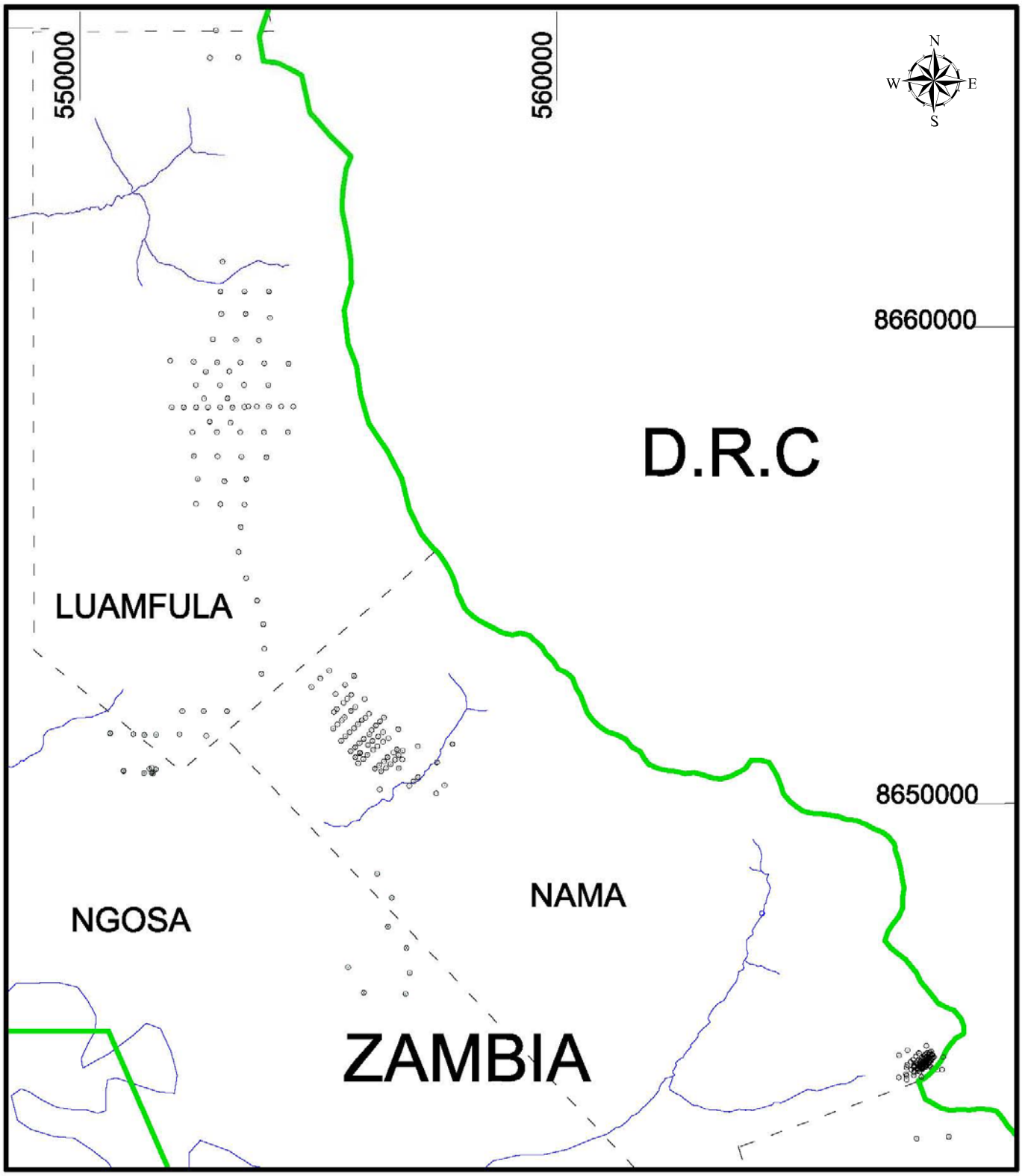
13.1 RC drilling

Caledonia drilled 323 RC holes into the A, B, C, D, E, F and R anomalies. An initial 29 Reverse Circulation (RC) holes, totalling 850 m, were drilled in late 1995 to test the RST geochemical anomaly originally identified in the 1960's and referred to as Anomaly A or Discovery site. The results indicated open ended low-grade cobalt mineralization on all sides and prompted a second comprehensive RC drilling program. The second phase of drilling at Nama A in April to December 1996 involved 106 RC holes drilled to a depth of 150 m and amounted to a total length of 15,208 m. The distribution of RC boreholes in the Nama Retention Licence area is shown in Figure 12.

Technical difficulties associated with this drilling involved the intersection of two water tables, a perched water table between 12 and 18 metres depth yielding 1,000 to 2,000 litres per hour, and the main water table at 75 metres which yields about 5,000 litres per hour. High-volume compressors were required to drill to depths in excess of 50 m.

Geochemical anomalies located elsewhere in the Nama Retention Licence (Anomalies B, C, D, E, F and R) were also followed up with RC drilling, generally to depths of 100 or 150 metres. A total of 21,980 metres was drilled into these anomalies and a similar number of samples submitted for analysis.

Figure 12 Location of RC boreholes in the Nama Retention Licence area



13.2 Diamond drilling

The exploration strategy employed by Caledonia was focused on the following up of geochemical anomalies by testing the near-surface zones for oxide Co mineralization. As a result, diamond drilling was only considered towards the end of the programme when it became critical to gain a better understanding of the controls to mineralisation. A map showing the distribution of RC boreholes in the Nama Retention Licence is shown in Figure 12.

Diamond drilling of the A Anomaly commenced in December 1996 and was completed in February 1997. Five NX size holes (54.7 mm diameter) were drilled, NDDH01 to NDDH05, and amounted to 1341m. Two of these were vertical and three inclined to the southeast. Some of these holes intersected mineralization in completely oxidised friable zones while others intersected only partly decomposed mineralised zones. The core is stored in Zambia and NDDH04 was relogged by Caledonia staff in 2006. NDDH01 and NDDH02 have been scantily logged and NDDH03 remains to be logged. There were only eleven selected split core samples analysed from NDDH1 originating from depths greater than 50m.

It was almost impossible to achieve satisfactory core recoveries in the first 50m of the hole due to the extremely weathered ground conditions with loose sand, clay, fractured and broken lithologies, faults, fault gauge, shears and veins with abundant ground water. Various attempts were made that included using a triple tube but were unsuccessful. Mineralization intersected in particularly weathered rock was thus poorly recovered and no sampling was attempted. Where intact core was thought to carry mineralization, it was quartered with a diamond saw and a quarter sent for analysis. Consequently, assay information from the diamond drilling is sporadic and not from within zones of the better mineralization. None of Caledonia diamond drilling data was used in the ore body grade estimation and evaluation.

13.3 Diamond drilling by RST

RST drilled 14 diamond drill holes into the A or Discovery Anomaly (5 holes) and E or Yelemba Anomaly (9 holes). Information and data from these holes has been captured from RST records by Caledonia Staff and added to the electronic database. No comment can be made as to the sampling and analytical procedures followed in the generation of evaluation data from these holes except that the results are probably adequate as an indication of grade in the mineralisation they intersected.

13.4 Diamond drilling by Zamanglo and JCI

Zamanglo drilled 8 holes into the southeastern part of the Nama Retention Licence area corresponding to the original Konkola West Prospecting Licence. Zamanglo's objective was to follow mineralisation from the Konkola orebodies to the east. The ground was later acquired by JCI who drilled two holes into the northwest flank of the Konkola Dome in the northwestern corner of the original

Konkola West Prospecting Licence. The data from these holes is incomplete but has been added to the electronic database.

13.5 Auger drilling by RST

Data from 23 auger holes drilled into the A or Discovery Anomaly has been captured from RST records by Caledonia staff and added to the electronic database. Although RST drilled more than 23 auger holes, records for the remaining holes are inadequate or hove been lost. No comment can be made as to the sampling and analytical procedures followed in the generation of evaluation data from these holes except that the results are probably adequate as an indication of grade in the mineralisation they intersected.

14 Sampling method and approach

14.1 Chip sampling of Reverse Circulation holes drilled by Caledonia

RC chip samples were collected over one metre intervals using a cyclone and laid out in the field to dry. Once dry enough to handle, the chips were reduced by successively splitting using a splitter box, to a final sample mass of 1 kg which was air freighted to Chemex Laboratories in Canada for analysis. The last two split discards for each sample and weighing approximately 3kg were retained on site as a check sample. These check samples were packed in plastic bags and stored in a large steel shed on site at the Nama camp. RC chips were logged per metre using washed chips and a field microscope. The logged chip samples are stored in special chip trays kept at Caledonia's offices in Lusaka.

14.2 Sampling of diamond drill core drilled by Caledonia

Where the mineralised zones were completely decomposed and core loss significant as was often the case through the highest grade zones, no sampling was attempted. Competent core through mostly low grade zones was selectively quartered by diamond saw and submitted to the Chemex Laboratories for analysis along with the RC chip samples.

14.3 Sample quality

The sampling procedure was not observed by the authors although the storage facility for the retained splits of the RC chip samples at the exploration camp was seen during the site visit by D Grant. The samples have been placed in orderly stacks for each of the holes on the floor of a large open-sided shed and although the plastic bags holding the outer samples in the stacks have perished with age, the majority of inner samples could be located and used for re-analyses or metallurgical test work should this be warranted.

The 1m sample interval for the RC drilling was selected as a convenient dimension that would provide sufficient definition of the extent of the mineralisation without over-sampling. Owing to the very weathered nature of the

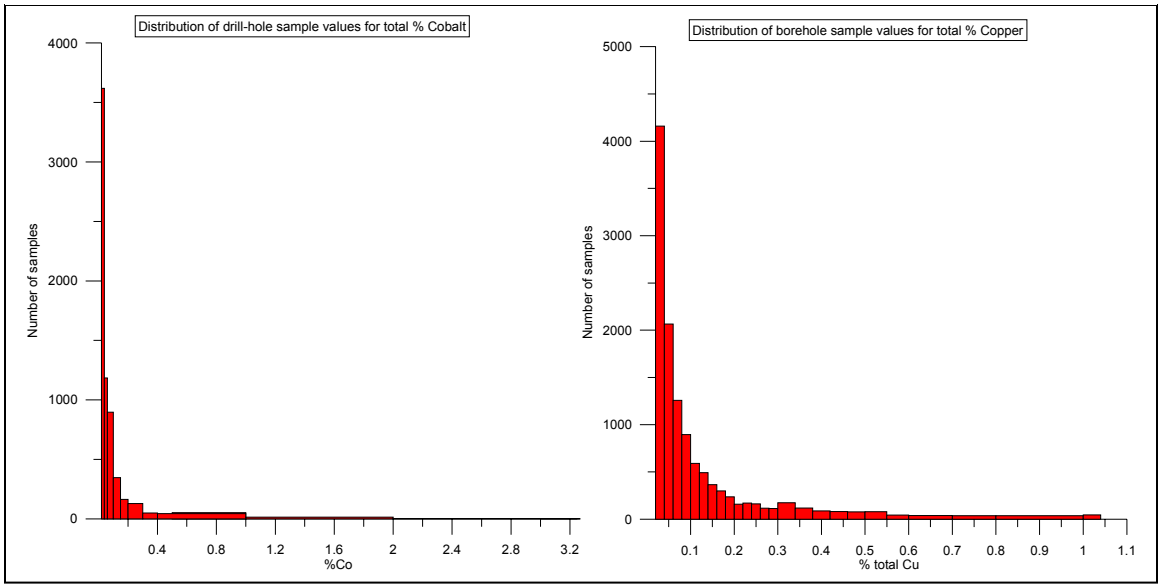
host lithologies, sampling was not able to honour lithological boundaries although the lithology was logged for each sample interval as far as was possible. More than sufficient sample mass was retrieved for each sample interval necessitating successive splitting stages to reduce the sample mass to 1kg.

It is the opinion of the authors that the sampling procedure, as documented by Caledonia, is one that is commonly and generally used by explorationists for RC drilling programmes, and can be expected to provide samples representative of the intersected mineralisation.

14.4 Drill-sample database

The RC samples have been complied into a database as well as historic borehole samples and amounts to 35 860 samples. Histograms of the distribution of sample values for total %Co above 0.02% and total %Cu above 0.02% are shown in Figure 13.

Figure 13



15 Sample preparation, analysis and security

Sampling for evaluation purposes was limited to RC chip sampling of reverse circulation holes drilled by Caledonia over A, B, C, D, E, F and R anomalies. Procedures followed and analysis of exploration samples e.g. geochemistry have been dealt with in the Exploration section of this report.

15.1 Sampling of chips from RC holes drilled by Caledonia

Initially, chips were sent to SGS Zimlab for analysis. Later, all samples were sent to Chemex in Canada. Caledonia (Nama) did not add any blanks or standards amongst their sample batches submitted to either laboratory.

15.1.1 SGS, Zimbabwe

For boreholes NRC 01 to 29 the split RC chip samples (collected over one metre downhole intervals and weighing approximately 1 kg per sample) were air freighted to SGS Zimlab in Harare. Here, a 200 g portion of each sample was pulverised to 75 micron using a ring mill. Cu and Co was determined by digestion of a 5 g portion of the pulp with Aqua-Regia followed by Atomic Absorption of the diluted solute. The majority of these samples were later submitted to Chemex in Canada for analysis so that all the data reported on the same basis as the analyses of samples from boreholes NRC30 onwards.

Sample batches contained from 110 to 150 samples that usually came from three RC holes. The analyses were carried out in January to February 1996. Repeat analyses were carried out randomly but on average this amounted to every 15th sample and standards were inserted by the laboratory for every 20 samples in a batch.

15.1.2 Chemex, Canada

The split chip samples from boreholes NRC 30 onwards were sent to Chemex in Canada for a 32 element analysis by ICP. The samples were prepared in the same manner as for SGS Zimbabwe and batched by hole number, transported by road to Lusaka from where they were air freighted to Toronto. Chemex ground the samples with a ring pulverizer to the extent that > 85% of the pulp passed through a 75µ screen (Tyler 200 mesh). The degree of pulverizing was logged for each sample to verify the quality of sample preparation. At least one sample per day was taken from each sample preparation station to check the quality of grinding.

The Laboratory Information Management System (LIMS) at Chemex inserted quality control samples (reference materials, blanks and duplicates) on each analytical run, based on the rack sizes associated with the method. The rack size is the number of samples plus QC samples included in a batch. On this basis, two standards, one duplicate and one blank were inserted for every 40 samples for the regular AAS, ICP-AES and ICP-MS analytical procedures. The lower limit of detection of the above method was quoted as 1 ppm Co while the upper limit of reliability was 1% Co.

All data gathered for quality control samples were automatically captured, sorted and retained in the QC Database. Quality Control Limits for reference materials and duplicate analyses were set according to the precision and accuracy requirements of the particular method. Data outside control limits were identified, investigated and corrective action taken.

If any data for reference materials, duplicates, or blanks fell outside of the set control limits established, it was automatically flagged by the computer system that distinguished between serious failures, and borderline results. The Department Manager conducting the final review of the Certificate was thus

made aware of any problem that existed with the data set. In addition, laboratory QA staff evaluated control charts for frequently used methods to ensure internal specifications for precision and accuracy were achieved consistently.

The Chemex laboratory participated in external proficiency testing that provided an independent assessment of laboratory performance by an outside agency. Test materials were regularly distributed to the participants at intervals of about four times a year, and results were processed by a central agency and converted to some kind of score, such as Z-score. Chemex has participated in several rounds of proficiency tests undertaken by organizations such as Canadian Certified Reference Materials Projects, and Geostats as well as a number of independent studies organized by consultants for specific clients.

15.1.3 Duplicate and repeat analyses

In addition to the duplicate and repeat checks carried out by Chemex themselves, Caledonia also sent samples to an accredited independent laboratory for analysis. Samples from boreholes NRC 1 to 29 were initially analysed by SGS and the majority of the samples were later submitted to Chemex for analysis so to have all the data reported on the same basis. A comparison of the Co results achieved by the two laboratories is given in Figure 14(a) that has a correlation co-efficient of 0.9647 demonstrating an acceptable level of agreement between the two laboratories.

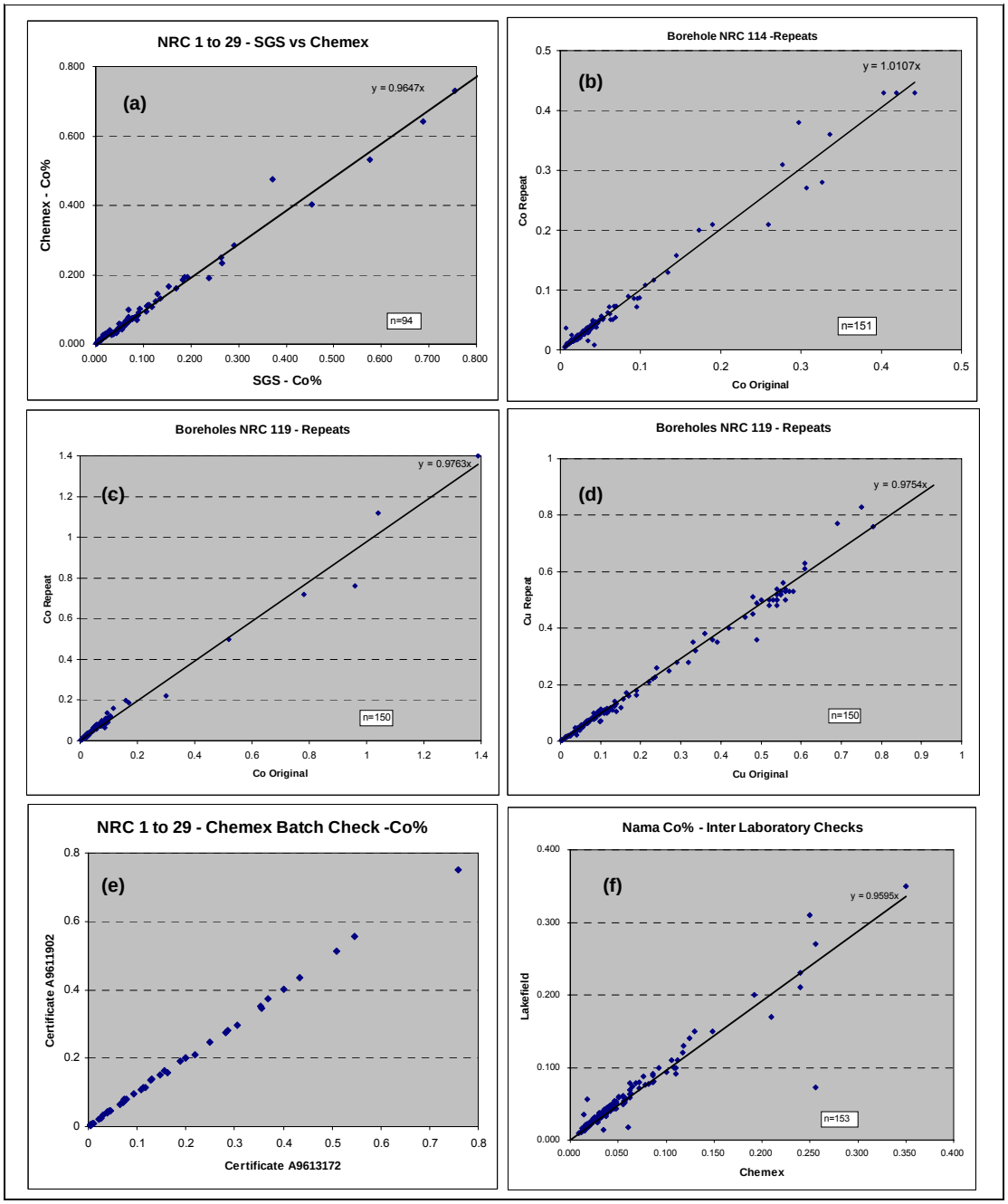
Samples from certain of the boreholes were resubmitted by Caledonia in their entirety for repeat analysis. The results of these repeat analyses for boreholes NRC114 and NRC119 are illustrated in Figure 14 (b), (c), and (d) that demonstrate and acceptable level of agreement.

Samples randomly selected by Chemex laboratories for re-analysis as part of an exercise to check the variation between batches, showed a high degree of correlation between the two batches. Figure 14(e) demonstrates the results of the batch check for samples from boreholes NRC 1 to 29.

Lakefield SGS analysed a suit of 150 samples that had been analysed by Chemex. Comparison of the two sets of analytical data for Co and illustrated in Figure 14(f) showed that Lakefield results tended to be on average about 4% lower than the Chemex results. This value is influenced to a large degree by the broader scatter of higher values of Co and does not require an adjustment for Co values below 0.2% Co, i.e. 95% of data.

None of the analytical quality control data was examined in any detail by Applied Geology but this should be done in the event that the analyses are used to estimate a measured resource.

Figure 14 Regression of various data sets from the RC borehole samples



16 Data verification

Sample data was provided to Applied Geology in an electronic database compiled by staff of the Caledonia Mining Corporation and which contains borehole and sample assay data generated by the various exploration programmes undertaken over the deposit. The architecture of the database is compliant to and accessible by Surpac Vision software.

Data from the reverse circulation drilling programme undertaken by Caledonia Mining was sent to the company in electronic format supported by faxed copies of the analytical certificates. The RC drilling data was initially imported from a database file (Zambia.mdb) that was compiled by Caledonia staff in Zambia. The assay data in this database was subsequently replaced (September 2006) by Caledonia staff in the Johannesburg office who recompiled the Chemex analytical data sheets and imported them into an electronic database. Applied Geology has compared a significant number of results in the database with the faxed analytical certificates and found the electronic data to be correct.

The lithology data was imported from the Summary log files that were in the Zambian database. All the collar coordinates were checked against those listed in the Global Surveys (Pty) Ltd Reports (1996). Limited data from the five diamond drill holes has also been included in the database.

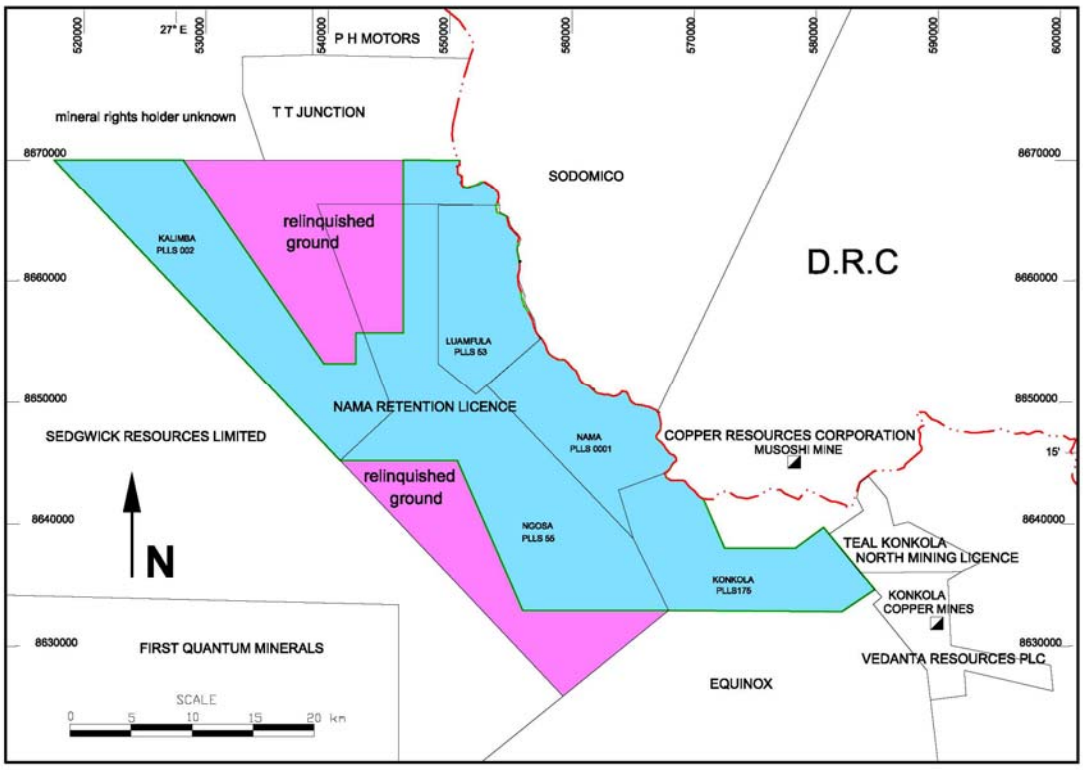
Diamond and auger drilling by RST in 1969 was logged and selectively sampled. This data was captured by Caledonia staff from typed records and positioned by digitizing hard copy maps. One collar (CY104) was identified in the field and positioned relative to the Caledonia RC holes using a GPS. The collar coordinates of all other RST boreholes were then adjusted by the difference in position between the RST coordinates on the plan for CY104 and that determined in the field.

The data from the Zamanglo drilling over Konkola West was captured from an Appendix in the JCI Preliminary Report on the Konkola West prospecting Licence (March, 1995). (ZNA057). JCI drilled two diamond holes in the northwest of the Konkola West Licence and these have been located from information in the JCI Summary Report on Konkola West Concession PL1057 Copperbelt, Zambia (1998) (ZNA059). KW1 was not sampled at all and KW2, although sampled every metre and analysed, no detailed analytical data was presented. Geology and assay data from these holes have not yet been added to the Caledonia database.

17 Adjacent properties

Neighbouring properties to the Nama Retention Licence are shown in Figure 15. East of the Konkola West section of the Nama Retention Licence, a Mining Licence is held by Teal Exploration & Mining over the Konkola North property. Exploration in the area has resulted in the definition of an inferred resource of 79 million tonnes at a grade of 2.14% Cu in the North section and 170 million tonnes at 2.89% Cu in the South section. The mineralised copper-bearing “Ore Shale” is known to extend from the Konkola North property into the Konkola West section of the Caledonia property for a distance of approximately 3 km. However, mineralised Ore Shale has not been encountered in the vicinity of the common boundary between the two properties.

Figure 15 Adjacent properties to the Nama Retention Licence



To the southeast of the Nama Retention Licence, with a 2 km common border, lies the Konkola Copper Mine. This is a subsidiary of Vedanta Resources PLC which controls the Nchanga Copper Mine to the southeast as well. Konkola mine has a reserve of 21 million tonnes at a grade of 3.3% Cu and a measured and indicated resource of 131 million tonnes at a grade of 4% Cu.

The area immediately north of the Konkola West section is Dome National Forest No. 21 over which no mining or exploration companies have rights. To the south of Konkola West is the Konkola National Forest No. 20, an area held by Equinox Resources. These areas fall partly within the Kalilele National Forest No. 63, Kafue Headwaters Local Forest No. 91 and the Kafwira Extension National Forest No. 44.

On the DRC side of the border, east of the Nama Discovery site and north of the Konkola Dome, is the Musoshi Copper Mine which exploits an Ore Shale horizon that wraps around the northern flank of the Konkola granite dome (Figure 7). The mine (Miniere de Musoshi et Kinsenda) is held 75% by Copper Resources Corporation, 20% by Sodimico and 5% by the Forrest Group and is in the process of being re-commissioned. While no continuity has been established to date between the Musoshi mineralization and the Nama Discovery site mineralization, it is unlikely that the two mineralised zones could be continuous across the Zambia-DRC border on account of the fact that they occur in different horizons. North of the Musoshi property in the DRC, the mineral prospecting

rights are held by Sodimico which to date has not defined economic mineralization within these rights.

North of and bordering the Nama Retention Licence, a company named T T Junction has applied for the prospecting rights over an east-west strip of land. The T T Junction property is in turn bordered to the north by an area over which P H Motors has prospecting rights. To the west of the Nama Retention Licence area, the terrain is considered to be less prospective and no mineralization is known to occur. Sedgwick Resources Limited has been awarded a prospecting licence over this area.

As a result of the relinquishing of approximately 33,000 Ha of previously held ground, a number of immediately adjoining properties now exist which either have not been applied for or, if they have, it is not yet public knowledge who might have acquired such land. It is assumed that Caledonia has no bordering neighbours in these areas.

Figure 16 View along the length of the bulk sample pit.

18 Mineral processing and metallurgical testing

Mineralogical examination of the sample chips from the high-grade Co boreholes (RC) indicated that the cobalt was associated with iron and manganese minerals, in particular the oxides goethite, haematite, psilomelane and asbolane. Preliminary tests on this material indicated that the Co-bearing fraction was

sufficiently different in character to attempt physical separation, i.e. gravity and magnetic techniques.

In September 2004, Caledonia undertook a 30 tonne bulk sampling exercise from the Nama “A” discovery site. The bulk sample was acquired from a mechanically excavated trench sited on the drill indicated outcrop position of high-grade cobalt mineralisation. A view along the length of the pit is shown in Figure 16. Three 10 tonne samples were taken from each of three different positions in the trench to test the variability of the metallurgical characteristics that might be encountered in the event of mining the deposit. These samples were packed in 210 litre steel drums and dispatched to Mintek Laboratories in Johannesburg, South Africa for sample preparation and metallurgical testing.

On receipt of the sample material at Mintek, each of the three bulk samples was blended and from this a composite comprising half the mass of each sample was prepared (D composite). The grade of the Nama “A” ore sample prepared for metallurgical test work (D composite) was 0.55% Co and 0.24% Cu prior to any treatment.

On account of the extensively weathered nature of the sample material, a high proportion of the ore sample consisted of fines and clays. Prior to attempting any metallurgical tests on this material, it was considered necessary to “scrub” the material in order to remove the minus 38 micron clay fraction. Scrubbing resulted in 54% of the sample going to fines (-38 micron) at a grade of 0.24% Co while the retained coarser fraction contained 0.92% Co. The plus 38 micron fraction was then subjected to various mechanical concentration processes. Heavy Liquid Separation and magnetic separation further increased the grade of the coarse fraction to 3.16% Co in only 11% of the original sample mass.

Metallurgical testing at bench scale has also been undertaken by SLon Magnetic Separator Ltd, at Ganzhou in China using the WHIMS process (wet high-intensity magnetic separation). This was first undertaken on two hand selected samples taken from the trench at the Nama “A” site, with each sample weighing 12 kg. The submitted samples contained 2.57% Co and 2.80% Co which, after processing, were upgraded to 5.68% Co with an 80% recovery, and 6.36% Co with an 83% recovery respectively. The samples were upgraded by crushing to -1.25 mm and then passing the product through a SLon-100 pulsating high-gradient magnetic separator with a 3 mm rod matrix in a roughing and scavenging circuit.

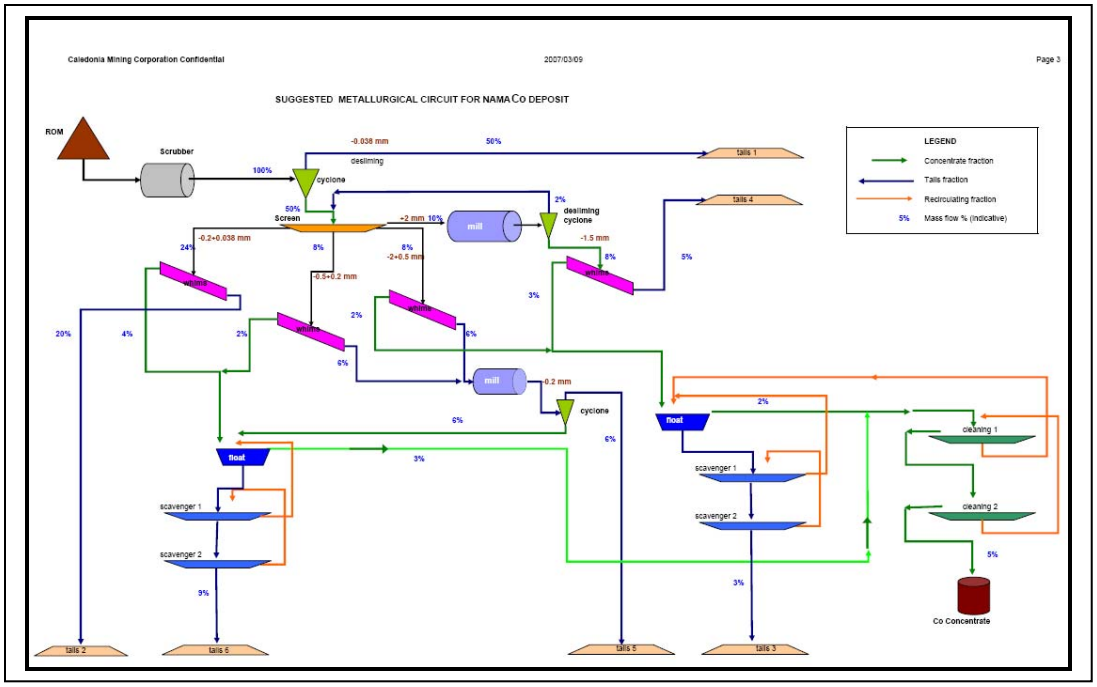
A follow-up test was undertaken on a 1000 kg bulk sample from the Nama “A” Anomaly trench in order to test the effectiveness of the WHIMS process on lower grade material. The bulk sample contained 0.65% Co and 0.37% Cu. It was crushed to -1.25 mm and passed through a SLon-100 pulsating high-gradient magnetic separator with a 3 mm rod matrix in a roughing and scavenging circuit.

This procedure achieved an overall cobalt recovery of 74% as a concentrate containing 1.63% Co and 0.93% Cu.

Following the demonstrated success of using the WHIMS process as a cobalt concentrator, Caledonia commissioned BGRIMM of Beijing, China to carry out research on the optimal configuration of WHIMS and complementary techniques with the aim of developing a viable metallurgical process for the Nama ores. The BGRIMM process included pre-concentration by spirals followed by WHIMS as the main concentrator and then flotation with scavenger and cleaner circuits to upgrade the concentrate. The bulk sample supplied contained 0.69% Co and 0.43% Cu. The concentrate produced by the above process amounted to 7.7% of the feed material by mass containing 3.11% Co (34.7% recovery) and 1.15% Cu (20.7% recovery).

BGRIMM is currently performing further tests on the Nama ores aimed at improving the efficiency and configuration of the above process. Based on the metallurgical test results to date, Caledonia has proposed a process flow sheet which is to be tested by the current BGRIMM work (Figure 17). In addition, this laboratory is working on aspects of the process for the production of cobalt hydroxide or cobalt carbonate (marketable products) from the oxide concentrate.

Figure 17 Proposed metallurgical flow chart



18.1.1 Discussion

Studies of the cobalt ores have shown that Co-rich material is generally characterised by elevated concentrations of Fe and Mn while the undesirable metals, Cd, As, Sb, Se and Te were not detected by conventional assay

techniques. The high-grade Co material has Co/Cu ratios exceeding 1 while the mid to lower grade Co material has Co/Cu ratios less than 1.

The applicability of magnetic separation techniques in concentrating Co is due to the association of Co with Fe and Mn minerals, and not reliant on the properties of Co itself. This places a constraint on the degree to which magnetic techniques can concentrate Co. The concentration processes, and in particular the WHIMS process, is more effective for concentrating Co than for Cu reflecting the greater affinity of the Fe-Mn minerals with Co rather than Cu. The concentration processes achieve the best results if the various size fractions, once separated, are treated separately for all subsequent stages. This implies that the various size fractions are controlled by different mineral/physical associations.

While the metallurgical test work to date has shown that the Co ores can be concentrated to the point where further enrichment and refining is feasible, further tests need to be conducted on resource material representing the mid to lower Co grades in order to quantify the recoverability of Co at these grades which represent the greater part of the resource.

19 Resource and reserve estimation

Seven of the 18 geochemical anomalies namely A to F and R have been drilled by Caledonia and previous investigators. Of these the Discovery or A anomaly has attracted most attention with a total of 171 holes including 9 auger holes and 11 diamond drill holes including one re-drill, followed by Anomaly C with 73 systematic RC holes. All the drilling in the Nama Retention Licence area is summarised in Table 3. The resource estimates were made by David Grant, the senior author of this report.

No economic analysis of the mineral resources presented here is being reported and mineral resources that are not mineral reserves do not have demonstrated economic viability. Whilst the resources are shallow and suitable for open pit mining methods it is not known at this stage as to how the resources will be affected by mining, metallurgical, infrastructure and other related factors.

The resources lie within areas declared as National Forest Reserves that have been mainly established to control the exploitation of timber. Exploration and mining is permitted in such areas and environmental constraints can be expected, but to date they have not been, and there are no indications that they will be prohibitive. The Zambian Government is adopting and demonstrating a progressive attitude to new mining ventures and the authors are unaware of any unfavourable permitting, legal, fiscal, socio-economic or political factors that would be specific to the Nama project. However the Retention Licence has been granted for a period of three years without the option to renew so that Caledonia (Nama) must convert the Licence to mining rights within that period of time.

19.1 Density

Estimation of the density of the rock within the resource blocks is difficult owing to its weathered, leached and often vuggy nature, and near soil characteristics in the A4 block. Lakefield Research determined the particulate Specific Gravity of the head assay material of samples from borehole NRC27 using a pycnometer and arrived at an average value of 2.96. However, this method disregards the high porosity and vuggy nature of the *in situ* rock. Enquiries made by Caledonia staff to mine operators in the Copperbelt led them to use a variable density ranging from 2100kg·m^{-3} at the surface to 2750kg·m^{-3} at depths greater than about 60m with an average of 2460kg·m^{-3} for the 60m profile. However, this density profile does not allow for the porous and vuggy nature of many of the lithologies in the weathered profile at Anomaly A for depths greater than 60m, and which was revealed by core drilling.

An overall density of 2460kg·m^{-3} has been used to calculate the resource estimate tonnages presented in this report. The question of resource density requires further investigation.

19.2 Continuity of mineralisation

The oxide cobalt-copper-nickel mineralisation lies within a deep weathered profile and probably owes its grade and distribution to the oxidation of primary sulphide ores by supergene processes. The metals are believed to be largely associated with hydrated Mn and Fe oxides but the distribution controls to these minerals are not known. In both the A and C anomalies there is a mostly flat lying resource block that lies just below the surface. These blocks probably reflect metal redistribution and precipitation from ground water and their position is likely related to the water table at the time of mineralisation. Grade continuity has een assumed to exist within the water table layer with grade weakening away from the metal sources.

The cobalt, copper and nickel metals in the sub-surface blocks has probably been derived from the deeper resource blocks that probably owe their existence to original primary, disseminated sulphide deposits. The continuity of grade within these blocks can be expected to reflect the primary distribution controls to the mineralisation modified by the oxidation processes in the weathered profile with some supergene redistribution that will tend to smooth a more variable primary grade distribution.

In both cases, grade distribution is likely to be smooth and relatively continuous. Consequently it has been assumed to exist in gaps of up to 300m in one part of the C anomaly where drilling on either side of the gap has substantially demonstrated the presence and continuity of the mineralisation. Gaps of this extent will have to be tested with in-fill drilling to bring the resource into the measured category. On the edges of the resource blocks, mineralisation has been assumed to continue for a maximum of 50m or half-way between two holes which ever is less. Where drilling indicates that the mineralisation boundaries are

pinching, continuity has only been allowed to the pinch line where this is less than 50m from the last borehole intersection.

19.3 Cut-off grade

The choice of a cut-off of 0.02% Co was influenced by past resource estimates made in the 1970's and more recently by the client where similar values were used. In most cases a value of 0.02% Co made a clear separation between mineralized and barren rock although for sensible correlation between boreholes it was sometimes necessary to include material with grades below this value. This data then created blocks in the block model with values below 0.02% Co that needed to be excluded from the overall tonnage and grade of the resource estimate.

19.4 Use of historic borehole data

It has been assumed that the drill hole data reported by Roan Selection Trust is of an adequate standard to be used in conjunction with the Caledonia (Nama data for estimating Indicated Resources in Anomaly A. This assumption should be reviewed when upgrading these resources to the Measured category.

19.5 Discovery or A anomaly

Cobalt-copper mineralisation associated with this anomaly occurs in two blocks A1 and A2 that dip moderately to the north and northwest, a third block A3 that dips both to the northwest and southeast, and a fourth block, A4 that is subhorizontal and lies between blocks A1, A2 and A3 and the surface. The configuration of these blocks is illustrated in a section through the block model in Figure 12. These have been probed by 139 RC holes to a maximum depth of 150m below surface, 23 auger holes to a depth of 50m or less and 11 core holes to a maximum vertical depth of 347m below surface. Most of the holes were vertical except for six diamond drill holes. All RC holes and four diamond drill holes were drilled by Caledonia, and the rest by RST. Although plans indicate that some of the RST borehole trajectories were surveyed this information has not been included in the database, and was not used in the resource estimation presented here.

Information from all holes drilled into the A anomaly have been used in the estimation as their position coordinates and data are considered adequate for an Indicated Resource. Any adjustments following resurvey of the RST boreholes is anticipated to be only a few metres and would thus have a minor or insignificant effect on the estimations presented here. This assumption should, however, be reviewed when upgrading these estimates into the Measured Category.

The deepest borehole into the A anomaly mineralisation was NDDH004 and was drilled by Caledonia. The hole showed evidence for oxidation and leaching to within 5m of its end at a vertical depth of 350m. This is well below the 150m depth limit of the RC drilling.

Block A1 strikes east for a distance of about 700m, and dips north at about 36º. It has a down-dip extent of some 280m. It has common boundaries with blocks A2 and A4 and has been intersected by RC holes from 42.5m to 150m apart. Block A2 strikes northeast for a distance of just over 1000m and dips at about 38º northwest. It has a down-dip extent of about 390m and common boundaries with blocks A1 and A4. It has been probed by boreholes generally 50m to 60m apart on sections spaced at about 125m, although in places holes have been drilled as close as 16m.

Block A3 is isolated from block A2 but is contiguous with block A4 at its southern end where it reaches a minimum depth of about 20m. It is aligned northeast but dips both to the northwest and southeast. The shape of the body as interpreted from the drilling can be likened to a doubly plunging anticline verging to the southeast. Structures of this nature are known from other parts of the Copperbelt and suggest that they increased the permeability of the host rock and attracted primary mineralising fluids.

Block A4 is sub-horizontal and lies virtually at or very close to the surface. It adjoins all underlying blocks and its position suggests that it has originated from the supergene redistribution and possible concentration of copper and cobalt mineralisation derived from the underlying blocks. It is roughly 1200m x 700m (NE x NW) in extent and reaches a maximum depth of about 50m although the footwall boundary between it and the underlying blocks cannot be determined with any certainty from the available information.

Resource block boundaries were mostly set at the 0.02% Co cut-off on the borehole intersections except where correlation of mineralisation between boreholes suggested that the boundaries of the mineralisation incorporated bodies of low-grade material. In these cases low-grade patches were included within the resource but later excluded as individual blocks that had been assigned grades below 0.02%Co by the block evaluation process. Resource block boundaries have been extended by 50m beyond the last borehole or halfway between two holes where mineralisation was only intersected in one, whichever was the lesser distance. Projection was disallowed where borehole intersections indicated that the resource block was pinching out. Boundary projection was allowed below the 150m depth limit of the RC holes as diamond drilling has shown that oxidation extends to greater depths.

The block model was created with 4m x 4m x 4m blocks with sub-blocking to 2m x 2m x 1m. The blocks were aligned on a bearing of 47.5º but not inclined to an average dip of blocks A1, A2 and A3.

The grades of Co, Cu and Ni for individual blocks were estimated by compositing the borehole sample values to 1m intervals and populating the blocks using an inverse distance squared routine. Grade estimates for nickel are only an indication, as not all samples were analysed for nickel. Composited borehole

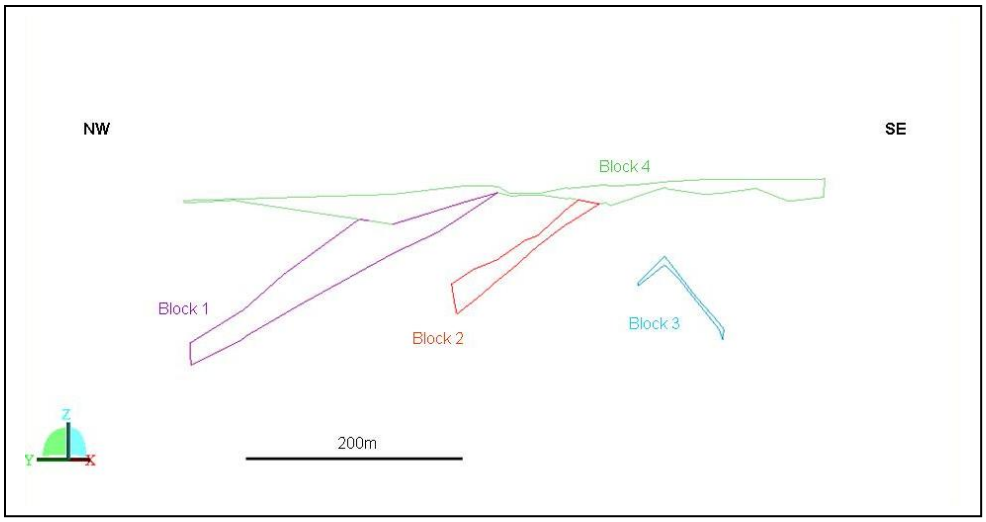
samples were constrained by the boundaries of the block itself and contiguous blocks. The major and semi-major search radii were set at 100m for block A1 and 75m for blocks A2 to A4 reflecting the general spacing between boreholes. The minor radius or vertical search was limited to 5m. The bearing and dip of the major and semi-major axes were aligned parallel to the main shape of each resource block.

Table 4 Indicated Resources in the Discovery or A Anomaly

Blocks	Tons	Grade (% metal)		
		Cobalt	Copper	Nickel
Block A1	9,139,000	0.0446	0.1028	0.0133
Block A2	11,366,000	0.0613	0.0288	0.0067
Block A3	4,305,000	0.0490	0.0730	0.0309
Block A4	18,846,000	0.0572	0.1463	0.0086
Totals	43,656,000	0.055	0.099	0.011

The above information used to define the four resource blocks at the Discovery or A anomaly can be considered adequate to allow a confident interpretation of the geological framework and to reasonably assume the continuity of the mineralisation. They have thus been classified as an Indicated Resource the quantities of which have been set out in Table 4. Tonnages and grades estimated within each of the resource blocks were determined at a cut-off of 0.02% Co.

Figure 18 Section through block outlines of A Anomaly Resources



19.6 C Anomaly

This is an area of anomalous cobalt-in-soil concentrations in the central-east part of the Nama Retention Licence approximately 3km from the DRC border.

Caledonia has drilled 73 RC boreholes across the anomaly, some of which have intersected mineralisation of similar grades and extent as that of Anomaly A.

Oxide cobalt, copper and nickel mineralisation have been recognized in four bodies within the C anomaly. These bodies have been identified from the continuity of cobalt grade greater than 0.02%Co between RC boreholes both along and between the drill sections. Grade of the oxide mineralisation is not confined to any particular rock-type and appears to have a much simpler distribution pattern than the hosting lithologies. Controls to the distribution of mineralisation and its mineralogy are uncertain and require further investigation.

Block C1 is a tabular body and the deepest body of mineralisation in Anomaly C. It underlies Blocks C3 and C2 and has limited extent of 250m by 400m. It dips at about 20º northwest and has been traced from 50m to 160m below surface. It has thicknesses ranging from under 5m to 28.5m.

Block C2 is more extensive than Block C1 and has been subdivided into northern and southern sub-blocks that are offset from each in a manner that leaves some doubt as to grade continuity between them at that location. Together the blocks form a roughly tabular body with gentle centripetal dips creating the form of an inverted saucer. Both the north and south sub-blocks lie just beneath Block C3 and their peripheries reach depths of 150m although the bulk of the sub-blocks lie at depths of about 50m. Thicknesses of the north sub-block range from 3m to 18m and those of the south sub-block range from 3m to 66m with most values in the order of 10m to 20m.

It is possible that the mineralisation in Blocks C3 and C2 North and South reflect the original presence and distribution of cobalt-copper-nickel sulphide mineralisation that was the protore for the oxide mineralisation.

The shallowest body, Block C3 is the most extensive and mostly lies within 20m of the surface. It is essentially flat lying, tabular and generally 5m to 25m thick although locally it reaches thicknesses of 55m. Its highest grades tend lo lie close to and above the shallowest parts of the Block C2 mineralisation. In places the boundary between Blocks C2 and C3 is uncertain with some of the greater thicknesses assigned to Block C3 possibly including some footwall mineralisation that would better belong to Block C2. Further investigation, particularly into the mineralogy and the distribution controls will help delineate the boundaries more accurately.

The Resource estimates for the C Anomaly have been assigned to the Indicated category as grade continuity between boreholes can be reasonably assumed. Mineralisation was intersected in two or more neighbouring holes and only extended for 50m beyond the last intersecting borehole or less where information from neighbouring holes suggested that the body was pinching. The assumption of continuity is further supported by distribution patterns to the oxide

mineralisation in Anomaly C that are of comparable shape and dimensions to the distribution patterns to the mineralisation in the neighbouring Anomaly A.

Resources were estimated using a block model comprising 4m x 4m x 4m blocks with sub-blocking to 2m x 2m x 1m. The block model was aligned northwest parallel to the long axis of the mineralisation and was constrained by triangulated volumes for each resource block established from the RC hole assays at a cut-off grade of 0.02%Co. Owing to the gentle to flat dips of the C Anomaly resource blocks no dip component was added to the search criteria.

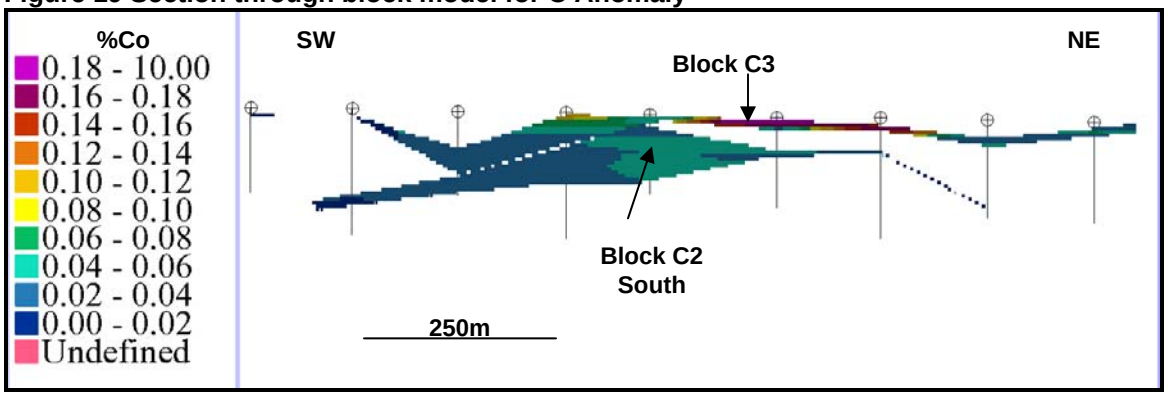
The grades of Co, Cu and Ni for individual blocks in the block model were estimated by compositing the borehole sample values to 1m intervals and populating the blocks using an inverse distance squared routine. Grade estimates for nickel are only an indication, as not all samples were analysed for nickel. Composited borehole samples were constrained by the individual Resource Block boundaries. The major and semi-major search radii for all Blocks were set at 200m reflecting the general spacing between boreholes. The minor radius or vertical search was limited to 10m.

Table 5 Estimated Indicated Resources in Anomaly C.

Blocks	At 0.02% Co cut-off			
	Tonnes	%Co	%Cu	%Ni
Block C3	41,637,000	0.0505	0.0173	0.0195
Block C2 North	526,000	0.0245	0.0134	0.0126
Block C2 South	32,511,000	0.0350	0.0053	0.0180
Block C1	3,544,000	0.0261	0.0029	0.0131
Totals	78,218,000	0.043	0.012	0.019

A section through the block model for Anomaly C is shown in Figure 19. Note how the higher grades in Block C3 lie close to the point of contact with the underlying Block C2 South.

Figure 19 Section through block model for C Anomaly



19.7 Combined resources

Table 6 presents the combined indicated resources for Anomalies A and C with average grades weighted by the tonnages for each block.

Table 6 Combined Indicated Resources for Anomalies A and C

Anomaly	At 0.02% Co cut-off			
	Tonnes	%Co	%Cu	%Ni
A	43,656,000	0.055	0.099	0.011
C	78,218,000	0.043	0.012	0.019
Total	121,874,000	0.047	0.043	0.016

20 Other relevant data and information

Caledonia and previous investigators have drilled six of the other 18 exploration targets in the Nama Retention Licence area. All of these are soil geochemical anomalies except for Anomaly R. The results from some of these targets suggest that they have similar potential to anomaly A and require further investigation.

20.1 B Anomaly

Twenty-one RC holes were drilled along an 8km strike that follows the southwestern boundary of the Nama PLLS. Most of the holes were drilled to a depth of 100m or less although some reached depths of 150m. Some holes intersected isolated mineralisation and the rest were barren. This anomaly joins Anomaly N and some of the holes drilled extend into this target. The drilling revealed patchy mineralisation and no further follow-up is warranted at this stage.

20.2 D Anomaly

This is located in the southern half of the Luamfula PLLS 53 and comprises anomalous concentrations of cobalt-in-soil over a distance of more than 10km. Caledonia drilled 67 RC holes spaced at 500m intervals along strike as well as some sections across the main part of the anomaly with holes spaced at distances of 250m or less. The holes intersected sporadic mineralisation of grades comparable to that in the A anomaly. These occurrences require follow-up as the borehole spacing is wide and may have missed detail that would provide continuity between closer spaced holes. No resources have been declared from the available information.

20.3 E Anomaly (Yembela)

The E Anomaly occurs over a fault controlled ridge with outcrops of haematite and magnetite bearing, altered sandstone and siltstones. This was originally a RST prospect that was trenched and into which they drilled 9 diamond drill holes. Caledonia has drilled 9 RC holes into this prospect.

20.4 F Anomaly

This is an area of anomalous cobalt-in-soil concentrations that lies towards the northern limb of the Nama Retention Licence and close to the border with the

DRC. Caledonia has drilled three RC holes into this anomaly and has intersected grades in excess of 0.02% Co over 47m in one hole and in two separate bodies of 13m and 5m in a second hole. No resources can be declared from the above information but the mineralisation requires further investigation.

20.5 Anomalies G to Q inclusive

Areas of anomalous cobalt(and/or copper)-in-soil concentrations have been labelled G through to Q respectively and are scattered throughout the Retention Licence area. None of these have been drilled either by Caledonia or previous operators in the area although some RC holes drilled by Caledonia into Anomaly B have been collared over the adjoining Anomaly N. These targets are worthy of further investigation.

Due to some problems during the initial licence application, the exploration was delayed of the original Kalimba PLLS in the western part of the Nama Retention Licence in favour of other areas of the Nama Project. Limited soil sampling and preliminary aeromagnetic data has highlighted areas within the Kalimba area that have increased potential for exploration of both low grade oxide and primary sulphide mineralisation. Focus should be on the western portion of the licence area where Lower Roan stratigraphy should occur.

20.6 R Anomaly

An area of sporadic, elevated cobalt-in-soil concentrations lies to the northwest of the A or Discovery anomaly along the projected northwest strike of the ore shale. Caledonia has drilled 9 RC boreholes over a total strike of about 11.5km. The holes were drilled to a maximum depth of 100m and three holes intersected isolated pockets of cobalt grades in excess of 0.02% Co. No resources can be declared from the available information.

20.7 Konkola West

At Konkola West Zamanglo drilled 8 holes into the south limb of the Konkola structure and estimated a small resource. These holes intersected mineralization to a depth of 270m at which sulphides were found to be partly oxidized resulting in both sulphide (chalcopyrite) and acid soluble copper minerals. Later JCI drilled two holes in the northwestern parts of the licence. Further details of this exploration activity are given in section 8 History in this report.

21 Interpretation and conclusions

Caledonia hold 80 625 ha of prospecting rights in the Solwezi District of the Northwestern Province of Zambia. The rights are held in the form of a Retention Licence over an area prospective for low-grade cobalt-copper oxide mineralisation that lies on the northwest flank of the Zambian Copperbelt, adjacent to the common border between Zambia and the DRC. It lies on, and is contiguous with the western sides of current mining licences associated with the Konkola Mine that is under redevelopment.

The Retention Licence area has subdued relief that lies at elevations of 1280m to 1450m in a tropical climate with summer rains and dry winters. It has a subsistence population with minimal animal life. Large parts of the area are covered with Miombo type woodland parts of which have been declared as National Forest. However, prospecting is permitted in these areas so long as the work is supported with an environmental impact assessment with clear rehabilitation plans.

The Nama area has attracted exploration since the 1930's with companies such as Roan Selection Trust, Zamanglo and JCI having been active. Their work has included drilling a number of targets on the flanks of the Konkola Dome and westwards on geochemical anomalies.

The Nama area is underlain by strata of the Katanga Supergroup but detailed correlation is difficult owing to the structural complexity, paucity of outcrop and thick soil cover.

The area hosts cobalt-copper oxide mineralisation probably derived from primary cobalt and copper sulphides. These bodies lie within the weathered profile with subhorizontal and inclined attitudes. The inclined bodies appear to follow the trace of the primary sulphide mineralisation whereas the subhorizontal bodies suggest some redistribution of the cobalt and copper salts with possible scavenging by hydrated iron and manganese oxides.

Caledonia has explored for this mineralisation by soil geochemistry and airborne geophysical surveys. The soil geochemistry programme was undertaken satisfactorily and proved to be effective in locating 18 anomalies as targets for follow-up exploration. Seven of these targets have been drilled by Caledonia and previous operators with a further two targets on the flanks of the Konkola dome drilled by JCI and Zamanglo.

Caledonia considered Reverse Circulation drilling as being the best method for testing the mineralisation. This was later corroborated by a limited diamond drilling programme that was not able to achieve the required recoveries for reliable sampling in the weathered profiles. Caledonia drilled a total of 325 RC holes, most of which were collared over Anomaly A. Chips from the drilling were sent to SGS Zimbabwe and Chemex in Canada for analysis and this data has been used in the resource estimates. Quality control of the sampling procedure and analytical data appears to have been adequate.

The exploration, drilling and sampling data has been added to an electronic database that has been partly verified by ourselves and was found to be satisfactory and adequate for an estimation of Indicated Resources.

Some preliminary metallurgical work has been undertaken on hand selected and bulk sample material from a trench into the Anomaly A mineralisation. This work showed that grades of 0.65% Co and higher can be upgraded into a concentrate using dense medium and magnetic separation techniques, but this still has to be tested on material with representative *in situ* grades.

Anomaly A has an indicated resource of 43,656,000 tons with a grade of 0.055%Co and 0.099%Cu. Anomaly C has an indicated resource of 78 218 000 tonnes with a grade of 0.047%Co and 0.043%Cu. No other resources have been declared.

Some of the remaining anomalies that were drilled warrant further attention particularly where collar spacing is wide and holes may have missed detail that would enable correlation between them. A further 11 anomalies have not yet been drilled. The data density is adequate for the declaration of Indicated resources in Anomalies A and C but a closer drilling pattern will be necessary in some parts, especially Anomaly C to upgrade the Indicated Resources to the measured category. The optimum drill spacing is not known at this stage.

There is potential for high tonnage but low grade cobalt-copper deposits in the Nama Retention Licence area that could be extracted economically if a cost-effective metallurgical process for concentrating the metals from representative *in situ* grades can be found.

22 Recommendations

A study of the oxide mineralisation is required to identify the mineral phases that host the copper and cobalt salts. This study should include samples from various localities within the mineralised bodies and not just from mineralisation close to the surface. It is important to establish that the mineralogy and consequently the metallurgical characteristics associated with the near surface mineralisation can be applied to the deeper levels. The study should be extended to include the magnetic properties of the mineral phases and their particle sizes.

The soil and borehole chip sample data needs further statistical examination to identify correlations and trends. This examination will help identify the optimum borehole spacing and may compliment the proposed mineralogical study. The statistics of the quality control data for past analytical results should be examined in detail and acquired from the Chemex archives if necessary before the results are used to estimate a measured resource.

Metallurgical test-work should continue on material from the Nama area with particular attention paid to using material with representative *in situ* concentrations of cobalt and copper.

Accurate determinations need to be made of rock density. This can be done on near surface material by an elaborate process of bulk extraction combined with

measuring the volume of the void and weight of the material extracted. The density of deeper material can be determined from core wrapped with a light-weight impervious skin to prevent the voids from being filled with liquid.

All collars of boreholes drilled by Roan Selection Trust should be located and resurveyed.

Follow-up drilling is required on some of the anomalies whilst those that remain should be drilled once metallurgical test-work has indicated that it is economically feasible to create a concentrate from the cobalt and copper mineralisation. It is important to ensure that holes are not drilled too far apart as widely spaced holes may miss intersections necessary for identifying continuity of mineralisation.

Further work is required on the correlation of the stratigraphy in the Nama area to establish the extent that the mixtite units correlated with the lower Kundelungu Group owe their presence in the A Anomaly area to structural disturbance.

Caledonia (Nama) should identify its objectives to explore, evaluate and test the existing resources and remaining anomalies within the Retention Licence and convert its holdings to mining titles. These objectives should be met by formulating, costing and implementing a work programme that can be completed in the three year period that remains.

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1st May 2007

Certificate and Consent

I, David E. C. S. Grant, residing at 58, Oak Avenue, River Club, Johannesburg, South Africa and member of Applied Geology Services CC CK 89/2829/23 do hereby certify that:

1. I am a Consulting Geologist and Member of Applied Geology Services CC with offices at 5 Coombe Place, Rivonia, Johannesburg;
2. I am a graduate of the University of Rhodesia with a BSc (Spec. Hons) in Geology and of Rhodes University, South Africa with a MSc in Mineral Exploration and have practised my profession continuously since 1977;
3. I am a registered Professional Natural Scientist with the South African Council for Natural Scientific Professions, a Fellow of The Geological Society, London, a Chartered Geologist verified by The Geological Society, a Fellow of the South African Institute of Mining and Metallurgy, and a Fellow of the Geological Society of South Africa;
4. I, as the qualified person, am independent of Caledonia Mining Limited and its subsidiaries;
5. I have been retained by Caledonia Mining Limited on a single fee basis, to prepare the "Independent Competent Persons Report of the Nama Retention Licence in Northern Zambia and held by Caledonian Mining Limited" the effective date for which is 1st May 2007. Payment of the above mentioned fee is not contingent upon the results expressed in this report;
6. I have not received, nor do I expect to receive, any interest in Caledonia Mining Limited or its subsidiaries;
7. I visited the Nama Retention Licence area from 12th to 14th February 2007;
8. I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the report, which by its omission could make the technical report misleading;
9. I have read National Instrument 43-101 and Form 43-101F1 and that the technical report has been prepared in compliance with this Instrument and Form 43-101F1;
10. I hereby consent to the filing and written disclosure of the above mentioned report.

David Grant
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8th March 2007

Certificate and Consent

I, Michael J Haslett, residing at Spitzkop Farm, DeJagersdrift, KwaZulu, South Africa and employed by Applied Geology Services CC CK 89/2829/23 do hereby certify that:

1. I am a Contracting Geologist and an employee of Applied Geology Services CC with offices at 5 Coombe Place, Rivonia, Johannesburg;
2. I am a graduate of the University of KwaZulu-Natal with a BSc in Geology and of Free State University, South Africa with an MRM (CP) and have practised my profession since 1980;
3. I, as the qualified person, am independent of both Caledonia Nama Limited and Caledonia Mining Corporation as defined in Section 1.5 of the National Instrument 43-101;
4. I have assisted David Grant, member of Applied Geology Services cc to prepare the "Independent Competent Persons Report on the Nama Group Licences, Zambia" for Caledonia Nama Limited, the effective date for which is 8th March 2007. Payment of the above mentioned fee is not contingent upon the results expressed in this report;
5. I have not received, nor do I expect to receive, any interest in either Caledonia Nama Limited or Caledonia Mining Corporation.
6. I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the report, which by its omission could make the technical report misleading;
7. I have read National Instrument 43-101 and Form 43-101F1 and that the technical report has been prepared in compliance with this Instrument and Form 43-101F1;
8. I hereby consent to the filing and written disclosure of the above mentioned report.

Michael Haslett

25 Additional requirements for developing and producing properties

The Nama Retention licence is not a developing or producing property.