

**TECHNICAL REPORT ON THE
CHAPADA ALLUVIAL DIAMOND
PROJECT, MATO GROSSO STATE,
BRAZIL
PREPARED FOR VAALDIAM
RESOURCES LTD. AND TIOMIN
RESOURCES INC.**

Report for NI 43-101

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Dated: August 31, 2007

Readdressed: February 9, 2010

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1 SUMMARY

EXECUTIVE SUMMARY

INTRODUCTION

Scott Wilson Roscoe Postle Associates Inc. (Scott Wilson RPA) was retained by Vaaldiam Resources Ltd. (Vaaldiam) to prepare a National Instrument 43-101 Technical Report (the Report) on Elkedra Diamond NL's Chapada Diamond Mine (Chapada). The mine is 80 km northeast of the city of Cuiaba in Mato Grosso State, Brazil. The purpose of the Report is to disclose technical information on a material property upon the completion of the Vaaldiam acquisition of Elkedra Diamond NL (Elkedra). Elkedra owns 100% of the project through its wholly owned UK subsidiary Chapada Diamonds Limited and Chapada's wholly owned Brazilian subsidiary Chapada Brasil Mineracao Ltda (CBM). The Elkedra acquisition by Vaaldiam was completed in November 2007.

This Technical Report has been readdressed to Tiomin Resources Inc. (Tiomin) and Vaaldiam following a definitive arrangement agreement dated January 18, 2010, between Tiomin and Vaaldiam whereby Tiomin, via a plan of arrangement, will acquire all the outstanding common shares of Vaaldiam. Following the completion of the transaction and subject to regulatory agreements, Vaaldiam will be a wholly-owned subsidiary of Tiomin.

Tiomin is a mining company traded on the Toronto Stock Exchange (TSX) with a focus on the exploration and development of gold, base metals, and titanium mineral sands projects. Projects include 100% ownership of the Kwale titanium and zirconium deposit in Kenya and 49% of the Pukaqaqa copper and gold deposit in Peru. Jinchuan Group Ltd., China's largest nickel producer, owns approximately 19% of Tiomin.

Currently, the major assets and facilities associated with the Chapada Mine are:

- 269 km² of exploration licences covering favourable river terraces in areas surrounding the current mining operation. The mining operation is contained within the Quilombo North and Quilombo South Tenements, which have been

amalgamated into one mining concession, and the Peba Lagoinha Tenement. The three tenements cover some 15 km².

- A suspended mining operation which produced approximately 40,000 bcm of diamondiferous gravels on a monthly basis.
- A processing plant capable of processing 800,000 bcm of gravels per year.

The Chapada operation was closed at the end of June 2008 and is currently on a care and maintenance basis. Diamond production from the time of the site visit by Scott Wilson RPA in May 2007 to the shutdown at the end of June 2008 is reported by CBM to be 12,883 carats from 483,488 bcm of processed material for an average grade of 0.027 ct/bcm.

Scott Wilson RPA completed a Due Diligence report on the Chapada property for Vaaldiam Resources in July 2007.

CONCLUSIONS

The 2007 Chapada Mineral Resources estimated by Vaaldiam total 4.9 million bcm of Indicated Mineral Resources at an average grade of approximately 0.05 ct/bcm. Scott Wilson RPA has reviewed the available mineral resource, mining and processing data and concludes that although the technical work on the project is generally competent, the resource grade should consider the actual recovered grade from the process plant in subsequent resource estimates.

The main risk in the mineral resource for the project is the grade estimate. Tonnages of diamondiferous gravel can be fairly accurately estimated, but the number of diamonds produced is problematic. A grade of 0.05 ct/bcm was developed using past sampling results and applying conservative factors. However, after processing over 1,000,000 bcm of gravel since production began in 2006, the reported average grade is 0.032 ct/bcm. This lower grade may result from additional dilution during mining or may represent the true grade of the deposit, or some combination of the two. If it can be shown that excess dilution is the problem, then correction of this problem represents a significant opportunity for CBM.

CBM holds 269 km² of exploration licences covering favourable river terraces in areas surrounding the current operations. It is Scott Wilson RPA's opinion that full scale exploration including drilling and bulk sampling should be started as soon as possible in order to satisfy licence commitments and to evaluate the potential for additional resources and potential mining.

Scott Wilson RPA concurs with the Indicated Mineral Resource classification at Quilombo and Pega Lagoinha, although it is our belief that closer-spaced infill drilling (50 m) would significantly strengthen the reliability for the purposes of classifications and mine planning.

In the opinion of Scott Wilson RPA, the block models serve the purposes of the mining operation in predicting and reconciling the volumes of gravel planned to be mined. The model could be improved by using the mined grade rather than the sampling grade.

There are no mineral reserves reported on the Chapada property at this time. Although a diamond mine and processing plant were operating on the property, economic viability has not yet been demonstrated.

The mining plan was based on using a mining contractor to carry out all mining activities. Analyses were carried out to evaluate owner operated mining alternatives, and preliminary economic results indicate that owner operated mining offers the best project returns. CBM estimates that cost savings up to 25% are possible. Scott Wilson RPA's opinion is that the owner operated mining study should be implemented.

No current long term mine plan is available although Vaaldiam and Tiomin propose to complete a new mine plan based on drill results in 2010. Long term plans are necessary to allow optimization of reserve extraction and to forecast capital and development needs. At the forecast operating rate, the resources at Chapada will be depleted in less than five years (not including extensions). Scott Wilson RPA is of the opinion that a detailed life of mine plan should be completed as soon as possible.

Operating costs in June and July 2007 averaged US\$2.16 per bcm mined. Scott Wilson RPA estimates that further savings may be realized by cutting overhead costs given the small scale of operation and the relatively short operating life of the project. Operating costs in the first half of 2008 averaged US\$20.50, reflecting the lowered production rate prior to the shutdown of the operation.

The process plant appeared to be functioning well. Originally designed to process 82.5 bcm per hour, the process rate has been increased to 115 bcm per hour through improvements in the scrubbing and screening area and the magnetic separation area.

The operation has all the environmental approvals required by law and is complying with all environmental requirements. No non-compliance orders have been received.

RECOMMENDATIONS

Based on two site visits to the Chapada alluvial diamond operation and a review of documents made available by Vaaldiam, Scott Wilson RPA recommends that:

- Full scale exploration including drilling and bulk sampling start as soon as possible in order to satisfy licence commitments and to identify the next mining centre.
- A program of grade control be developed and implemented as soon as possible to minimize dilution.
- Further tests be completed on the plant rejects on a regular basis.
- The owner operated mining study be implemented.
- A detailed life of mine plan be completed as soon as possible.

PROPOSED EXPLORATION PROGRAM AND BUDGET

Vaaldiam and Tiomin have proposed further exploration drilling and bulk sampling campaigns on the Chapada Mine area and Exploration Concessions. The purpose of this work will be to develop extensions to the existing mineral resources to extend the mine life of the mining operations and to test the Exploration Concessions for additional mineral resources.

1. Peba Lagoinha Area

An infill program totalling approximately 1,000 m in 139 drill holes or manual pits is proposed to complete the program started in 2008 in the Peba Lagoinha area (Figure 1-1) adjacent to current operations at the Chapada Mine. This work will focus on resource upgrading by determining diamond grades, and thicknesses of gravel and overburden. The drilling will be performed on 50 m centres using a Banka drill rig and should be completed in approximately seven to eight months.

The details of this program are presented in Table 1-1.

TABLE 1-1 PEBA LAGOINHA DRILLING PROGRAM
Vaaldiam Resources Ltd. and Tiomin Resources Inc. - Chapada Diamond Project

Details	Cost (US\$)
Work Force (1 geologist, 1 driller, 1 team leader and 6 Helpers)	83,000
Food, Accommodation, Travel	19,000
Consumables	14,000
Camp Costs	16,000
Contingency @ 5%	13,000
TOTAL	145,000

FIGURE 1-1 PEBA LAGOINHA AREA DRILLING PROGRAM

2. Exploration Concessions

The Casca Exploration concession was the focus of manual pitting in 2007 and more work is proposed for 2010. The general purpose for this first stage exploration program on the Casca, Roncador, and Jangada claims is to define which of the areas contain diamondiferous gravels and can be selected for a second phase program which would consist of a detailed resource definition program.

The exploration program in these areas will be conducted using manual pits to determine volume of the gravels on a 200 m x 100 m grid. If the volume of gravels is sufficient, then bulk sampling will be completed to determine diamond grade.

This exploration program is proposed for 2010 and will cost approximately \$830,000, including the treatment of 10 bulk samples (Table 1-2).

TABLE 1-2 EXPLORATION CONCESSION PROGRAM
Vaaldiam Resources Ltd. and Tiomin Resources Inc. - Chapada Diamond Project

Details	Cost (US\$)
Work Force (1 geologist, 1 team leader, 1 driller and 18 Helpers)	160,000
Food, Accommodation, Travel	75,000
Consumables	26,000
Camp Costs	33,000
Bulk Sampling	495,000
Contingency @ 10%	41,000
TOTAL	830,000

Scott Wilson RPA concurs with the proposed exploration programs.

TECHNICAL SUMMARY

PROPERTY DESCRIPTION AND LOCATION

The Chapada Project is located in Mato Grosso State, Brazil, 80 km northeast of the city of Cuiaba. The Quilombo mining tenements are 28 km by gravel road north-northeast of the town of Chapada dos Guimarães. The properties are 100% owned by

Chapada Brasil Mineracao Ltda (CBM) (a subsidiary of Elkedra Diamond NL) and the diamondiferous gravels are located within the property boundaries.

LAND TENURE

The Chapada tenements cover an area of approximately 284 km². The current defined mineral resource is contained on the Quilombo North and Quilombo South tenements, which have been amalgamated into one mining concession, and Peba Lagoinha, for which a mining installation licence was granted in June 2007. These three areas together cover some 15 km². The environmental permit to operate the mine expired in March 2009, but the permit can be reinstated when operations restart. The project holds a further six exploration licences covering some 269 km². These licences have been renewed and are in good standing until November 2011. All the concessions and licences are maintained in good order by CBM.

The surface rights and access to the Quilombo and Peba Lagoinha properties are controlled through ownership and by agreement with the local landowner. Land ownership over the Quilombo deposit is registered to CBM, which purchased the farm from ASD Empreendimentos Participacoes Ltda, a company largely controlled by Rio Quilombo Mineração Ltda, a subsidiary of American Mineral Fields Inc. (AMF). To allow further exploration and mining of the Peba Lagoinha deposit, an access agreement between CBM and the local landowner was secured on May 17, 2001.

SITE INFRASTRUCTURE

A 41,000 volt power line currently extends to the nearby village of Cachoerinha Rica, 2 km from the project site, and is well placed to fulfill electricity needs for any future developments at Chapada.

Local rivers flow throughout the year and would provide ample water for all production treatment and domestic requirements. There is also a 16-km-long canal constructed to deliver water to the highest part of the project area.

Labour is available from several sources: the local village (ex-garimpeiros), skilled labour from Chapada, and professionals from Cuiaba. Infrastructure at the mine site includes haul roads to the various pitting areas, mine offices and cafeteria, a modern processing plant including a washing plant, dense media separation, magnetic separation and X-ray sorting units, water treatment ponds, plus equipment maintenance and security facilities.

HISTORY

The discovery of diamonds in Mato Grosso dates back to 1719, but it was not until the 1940s that the potential in the Quilombo region within the Chapada project area was identified. Garimpeiro activity became intense. Up to the 1960s when high limonite levels within the gravel, and increasing overburden depth eventually proved an obstacle to effective diamond recovery, more than two million cubic metres of terrace material were estimated to have been mined from the Peba Lagoinha area.

Rio Tinto Zinc Corporation (RTZ) conducted the first phase of systematic exploration in the area from 1981 to 1983 conducting drilling at 100-metre centres as a precursor to bulk sampling. After delineating approximately 2 million cubic metres of gravel, RTZ progressed to bulk sampling for grade and resource estimates, and extended exploration south to Peba Lagoinha. As many as 121 drill holes and 152 pits were completed over a distance of 5.6 km along the Lagoinha River doubling the gravel volume then available.

In Phase 2 (1985), RTZ processed bulk samples from seven pits using the same processing plant that was used in Phase 1. RTZ's bulk testing (6,778 bcm) at Quilombo returned an overall grade of 0.047 ct/bcm and diamond prices in 1986 were in the range of US\$172 per carat. RTZ recognized the underestimation of grade from diamond losses during sample treatment and assigned an in-situ grade of 0.08 ct/bcm to their resource estimations to counterbalance suspected theft and poor plant recovery.

Cue Petroleum NL (Cue) acquired the project in 1988. From 1988 to 1990 Cue excavated 12,318 m³. Although sample location appears to have been influenced by the better grade areas demarcated from previous evaluation, the overall grade dropped by half

to 0.025 ct/bcm. Reports subsequently revealed poor treatment practices, including overloading of the plant that would have likely led to diamond losses. In 1990 Cue went into bankruptcy and the Quilombo property was sold to a local syndicate known as Haynes.

The final stage of bulk sampling (Phase 4) between 1993 and 1995 used traditional garimpeiro methods to sample and treat material. The sampling site was selected on the basis of its proximity to water, and to facilitate sluicing of overburden, rather than for any geological reason. A final grade of 0.074 ct/bcm was achieved from 1,913 bcm treated using these far from ideal garimpeiro methods. The overall results confirmed previous diamond valuations and offered further evidence of grade continuity across the deposit.

In late 1995 Haynes sold the project to American Mineral Fields (AMF) which undertook studies on magnetic separation and contracted consultants Watts, Griffis and McQuat Limited (WGM) to assess the resources.

During 2000, the unexplored area between the known resource and the main garimpeiro workings at Peba Lagoinha was investigated by 25 geological and four bulk sample pits. The bulk sampling over a strike length of 1.2 km yielded 183 bcm containing 16 diamonds (7.05 carats) with an overall grade of 0.039 ct/bcm. These delineated gravels were attached to the Peba Lagoinha resource. A garimpeiro pit, located at the northern limit of the Peba Lagoinha resource, yielded 37.95 carats from 530 bcm for a grade of 0.071 ct/bcm. The largest stone, 13.60 carats, closely matched the previous best from the bulk sampling undertaken at Quilombo.

Resource estimates carried out by Minproc (1988) and WGM (1995) (Table 1-3), are considered to be historical but relevant because they give an indication of the original size and grade of the deposits. The DevMin Pty Ltd estimate (2002-2004) is in accordance with the mineral resource categories established by the Canadian Institute of Mining, Metallurgy and Petroleum. The previous estimates are now superseded by the current estimate.

TABLE 1-3 PREVIOUS RESOURCE ESTIMATES
Vaaldiam Resources Ltd. and Tiomin Resources Inc. - Chapada Diamond Project

Source	Resource	Measured (Million bcm)	Indicated (Million bcm)	Grade (ct/bcm)	Strip Ratio
Minproc (USA) (1988)	Quilombo	1.93	0.09	0.060	3:1
	Peba Lagoinha		2.17	0.060	2.8
WGM (Geoklock) (1995)	Quilombo		1.90	0.037	2.8
	Peba Lagoinha		1.50	0.037	2.5
DevMin (2002-2004)	Quilombo		2.05	0.074	3.1

In late 2000, Chapada Diamonds Plc signed an agreement with AMF to purchase the Quilombo property. The purchase was completed in 2002.

Diamond production from June 2006 (the start of production) to June 2008 is reported by CBM to be 33,014 carats from 1,043,124 bcm of processed material for an average grade of 0.032 ct/bcm. The average diamond size was 0.53 ct/stone and the average diamond value was \$420/ct.

GEOLOGY

The regional-scale Rio Casca river system, which contains diamondiferous gravels, drains an uplifted area of Jurassic and Cretaceous sandstones and conglomerates that have been largely preserved by faulting. The margins of the basin are made up of Devonian siltstones (Ponta Grossa Formation) lying on tightly folded Precambrian schists and quartzites (Cuiaba Series). The younger rocks are generally horizontally bedded but some tilting has occurred in association with faulting. The Lower Cretaceous (or Jurassic) Botucatu Formation is overlain by Upper Cretaceous sandstones and conglomerates of the Bauru Formation.

Igneous rocks are confined to basalts of the Tapirapua Formation (126 ± 3 Ma), which outcrop where they have been exhumed by the present drainage, and intrusives in the form of lamprophyres and volcanic necks. The basalts appear to have been vented along regional structures, and probably formed topographic highs following erosion of the pre-Bauru land surface. The intrusives are attributed to the Ipori Group volcanic

phase (120 Ma) as are the kimberlites that occur in the Jatob and Batovi drainages, 160 km to the northeast of the Chapada area.

Diamonds initially deposited in conglomerates of the Bauru Formation have been re-worked into recent diamond-bearing gravels. In particular, the basal conglomerate of the Bauru Formation of varying thickness (up to 20 m), which outcrops widely, is considered the most likely local source of diamonds found at Chapada.

The gravels on the property exhibit diverse textures ranging from moderately sorted, clast supported, graded beds, to chaotic, matrix-supported material reminiscent of landslide or debris flow deposits. There are at least four different gravel types identified to date:

- **Immature Fluvial Gravel**

This unit is poorly sorted, with friable, clayey volcanic clasts, and is gradational into other gravel units at the top and base. Diamond distribution is believed to be more erratic than in other gravels, although diamonds are characteristically larger than those found in the other gravels. Limonite content is low.

- **Fluvial Gravel**

The gravels are located on either side of the Quilombo Ridge within and flanking the Quilombo and Chiquinho river valleys. Eastern fluvial gravels have high limonite content while the western fluvials along the flanks of the Chiquinho River have significantly lower limonite content.

The mature fluvial gravels are generally at a lower elevation than the immature gravels. There may be several levels and episodes of reworking of the older and higher gravels into younger and lower terraces. At each stage of reworking, there is potential to increase the grade and quality of the diamondiferous material.

- **Modern Alluvials**

These are reworked terrace gravels on the deposit fringes and have characteristically very high limonite content. They are diamondiferous, but more information is required to establish how the grade compares with the fluvial and immature types of the upper terraces.

- **Partially Reworked Fluvial Gravels**

Minor reworking of the top surface has taken place, possibly implying a mixture of terrace and modern alluvial attributes.

Beneath the Quilombo resource, bedrock topography reveals a broad, northeast sloping ridge and two major channel patterns, commonly outlined where gravel thickness exceeds two metres. The footwall is either weathered schist of the Upper Proterozoic Bambui Group, Bauru Conglomerate, or Botucatu Sandstone. The overburden and gravel contain virtually no clay whereas the footwall has minor clay content.

MINERAL RESOURCES AND MINERAL RESERVES

Mineral resources were estimated in 2007 by CBM and reviewed by Scott Wilson RPA. Table 1-4 lists the mineral resources on the Chapada property.

TABLE 1-4 CHAPADA MINERAL RESOURCES MAY 31, 2007
Vaaldiam Resources Ltd. and Tiomin Resources Inc. - Chapada Diamond Project

Category	Area	Volume Million bcm	Recoverable Grade ¹ ct/bcm	Carats ct
Indicated	Quilombo	1.4	0.05	70,000
Indicated	Peba Lagoinha	2.5	0.05	125,000
Subtotal Indicated		3.9	0.05	195,000
Indicated	Satellites and extensions	1.0	0.05	50,000
Total Indicated²		4.9	0.05	245,000

¹ The recoverable grade is based on an in-situ gravel grade of 0.074 ct/bcm which has been adjusted to include dilution, and reduced to offset potential plant losses.

² A total of 483,488 bcm of gravel was processed between June 2007 and the suspension of mining in June 2008. A total of 12,883 carats of diamonds were recovered from this material for an average grade of 0.027 ct/bcm.

The 2007 Quilombo database contains all exploration data collected for the Quilombo property. The database is a standard format and comprises collar, survey and geology tables. The collar table comprises data ID, hole type (churn drill hole, manual sample pit or trench), the year it was drilled, by whom, as well as the gravel terrace ID the hole intersected. The Geology table comprises data ID, from-to intervals, lithology description and the terrace code.

The Quilombo resource model was prepared using sections with a 10x vertical exaggeration. After determining which gravel terraces had been intersected by each drill hole, the data were transferred to plan to generate a gravel type terrace outline model for the Quilombo tenement. This was subsequently used to create 3D wireframes of each of

the terraces, along with pierce points of bedrock and overburden interface extracted from the geological database.

In addition to the wireframes of the terraces, digital terrain model (DTM) surfaces were also prepared of the bedrock and topography from the drill hole data. A SURPAC block model frame was then prepared with blocks that measured 10 m x 10 m x 0.1 m.

The bulk sampling at Quilombo generated sufficient diamonds for reasonably representative valuation but was restricted to a limited number of sites (13), which necessitated classifying the resource in the indicated category. Although no large scale bulk sampling was accomplished at Peba Lagoinha, its proximity and association with Quilombo as well as preferential mining of its western portion, as a consequence of its lack of limonite, are additional features that support its incorporation into the overall indicated resource.

Scott Wilson RPA concurs with the Indicated Mineral Resource classification at Quilombo and Pega Lagoinha, although it is our belief that closer-spaced infill drilling (50 m) would significantly strengthen the reliability for the purposes of classifications and mine planning.

Now that a large amount of gravel has been mined and processed through a modern plant, the results could be used to supersede the grades of the resource models rather than the 0.074 ct/bcm currently in use.

In the opinion of Scott Wilson RPA, the block model serves the purposes of the mining operation in predicting and reconciling the volumes of gravel planned to be mined. However, the model could be improved by using the mined grades as discussed above.

There are no mineral reserves reported on the Chapada property at this time. Although a diamond mine and processing plant were operating on the property, economic viability has not yet been demonstrated.

MINING OPERATIONS

Mining was done in slots where an excavator removes the overburden and places it beside the mining areas. The diamondiferous gravel is removed and delivered to the plant or stockpiles using 10 m³ trucks. The overburden is placed back into the mined area. Pre-stripped organic material is then used to revegetate the disturbed ground.

The effective reach of an excavator is 7.5 m. If the diamondiferous gravels are deeper than the excavator's reach, the overburden must be removed in stages and costs can double making gravel recovery uneconomic. A trial mining exercise was undertaken to remove the top section of overburden using earthmover scrapers followed by excavators for the final portion.

All mining operations were performed by a contractor; however, analyses were carried out to evaluate owner operated mining alternatives. In 2007, the contractor employed 65 people, who operated the bulldozer and shovels, drove trucks, and carried out miscellaneous labour. CBM employed 96 people on site.

No current long-term life-of-mine plan is available for review at the present time, although Vaaldiam and Tiomin plan to complete a new long-term mine based on the results of the infill drilling done in 2008 and planned for 2010. At the previously forecast operating rate, the resources at Chapada will be depleted in less than five years (not including extensions). Scott Wilson RPA recommends that a detailed life-of-mine plan be completed as soon as possible.

Mining was completed in the areas projected to have the thickest gravels. However, as mining continues in the years ahead, the average thickness will decrease, requiring a higher mining rate and higher cost to maintain feed rates to the processing plant.

The previous production plan was based on a process plant feed rate of 800,000 bcm per year of ore. For the period of February to June 2008, the mine operated at a rate of approximately 40,000 bcm per month. This lower rate was dictated by financial concerns prior to the shutdown of the operation.

MINERAL PROCESSING

Originally designed to process 81 bcm per hour, the process rate has been increased to 115 bcm per hour through improvements in the scrubbing and screening area and the magnetic separation area. CBM states that the dense media separation (DMS) feed is the current bottleneck and no further increases in capacity are possible without significant capital investment in the scrubbing and screening area.

Material for the plant is taken from run-of-mine (ROM) stockpiles by a front end loader and put into a feed bin. Oversize material (+300 mm) is rejected by a grizzly. Then at a vibrating grizzly feeder, oversize (+75 mm) is rejected to waste, while the undersize (-75 mm) is fed to a scrubber. The scrubber is required to disperse the slimes and the agglomerated fines, wash the gravel, and break down any agglomeration. Again the oversize (+20 mm) is rejected to waste, while the undersize goes to a sizing screen. The -2.0 mm is desanded, dewatered, and rejected to waste. The -20 mm to +2.0 mm is conveyed to a dense media plant feed bin.

From the heavy media feed bin, the product is conveyed to the heavy media preparation screen, then to a heavy media mixing launder where ferrosilicon is added. The mixture is pumped to the heavy media cyclone. The concentrate is drained and rinsed on a screen, passed in front of a ferromagnetic magnet into a heavy media concentrate surge bin. The product is elevated by bucket to the scalping magnetic separation area where ferromagnetics and strongly paramagnetic minerals are removed.

A multi-deck circular sizing screen achieves separation on particles in four sizes: 20 mm to 8 mm, 8 mm to 5 mm, 5 mm to 4 mm, and 4 mm to 2 mm. Each size is fed to a wet roll high intensity magnetic separator. The non-magnetic concentrates are fed to the diamond recovery area and into two X-ray flowsorts where diamonds are recovered. The diamonds fall into two locked and secured sorting boxes. Tests are performed with tracer balls to check the performance of the flowsorts and a grease table is incorporated into the circuit to verify that no diamonds are present in the reject streams from the flowsort.

It was stated that plant rejects/tailings have been tested in the past to determine if there is diamond loss. Scott Wilson RPA recommends that further tests be completed on the plant rejects on a regular basis.

ENVIRONMENTAL CONSIDERATIONS

All required environmental permits for mining and processing have been obtained and are in good standing. All waste material is returned to the mined-out areas. Mined surfaces are contoured and covered with topsoil to complete the rehabilitation of the area.

The operation has all approvals required by law and is complying with all environmental requirements. Water discharge from the tailings ponds was tested twice per year as required and has met required standards. No water is discharged in the dry season and the maximum amount of recirculation takes place. Additional process water is pumped from the river. The rehabilitation of past mining areas has been approved and CBM is working with government officials concerning archaeological sites on the property. Mine pillars are being maintained along the river courses as prescribed. No non-compliance orders have been received.

2 INTRODUCTION AND TERMS OF REFERENCE

Scott Wilson Roscoe Postle Associates Inc. (Scott Wilson RPA) was retained by Vaaldiam Resources Ltd. (Vaaldiam) to prepare a National Instrument 43-101 Technical Report (the Report) on Elkedra Diamond NL's Chapada Diamond Mine (Chapada). The mine is 80 km northeast of the city of Cuiaba in Mato Grosso State, Brazil. The purpose of the Report is to disclose technical information on a material property upon the completion of the Vaaldiam acquisition of Elkedra Diamond NL (Elkedra). Elkedra owns 100% of the project through its wholly owned UK subsidiary Chapada Diamonds Limited and Chapada's wholly owned Brazilian subsidiary Chapada Brasil Mineracao Ltda (CBM). The Elkedra acquisition by Vaaldiam was completed in November 2007.

This Technical Report has been readdressed to Tiomin Resources Inc. (Tiomin) and Vaaldiam following a definitive arrangement agreement dated January 18, 2010, between Tiomin and Vaaldiam whereby Tiomin, via a plan of arrangement, will acquire all the outstanding common shares of Vaaldiam. Following the completion of the transaction and subject to regulatory agreements, Vaaldiam will be a wholly-owned subsidiary of Tiomin.

Tiomin is a mining company traded on the Toronto Stock Exchange (TSX) with a focus on the exploration and development of gold, base metals, and titanium mineral sands projects. Projects include 100% ownership of the Kwale titanium and zirconium deposit in Kenya and 49% of the Pukaqaqa copper and gold deposit in Peru. Jinchuan Group Ltd., China's largest nickel producer, owns approximately 19% of Tiomin.

Currently, the major assets and facilities associated with the Chapada Mine are:

- 269 km² of exploration licences covering favourable river terraces in areas surrounding the current mining operation. The mining operation is contained within the Quilombo North and Quilombo South Tenements, which have been amalgamated into one mining concession, and the Peba Lagoinha Tenement. The three tenements cover some 15 km².

- A suspended mining operation which produced approximately 40,000 bcm of diamondiferous gravels on a monthly basis.
- A processing plant capable of processing 800,000 bcm of gravels per year.

The Chapada operation was closed at the end of June 2008 and is currently on a care and maintenance basis. Diamond production from the time of the site visit by Scott Wilson RPA in May 2007 to the shutdown at the end of June 2008 is reported by CBM to be 12,883 carats from 483,488 bcm of processed material for an average grade of 0.027 ct/bcm.

Scott Wilson RPA completed a Due Diligence report on the Chapada property for Vaaldiam Resources in July 2007.

SOURCES OF INFORMATION

A site visit was carried out by Chester M. Moore, P. Eng., Scott Wilson RPA Principal Geologist, on June 19 to 21, 2007. Boris S. Karpoff, P. Eng., Scott Wilson RPA Associate Mining Engineer, visited the site on August 16 and 17, 2007. Tours of the mining operation and processing plant were completed.

The main contacts on the property were:

- Fernando Aguiar, General Manager
- Eduardo Caixeta, Mine Manager
- Alfredo Luiz Perin, Exploration Manager
- Don Best, CEO/Executive Chairman, Elkedra Diamonds NL

Discussions were held with personnel from Vaaldiam:

- Jose Ricardo Thibes Pisani, Vice President, Exploration
- Nilson Luciano Helio Chaves, Director of Finance and Administration
- Kenneth W. Johnson, President and CEO

Chester M. Moore is responsible for sections 2 to 15 and collaborated with Boris S. Karpoff on sections 1 and 16 to 21 of the report. Boris S. Karpoff is responsible for sections 16 to 21 and collaborated with Chester M. Moore on the remaining sections of the report.

The documentation reviewed, and other sources of information, are listed at the end of this report in Section 22, References.

LIST OF ABBREVIATIONS

Units of measurement used in this report conform to the SI (metric) system. All currency in this report is US dollars (US\$) unless otherwise noted.

μ	micron	km^2	square kilometre
$^{\circ}\text{C}$	degree Celsius	kPa	kilopascal
$^{\circ}\text{F}$	degree Fahrenheit	kVA	kilovolt-amperes
μg	microgram	kW	kilowatt
A	Ampere	kWh	kilowatt-hour
a	annum	L	litre
bbl	barrels	L/s	litres per second
bcm	bench cubic metre	m	metre
Btu	British thermal units	M	mega (million)
C\$	Canadian dollars	Ma	million years ago
cal	calorie	m^2	square metre
cfm	cubic feet per minute	m^3	cubic metre
cm	centimetre	min	minute
cm^2	square centimetre	MASL	metres above sea level
ct	carat	mm	millimetre
ct/bcm	carats per bench cubic metre	MVA	megavolt-amperes
d	day	MW	megawatt
dia.	diameter	MWh	megawatt-hour
dmt	dry metric tonne	m^3/h	cubic metres per hour
dwt	dead-weight ton	opt, oz/st	ounce per short ton
ft	foot	oz	Troy ounce (31.1035g)
ft/s	foot per second	oz/dmt	ounce per dry metric tonne
ft^2	square foot	ppm	part per million
ft^3	cubic foot	psia	pound per square inch absolute
g	gram	psig	pound per square inch gauge
G	giga (billion)	RL	relative elevation
Gal	Imperial gallon	s	second
g/L	gram per litre	st	short ton
g/t	gram per tonne	stpa	short ton per year
gpm	Imperial gallons per minute	stpd	short ton per day
gr/ft^3	grain per cubic foot	t	metric tonne
gr/m^3	grain per cubic metre	tpa	metric tonne per year
hr	hour	tpd	metric tonne per day
ha	hectare	US\$	United States dollar
hp	horsepower	USg	United States gallon
in	inch	USgpm	US gallon per minute
in^2	square inch	V	volt
J	Joule	W	watt
k	kilo (thousand)	wmt	wet metric tonne
kcal	kilocalorie	yd^3	cubic yard
kg	kilogram	yr	year
km	kilometre		
km/h	kilometre per hour		

3 RELIANCE ON OTHER EXPERTS

This report has been prepared by Scott Wilson RPA for Tiomin and Vaaldiam. The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to Scott Wilson RPA at the time of preparation of this report,
- Assumptions, conditions, and qualifications as set forth in this report, and
- Data, reports, and other information supplied by Vaaldiam and other third party sources.

For the purpose of this report, Scott Wilson RPA has relied on ownership information provided by Vaaldiam and CBM. Scott Wilson RPA has not researched property title or mineral rights for the Chapada diamond project, and expresses no opinion as to the ownership status of the property.

Scott Wilson RPA has relied on Vaaldiam and CBM for guidance on applicable taxes, royalties and other government levies or interests, applicable to revenue or income from the Chapada diamond project.

4 PROPERTY DESCRIPTION AND LOCATION

The Chapada Project is located in Mato Grosso State, Brazil, 80 km northeast of the city of Cuiaba (Figure 4-1). The Quilombo mining tenements are centred at 15° 16'S, 55° 36'W, 28 km by gravel road north-northeast of the town of Chapada dos Guimarães (Figure 4-2). The properties are 100% owned by CBM and the diamondiferous gravels are located within the property boundaries.

LAND TENURE

The Chapada tenements cover an area of around 284 km² (Table 4-1). The current defined mineral resource is contained on Quilombo North and Quilombo South tenements, which have been amalgamated into one mining concession, and Peba Lagoinha, for which a mining installation licence was granted in June 2007. These three areas together cover some 15 km². The environmental permit to operate the mine expired in March 2009, but this permit can be reinstated when operations restart. The project holds a further six exploration licences covering some 269 km². These licences have been renewed and are in good standing until November 2011. All the concessions and licences are maintained in good order by CBM.

The surface rights and access to the Quilombo and Peba Lagoinha properties are controlled through ownership and by agreement with the local landowner. Land ownership over the Quilombo deposit is registered to CBM, which purchased the farm from ASD Empreendimentos Participacoes Ltda, a company largely controlled by Rio Quilombo Mineração Limitada (RQM), a subsidiary of American Mineral Fields Inc. (AMF). To allow further exploration and mining of the Peba Lagoinha deposit, an access agreement between CBM and the local landowner (J.F. de Souza) was secured on May 17, 2001.

Brazilian law requires that the holders of diamond mining concessions pay maximum royalties of 0.2% of the net turnover from the sales of diamonds to the different levels of

government, with 65% of the royalty payment going to the municipality where the mining is performed.

The environmental licensing system in Brazil is divided into three stages, one for each stage of mineral activity. An Environmental Impact Assessment and Environmental Impact Report must be produced and submitted at the planning stage. At the exploration stage, the installation licence may only be obtained after an Environmental Control Plan has been submitted to the appropriate environmental agency. At the development stage it is necessary to obtain an operating licence for a processing plant. The mining concession will only be granted after the operating licence is issued. Mining companies must also assume the obligation to rehabilitate the degraded area in accordance with established procedures. The rehabilitation plan must be submitted along with the Environmental Impact Assessment and Environmental Impact Report. CMB has received the mining concession for the Quilombo tenements and an Installation Licence for the Peba Lagoinha property.

FIGURE 4-1 LOCATION MAP

FIGURE 4-2 MINING AND EXPLORATION TENEMENTS

TABLE 4-1 LAND POSITION
Vaaldiam Resources Ltd. and Tiomin Resources Inc. - Chapada Diamond Project

Project	Status	Holder or Applicant	DNPM Process Number	Grant Date	Renewal Date	Area (Ha)
Quilombo North ³	MC	CBM	866.373/1986	16/11/1980	N/A	274
Quilombo South	MC, LO ⁴	CBM	862.231/1980	18/08/1986	N/A	403
Peba Lagoinha	ILA ² , MCA	CBM	866.631/1996	18/6/1996	N/A	785
Bom Jardim	EL	CBM	866.307/2004	10/6/2005	06/11/2011	3,598
Acora	EL	CBM	866.308/2004	10/6/2005	06/11/2011	3,366
Estiva	EL	CBM	866.309/2004	7/3/2005	06/11/2011	2,206
Casca	EL	CBM	866.310/2004	3/3/2005	06/11/2011	6,621
Roncador	EL	CBM	866.311/2004	3/3/2005	06/11/2011	5,253
Jangada	EL	CBM	866.312/2004	3/3/2005	06/11/2011	5,888
TOTAL						28,394

Notes

1. The status abbreviations used are : EL = Exploration licence, ILA = Installation Licence Application, MCA = Mining Concession Application, MC = Mining Concession, LO = Operating Licence (Environmental)
2. Installation Licence for Peba Lagoinha was received on June 19, 2007.
3. Quilombo North has been amalgamated into Quilombo South Tenement and now forms part of DNPM No. 862.231/1980
4. LO expired in March 2009 but can be reinstated when operations restart.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

ACCESSIBILITY

Quilombo and Peba Lagoinha are situated 80 km northeast of Cuiabá, the capital city of Mato Grosso State, which, combined with its satellite town of Varzea Grande, has a population of 700,000, and is well served by regular daily flights to other major centres in Brazil. The road from Cuiabá to the project area is paved as far as the town of Chapada dos Guimarães, a distance of 69 km and the final 28 km is by a well maintained all-weather gravel road. The mine and treatment plant site in the north of the Quilombo property, as well as most bulk sample locations, can be easily accessed.

CLIMATE

Mato Grosso has a tropical climate with high humidity during the summer months of November to March, coinciding with an average annual rainfall of 2,300 mm. Daytime temperatures are hot all year with maxima in excess of 35°C.

INFRASTRUCTURE

A 41,000 volt power line currently extends to the nearby village of Cachoerinha Rica, 2 km from the project site, and is well placed to fulfill electricity needs for any future developments at Chapada.

Local rivers flow throughout the year and would provide ample water for all production treatment and domestic requirements. There is also a 16-km-long canal constructed to deliver water to the highest part of the project area.

The area surrounding the Quilombo Mine is partially underdeveloped economically and the sparse population is involved in agriculture and livestock, primarily cattle, production.

Labour is available from several sources: the local village (ex-garimpeiros), skilled labour from Chapada, and professionals from Cuiaba. Infrastructure at the mine site includes haul roads to the various pitting areas, mine offices and cafeteria, a modern processing plant including a washing plant, dense media separation, magnetic separation and X-ray sorting units, water treatment ponds, plus equipment maintenance and security facilities.

PHYSIOGRAPHY

This description is taken from DevMin 2002.

The west central region of Brazil, including the project area, has been affected by two geomorphological cycles. The first formed an extensive peneplain, which was intensely laterized. Remnants of laterized terrain may still be observed in the area. The region formed a north sloping surface that drained into the Amazon Basin.

The second cycle, originating in the Quaternary, resulted in reversal, new development, and capture of drainages formed during the first cycle. The region is gently undulating with spectacular deep valleys cut into the Botucatu Formation sandstones. In locations where erosion was especially well advanced, secondary fracture zones along old structural alignments expose the more silicified sandy Bauru Formation conglomerates in scarps as cuestras. Rio Quilombo drains into the east-west Rio Manso 40 km to the north of the project area, which in turn drains into the south flowing Rio Cuiaba and thence through the Pantanal to the Paraguay River.

The area around the tenements is relatively flat with a gentle undulating topography. Most of the tenements have been cleared of their original bush, except along rivers and streams. Environmental regulations prevent the clearing of bush within 50 m of rivers.

6 HISTORY

The discovery of diamonds in Mato Grosso dates back to 1719, but it was not until the 1940s that the potential in the Quilombo region within the Chapada project area was identified. Garimpeiro activity became intense. Up to the 1960s when high limonite levels within the gravel, and increasing overburden depth eventually proved an obstacle to effective diamond recovery, more than 2 million cubic metres of terrace material were estimated to have been mined from the Peba Lagoinha area.

Rio Tinto Zinc Corporation (RTZ) conducted the first phase of systematic exploration in the area from 1981 to 1983. Initially focusing on Quilombo, RTZ conducted drilling at 100 m centres as a precursor to bulk sampling in order to outline overburden, gravel, and bedrock configuration. The accuracy of these 385 drill holes (2,856 m) was verified by a series of 104 manually excavated pits, which also provided the opportunity to measure gravel densities for volume estimation.

With approximately 2 million cubic metres of gravel delineated, RTZ progressed to bulk sampling 60 pits and trenches at Quilombo for grade and resource estimates, and extended exploration south to Peba Lagoinha in an attempt to better quantify the overall alluvial potential within distance constraints. As many as 121 drill holes and 152 pits were completed over a distance of 5.6 km along the Lagoinha River doubling the gravel volume then available. Although RTZ identified an upstream extension to Peba Lagoinha, abundant diamond-bearing gravel at Estiva 13 km west from Quilombo, and extensive river bed gravels and downstream terraces associated with the Casca and Quilombo rivers, the region's exploration potential did not seem to measure up to the company's target parameters.

In Phase 2 (1985), RTZ processed bulk samples from seven pits using the same processing plant that was used in Phase 1.

RTZ's bulk testing (6,778 m³) at Quilombo returned an overall grade of 0.047 ct/bcm and diamond prices in 1986 were in the range of US\$172 per carat. RTZ recognized the underestimation of grade from diamond losses during sample treatment and assigned an in-situ grade of 0.08 ct/bcm to their resource estimations to counterbalance suspected theft and poor plant recovery. Inefficient processing was demonstrated when 11 diamonds were introduced to the pan feed, but only two were recovered.

Cue Petroleum NL (Cue) acquired the project in 1988. Cue shifted into a more production-orientated programme (Phase 3) and, between 1988 and 1990, excavated 12,318 m³. Although sample location appears to have been influenced by the better grade areas demarcated from previous evaluation, the overall grade dropped by half to 0.025 ct/bcm. Reports subsequently revealed poor treatment practices, including overloading of the plant that would have likely led to diamond losses. The realization that this grade was unreliable and significantly underestimated became more apparent when 7.2 m³ of concentrate reject was reprocessed in 1998, yielding a further 12 diamonds weighing 2.62 carats. Later in 2003 during magnetic separator trials, another three diamonds totalling 0.37 carat were collected from only 0.3 m³ of Phase 3 concentrate reject.

In 1988, Minproc (USA) estimated a measured resource of 1.93 million bcm and an indicated resource of 0.09 million bcm at a grade of 0.060 ct/bcm with a strip ratio of 3:1 on the Quilombo deposit and an indicated resource of 2.17 million bcm grading 0.06 ct/bcm with a strip ratio of 2.8:1 on the Peba Lagoinha deposit.

In 1990, Cue went into bankruptcy and the Quilombo property was sold to a local syndicate known as Haynes.

The final stage of bulk sampling (Phase 4) between 1993 and 1995 was unusual in that traditional garimpeiro methods were employed to sample and treat material. The sampling site was selected on the basis of its proximity to water, and to facilitate sluicing of overburden, rather than for any geological reason. This area was divided into eight-metre-wide, parallel sample strips. Upon completion of the program, 21 strips occupying three discrete blocks over a distance of 200 m had generated samples varying from 44 m²

to 264 m² in area. There appears to have been preferential selection of sample lots in an attempt to avoid areas of greater overburden. Gravel thickness was half the deposit average. A final grade of 0.074 ct/bcm was achieved from 1,913 m³ treated using these far from ideal garimpeiro methods. As expected, individual sample grades are erratic, but, given the randomness of site selection, the overall results confirm previous diamond valuations and offer further evidence of grade continuity across the deposit.

In late 1995, Haynes sold the project to American Mineral Fields (AMF) which undertook studies on magnetic separation and contracted consultants Watts, Griffis & McOuat (WGM) to assess the resources. WGM (and Geoklock) estimated an indicated resource of 1.90 million bcm grading 0.037 ct/bcm with a strip ratio of 2.8:1 on the Quilombo deposit and an indicated resource of 1.50 million bcm at a grade of 0.037 ct/bcm with at strip ratio of 2.5:1 on the Pebá Lagoinha deposit.

The Minproc and WGM resource estimates are considered to be historical but relevant because they give an indication of the original size and grade of the deposits.

During 2000, the unexplored area between the known resource and the main garimpeiro workings at Pebá Lagoinha was investigated by 25 geological and four bulk sample pits. The bulk sampling, undertaken by garimpeiros over a strike length of 1.2 km, yielded 183 m³ containing 16 diamonds (7.05 carats) with an overall grade of 0.039 ct/bcm. Given the program's limitations, this allows these delineated gravels to be attached to the Pebá Lagoinha resource. A garimpeiro pit, located at the northern limit of the Pebá Lagoinha resource, yielded 37.95 carats from 530 m³ for a grade of 0.071 ct/bcm. The largest stone, 13.60 carats, closely matched the previous best from the bulk sampling undertaken at Quilombo.

In late 2000, Chapada Diamonds Plc signed an agreement with AMF to purchase the Quilombo property. The purchase was completed in 2002.

In 2002-2004, DevMin Pty Ltd (DevMin) estimated an Indicated Mineral Resource of 2.05 million bcm at a grade of 0.074 ct/bcm with a strip ratio of 3.1:1 on the Quilombo

deposit. The DevMin estimate is in accordance with the mineral resource categories established by the Canadian Institute of Mining, Metallurgy and Petroleum. These estimates have been superseded by the current resource estimate.

Diamond production from June 2006 (the start of production) to June 2008 is reported by CBM to be 33,014 carats from 1,043,124 bcm of processed material for an average grade of 0.032 ct/bcm (Table 6-1). The average diamond size was 0.53 ct/stone and the average diamond value was \$420/ct.

TABLE 6-1 PRODUCTION TO JUNE 2008
Vaaldiam Resources Ltd. and Tiomin Resources Inc. - Chapada Diamond Project

Month	Gravel Mined bcm	Gravel Processed bcm	Diamond Production ct	Recovered Grade ct/bcm
2006				
March	5,076			
April	14,214			
May	19,388	553		
June	20,162	5,564	28	0.005
July	23,742	32,067	810	0.025
August	32,069	32,349	1,603	0.050
September	36,316	44,174	1,897	0.043
October	26,568	44,367	1,698	0.038
November	42,565	58,835	2,243	0.038
December	49,237	51,428	2,033	0.040
2007				
January	51,979	49,352	1,761	0.035
February	49,212	48,155	1,774	0.037
March	59,507	58,249	2,240	0.038
April	72,997	69,238	2,306	0.033
May	62,489	65,305	1,738	0.027
June	62,485	64,709	1,562	0.025
July	59,609	59,609	1,484	0.025
August	35,376	38,430	1,685	0.044
September	29,222	29,222	1,172	0.040
October	32,739	32,739	916	0.028
November	30,762	30,762	779	0.025
December	29,726	19,426	482	0.023

Month	Gravel Mined bcm	Gravel Processed bcm	Diamond Production ct	Recovered Grade ct/bcm
2008				
January	21,301	24,368	766	0.031
February	32,095	34,689	766	0.022
March	37,074	38,271	779	0.020
April	37,844	39,241	1,032	0.026
May	42,533	42,708	935	0.022
June	27,444	27,444	525	0.019
Total	1,043,731	1,043,124	33,014	0.032

7 GEOLOGICAL SETTING

REGIONAL GEOLOGY

Diamondiferous gravels occur within the Casca Basin, a structurally derived basin of large areal extent that has preserved substantial quantities of gem quality diamonds within terrace gravels of Tertiary age, and recent river alluvial deposits. The river deposits are being formed today in several rivers such as the Quilombo and Casca (from DevMin 2002).

The regional-scale Rio Casca river system drains an uplifted area of Jurassic and Cretaceous sandstones and conglomerates that have been largely preserved by faulting (Figure 7-1). The margins of the basin are made up of Devonian siltstones (Ponta Grossa Formation) lying on tightly folded Precambrian schists and quartzites (Cuiaba Series). The younger rocks are generally horizontally bedded, but some tilting has occurred in association with faulting. The Ponta Grossa sediments are relatively impermeable and hence easily recognized on air photographs due to the associated dense drainage pattern that has developed. The Lower Cretaceous (or Jurassic) Botucatu Formation is identifiable by its characteristic red colour and pronounced cross bedding. These desert phase sandstones are overlain by Upper Cretaceous sandstones and conglomerates of the Bauru Formation, generally identifiable by their conglomeratic to microconglomeratic lithologies and secondary silicification.

Igneous rocks are confined to basalts of the Tapirapua Formation (126 ± 3 Ma), which outcrop where they have been exhumed by the present drainage, and intrusives in the form of lamprophyres and volcanic necks. The basalts appear to have been vented along regional structures, and probably formed topographic highs following erosion of the pre-Bauru land surface. The intrusives are attributed to the Ipori Group volcanic phase (120 Ma) as are the kimberlites that occur in the Jatob and Batovi drainages, 160 km to the northeast of the Chapada area.

Diamonds initially deposited in conglomerates of the Bauru Formation have been re-worked into recent diamond-bearing gravels. In particular, the basal conglomerate of the

Bauru Formation of varying thickness (up to 20 m), which outcrops widely, is considered the most likely local source of diamonds found at Chapada. The relationship between the diamond-bearing gravels and the Bauru Formation conglomerate has been complicated by the various periods of erosion involving drainage or capture, however, it can be seen that where youthful headwater drainages cross the conglomerate, diamonds are found in small workings immediately downstream. The Bauru Formation conglomerate is made up of clasts of Botucatu Formation sandstones, Ponta Grossa Formation siltstones, the occasional quartzite boulder, and a variety of extrusive rocks including rhyolites, trachytes, and phonolitic lavas. Mapping of the conglomerate in the field is assisted by its tendency to develop characteristically rounded hillocks. There is also a tendency for the underlying Botucatu Formation rocks to be partly silicified, while silcrete and laterite form on the conglomerate. These features, however, are not always evident and can be encountered in any stratigraphic horizon.

Events of importance in the formation of the diamond deposits have been:

1. Diamond-bearing kimberlite intrusion and subsequent erosion.
2. Deposition of the basal Bauru Formation conglomerate which acted as a collector of diamonds.
3. Preservation of Bauru Formation rocks by down faulting.
4. Formation of the Chapada land surface involving “deflationary” concentration of the diamonds in the Bauru Formation conglomerate where the conglomerate was subjected to peneplanation.
5. Partial destruction of the Chapada land surface by rapid headway erosion and release of diamonds into the drainages.
6. Climatic change to an arid phase with preservation of drainage terraces.
7. Concentration of diamonds in recent alluvial gravel deposits.

FIGURE 7-1 REGIONAL GEOLOGY

LOCAL AND PROPERTY GEOLOGY

The local and property geology is illustrated in Figure 7-2.

The gravels on the property exhibit diverse textures ranging from moderately sorted, clast supported, graded beds, to chaotic, matrix-supported material reminiscent of landslide or debris flow deposits. There are at least four different gravel types identified to date that are described below.

IMMATURE FLUVIAL GRAVEL

This unit is poorly sorted, with friable, clayey volcanic clasts, and is gradational into other gravel units at the top and base. Stratification is poor. Diamond distribution is believed to be more erratic than in other gravels, although diamonds are characteristically larger than those found in the other gravels. Limonite content is low. This gravel type is developed at the highest levels and is regarded as the oldest of the tertiary gravels. Sharp basal contacts indicate minimal mining dilution, with some dilution at the less well defined top contact.

FLUVIAL GRAVEL

This type has an even thickness, flat top, minor channel and pot-holed base, but no evidence of severe relief on the basal contact. There is some sense of upward grading, with sand lenses and stratification. Mature clasts are present, but still poorly sorted. Minor weak laterization of tops make a particularly sharp contrast with overlying sands. The gravels are located on either side of the Quilombo Ridge within and flanking the Quilombo and Chiquinho river valleys. Eastern fluvial gravels have high limonite content from a source of Devonian argillites with ferruginous veinlets, 10 km to the south, upstream in the Lagoinha valley. This material has been fed into the gravel system along the Rio Lagoinha. In contrast, the western fluvials along the flanks of the Chiquinho River have significantly lower limonite content.

The mature fluvial gravels are generally at a lower elevation than the immature gravels. There may be several levels and episodes of reworking of the older and higher

gravels into younger and lower terraces. At each stage of reworking, there is potential to increase the grade and quality of the diamondiferous material.

The extreme eastern margins of the fluvial gravels are cemented by ferruginous material. This phenomenon is recorded as a narrow one-metre wide band limited to just the margins of the deposit. Sharp, well defined top and bottom contacts promise minimal mining dilution.

MODERN ALLUVIALS

There are reworked terrace gravels on the deposit fringes. The extent is not known and this type can be represented by just a stone line or quite thick gravels. Modern alluvials have characteristically very high limonite content and are diamondiferous; however, more information is required to establish how the grade compares with the fluvial and immature types of the upper terraces.

The unit generally exhibits a well defined base and less well defined upper contact. Some mining dilution may be expected.

PARTIALLY REWORKED FLUVIAL GRAVELS

Minor reworking of the top surface has taken place, possibly implying a mixture of terrace and modern alluvial attributes.

Beneath the Quilombo resource, bedrock topography reveals a broad, northeast sloping ridge and two major channel patterns. The gravel thickness commonly outlined here exceeds two metres. The footwall is either weathered schist of the Upper Proterozoic Bambui Group, Bauru Conglomerate, or Botucatu Sandstone. The overburden and gravel contain virtually no clay, whereas the footwall has minor clay content.

FIGURE 7-2 LOCAL AND PROPERTY GEOLOGY

8 DEPOSIT TYPES

Alluvial diamonds is the term used to describe diamonds that have been removed from the primary source (kimberlite) by natural erosive action over millions of years, and eventually deposited in a new environment such as a river bed, an ocean floor, or a shoreline.

Alluvial diamond deposits are difficult to evaluate and depend on grade (stone density) per volume, stone size distribution, and price per carat. Alluvial diamonds occur in very low concentrations in most deposits and are prone to clustering and erratic grades. Diamond size and quality are crucial aspects of the deposit's value and the recovery of large, valuable stones can significantly enhance cash flow. In order to determine accurate grade estimates for mineral resources and reserves, large-scale bulk sampling should be carried out under close supervision and sample processing should be efficient to provide total diamond recovery.

9 MINERALIZATION

The diamond-bearing alluvial gravels at Chapada occur as a series of probable Late Tertiary terraces and their reworked or recent derivatives, preserved as inter-fluvial topographic highs between the Quilombo, Chiquinho, and Cachoeirinha rivers (Figure 7-2). The gravels are developed in a series of terraces at slightly different elevations, ranging from 0.1 m to 3.4 m thick, with an average thickness of 1.5 m. The gravels have a well defined top and are overlain by an unconsolidated friable sand cover ranging from 0.75 m to 15.3 m thick, with an average thickness of 4 m.

10 EXPLORATION

Quilombo-Peba was the primary area of interest by RTZ because the land was easily acquired from the previous owners. The potential of the remaining area remains good, since there is no reason for the grade to be different from the grade at Quilombo.

The other six exploration properties are located a maximum of 35 km northwest and northeast of Quilombo. These are Bom Jardim, Estiva, Acora, Casca, Jangada and Roncador (Figure 4-2).

On the Estiva property, RTZ carried out a substantial exploration program at two sites: Tres Casais and Sucuri. Approximately 300 pits were dug, and diamondiferous gravels were defined with some estimated resources. Much more work is required in these gravel deposits.

CURRENT EXPLORATION

CBM holds 269 km² of exploration licences covering favourable river terraces surrounding the current operations. A rudimentary exploration program was carried out on the Casca Licence in 2007. This program consisted of hand pitting to ascertain the presence of gravels. No sampling is done and pitting stops once the water table is encountered.

Considering the size of the exploration licences, Scott Wilson RPA recommends that full scale exploration including drilling and bulk sampling be started as soon as possible in order to satisfy licence commitments and to identify the next mining centre.

11 DRILLING

Churn and probe drilling was carried out by RTZ from 1981 to 1983 when 2,856 m was completed in 385 holes on 100 m by 100 m centres. In many cases, the drilling was accompanied or followed by bulk sampling to confirm the drilling results.

Prior to the shutdown of operations at Chapada in 2008, Vaaldiam carried out infill Banka drilling and sample pitting on a 50 m x 50 m grid over approximately 55% of the Peba inferred resource originally located by RTZ. A total of 206 holes and 127 pits were completed for a total of 2,122 m. It is anticipated that the remaining drilling and pitting in the area could take another seven to eight months using one drill.

12 SAMPLING METHOD AND APPROACH

According to both DevMin (2002) and Durey (2004), throughout Phases 1–3, sample processing methods were essentially identical. A rotary pan treated the -18 mm material and the concentrate was classified into +6.4 mm for hand sorting and into +3.2 mm, +2.0 mm and +1.0 mm fractions for sieve jiggling by hand. Unfortunately, up to 99% of the concentrate comprised limonite particles (particle density similar to diamond) so that hand jiggling was practically ineffective. A Plietz Jig was installed at the start of Phase 1 but was soon replaced by a grease table which was used during Phase 1 and the first part of Phase 2. Sizing analysis in 1983 of 480 tonnes from a variety of gravel locations indicated 46% of head-feed represented oversize, 30% slimes and only 24% was -18 mm +1.0 mm material suitable for diamond recovery.

In any alluvial evaluation exercise the choice of treatment method, the quality control measures and security precautions are essential in minimizing diamond loss and ensuring reliability of results. The main concerns with sample processing at Chapada and the resultant grades are the inefficiency of the rotary pan, the high limonite content and the grease composition, factors affecting every stage of the plant. The diamond grades reported are, therefore, considered minimum figures and are probably significantly underestimated in Phase 3.

The rotary pan of this era has an industry-accepted efficiency of 65%. Only during Phase 1 was there any commitment to quality control, by inserting tracer beads and diamonds and by experimenting with slurry density. In one test, treating 18.9 bcm of gravel sample C5/3, 26% of 300 tracers were never recovered. Of the remaining tracers with an SG of 3.5, 9% was located within concentrate reject and 91% from the tailings. The high level of limonite, with its similar density to diamond, was shown to have played a major role in elbowing diamonds out of the rotary pan and from the grease table recoveries, making hand jiggling ineffective. It is probable that diamond losses from the rotary pan, exacerbated by overfeeding, were across the size spectrum and were not confined to specific size fractions. The grease table was not employed during Phase 3, but when it was used, it seems the grease composition was incorrect and not monitored,

creating doubts about the effectiveness of the grease table. All in all plant performance was far from satisfactory and likely resulted in significant diamond losses.

Sample processing during Phase 4 was undertaken within the garimpeiro workings using hand sieving and manual gravitation. In four of the 21 mined-out strips, a more primitive method of sluicing gravel down prepared channels, with bed load for natural riffles, was resorted to. By utilizing slow manual, traditional methods, prone to theft and the loss of smaller goods, the overall results were superior to the earlier mechanized approach with the rotary pan.

The limonite problem in the gravel may explain why much of the area remains unmined, and an effective solution to reduce its interference with diamond recovery is important for the successful development of the project. High intensity magnetic separation tests by Ore Sorters International in 1987, by International Process Systems Inc. (INPROSYS) in 1997 and Eriez Magnetics concluded that the majority of limonite (72% of dry sample) could be excised as a magnetic fraction during a single pass. Magnetic separation will therefore play a major role in optimizing and enhancing grade.

13 SAMPLE PREPARATION, ANALYSES AND SECURITY

DIAMOND VALUATION AND DISTRIBUTION

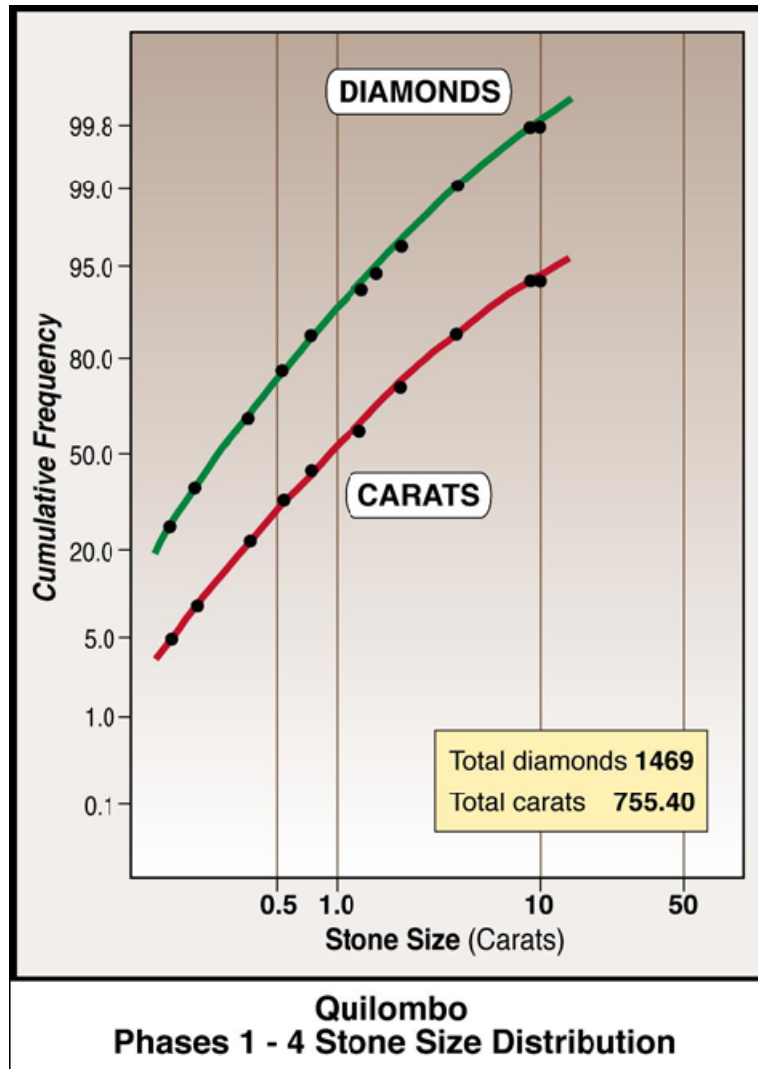
Diamond sales from the exploration sampling amounted to 741.32 carats and were conducted in 1986, 1990 and 1995. Prices for such quality goods have continued to escalate upward since the initial test-work. An analysis of the price progression trend experienced over the different sales periods, as well as studying open market and Diamond Trading Company (DTC) price changes since 1995 provided an indexed, average valuation in 2002 of US\$462 per carat. A separate independent study, undertaken by Independent Diamond Valuers Pty Ltd. (IDV) in 2002, presented an overall valuation of US\$411 per carat by utilizing stone size distribution, product descriptions from the sales listings and diamond photographs in their assessment process. An 85% to 90% gem and near gem content was verified. Despite price increases announced since January 2003, this figure of US\$411 per carat was retained as a base case valuation in the financial model.

A review of diamond data in 2004 upgraded the price to US\$473 per carat, highlighting price sensitivity to a few large, high value stones. The large stones (>0.66 carat) represent 60% of the weight and 80% to 95% of the total value. As much as 24% of this overall value corresponds with only four stones (>10 carats in size) that equate to 7% of the caratage. The largest diamond recovered during bulk sampling was 14.00 carats.

The stone size distribution of all diamonds produced, displayed as cumulative frequency, establishes the opportunity for an occasional plus 50 carat diamond within the deposit (Figure 13-1). However, during production from June 2006 to May 2007 (approximately 20,000 carats), the largest stone recovered weighed approximately 25 carats. On August 17, 2007, a 33 carat stone was recovered. The stone was of very good quality and was only slightly broken on one face. The average value per carat for the project to date is US\$418.00.

Although diamond losses from sample processing may have reached levels as high as 35%, the lognormal stone size distribution, as presented in the cumulative frequency graph, does not appear to identify any bias to a particular size fraction (other than losses or attenuation at the extreme bottom or top end).

FIGURE 13-1 STONE SIZE DISTRIBUTION



14 DATA VERIFICATION

Given the inherent difficulty to obtain accurate samples of such low grade material without detailed bulk sampling, Scott Wilson RPA did not take independent samples. Production results were taken as an indication of the grade of the gravels on the property and the value of the diamonds recovered.

15 ADJACENT PROPERTIES

Nothing to report.

16 MINERAL PROCESSING AND METALLURGICAL TESTING

Please refer to Section 19 for Mineral Processing and Process Flow Sheet.

17 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

GENERAL STATEMENT

Mineral resources were estimated in 2007 by CBM and reviewed by Scott Wilson RPA. Table 17-1 lists the mineral resources on the Chapada property.

TABLE 17-1 CHAPADA MINERAL RESOURCES MAY 31, 2007
Vaalldiam Resources Ltd. and Tiomin Resources Inc. - Chapada Diamond Project

Category	Area	Volume Million bcm	Recoverable Grade ¹ ct/bcm	Carats ct
Indicated	Quilombo	1.4	0.05	70,000
Indicated	Peba Lagoinha	2.5	0.05	125,000
Subtotal Indicated		3.9	0.05	195,000
Indicated	Satellites and extensions	1.0	0.05	50,000
Total Indicated²		4.9	0.05	245,000

¹ The recoverable grade is based on an in-situ gravel grade of 0.074 ct/bcm which has been adjusted to include dilution, and reduced to offset potential plant losses.

² A total of 483,488 bcm of gravel was processed between June 2007 and the suspension of mining in June 2008. A total of 12,883 carats of diamonds were recovered from this material for an average grade of 0.027 ct/bcm.

Mineral reserves are not reported at this time.

DATABASE AND BLOCK MODELLING

The 2007 Quilombo database contains all exploration data collected for the Quilombo property. The database is a standard format and comprises collar, survey and geology tables. The collar table comprises data ID, hole type (churn drill hole, manual sample pit or trench), the year it was drilled, by whom, as well as the gravel terrace ID the hole intersected. The Geology table comprises data ID, from-to intervals, lithology description and the terrace code.

During the modelling process, an additional temporary “extraction” geology table was created which included “dummy” intervals of one centimetre where no gravel had been

intersected. This ensured that the surfaces created from the top and bottom intersection points pinched out if no gravels were intersected. In addition, intersections from manual test pits placed next to drill holes were given priority if the intersection widths disagreed (i.e., the churn drill hole intervals were removed from the extraction database and replaced with the test pit data).

The Quilombo resource model was prepared using sections with a 10x vertical exaggeration. Geologists (Perin and Fillis) determined which gravel terrace had been intersected by each drill hole. The data were then transferred to plan to generate a gravel type terrace outline model for the Quilombo tenement. This was subsequently used to create 3D wireframes of each of the terraces along with pierce points of bedrock and overburden interface extracted from the geological database. The objects in the terrace wireframe model relate to the terraces listed in Table 17-2.

TABLE 17-2 TERRACE WIREFRAMES
Vaaldiam Resources Ltd. and Tiomin Resources Inc. – Chapada
Diamond Project

Object ID	Terrace ID	Gravel Type
1	1	Colluvial
2	2A	Fluvial
3	2B	Fluvial
4	3A	Reworked Fluvial
5	3B	Reworked Fluvial
6	4	Reworked Fluvial
7	2C	Fluvial
8	2D	Fluvial

In addition to the wireframes of the terraces, digital terrain model (DTM) surfaces were also prepared of the bedrock and topography from the drill hole data. The bedrock model was subsequently adjusted with the inclusion of the bedrock/gravel boundaries.

A SURPAC block model frame was then prepared with blocks that measured 10 m x 10 m x 0.1 m.

A half-block thickness (5 cm) was added to the elevation of each point and this new set of co-ordinates was used to populate the blocks with dilution. The same process was carried out for the bedrock interface to add a dilution block. Earlier models used 10 cm

top contact dilution and 20 cm bedrock dilution. With mining experience, it was decided that bedrock dilution of 10 cm was more realistic.

The mineral resource area lies within the Quilombo and Chiquinho Rivers and the model has been adjusted for the prescribed buffer boundaries (environmental zone where no mining is permitted) of 50 m and 30 m, respectively. In earlier years, the rivers were digitized off old paper plans. When construction got underway and parts of the site were resurveyed, it was realized that parts of the river boundaries (particularly in the north) were not accurately surveyed and some attempt has been made to manually “fit” data into the corrected survey.

A grade of 0.074 ct/bcm was set by CBM for all blocks coded with the rock type GRAVEL. This was the assumed in-situ grade based on the results of the controlled garimpeiro sampling operation. With inclusion of dilution and allowance for plant losses, this resulted in an overall mineral resource grade of just under 0.05 ct/bcm.

CLASSIFICATION OF MINERAL RESOURCES

Resource classification is dependent upon the quantity, distribution and quality of data and the level of confidence. Although it is not possible to estimate the diamond grade with a high degree of confidence because of sample processing flaws, CBM feels there are sufficient data to demonstrate geological and grade continuity within facies. Adequate drilling and check pitting is considered to have been undertaken across the deposit for reliable volume estimates of gravel and overburden and for geological mapping purposes.

The bulk sampling at Quilombo generated sufficient diamonds for reasonably representative valuation but was restricted to a limited number of sites (13), which necessitated classifying the resource in the indicated category. Although no large scale bulk sampling was accomplished at Peba Lagoinha, its proximity and association with Quilombo as well as preferential mining of its western portion, as a consequence of its

lack of limonite, are additional features that support its incorporation into the overall indicated resource.

Scott Wilson RPA concurs with the Indicated Mineral Resource classification at Quilombo and Pega Lagoinha, although it is our belief that closer-spaced infill drilling (50 m) would significantly strengthen the reliability for the purposes of classifications and mine planning.

RECONCILIATION

To the end of June 2008, CBM reports total gravel processed of 1,043,124 bcm and 33,014 carats recovered, for an average grade of 0.032 ct/bcm. This recovered grade is below the resource grade of 0.05 ct/bcm. Communication with CBM staff revealed that 10 cm of top dilution and 16 cm of bottom dilution is being mined along with the gravels. This total of 26 cm is well in excess of the 10 cm added in total in the mineral resource model and may be one reason that recovered grades are lower than estimated. Scott Wilson RPA recommends that a program of grade control be developed and implemented as soon as possible.

Now that a large amount of gravel has been mined and processed through a modern plant, the results should be used to supersede the grades of the resource models rather than the 0.074 ct/bcm currently in use.

For volume reconciliation purposes, an empty block model is created which is updated at approximately quarterly intervals with actual surveyed surfaces of the cleared topography, overburden/gravel interface and clean bedrock. These surfaces are constrained within polygons that represent the gravel mining areas at the end of each month. It is possible to quickly reconcile between volumes from the predicted resource model and the actual mined model. The exercise initially showed poor volume reconciliation (around 60% of predicted) but, in the second quarter of 2007, the areas mined are comparing more closely with a weighted average of 90%. The issue appears to have been with some of the original churn drill data, which appears to have overstated the

gravel thickness in parts of the model (particularly in terrace 2A). The waste volumes all reconciled very closely (to within a few percent).

In the opinion of Scott Wilson RPA, the block model serves the purposes of the mining operation in predicting and reconciling the volumes of gravel planned to be mined. The model could be improved by using the mined grade rather than the sampling grade, as discussed above.

MINERAL RESERVES

There are no mineral reserves reported on the Chapada property at this time. Although a diamond mine and processing plant were operating on the property, economic viability has not yet been demonstrated.

18 OTHER RELEVANT DATA AND INFORMATION

No additional information or explanation is necessary to make this Technical Report understandable and not misleading.

19 ADDITIONAL REQUIREMENTS

OVERVIEW AND STATUS

Diamond mining and processing has been carried out by CBM since June 2006 at rates of up to 70,000 bcm per month, or about 280 tonnes per hour. On average, approximately 40,000 bcm were processed per month between June 2006 and June 2008. Mining was contracted out, but CBM is considering changing to an owner operation when the mine reopens. The processing plant has exceeded original capacity specifications due to an increase in plant capacity.

MINING METHOD

The current mining method uses excavators and bulldozers in the mine pits and 10 m³ trucks to deliver ore to the plant or stockpiles. Mining is done in slots where the excavator removes the overburden and places it beside the mining areas. The diamondiferous gravel is removed and the overburden is placed back into the mined area. Pre-stripped organic material is ultimately placed onto the mined areas to revegetate the disturbed ground.

The effective reach of an excavator is 7.5 m. If the diamondiferous gravels are deeper than the excavator's reach, the overburden must be removed in stages and costs can double making gravel recovery uneconomic. A trial mining exercise was completed to remove the top section of overburden using earthmover scrapers followed by excavators for the final portion. CBM expects to be able to economically recover deeper gravels due to this change in mining method.

All mining operations such as topsoil removal, storage, or replacement, overburden mining, gravel mining and waste backfilling are performed by a contractor from Santa Catalina. The contractor used all new equipment, under suppliers' warranties (Table 19-1).

No current long term life-of-mine plan is available for review at the present time. This lack of a long term plan on site is a serious omission. Long term plans are necessary to allow optimization of the mine extraction and to forecast capital and development needs. They also focus management on the remaining mine life and the need to permit and develop other mining areas and to explore for further resources. At the forecast operating rate, the resources at Chapada will be depleted in less than five years (not including extensions). Scott Wilson RPA recommends that a detailed life-of-mine plan be completed as soon as possible.

Vaaldiam plans to keep the mine on care and maintenance basis throughout 2010 during which time further infill drilling can be completed at Peba Lagoinha. A new mine plan will be developed based on the current indicated resources plus those upgraded to the indicated category by the proposed infill drilling.

TABLE 19-1 CHAPADA MINING EQUIPMENT
Vaaldiam Resources Ltd. and Tiomin Resources Inc. - Chapada
Diamond Project

Number	Description
12	28-tonne tucks
4	1-5 m ³ shovels
1	2.4 m ³ shovel
4	20-tonne bulldozers
1	18-tonne grader
1	Water Truck (10,000 m ³ capacity)
2	2.5 m ³ loaders
1	Fuel truck

The mining plan was based on using a mining contractor to carry out all mining activities. Analyses are being carried out to evaluate owner operated mining alternatives, and preliminary economic results indicate that owner operated mining offers the best project returns. CBM estimates that up to a 25% cost savings is possible. Scott Wilson RPA recommends that the owner operating mining study is implemented.

The manning schedule at the Quilombo Mine can be divided into two parts:

- Mining operation by the contractor AGN

- Mining and Plant operations by CBM, including the Chapada town office, Exploration and Corporate.

The contractor employed 65 people. They operated the bulldozer and shovels, drive trucks, and carry out miscellaneous labour. At the time of B. Karpoff's visit, CBM employed 96 people on site.

The previous production plan was based on a process plant feed rate of 800,000 bcm per year of ore. This is an increase of 200,000 bcm over the original plan made possible by throughput improvements in the plant. For the period of February to June 2008, the mine operated at a rate of approximately 40,000 bcm per month. This lower rate was dictated by financial concerns prior to the shutdown of the operation.

Mining was completed in the areas projected to have the thickest gravels. It is normal practice to mine the best areas first. However, as mining continues in the years ahead, the average thickness will decrease, requiring a higher mining rate and higher cost to maintain feed rates to the processing plant. This challenge should be assessed as part of a life of mine plan.

MINE OPERATING COST

Based on the information presented, the direct unit mining costs have been estimated to total US\$2.13 per bcm mined during the project mining from October 2006 to May 2007. Since this cost includes inevitable start-up problems, later months are a better indicator of the true cost picture. Costs in April and May 2007 averaged US\$1.34 per bcm mined.

Costs in June and July 2007 increased to US\$2.16 per bcm mined. This higher unit operating cost is mainly due to the improvement of the exchange rate of the Brazilian Real to the US dollar. The average exchange rate for the months of June and July was 1.89 reals to US\$1.00, compared to 2.09 reals to US\$1.00 for the period October 2006 to May 2007.

Operating cost averaged US\$20.50 per bcm mined from January to June 2008. These costs reflect the lower production rate prior to the shutdown of the operation at the end of June 2008.

Scott Wilson RPA estimates that savings may be realized by cutting overhead costs given the small scale of operation and the relatively short operating life of the project. Scott Wilson RPA recommends that a detailed cost evaluation of owner mining be completed.

PROCESSING PLANT

The plant (Figure 19-1) was toured on two occasions by Scott Wilson RPA and appeared to be functioning well. Originally designed to process 81 bcm per hour, the process rate has been increased to 115 bcm per hour through improvements in the scrubbing and screening area and the magnetic separation area. CBM states that the DMS feed is the current bottleneck and no further increases in capacity are possible without significant capital investment in the scrubbing and screening area.

Large chunks of lateritized gravel (duracrust) were observed being rejected from the oversize grizzly (300 mm) and vibrating grizzly (75 mm). This appears to be an obvious source of potential diamond loss. CBM admitted the potential loss but stated that this material represents only one to two percent of the deposit and that diamond recovery from this material is very low even if it is completely broken up and passes through the entire plant.

The issue of determining the absolute recovery value is difficult, but measures are in place to check the recovery. Tracers are run through the DMS plant on a daily basis and all are regularly recovered. Two kinds of fluorescent beads are put into the X-ray sorters and the record of retrieval is nearly perfect. In addition to that, a small grease table has been installed to check for non-fluorescing diamonds. Only a negligible number of small diamonds has been recovered on the table. At the time of B. Karpoff's visit, the table was not in operation. It was stated that plant rejects/tailings have been tested in the past

to determine if there is diamond loss. Scott Wilson RPA recommends that further tests be completed on the plant rejects on a regular basis.

The original process design called for the following criteria:

TABLE 19-2 ORIGINAL PROCESS DESIGN CRITERIA
Vaaldiam Resources Ltd. and Tiomin Resources Inc. - Chapada Diamond Project

Annual throughput of ROM gravel	600,000 bcm (50,000 bcm per month)
Operating days per year	360
Hours per day	24
Total available hours	8,640
Plant availability	84%
Plant operating hours	7,260
Required plant capacity (ROM feed)	200 tph (82.5 bcm per hour)

The actual throughput is up to 70,000 bcm/month due to an increase in plant capacity to 280 tonnes per hour (115 bcm per hour).

FEED PREPARATION MODULE

The design assumption was that 33% of the run-of-mine (ROM) material would range in size from 2 mm to 20 mm, and this would be fed into the heavy media separation (HMS) circuit. In actual operation only 17% to 22% of the ROM material is in the +2 mm to -20 mm size range. The size range is dependent on the gravel type that is fed into the circuit.

Material for the plant is taken from ROM stockpiles by a front end loader and put into a ROM feed bin. At this stage, oversize material (+300 mm) is rejected by a grizzly.

Next at a vibrating grizzly feeder, the oversize (+75 mm) is rejected to waste, while the undersize (-75 mm) is fed to a scrubber. The scrubber is required to disperse the slimes and the agglomerated fines, wash the gravel, and break down any agglomeration. Following this, the trommel oversize (+20 mm) is rejected to waste, while the undersize goes to a sizing screen. The -2.0 mm is desanded, dewatered, and rejected to waste. The -20 mm to +2.0 mm is conveyed to a heavy media plant feed bin.

HEAVY MEDIA PLANT

From the heavy media feed bin, the product is conveyed to the heavy media preparation screen, then to a heavy media mixing launder where ferrosilicon is added. The mixture is pumped to the cyclone. The concentrate is drained and rinsed on a screen, passed in front of a ferromagnetic magnet into a concentrate surge bin. The product is elevated by bucket to the scalping magnetic separation area.

MAGNETIC SEPARATION - LIMONITE REMOVAL AREA

A scalping magnetic separator is incorporated into the circuit to remove all ferromagnetics and the strongly paramagnetic minerals.

WET MAGNETIC SEPARATOR

A multi-deck circular sizing screen achieves separation on particles in four sizes: 20 mm to 8 mm, 8 mm to 5 mm, 5 mm to 4 mm and 4 mm to 2 mm. The product from each deck of the circular sizing screen is discharged into four individual surge bins. Each bin feeds a wet roll high intensity magnetic separator. The non-magnetic concentrates are fed to the diamond recovery area.

DIAMOND RECOVERY AREA

The concentrate from the wet magnetic separators is discharged into two X-ray flowsorts where diamonds are recovered. They fall into two locked and secured sorting boxes. Occasionally, tests are performed with tracer ball to check the performance of the flowsorts.

A grease table is incorporated into the circuit to verify that no diamonds are present in the reject streams from the flowsort. The table was not in use at the time of the visit by B. Karpoff.

Once a day the secured sorting boxes are opened. The diamonds are then cleaned in acid, counted and weighed under tight security in the presence of armed guards. Once all the data is recorded and photographs of the diamonds are taken, the parcel is put into a heavy safety box.

MARKETING OF PRODUCTION

Once a month, one lot of diamonds was prepared for valuation showing the number of stones and the total carats. The package also contains photographs of the daily production. The Mine Department releases the lot by issuing “The Kimberly Certificate” indicating the gross total value of the lot.

The buyer arrives on site once a month to reach a consensus on the total gross value of the lot and the lot is then sealed. A Brink’s helicopter transports the lot to Cuiaba where it is placed in a vault. On-site security is extreme up to the time of the helicopter’s departure.

A royalty of 0.2% of the gross value is payable to the Government within 30 days of receiving payment for the stones. The payment, in US dollars, is in the company’s books usually a week after valuation.

ENVIRONMENTAL CONSIDERATIONS

All required environmental permits for mining and processing have been obtained and are in good standing. All waste material is returned to the mined-out areas. Mined surfaces are contoured then covered with topsoil to complete the rehabilitation of the area.

A discussion was held with CBM staff concerning environmental compliance. The operation has all approvals required by law and is complying with all environmental requirements. Water discharge from the tailings ponds was tested twice per year as required and has met required standards. No water is discharged in the dry season and the maximum amount of recirculation takes place. Additional process water is pumped from the river. The rehabilitation of past mining areas has been approved and CBM is working with government officials concerning archaeological sites on the property. Mine pillars are being maintained along the river courses as prescribed. No non-compliance orders have been received.

20 INTERPRETATION AND CONCLUSIONS

The 2007 Chapada Mineral Resources estimated by Vaaldiam total 4.9 million bcm of Indicated Mineral Resources at an average grade of approximately 0.05 ct/bcm. Scott Wilson RPA has reviewed the available mineral resource, mining and processing data and concludes that although the technical work on the project is generally competent, the resource grade should consider the actual recovered grade from the process plant in subsequent resource estimates.

The main risk in the mineral resource for the project is the grade estimate. Tonnages of diamondiferous gravel can be fairly accurately estimated, but the number of diamonds produced is problematic. A grade of 0.05 ct/bcm was developed using past sampling results and applying conservative factors. However, after processing over 1,000,000 bcm of gravel since production began in 2006, the reported average grade is 0.032 ct/bcm. This lower grade may result from additional dilution during mining or may represent the true grade of the deposit, or some combination of the two. If it can be shown that excess dilution is the problem, then correction of this problem represents a significant opportunity for CBM.

CBM holds 269 km² of exploration licences covering favourable river terraces in areas surrounding the current operations. It is Scott Wilson RPA's opinion that full scale exploration including drilling and bulk sampling should be started as soon as possible in order to satisfy licence commitments and to evaluate the potential for additional resources and potential mining.

Scott Wilson RPA concurs with the Indicated Mineral Resource classification at Quilombo and Pega Lagoinha, although it is our belief that closer-spaced infill drilling (50 m) would significantly strengthen the reliability for the purposes of classifications and mine planning.

In the opinion of Scott Wilson RPA, the block models serve the purposes of the mining operation in predicting and reconciling the volumes of gravel planned to be

mined. The model could be improved by using the mined grade rather than the sampling grade.

There are no mineral reserves reported on the Chapada property at this time. Although a diamond mine and processing plant were operating on the property, economic viability has not yet been demonstrated.

The previous mining plan was based on using a mining contractor to carry out all mining activities. Analyses were carried out to evaluate owner operated mining alternatives, and preliminary economic results indicate that owner operated mining offers the best project returns. CBM estimates that cost savings up to 25% are possible. Scott Wilson RPA's opinion is that the owner operated mining study should be implemented.

No current long-term mine plan is available, although Vaaldiam and Tiomin propose to complete a new mine plan based on infill drill results in 2008 and 2010. Long-term plans are necessary to allow optimization of reserve extraction and to forecast capital and development needs. At the forecast operating rate, the resources at Chapada will be depleted in less than five years (not including extensions). Scott Wilson RPA is of the opinion that a detailed life of mine plan should be completed as soon as possible.

Operating costs in June and July 2007 averaged US\$2.16 per bcm mined. Scott Wilson RPA estimates that further savings may be realized by cutting overhead costs given the small scale of operation and the relatively short operating life of the project. Operating costs in the first half of 2008 averaged US\$20.50, reflecting the lowered production rate prior to the shutdown of the operation.

The process plant appeared to be functioning well. Originally designed to process 82.5 bcm per hour, the process rate has been increased to 115 bcm per hour through improvements in the scrubbing and screening area and the magnetic separation area.

The operation has all the environmental approvals required by law and is complying with all environmental requirements. No non-compliance orders have been received.

21 RECOMMENDATIONS

Based on two site visits to the Chapada alluvial diamond operation and a review of documents made available by Vaaldiam, Scott Wilson RPA recommends that:

- Full scale exploration including drilling and bulk sampling start as soon as possible in order to satisfy licence commitments and to identify the next mining centre.
- A program of grade control be developed and implemented as soon as possible to minimize dilution.
- Further tests be completed on the plant rejects on a regular basis.
- The owner operated mining study be implemented.
- A detailed life of mine plan be completed as soon as possible.

PROPOSED EXPLORATION PROGRAM AND BUDGET

Vaaldiam and Tiomin have proposed further exploration drilling and bulk sampling campaigns on the Chapada Mine area and Exploration Concessions. The purpose of this work will be to develop extensions to the existing mineral resources to extend the mine life of the mining operations and to test the Exploration Concessions for additional mineral resources.

1. Peba Lagoinha Area

An infill program totalling approximately 1,000 m in 139 drill holes or manual pits is proposed to complete the program started in 2008 in the Peba Lagoinha area (Figure 21-1) adjacent to current operations at the Chapada Mine. This work will focus on resource upgrading by determining diamond grades, and thicknesses of gravel and overburden. The drilling will be performed on 50 m centres using a Banka drill rig should be completed in approximately seven to eight months.

FIGURE 21-1 PEBA LAGOINHA AREA DRILLING PROGRAM

The details of the Peba Lagoinha drilling program are presented in Table 21-1.

TABLE 21-1 PEBA LAGOINHA DRILLING PROGRAM
Vaaldiam Resources Ltd. and Tiomin Resources Inc. - Chapada Diamond Project

Details	Cost (US\$)
Work Force (1 geologist, 1 driller, 1 team leader and 6 Helpers)	83,000
Food, Accommodation, Travel	19,000
Consumables	14,000
Camp Costs	16,000
Contingency @ 5%	13,000
TOTAL	145,000

2. Exploration Concessions

The Casca Exploration concession was the focus of manual pitting in 2007 and more work is proposed for 2010. The general purpose for this first stage exploration program on the Casca, plus the Roncador and Jangada claims, is to define which of the areas contain diamondiferous gravels and can be selected for a second phase program which will consist of a detailed resource definition program.

The exploration program in these areas will be conducted using manual pits to determine volume of the gravels on a 200 m x 100 m grid. If the volume of gravels is sufficient, then bulk sampling will be completed to determine diamond grade.

This exploration program is proposed for 2010 and will cost approximately \$830,000, including the treatment of 10 bulk samples (Table 21-2).

TABLE 21-2 EXPLORATION CONCESSION PROGRAM
Vaaldiam Resources Ltd. and Tiomin Resources Inc. - Chapada Diamond Project

Details	Cost (US\$)
Work Force (1 geologist, 1 team leader, 1 driller and 18 Helpers)	160,000
Food, Accommodation, Travel	75,000
Consumables	26,000
Camp Costs	33,000
Bulk Sampling	495,000
Contingency @ 10%	41,000
TOTAL	830,000

Scott Wilson RPA concurs with the proposed exploration programs.

22 REFERENCES

Hugh Durey & Associates (October 2004): Independent Technical Report, Chapada Alluvial Diamond Project in Mato Grosso State, Brazil, pp. 38–57.

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Tenement Schedule, Chapada Alluvial Diamonds Project – Brazil, June 2007.

Mineral Reserve Presentation, Chapada Brasil Mineracao, June 2007.

Production Plans and Summaries, Chapada Brasil Mineracao, June 2007.

Production Summaries, Vaaldiam Resources Ltd., July 2008.

Quilombo Resource and Reserve Block Models and Descriptions, June 2007.

Scott Wilson RPA (June 2007): Memorandum, Chapada Diamond Project Review, 27 pp.

23 SIGNATURE PAGE

This report titled “Technical Report on the Chapada Alluvial Diamond Project, Mato Grosso State, Brazil”, prepared for Vaaldiam Resources Ltd. on August 31, 2007, and readdressed to Vaaldiam Resources Ltd. and Tiomin Resources Inc. on February 9, 2010, was prepared and signed by the following authors:

(Signed & Sealed)

Dated at Toronto, Ontario
February 9, 2010

Boris S. Karpoff, P.Eng.
Associate Consulting Mining
Engineer

(Signed & Sealed)

Dated at Toronto, Ontario
February 9, 2010

Chester M. Moore, P.Eng.
Principal Geologist

24 CERTIFICATE OF QUALIFICATIONS

BORIS S. KARPOFF, P.ENG.

I, Boris S. Karpoff, P.Eng., as an author of this report entitled “Technical Report on the Chapada Alluvial Diamond Project, Mato Grosso State, Brazil” prepared for Vaaldiam Resources Ltd. on August 31, 2007, and readdressed to Vaaldiam Resources Ltd. and Tiomin Resources Inc. on February 9, 2010, do hereby certify that:

1. I am Associate Consulting Mining Engineer with Scott Wilson Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.
2. I am a graduate of Laval University, Quebec in 1956 with a B.A.Sc. (honours) degree in Mining Sciences.
3. I am registered as a Professional Engineer in the Province of Ontario. I have worked as a mining engineer for more than 50 years since my graduation. My relevant experience for the purpose of the Technical Report is:
 - Study of placer diamond deposits in the Central African Republic for purposes of investment, development and mining.
 - General economic study of the diamond and gold industries for the World Bank and the government of the Central African Republic. Design and implementation of a washing plant.
 - Technical reviews of placer gold and tungsten deposits in Russia, Thailand, the USA, and Canada.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI43-101.
5. I visited the Chapada Project on August 16 and 17, 2007.
6. I am responsible preparation of Items 16 to 19 parts and collaborated with Chester M. Moore on Items 1, 19 to 22 of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.4 of National Instrument 43-101.
8. I have had no prior involvement with the property that is the subject of the Technical Report.
9. I have read National Instrument 43-101, and the Technical Report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1.

10. To the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Dated this 9th day of February, 2010

(Signed & Sealed)

Boris S. Karpoff, P.Eng.

CHESTER M. MOORE

I, Chester M. Moore, P.Eng., as an author of this report titled "Technical Report on the Chapada Alluvial Diamond Project, Mato Grosso State, Brazil" prepared for Vaaldiam Resources Ltd. on August 31, 2007, and readdressed to Vaaldiam Resources Ltd. and Tiomin Resources Inc. on February 9, 2010, do hereby certify that:

1. I am Principal Geologist with Scott Wilson Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.
2. I am a graduate of the University of Toronto, Toronto, Ontario, Canada in 1972 with a Bachelor of Applied Science degree in Geological Engineering.
3. I am registered as a Professional Engineer in the Province of Ontario (Reg. # 32455016). I have worked as a geologist for more than 35 years since my graduation. My relevant experience for the purpose of the Technical Report is:
 - Mineral Resource and Reserve estimation, feasibility studies, due diligence, corporate review and audit on exploration projects and mining operations world wide
 - Various advanced exploration and mine geology positions at base metal and gold mining operations in Ontario, Manitoba and Saskatchewan
 - Director, Mineral Reserve Estimation and Reporting at the corporate offices of a major Canadian base metal producer
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI43-101.
5. I visited the project site on June 19 to 21, 2007.
6. I am responsible for Items 2 to 15 and collaborated with Boris S Karpoff on Items 1, and 19 to 22 of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.4 of National Instrument 43-101.
8. I have had no prior involvement with the property that is the subject of the Technical Report.
9. I have read National Instrument 43-101, and the Technical Report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1.

10. To the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Dated this 9th of February, 2010

(Signed & Sealed)

Chester M. Moore, P.Eng.