

Project Memo

Client:	Bora Bora Resources	Date:	2 September 2014
Attention:	Mr Andrew Johnstone	From:	Dr Michael Cunningham
Project No:	BBR001	Revision No:	0
Project Name:	Technical Assistance to Bora Bora Resources		
Subject:	Notes from SRK site visit to Queens Mine, 20 to 25 August 2014		

1 Introduction

Bora Bora Resources (BBR) is undertaking exploration activities on various exploration licences in Sri Lanka (Figure 1-1) and requested that SRK provide technical assistance in developing geological models, and the establishment of a work programme to progress the geological understanding of the area.

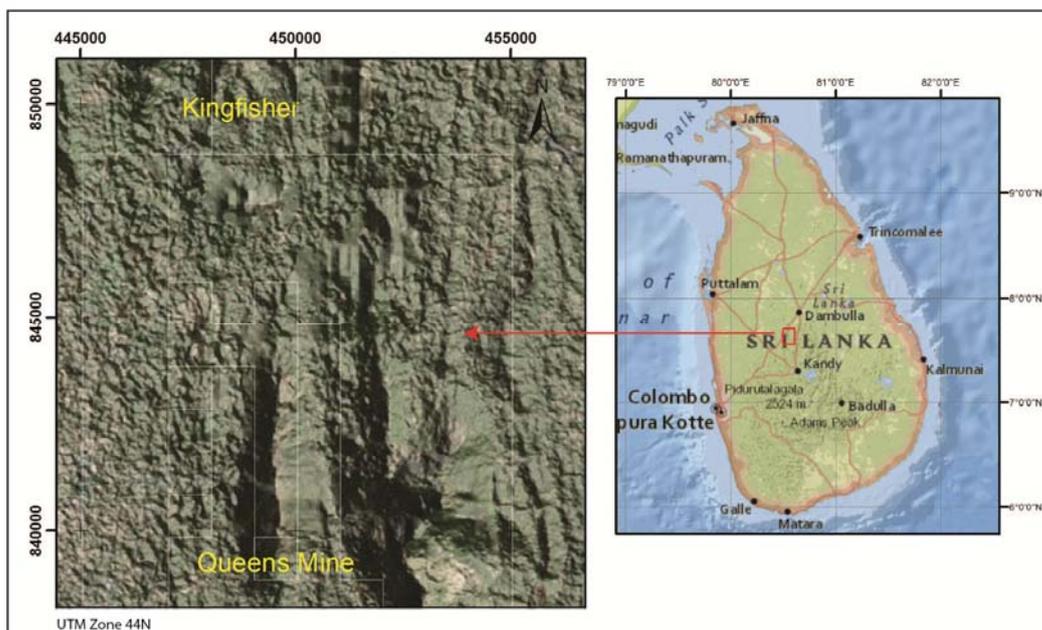


Figure 1-1: Location Map

The purpose of this Memo is to outline the main findings of SRK's site visit to the Queens Mine property (owned by RS Mines), located in central Sri Lanka, approximately 36 km north of the town of Kandy. It is also, to provide recommendations for progressing the Project to the next stage.

2 Site Visit

Dr Michael Cunningham met with Mr Andrew Johnstone and Mr Rhys Bevan of BBR on arrival (20 August), and was accompanied for the remainder of the trip by Mr Rhys Bevan. Assistance was also provided by Mr Sheriozha Wijekoon of RS Mines.

2.1 Field Observations

SRK visited Queens Mine and a number of historical workings (when safety permitted). Exposure was generally poor due to dense vegetation (Figure 2-1 A), and the only locations where exposures of graphite veins could be observed were in the operating mine (Figure 2-1 C), and 'some' historical workings (Figure 2-1 B).



Figure 2-1: Dense vegetation (A); Entrance to Queens Mine (B); and, Historical Workings (C)

2.1.1 Country Rock

Generally, the country rocks at Queens Mine locality are charnockite gneiss and quartzo-feldspathic hornblende biotite gneiss of the Precambrian Highland Series. The foliation of these rocks has a dominant west-northwest - east-southeast trend. The dominant series of joints are mostly wide-spaced (>5 m) and approximately orthogonal to the main foliation. The gneisses contain small quantities of garnet, biotite and occasional silicified pods.

2.1.2 Graphite Veins

Outcrop is very limited due to dense vegetation. Two veins, however, were observed and measured from two historical workings (Table 2-1). The workings are located about 250 m north of Queens Mine, trending approximately east-west. Vein 1 (Figure 2-2 A) is located about 5 to 8 m south of Vein 2 (Figure 2-2 B). The veins strike east-west and dip steeply to the south.



Figure 2-2: Occurrence of graphite veins in historical workings. Vein 1 (A); and, Vein 2 (B).

Table 2-1: Graphite Veins from Historical Workings

Vein	X	Y	*Z	Dip (°)	Direction (°)
1	449551	839275	427	88	177
2	449554	839281	427	88	175
2	449531	839280	449	86	170

*Elevation derived from Aster GDEM topography.

A number of veins were also measured from Queens Mine (Table 2-2). The structural trend of the veins is fairly consistent with a dominant west-northwest trend and dipping very steep to the south-southwest. Generally, these veins are concordant with the main foliation of gneiss (Figure 2-3). Widths in the mine varied from about 1 mm to around 40 cm. Usually, there is a single main vein which can be traced along strike, and on either side is bordered by thinner parallel veins about 1 to 3 m spacing. Occasionally, minor veins or stringers occur at different trends as was observed in the main entrance of the mine.

The veins normally are in sharp contact with the wallrock, with occasional flakes on the foot-wall (Figure 2-4).

Table 2-2: Graphite Veins from Queens Mine

Vein	X	Y	*Z	Dip (°)	Direction (°)
3	449547	839071	400	70	197
3	449528	839075	418	80	208
3	449527	839075	410	80	204
3	449522	839077	410	83	207
3	449518	839079	410	35	6
4	449494	839057	402.2	89	200
4	449499	839054	402.2	85	203
4	449500	839054	402.2	84	204
5	449498	839056	388	88	204
5	449494	839058	387.2	89	200

Vein	X	Y	*Z	Dip (°)	Direction (°)
	449526	839075	410	75	200
	449525	839075	410	52	284
	449506	839060	388	88	194
	449506	839060	387.5	88	6
	449505	839053	387.5	70	195
	449495	839064	387.2	87	28
	449502	839060	402.2	86	206
	449497	839068	387.2	75	30
	449505	839065	402.2	84	200
	449506	839067	402.2	89	197
	449509	839073	402.2	89	195
	449508	839072	402.2	78	10

*Elevation derived from GPS/Altimeter at surface and measure tape (shafts). Veins annotated in bold are where graphite samples were collected.

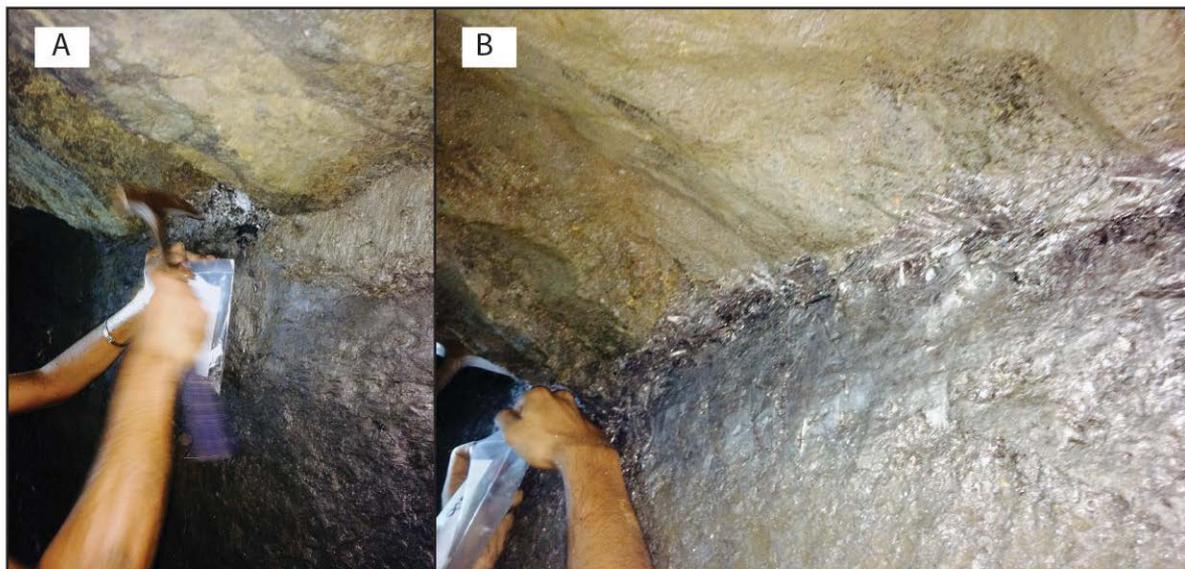


Figure 2-3: Graphite veins concordant with foliation. Sample #1 from Vein 5 (A); and, Sample #2 from Vein 4 (B).

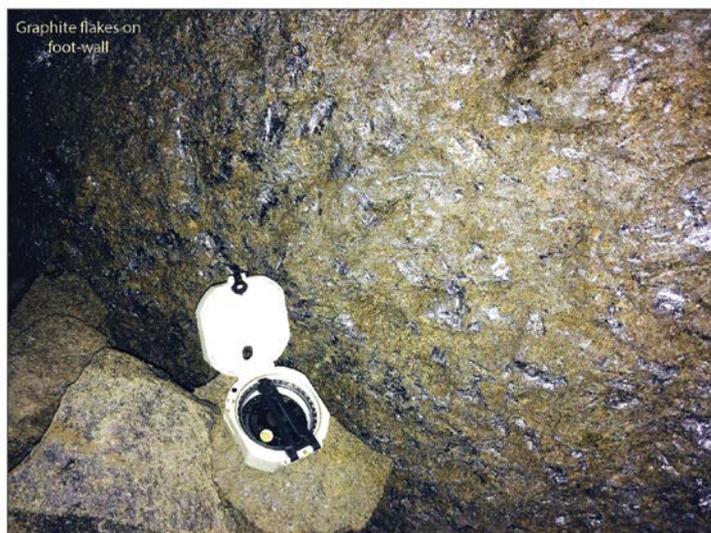


Figure 2-4: Graphite flakes on foot-wall

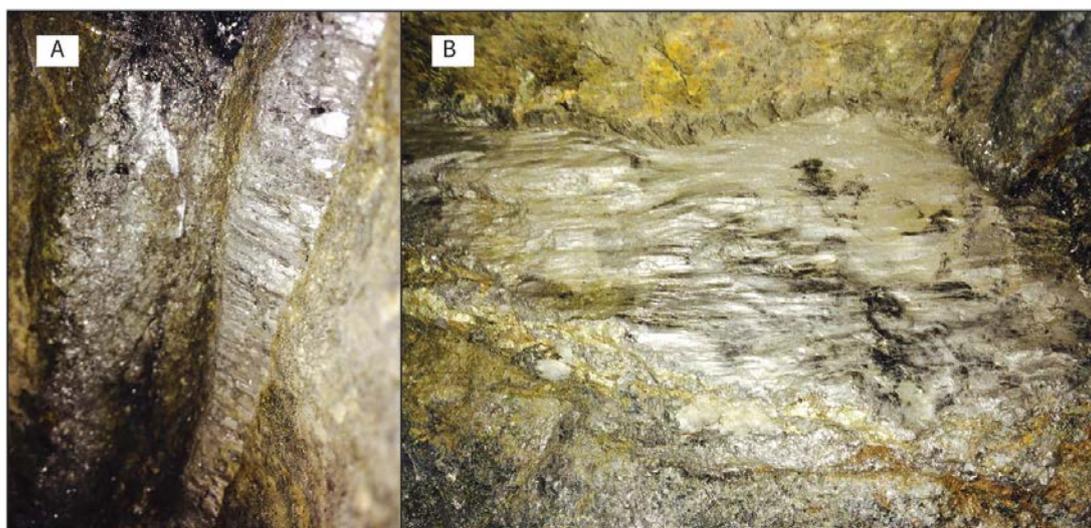


Figure 2-5: Graphite vein styles. Needles orthogonal to vein wallrock (A); and slickensided graphite with disseminated pyrite between flakes and slickenlines.

A number of different graphite vein styles occur in Queens Mine. The most prominent style is the occurrence of small veins which form from an aggregate of parallel platy needles orthogonal to the vein wall (Figure 2-5 A). On other vein surfaces, a well-developed needle-like lineation has developed which is parallel to the vein wall (Figure 2-5 B). In most cases, the lineation represents slickenlines. In the larger veins, coarse platy structures form thin bands up to ~ 2 cm in width, interspersed with occasional rosettes of graphite flakes. The rosettes are usually associated with milky quartz. In a few cases, thin graphite veins show an obvious association with thicker quartz pegmatites (up to about 0.5 m width). A number of graphite veins were also observed bifurcating around quartz partitions of the same orientation. In a few case, these are also associated with pyrite crystals. Occasionally the pyrite crystals are penetrated by graphite flakes, but usually disseminated between flakes/needles, or forming a band in the central portion of the vein.

2.1.3 Faulting

The graphite veins tend to show very good along-strike continuity and with very little change in structural style. However, faults do occur and tend to be sub-parallel to the graphite veins, e.g. the occurrence of slickensided vein surfaces, and direct observation of a 0.5 to 1 m fault zone, parallel to a graphite vein (Figure 2-6). The same fault occurs at a shallower level and has resulted in roof collapse within a side cutting.

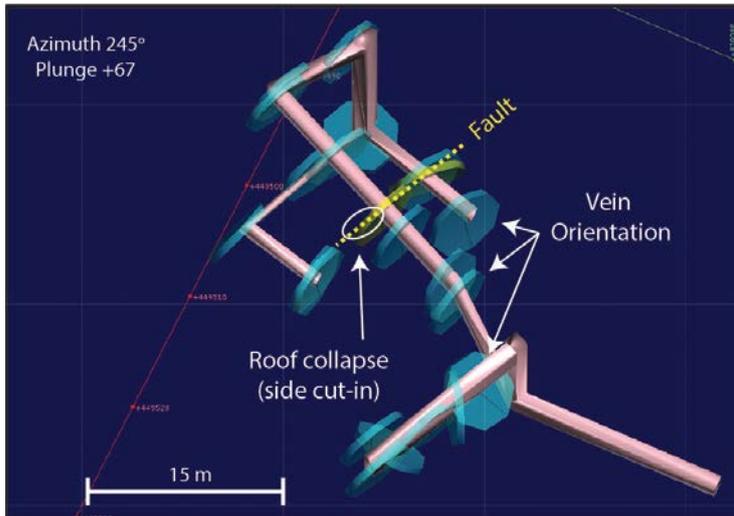


Figure 2-6: Fault zone and vein orientations

2.2 Model of Mine – Approximate Tonnage Extraction

The layout of the mine was measured using tape and compass, and modelled using GEMS© software (Figure 2-7). The total volume of the modelled layout is 193 m³. According to RS Mines (Sheriozha Wijekoon pers. comm.), 20 ton of graphite has been extracted using a bulk density of 2.2 g/cm³. Bulk density of gneiss (waste rock) normally varies from 2.6 to 2.9 g/cm³. Therefore, using an average bulk density of 2.75 g/cm³, then approximately 506 ton of waste has been extracted, i.e. ~20 ton of graphite ore and ~ 506 ton of waste.

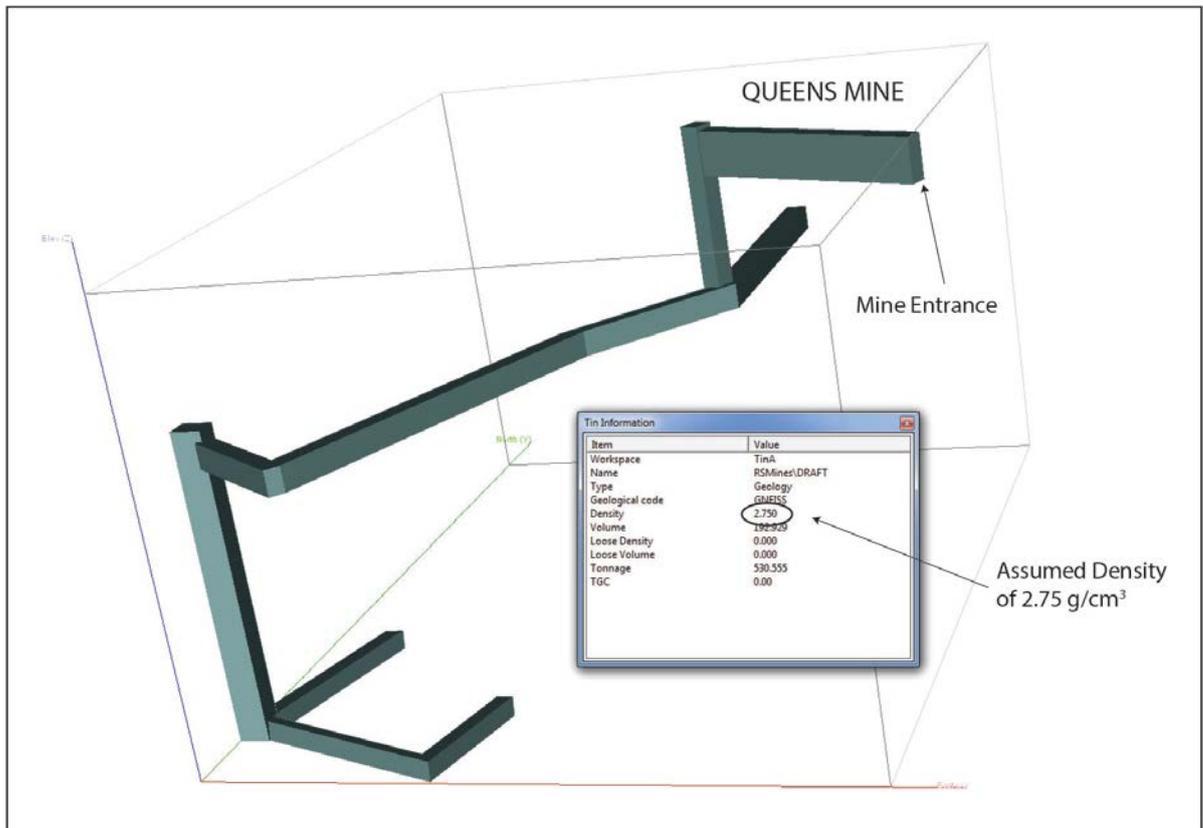


Figure 2-7: Queens Mine layout

2.3 Recommendations

At present, RS Mines are chasing graphite veins along strike, but do not know how much of a resource is available. Therefore, exploration within the project can be considered early stage, consisting of limited preliminary field work and geophysical acquisition.

Two geophysical surveys were conducted concurrently via airborne (helicopter) survey. The surveys include 'Versatile Time Domain Electromagnetic' (VTEM) and 'Magnetic' surveys, at 100 m line spacing, acquired across the Queens/Kahatagaha and Kingfisher areas.

Image processing and inversion modelling of the VTEM data has been conducted from which several EM anomalies have been identified. Most notably the Queens and Kahatagaha Mines overly large distinct EM anomalies and correspond with an additional strong anomaly at Kingfisher, along strike north of the mines. These anomalies have been interpreted to indicate conductive graphite zones.

The VTEM data is too coarse to detect individual veins; however, it is capable of identifying broader EM anomalies which are believed to directly reflect the conductive graphite zones.

SRK has been informed that BBR plan to conduct a Very Low Frequency (VLF) survey. Graphite is a very good electrical conductor and the VLF technique should be able to resolve individual graphite veins across the property. SRK supports this step.

SRK recommends that the veins identified by the VLF are correlated with those recently measured/mapped in the Queens Mine and the surface mapping work. This will enable a target to be identified and a drill plan be formulated.

The Kingfisher anomaly can also be modelled solely using VLF survey results.

For the exploration drilling program, SRK recommends that BBR implement Standard Operating Procedures and Sampling, and QA/QC protocols. This should include the following:

1. Photograph the drill core before cutting, and both wet and dry;
2. Measure structural information of veins from oriented core using a 'Rocket Launcher';
3. Implement a sampling index system;
4. A chain of custody protocol and a system for delivery and receiving of sample results. Responsibility should be allocated to single individual for core room storage security and sample delivery;
5. Sample the graphite vein for flake size, impurities etc, for domaining;
6. PQ3 drilling to obtain sufficiently large sample and maximise recovery of graphite;
7. SRK recommends that the following controls are inserted into the sampling stream:
 - An Internal Duplicate every 20 samples;
 - An External Duplicate (referee) every 30 samples;
 - A Blank every 25 samples; and
 - A CRM every 25 samples.
8. Allocate a responsible person to receive all analysis results for entry to database; and
9. Density determinations are required for all four types of graphite mineralisation, and waste rock. The water displacement method can be applied to sample intervals held in plastic bags.

BBR001 – Site Visit Memo

Yours faithfully

SRK Consulting (Australasia) Pty Ltd

Signed by:



Peter Fairfield

Principal Consultant (Project Evaluations)

Signed by:



Michael Cunningham

Senior Consultant (Geology and Resources)