MINERAL RESOURCE ESTIMATE FOR THE KAGEM EMERALD DEPOSIT OF GEMFIELDS RESOURCES PLC, ZAMBIA

Prepared For

GEMFIELDS PLC

Report Prepared by

srk consulting

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MINERAL RESOURCE ESTMIATE FOR THE KAGEM ASSET OF GEMFIELDS RESOURCES PLC, ZAMBIA

1 EXECUTIVE SUMMARY

1.1 Introduction

The Kagem Emerald Mine is an advanced stage emerald mining project located in Zambia to the west of Ndola in the Kitwe region. Gemfields Resources PLC ("Gemfields") currently holds 75% ownership of the mine and the Government of Zambia 25%.

This technical report documents a Mineral Resource statement for Kagem prepared by SRK following the terms and definitions given in "The 2004 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves as published by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia" (the "JORC Code"). The JORC Code is a reporting code which has been aligned with the Committee for Mineral Reserves International Reporting Standards ("CRIRSCO") reporting template. Accordingly SRK considers the JORC Code to be an internationally recognised reporting standard that is recognised and adopted world-wide for market-related reporting and financial investments.

Previously, SRK has undertaken a number of technical and economic studies on behalf of Gemfields and Kagem.

In 2007 SRK carried out a technical due diligence on the Kagem emerald mine on behalf of ROX Ltd who were considering taking up a shareholding in the Kagem operations.

In early 2008 SRK undertook an environmental review of the Kagem operations and produced an estimate of closure liabilities and associated costs.

During 2008 SRK authored a Competent Persons' Report ("CPR") in respect of the mineral assets of Gemfields Resources Plc which was subsequently included in associated regulatory documentation in relation to the Company's application to the London Stock Exchange ("LSE") for the whole of the issued and to be issued ordinary share capital of the Company to be admitted to the Alternative Investment Market ("AIM"), a market operated and regulated by the London Stock Exchange plc.

In 2009 SRK carried out a scoping level study for the development of an underground mining operation at Kagem. This comprised an update of the geological model, geotechnical characterisation of the deposit and an assessment of potential mining methods, development of indicative mining layouts and production rates, development of capital and operating costs to an appropriate level of accuracy.

The Competent Person with overall responsibility for reporting of Mineral Resources is Dr Lucy Roberts, a Senior Resource Geologist specialising in all aspects of mineral resource estimation and classification and has eight years experience in the resource sector. Since completing a PhD in Applied Geostatistics and joining SRK in 2006, she has undertaken resource estimates for various precious metals, gemstone and bulk commodity projects and provided key input into the generation of Mineral Expert Reports, Competent Persons' Reports, and Independent Engineer Reports for various international exchanges and debt funding reviews. Key skills include extensive knowledge of geological and mine planning software including Gemcom, Vulcan, Datamine, Whittle and Isatis geostatistical software.

1.2 Geology

The Kafubu emerald deposits are situated in the Ndola Rural Emerald Restricted Area ("NRERA") which is located in the Copperbelt Province of Zambia, and covers an area of approximately 800 km^2. NRERA is covered by about 800 licences, of which Kagem ML's 14105-HQ-LGM (GL713) at 43.0 km^2 is the largest. The geology of the Copperbelt Province around NRERA is dominated by the rocks of the Zambian Copperbelt, which consists of the Neo-Proterozoic Katanga Supergroup, which can be several kilometres thick in places. The Katanga Supergroup is underlain by the Muva Supergroup, which lies unconformably on top of granites, amphibolite gneisses and quartz-biotite schists of the Lufubu Basement Complex (Palaeoproterozoic). The whole suite of rocks is deformed into a series of complexly folded synformal structures.

The rocks containing the Kafubu deposits consist predominantly of quartzites and quartz-mica schists of the Proterozoic Muva Supergroup which are sandwiched between granite gneisses of the Basement Complex and meta-sediments of the Katangan Super group which hosts the Cu-Co deposits of the Zambian Copperbelt. Sub-concordant bodies of amphibolite and ultramafic rock (flows, sills or tuffs) also occur within the Muva schists. The ultramafics, which vary in thickness from 20 m to 140 m, have been altered by metamorphism and hydrothermal activity into talc-chlorite-tremolite magnetite schist (locally referred to as TMS) or talc-biotite schist (TBS). The amphibolites have also suffered varying degrees of alteration to biotite–actinolite schists.

The emerald and beryl mineralisation is associated with pegmatites which cross-cut the schists, forming metasomatic reaction zones, which host the emerald and beryls. Within the Kagem licence area, there three main pegmatite trends observed; namely north-south, northwest to southeast and east-west. These pegmatite dykes and associated quartz tourmaline veins are frequently rimmed by metasomatic reaction zones up to 5 m wide that are characterized by an abundance of coarse foliated black to bronzy biotite with porphyroblasts of tourmaline or actinolite and crystals or clusters of beryl and/or emerald. These reaction zones may contain discontinuous pockets or disseminations of emerald.

Within the Kafubu deposit, beryls are typically white to yellowish to bluish white, while the emeralds have a moderate to strong green colouration due to low to moderate levels of Cr_2O_3 in the range 0.11 wt% to 0.77 wt%. Medium to dark emeralds generally have Cr_2O_3 values of >0.40 % while FeO is generally >1.10 %.

1.3 Mineral Resources

The Mineral Resource Statement presented herein represents the Kagem Mine and is presented following the terms and definitions given in "The 2004 Australasian Code for

Reporting of Exploration Results, Mineral Resources and Ore Reserves as published by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia".

SRK notes that emerald deposits, owing to the distribution of economic concentrations of reaction zones are notoriously difficult to sample, estimate and classify as current drilling techniques are inappropriate to provide sufficient data density to enable direct estimation of reaction zone tonnage and grade. Accordingly, drilling as currently employed can only provide information to determine the volume of TMS, of the larger, more continuous pegmatites and the locations relative to other lithologies and geological structures. Derivation of Mineral Resources is largely dependent on the availability of the results of bulk samples or equivalent such as historical production statistics.

Deposit modelling has been completed on the basis of modelling the lithological units, of which there is a good understanding. SRK is satisfied that the geological modelling honours the current geological information and knowledge. The location, quality and quantity of the drill hole data are sufficiently reliable to support the subsequent Mineral Resource estimate.

The Mineral Resource as presented is based on geological modelling of the reaction zones, the TMS unit, and application of grade as undertaken by SRK. SRK considers that Table ES 1 as presented is reported in accordance with the JORC Code.

Table ES 1: Kagem Mineral Resource Statement July 2012

Category	*Tonnage (t)*	*Grade (g/t)*	*E+B (carat)*
Indicated	2,745,365	73.1	1,003,430,879
Inferred	9,200	4.9	223,100

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MINERAL RESOURCE ESTIMATE FOR THE KAGEM EMERALD DEPOSIT OF GEMFIELDS RESOURCES PLC, ZAMBIA

1 INTRODUCTION

1.1 Background

SRK Consulting (UK) Limited ("SRK") is an associate company of the international group holding company, SRK Consulting (Global) Limited (the "SRK Group"). SRK has been requested by Gemfields Resources Plc ("Gemfields"), hereinafter also referred to as the "Company" or the "Client") to undertake technical and financial studies on its Kagem mine located on the Zambian Copperbelt.

Gemfields is a public company listed on AIM whose principal gemstone assets comprise exploration and mining operations situated in the Ndola Rural Emerald Restricted Area ("NRERA") area of Zambia. The operations are located within the Kafubu emerald deposits and comprise the main production pit FF-F10 located in the Fwaya-Fwaya area where rough emeralds and beryl are recovered either directly from the mine or at the process plant.

Previously, SRK has undertaken a number of technical and economic studies on behalf of Gemfields and Kagem.

In 2007 SRK carried out a technical due diligence on the Kagem emerald mine on behalf of ROX Ltd who were considering taking up a shareholding in the Kagem operations.

In early 2008 SRK undertook an environmental review of the Kagem operations and produced an estimate of closure liabilities and associated costs.

During 2008 SRK authored a Competent Persons' Report ("CPR") in respect of the mineral assets of Gemfields Resources Plc which was subsequently included in associated regulatory documentation in relation to the Company's application to the London Stock Exchange ("LSE") for the whole of the issued and to be issued ordinary share capital of the Company to be admitted to the Alternative Investment Market ("AIM"), a market operated and regulated by the London Stock Exchange plc. In this document SRK provided the following audited information:

a) An Inferred Mineral Resource statement comprising 1.5Mt and grading 22.6g/t of emeralds and 67.4g/t of beryl.

b) Kagem Expansion related expenditures requiring an overall capital investment of US$15.26m (exploration– US$1.39m; capital equipment–US$13.86m) to attain the peak monthly production rates for Reaction Zone mining and processing of 12ktpm, and a 470% (compared with financial year ending 31 March 2007) increase in coloured gemstone production to an annualised 57.6Mct (11.5t) of combined emerald and beryl by July 2009 at a unit cash cost of US$0.59/ct.

c) Total environmental liabilities (biophysical and social) of US$9.43m.

Given the status of the assets (No Ore Reserves declared: only Inferred Mineral Resources) and compliance with various regulatory documentation, no forecast annual cashflows, DCF and/or other related valuation were included. Notwithstanding this aspect SRK provided commentary in respect of the financial model developed by the Company and its accounting advisors in respect of working capital adequacy tests.

In 2009 SRK carried out a scoping level study for the development of an underground mining operation at Kagem. This comprised an update of the geological model, geotechnical characterisation of the deposit and an assessment of potential mining methods, development of indicative mining layouts and production rates, development of capital and operating costs to an appropriate level of accuracy.

This technical report documents a Mineral Resource statement for Kagem prepared by SRK following the terms and definitions given in "The 2004 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves as published by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia" (the "JORC Code"). The JORC Code is a reporting code which has been aligned with the Committee for Mineral Reserves International Reporting Standards ("CRIRSCO") reporting template. Accordingly SRK considers the JORC Code to be an internationally recognised reporting standard that is recognised and adopted world-wide for market-related reporting and financial investments.

The Competent Person with overall responsibility for reporting of Mineral Resources is Dr Lucy Roberts, a Senior Resource Geologist specialising in all aspects of mineral resource estimation and classification and has eight years' experience in the resource sector. Since completing a PhD in Applied Geostatistics and joining SRK in 2006, she has undertaken resource estimates for various precious metals, gemstone and bulk commodity projects and provided key input into the generation of Mineral Expert Reports, Competent Persons' Reports, and Independent Engineer Reports for various international exchanges and debt funding reviews. Key skills include extensive knowledge of geological and mine planning software including Gemcom, Vulcan, Datamine, Whittle and Isatis geostatistical software.

1.2 Qualifications of Consultants

SRK is an associate company of the international group holding company SRK Consulting (Global) Limited. The SRK Group comprises over 1,400 staff, offering expertise in a wide range of resource engineering disciplines with 45 offices located on six continents. The SRK Group's independence is ensured by the fact that it holds no equity in any project. This permits the SRK Group to provide its clients with conflict-free and objective recommendations on crucial judgement issues. The SRK Group has a demonstrated track record in undertaking independent assessments of resources and reserves, project evaluations and audits, Mineral Expert's Reports, Competent Person's Reports, Mineral Resource and Ore Reserve Compliance Audits, Independent Valuation Reports and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies and financial institutions worldwide. The SRK Group has also worked with a large number of major international mining companies and their projects, providing mining industry consultancy service inputs.

The individuals who have provided input to this technical study are listed below, and have extensive experience in the mining and smelting industry and are members in good standing of appropriate professional institutions.

- Martin Pittuck, CEng MIMMM, Director and Corporate Consultant (Mining Geology);
- Lucy Roberts, MAusIMM(CP), Senior Consultant (Resource Geology); and
- Laura Dodd, Consultant (Resource Geology).

2 GEOLOGY

2.1 Geology of the Kabufu Emerald Deposits

The Kafubu emerald deposits are situated in the NRERA which is located in the Copperbelt Province of Zambia, and covers an area of approximately 800 km^2. NRERA is covered by about 800 licences, of which Kagem ML's GL-713 at 43.0 km^2 is the largest. The geology of the Copperbelt Province around NRERA is dominated by the rocks of the Zambian Copperbelt, which consists of the Neo-Proterozoic Katanga Supergroup, which can be several kilometres thick in places. The Katanga Supergroup is underlain by the Muva Supergroup, which lies unconformably on top of granites, amphibolite gneisses and quartz-biotite schists of the Lufubu Basement Complex (Palaeoproterozoic). The whole suite of rocks is deformed into a series of complexly folded synformal structures.

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Sub-concordant bodies of amphibolite and ultramafic rock (flows, sills or tuffs) also occur within the Muva schists. The ultramafics, which vary in thickness from 20 m to 140 m, have been altered by metamorphism and hydrothermal activity into talc-chlorite-tremolite magnetite schist (locally referred to as TMS) or talc-biotite schist (TBS). The amphibolites have also suffered varying degrees of alteration to biotite–actinolite schists.

The Kafubu emerald deposits belong to a group referred to as 'schist-hosted emeralds' which are considered to be related to mafic and ultramafic schists or unmetamorphosed ultramafic rocks in contact with felsic rocks, either pegmatoid dykes, granitic rocks, paragneisses or orthogneisses. These contacts are locally termed 'reaction zones' and may be intrusive or tectonic and host the majority of economic emerald concentrations. The origin of these deposits is, however, controversial but where the emeralds occur in ultramafic rocks containing pegmatite dykes, they are explained by the interaction of these pegmatites or pneumatolitic hydrothermal Be-bearing fluids with Cr-bearing mafic or ultramafic rocks.

Emeralds are a member of the beryl group of minerals which have the chemical formula $Be_3Al_2(SiO_3)_6$ and which show a strong prismatic habit and an imperfect (0001) cleavage perpendicular to the long axis of the crystal (basal pinacoid). They have a hardness of 7.5 to 8.0 and a specific gravity of 2.65 to 2.80. Emerald is the deep green translucent variety of beryl and results from the substitution of Cr and ferrous iron for Al in the crystal lattice.

Kafubu deposit beryls are typically white to yellowish to bluish white, while the emeralds have a moderate to strong green colouration due to low to moderate levels of Cr_2O_3 in the range 0.11 wt% to 0.77 wt%. Typical compositional ranges reported by Seifert *et al*, 2004, for beryl and emerald, are listed in Table 2-1 below. Medium to dark emeralds generally have Cr_2O_3 values of >0.40 % while FeO is generally >1.10 %. Vanadium is not mentioned in this table but there is a school of thought that this element is partly or wholly responsible for the green colouration.

Table 2-1: Composition ranges for NRERA emerald and beryl

Oxide	*Compositional Range*	
	From (%)	***To (%)***
SiO_2	64.05%	66.23%
Cr_2O_3	0.11%	0.77%
Al_2O_3	13.96%	15.37%
FeO	0.76%	1.88%
MgO	1.55%	2.64%
Na_2O	1.72%	2.22%
BeO	13.36%	13.83%

2.2 Deposit Geology

The ultramafic rocks are komatiitic in composition while the amphibolite units are basaltic to andesitic in composition. The host schists are meta-sedimentary rocks consisting of variable quantities of quartz, muscovite, biotite or phlogopite and albite. All these lithologies are cut by pegmatite dykes and sills related to faults, thrusts, shear zones and associated fractures. These pegmatites are related to post tectonic Kibaran granite intrusion but were deformed during the Pan African Lufilian tectonic event (550 Ma ± 50 Ma).

Examination of the licence area (Figure 2-1) reveals that there are three main pegmatite trends which are north-south, northwest to southeast and east-west. These dykes and associated quartz tourmaline veins are frequently rimmed by metasomatic reaction zones up to 5 m wide that are characterized by an abundance of coarse foliated black to bronzy biotite with porphyroblasts of tourmaline or actinolite and crystals or clusters of beryl and/or emerald. These reaction zones may contain discontinuous pockets or disseminations of emerald. In some of the smaller prospects the pegmatite contact zones contain coarsely crystalline tourmaline while the host rocks may contain disseminated crystals of tourmaline or they are completely replaced forming a tourmalinite over a distance of 10 cm to 50 cm.

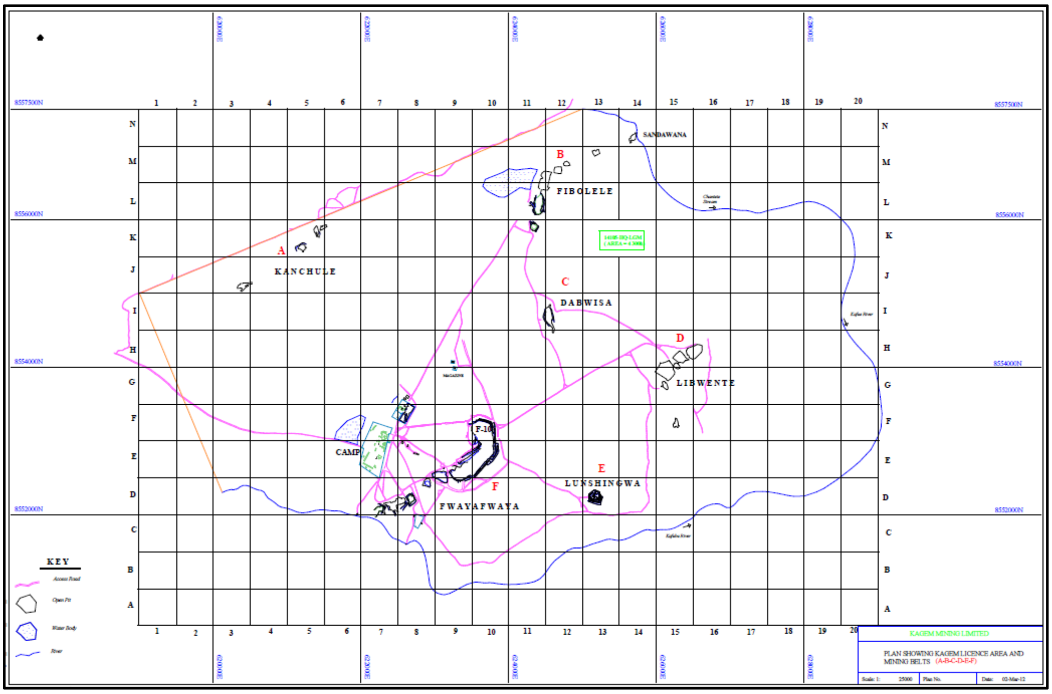


Figure 2-1: Plan showing Kagem license area and mining belts.

There are several areas of emerald mineralisation within the Kagem licence area:

- The **Fibolele-Dabwisa** belt hosting the Fibolele, Dabwisa and Sandwana deposits: This belt is aligned in a north-northeast direction and is centred on a single pegmatite body. The continuity of the TMS horizon has not yet been demonstrated between the Fibolele and the Dabwisa deposit. To the north, the belt swings into an easterly direction and here it hosts the Sandwana deposit in the extreme northeast of the licence area. All pits historically operated in this area have now ceased production and a number are now flooded;
- The **Kanchule** belt is aligned east-northeast parallel to the licence boundary in the north of the licence area where the dip of the TMS is 45° and where small pegmatite bodies are reported;
- **Libwente** is a large area of TMS to the northeast of the main Fwaya-Fwaya belt but appears to have a flat northerly dip. Mining operations comprising a series of five pits which continued for a six-year period and ceased in October 2007, however potential at this pit is considered reasonable given the presence of a central thick pegmatite and evidence of intense tourmalinisation of the surrounding rocks;
- **Lunshingwa** is a more prospective area to the east of the main pit. Drilling identified TMS and pegmatite units, so a small pit was created to extract a bulk sample. This yielded 400 cpt so is now being explored as the second priority after the mine itself;
- There is now a plan as part of the new exploration programme to re-drill and re-assess the pre-2008 exploration targets; namely Libwente, Dabwisa, Fibolele and Kachule. These areas, due to the price increase per carat of emeralds in recent years, may now be viable despite the high stripping ratio. Fibolele takes priority out of these targets and drilling in the southern section of this area is nearing completion with plans to move on to the central section for the second phase of drilling. Libwente and Dabwisa will be re-drilled in the future, with the structure of this exploration plan being based on an internal review of the old drill hole database, combined with geological knowledge and geomagnetic surveying which lead to identifying the thickest sections of TMS. The main aim for the entire exploration programme is to eventually complete infill drilling between these targets to establish the strike extents and dip of the TMS, and tie this into historical and current geological knowledge of the main pit;
- In the **Fwaya-Fwaya** belt the TMS has a drill established strike length of 2.1 km, a thickness of 5 m to 44 m (average 16.6 m) and a dip of between 10° and 22° (average 16°) to the south swinging into an easterly direction at its northerly extremity. Five small pits cover the western portion, which were historically (2002) exploited. Three additional pits have now merged and are still in production, and cover the north eastern portion of the belt, comprising FF and Chama pits.

2.2.1 Fwaya-Fwaya-Chama Pit Geology

Fwaya-Fwaya-Chama pit is the main operating pit, now that the smaller historical pits have been amalgamated. The pit extends for 900 m strike towards F10 in the north which was closed to open pit mining in 2008 and is now the focus of the test underground mining. Following the strike extent to the south of the operational pit, a bulk sampling programme was carried out in 2009 of an 80 m section of TMS and pegmatite in the FF3 pit. This area was found to be not viable, producing only 4 cpt of emeralds and beryl.

The upper portion of the stratigraphic sequence within the Fwaya-Fwaya belt is usually represented by quartz-muscovite-biotite schists that are cut by often heavily kaolinised (friable) quartz-feldspar pegmatite dykes. This unit passes down into an amphibolite unit characterized by an assemblage of hornblende, feldspar and quartz or its alteration equivalents biotite-actinolite schists and chlorite-biotite-actinolite-talc schists. This amphibolite generally ranges in thickness from a few metres to 30 m but is generally in the range 8 m to 15 m. There is a transition into the underlying TMS over which interstitial quartz and quartz feldspar veins disappear and talc becomes increasingly common. Magnetite is also present in increasing quantities but is very fine grained and its existence is only detectable by the increase in Cr content from amphibolite values of 200 ppm to 300 ppm to values of in excess of 700 ppm in the TMS. This transition may also contain significant quantities of disseminated tourmaline and may also contain tourmalinised reaction zones with emerald mineralisation, where intruded by pegmatite dykes and sills.

The TMS unit itself contains highly variable quantities of talc, tremolite, actinolite, biotite, magnetite and tourmaline; the latter may be disseminated in quartz veins or as tourmalinite bands. The main lithologies defined are thus TBS and TMS. The latter name is largely a mine specific term which includes rocks which vary from massive moderately coarse grained talc-actinolite rocks to massive fine grained talc-magnetite rocks and vary in thickness from approximately 1 m to in excess of 30 m. The TMS and the overlying amphibolites are considered to be parts of a single differentiated mafic to ultramafic sill.

The basal contact of the TMS is relatively sharp and easily located in core, where it is underlain by a well foliated rock described as a quartz-muscovite or quartz-sericite-biotite (phlogopite) schist. The quartz-muscovite / quartz-sericite-biotite schists are cut locally by a conformable pegmatite, which varies between 1 m to 10 m thick. Footwall rocks often display pseudomorphs after garnet and indeed these may also occur at many other levels within the TMS or overlying amphibolite.

In the north of the pit towards F10, where the underground mining development is currently being implemented, the TMS unit dip direction changes from north-easterly to northerly. This is thought to be due to east-west folding, which is parallel to the heavy pegmatite intrusions within the Chama sector of the combined pit. The strata thus dip to the southeast or to the east at a dip which averages close to 15°. Figure 2-2 also shows that most of the pegmatite dykes exposed in the pit have a roughly north-south trend but they pinch, swell and branch at random and locally form a complex of dykes isolating patches of TMS and their associated reaction zones. In the lower portion of the high-wall of the pit, these dykes are seen to have a sub-vertical attitude and a thickness of between 1 m and 48 m (in the case of dyke M1). However, as these dykes pass from the amphibolite unit into the mica schists, many show a flattening of dip to the east (40° to 55°) and a tendency to branch into several thinner more erratically orientated dykes. Thin sub-concordant off-shoots may also develop adjacent to the main dykes but are of short extent. At the northern end of the F10 pit, two convergent dykes are seen cutting across the flat lying meta-sediments with an easterly dip of approximately 40°. These strike concordant dykes are considered to follow the pit bottom and eventually link up with the massive discordant dykes in the Chama sector of the pit. At the south-western end of the Fwaya-Fwaya pit the TMS is disrupted by the presence of a thick east to north-easterly dipping pegmatite dyke, however, TMS is present in its footwall and continues further to the west.

A map of the pit as at January 2012, illustrating the modelled discordant pegmatites is given in Figure 2-2 below.

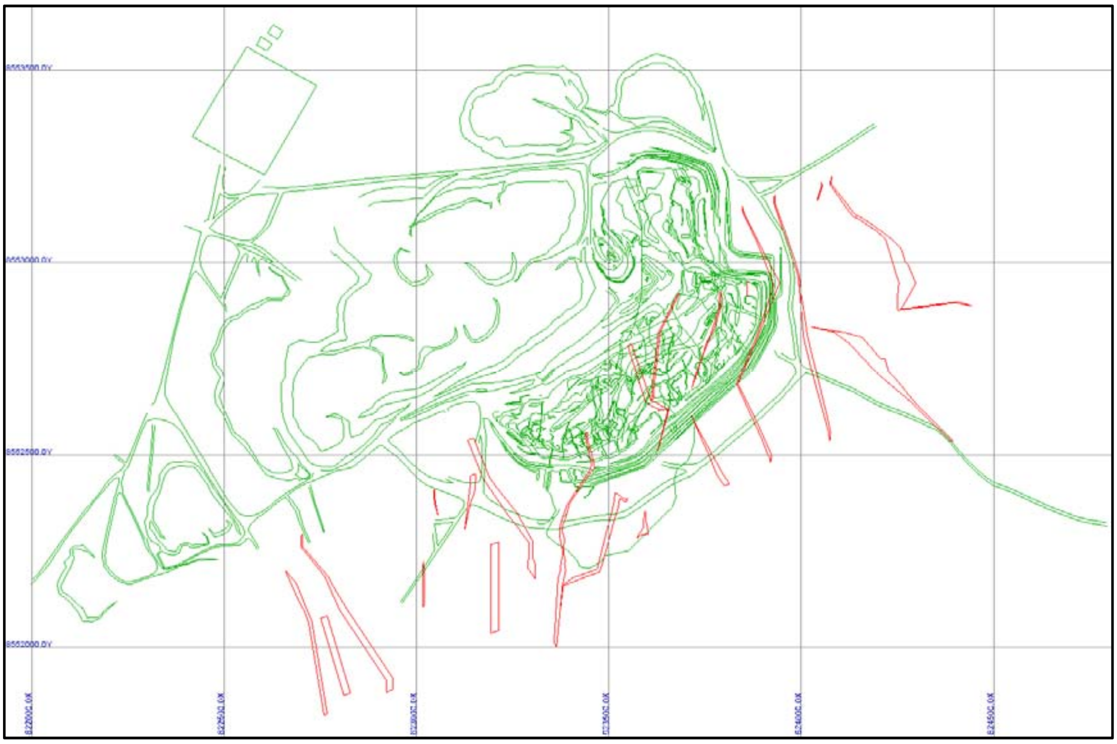


Figure 2-2: Map of the current Fwaya-Fwaya-Chama pit, illustrating the discordant pegmatites in red.

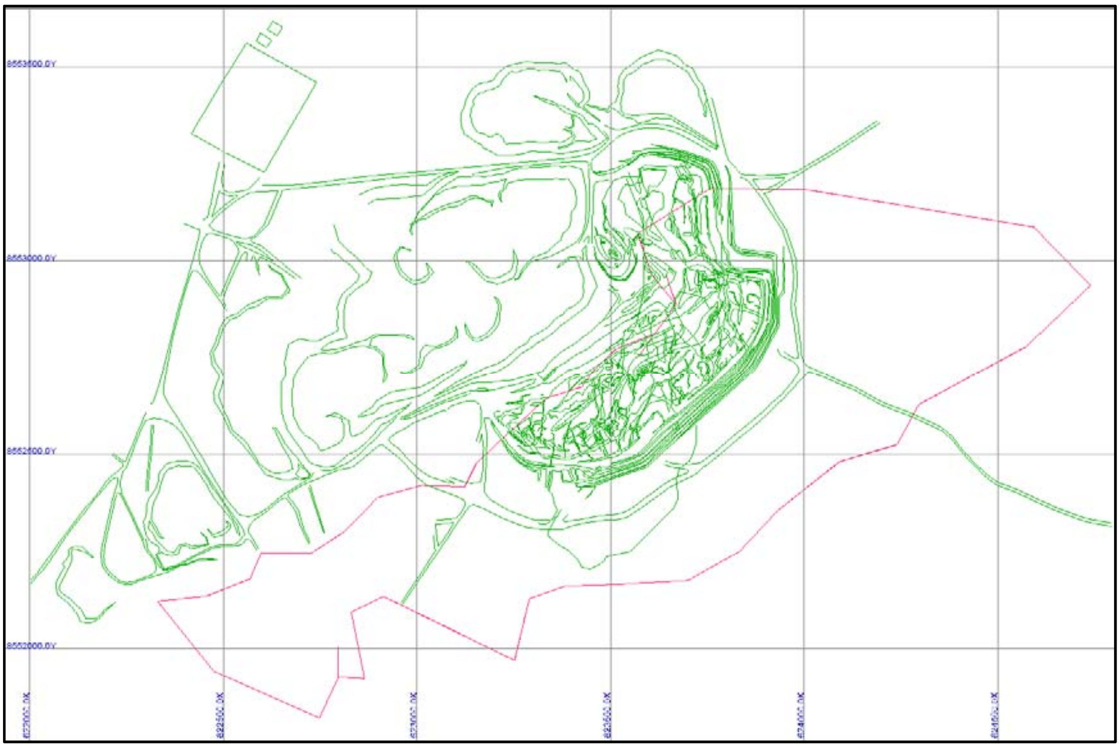


Figure 2-3: Map of the current Fwaya-Fwaya-Chama pit, illustrating the projected extent of the concordant pegmatite in pink.

In addition to the discordant pegmatites, a concordant pegmatite dyke is known to follow the footwall contact of the TMS. The concordant pegmatite is typically less than a few metres thick and has been projected to extend as shown in Figure 2-3, following the base of the TMS. These pegmatites have not been visualised by SRK during the site visit, but their existence is implied due to the presence of a concordant reaction zone along bottom margin of the TMS. The modelled concordant reaction zone, based on drill hole information is illustrated in Figure 2-4. The projected concordant zone, shown in Figure 2-3, is shown in cross section in 2-5; this has been created as a guide for mine scheduling, and was based on geological knowledge of the nature of the reaction zones and pegmatites, rather than drill hole data. It may be that the concordant reaction zone is not directly related to a concordant pegmatite, and is a product of fluid movement along the lithological boundary between the mica schist and TMS units. When the footwall reaction zone is intersected by the discordant reaction zones, tri-junctions are formed with thick sections of reaction zone material. Both the discordant and concordant pegmatites show fine scale crystallization banding parallel to their contacts with the reaction zones but after 0.5 m to 1.0 m they pass into both very coarsely crystalline quartz and pink feldspar, or into more aplitic material. These pegmatites may also contain coarse books of muscovite, pale green beryl or pink spessartine garnet. The dykes and adjacent rocks are cut by irregular to reticulate networks of quartz veins (sometimes smoky quartz) locally with tourmaline.

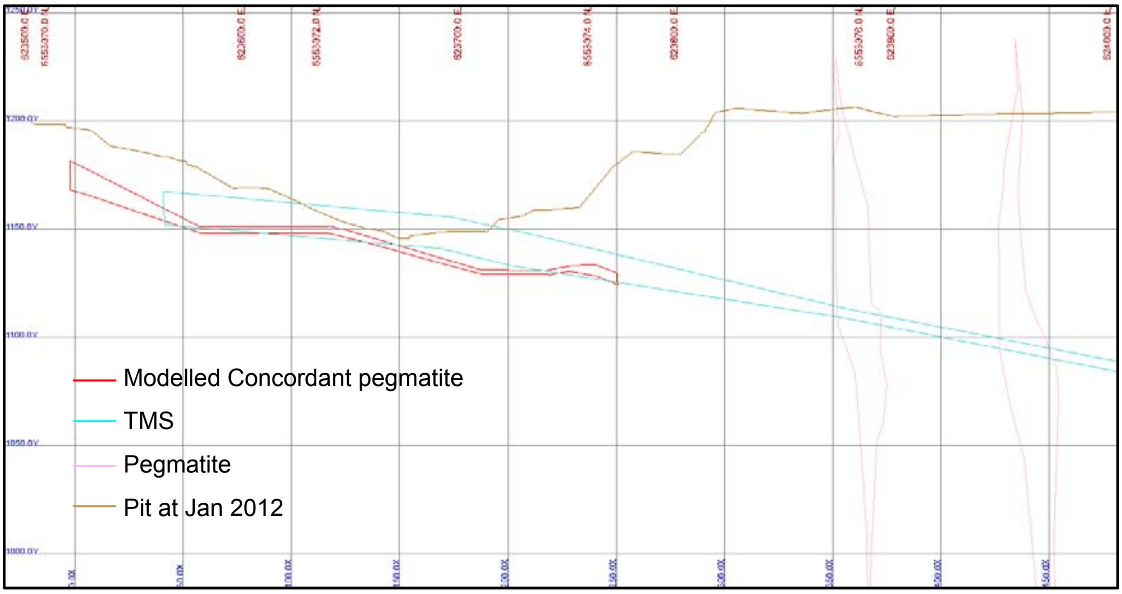


Figure 2-4: Outlines of TMS, Pegmatites and Concordant Pegmatite at Fwaya-Fwaya-Chama pit.

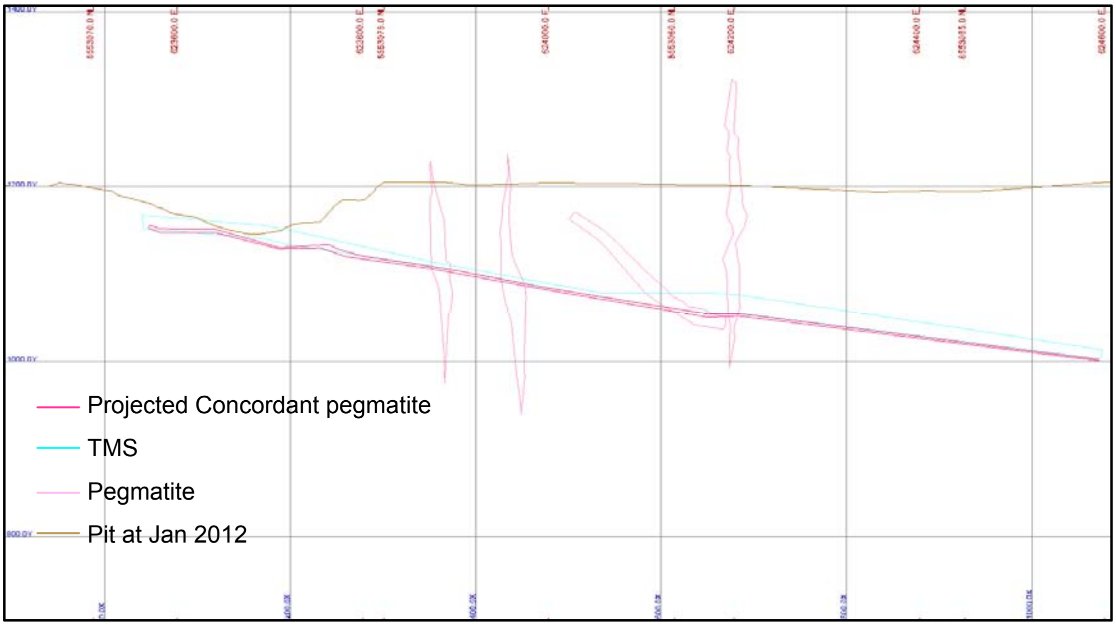


Figure 2-5: Outlines of TMS, Pegmatites and projected Concordant Pegmatite at Fwaya-Fwaya-Chama pit.

Though important in the localisation of pockets of emerald within marginal reaction zones, the pegmatites also effectively cut-out large portions of the TMS unit. Localised areas of heavily altered and mineralised TMS may be found trapped within pegmatites or between branching dykes. Emerald and beryl occur where the TMS unit has been intersected by pegmatitic dykes and quartz-tourmaline veins and are rarely found outside this unit. The TMS has been subjected to metasomatic addition of K, Al, Fe, Li, Rb and Be and removal of Ca, Si, and H_2O. K-Ar ages of muscovite associated with emerald and beryl are close to 450 Ma and thus are late Pan African and post metamorphic in age. Oxygen isotope ($\delta_{18}O$) analysis on associated quartz and tourmaline indicate three main phases of mineralisation but the main phase has a temperature range of 350°C to 450°C and a pressure range of 150 MPa to 450 MPa. Fluid inclusions contain aqueous to aqueous-carbonic fluids with salinity up to 34 wt% NaCl. During this last phase of pegmatite activity, Cr (±V) and Fe from the chrome magnetites of the TMS were incorporated into the crystallizing beryl to form emerald. Experience has shown that the most favourable location for emeralds in the case of the FF pit is the triple junction between steep dipping discordant pegmatite dykes, concordant footwall dykes and the TMS unit itself.

2.3 Mineralisation Characterisation

The four main styles of mineralisation at Kagem are; discordant reaction zones, concordant reactions zones, tri-junction reaction zones and quartz-tourmaline veining which in the Chama section of the pit has transported the reaction zone to the centre, distal to C1 (the pegmatite main) between pegmatites M2 and C1. The focus of geological modelling has been the discordant and concordant reaction zones, as these mineralisation styles host the majority of the emerald mineralisation. The reaction zones form where the TMS unit is intruded by pegmatites, either discordant or concordant. Reaction zones typically contain beryl mineralisation, of which a variable fraction may be emerald, depending on the chemistry of the TMS. Due to the change in strike of the TMS unit itself, the reaction zones effectively rotate from along-strike in the northern end of the pit to along the dip direction in the central and southern parts of the pit. The pegmatites maintain a relatively consistent strike, so the apparent rotation of the reaction zones is purely based on the change in the strike of the TMS.

In the northern part of the pit, the discordant pegmatite reaction zones ("DRZ") run approximately north-south, which is sub-parallel with the strike of the TMS unit. The DRZ are typically 1 to 2 m wide with an average width of approximately 1 m and occur on both sides of the intruded pegmatite bodies. The DRZ are tabular or sheet like in shape, with the DRZ dip extent being determined by the total vertical height of the TMS unit, which is typically 15 to 20 m. The longest axis is sub-parallel to the strike of the TMS, with the length of the DRZ being dependant on the pegmatite unit, sometimes extending up to 300 m. The orientation of the DRZ is approximately north-south, with an approximate horizontal plunge.

In addition to the DRZ, reaction zones also form on the footwall of the TMS, and are associated with the concordant pegmatites which follow the basal contact of the TMS unit. The concordant pegmatite reaction zones ("CRZ") are laterally continuous, but are of variable thickness, and are not often intersected by drilling. Concordant pegmatite dykes have exploited weaknesses and in-filled fractures that run parallel along the relict sedimentary structure of the TMS unit. Occasionally, discordant dykes bend round to be parallel to the TMS foliation, becoming concordant pegmatite. The CRZ vertical thickness is typically 1 m, but it also exhibits a pinch and swell structure and so can be significantly thinner, down to a centimetre scale. Underground mapping of the concordant reaction zones show the average thickness of the reaction zones to be approximately 2 m, but locally, thicker intersections are identified. In addition to this, occasional splays off the concordant pegmatite, into the TMS unit can produce significant reaction zones of 2 to 3 m thickness. Other veining, such as tourmaline viens can also generate reaction zones within the TMS, which can be either concordant or discordant.

The location of the DRZ is also complicated by multiple pegmatite intrusions, such as in the Chama section of the pit, which can produce significant amounts of reaction zone material. It is this section of the pit which has been the main focus of emerald production over the last 5 years. As the reaction zones are controlled by the pegmatite intrusion, understanding the location of the main pegmatites through targeted drilling has significantly helped in the understanding of the localisation of the emerald mineralisation. In addition to the pegmatites which have been identified through drilling; further pegmatites have been observed within the Fwaya-Fwaya-Chama pit. These pegmatites occur on a significantly smaller scale than can be resolved from the drilling. These pegmatites also create reaction zones within the TMS unit, and so can be considered a less predictable source of emerald mineralisation.

A wide discordant pegmatite, up to 3 m wide, runs perpendicular to M1 and the other discordant pegmatites within the pit. Where the pegmatites intersect with other discordant pegmatites and the concordant pegmatite, tri-junctions are created which produce wider and historically more productive areas of reaction zone. However, the reaction zone at a tri-junction is equally as variable as other areas of reaction zone in that it can range in width from 10 cm to 1 m.

3 MINERAL RESOURCES FOR THE FWAYA-FWAYA-CHAMA DEPOSIT

3.1 Introduction

Mineral Resource estimation at Kagem has been undertaken using computerised wireframing techniques to produce geological models of the TMS and pegmatites. Solid-solid intersection routines were then implemented to produce a reaction zone of approximately 2 m around pegmatite veins wherever these intersect with the TMS unit.

3.2 Quantity and Quality of Data

Exploration activity in the licence area has largely been via a limited amount of pitting (trial mining) or drilling, most of which has been undertaken since 1998. Table 3-1 summarises the drill holes in Gemfields' database up to January 2012 for each of the areas described above.

Prior to 1998, mining had been concentrated in the FF VI pit but, following a ground magnetometer survey, it was realised that the TMS extended further to the northeast. This was confirmed in June 1998 by the drilling of two holes and trenching which proved the existence of TMS, pegmatites and small emeralds. A follow-up drilling programme led to the development of the currently operating Fwaya-Fwaya-Chama pit. The economic importance of these pits is reflected in the amounts of drilling concentrated in these areas. The holes within the Fwaya-Fwaya-Chama pit area have been drilled to an average depth of approximately 100 m and at variable spacing ranging from 30 m to 150 m apart and with azimuths of between 45° and 90°. Holes range in inclination from vertical to 45° to the west and their layout was largely influenced by the need to determine the continuity and thickness of the TMS formation.

Table 3-1: Kagem drill hole database as at 1 January 2012

Prospect/Pit	*Holes (No)*	*Drilled (m)*	*(m/hole)*	*Period*
Fibolele	37	2468.1	66.7	March 04 to Oct 11
Dabwisa	31	2877.33	92.8	2003 to 2008
Libwente	54	2760.1	51.1	March 04 to Sept 06
Kanchule	5	414		Oct 04 to Dec 04
Lunshingwa	33	2705.95	82	June 1998 to Jan 11
FW-FW-Belt	316	31628.36	100.1	July 03 to Oct 11
	476	**42,853.84**	**79.3**	

All holes in the current drilling programme aim to intersect the TMS unit at NQ size and, unlike previous holes, all are being internally surveyed using a down-hole camera at 20 m to 30 m intervals to track any possible unintentional deflection. Drill hole collars are surveyed using Stratus differential GPS.

Core logging procedures and log formats are consistent with that reported by SRK previously. All core is photographed at the drill site before transport to the core shed to give a record of the quality of the core as drilled. In the most recent drilling campaign, new metal core boxes have been implemented to ensure that all core can be stored safely and not suffer from the effects of box failure caused by handling, weather or termites. All new core and any old core selected for re-logging and analysis is stored in the core shed to be boxed or re-boxed, logged, photographed and marked with plastic depth markers, before being moved to the second core shed for storage.

The core is not currently stored in a secure shed, but the site is being surrounded by a new security fence and is also guarded by the Zambian paramilitary force contracted security guards and Zambian Police.

Core recoveries achieved by the two available rigs has been recorded for all new drill holes. Core recoveries in available drill hole data average 80.5%. While recovery in the pegmatite ranges from 0 to 100% and averages 86.5%, recovery in the TMS is more consistent, only dropping to 66.3% and averaging 98.4%. Good core recovery in the pegmatites and TMS intersections is particularly important. In the case of holes from previous drilling campaigns, core recovery data has not been routinely recorded though it is available for specific lithological units taken from randomly selected holes within the Kagem licence area. With the exception of the expected low recoveries in the soil horizon, average values range from 57.6% to 98.5% with the latter value being in the TMS lithologies and the former in kaolinised pegmatite areas. Reduced recovery in the pegmatites is a concern as it makes thickness measurements, and assessment as to whether they are conformable or discordant dykes, more difficult.

Examination of the drill hole database and of drill logs in the field indicated that good quality geological information is being recorded by geologists. Summary logging of two holes by SRK revealed that lithological identifications are accurate as are depth measurements of geological formations.

The sampling protocol implemented by Kagem requires that sampling be controlled by lithological contacts but that within these, the samples should, as far as possible, be on one metre intervals. As well as the TMS, sampling is required to cover the immediate hangingwall and footwall formations. Measurements are taken using hand held Niton XL 3t XRF equipment which is calibrated to measure Cr and V and is recalibrated every 20 samples using in-house standard samples. Core splitting takes place onsite at the core storage facility, using a diamond saw. Pegmatite samples for Be analysis are currently sent for crushing, pulverisation and analysis to an external laboratory, although there are plans to purchase in-house crushing and pulverising equipment. For each drill hole sample batch, Quality Assurance and Quality control ("QAQC") samples in the form of a Standard and a Blank must be added to monitor analytical precision and potential contamination. The internal standards have been produced from 75 kg of TMS from the pit which has been crushed, pulped and thoroughly homogenized by Alfred H Knight International Limited (Zambia) ("Alfred H Knight") in their laboratories in Kitwe and then sent to Alex Stewart Group Limited laboratories ("Alex Stewart") in Kalulushi where 10 separate analysis were undertaken for Cr, Fe and V. The "Blanks" were obtained from quartz samples and treated in the same way.

The Company's exploration manager is charged with the responsibility of ensuring that all quality control procedures are followed and the results regularly reviewed.

Specific gravity measurements were available from the 2009 Rocklab report from African Mining Consultants Ltd ("AMC"). The Company has recently begun taking density measurements but these are not standardised or checked against laboratory test values, and the values provided were very low, averaging 1.76 g/cm^3. The value used for this estimate was 2.8 g/cm^3 averaged from the reaction zone density measurements taken from dry bulk density measurements. SRK notes that the density data available for the reaction zones is limited, and that considerable uncertainty can be included in the tonnage estimate, through the use of the AMC data. SRK strongly recommends that additional density samples be routinely analysed to ensure that a substantial database of density measurements be generated for the deposit.

3.3 QAQC Analysis

SRK notes that limited QAQC data has been made available, or otherwise been collected by the Company. The results detailed below were derived from a sample batch received from Alfred H. Knight Zambia in January 2012. Older QAQC records have not been provided to SRK. QAQC data is only available for ICP-MS analysis which is carried out by the laboratory, and no record of QAQC checks for the on-site hand held XRF analysis has been provided.

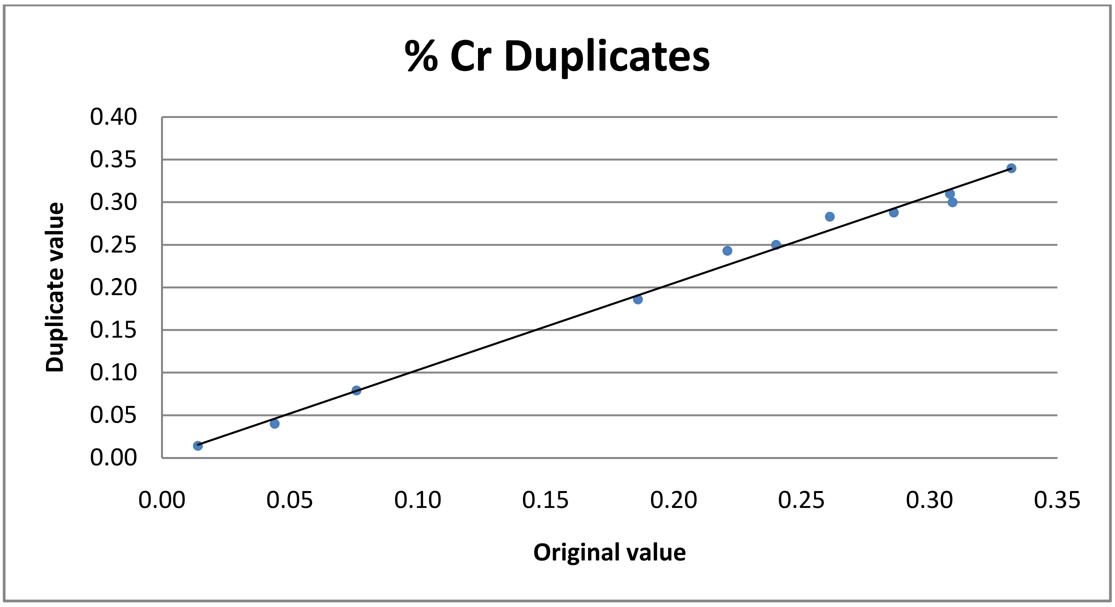


Figure 3-1: Duplicate samples comparing percentage Cr

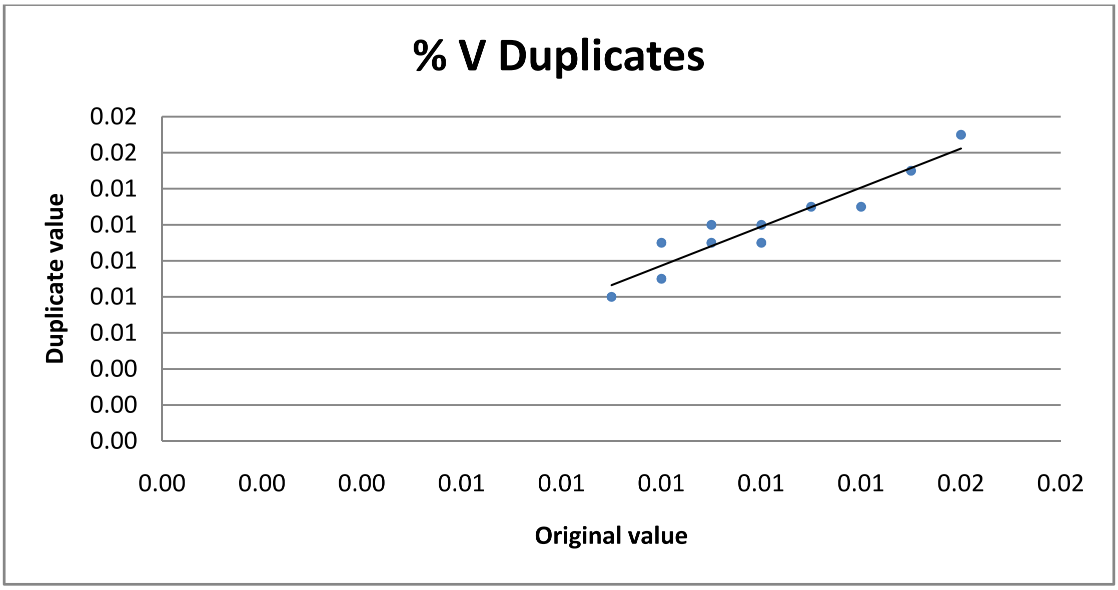


Figure 3-2: Duplicate samples comparing percentage V

Although the QAQC data provided is relatively limited, comprising a small sample selection of 165 samples in total with 5 blanks (3%), 11 standards (7%), and 11 duplicates (7%), this does give us an indication of reliability of the laboratory results. As can be seen in Figure 3-1 and Figure 3-2 the duplicate samples have performed well, suggesting acceptable accuracy and precision for Cr and V. In Figure 3-5 to Figure 3-10 the standards have also returned values within the accepted 2 standard deviation range, although the outlier result in Figure 3-10 may be of some concern, especially considering the small sample size. Finally, blank samples containing only quartz have returned values <0.01 for Cr and V. While this indicates an acceptable level, a larger sample size would give more confidence to the results.

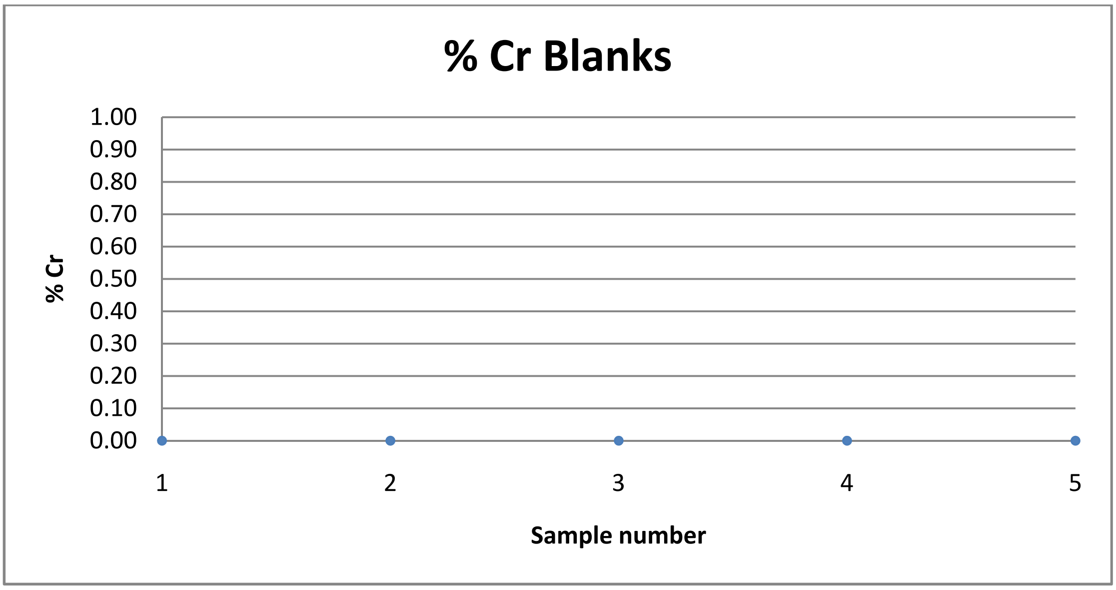


Figure 3-3: Blank samples showing percentage Cr

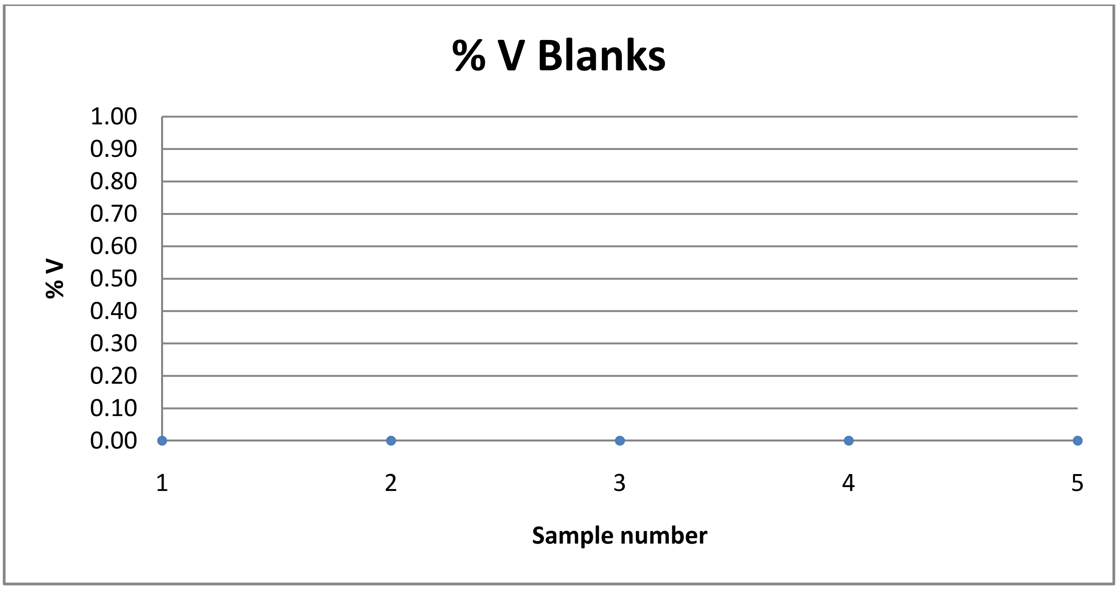


Figure 3-4: Blank samples showing percentage V

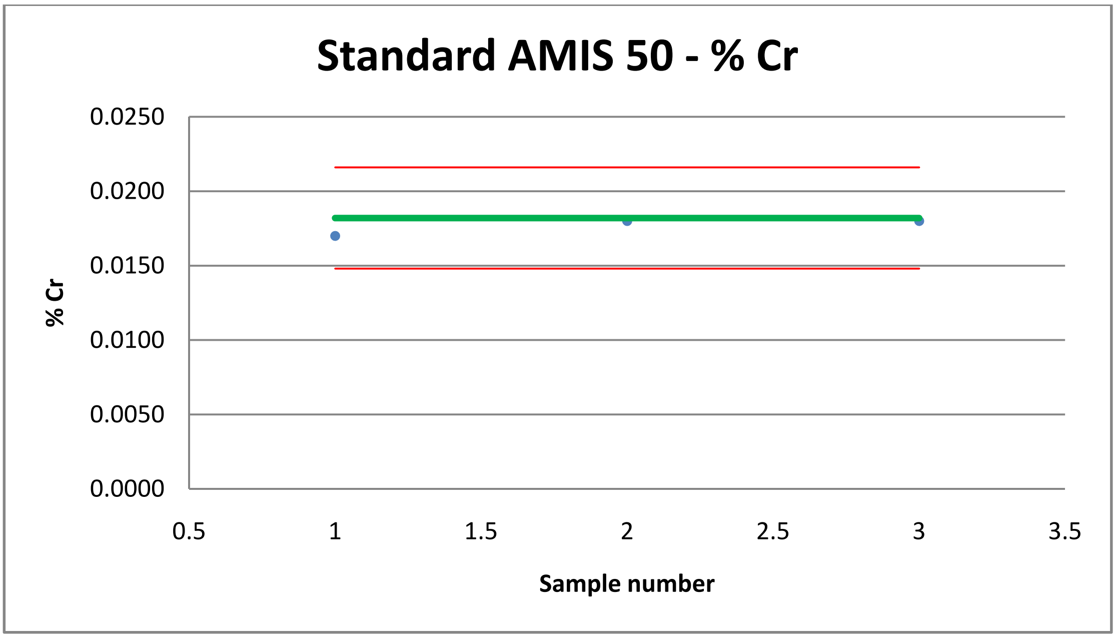


Figure 3-5: Standard AMIS 50 showing percentage Cr

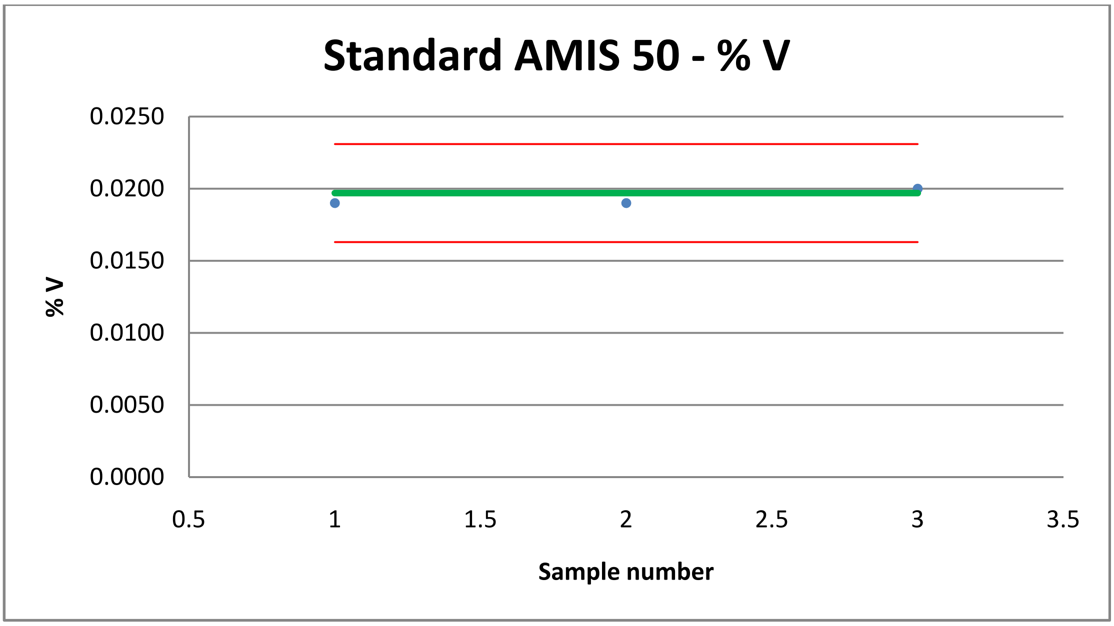


Figure 3-6: Standard AMIS 50 showing percentage V

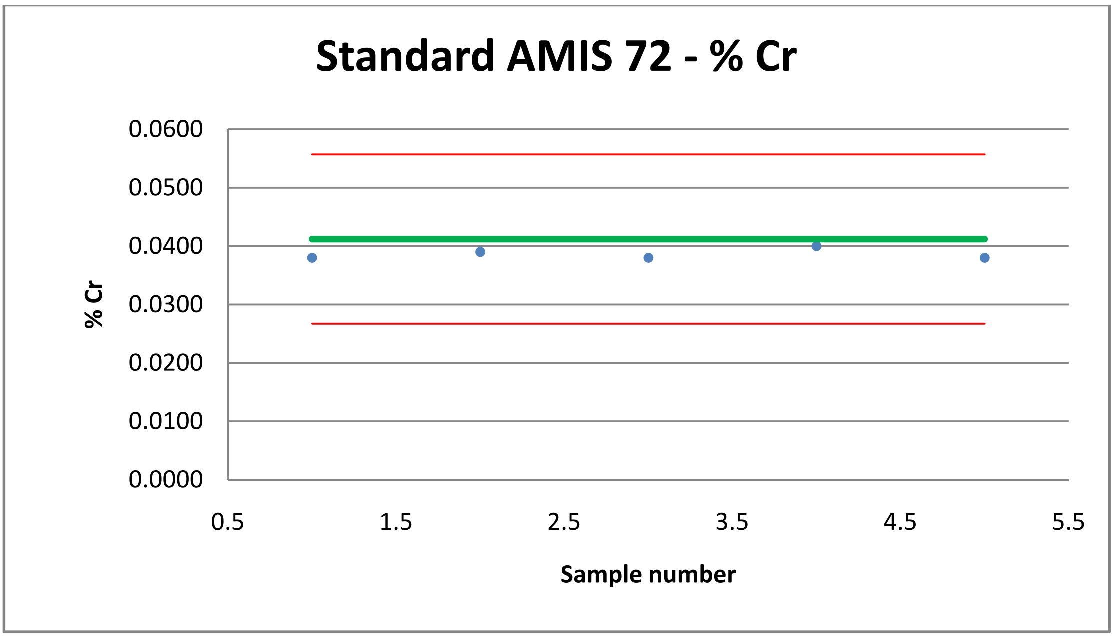


Figure 3-7: Standard AMIS 72 showing percentage Cr

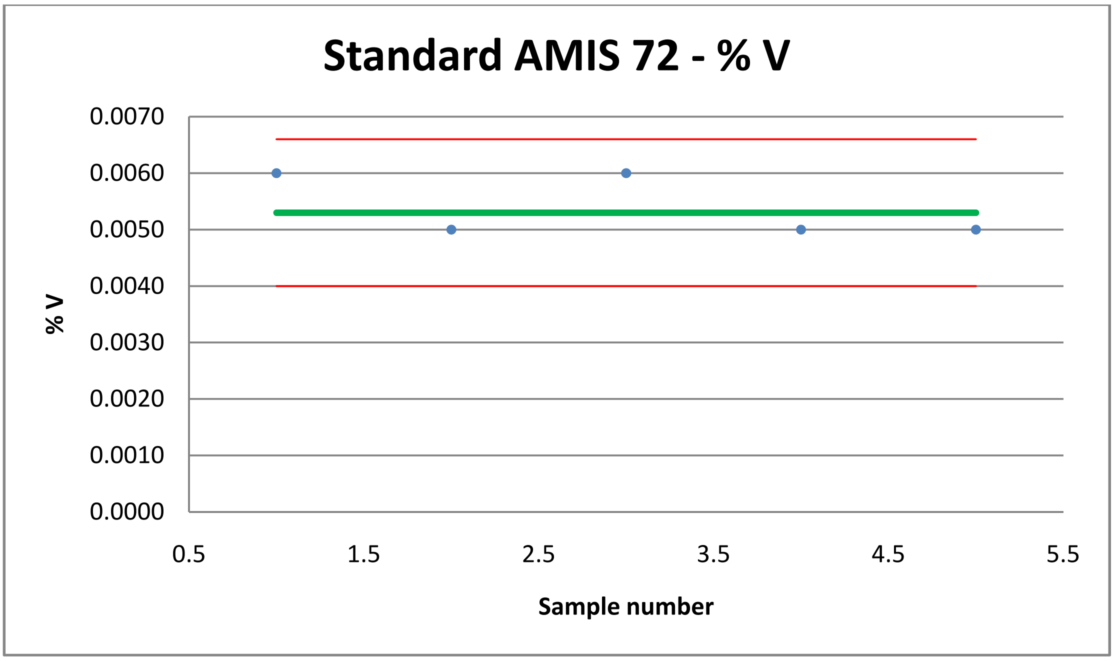


Figure 3-8: Standard AMIS 72 showing percentage V

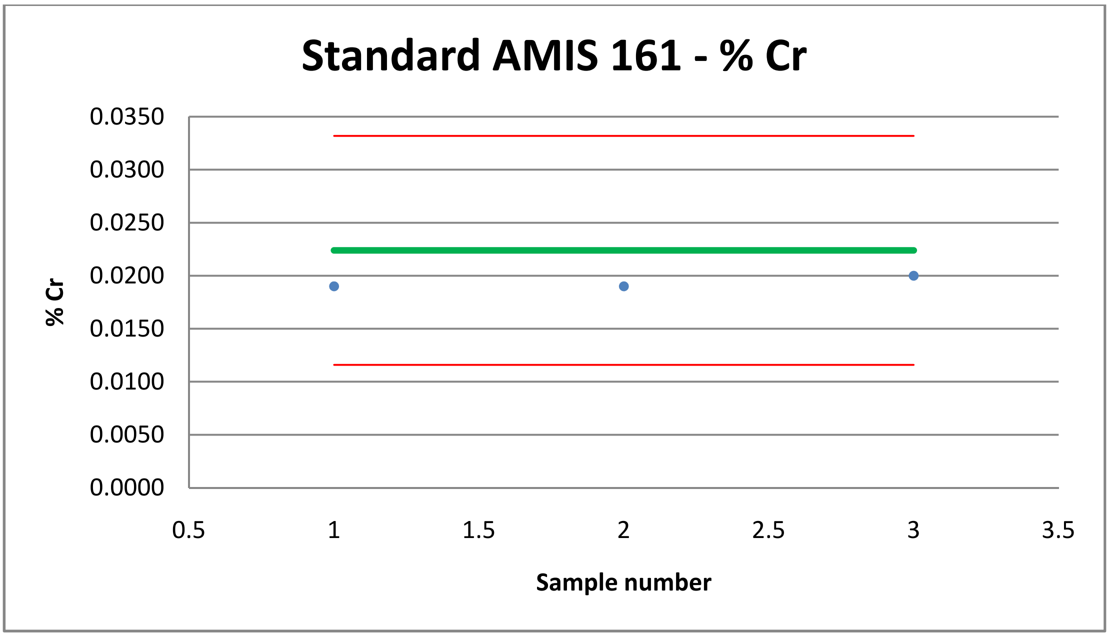


Figure 3-9: Standard AMIS 161 showing percentage Cr

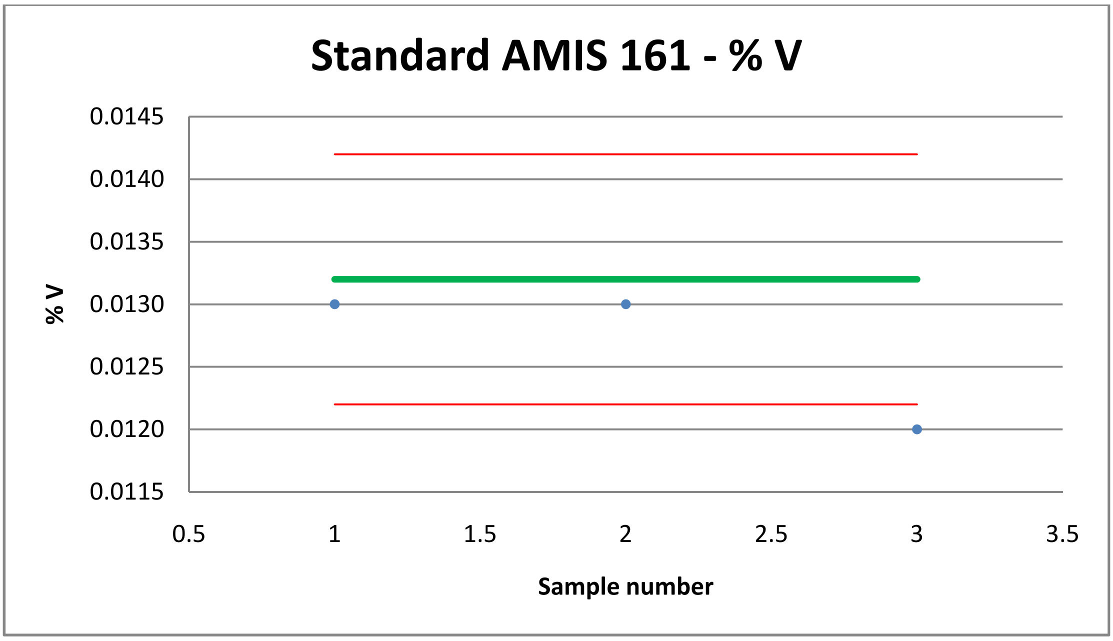


Figure 3-10: Standard AMIS 161 showing percentage V

It is the opinion of SRK that the frequency of QAQC sample insertion is appropriate for the current QAQC checks, and the level of resource classification in this report. However, SRK notes that the supplied data is relatively limited.

SRK is satisfied that these quality control procedures indicate no overall bias in the sample preparation and ICP-MS procedure. In general, it is the opinion of SRK that the results of the limited number of QAQC analysis display a reasonably good correlation to the original assays and are acceptable.

It is however recommended that more stringent compilation and records of QAQC procedures are kept in the future for historical review of data. Errors such as seen in standard AMIS 161 (Figure 3-10) should also be followed up with the laboratory. It may be possible that with a more comprehensive QAQC program, assay results could start to influence the modelling routine.

3.4 Geological modelling, grade and tonnage estimation

The geological modelling process undertaken by SRK at Kagem is largely focused on defining three dimensional solids (Figure 3-13) using GEMCOM software. Numerous sections were created (Figure 3-11) to aid geological modelling, in addition to the 11 section lines supplied by the Company. The TMS unit and pegmatite veins were then modelled based on the drill hole intersections on these sections. The pegmatite unit was then expanded by 2 m in all directions, as this has been determined to be the average thickness of the reaction zone, based on historical in pit mapping. Solid-solid intersections and clipping of the 2 m expansion, original pegmatite unit and the TMS, were then carried out, the result being a section of reaction zone being modelled where TMS and pegmatite intersect forming a DRZ solid (Figure 3-12).

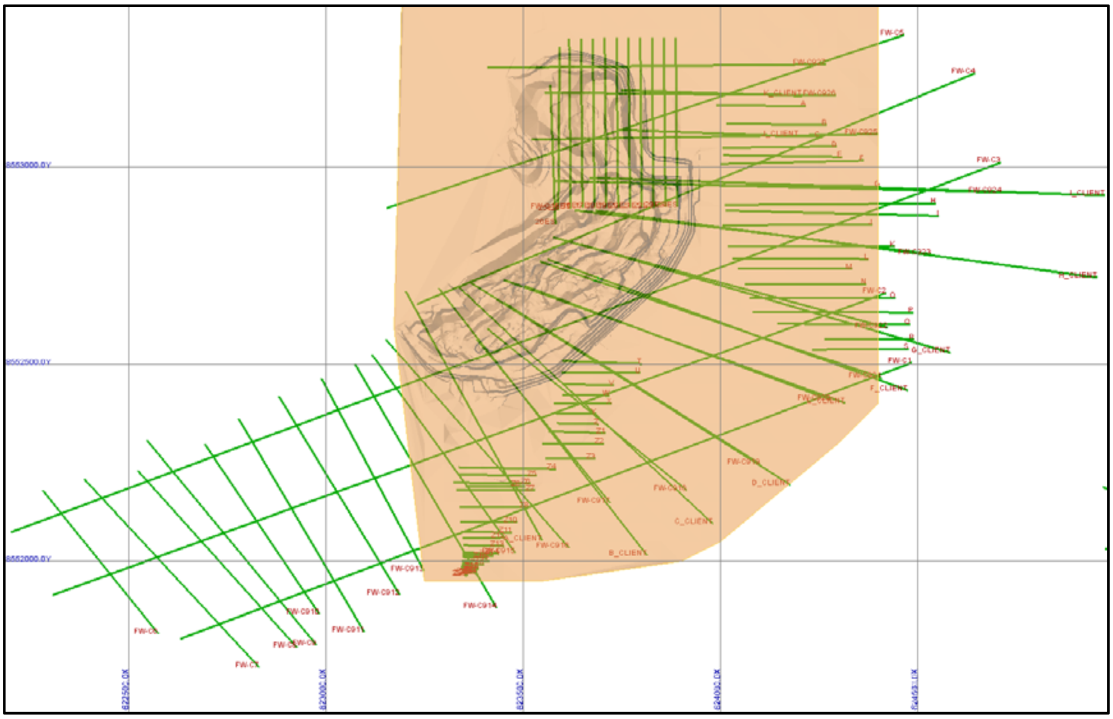


Figure 3-11: Section lines used during the wireframing routine.

The CRZ has been extruded along the bottom of the TMS unit, as the concordant pegmatite was only modelled within the exploited pit, to ensure there was a unit to be targeted by the mine design phase. This was done on the basis that the concordant pegmatite runs along the base of the TMS unit, and forms reaction zone that pinches and swells along this horizon. Based on mapping completed in the underground workings the average concordant reaction zone width of 2 metres was applied to this horizon and it was extended into the area of the 150 m pushback. It follows a similar geometry to the projected concordant pegmatite.

The DRZ can be assumed to exist where the TMS and discordant pegmatites cross cut. In the SRK wireframe model, only the large, relatively continuous discordant pegmatites have been modelled. The likelihood of there being significantly more pegmatites, which have either not been intersected by drilling, or cannot be traced from one section to another, is high. Therefore SRK considers the model presented to be relatively conservative in terms of reaction zone tonnages. Similarly, the average 2 metre width of the reaction zone created is likely to pinch and swell, or in some cases due to unknown geological factors, does not get formed at all. Finally, although the reaction zone has here been used as a target for emerald mineralisation, emeralds do not always or consistently occur in the reaction zones.

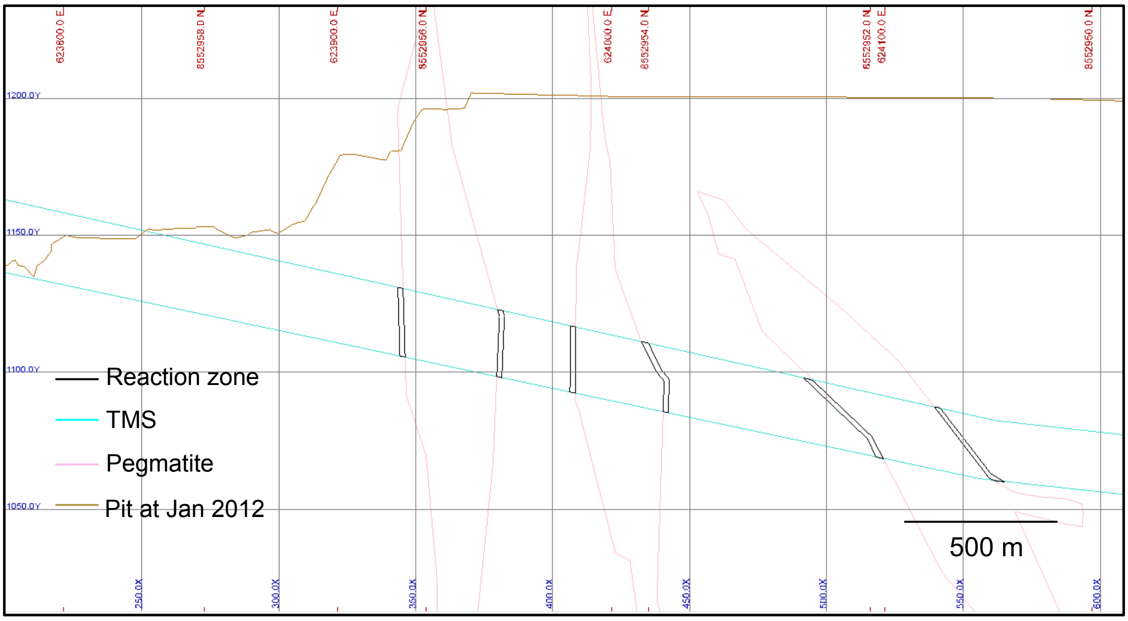


Figure 3-12: Outlines of TMS, Pegmatites and Reaction zone at pegmatite/TMS intersections

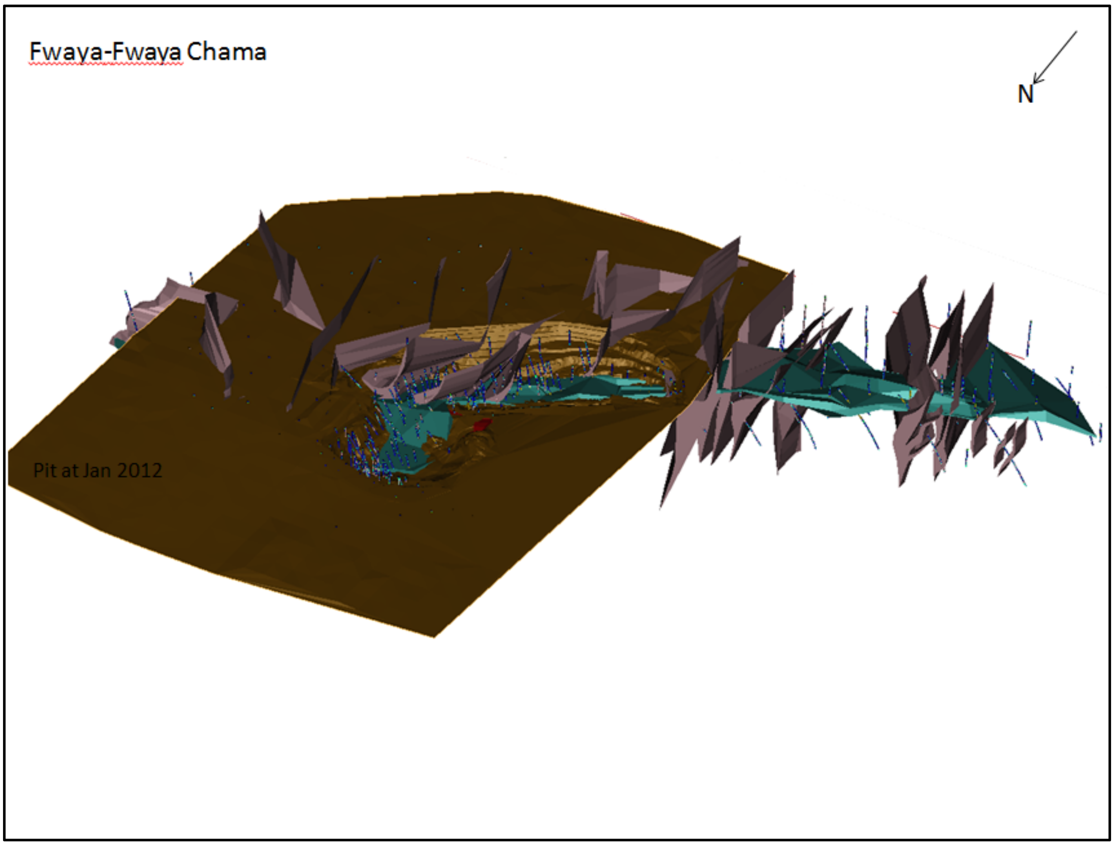


Figure 3-13: 3D solids at Fwaya-Fwaya-Chama showing TMS and Pegmatites with the Pit outline as at Jan 2012

The lithology wireframes are then converted to tonnage by application of the current density value of 2.8 g/cm^3 taken from the 2009 AMC Study. This density figure is considered to be due to the presence of phlogopite which varies from 2.7 to 3.2 t/m^3, and is the major mineral species found in the reaction zones. In total 12 discordant pegmatites and their associated reaction zones have been modelled (Table 3-2).

Table 3-2: Modelled DRZ volumes and tonnages

DRZ	*Volume (m^3)*	*Assumed Density (g/cm^3)*	*Tonnage (t)*
1	41,697.12	2.8	116,751.94
2	23,125.72	2.8	64,752.03
3	43,742.80	2.8	122,479.84
4	43,428.53	2.8	121,599.90
5	55,779.79	2.8	156,183.41
6	34,776.11	2.8	97,373.12
7	18,895.07	2.8	52,906.19
8	5,868.35	2.8	16,431.38
9	69,101.36	2.8	193,483.81
10	9,770.83	2.8	27,358.31
11	39,646.88	2.8	111,011.27
12	30,559.53	2.8	85,566.66

Economic concentration of emerald and beryl is largely contained within the reaction zones as previously defined, although some mineralisation exists distal to this, associated with smaller scale quartz-tourmaline veining. Historical information for this has been taken from data recorded per sector for financial years 2008 to February 2012, the data for which can be seen in Table 3-3.

Table 3-3: Reaction zone historical production statistics

Operating Statistics	**Units**	**2008**	**2009**	**2010**	**2011**	**2012 (Jan - Feb)**	**Average**	**Grade applied**
RZ mined	t	64,460	69,590	60,624	67,991	10,808	**65,666**	**65,666**
TMS mined	t	841,402	471,330	571,428	335,112	90,364	**554,818**	**/**
Grade (E&B)	gm	3,332,455	5,524,317	5,838,085	4,512,419	628,433	**4,801,819**	**4,801,819**
Grade (E&B)	g/t	258.5	396.9	481.5	331.8	290.7	**365.6**	**73.1**

The possible grade of emerald and beryl and their relative importance, is based on the extrapolation of the recovery of these minerals from the tonnage of reaction zone processed during the period covered by the historical mining production statistics. This includes mineral obtained from in-pit chiselling as well as that obtained from the processing plant. Accordingly given the complexity associated with estimate of individual reaction zone tonnage as well as the concentration of emerald and beryl within such reaction zones, SRK has based the current Mineral Resource estimate on what is effectively a large scale bulk sample combined with the geological interpretation of the TMS, pegmatite and reaction zone lithological units as described above.

The parameters applied in this respect are: a joint grade of 73.1 g/t for emerald and beryl, based on the data from plant and pit recorded by the Company from 2008 to 2012.

3.5 Classification

SRK notes that emerald deposits, owing to the distribution of economic concentrations of reaction zones are notoriously difficult to sample, estimate and classify as current drilling techniques are inappropriate to provide sufficient data density to enable direct estimation of reaction zone tonnage and grade. Accordingly, drilling as currently employed can only provide information to determine the volume of TMS, of the larger, more continuous pegmatites and the locations relative to other lithologies and geological structures. Derivation of Mineral Resources is largely dependent on the availability of the results of bulk samples or equivalent such as historical production statistics.

There is strong evidence from the drilling that the TMS horizon was originally continuous with a uniform easterly to south-easterly dip, and that thick pegmatites have later intruded this horizon interrupting its continuity. Information on the location of these pegmatites and their dip, strike and thickness, has in recent years been predicted with a reasonable degree of confidence as the main bodies of specific pegmatites have been continuous as exposed by open pit mining. The discontinuous reaction zones lie along the contacts of the pegmatites where they cut the TMS horizon but their thickness and grade are highly variable and their exact location very difficult to predict.

A number of assumptions were therefore made during the modelling process. Based on the available data SRK have assumed that the TMS unit remains constant to extents of the modelled unit with no changes in geology or mineralogy. Similarly it is assumed that there is no changing in the mineralising system with depth and no change due to weathering with depth.

It should be noted that the pegmatites as modelled are conservative as there are very likely to be smaller pegmatites and reaction zones which cannot be modelled from the drilling, but are likely to be intersected as mining continues. Modelling of the reaction zone is done through inference as the geometry of TMS and pegmatites are understood to a reasonable level. The intersections of these are therefore assumed to contain reaction zone.

In addition, the concordant reaction zone has been inferred from the location of the footwall of the TMS unit. An assumed thickness of 2m is applied based on the underground mapping, and the geological knowledge of the Gemfields onsite staff. The concordant reaction zone is rarely logged in the drill holes, and is known to exhibit a pinch and swell geometry.

Grade data is sourced from historical production data so no direct grade estimate can be undertaken. Grade estimates are therefore entirely dependent on historical data for validation. The global grade has been applied to all reaction zones in the model as the quantity of emeralds recovered from the reaction zone and TMS is known, but it cannot be specifically stated as being in certain local areas. SRK suggests that on-going assaying of Cr and V may help with understanding of quality, but cannot be used for direct emerald grade estimation.

SRK considers that the above assumptions, in particular the assumed thickness of the modelled reaction zone, and the assumed density applied to the reaction zones are the main factors in determining the classification applied to the Mineral Resources.

3.6 Mineral Resource Statements for the Fwaya-Fwaya-Chama deposit

Table 3-4 presents the current Mineral Resource statement for Fwaya-Fwaya-Chama deposit. The Mineral Resource as presented is based on geological modelling of the reaction zones, the TMS unit, and application of grade as undertaken by SRK and detailed previously. SRK considers that Table 3-4 as presented is reported in accordance with the JORC Code. In presenting this Mineral Resource the following apply:

- Mineral Resources are quoted at appropriate in-situ economic cut-off grades which satisfy the requirement of 'potentially economically mineable' for open-pit mining and underground mining.
- All Mineral Resources are quoted at 100%, and derivation of attributable Mineral Resources would necessitate application of the Company's 75% equity interest.

As of 4 July 2012, SRK states that the Fwaya-Fwaya-Chama deposit has a Mineral Resource Statement, as reported in accordance with the terms and definitions presented in the JORC Code of an Indicated Mineral Resources of 2.7 Mt at an average grade of 73.1 g/t of emerald and beryl. This equates to a contained emerald and beryl content of 200,687 kg, or 1,003,435,000 carats, given a gram to carat conversion of 5 carats per gram. The presented Mineral Resource Statement is based on the modelled reaction zones only, with an assumed density of 2.8 g/cm^3, and with a grade determined from the historical production data, applied as a global grade to all modelled reaction zones.

Table 3-4: Kagem: Mineral Resource statement (4 July 2012)

Unit	Classification	Volume RZ (m3)	Density g/cm^3	Tonnes RZ (t)	Grade E+B (kg)	Content E+B (kg)	Content E+B (carat)
DRZ_1	Indicated Mineral Resource	41,700	2.8	116,800	73.1	8,535	42,672,800
DRZ_2	Indicated Mineral Resource	23,130	2.8	64,800	73.1	4,733	23,666,900
DRZ_3	Indicated Mineral Resource	43,740	2.8	122,500	73.1	8,953	44,765,700
DRZ_4	Indicated Mineral Resource	43,430	2.8	121,600	73.1	8,889	44,444,800
DRZ_5	Indicated Mineral Resource	55,780	2.8	156,200	73.1	11,417	57,085,000
DRZ_6	Indicated Mineral Resource	34,780	2.8	97,400	73.1	7,118	35,589,900
DRZ_7	Indicated Mineral Resource	18,900	2.8	52,900	73.1	3,867	19,337,200
DRZ_8	Indicated Mineral Resource	5,870	2.8	16,400	73.1	1,201	6,005,700
DRZ_9	Indicated Mineral Resource	69,100	2.8	193,500	73.1	14,144	70,718,300
DRZ_10	Indicated Mineral Resource	9,770	2.8	27,400	73.1	2,000	9,999,500
DRZ_11	Indicated Mineral Resource	39,650	2.8	111,000	73.1	8,115	40,574,600

DRZ_12	Indicated Mineral Resource	30,560	2.8	85,600	73.1	6,255	31,274,600
CRZ	Indicated Mineral Resource	564,096	2.8	1,579,469	73.1	115,460	577,300,000
Total	**Indicated Mineral Resource**	**1,017,170**	**2.8**	**2,745,570**	**73.1**	**200,687**	**1,003,435,000**

4 OTHER EMERALD OCCURRENCES WITHIN THE KAGEM LICENCE AREA

4.1 Introduction

In addition to the Fwaya-Fwaya-Chama deposit, SRK has also undertaken geological modelling for three of the exploration areas within the Kagem licence. These areas are Fibolele, Dabwisa and Lunshingwa. The TMS and discordant pegmatites modelled in these areas can be seen in Figure 4-1 to Figure 4-3. SRK notes that Lunshingwa is the only area that has been bulk sampled, and emerald and beryl recovered, and so reaction zone has not been modelled for Dabwisa and Fibolele.

4.2 Lunshingwa

4.2.1 Geological Modelling and Tonnage Estimation

The geometry of the TMS and pegmatites in this area are similar to the Fwaya-Fwaya-Chama sections, with approximate north-south trending pegmatites. The TMS unit has the same thickness and dip of the Fwaya-Fwaya-Chama TMS, at between 10^{o} and 22^{o}. The concordant pegmatite has not been modelled as its extent cannot be confirmed to extend this far from the Fwaya-Fwaya-Chama pit. The pegmatites and TMS have been modelled based on the drill hole information available. The reaction zones at Lunshingwa have been modelled using the same methodology as detailed previously for the reaction zones in the Fwaya-Fwaya-Chama pit. The pegmatite unit has been expanded by 2 m in all directions, as this has been determined to be the average thickness of the reaction zone (based on historical in pit mapping). The reaction zones have then been limited to the vertical height of the TMS by solid-solid intersections with the result being a section of reaction zone being modelled where TMS and pegmatite intersect forming a DRZ solid. Four small pegmatites have been modelled from the drill hole data. To calculate a tonnage the same density value of 2.8 g/cm^3 has been assigned to the Lunshingwa reaction zones. This has been assumed from the Fwaya-Fwaya-Chama values as no density measurements were made for the Lunshingwa deposit.

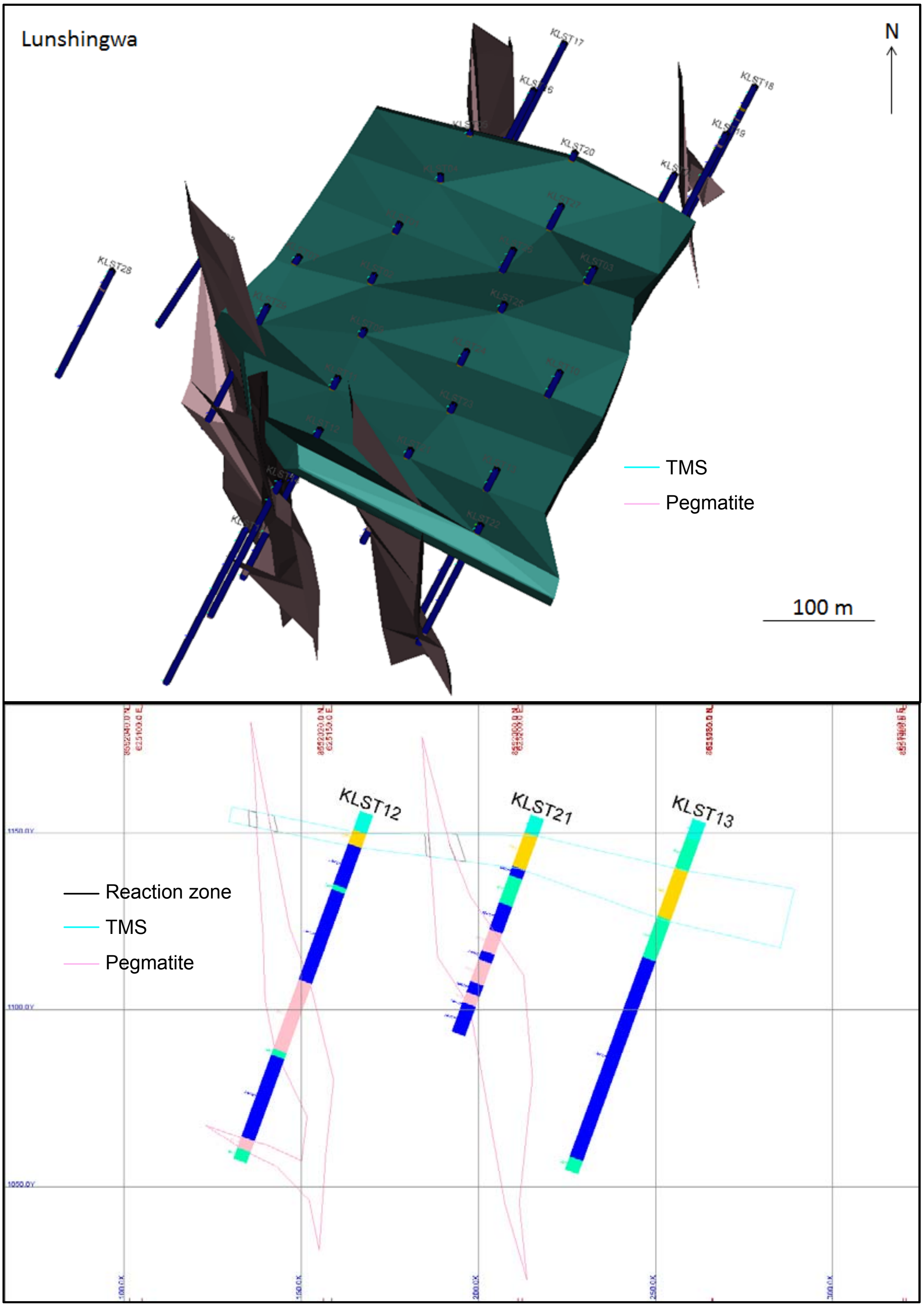


Figure 4-1: 3D solids at Lunshingwa and cross section of solids showing reaction zone areas.

4.2.2 Historical Production

Economic concentration of emerald and beryl is largely contained within the reaction zones as previously defined. Historical information for this has been taken from data recorded for financial years May 2010 to October 2011, the data for which are included in Table 3-3.

The possible grade of emerald and beryl and their relative importance, is based on the extrapolation of the recovery of these minerals from the tonnage of reaction zone processed during the period covered by the historical bulk sampling statistics. Accordingly given the complexity associated with estimate of individual reaction zone tonnage as well as the concentration of emerald and beryl within such reaction zones, SRK has based the current Mineral Resource estimate on a large scale bulk sample combined with the geological interpretation of the TMS, pegmatite and reaction zone lithological units within the main pit as described above.

The parameters applied in this respect are: a grade of 4.9 g/t for emerald and beryl, based on the data from bulk sample recorded by the Company from 2010 to 2011.

Table 4-1: Reaction zone historical production statistics

	Unit	*May 2010*	*Jan 2011*	*Feb 2011*	*March 2011*	*April 2011*	*Oct 2011*	*Total*
ROM	t	29,700	25,800	4,900	16,500	1,100	600	78,600
Premium Emerald	g	32	378	13				423
Emerald	g	1,835	2,783	204	1,198			6,020
Beryl-1	g	1,435	1,928	549	2,056	188		6,156
Beryl-2	g	1,441	501	472	876		280	3,570
Total	**g**	**4,743**	**5,590**	**1,238**	**4,130**	**188**	**280**	**16,169**
Grade	**g/t**	**6.26**	**4.62**	**3.96**	**4**	**5.85**	**2.14**	**4.86**

4.2.3 Mineral Resources

Table 4-2 presents the current Mineral Resource statement for Lunshingwa deposit. The Mineral Resource as presented is based on geological modelling of the reaction zones, the TMS unit, and application of grade as undertaken by SRK and detailed previously. SRK considers that Table 4-2 as presented is reported in accordance with the JORC Code. In presenting this Mineral Resource the following apply:

- Mineral Resources are quoted at appropriate in-situ economic cut-off grades which satisfy the requirement of ‘potentially economically mineable’ for open-pit mining and underground mining.
- All Mineral Resources are quoted at 100%, and derivation of attributable Mineral Resources would necessitate application of the Company’s 75% equity interest.

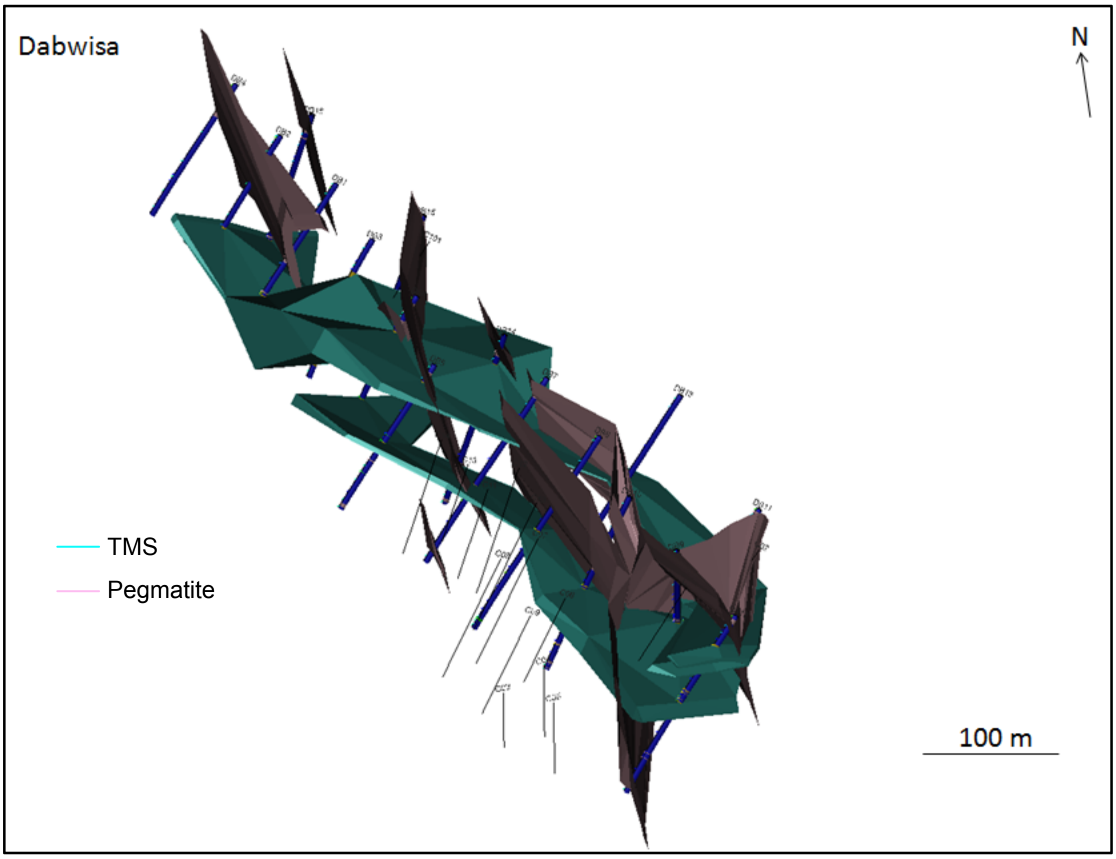
As of 4 July 2012, SRK states that the Lunshingwa deposit has a Mineral Resource Statement, as reported in accordance with the terms and definitions presented in the JORC Code of an Inferred Mineral Resources of 9,200 t at an average grade of 4.9 g/t of emerald and beryl. This equates to a contained emerald and beryl content of 45 kg, or 223,000 carats, given a gram to carat conversion of 5 carats per gram. The presented Mineral Resource Statement is based on the modelled reaction zones only, with an assumed density of 2.8 g/cm^3, and with a grade determined from the historical production data, applied as a global grade to all modelled reaction zones.

Table 4-2: Inferred Resource at Lunshingwa satellite deposit

Area	*Volume RZ (m^3)*	*Density g/cm3*	*Tonnes RZ (t)*	*Grade E+B (g/t)*	*Content E+B (kg)*	*Content E+B (carat)*
Lunshingwa	3,280	2.8	9,200	4.9	45	223,100

4.3 Dabwisa

The geometry of the pegmatites in this area is similar to the Fwaya-Fwaya-Chama sections, with approximate north-south trending pegmatites. The TMS unit has the same dip of between 10° and 22° but in this area two separate TMS units have been modelled based on the available drill hole data. Currently, there is insufficient information to confirm whether this second unit is due to folding of the original unit, or a separate unit entirely. There is also not enough information to comment on the extent of the second unit, and infill drilling is therefore recommended between the main pit and Dabwisa. The concordant pegmatite has not been modelled as its extent cannot be confirmed to extend this far from the Fwaya-Fwaya-Chama pit. The pegmatites and TMS have been modelled based on the available drill hole information. Seven small pegmatites have been modelled from the drill hole data, although with increased drill hole density there could be enough information to confidently combine some of the smaller pegmatite sections as branches from one or two main intrusions.



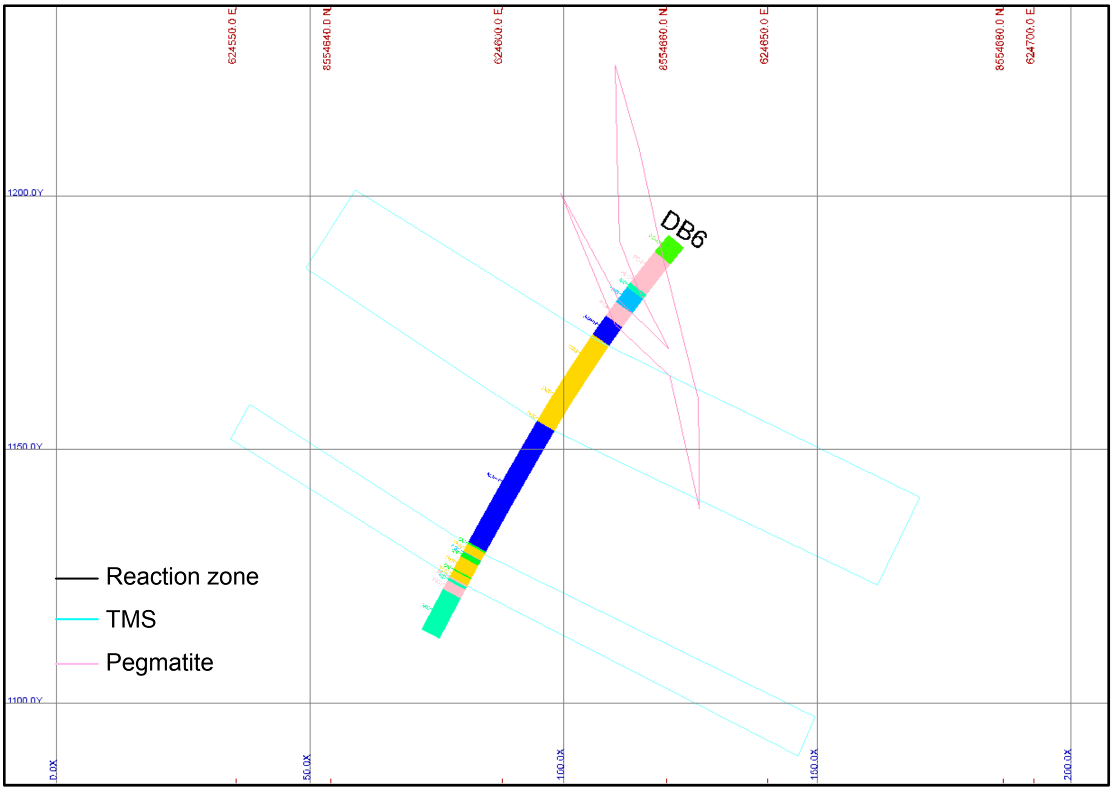


Figure 4-2: 3D solids at Dabwisa and cross section of solids showing two layers of TMS unit

4.4 Fibolele

The geometry of the TMS and pegmatites in this area are similar to the Dabwisa sections, with approximate north-south trending pegmatites. The TMS unit has the same dip of between 10^{o} and 22^{o} but in this area two separate TMS units have been modelled based on the available drill hole data. The concordant pegmatite has not been modelled as its extent cannot be confirmed to extend this far from the pit. The pegmatites and TMS have been modelled based on the drill hole information. Two small anastomosing pegmatites have been modelled from the drill hole data.

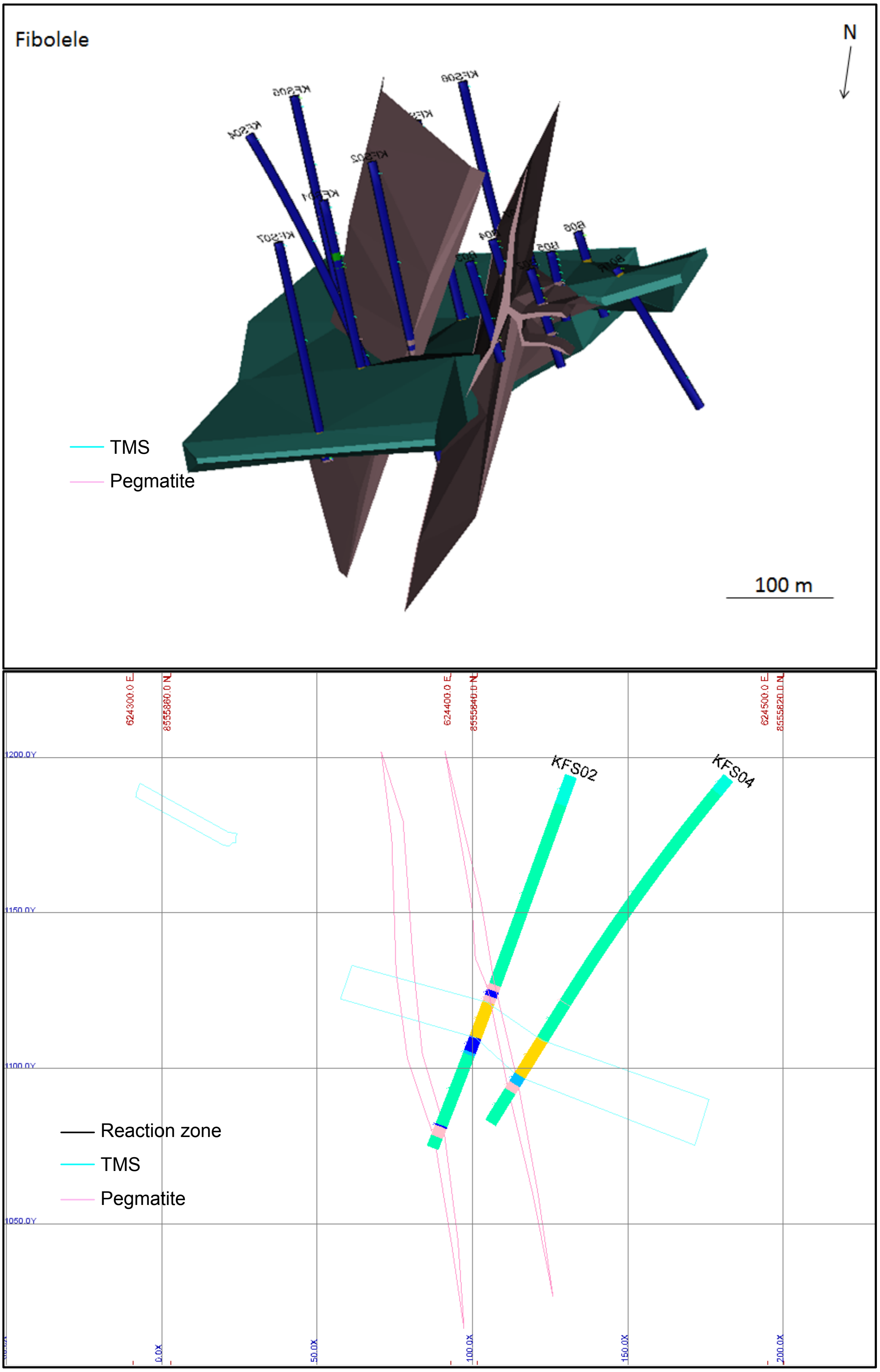


Figure 4-3: 3D solids at Fibolele and cross section of solids

4.5 Overall Comments

Modelling of these exploration areas has highlighted differences in the TMS unit across the license area. A change in elevation of the TMS unit between Fwaya-Fwaya-Chama and Lunshingwa (Figure 4-4) may indicate faulting has affected the area, or that there is more than one layer of TMS. The latter is indicated in the Dabwisa and Fibolele areas where two layers of TMS have been modelled (Figure 4-2). More than one layer of TMS could potentially, if also intersected by pegmatites, increase the potential for reaction zone area, and subsequently emerald mineralisation. Infill drilling is recommended between the main pit and the eastern and northern exploration areas to provide more information for interpretation of this unit.

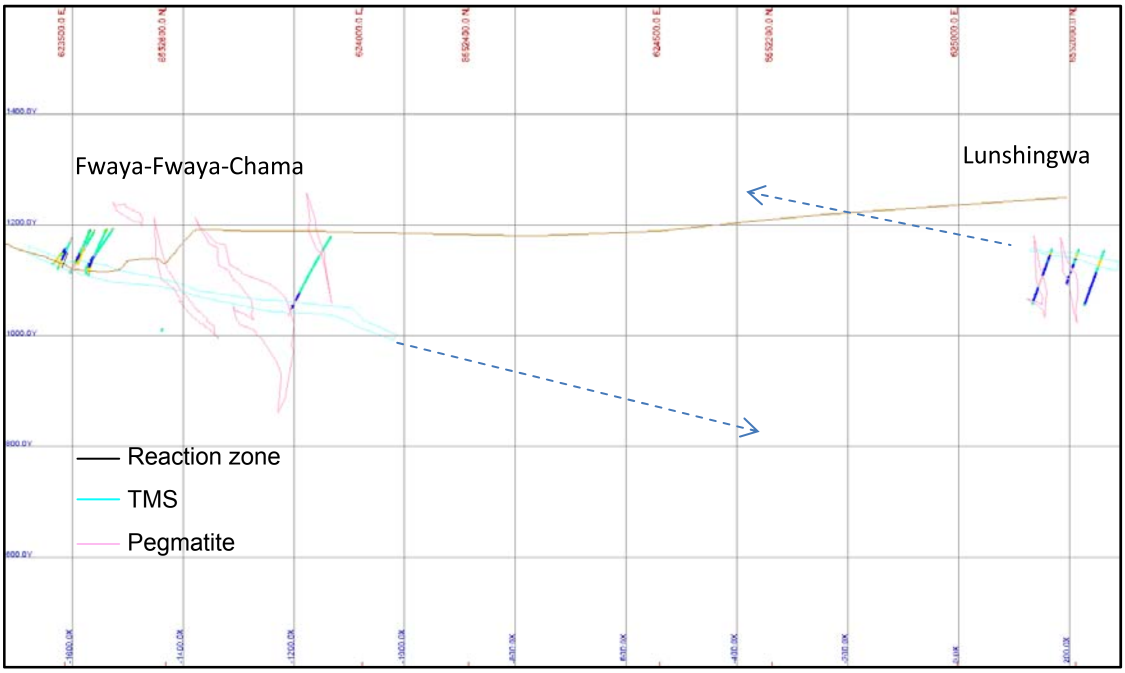


Figure 4-4: Cross section looking north across the license area shows a change in elevation of the TMS unit between Fwaya-Fwaya-Chama and Lunshingwa.

5 EXPLORATION PROGRAMME AND MINERAL RESOURCE POTENTIAL

The Mineral Resource potential outside of that defined by the current Mineral Resources at Kagem is focused in the following areas:

- Down dip extensions to the currently defined Mineral Resources, specifically below the currently applied limit of 1,075 m RL (125 m below surface) and in the vicinity of the exploration holes drilled to date; and
- Continuing exploration associated with previously identified and in certain instances mined deposits contained within the licence area.

SRK understands that the proposed exploration programme for the 8 month period ending June 2012 comprises 7.5 km of diamond drilling with the accompanying XRF and ICP-MS analyses and specific gravity measurements.

The drilling proposed is to be distributed as follows:

- **Chama;** 1,000 m along 800 m strike length to identify the down dip potential for resources for open pit extension and underground feasibility study
- **Fibolele South block;** 1,800 m along 500 m strike length to establish the down dip potential of the existing old pit
- **Fibolele North block;** 3,500 m along 1,500 m strike length to establish the down dip potential of the existing old pit
- **Libwente Central;** 1,200 m along 550 m strike length to evaluate the dip and strike continuity of the TMS unit.

Completion of this drilling programme is largely focused on improving the current understanding of the Chama deposit, currently defined to a depth 1,075 m RL as well as demonstrating potential extension below this depth.

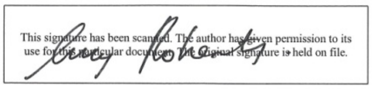
The results to 1 January 2012 (42,854 m of diamond drilling) confirm the elevation of the footwall of the TMS horizon and the continuity of this horizon to the southeast and east. In the area adjacent to the pit, the south-eastward dip appears to be of the order of 15°. However, progressing northwards adjacent to the Chama section of the pit, the dip appears to flatten to approximately 10° before changing strike to a north-northwest direction. This sudden change appears to coincide with a possible extension of the easterly trending sub-vertical M1 pegmatite dyke. Though the current drilling has intersected some thin discordant steep dipping pegmatite dykes with north-south strike, some of these intersections may be strike concordant, shallow dipping dykes, as exposed in the F10 area.

Examination of recent drill data indicates that within a narrow belt down to the base of the current Mineral Resource estimate (1,075 m RL) from the current pit limit, the thickness of the TMS varies between 18 m and 28 m with the exception of the zone hosting the main pegmatite bodies between dykes M1 and M3. North of the proposed extension of the east-west pegmatite dyke M1, it would appear that the TMS is thinning as the termination of the F10 pit is reached. The presence of thin pegmatite dykes and the current lack of intersections make it difficult to determine actual thickness variations in this area.

The Fwaya-Fwaya-Chama pit yields large quantities of emerald from an area centred on a swarm of thick, close spaced, pegmatite dykes. The potential of the area to the east or southeast to maintain current production levels is thus dependent on the continuity of the TMS and on the presence of the pegmatite dykes. Though there is ample evidence for the former, the density and distribution of dykes still have to be determined. There is reasonable probability that the area to the south of the M2-M3 pegmatites will see the continuation of these dykes, however the area to the east still has to be investigated further. Accordingly there is a risk that emerald grades could decline and, if chromium levels in the TMS fall, the quality of emerald and beryl could also decline.

The licence area contains a number of other TMS prospects which warrant further exploration. In particular, Lunshingwa is considered a primary target, however more precise definition of pegmatite dyke swarms within the other targets such a Dabwisa and Fibolele is required in conjunction with investigation of the continuity of the TMS belts.

For and on behalf of SRK Consulting (UK) Limited



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