Report to:

Brazil Resources Inc.

Technical Report and Resource Estimate on the Cachoeira Property, Pará State, Brazil

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Prepared by	*Original document signed by Gregory Z. Mosher, P.Geo.* Gregory Z. Mosher, P.Geo.	Date	October 2, 2013
Reviewed by	*Original document signed by Michael F. O'Brien, M.Sc., Pr.Sci.Nat, FGSSA, FAusIMM, FSAIMM* Michael F. O'Brien, M.Sc., Pr.Sci.Nat, FGSSA, FAusIMM, FSAIMM	Date	October 2, 2013
Authorized by	*Original document signed by Gregory Z. Mosher, P.Geo.* Gregory Z. Mosher, P.Geo.	Date	October 2, 2013

GM/jc

TETRA TECH

Suite 800 – 555 West Hastings Street, Vancouver, British Columbia V6B 1M1
Phone: 604.408.3788 Fax: 604.408.3722

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GLOSSARY

UNITS OF MEASURE

above mean sea level ... amsl
acre ... ac
ampere ... A
annum (year) ... a
billion ... B
billion tonnes ... Bt
billion years ago ... Ga
British thermal unit ... BTU
centimetre ... cm
cubic centimetre ... cm^3

cubic feet per minute	cfm
cubic feet per second	ft^3/s
cubic foot	ft^3
cubic inch	in^3
cubic metre	m^3
cubic yard	yd^3
Coefficients of Variation	CVs
day	d
days per week	d/wk
days per year (annum)	d/a
dead weight tonnes	DWT
decibel adjusted	dBa
decibel	dB
degree	°
degrees Celsius	°C
diameter	ø
dollar (American)	US$
Dollar (Brazilian Reals)	BRL
dollar (Canadian)	Cdn$
dry metric ton	dmt
foot	ft
gallon	gal
gallons per minute (US)	gpm
Gigajoule	GJ
gigapascal	GPa
gigawatt	GW
gram	g
grams per litre	g/L
grams per tonne	g/t
greater than	>
hectare (10,000 m^2)	ha
hertz	Hz
horsepower	hp
hour	h
hours per day	h/d
hours per week	h/wk
hours per year	h/a
inch	in
kilo (thousand)	k
kilogram	kg
kilograms per cubic metre	kg/m^3
kilograms per hour	kg/h
kilograms per square metre	kg/m^2
kilometre	km
kilometres per hour	km/h

kilopascal	kPa
kilotonne	kt
kilovolt	kV
kilovolt-ampere	kVA
kilovolts	kV
kilowatt	kW
kilowatt hour	kWh
kilowatt hours per tonne	kWh/t
kilowatt hours per year	kWh/a
less than	<
litre	L
litres per minute	L/m
megabytes per second	Mb/s
megapascal	MPa
megavolt-ampere	MVA
megawatt	MW
metre	m
metres above sea level	masl
metres Baltic sea level	mbsl
metres per minute	m/min
metres per second	m/s
microns	µm
milligram	mg
milligrams per litre	mg/L
millilitre	mL
millimetre	mm
million	M
million bank cubic metres	Mbm^3
million bank cubic metres per annum	Mbm^3/a
million tonnes	Mt
minute (plane angle)	'
minute (time)	min
month	mo
ounce	oz
pascal	Pa
centipoise	mPa·s
parts per million	ppm
parts per billion	ppb
percent	%
pound(s)	lb
pounds per square inch	psi
revolutions per minute	rpm
second (plane angle)	"
second (time)	s
short ton (2,000 lb)	st

specific gravity	SG
square centimetre	cm^2
square foot	ft^2
square inch	in^2
square kilometre	km^2
square metre	m^2
three-dimensional	3D
tonne (1,000 kg) (metric ton)	t
tonnes per day	t/d
tonnes per hour	t/h
tonnes per year	t/a
tonnes seconds per hour metre cubed	ts/hm^3
volt	V
week	wk
wet metric ton	wmt

ABBREVIATIONS AND ACRONYMS

Antonio Carlos de Novais Araújo	Araújo
Brazil Resources Inc.	Brazil Resources
Brazilian Goldfields Ltd	BGZ
Cachoeira Property	the Property or the Project
Companhia de Mineração e Participações	CMP
Companhia Nacional de Mineração	CNM
Companhia Paraense de Minérios	CPM
Companhia Vale do Rio Doce	Vale
Compensação Financeira pela Exploração de Recursos Minerais	CFEM
Departamento Nacional de Produção Mineral	DNPM
diamond drillholes	DDH
Goldfields Ltd.	Goldfields
induced polarization	IP
inverse distance squared	ID^2
Luna Gold Corp	Luna Gold
Mineração Capanema Ltda.	MCL
Mineração CCO Ltda.	CCO
National Institute of Colonization and Agrarian Reform	INCRA
National Instrument 43-101	NI 43-101
Noranda Mineração Ltda.	Noranda
quality assurance/quality control	QA/QC
reverse circulation	RC
Relatório de Controle Ambiental	RCA
Roscoe Postle Associates Inc.	RPA
tax per hectare	TAH
time domain electromagnetic	TDEM

1.0 SUMMARY

The Cachoeira Property (the Property or the Project) is located in Pará State in northeastern Brazil and is owned by BRI Minerão Ltda.

The Property is underlain by a shear zone of regional extent that cuts Precambrian-age metasedimentary and metavolcanic rocks.

The shear zone contains gold and pyrite in association with quartz veins, veinlets, and networks.

The veins and host shear zones are commonly surrounded by an irregular alteration envelope comprised principally of quartz-albite-pyrite. This envelope contains lower-grade, but potentially significant, quantities of gold.

There are three principal, and similar, zones of gold mineralization within the Property that, from north to south, are named Arara, Coruja, and Tucano.

There is no current activity on the Property but it has been the subject of significant exploration programs since the late 1970s and has been exploited on a small scale since the 1980s by artisanal miners.

The Arara and Tucano Zones have been explored more extensively and intensively than the intervening Coruja Zone.

Resource estimates have been carried out for the three zones. Separate estimates have been made for the vein/shear zones and for the surrounding alteration envelopes. Resources contained in the alteration envelope have not been estimated for the Coruja Zone because available data is too sparse to confidently permit an interpretation of its geometry and dimensions.

Resources have been estimated using inverse distance squared (ID^2) weighting.

On the basis of a similar estimation conducted in 2012, a lower-grade threshold of 0.35 g/t gold was chosen as the base case.

Resources have been classified as Indicated or Inferred. A synopsis of the estimate is presented in Table 1.1.

Table 1.1 Cachoeira Property Resource Estimate Synopsis (ID[2])

	Tonnes @ 0.35 g/t	Gold (g/t)	Gold Cap (g/t)	Gold (troy oz)	Gold Cap (troy oz)
Indicated					
Arara Veins	528,435	1.80	1.74	30,658	29,554
Coruja Veins	84,272	2.02	2.01	5,490	5,463
Tucano Veins	4,051,741	2.16	1.84	281,365	240,514
Total	**4,664,448**	**2.12**	**1.84**	**317,514**	**275,531**
Arara Halo	1,592,239	1.62	1.05	83,098	54,081
Tucano Halo	11,213,406	1.07	1.00	386,124	362,064
Total	**12,805,645**	**1.14**	**1.01**	**469,223**	**416,145**
Total Indicated	**17,470,093**	**1.40**	**1.23**	**786,737**	**691,676**
Arara Veins and Halo	2,120,674	1.67	1.23	113,757	83,635
Coruja Veins	84,272	2.03	2.00	5,490	5,415
Tucano Veins and Halo	15,265,147	1.36	1.23	667,490	602,578
Total Indicated	**17,470,093**	**1.40**	**1.23**	**786,737**	**691,676**
Inferred					
Arara Veins	631,690	2.40	2.37	48,871	48,293
Coruja Veins	139,835	1.61	1.61	7,277	7,246
Tucano Veins	2,207,256	2.01	1.99	142,982	141,588
Total	**2,978,781**	**2.08**	**2.06**	**199,130**	**197,126**
Arara Halo	1,757,048	1.16	0.79	65,865	45,001
Tucano Halo	10,930,751	0.84	0.84	298,205	295,629
Total	**12,687,799**	**0.89**	**0.84**	**364,070**	**340,630**
Total Inferred	**15,666,580**	**1.12**	**1.07**	**563,200**	**537,756**
Arara Veins and Halo	2,388,739	1.49	1.21	114,735	93,294
Coruja Veins	139,835	1.62	1.61	7,277	7,246
Tucano Veins and Halo	13,138,007	1.04	1.04	441,187	437,217
Total Inferred	**15,666,580**	**1.12**	**1.07**	**563,200**	**537,756**

Significant exploration potential remains around and within the three known zones and the potential exists to locate additional gold mineralization along the shear zone where it passes to the northeast beyond the present eastern boundary of the Property.

The Property extends to the north, well beyond the probable point of exit of the shear zone to the northeast, beyond the eastern boundary of the Property. The exploration potential of the area of the Property to the north of probable limits of the shear zone is considered to be low.

Recommendations for further work on the Property include:

- conduct in-fill drilling in critical portions of the three zones to support the upgrading of currently Inferred portions of those zones into the Indicated resource category

- conduct exploratory drilling elsewhere within the Property where historical drillholes have intersected indications of mineralization that have not been incorporated into any of the currently interpreted vein/shear zones
- carry out metallurgical tests of mineralization from the known zones to determine how best to recover the gold
- explore the possibility of acquiring exploration rights to the northeastward extension of the shear zone where it passes out of the eastern boundary of the Property.

A budget for this work as well as necessary expenditures for permitting and socio-economic studies follows in Table 1.2. If this work is successful, the outcomes will include increasing the Indicated proportion of the currently known resource and expanding the currently known resource.

Table 1.2 Recommended Exploration Budget

Description	Value (Cdn$)
Drilling 5,000 m @ $250/m Total Cost	1,250,000
Analyses 5,000 m @ $25/Sample	125,000
Metallurgical Tests (Arara and Tucano)	450,000
Salaries and Consulting Fees	830,000
Vehicle Expenses	260,000
Contingency	150,000
Socio-economic Consulting	145,000
Licencing and Permitting	820,000
Scoping Study	350,000
Total	4,380,000

2.0 INTRODUCTION

The Property is located in Pará State, in northeastern Brazil, approximately 250 km southeast of the state capital of Belém, at approximately 1° 45' south latitude and 46° 33' west longitude. The Property contains shear-hosted, auriferous quartz veins that are hosted by metamorphosed volcanic and sedimentary rocks of Pre-Cambrian age.

2.1 TERMS OF REFERENCE

Brazil Resources Inc. (Brazil Resources) retained Tetra Tech to provide a National Instrument 43-101 (NI 43-101) technical report, including a resource estimate, for the three known significant mineralized zones on the Property; Arara, Coruja and Tucano.

As part of the preparation of this report, the author visited the Property on February 2 and 3, 2013 for a period of two half-days.

The effective date of this report is April 17, 2013. This technical report was amended and re-stated October 2, 2013, to provide additional disclosure in accordance with items 10, 11, 12, 13 and 14 of Form 43-101F1.

3.0 RELIANCE ON OTHER EXPERTS

Tetra Tech has relied upon Brazil Resources for information pertaining to ownership of the Property; permitting requirements and status, legal, and financial liabilities pertaining to the Property (verbal and written communication from Stephen Swatton, the CEO of Brazil Resources). Tetra Tech has not independently verified the accuracy of this information. This information is disclosed in Section 4.0 of this report.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 PROPERTY DESCRIPTION AND LOCATION

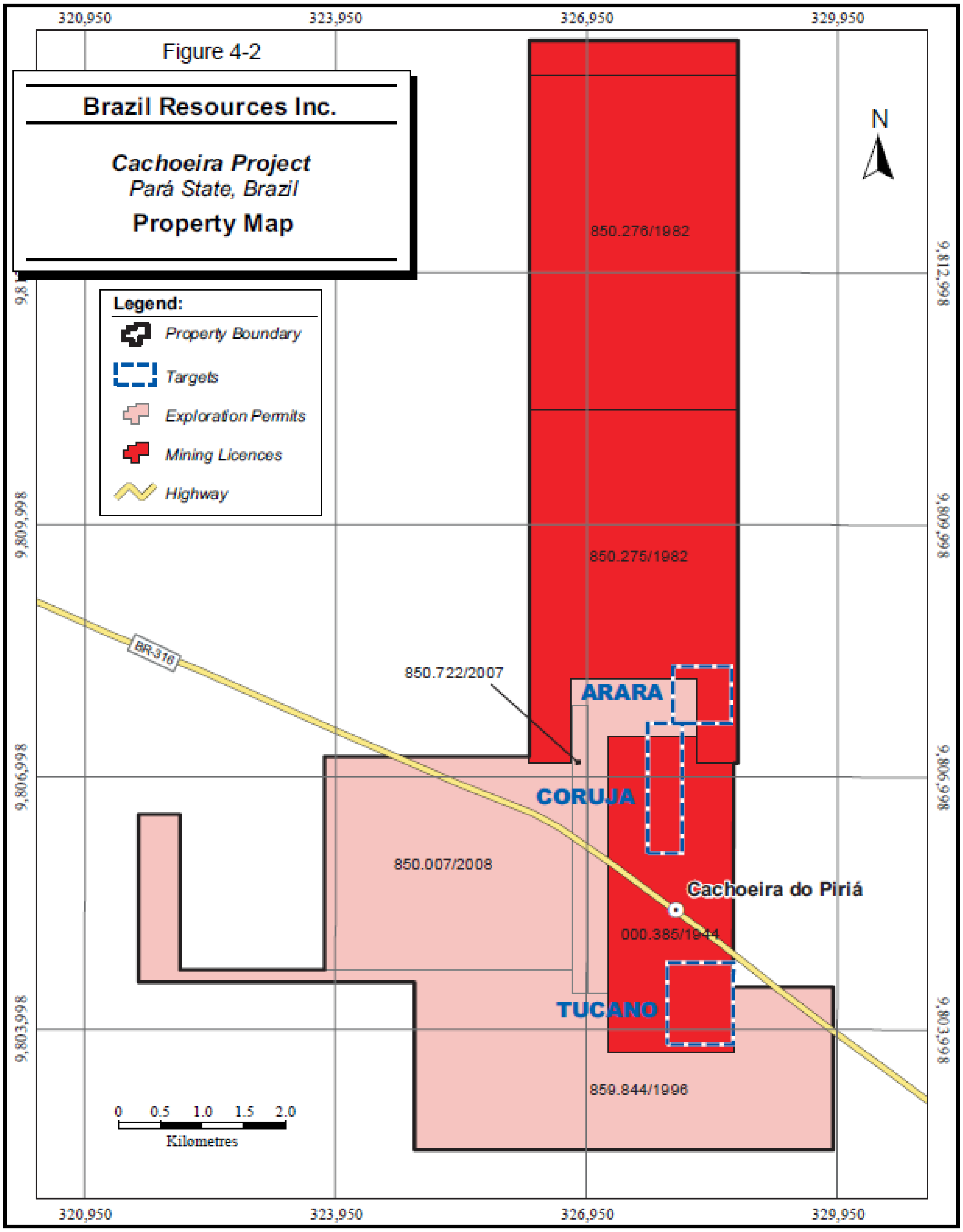
The Property is located in the Municipality of Cachoeira do Piriá, Pará State, Região Norte Pará State, northern Brazil, approximately 250 km southeast of the city of Belém, the State capital of Pará (Figure 4.1).

Figure 4.1 Location Map of Cachoeira Project

Source: Brazil Resources Inc., July 2012

The Property is comprised of one contiguous block of three exploration licences (Processes DNPM No. 859.844/1996, 850.722/2007 and 850.007/2008) and two mining licences (Processes No. 000.385/1944, 850.275/1982 and 850.276/1982) with an aggregate area of approximately 5,742 ha (approximately 13 km north-south and 2.5 km east-west) (see Figure 4.2). The centre of the Property is located approximately at 1°45' south latitude and 46°33' west longitude.

Figure 4.2 Cachoeira Property Location Map



Source: Brazil Resources Inc., July 2012

The coordinates of the turning points of the boundaries of the licences are set out in Table 4.1.

Table 4.1 Cachoeira Licence Coordinates

Licence	Turning Points	Latitude	Longitude
000385/1944	1	46° 33' 10.59" W	1° 44' 26.87" S
000385/1944	2	46° 32' 22.06" W	1° 44' 26.87" S
000385/1944	3	46° 32' 22.06" W	1° 46' 28.96" S
000385/1944	4	46° 33' 10.59" W	1° 46' 28.96" S
850276/1982	1	46° 33' 41.13" W	1° 42' 20.64" S
850276/1982	2	46° 33' 41.13" W	1° 40' 10.41" S
850276/1982	3	46° 32' 20.25" W	1° 40' 10.41" S
850276/1982	4	46° 32' 20.25" W	1° 42' 20.64" S
850275/1982	5	46° 33' 41.17" W	1° 44' 37.17" S
850275/1982	6	46° 33' 41.17" W	1° 39' 57.19" S
850275/1982	7	46° 32' 20.29" W	1° 39' 57.19" S
850275/1982	8	46° 32' 20.28" W	1° 44' 37.17" S
850275/1982	9	46° 32' 36.46" W	1° 44' 37.17" S
850275/1982	10	46° 32' 36.46" W	1° 44' 4.62" S
850275/1982	11	46° 33' 24.99" W	1° 44' 4.62" S
850275/1982	12	46° 33' 24.99" W	1° 44' 37.17" S
859844/1996	1	46° 36' 12.20" W	1° 46' 2.02" S
859844/1996	2	46° 36' 12.20" W	1° 44' 56.90" S
859844/1996	3	46° 35' 56.22" W	1° 44' 56.90" S
859844/1996	4	46° 35' 56.22" W	1° 45' 57.27" S
859844/1996	5	46° 33' 24.67" W	1° 45' 57.27" S
859844/1996	6	46° 33' 24.67" W	1° 46' 6.05" S
859844/1996	7	46° 32' 36.13" W	1° 46' 6.05" S
859844/1996	8	46° 32' 36.13" W	1° 45' 57.27" S
859844/1996	9	46° 32' 34.00" W	1° 45' 57.27" S
859844/1996	10	46° 32' 34.01" W	1° 44' 37.40" S
859844/1996	11	46° 32' 27.00" W	1° 44' 37.40" S
859844/1996	12	46° 32' 27.00" W	1° 46' 3.81" S
859844/1996	13	46° 31' 43.66" W	1° 46' 3.80" S
859844/1996	14	46° 31' 43.65" W	1° 47' 7.13" S
859844/1996	15	46° 34' 25.43" W	1° 47' 7.13" S
859844/1996	16	46° 34' 25.43" W	1° 46' 2.01" S
850722/2007	1	46° 33' 24.50" W	1° 44' 14.80" S
850722/2007	2	46° 33' 18.33" W	1° 44' 14.80" S
850722/2007	3	46° 33' 18.33" W	1° 46' 6.04" S
850722/2007	4	46° 33' 24.50" W	1° 46' 6.04" S
850007/2008	1	46° 33' 41.17" W	1° 42' 22.50" S
850007/2008	2	46° 33' 41.17" W	1° 44' 37.17" S

table continues...

Licence	Turning Points	Latitude	Longitude
850007/2008	3	46° 33' 24.99" W	1° 44' 37.17" S
850007/2008	4	46° 33' 24.99" W	1° 44' 4.62" S
850007/2008	5	46° 32' 36.46" W	1° 44' 4.62" S
850007/2008	6	46° 32' 36.46" W	1° 44' 26.87" S
850007/2008	7	46° 33' 10.59" W	1° 44' 26.87" S
850007/2008	8	46° 33' 10.59" W	1° 46' 6.05" S
850007/2008	9	46° 33' 21.41" W	1° 46' 6.05" S
850007/2008	10	46° 33' 21.41" W	1° 46' 6.04" S
850007/2008	11	46° 33' 18.33" W	1° 46' 6.04" S
850007/2008	12	46° 33' 18.33" W	1° 44' 14.80" S
850007/2008	13	46° 33' 24.50" W	1° 44' 14.80" S
850007/2008	14	46° 33' 24.50" W	1° 46' 6.04" S
850007/2008	15	46° 33' 21.42" W	1° 46' 6.04" S
850007/2008	16	46° 33' 21.42" W	1° 46' 6.05" S
850007/2008	17	46° 33' 24.67" W	1° 46' 6.05" S
850007/2008	18	46° 33' 24.67" W	1° 45' 57.27" S
850007/2008	19	46° 35' 0.30" W	1° 45' 57.27" S
850007/2008	20	46° 35' 0.30" W	1° 44' 34.66" S
850007/2008	21	46° 33' 41.18" W	1° 44' 34.65" S
850007/2008	22	46° 33' 41.18" W	1° 42' 22.50" S

The status of all licences is set out in Table 4.2.

Table 4.2 Cachoeira License Status

Project	Licence Number	Status	Area (ha)	Permit Publication Date	Licence Due Date
Cachoeira	000.385/1944	Mining Concession	562.5	15-Jan-44	No Expiration Date
Cachoeira	850.275/1982	Mining Concession	2,000.00	5-Feb-82	No Expiration Date
Cachoeira	850.276/1982	Mining Concession	1,000.00	5-Feb-82	No Expiration Date
Cachoeira	859.844/1996	Exploration Permit	1,198.39	21-Feb-00	Applied for Mining Concession
Cachoeira	850.722/2007	Exploration Permit	65.16	14-Jul-08	Applied for Permit Renewal
Cachoeira	850.007/2008	Exploration Permit	916.41	3-Oct-11	3-Oct-14

4.2 Property Ownership

The Property is owned 100% by BRI Mineração Ltda., which is owned 100% by BRI International Corp. and BRI Brazil Corp., which are wholly-owned subsidiaries of Brazil Resources. On September 24, 2012, Brazil Resources acquired 100% of said companies from Luna Gold Corp. (Luna Gold) under the terms of a share purchase agreement dated July 10, 2012.

Total consideration paid by Brazil Resources consisted of Cdn$500,000 cash and 1,528,000 common shares of Brazil Resources (the “BRI Shares”) that were paid and issued at closing, and the following additional payments:

- Cdn$300,000 cash and 1,214,000 BRI Shares within 12 months of closing the transaction
- Cdn$300,000 cash and 1,214,000 BRI Shares within 30 days of receipt of approval of a mine development plan by the Departamento Nacional de Produção Mineral (DNPM) and the preliminary environmental licenses for a gold mining operation on the Property
- Cdn$2,500,000, payable in cash or BRI Shares, at Brazil Resources' sole discretion, upon commencement of mine construction at the Property consisting of completion of Cdn$500,000 of expenditures toward such mine construction
- Cdn$3,000,000, payable in cash or BRI Shares, at Brazil Resources' sole discretion, one year after achieving commercial production at the Property.

Notwithstanding the foregoing milestones, all of the payments from Brazil Resources to Luna Gold will become due and payable four years after the closing date of the transaction. Any discretionary share-based payments will be valued based on the volume weighted average trading price of the BRI Shares for the 10 days prior to such payment. Brazil Resource’s payment obligations are evidenced by a promissory note issued by Brazil Resources to Luna Gold, containing customary events of default and acceleration provisions, and are secured by security interests granted by Brazil Resources and its subsidiaries to Luna Gold against, among other things, interests in the Project and the shares of the subsidiaries to be acquired under the Cachoeira Agreement.

4.3 MINERAL LICENCES

Mineral rights in Brazil are reserved to the federal government and are governed by the mining code that is administered by the DNPM.

Foreign companies can hold exploration and mining licences. Exploration licences have annual rental payments based on the number of hectares held under the licence and the exploration phase of the licence. Reporting obligations are attached to the licence as well. Exploration licences are granted for three years and can be extended for an additional three-year term subject to the approval of the DNPM. An exploration licence allows the holder to explore for minerals within the licence area but does not permit commercial exploitation. Exploration licences are granted on a priority-of-application basis.

Although the mining concessions were granted during the 1980s, there have been numerous and consecutive requests for the suspension of mining activities within the areas of the mining concessions since the 1990s due to the need to update the plans for mining and the process of obtaining/renewing environmental licenses and, more recently, in order to reassess the reserves and prepare new mine development plans.

The DNPM approved Luna's latest request and, thus, the mining activities can be kept suspended until April 2, 2014.

Brazil Resources will have to apply for another period of extension for the commencement of the mining activities justified on the basis of the delays in the process to analyze, review and approve the environmental licensing applications by the government and approval of the new mining plan. (The preparation is in progress to submit both applications before the end of 2013.)

A final report describing the exploration conducted within the licence must be submitted to the DNPM prior to the end of the exploration term. The report can be positive, as in the case of the delineation of mineralization sufficient to support mining activities, or negative, if no discovery of significant mineralization has been made. On approval of a positive final report, the licence holder has a period of one year to apply for a mining licence. This application involves feasibility-level engineering studies accompanied by the granting of an environmental licence. Mining licences have annual reporting requirements.

There is no maximum number of licences that a company can hold but in Legal Amazonia where the Property is located there is a legal size limit of 10,000 ha per licence.

The exploration licences are defined by map coordinates and therefore the boundaries of the licences are not defined by physical markers. The mining licences have been surveyed and are marked with concrete survey monuments at the corners of the licence boundaries.

A positive final exploration report was filed with DNPM for Exploration Licence 859.844/96 on February 7, 2012, and a positive exploration report was filed for Exploration Licence 850.722/07 prior to June 5, 2011. Exploration Licence 850.007/2008 was granted on October 3, 2011 and has an expiry date of October 3, 2014.

Brazil Resources has indicated to Tetra Tech that the subject licences are currently in good standing and that all required payments to the DNPM have been made.

Mining licences in Brazil are subject to a 1% royalty payable to the government that is calculated on the basis of gross gold sales less transportation, insurance, and sales costs.

In addition to governmental royalties, the Property is subject to a 4.0% net profits royalty payable to prior owners. Up to one-half (2%) of this royalty interest may be re-acquired until the first anniversary of the commencement of commercial production by paying the holders Cdn$1,000,000 for each 0.5% increment of the royalty interest.

If production is not achieved at the Property by October 3, 2014, a Cdn$300,000 per year (pro-rata) payment in lieu of the royalty will be payable to the royalty holders.

Two types of levies are payable by mining companies in Brazil: 1) an annual tax per hectare (TAH) for exploration licences, and 2) the Compensação Financeira pela Exploração de Recursos Minerais (CFEM) royalty during mineral production from a mining licence.

The TAH is payable annually to the DNPM at a rate of $2.23 Brazilian Reals (BRL)/ha during the original exploration term and at a rate of $3.38 BRL/ha during an extension of the licence.

4.4 ENVIRONMENT AND PERMITTING

In Brazil, environmental regulations are developed by the Ministério do Meio Ambiente and are implemented by the Conselho Nacional do Meo Ambiente which sets standards and policies. Supervision of the environmental licencing process is administered by the Instituto Brasileiro do Meio Ambiente e Recursos Naturais Renováveis. The primary landowner at Cachoeira is the National Institute of Colonization and Agrarian Reform (INCRA), a federal agency. The majority of the Tucano Zone, the major gold zone within the Property, is located within the urban limit of the Cachoeira village and the surface rights covering this zone are owned by individual landholders.

An environmental licence and an operating licence are required for all mineral exploration activities within the state of Pará. In 2007, prior to the commencement of its exploration programs, Luna Gold prepared a Relatório de Controle Ambiental (RCA) (baseline environmental assessment study).

The RCA report referenced in the preceding paragraph is required to obtain a Licenca de Operação (operating licence) covering exploration activities. BRI Mineração Ltda. (formerly Luna Mineração Ltda.) obtained an operating licence on June 9, 2010. This licence is valid for a period of two years and has been extended as of January 2013 for an additional year.

As mentioned above, the village of Cachoeira is located within the Property and to a large degree is superimposed upon the Tucano Zone. The establishment of a significant underground mining operation here would probably require the displacement of some portion of the village and the development an open pit operation would reasonably require the displacement of a larger portion of the existing village. The extent of the area and number of households that might be affected has not been determined and would be predicated upon the type and magnitude of any planned mining operation and, if by open pit, would also depend in part upon the extent of the “safe zone” required as a buffer around the pit.

The successful negotiation of any relocation would have to precede meaningful consideration of the mining of the Tucano Zone. Short of such a step, the cooperation of the local community and garimpeiros is necessary for any exploration to be carried out in the area of the village and garimpeiro mining operations.

Under Brazilian law, mineral rights are separate from surface rights. BRI Mineração Ltda. currently holds no surface rights in the Property area but permission for access to conduct exploration within the Property area has been obtained from the holders of the surface rights.

For mining licences, the holder must pay the owner of the surface rights the equivalent of 50% of the CFEM. The establishment of a valid agreement with the owner of the surface rights is a prerequisite for obtaining a mining lease.

4.4.1 Legacy Exploitation Activities

Both the Tucano and Coruja Zone areas have been disturbed by artisanal mining activities, particularly during the past 30 years. An artisanal cooperative is currently actively mining at Tucano. These activities represent the risk of mercury contamination because it is used in the recovery of gold, as well as contamination from the leakage of petroleum products. Luna Gold documented the artisanal mining activity on the Property and submitted their findings to the government environmental authorities which have the effect of placing the responsibility for these activities with the government.

4.5 Socio-economics

During 2010 and 2011, Luna Gold completed four socio-economic studies to assess the potential impacts of future mine development in the area. These include the identification of stakeholders, an action and communication plan, an evaluation of urban and rural real-estate and a social risk assessment.

4.6 Heritage

No cultural or archeological surveys have been undertaken. Nor have any sites of cultural significance been identified during any of the various exploration activities.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Property is located on the coastal plain south of the estuary of the Amazon River in northeastern Brazil, approximately 250 km by road southeast of Belém, the capital city of Pará State. With a population of two million, Belém is a port located on the southern branch of the Amazon River delta, and has an international airport serviced by daily flights within Brazil and other parts of South America.

Terrain within the Property is flat to gently undulating. Topographic elevations range between about 30 and 90 masl with elevations in the 30 to 40 m range prevailing. Much of the land in this region has been cleared for grazing; consequently vegetation is principally comprised of grasses and minor remnants of indigenous forest.

The Property is accessible from Belém along Federal Highway BR-316 which transects the south central portion of the Property (see Figure 4.2). Driving time from Belém is approximately three hours. The southern portion of the Property is transected by the streets of Cachoeira village; access within the northern portion of the Property (north of Highway BR-316) consists of a network of secondary roads and trails.

The Property lies within the equatorial climate zone and has a tropical climate with no dry season. All months have mean precipitation values of at least 60 mm. The average annual rainfall for Belém is about 2.5 m; the mean temperature for Belém is 27°C with an average monthly fluctuation of 1°C. Mining operations can be carried out on a year-round basis.

The southern portion of the Property is occupied by the village of Cachoeira which represents a potential impediment to any contemplated mining operation with respect to the Tucano zone. However, and although Brazil Resources does not hold any surface rights, there are large areas in the immediate area that could be appropriate and adequate for the infrastructure requirements of any contemplated mining operation. Water, power and a skilled workforce are also available locally.

Limited resources and services are available in Cachoeira; a greater range of supplies and services including equipment and experienced mining personnel are available in Belém. The Property has access to the national electrical transmission grid. Water is available locally.

6.0 HISTORY

6.1 PREVIOUS OPERATORS

The following description of historical activity on the Property has been excerpted and condensed from the Roscoe Postle Associates Inc. (RPA) July 19, 2012 technical report.

The presence of gold in the area of the Property has been known since the 1600s and documented gold mining operations have been carried out intermittently by various entities since the late 1800s.

The most visible evidence of past and present mining activity in the area is that of artisanal miners (garimpeiros) who have had two major periods of activity; the first in the early 1900s and the second starting in the early 1980s and continuing to the present.

Brief chronological descriptions of the documented history of mineral exploration in the Property area are presented below. The majority of exploration activity took place within the southern portion of the current Property, on the Tucano (south) and Coruja (north) Zones. Descriptions of the exploration that was conducted to the north of Coruja, on and around the Arara zone, is described separately following the history of work conducted at Tucano and Coruja.

6.2 EXPLORATION OF TUCANO AND CORUJA

The first mining licence at Cachoeira was granted in 1941 to a private entity. In 1946, this licence was acquired by Mineração Brazil Canada S/A (Brascan) who, during 1946 and 1947, conducted a program of trenching, pitting, and diamond drilling over a 16 km strike length of the Cachoeira shear zone and surrounding ground to the north and south.

Trenching and pitting were followed by diamond drilling at Tucano. Eighteen holes (3,100 aggregate metres) were completed. Several high-grade gold intervals were intersected. Brascan dropped its option in 1947.

In 1975 Noranda Mineração Ltda. (Noranda) acquired the Property and, between then and 1978, carried out soil sampling, trenching, pitting and geological mapping. This work identified the Tucano and Coruja zones as being the most prospective. Noranda terminated its exploration program in 1978 and conducted no further work on the Property.

In 1983, Companhia Paraense de Minérios (CPM) acquired a mining licence and conducted topographic surveying, soil sampling, and geological mapping.

In 1985, Companhia de Mineração e Participações (CMP) acquired the rights to CPM's mining licence and carried out exploration programs until 1992. This work included diamond drilling, topographic surveying, geological mapping, trenching and underground development.

CMP drilled seven wide spaced diamond drillholes (DDH) at Coruja (FCHD01 to FCHD07, aggregate length 1,026 m).

Geological mapping by CMP at Coruja and Tucano identified the strong structural control on gold mineralization. This knowledge was used to guide subsequent channel sampling, trenching and underground development, mapping, and sampling.

CMP collected 744 samples from the surface trench and underground sampling programs. Preliminary metallurgical studies were carried out and density determinations were made as well.

Underground development at Coruja amounted to a 75 m decline and 56 m of cross-cuts. Underground development was terminated in 1988 because it was not cost effective relative to conventional drilling.

Between 1988 and 1990, CMP drilled 63 core holes (FCHD08 to FCHD70; 5,609 aggregate metres). Nineteen holes (1,270 m) were drilled at Coruja and 44 holes (4,339 m) were drilled at Tucano.

Between 1989 and 1990, CMP drilled 90 reverse circulation (RC) drillholes (FCHP01 to FCHP89; 6,292 aggregate metres). Thirteen holes (960 m) were drilled at Coruja and 77 holes (5,332 m) were drilled at Tucano.

CMP also drilled188 auger drillholes (TR001 to TR193) to a maximum depth of 20 m to test for near-surface oxide mineralization. Eight holes were drilled at Coruja and 180 holes at Tucano.

CMP also drilled 28 banka holes to test the resource potential of garimpeiro tailings deposits at Coruja.

Twenty-three trenches (T01 to T23) totalling 924 m were excavated by CMP at Tucano.

CMP prepared a prefeasibility study as part of their application for a mining licence for PL 599 which was granted in July 1987. The study contemplated combined open pit and underground mining operations at Coruja and Tucano with a seven-year mine life producing 1,460 kg of gold annually. The mineral processing was based on crushing, grinding, gravity, and cyanidation.

In 1992, mining licence PL 599 was transferred to Mineração Capanema Ltda. (MCL), a CMP subsidiary company. MCL compiled previous exploration data and initiated the construction of a small gold process plant at Tucano designed to process both primary ore and tailings. Pilot scale test work was conducted in 1993, however, the main process plant was not completed and mining operations never started.

In 1998 Brazilian Goldfields Ltd. (BGZ), through their wholly-owned Brazilian subsidiary Brazilian Goldfields Participações S/C Ltda., acquired rights to the Property and subsequently established a grid over the Property and carried out geological mapping, geophysical surveying and soil and outcrop sampling.

Geophysical surveying comprised time domain electromagnetic (TDEM), induced polarization (IP) and magnetic surveys over the Tucano and Coruja areas.

BGZ drilled 14 diamond drillholes at Tucano (TH01 to TH03 and CSD01 to CSD11; aggregate 2,380 m).

BGZ prepared an in-house resource estimate in July 1999 followed by a scoping study.

In December 1999, BGZ and Goldfields Ltd. (Goldfields) formed a joint venture company, Cachoeira Mineração Ltda., with Goldfields as manager and operator. Fieldwork commenced in January 2000.

Goldfields conducted a detailed reinterpretation of the BGZ geophysical data as part of their project evaluation to characterize the geophysical responses of the known gold mineralization at Cachoeira and to define additional targets. The Goldfields exploration program was focused on defining additional mineralization at Tucano and drill testing new geophysical targets in the Cachoeira regional area outside the known mineralized trend.

Goldfields conducted limited mapping and sampling programs at certain target areas on the Property and subsequently drilled 22 DDHs, nine RC holes, and 10 combined RC/DDHs (3,739 m at Tucano, 381 m at Coruja, and 1,366 m in regional targets). These holes were intended to test high-grade veins and lower grade mineralization at Tucano and also certain geophysical anomalies which had been generated by BGZ surveys.

Goldfields submitted four 50 kg ore-grade samples from the Tucano zone metallurgical test work to Lakefield Research in Chile. This is documented in Section 6.4 of this report.

The best drill results were obtained from the Tucano zone which, following a resource evaluation, failed to meet the company's size criteria. In August 2000, Goldfields concluded that the results obtained did not meet its mandate criteria and terminated the joint venture.

6.3 EXPLORATION OF ARARA

In 1982, Antonio Carlos de Novais Araújo (Araújo), a private entrepreneur, acquired the mining rights for the Arara area. Araújo conducted several exploration programs including topographic surveying, the establishment of a grid, banka drilling, pitting and soil sampling (518 samples). This work was designed, in part, to test for the presence of alluvial gold.

In 1987, Mineração CCO Ltda. (CCO) acquired PL 1163 from Araújo with the objective of defining a near-surface oxide gold mineralization. The CCO exploration program was completed between 1987 and 1989 and comprised topographic surveying, geological mapping, geochemical sampling, resistivity geophysical surveying, pitting, trenching and core drilling.

Soil sampling identified several gold anomalies that had previously been located by garimpeiros.

The resistivity survey did not produce any anomalies that were coincident with geochemical anomalies.

Pits (223; 429 samples) were dug to assess garimpeiro workings. Following completion of the pitting, 21 trenches (3,864 linear metres) were dug to investigate geophysical and geochemical targets.

CCO drilled 32 DDHs (FS01 to FS32; 2,595 aggregate metres).

CCO retained Companhia Vale do Rio Doce (Vale) to conduct bench scale metallurgical tests on samples of saprolite mineralization from Arara (Section 6.4).

In late 2003, Vale entered into a joint venture with CCO to explore the Arara target.

Vale collected 1,152 soil samples over the Arara zone and northern targets. Vale also conducted an extensive program of rock grab and channel sampling (1,775 samples) in garimpeiro workings and outcrops. Geologic mapping was also conducted at Arara and in garimpeiro workings.

Vale conducted ground magnetic, radiometric and IP surveys at Arara and northern extensions and drilled 20 DDHs (FD01 to FD20; 3,124 m).

In 2007, Luna Gold concluded an agreement to earn a 100% interest in the Cachoeira Project from a consortium of vendors including Companhia Nacional de Mineração (CNM), a subsidiary of Kinross Brazil, and two private Brazilian companies.

In October 2007, Luna Gold initiated a comprehensive exploration program consisting of a compilation of historic data, satellite imagery acquisition, surveying, soil sampling, channel sampling, reinterpretation of historic geophysical data, geological studies including mapping, core re-logging and petrography, and both auger and core drilling.

As many as possible of the historic drill collars were located and re-surveyed. Digital terrain maps were created for the Tucano, Arara, and Coruja areas and extensions at a 1 m contour interval. Luna Gold also conducted a survey of all surface land rights boundaries within the Project area and access routes. Underground surveys were conducted in all accessible galleries and shafts. Survey points were transported from surface geodesic markers.

In 2007 and 2008, Luna Gold completed a regional soil sample survey covering the entire Property and comprising 4,325 samples. The soil survey confirmed the main gold trend within the shear trend between Tucano and Arara and identified extensions to the mineralized trend north of Arara and in several new areas.

In 2010, Luna Gold carried out channel sampling at the three main zones totalling 2,698 linear metres. Luna Gold also mapped all channel sample faces and non-sampled outcrops and underground workings.

Luna Gold re-logged all available historic drill core from the three main target areas to standardize geologic descriptions and to produce a coherent geologic model for the deposits. Where historic core no longer existed, Luna Gold adapted the historic core descriptions to the new geologic codes.

Between May and August 2010, Luna Gold conducted 5,798 m of auger drilling at Tucano, Coruja, and Arara to determine the extent of near-surface oxide gold mineralization and provide infill drill data for resource estimation purposes.

Between April and September 2008, Luna Gold drilled 28 DDHs (LCD001 to LCD028; 6,005 aggregate metres) at Tucano, Coruja, and Arara. Nine holes (2,514 m) were drilled at Tucano, seven holes (939 m) were drilled at Coruja, and 12 holes (2,552 m) were drilled at Arara.

In July 2012, Brazil Resources entered into an agreement with Luna Gold to indirectly acquire the Property through the purchase of BRI International (formerly Luna International) and BRI Brazil Corp. (formerly Luna Brazil Corp.), wholly owned subsidiaries of Luna Gold which in turn owns BRI Mineração Ltda., the owner of the Property.

6.4 Historical Mineral Processing and Metallurgical Tests

Three metallurgical test programs were carried out on material from the Property. One sample was analysed from each of the three principal zones: Coruja in 1987 (CMP), Arara in 1989 (CCO), and Tucano in 2000 (Goldfields).

6.4.1 CMP Coruja (1987)

CMP conducted bench-scale tests on five samples (total weight unknown) from the Coruja Zone: mineralized quartz vein, mineralized wall rock, and three of tailings from garimpeiro mining operations. Sample 01 quartz vein had a head grade of 10.73 g/t gold, Sample 02 of wall rock had a head grade of 0.94 g/t gold, Sample 03 Tailings 1 had a head grade of 3.11 g/t gold, Sample 04 Tailings 2 had a head grade of 3.64 g/t gold, and Sample 05 Tailings 3 had a head grade of 4.32 g/t gold. Samples 01 and 02 were crushed to -28 mesh; tailings samples were not ground. All samples were subjected wet granulometric separation at 28, 65, 100, 200 and 325 mesh sizes. No further work was performed on Samples 04 and 05; the remaining samples were subjected to cyanide leaching for a period of 24 hours and recoveries ranged between 87% (tailings) and 99% (vein).

As the tailings samples (03, 04, and 05) contained significant quantities of coarse gold that reported to the coarse fraction (-65 mesh), CMP concluded that the garimpeiros' recovery process was inefficient and that they could have benefited from using a finer grind and that centrifugal concentrators would increase the recovery of elemental gold. All mineralization types contained a significant proportion of coarse gold which makes the material amenable to processing by a combination of grinding, gravity, and cyanidation.

Sample 02 contained significant quantities of fine gold suggesting that coarse gold is predominantly contained within veins.

6.4.2 CCO Arara (1989a)

In 1989, CCO tested 16,000 kg of rock from the Arara zone with an average gold content of 1.4 g/t. Six blended samples were sent to the CVRD laboratory in Belo Horizonte. Two of the four samples were not processed; one because of quality control problems and the second because of the low contained gold content. The remaining four samples were progressively crushed and reduced until ultimately, three 30 g aliquots of material that had been ground to -200 mesh were fire assayed. A total of 29 kg of -1 mm material was archived and 50 kg of -1 mm material was subjected to gravimetric concentration on a Wilfley-type shaker table. The gravity concentrate was examined under a microscope and no free gold was observed. The gravity concentrate was quartered; one portion amalgamated and a second quarter was ground to -65 mesh and then amalgamated Gravimetric concentration recovered between seven and 47% of the gold present. For all samples, the coarse fractions of the gravity concentrate contained more gold than the -65 mesh fraction. The conclusion drawn from this test work was that gravity concentration alone was not suitable for the Arara mineralization.

Because the gravity test recoveries were low, CCO created a composite of the original samples and subjected it to column cyanide leaching. The head grade was 1.74 g/t gold. Two 30 g aliquots were crushed to -½", mixed with lime and then placed in a column and allowed to cure for 24 hours. The samples were then subjected to a 0.05% sodium cyanide solution at a percolation rate of 10 L/h/m^2. The volume of percolated solution was measured daily and the gold concentration of the solution was monitored daily by atomic absorption. Sodium cyanide concentration was monitored by titration.

The leach process was continued for five days at which point no gold was detected in the solution. Leaching recovered 82% of the gold from ¾" crush material and 83.5% from ½" crush material. These results led CCO to conclude that a heap leach process appeared to be appropriate for the type and grade of material tested.

6.4.3 CCO Arara (1989b)

In June, 1989, CCO sent two samples to the CVRD laboratory in Belo Horizonte for column leach test work. One sample (GP-3) weighed 53 kg and had average gold grade of 1.25 g/t; the second sample (GP-4) weighed 21 kg and had an average gold content of 2.83 g/t.

Sample GP-3 was homogenized and divided into three portions; the first (5 kg) was used for granulometric analysis and gold assaying in three 50 g aliquots; the second (18 kg) was used for column leach testing without agglomeration and the third (18 kg) was agglomerated and then used for column leach test work.

A 3 kg split of sample GP-4 was taken for triplicate granulometric tests and gold assaying and the balance of the sample (18 kg) was agglomerated and subjected to column leach testing. Testing procedures were similar to the leaching tests conducted earlier in 1989 with the exception of agglomeration and addition of cement.

Gold extraction ranged from a low of 50.73% for an un-cemented portion of GP-3, to a high of 84.73% for a portion of GP-3 to which cement and lime had been added. A recovery rate of 62.74% was obtained from the GP-4 sample to which cement and lime had been added. These tests indicated that the addition of both lime and cement improve gold recovery.

6.5 GOLDFIELDS (2000)

In 2000, Goldfields submitted four samples from the Tucano Zone (volcanic, quartz vein, graphitic sediment and saprolite) each weighing about 50 kg and with gold contents ranging between 1.8 and 5 g/t to Lakefield Research in Chile. Gravity concentration, floatation and cyanidation were investigated.

6.5.1 GRAVITY CONCENTRATION

The tests were initially conceived to test recovery of refractory gold from flotation concentrates but recoveries of 74% to 94% from cyanidation indicated that flotation concentration was not needed.

The four samples were crushed and rolled then riffle-split into 1 kg portions for testing. In the the volcanic and graphitic samples, gold was encapsulated in sulphide and the graphic sample may have contained gold encapsulated in silica as well.

Two 1 kg samples were milled to -28 and -48 mesh and two gravity separation tests were performed on each sample: first concentration on a Wilfley table and then cleaning of the Wilfley concentrate in a Superpanner. Recovery of gold from the -28 mesh samples ranged from 6.6 to 19.2%; recoveries from the -48 mesh samples ranged from 8.0 to 36.1% Recoveries were improved by finer grinding (-48 mesh). The lowest recoveries at both grind sizes were from the saprolite sample which may have been due to sliming.

6.5.2 FLOTATION TESTS

Three flotation tests at grind sizes of 60% less than 200 mesh; 70% less than 200 mesh and 80% less than 200 mesh were performed on each of the four samples. Recoveries ranged from a low of 28.4% for the 70% saprolite sample to a high of 90.5% for the 80% graphitic sample. The relationship between grind size and gold recovery was not linear except for the quartz vein samples. As for the gravity tests, the lowest recoveries were obtained from the saprolite sample. Poor recoveries obtained from the graphitic sample may reflect silica encapsulation of gold.

6.5.3 Cyanide Tests

Cyanide solubility tests were performed on the same set of samples as for the flotation tests and as for the flotation tests, recovery of gold does not seem to be related in a linear fashion with grind size. Extraction rates ranged from a low of 67% for 60% -200 mesh for the volcanic rock sample to a high of 95% for the 70% -200 mesh fraction of the saprolite sample. Contrary to the other tests, the saprolite sample was the most amenable of the four rock types tested with an average recovery of 93%; recovery from the quartz vein samples were fractionally lower. Poor recoveries were attributed to sulphide encapsulation and possibly to silica encapsulation.

The conclusion of these tests was that cyanidation or cyanidation plus gravity separation offer the optimal extraction treatment for all rock types represented by these samples.

6.6 QP Opinion

Tetra Tech is not aware of whether any of the metallurgical samples described above are representative of the Cachoeira mineralization as a whole. Furthermore, Tetra Tech is not aware of any processing factors or deleterious elements that may have an impact on the potential economic extraction of gold from the Property.

6.7 Historic Mineral Resource and Mineral Reserve Estimates

Various resource estimates have been carried out for the Tucano, Coruja, and Arara Zones at various times by various operators. These are summarized in Table 6.1 from the RPA technical report, dated July 19, 2012. The methodologies and key assumptions for most of these estimates are not known. The 1998 BGZ estimate was prepared by A.C.A. Howe International Ltd. using MICROMINE software and a grade threshold of 0.5 g/t gold for dump material and 0.5 g/t gold for in situ resources.

The mineral resource estimates described in this section of the report pre-date NI 43-101 and are therefore historical in nature. A qualified person has not done sufficient work to classify the historical estimates as current mineral resources or mineral reserves and the historical estimates are not being treated as current mineral resources or reserves. These estimates are, however, considered to be relevant as they represent systematic attempts to quantify mineralization on the Property and also demonstrate exploration potential. However, these estimates should not be considered reliable in the absence of further verification.

There has been production from both the Tucano and Arara zones by artisanal miners both historically and currently; however, the quantity of gold that these activities has recovered is not known and cannot reasonably be estimated.

Table 6.1 Cachoeira Historical Resource Estimates

Company	Year	Zone	Material	Measured		Indicated		Inferred		Not Classified	
				Tonnes	Au (g/t)	Tonnes	Au (g/t)	Tonnes	Au (g/t)	Tonnes	Au (g/t)
CIDAPAR	1979	Tucano	Veins	-	-	-	-	-	-	432,000	4.20
CMP	1985	Tucano	-	-	-	-	-	-	-	1,390,000	10.00
	1988	Tucano and Coruja	Veins	25,722	10.17	275,638	4.97	475,203	5.67	-	-
			Tailings	-	-	-	-	-	-	99,000	1.20
	1990	Cachoeira	Tailings	269,240	1.57	41,378	1.51	-	-	-	-
			Superficial	430,699	1.56	120,136	1.33	-	-	-	-
			Saprolite	715,425	2.18	29,421	2.91	-	-	-	-
			Primary	1,747,555	2.86	834,288	2.50	962,579	2.46	-	-
MCL	1994	Tucano	Tailings	-	-	-	-	-	-	281,000	1.57
			Dumps	-	-	-	-	-	-	585,000	1.36
			Saprolite	-	-	-	-	-	-	1,004,000	1.91
	1996	Tucano	Tailings	-	-	-	-	-	-	737,656	1.24
			Fresh Rock	-	-	-	-	-	-	2,489,016	1.68
	1999	Tucano	Weathered Rock	-	-	-	-	-	-	1,452,302	3.40
			Fresh Rock	-	-	-	-	-	-	3,347,699	5.66
Barrick	1996	Tucano	Saprolite and Fresh Rock	5,906,014	1.69	-	-	3,835,764	1.75	-	-
BGZ	1998	Tucano	Oxides	668,000	1.71	556,000	1.80	-	-	-	-
			Unweathered	165,000	5.01	197,000	4.82	-	-	-	-
			Dump Material	600,000	1.48	-	-	-	-	-	-
			Total Measured and Indicated	-	-	2,186,000	2.20	700,000	1.60	-	-
CCO	1990	Arara	-	129,619	1.41	94,809	1.36	40,119	1.52	-	-

Source: Summarized from RPA July 19, 2012 technical report

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

7.1.1 REGIONAL SETTING

The Cachoeira region is underlain by the Gurupi Greenstone Belt and the São Luis Craton, two major Precambrian geotectonic units that occur as tectonic and erosive windows within a large Phanerozoic-age sedimentary basin (see Figure 7.1). The São Luis Craton is comprised of metavolcanic-sedimentary and subordinate volcanic rocks and several granitoid suites. The Gurupi Greenstone Belt is a Neoproterozoic mobile belt located along the southern margin of the São Luis Craton and consists of northwest-trending volcano-sedimentary and metasedimentary sequences metamorphosed to upper greenschist facies that are in tectonic contact with amphibolite-grade gneisses intruded by granitoids. Gold deposits occur within the Gurupi Greenstone Belt in northwest-trending shear and fault zones that are located near the margin between the Gurupi Belt and the São Luis Craton.

The Property is located within the Tentugal Shear Zone that cuts the north-central portion of the Gurupi Belt and extends for over 120 km along strike and in places reaches 30 km in width. The Tentugal Shear Zone is a sinistral, transcurrent fault system with a subvertical plunge and hosts the majority of gold deposits and occurrences within the Gurupi Greenstone Belt.

7.1.2 ROCK TYPES

The Gurupi Greenstone Belt is comprised of four major components: 1) a volcano-sedimentary sequence represented by the Chega Tudo Formation; 2) a metasedimentary sequence comprised of rocks belonging to the Gurupi Group and the Marajupema Formation; 3) the Itapeva Complex and 4) intrusive rocks of Neoproterozoic age.

The Chega Tudo Formation is comprised of felsic to mafic volcanic rocks and detrital sedimentary rocks, all of which have undergone greenschist to lower-amphibolite facies regional metamorphism. These rocks are generally folded and foliated or are mylonitically deformed; both foliation and mylonitic fabric have moderate to steep, generally southwest dips.

The Gurupi Group is comprised of detrital sedimentary rocks of variable composition that have been metamorphosed to carbonaceous phyllite and schist, and coarse-grained quartz-mica schist. These rocks have been dated as being older than 2.159 Ga.

The Marajupema Formation is comprised of amphibolite-facies schist and quartzite, suggestive of a sedimentary protolith.

The Itapeva Complex is comprised of orthogneisses dated at 2.167 to 2.594 Ga that are tectonically intercalated with the metavolcanic and metasedimentary rocks described above. The gneisses are of middle to upper-amphibolite metamorphic grade, are locally banded, foliated and migmatized. These gneisses have been intruded or tectonically intercalated with calcalkaline granite that range in age from 2.1 to 2.08 Ga. The granitoids are variably deformed from weak schistosity to mylonite.

A granite and a nepheline-syenite intrusive, both of Neoproterozoic age, occur in the Gurupi Greenstone Belt and most of the older rocks manifest evidence of a Neoproterozoic event.

7.1.3 Structural Setting

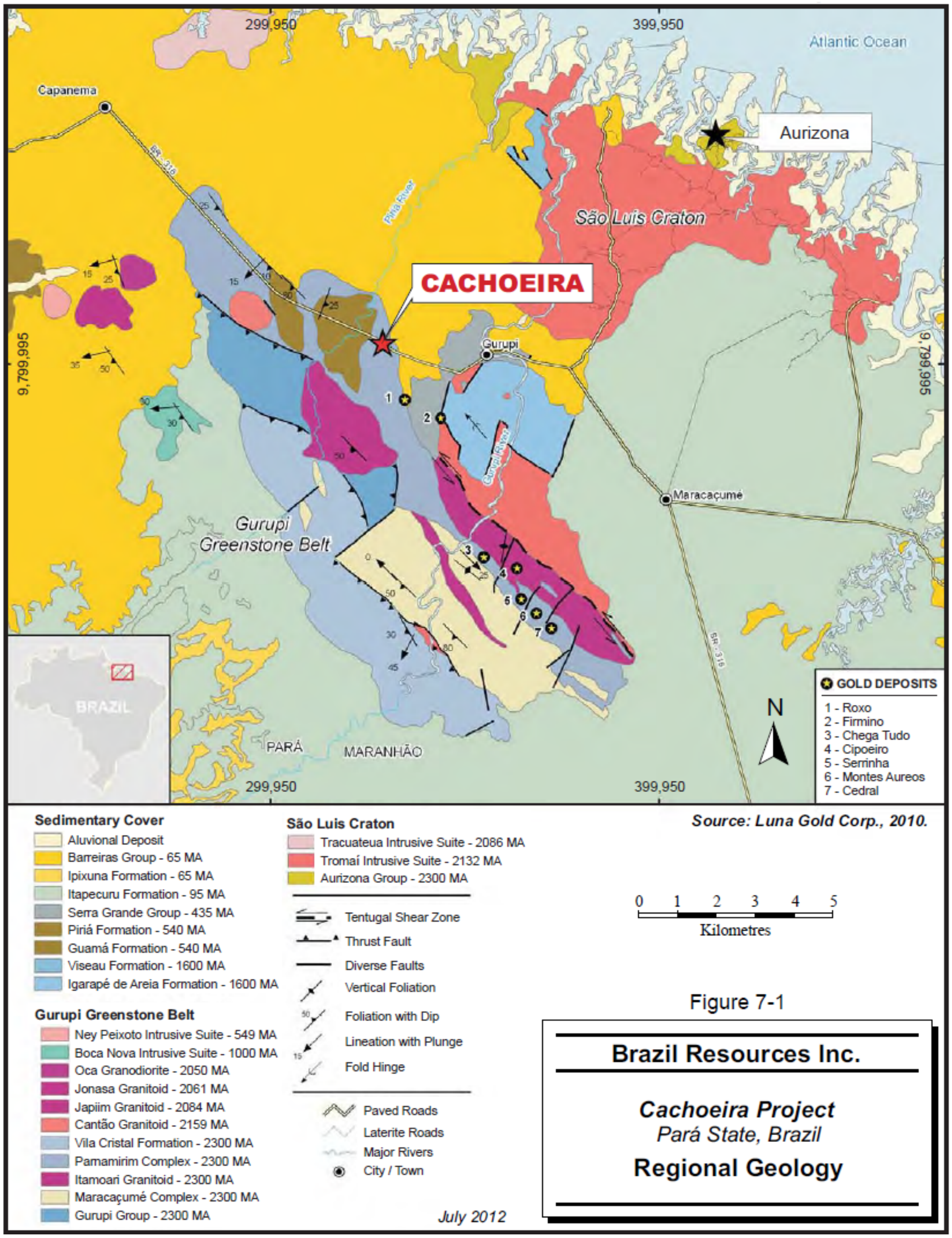
Both the Gurupi Greenstone Belt and the São Luis Craton are inferred to have had a common Paleoproterozoic orogenic evolution. Calcalkaline magmatism is indicative of arc and subduction-related processes during accretion (2.167 to 2.150 Ga).

The Gurupi Greenstone Belt evinces a collisional phase of orogenesis, possibly along a continental margin, that between 2.1 and 2.080 Ga, acted as the locus of emplacement for granitoid rocks and of extensive deformation and metamorphism.

7.1.4 Weathering

The topography in the Cachoeira region is flat to gently undulating and is dissected by a mature drainage network. These physical characteristics reflect a lengthy period, beginning in the Oligcene of tropical weathering during which planation and subsequent lateritization occurred.

Figure 7.1 Regional Geology in the Vicinity of the Cachoeira Property



7.2 Local Geology

7.2.1 Introduction

The Property is underlain by an arcuate portion of the Tentugal Shear Zone that trends approximately north-south through the Project area and is informally termed the Cachoeira Shear Zone (see Figure 7.2). Geologic units are orientated parallel to the main shear direction which trends north-northwest and dips westward at Tucano, north-south at Coruja, and swings to the north-northeast and dips eastward at Arara. The shear zone is contained within tuff and volcano-sedimentary rocks that are juxtaposed against intermediate and mafic volcanics. Gold mineralization occurs in quartz veins, sheeted veinlets, and stockworks that occur preferentially within the volcano-sedimentary units.

Luna Gold geologists sub-divided the rocks within the Property into 20 units that include protoliths, metamorphic equivalents and alteration. In general, the protoliths are comprised of tuff and metasedimentary rocks; metamorphic rocks include various ultramafic, mafic and felsic schists, as well as dioritic and granodioritic intrusive rocks. The most common alteration type is albite-quartz-sulphide (AQS) rock that commonly occurs as an envelope around quartz veins and shears.

7.2.2 Structural setting

All three principal mineral zones, Arara, Coruja and Tucano, are contained within a major structure that is comprised of multiple, generally parallel shear zones that vary in width from approximately 1 to 10 m and collectively have been traced throughout the length of the Property, over a strike distance of more than 5 km.

The shears strike between 130° and 180° azimuth and dip steeply to both the west (Tucano) and east (Arara). Shear structures within the Coruja Zone exhibit dips between approximately 50° and vertical, to both the east and west and appear to represent a transition between the west-dipping Tucano and east-dipping Arara Zones.

Although linear on a Property scale, the shears exhibit abrupt, short-scale changes in both strike and dip (kinking) that may be indicative of post-shearing deformation.

Shears cut all lithologies and are generally accompanied by quartz-sericite-albite alteration that forms a broad envelope around the shears and the contained gold-bearing quartz-carbonate veins. The quartz veins themselves are commonly dismembered which may be indicative of multiple episodes of shearing or more probably, of a continuum of shearing, vein formation, and vein destruction. In addition to discrete veins the shears also contain quartz stringers and cross-cutting veinlets, typically in portions of the shear zones between major quartz veins or portions of veins.

7.2.3 Alteration

As mentioned elsewhere, the shear zones are contained within an envelope of albite-quartz ± pyrite alteration. It is probable that alteration occurred simultaneously with deformation as shearing would provide transient pathways for hydrothermal fluids responsible for both alteration and mineralization. Intensity of alteration is generally proportional to proximity to vein systems as is the grade of gold mineralization. Within the quartz veins arsenopyrite also occurs in addition to pyrite. Fuchsite (greenish chrome mica) also occurs in association with the quartz veins, most commonly where the veins are contained within mafic volcanic host rocks.

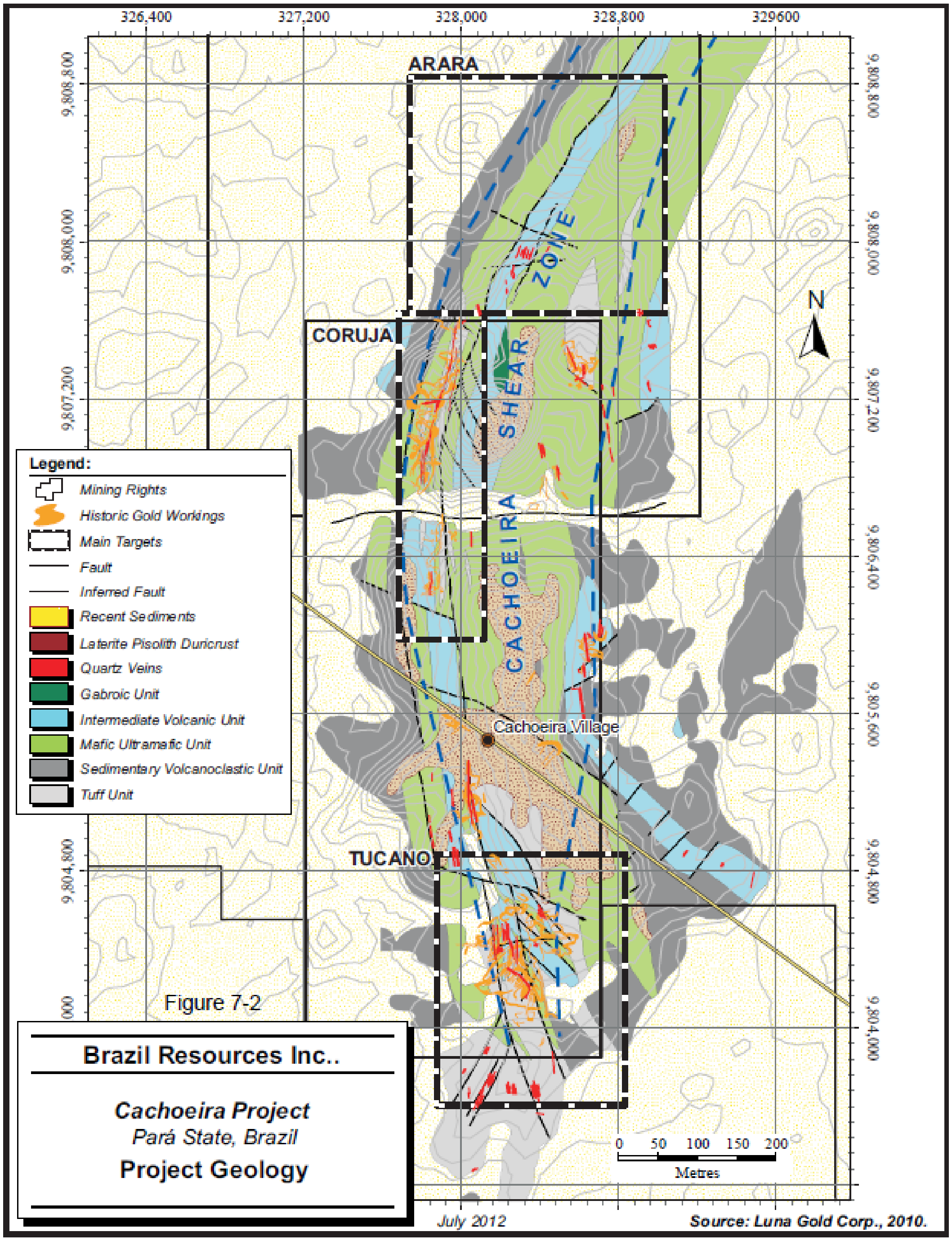
7.2.4 WEATHERING

The weathering profile at the Property is comprised of A, B, and C horizons typical of a tropical climate. The A horizon is dark reddish-brown, up to two meters thick and grades downward into the dark-red, non-pisolitic B horizon. The B horizon is up to several metres thick and grades downward into the C horizon saprolite. This horizon is clay-rich and rock textures and structural features are commonly preserved although also commonly compressed. Laterite is best-developed on topographic highs and is comprised of an iron-rich crust with quartz grains and granules and iron oxide cement. At depth, the iron oxide cement may have a pisolitic texture.

A transition zone intermediate between saprolite and fresh rock occurs beneath the saprolite. The exact boundaries of this interval are typically difficult to define but the tripartite subdivision of rock into saprolite, transition zone and fresh rock are widely used and were adopted at the Property by Luna Gold geologists in their characterization of weathering of the rocks. The depth of the base of the transition zone varies across the Property from approximately 65 m at Arara, 55 m at Coruja, and 35 m at Tucano.

In the context of mineralization, saprolite is oxide zone, fresh rock is sulphide and transition zone is predominantly sulphide.

Figure 7.2 Cachoeira Property Local Geology



7.3 MINERALIZATION

Three zones of mineralization have been identified within the Property. From south to north these are Tucano, Coruja, and Arara and occur along a strike interval of about 4 km (see Figure 7.2).

Gold occurs in quartz veins, veinlets and stockworks as well as within the albite-quartz-sulphide alteration envelope that surrounds the veins and shear zones. Gold grades are generally proportional to the abundance of quartz veining. Higher gold grades (greater than 1.0 g/t) are characteristically associated with quartz veins; the quartz-albite envelope is characterized by low-grade (generally less than 0.5 g/t) gold.

There are two main types of quartz veins; white-grey and smoky quartz which are typically brecciated and exhibits several generations of fracturing and re-healing and local breccia textures proximal to faults. Quartz veins are discontinuous although the shear zones within which they occur and persistent over hundreds of meters or more. Veins appear to attenuate abruptly but whether this is a primary feature or due to dismemberment is not known. Smoky quartz commonly forms en-echelon veins in the intervals of shear zones between occurrences of white quartz veins.

Within the Property there are three principal zones of mineralization. From south to north these are Tucano, Coruja, and Arara.

7.3.1 TUCANO ZONE

The majority of exploration by mining companies and mining by garimpeiros has been conducted at Tucano. The main trend of mineralization has been traced for about 500 m north-south along strike and has been tested by drilling to a depth of about 150 m below surface. Several hundred metres to the north of the main Tucano zone, drilling has intersected the probable continuation of at least two of the Tucano shears.

Mineralization at Tucano is contained within shears that cut foliated, schistose, metasedimentary and metavolcanic rocks, most commonly. Regional, S_1 foliation is defined by grain-flattening and chlorite and biotite growth sub-parallel to S_0 lamination and bedding in metasiltstones that occur in the structural footwall of the zone. S_1 foliation strikes 160° and dips near-vertically to the southwest. S_2 rotation and overprinting of S_1 foliation occurs as shear bands 10 to 30 cm in width that strike between 140° and 190° and dip steeply to the west and southwest. S_2 forms southwest-plunging folds with amplitudes of 5 to 10 m.

Lineations are sub-horizontal to shallowly-plunging and are defined by mineral streaks and oriented mineral growth.

Shear zones strike between 130° to 180° azimuth and dip between 50°to the west and vertical. The shears contain quartz-carbonate-pyrite veining. Shears are anastomose and are characterized by abrupt, short-scale alterations in strike (jogs) and dip (ramps) that strike between 130° and 170°. The predominant shear sense, as defined by porphyroclast rotations, drag indicators and offsets, is left-lateral-reverse but right-lateral-reverse and right-lateral-normal variations are common.

Shear zones are almost invariably enveloped by albite-quartz-pyrite alteration that also contains rare arsenopyrite. Alteration is reasonably inferred to be synkinematic with shearing and quartz vein development.

7.3.2 CORUJA ZONE

Coruja is located between Tucano and Arara and is comprised of a steeply dipping shear zone that contains mineralized quartz veins. Shallow garimpeiro workings from the 1980s extend over a 1.4 km strike length. Individual mineralized zones extend up to 650 m along strike, vary in width from 3 to 20 m, average approximately 1.5 m in width, and have been traced to 120 m below surface.

The hanging-wall of the shear system is comprised of volcano-sedimentary rocks and mafic-ultramafic schist constitutes the footwall. Minor cross-faults have caused small-scale east-west displacement of the strata.

The principal shear zone strikes approximately 010° azimuth and dips near-vertically. At the south end of the zone the dip is steep to the west and at the north end of the zone the dip is steep to the east.

Gold occurs predominantly in shear-hosted quartz veins that are preferentially developed within a tuff unit. Wall rock alteration is comprised of albite-quartz-pyrite as elsewhere on the Property.

7.3.3 ARARA ZONE

Arara is located about 150 m north of the Coruja Zone but unlike both Coruja and Tucano, has not been significantly worked by garimpeiros. At the Arara zone, mineralization is contained within a north-northeast trending (020Az) sheared and highly foliated sequence of mafic ultramafic units and tuffs that dip approximately 45° to the east-southeast. The northern portion of the zone is cut by east to northeast-trending cross-faults. The shear zone cuts mafic to ultramafic schists and tuffs. The main shears and quartz veins are best-developed in the tuff unit. Albite-quartz-sulphide alteration is developed parallel to foliation and overprints the tuff.

Mineralization has been traced over a strike length of 400 m, across widths varying from 3 to 60 m, and has been intersected up to 170 m below surface. Quartz veins range from 0.2 to 3.0 m in width, develop parallel to foliation and shearing, and are strongly boudinaged both along strike and down dip.

8.0 DEPOSIT TYPES

The following section has been modified from the RPA 2012 technical report.

On the basis of structural and geologic setting, alteration, mineralogy, and geochemistry, Cachoeira mineralization is appropriately classified as being of orogenic-style. The Gurupi Greenstone Belt that contains the Cachoeira deposits also contains several other orogenic gold deposits, including Chega Tudo, Cipoeiro, Serrinha, and Montes Aureos, all located within the Tentugal Shear Zone.

Orogenic gold deposits occur in variably deformed, Archean to Phanerozoic-age metamorphic terranes. The host geological environments are typically volcano-plutonic or clastic sedimentary sequences though gold deposits can be hosted by any rock type. There is a consistent spatial and temporal association with granitoids of varying compositions which is due to the higher permeability of these units within shear zones. Metamorphic grade is dominantly greenschist facies but can locally achieve amphibolite to granulite facies.

The general model for these types of deposits involves the migration of large amounts of hydrothermal fluids, generated during collisional orogenesis, within major crustal breaks and shear zones. Timing of deposit formation is late during active deformation and metamorphism. Trapping or deposit formation can occur in any lithology and at a wide range of palaeocrustal levels and depends on site-specific physical and chemical conditions. The hydrothermal fluids carry gold in solution until changes in temperature, pressure, reduction potential or pH facilitate its precipitation. The gold source is likely the country rocks through which metamorphic fluids travel before concentrating in the shear zones. Mineralization styles vary from vein sets to stockworks and breccias in shallow brittle regimes through laminated crack-seal veins and sigmoidal vein arrays in brittle-ductile crustal regions to replacement and disseminated-type orebodies in deeper ductile environments.

Quartz is the primary vein fill with lesser carbonate and sulphides. Minor accessory albite, chlorite, sericite and fuchsite, tourmaline and scheelite can accompany the veins depending on host rock geochemistry. Carbonates include calcite, dolomite, and ankerite. Sulphide minerals can include pyrite, pyrrhotite, chalcopyrite, galena, sphalerite and arsenopyrite. Gold is typically associated with sulphides though it also commonly occurs as native gold in quartz veins.

Orogenic gold deposits account for a major percentage of global gold production and are abundant in many Archean cratons. This deposit type tends to occur in clusters, forming gold “camps”. Global examples of these deposits include Chirano and Obuasi (Ghana), Rosebel (Suriname) Hollinger-McIntyre (Canada) and Golden Mile (Australia).

9.0 EXPLORATION

Brazil Resources has not carried out any exploration on the Property. Work conducted by previous operators has been described in Section 6.0.

10.0 DRILLING

Brazil Resources has not conducted any drilling within the Property.

Table 10.1 summarizes all the drilling that has been carried out by previous operators. The data obtained from most of these drill campaigns has been used for the resource estimate described in Section 14.0. Table 10.2 is a summary of representative drill results from diamond drill holes in the Arara Zone. The table was generated by selecting approximately 10% of the available drillholes from the zone starting with the first hole when all the holes are arranged in ascending order. Tables 10.3 and 10.4 contain similar information for the Coruja and Tucano zones.

Figure 10.1 shows the relative location of the three main mineral zones on the Property and the relative concentration of drillholes. Plan views of the individual zones are presented in Figure 10.2, Figure 10.4 and Figure 10.6; representative vertical cross sections through each of the zones are shown in Figure 10.3, Figure 10.5 and Figure 10.7. Figure 10.2 shows the Arara Zone in plan view and Figure 10.3 shows a vertical section through the Arara Zone. Figure 10.4 shows the Coruja Zone in plan view and Figure 10.5 shows a vertical section through the Coruja Zone. Figure 10.6 shows a plan view of the Tucano Zone and Figure 10.7 shows a vertical section through the Tucano Zone.

Table 10.1 Cachoeira Property Historical Drilling Programs

Company	Period	Type	No. of Holes	Metres
Tucano				
CMP	1985 to 1990	DDH	44	4,339
CMP	1986 to 1990	RD	77	5,332
CMP	1987 to 1990	RC/DDH	1	150
BGZ	1998 to 1999	DDH	14	2,380
GF	2000	DDH	19	2,524
GF	2000	RC	3	340
GF	2000	RE/DDH	5	876
LGM	2008	DDH	9	2,514
LGM	2010	AUGER	221	2,441
Subtotal Tucano			**393**	**20,895**
Coruja				
CMP	1985 to 1990	DDH	26	2,296
		RC	13	960
		RC/DDH	2	281
GF	2000	RC	1	100

table continues...

Company	Period	Type	No. of Holes	Metres
LGM	2008	DDH	7	940
		AUGER	166	2,064
Subtotal Coruja			**215**	**6,640**
Arara				
CCO	1987 to 1989	DDH	32	2,595
Vale	2003 to 2004	DDH	20	3,124
LGM	2008	DDH	12	2,552
	2010	AUGER	101	1,293
Subtotal Arara			**165**	**9,565**
		Total	773	37,099

Table 10.2 Arara Zone Representative Drill Results

Hole ID	East (x)	North (y)	Collar Elevation (z)	Azimuth (°)	Dip (°)	Total Length (m)	From (m)	To (m)	Length (m)	Average (g/t)	Maximum (g/t)	Drilled By
FD01	328550.4	9807944.9	55.2	270	-55.0	122.5	0.00	109.00	109.00	0.025	0.025	CVRD - Companhia Vale do Rio Doce
FD01	328550.4	9807944.9	55.2	270	-55.0	122.5	109.00	120.00	11.00	0.285	0.860	CVRD - Companhia Vale do Rio Doce
FD10	328362.5	9808083.3	46.5	270	-55.0	114.4	4.00	8.00	4.00	3.674	7.270	CVRD - Companhia Vale do Rio Doce
FD10	328362.5	9808083.3	46.5	270	-55.0	114.4	0.00	14.00	14.00	1.938	7.270	CVRD - Companhia Vale do Rio Doce
FD10	328362.5	9808083.3	46.5	270	-55.0	114.4	0.00	32.00	32.00	0.932	1.210	CVRD - Companhia Vale do Rio Doce
FD10	328362.5	9808083.3	46.5	270	-55.0	114.4	32.00	45.00	13.00	0.005	0.005	CVRD - Companhia Vale do Rio Doce
FD10	328362.5	9808083.3	46.5	270	-55.0	114.4	46.00	114.40	68.40	0.034	1.110	CVRD - Companhia Vale do Rio Doce
FD20	328341.4	9808156.1	42.1	270	-55.0	150.9	0.00	150.85	150.85	0.036	0.478	CVRD - Companhia Vale do Rio Doce
FS10	328387.0	9807999.5	47.3	270	-45.0	95.7	0.00	40.25	40.25	0.044	0.100	CCO - Mineração CCO Ltda.
FS10	328387.0	9807999.5	47.3	270	-45.0	95.7	40.25	42.25	2.00	2.550	3.200	CCO - Mineração CCO Ltda.
FS10	328387.0	9807999.5	47.3	270	-45.0	95.7	40.25	77.83	37.58	0.06	0.100	CCO - Mineração CCO Ltda.
FS10	328387.0	9807999.5	47.3	270	-45.0	95.7	77.83	78.58	0.75	3.00	3.000	CCO - Mineração CCO Ltda.
FS10	328387.0	9807999.5	47.3	270	-45.0	95.7	78.58	85.18	6.60	0.157	0.400	CCO - Mineração CCO Ltda.
FS10	328387.0	9807999.5	47.3	270	-45.0	95.7	85.18	86.23	1.05	7.700	7.700	CCO - Mineração CCO Ltda.
FS10	328387.0	9807999.5	47.3	270	-45.0	95.7	86.23	95.73	9.50	0.064	0.100	CCO - Mineração CCO Ltda.
FS20	328277.2	9807945.8	61.7	270	-45.0	70.6	0.00	30.70	30.70	0.118	0.450	CCO - Mineração CCO Ltda.
FS20	328277.2	9807945.8	61.7	270	-45.0	70.6	30.70	32.70	2.00	4.775	5.250	CCO - Mineração CCO Ltda.
FS20	328277.2	9807945.8	61.7	270	-45.0	70.6	32.70	70.60	37.90	0.16	0.550	CCO - Mineração CCO Ltda.
FS30	328360.1	9808023.2	43.5	270	-45.0	60.3	0.00	17.00	17.00	0.18	0.700	CCO - Mineração CCO Ltda.
FS30	328360.1	9808023.2	43.5	270	-45.0	60.3	17.00	21.00	4.00	2.18	4.800	CCO - Mineração CCO Ltda.
FS30	328360.1	9808023.2	43.5	270	-45.0	60.3	21.00	32.00	11.00	0.16	0.250	CCO - Mineração CCO Ltda.
FS30	328360.1	9808023.2	43.5	270	-45.0	60.3	32.00	33.00	1.00	1.15	1.150	CCO - Mineração CCO Ltda.
FS30	328360.1	9808023.2	43.5	270	-45.0	60.3	21.00	60.30	39.30	0.32	0.850	CCO - Mineração CCO Ltda.

table continues...

Hole ID	East (x)	North (y)	Collar Elevation (z)	Azimuth (°)	Dip (°)	Total Length (m)	From (m)	To (m)	Length (m)	Average (g/t)	Maximum (g/t)	Drilled By
LCD008	328502.7	9807977.8	73.0	270	-55.0	141.0	0.00	30.00	30.00	0.029	0.130	LGC - Luna Gold Corp
LCD008	328502.7	9807977.8	73.0	270	-55.0	141.0	30.00	36.00	6.00	0.785	1.140	LGC - Luna Gold Corp
LCD008	328502.7	9807977.8	73.0	270	-55.0	141.0	36.00	52.00	16.00	0.063	0.181	LGC - Luna Gold Corp
LCD008	328502.7	9807977.8	73.0	270	-55.0	141.0	52.00	69.00	17.00	1.339	9.500	LGC - Luna Gold Corp
LCD008	328502.7	9807977.8	73.0	270	-55.0	141.0	69.00	141.00	72.00	0.023	0.073	LGC - Luna Gold Corp

Table 10.3 Coruja Zone Representative Drill Results

Hole ID	East (x)	North (y)	Collar Elevation (z)	Azimuth (°)	Dip (°)	Total Length (m)	From (m)	To (m)	Length (m)	Average (g/t)	Maximum (g/t)	Drilled By
FCHD01	328051.0	9807377.4	58.7	284	-60.0	142.4	0.00	109.11	109.11	0.095	0.65	CMP - Cia. De Mineração e Participações
FCHD01	328051.0	9807377.4	58.7	284	-60.0	142.4	109.11	113.31	4.20	2.156	6.70	CMP - Cia. De Mineração e Participações
FCHD01	328051.0	9807377.4	58.7	284	-60.0	142.4	113.31	133.50	20.19	0.318	0.89	CMP - Cia. De Mineração e Participações
FCHD01	328051.0	9807377.4	58.7	284	-60.0	142.4	133.50	134.00	0.50	2.35	2.35	CMP - Cia. De Mineração e Participações
FCHD01	328051.0	9807377.4	58.7	284	-60.0	142.4	134.00	139.50	5.50	0.185	0.76	CMP - Cia. De Mineração e Participações
FCHD01	328051.0	9807377.4	58.7	284	-60.0	142.4	139.50	142.40	2.90	1.66	5.90	CMP - Cia. De Mineração e Participações
FCHD07	327884.2	9806788.8	31.3	269	-60.0	149.4	3.00	132.90	129.90	0.030	0.18	CMP - Cia. De Mineração e Participações
FCHD21	327851.7	9807099.4	54.3	111	-50.0	80.3	0.00	80.34	80.34	0.148	0.70	CMP - Cia. De Mineração e Participações
FCHD30	327845.2	9806787.2	32.8	275	-50.0	42.5	0.00	30.20	30.20	0.085	0.59	CMP - Cia. De Mineração e Participações
FCHD30	327845.2	9806787.2	32.8	275	-50.0	42.5	30.20	33.40	3.20	1.153	2.69	CMP - Cia. De Mineração e Participações
FCHD30	327845.2	9806787.2	32.8	275	-50.0	42.5	33.40	42.51	9.11	0.098	0.22	CMP - Cia. De Mineração e Participações

Table 10.4 Tucano Zone Representative Drill Results

Hole ID	East (x)	North (y)	Collar Elevation (z)	Azimuth (°)	Dip (°)	Total Length (m)	From (m)	To (m)	Length (m)	Average (g/t)	Maximum (g/t)	Drilled By
CSD01	328337.71	9804400.44	47.40	74.00	-60.00	151.63	37.00	151.63	114.63	1.411	24.520	BGZ - Brazilian Goldfields Ltd
CSD11	328222.67	9804377.76	41.50	74.00	-50.00	231.15	0.00	55.00	55.00	0.863	2.900	BGZ - Brazilian Goldfields Ltd
CSD11	328222.67	9804377.76	41.50	74.00	-50.00	231.15	55.00	65.00	10.00	12.086	36.570	BGZ - Brazilian Goldfields Ltd
CSD11	328222.67	9804377.76	41.50	74.00	-50.00	231.15	65.00	83.00	18.00	0.536	1.850	BGZ - Brazilian Goldfields Ltd
CSD11	328222.67	9804377.76	41.50	74.00	-50.00	231.15	83.00	136.00	53.00	0.096	0.370	BGZ - Brazilian Goldfields Ltd
CSD11	328222.67	9804377.76	41.50	74.00	-50.00	231.15	136.00	138.00	2.00	3.400	3.400	BGZ - Brazilian Goldfields Ltd
CSD11	328222.67	9804377.76	41.50	74.00	-50.00	231.15	138.00	163.00	25.00	0.145	0.450	BGZ - Brazilian Goldfields Ltd
CSD11	328222.67	9804377.76	41.50	74.00	-50.00	231.15	163.00	165.20	2.20	1.575	1.580	BGZ - Brazilian Goldfields Ltd
CSD11	328222.67	9804377.76	41.50	74.00	-50.00	231.15	165.20	216.00	50.80	0.027	0.100	BGZ - Brazilian Goldfields Ltd
CSD20A	328359.75	9804268.68	39.10	350.00	-52.00	214.70	81.70	88.89	7.19	0.052	0.156	CML - Cachoeira Mineração Ltda.
CSD20A	328359.75	9804268.68	39.10	350.00	-52.00	214.70	88.89	117.94	29.05	1.462	3.977	CML - Cachoeira Mineração Ltda.
CSD20A	328359.75	9804268.68	39.10	350.00	-52.00	214.70	117.94	130.16	12.22	0.050	0.140	CML - Cachoeira Mineração Ltda.
CSD20A	328359.75	9804268.68	39.10	350.00	-52.00	214.70	130.16	163.47	33.31	1.166	2.726	CML - Cachoeira Mineração Ltda.
CSD20A	328359.75	9804268.68	39.10	350.00	-52.00	214.70	163.47	208.19	44.72	0.040	0.484	CML - Cachoeira Mineração Ltda.
FCHD10	328332.50	9804482.43	48.80	66.00	-44.00	100.84	0.00	5.00	5.00	0.561	1.090	CMP - Cia. De Mineração e Participações
FCHD10	328332.50	9804482.43	48.80	66.00	-44.00	100.84	5.00	100.84	95.84	0.076	0.850	CMP - Cia. De Mineração e Participações
FCHD37	328255.51	9804738.91	49.40	91.00	-50.00	81.52	28.00	70.00	42.00	0.181	1.130	CMP - Cia. De Mineração e Participações
FCHD47	328258.38	9804404.29	42.90	76.00	-50.00	70.10	0.00	5.00	5.00	2.001	5.870	CMP - Cia. De Mineração e Participações
FCHD47	328258.38	9804404.29	42.90	76.00	-50.00	70.10	5.00	20.50	15.50	0.175	0.480	CMP - Cia. De Mineração e Participações
FCHD47	328258.38	9804404.29	42.90	76.00	-50.00	70.10	20.50	41.00	20.50	1.357	5.800	CMP - Cia. De Mineração e Participações
FCHD47	328258.38	9804404.29	42.90	76.00	-50.00	70.10	41.00	70.10	29.10	0.044	0.250	CMP - Cia. De Mineração e Participações
FCHD57	328221.61	9804374.82	41.50	79.00	-80.00	110.00	0.00	37.50	37.50	3.925	13.750	CMP - Cia. De Mineração e Participações
FCHD57	328221.61	9804374.82	41.50	79.00	-80.00	110.00	37.50	110.00	72.50	0.094	0.770	CMP - Cia. De Mineração e Participações

table continues...

Hole ID	East (x)	North (y)	Collar Elevation (z)	Azimuth (°)	Dip (°)	Total Length (m)	From (m)	To (m)	Length (m)	Average (g/t)	Maximum (g/t)	Drilled By
FCHD67	328189.00	9804190.29	31.50	50.00	-50.00	166.15	0.00	4.50	4.50	1.158	1.800	CMP - Cia. De Mineração e Participações
FCHD67	328189.00	9804190.29	31.50	50.00	-50.00	166.15	4.50	82.50	78.00	0.129	0.129	CMP - Cia. De Mineração e Participações
FCHD67	328189.00	9804190.29	31.50	50.00	-50.00	166.15	82.50	86.15	3.65	2.286	6.210	CMP - Cia. De Mineração e Participações
FCHD67	328189.00	9804190.29	31.50	50.00	-50.00	166.15	86.15	110.80	24.65	0.167	0.440	CMP - Cia. De Mineração e Participações
FCHD67	328189.00	9804190.29	31.50	50.00	-50.00	166.15	110.80	113.30	2.50	0.642	1.080	CMP - Cia. De Mineração e Participações
FCHD67	328189.00	9804190.29	31.50	50.00	-50.00	166.15	113.30	122.50	9.20	0.134	0.260	CMP - Cia. De Mineração e Participações
FCHD67	328189.00	9804190.29	31.50	50.00	-50.00	166.15	122.50	138.50	16.00	0.591	3.430	CMP - Cia. De Mineração e Participações
FCHD67	328189.00	9804190.29	31.50	50.00	-50.00	166.15	138.50	166.15	27.65	0.129	0.510	CMP - Cia. De Mineração e Participações
LCD025	328267.53	9804150.36	31.50	120.00	-65.00	300.00	0.00	9.00	9.00	0.743	1.150	LGC - Luna Gold Corp
LCD025	328267.53	9804150.36	31.50	120.00	-65.00	300.00	9.00	77.00	68.00	0.032	0.163	LGC - Luna Gold Corp
LCD025	328267.53	9804150.36	31.50	120.00	-65.00	300.00	77.00	79.00	2.00	2.958	4.450	LGC - Luna Gold Corp
LCD025	328267.53	9804150.36	31.50	120.00	-65.00	300.00	79.00	103.90	24.90	0.102	0.271	LGC - Luna Gold Corp
LCD025	328267.53	9804150.36	31.50	120.00	-65.00	300.00	103.90	116.00	12.10	2.720	23.500	LGC - Luna Gold Corp
LCD025	328267.53	9804150.36	31.50	120.00	-65.00	300.00	116.00	198.00	82.00	0.056	0.917	LGC - Luna Gold Corp
LCD025	328267.53	9804150.36	31.50	120.00	-65.00	300.00	198.00	205.00	7.00	1.607	5.230	LGC - Luna Gold Corp
LCD025	328267.53	9804150.36	31.50	120.00	-65.00	300.00	205.00	212.00	7.00	0.066	0.113	LGC - Luna Gold Corp
LCD025	328267.53	9804150.36	31.50	120.00	-65.00	300.00	212.00	239.40	27.40	2.087	17.100	LGC - Luna Gold Corp
LCD025	328267.53	9804150.36	31.50	120.00	-65.00	300.00	239.40	255.00	15.60	0.059	0.139	LGC - Luna Gold Corp
LCD025	328267.53	9804150.36	31.50	120.00	-65.00	300.00	255.00	264.50	9.50	0.918	1.580	LGC - Luna Gold Corp
LCD025	328267.53	9804150.36	31.50	120.00	-65.00	300.00	264.50	300.00	35.50	0.013	0.073	LGC - Luna Gold Corp
TH09	328353.28	9804304.19	41.50	74.00	-50.00	29.65	0.00	18.00	18.00	0.069	0.260	BGZ - Brazilian Goldfields Ltd
TH09	328353.28	9804304.19	41.50	74.00	-50.00	29.65	18.00	29.65	11.65	0.916	1.770	BGZ - Brazilian Goldfields Ltd

Figure 10.1 Plan View of the Cachoeira Property Drillholes

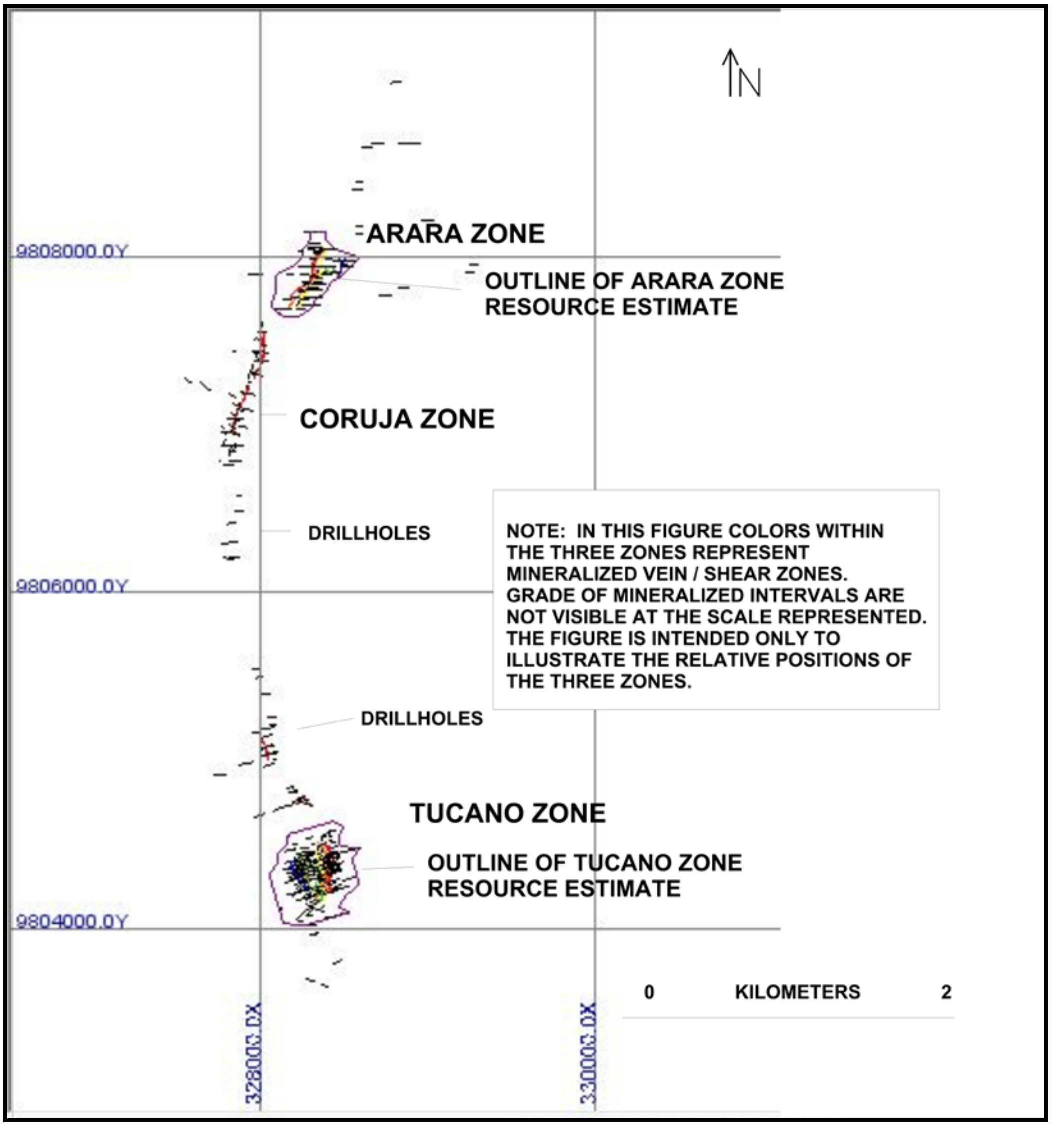


Figure 10.2 Plan View of the Arara Zone

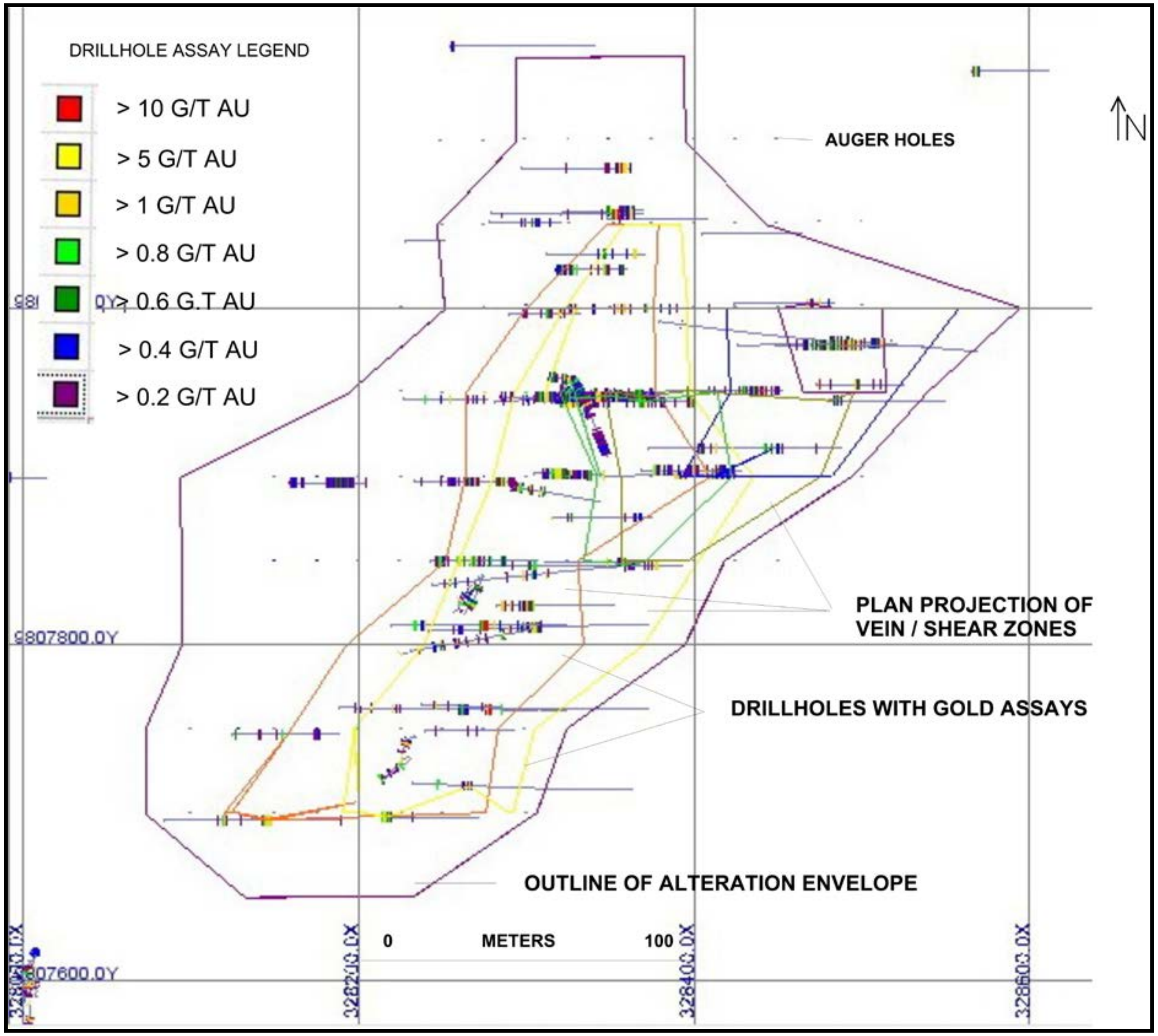


Figure 10.3 Vertical Section (Looking North) Through the Arara Zone

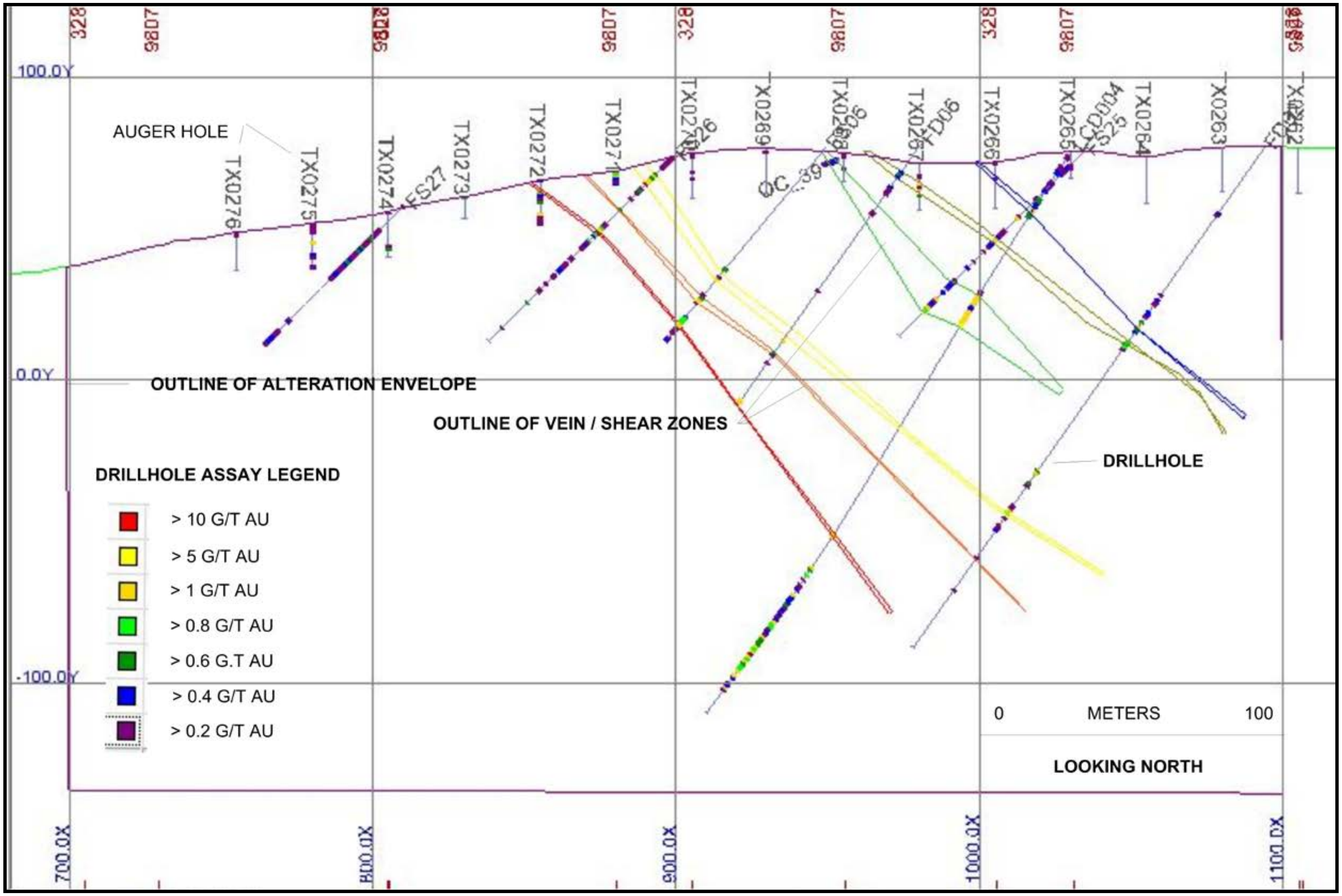


Figure 10.4 Plan View of the Coruja Zone

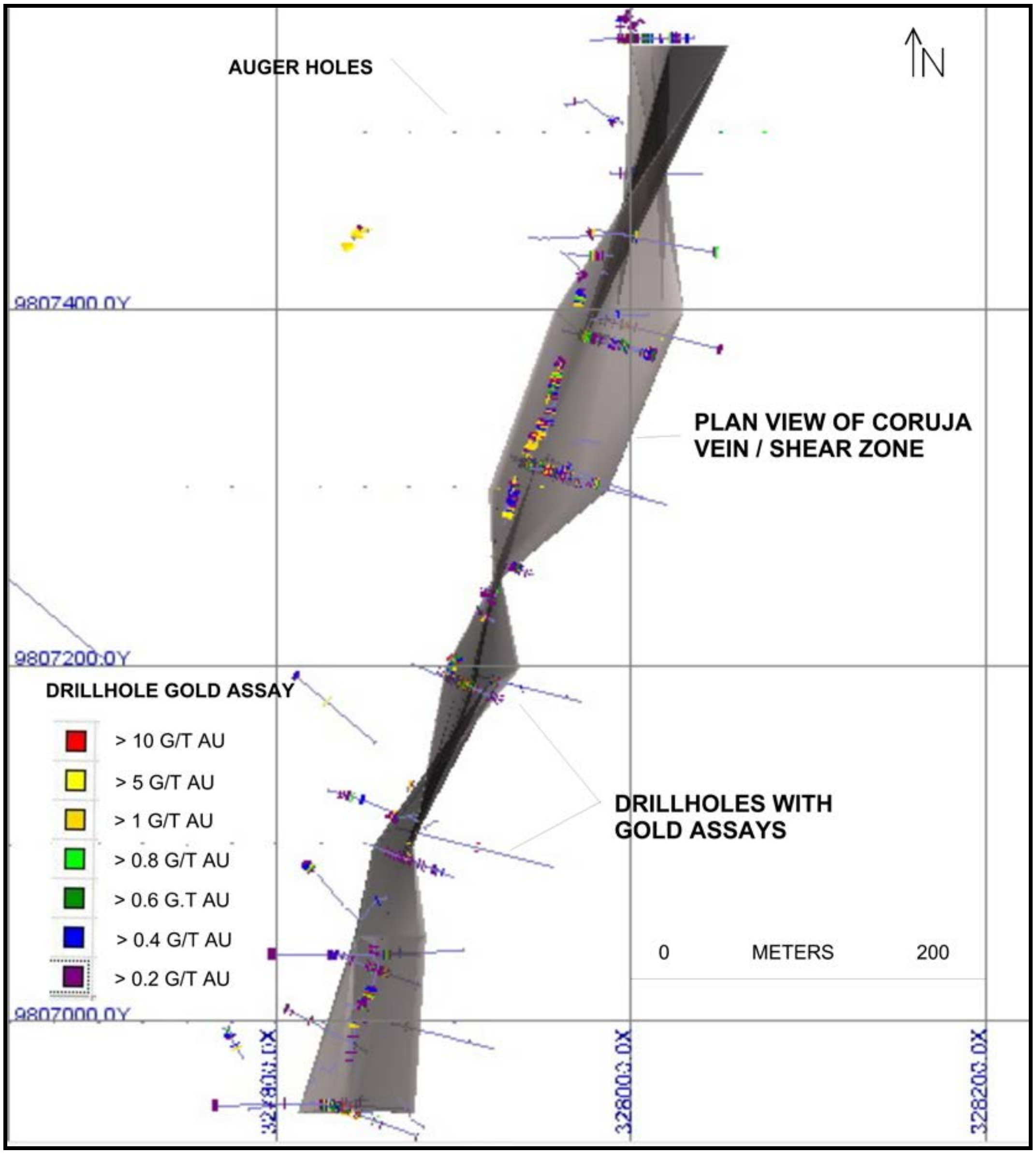


Figure 10.5 Vertical Section (Looking North) Through the Coruja Zone

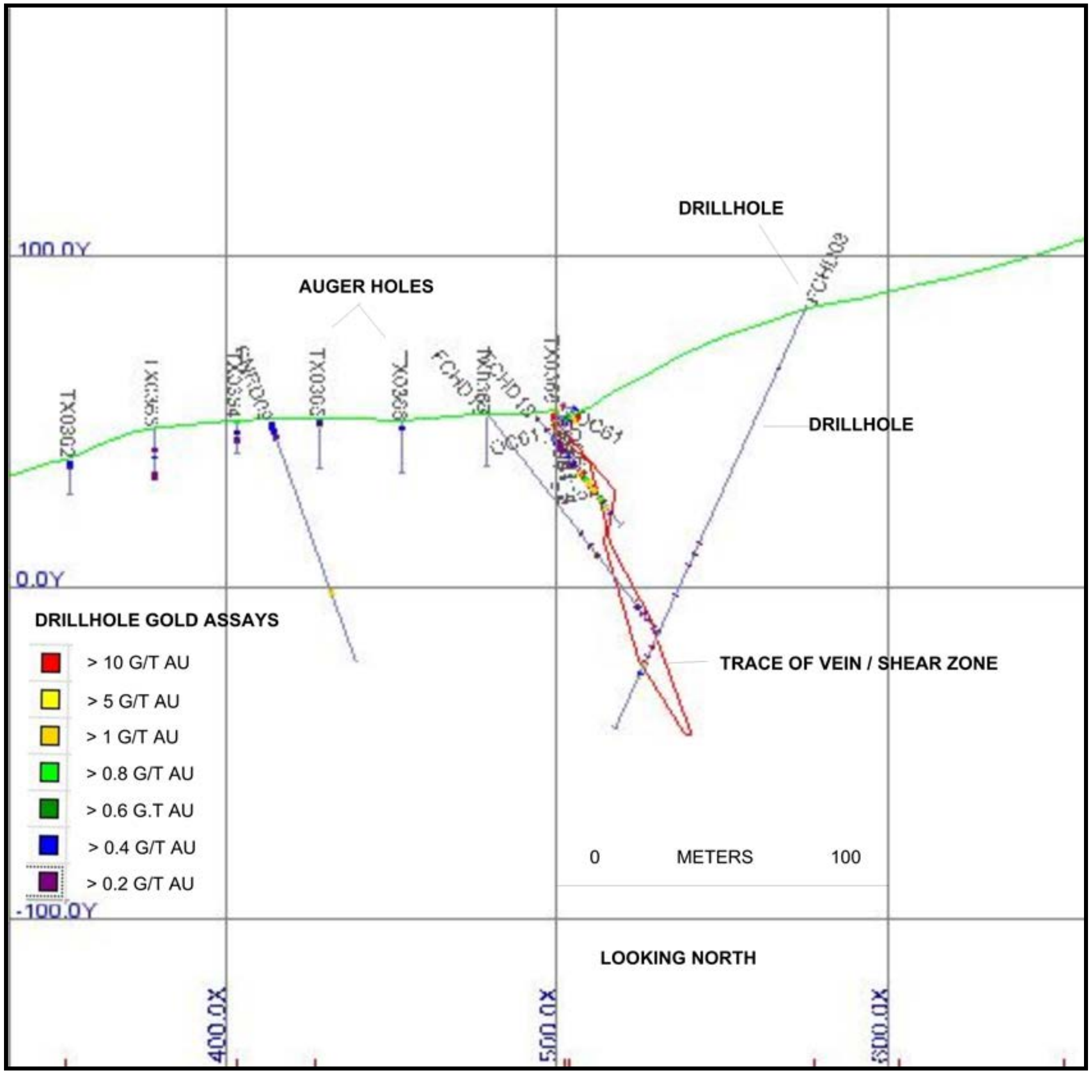


Figure 10.6 Plan View of the Tucano Zone

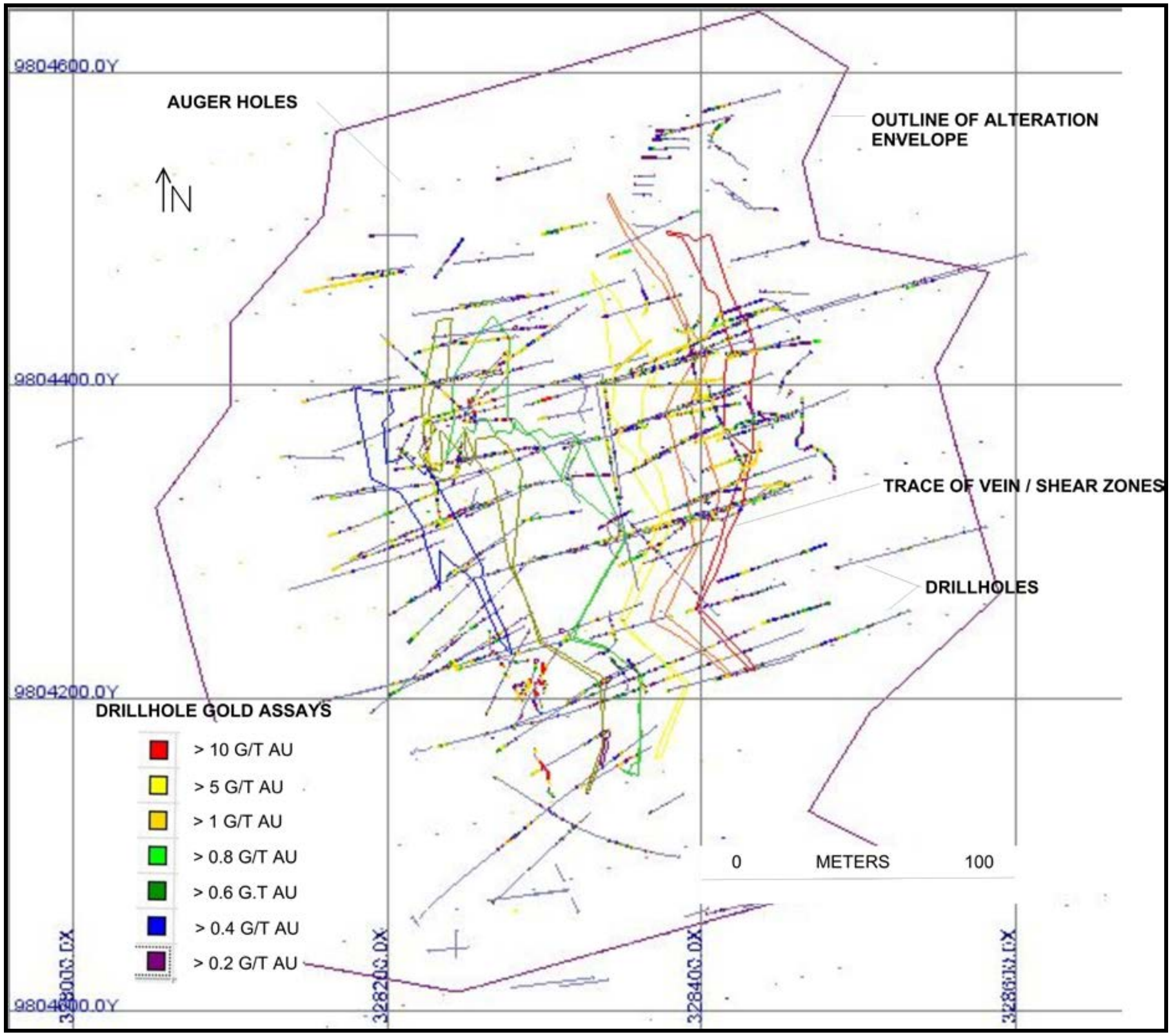
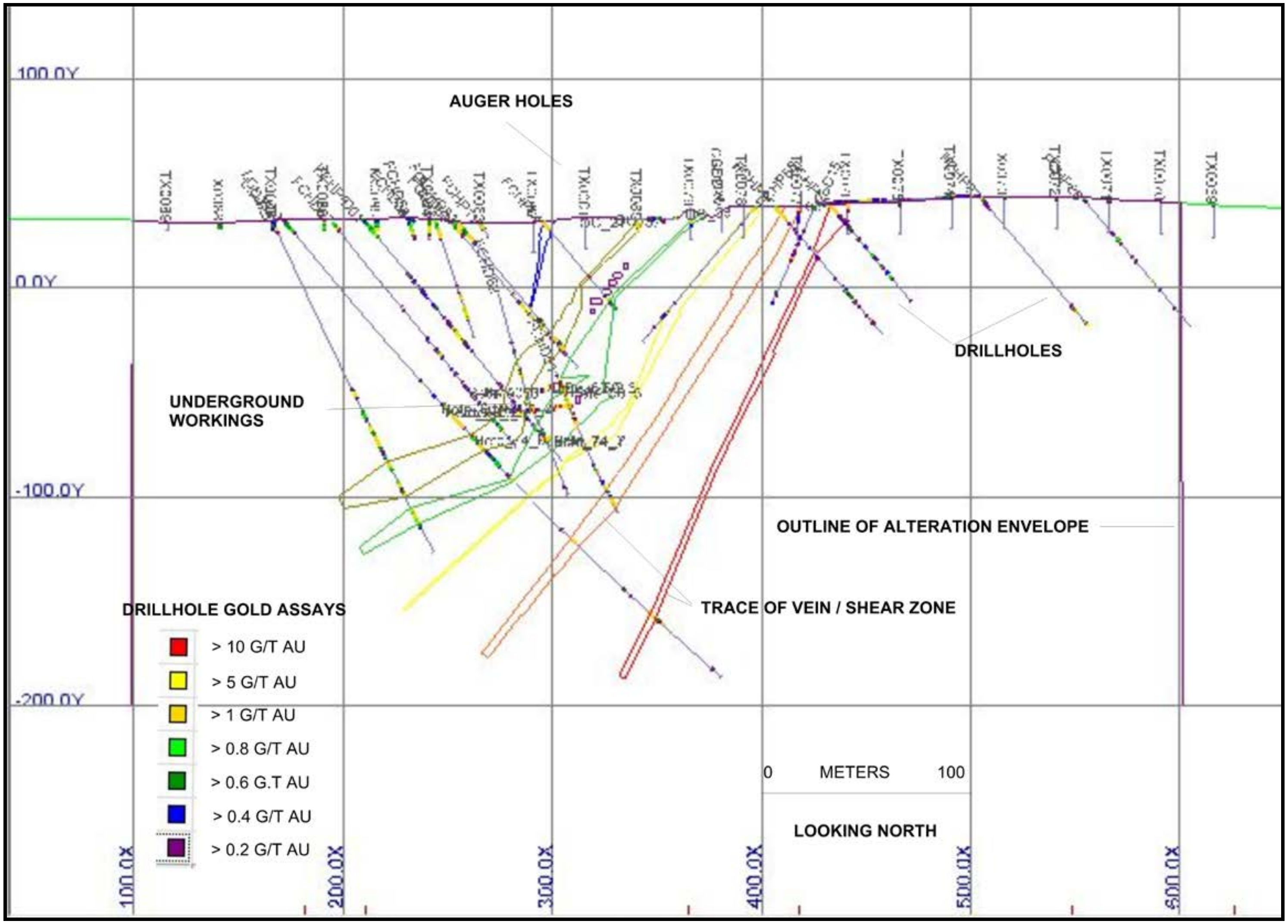


Figure 10.7 Vertical Section (Looking North) Through the Tucano Zone



All drill programs were carried out to contemporary industry practices and standards with respect to both drilling and core-handling procedures. All core holes except those drilled by CCO and Vale were measured with down-hole surveys. The following descriptions of drilling and core-handling procedures are quoted, with minor modifications, from RPA 2012.

Procedures at The Drill

CMP geologists supervised the drill operators. Each drill run was measured at the rig to calculate depth and core recoveries. Diamond core recovery was calculated as recorded length divided by drilled length. Drill core was placed in wooden core boxes and the start and end of each run was marked in the box. RC core recovery was calculated as recovered length divided by the representative weight of one metre sample. Aluminum plates containing the hole number and interval were fixed to the core and chip boxes. Drill core was shipped to CMP's warehouse in Belém for logging and sampling.

Core Logging

Drill core was logged by CMP geologists using dedicated core logging forms containing fields for hole ID, survey data, azimuth, dip, core recovery, sample data, and final depth. Routine density measurements and Rock Quality Designation (RQD) calculations were not done on drill core as part of the logging program. Drill holes were plotted on sections and manual checking was carried out by the Project Manager who signed off on each section. A small number of CMP drill logs are held by Luna Mineração.

Collar Surveys

CMP established a local metric survey grid tied to vertex marker MC-01 located in the northwest corner of mining licence PL 599. All diamond and RC drill holes were surveyed by CMP surveyors using a Wild T1 optical theodolite. The original local coordinate records for all CMP drill holes are held by Luna Mineração and were converted to UTM coordinates using the conversion factor outlined in Table 6-1. Additionally, all original CMP drill plan maps and cross-sections were digitized, georeferenced, and cross-checked against the local collar coordinates. Luna Gold surveyors also resurveyed 25 preserved CMP drill collars (21 at Coruja and four at Tucano) to ensure their locational accuracy, and the results compare very well with the CMP grid.

Downhole Surveys

Directional surveys were conducted on the majority of the CMP diamond holes using a Sperry Sun instrument operated by a CMP technician. Data were recorded on the daily drill summary forms and subsequently transferred to the drill log. No directional surveys were conducted on any RC holes.

Mineração CCO Ltda. (1987-1990)

Diamond Drilling (1987-1989)

CCO drilled 32 diamond drill holes (FS01 to FS32) totalling 2,595 m at Arara between 1987 and 1989 (see details in Section 6 History of this report). Only a few boxes of CCO drill core were recovered

Procedures at the Drill

CCO geologists and mining technicians supervised the drill operators. Each drill run was measured at the rig to calculate depth and core recoveries. Core recovery was calculated as recorded length divided by drilled length and averaged 98% for the program . Drill core was placed in wooden core boxes and the start and end of each run was marked in the box. Aluminum plates containing the hole number and interval were fixed to the core box. Drill core was shipped to CCO's sample preparation laboratory located at the CCO camp.

Collar Surveys

All 32 CCO drill collar markers were located by Luna Gold staff and all collars were resurveyed. All the CCO collars are within the Arara target area. As there were no reliable historic coordinate data for the CCO collars, the Luna Gold survey coordinate data are used in the Arara drill database.

Downhole Surveys

No directional surveys were done on any of the CCO drill holes.

Brazilian Goldfields Ltd (1998-2000)

Diamond Drilling (1998-1999)

BGZ retained Howe to implement and oversee a QA/QC program on the drilling program and to ensure the data generated was suitable for resource estimation purposes (Simón, 1998). Howe personnel were on site at Cachoeira for the duration of the drill program and provided guidance on correct procedures for all aspects of drilling and core processing, sample security, sampling, and QA/QC programs, database management and analysis. Daily reports from Howe containing detailed information on the BZG drill program are held by Luna Mineração. BGZ drilled a total of 14 diamond drill holes at Tucano (TH01 to TH03 and CSD01 to CSD11) totalling 2,380 m between December 1998 and March 1999. All BGZ drill core is stored at Luna Gold's Cachoeira camp.

Procedures at the Drill

BGZ technicians personally supervised the drill rig to ensure sample integrity. The drill helper emptied the core barrel onto a temporary core rack and washed drilling fluids from the core. Core was transferred from the core rack to wooden boxes by BGZ technicians. After each drill run, the hole depth was noted on a *wooden block which was inserted into the core box. Intervals of ground core and any other irregularities were documented. Core boxes were labelled with aluminum tags containing drill hole number, from and to data, and the box number starting from the collar. Core boxes were nailed shut and transported from the drill rig to the core processing facility by BGZ staff. Core recovery was calculated as recorded length divided by drilled length and averaged 88% for the program.*

Core Checking and Geotechnical Logging

Core boxes were checked on arrival at the BGZ camp and depth was marked at one metre intervals on the core boxes. Core pieces were aligned by matching broken pieces. Depth intervals were measured in each box. Geotechnical measurements, including recovery, and RQD were taken before sampling. This work was carried out by BGZ technicians and noted on the drill log forms. Photographs of the core were taken prior to splitting. BGZ conducted routine Specific Gravity (SG) measurements on core samples as part of the core logging process at a rate of one SG measurement every four metres.

Core Logging

Core logging was carried out in the BGZ core shed. Logging was completed prior to core splitting. Project specific log forms were used which contained all required fields including collar, survey, geotechnical information, lithology, mineralogy, veins, alteration, and structure. BGZ geologists signed off on the logging forms. Howe also provided BGZ staff with computer coded logging sheets for lithology, structure, alteration/mineralization, assay samples, core recoveries, and SG determinations that were completed for each drill hole. The BGZ drill logs are held by Luna Mineração.

Collar Surveys

BGZ drill hole collars and elevations were surveyed with a Theodolite by BGZ technical staff and the data recorded onto the drill log. Two BGZ drill collars, both at Tucano, were located and resurveyed by Luna Gold. The resurvey program was conducted to verify the BGZ local grid system, which is the same as that used by CMP. The results compare very well with the CMP grid.

Downhole Surveys

Directional surveying was conducted with a Tropari instrument at 30 m intervals by a BGZ geotechnician and data recorded on the daily drilling summary forms and subsequently transferred to the drill log.

GOLDFIELDS LTD (2000)

Diamond And Reverse Circulation Drilling (2000)

Goldfields drilling program is described in Section 6 History of this report. All preserved Goldfields drill core and chip trays are stored at Luna Gold's facilities.

Procedures at the Drill

Goldfields utilized essentially the same drill procedures as BGZ with the exception that RC drilling was also conducted. Trained technicians personally supervised the drill rig to ensure sample integrity. The drill helper emptied the core barrel onto a temporary core rack and washed drilling fluids from the core. Core was transferred from the core rack to wooden boxes by Goldfields technicians. After each drill run, the hole depth was noted on a wooden block which was inserted into the core box. Intervals of ground core and any other irregularities were documented. Core boxes were labelled with aluminum tags containing drill hole number, from and to data, and the box number starting from the collar. Core boxes were nailed shut and transported from the drill rig to the core processing facility by Goldfields staff. Core recovery was calculated as recorded length divided by drilled length and averaged 90% for the program.

Core Logging

Core logging was carried out in the Goldfields core shed. Logging was completed prior to core splitting. Project specific log forms were used which contained all required fields including collar, survey, geotechnical information, lithology, mineralogy, veins, alteration, and structure. A rock library of representative rock types was maintained to ensure consistency in core logging. Data was entered into an MS Excel database of the Project and subsequently compiled into a master MS Access database.

Collar Surveys

Goldfields conducted a new topographic survey of CMP and BGZ drill collars, grids, and markers using a differential Magellan GPS (DGPS) in order to tie the CMP local grid to the UTM coordinate system. A secondary verification survey was also conducted. All Goldfields collars were surveyed with the DGPS in the SAD69, 23S coordinate system. Luna Gold surveyors located and surveyed 22 Goldfields drill collars at Tucano and Coruja. The Luna Gold coordinates compare very well with the original Goldfields 2000 survey data.

Downhole Surveys

Directional surveys were conducted using a Sperry Sun instrument by a Goldfields technician and data were recorded on the daily drilling summary forms and subsequently transferred to the drill log. No directional surveys were conducted on any RC holes.

VALE (2003-2004)

Diamond Drilling (2003-2004)

Vale drilled 20 diamond drill holes (FD01 to FD20) at Arara for a total of 3,124 m (see details in Section 6 History of this report). All preserved Vale drill core is stored at Luna Gold's facilities.

Collar Surveys

All 20 Vale drill collar markers were located and all collars were resurveyed. All the Vale collars are within the Arara target area. As there were no exact coordinate data for the Vale collars, the Luna Gold survey coordinate data are used in the Arara drill database.

Downhole Surveys

No directional surveys were done on the Vale drill holes.

LUNA GOLD (2007-2010)

Diamond Drilling (2008)

Luna Gold drilled a total of 28 diamond drill holes (LCD001 to LCD028) totalling 6,000 m in 2008. Nine holes totalling 2,514 m were drilled at Tucano, twelve holes totalling 2,552 m were drilled at Arara, and seven holes totalling 940 m were drilled at Coruja. All holes were collared and finalized using HQ diameter core which was only reduced to NQ where ground conditions required. This drill program was carried out by Geoserv using Longyear 38 and Longyear 44 drill rigs. Core recovery was calculated as recorded length divided by drilled length and averaged 93% for the program. Samples were prepared and analyzed for gold by fire assay at ALS Chemex laboratories in Belo Horizonte and Lima. All Luna Gold drill core is stored at Luna's Cachoeira camp. The purpose of the Luna Gold drill program at the three target areas was to:

- *Test for down plunge and dip extensions to previously defined mineralization;*
- *Expand the oxide gold resource;*
- *Generate additional data for a resource estimate; and*
- *Define the geologic model.*

Arara diamond drill holes are drilled at an approximate 270° azimuth with -50° to -60° dip to intersect mineralized structures dipping -60° to -70° east. Coruja diamond drill holes are drilled at approximate 090° azimuth with -55° dip to intersect mineralized structures dipping 80° to the east. Tucano drill holes have varying azimuths and dips, and are drilled approximately perpendicular to the target mineralization from the hangingwall into the footwall. Mineralization was intersected vertically below surface to 170 m depth at Arara, 120 m depth at

Coruja, and 200 m depth at Tucano. Drill hole locations are plotted in Figures 10-2, 10-3, and 10-4.

Auger Drilling (2011)

In 2011, Luna Gold conducted 5,178 m of auger drilling to test two gold-in-soil anomalies located to the north of the Arara deposit, called Sovi and Bavete, in addition to drilling for northern extensions to the Arara deposit (Arara North). Auger drilling was conducted using company owned motorized Honda auger drills. Auger drill teams were supervised by mining technicians. Holes were drilled on a regular 200 m x 20 m section grid to a maximum of 10 m vertical depth at Arara North and Bavete and on a regular 100 m X 20 m section grid to a maximum of 10 m depth at Sovi. In some cases, planned depth was not achieved due to difficult ground conditions. Auger samples were collected at continual one metre intervals using a 10.16 cm diameter collector under the supervision of a Senior Mining Technician. Sample weight averaged 16 kg. All data including depth, sample number, and geologic information were recorded on special log sheets. The entire sample was shipped to ACME Labs Goiania/Santiago in double polythene bags for sample preparation and assaying. Luna Gold's auger drill holes were sited in the field by company surveyors using the Topcon Total Station GTS-213 based off the LGM polygon. Drill holes were resurveyed following drill demobilization and prior to the installation of the concrete collar marker (diamond drill holes) or wooden marker (auger drill holes). Survey coordinates were noted on log forms and entered into the master drill database following validation.

Channel Sampling

In 2010, Luna Gold conducted a major program of channel sampling at the three main zones totaling 2,698 m. The objective was to determine controls on gold mineralization and grade distribution and enable correlation between outcropping and sub-cropping mineralization. Channel sampling was supervised by geologists and mining technicians and recorded on special logging sheets. All areas intended for sampling were assessed for representivity and marked up for sampling by geologists. For surface channel sampling, all sample faces are cleaned to a depth of 15 cm and marked for sampling which was conducted at nominal one meter intervals using appropriate sampling tools which were cleaned between each sample.

For underground channel sampling at Tucano, all sample faces were washed using high pressure water hoses and marked for sampling which was conducted at nominal one meter intervals using electric rock saws which were cleaned between each sample. Sample intervals were surveyed using a Total Station theodolite. All channel samples were stored in secure locked areas under Luna Gold supervision. Samples were transported from the Cachoeira Project to the ALS Chemex sample preparation facility in Belo Horizonte, Minas Gerais, accompanied by Luna Gold personnel. Channel samples were assayed for gold by fire assay (50 g) at ALS Chemex, in Lima, Peru.

Because the holes were drilled at a variety of angles and the strike and dip of the mineralized zones are highly variable, it can reasonably be assumed that the intersected thickness of mineralization are in most cases not the true thickness and to variable degrees are greater than true thicknesses. This phenomenon is compensated for in the resource estimation process.

Higher-grade intervals of mineralization were, to the extent that confidence in interpretation permitted, incorporated into discrete vein/shear zones the grade of which was estimated as part of a specific geological domain. In this way many higher-grade intervals were isolated from adjacent lower-grade intersections. In those instances of higher-grade intersections in which there were insufficient data to permit confident geological modelling of discrete vein/shear zones, the higher-grade intersections were left as-is because there is strong geological evidence that these intercepts represent the presence of other vein/shear zones and are not aberrant occurrences of higher-grade material. Most of these isolated higher-grade intersections are located within the alteration envelopes of the Arara and Tucano Zones.

10.1 QP Opinion

Tetra Tech is not aware of any drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results obtained, or compromise their use in the resource estimate that follows.

11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

Brazil Resources has not conducted any sampling programs within the Property. However, sample preparation, analyses, and core-handling procedures are well-documented for most companies that have conducted exploration programs within the Property and have generated the assay results being used for the resource estimate described in Section 14.0. These procedures are described in detail in the RPA July 19, 2012 technical report and are summarized below.

11.1 HISTORICAL SAMPLING PROGRAMS

Historical sampling programs incorporated measures to ensure the integrity of samples and to maximize the quality of the results obtained. All operators submitted their samples to recognized, generally international, independent laboratories for analysis although no mention of ISO certification of the laboratories is made prior to the commencement of exploration by Luna Gold in 2007.

11.1.1 DRILL CORE SAMPLING

All sampling programs were either carried out directly or under the supervision of a geologist. Geologists were also responsible for the selection of sample intervals. Samples were generally of regular lengths although exceptions were made to respect lithological contacts, quartz veins and boundaries of alteration envelopes. Intervals of core that cut foliated rock were cut perpendicular to foliation. Most operators collected samples of all types of 1 m length or less: 50% of the drill core samples are equal to 1 m in length and 29% are less than 1 m in length; 14% were 2 or more metres in length. For the sample population as a whole, approximately 83% of the samples were 1 m or less in length. CMP collected trench samples from the trench walls (18 trenches, 754 aggregate meters of sampling). To the extent that sampling methodologies have been documented, drillcore was cut by diamond saw rather than split by a mechanical splitter; saprolite intervals that were too unconsolidated to be cut were split with a machete. Sample intervals were marked on the core itself and sample numbers were generally affixed to the core box at the start of each sample interval.

Procedures followed by Luna Gold are the best-documented of previous sampling programs and reflect standard industry practice; prior to sampling drill core was cleaned and photographed and logged geologically before being marked for sampling. Luna Gold geologists marked sample intervals on the core box and marked the cutting line on the core with indelible crayon. Core samples were cut by diamond saw or by machete as was appropriate. When cut, samples were placed in plastic bags that were closed with plastic ties. To the extent known, all other companies that worked on the Property placed samples into plastic bags that were subsequently sealed with twist ties.

11.1.2 Core, Auger and Channel Samples

As for the drill core sample preparation, the best-documented assay procedures for core, auger, and channel samples pertain to those generated by Luna Gold. Following sample preparation, approximately 150 g aliquot of each sample was shipped to ALS Chemex in Lima, Peru, via international courier for assay. In 2008, ALS Chemex also assayed some samples in Belo Horizonte. ALS Chemex analyzed all drill samples in sequential order via package Au-AA24 (fire assay on a 50 g sample with an atomic absorption finish). Lower detection limit for this package is 0.005 g/t gold. Overlimit samples, greater than 10 g/t gold, were automatically assayed via an ore grade package (Au-AA26).

11.1.3 Specific Gravity Measurements

The dataset received by Tetra Tech included 3,370 specific gravity measurements from drillholes within all three zones of mineralization. Luna Gold personnel conducted 1,997 of those specific gravity measurements on drill core by water immersion preceded by coating the samples in wax. Procedures used by other operators for the balance of the specific gravity measurements are not known.

Luna Gold collected samples from saprolite, transition, and rock zones at nominal five metre intervals down the hole. The 1,997 measurements are comprised of 325 saprolite samples (minimum 1.22, maximum 2.69, average 1.72 g/cm^3); 71 transition zone samples (minimum 1.54, maximum 2.88, average 2.40 g/cm^3); and 1,601 samples of fresh rock (minimum 1.59, maximum 3.28, average 2.75 g/cm^3).

11.2 Historical Sample Security Measures

Sample security measures for most historic sampling programs are not known. Luna Gold, the most recent operator, restricted access to the core processing and sampling facilities to relevant personnel and kept samples securely contained until delivered to the assay laboratory. Because the mineral of interest is gold, Luna Gold prohibited gold jewellery in all areas in which core or other media were stored or processed. Chain of custody was maintained during all phases of sample preparation to the point of delivery to the laboratory.

11.3 Historical Analytical Procedures

Specific analytical procedures that were followed by companies that explored the Property in the past are known only for Luna Gold, the most recent of those companies. Luna Gold submitted all their samples to ALS Chemex in Belo Horizonte, Brazil for sample preparation and subsequently to ALS Chemex in Lima, Peru, for the analyses. During 2008 some samples were analysed by ALS Chemex in Belo Horizonte as well. ALS Chemex is an ISO 9000 certified company.

Samples were crushed to 80% passing 10 mesh for drill core and 85% passing 200 mesh for drill core pulps. Auger drill samples were dry sieved and if necessary crushed to achieve 80% passing -2 mm. The entire sample was then homogenized and a one kg split was pulverized to 85% passing -75 µm.

After preparation, 150 g aliquots of core, auger and channel samples were forwarded by courier to ALS Chemex in Lima, Peru. There, samples were analysed by fire assay with an atomic absorption finish (ALS Chemex analytical package Au-AA24) using a 50 g aliquot. Detection limit for this procedure is 0.005 g/t gold. Samples analyzed as containing more than 10 g/t gold were subsequently re-assayed using the ore-grade analytical package Au-AA26.

11.4 HISTORICAL USE OF QA/QC MATERIALS

Historically, quality assurance/quality control (QA/QC) measures were not rigorously applied to exploration sampling programs. However, most operators at Cachoeira followed the now-standard practice of employing standard reference materials, duplicates and blanks. Table 11.1 summarizes the quality control measures followed by various operators and the number of control samples they employed. QA/QC results are discussed in Section 12.0.

Table 11.1 Historical Cachoeira Quality Control Measures

Operator	Blanks	Standards	Duplicates
BGZ – Brazilian Goldfields Ltd.	68	47	56
CML – Cachoeira Mineração Ltda.	37	39	36
CMP - Cia. De Mineração e Participações	8	4	0
CVRD – Companhia Vale do Rio Doce	146	52	138
LGC – Luna Gold Corp.	765	725	412
Total	**1,024**	**867**	**642**

The total number of samples used in the current resource estimate is 42,432 so the number of blanks and duplicates each represents about 2% of that total and the total number of duplicates represents about 1.5% of that total. Although the majority of the control samples were generated by Luna Gold, the latest of the operators who were active on the Property, the others do provide a quantitative basis for the assessment of the quality of assays generated by earlier programs.

11.5 REVIEW OF HISTORICAL QA/QC DATA

Tetra Tech reviewed the QA/QC data that accompanied the assay data provided by Brazil Resources. Standard, blank, and duplicate samples amount to about 6% of the assay dataset (2,533 check samples and 42,432 actual assays).

The average value of 1,024 blanks was 0.005 g/t gold. Only three blanks exceeded 0.1 g/t and only 18 samples exceeded 0.015 g/t. The greatest number of high values (11 out of 18) was associated with Brazil Goldfields samples although these account for only about 3% of the dataset. Despite these limitations, Tetra Tech considers that cross-sample contamination was not a significant factor with respect to the quality of the assay dataset as a whole.

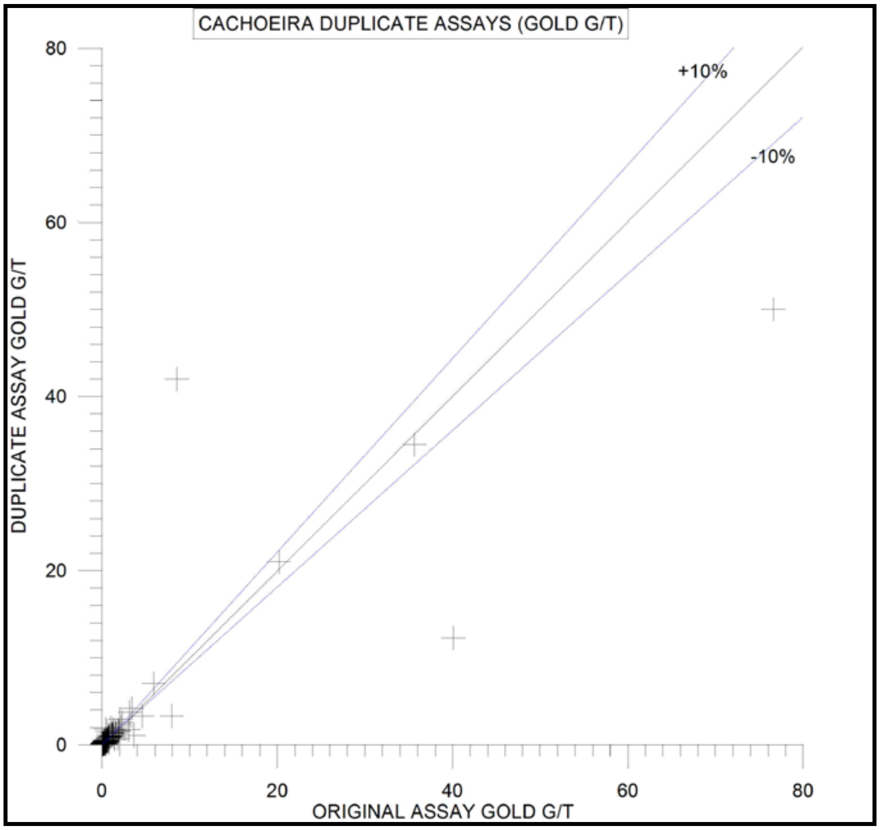
Standards were employed by four operators at Cachoeira. In total 841 assays of standards are available of which the majority (86%) were submitted by Luna Gold. Expected means are known but no certificates are available for any of the standards so a simple test was conducted to determine the percent variance from the expected mean for each analysis. These basic statistics are presented in Table 11.2. Although there are a number of samples that exceed the ±10% range, most are on the low side of the expected mean which would imply that if the corresponding assays were consistently inaccurate then they must generally understate the actual gold content.

Table 11.2 Summary of Cachoeira Standard Assays

Company	Standard	Expected (g/t)	No. of Assays	No. @ ±10%	Range (%)	Comment
Brazil Goldfields	BGZ Standard	1.58	53	13	-36/+53	11 of 13 negative
Cachoeira Mineração Ltda.	GF Standard	1.50	40	21	-27/+66	20 of 21 negative
Companhia Vale do Rio Doce	CDN G-58	0.34	23	0	-	-
Luna Gold	OXC-58	0.20	36	1	-32	-
Luna Gold	OXC-72	0.21	139	6	-17/+29	4 of 6 negative
Luna Gold	OXE-56	0.61	36	0	-	-
Luna Gold	OXI-54	1.87	36	0	-	-
Luna Gold	OXJ-68	2.34	137	3	-12/+53	2 of 3 positive
Luna Gold	SF-45	0.85	138	1	-55	-
Luna Gold	SK-33	4.04	36	0	-	-
Luna Gold	SN-38	8.57	87	3	+15	3 of 3 positive
Luna Gold	SN-50	8.69	51	0	-	-
Luna Gold	SP-37	18.14	29	0	-	-
		Total	**841**	**-**	**-**	**-**

Assays for 414 duplicate samples are available of which 76% are from drill core and the balance from surface channel samples. Figure 11.1 is a scatter plot of the duplicates from which it is evident that with the exception of several high-grade samples, all duplicate pairs are in very close agreement. The lack of correspondence of the high-grade assays can probably be attributed to the nuggety nature of Cachoeira mineralization rather than laboratory error.

Figure 11.1 Cachoeira Duplicate Sample Comparison



11.6 QP Opinion

Tetra Tech is of the opinion that the sample preparation, security, and analytical procedures employed at Cachoeira by various operators were within industry norms and are adequate.

12.0 DATA VERIFICATION

12.1 SITE INSPECTION

Tetra Tech conducted an examination of the Property on February 2 and 3, 2013. During that time, portions of the Property in the vicinity of Cachoeira village were examined, one of the garimpeiro mining operations within the Tucano Zone was examined underground and representative drill core from each of the three main mineral zones within the Property (Arara, Coruja and Tucano) was reviewed to observe lithology, styles of deformation, mineralization and alteration as well as to compare assay results from those holes with the relevant core intervals to develop an understanding of the physical characteristics of higher-grade and lower-grade mineralized intervals.

The entire core from four drillholes was examined: DDH FD07 from the Arara Zone; DDH LCD017 from the Coruja Zone and holes CSD09 and LCD025 from Tucano. Each hole contains intervals of unmineralized rock, alteration envelope and mineralized quartz veins and stringers. The core was examined in conjunction with a list of corresponding analytical results so that direct comparisons could be made with respect to the appearance of the rock and the quantity of gold contained.

No samples were collected from core or underground to verify the presence of gold for several reasons: 1) In July 2010, RPA, as described in the RPA, 2012 report, collected five samples of quarter-core from four separate drillholes and had them analyzed by SGS Mineral Services Lab in Don Mills, Canada. The analytical results of those five samples compared credibly with the original analytical results obtained by Luna Gold. 2) Gold is present and visible in the drill core from the Tucano Zone that was examined during the Tetra Tech site inspection and those visible occurrences are substantiated by assay values; 3) Garimpeiros are producing gold from rock mined within the Property on a daily basis and were observed to be doing so in the underground workings at Tucano, and 4) The Property and its environment have been the documented source of gold since at least the early 1900s. Collectively, these separate indications of the presence of gold within the Property were interpreted by Tetra Tech to be sufficient proof of its existence there.

12.2 DATA REVIEW

Brazil Resources provided Tetra Tech with a master database as well as copies of subsets of data from which the master database was compiled. Several hundred gold assay values from the each of the subsets (auger holes, channel samples, drillholes, trenches and underground channel samples, representing about 2% of the total dataset, were checked against the master dataset for accuracy. No discrepancies were found.

12.3 QUALITY ASSURANCE/QUALITY CONTROL

Tetra Tech's review of QA/QC measures and results is presented in Section 11.5.

12.4 QP OPINION

Tetra Tech considers that the data is adequate to support mineral resource estimation.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Brazil Resources has not carried out any mineral processing or metallurgical testing of samples from the Property. Historical metallurgical test programs are described in detail in Section 6.4. The tests by Luna Gold and others confirmed the general characteristics of this type of Greenstone hosted gold rich rock, but were carried out in a period before the company took control of the project and are therefore regarded as historic.

Those historical tests assessed a range of materials from each of the three major zones including saprolite, veins and wall rock, and investigated that material using the major conventional processes of gravity concentration, floatation, and cyanide leaching. Recoveries of gold spanned a wide range; synoptically it can be said that extraction of gold from quartz veins relative to other sample media was the most successful and that a combination of gravity concentration and cyanide leaching achieved the highest gold recoveries.

Tetra Tech is not aware of additional metallurgical test results from the Property other than those described in Section 6.4.

14.0 MINERAL RESOURCE ESTIMATES

14.1 PREVIOUS RESOURCE ESTIMATES

In 2012, RPA completed a resource estimate for the Tucano, Coruja and Arara zones. The resource was interpolated using the ID^2 method and the resource was constrained by a pit-shell that incorporated gold price (US$1,238/oz), mining (US$2.60/t), processing (US$10.00/t) and general and administrative costs (US$1.50/t) and gold recovery (90%). These factors combined with a 45° pit slope angle to generate a discard (lower threshold) grade of 0.35 g/t gold. Table 14.1 summarizes the RPA estimate.

Table 14.1 Cachoeira Resource Estimate

	Tonnes	Grade (g/t)	Troy Oz
Indicated			
Arara	2,104,000	0.92	62,000
Coruja	352,000	1.16	13,000
Tucano	10,077,000	1.14	371,000
Total Indicated	**12,533,000**	**1.11**	**446,000**
Inferred			
Arara	38,000	0.72	900
Coruja	47,000	0.90	1,300
Tucano	5,344,000	1.28	219,100
Total Inferred	**5,429,000**	**1.27**	**221,300**

Source: RPA (2012)

14.2 EXPLORATORY DATA ANALYSIS

14.2.1 ASSAYS

Brazil Resources provided an extensive data set to Tetra Tech including a database that contained collar, downhole survey, assay (gold), lithology, weathering, and specific gravity measurements. This dataset contained 42,432 useable assays although not all are associated with the three zones of interest. In addition, the data included digital terrain maps for each of the three zones, contoured at one-meter intervals.

The data were imported into Gemcom GEMS™ 6.4 software and checked for logical errors (duplicate, overlapping, or missing sample intervals). A few minor typographical errors with respect to intervals were detected and corrected.

The data represent a variety of sample types (outcrop and underground channels, auger, RC, and drill core. Table 14.2 summarizes the descriptive statistics for each of these sample-type subsets.

Table 14.2 Cachoeira Assay Descriptive Statistics by Sample-type Subset

Cachoeira Assay Statistics	All Assays	Auger	DDH	Outcrop	RC	Trench	Underground
Mean	0.49	0.18	0.50	0.55	0.44	2.07	7.87
Standard Error	0.02	0.01	0.02	0.03	0.03	0.36	1.15
Median	0.05	0.02	0.05	0.11	0.10	0.86	0.61
Mode	0.00	0.00	0.01	0.00	0.02	1.00	0.00
Standard Deviation	3.56	1.47	3.14	1.72	2.79	9.72	21.46
Sample Variance	12.66	2.15	9.84	2.95	7.78	94.47	460.65
Kurtosis	1,722.14	6,688.33	2,304.89	109.71	4,444.48	282.14	30.79
Skewness	34.72	73.46	36.44	8.62	60.35	16.17	4.88
Range	254.00	136.10	254.00	33.30	210.00	189.95	208.00
Minimum	0.00	0.00	0.00	0.00	0.00	0.05	0.00
Maximum	254.00	136.10	254.00	33.30	210.00	190.00	208.00
Sum	2,1027.60	2,024.89	10,454.83	1,334.72	3,197.70	1,472.57	2,730.09
Count	42,432	11,069	20,707	2,408	7,190	711	347
Percent of Total	**100.00**	**26.09**	**48.80**	**5.67**	**16.94**	**1.68**	**0.82**

Drill core represents almost half of all assays and the mean value for gold in drill core is essentially the same as the global average for all samples. The other sample subsets have a range of mean gold values but each is considered by Tetra Tech to be consistent with either the sample medium (underground channel samples have an average gold content of 7.87 g/t which reflects the highly selective underground mining development pursued by the garimpeiros) or sample method (auger sampling which was conducted on a grid is completely unbiased with respect to the probability of intersecting gold and has the lowest average value of 0.18 g/t gold). This combination of reasons is considered to account for the differences in gold content among data subsets rather than any flaws inherent in any of the subsets, and for that reason, all assays were used for the following resource estimate.

The data were also investigated with respect to potential differences among the three mineralized zones, Arara, Coruja and Tucano to assess whether meaningful differences exist between the gold content of the sample populations from those three zones. The descriptive statistics for the three zones are tabulated in Table 14.3. It should be noted that the aggregate population for the three zones amounts to 38,925 samples. The difference between this sum and the total dataset (42,432) represents samples that are peripheral to the three mineral zones for which resources are estimated below.

Table 14.3 shows that the Tucano Zone has a higher mean gold grade and a higher range of gold assay values than either the Arara or Coruja Zones. This is consistent with the significantly greater amount of exploration and selective sampling that has taken place at

Tucano relative to the other two zones. With that consideration in mind, Tetra Tech's opinion is that the differences in gold populations among the three zones are not indicative of fundamental, geological differences among those populations and that generalizations and assumptions can be made that pertain to all three zones.

Table 14.3 Cachoeira Assay Descriptive Statistics by Mineral Zone Subset

Statistic	Arara	Coruja	Tucano
Mean	0.20	0.27	0.81
Standard Error	0.02	0.02	0.03
Median	0.02	0.03	0.12
Mode	0.01	0.02	0.02
Standard Deviation	1.86	1.77	4.79
Sample Variance	3.46	3.13	22.98
Kurtosis	2,950.86	837.18	1,035.31
Skewness	46.57	24.14	27.39
Range	136.10	82.00	254.00
Minimum	0.00	0.00	0.00
Maximum	136.10	82.00	254.00
Sum	2,034.20	2,135.96	1,6623.38
Count	10,379	8,057	20,489

Because of the significant weathering profile, consideration was given to the possibility that gold had been concentrated near surface or at some other level above fresh, unweathered rock. However, the correlation between depth and gold grade is -0.01, which is essentially zero correlation, so that weathering as a control on gold distribution can be disregarded.

14.2.2 Capping

Capping is the process of reducing high values within a sample population that are regarded as statistically anomalous with respect to the population as a whole to some lower level so to avoid the distorting influence these values would have on the statistical characteristics of the population if left at their full value. The risk in including statistically high values in a resource estimate is that their contribution to the estimated grade will almost certainly be disproportionate to their contribution to the tonnage and therefore the grade of the resource as a whole will be overstated.

As noted in Section 14.1.1, and in Section 14.3, Tetra Tech considers that the three mineralized zones are fundamentally alike in the characterization of the contained distribution of gold assay values. This is consistent with the fact that the three zones occupy the same shear zone, share similar host rock geology, structural style and quartz vein morphology. The only difference between the zones is their attitude: Arara dips steeply to the east; Coruja is near-vertical and Tucano dips steeply to the west. Because of these similarities it is considered appropriate to apply similar constraints to the estimation of resources in all three zones including the estimation of the capping grade that follows as well as the construction of a search ellipse that is discussed in Section 14.4.

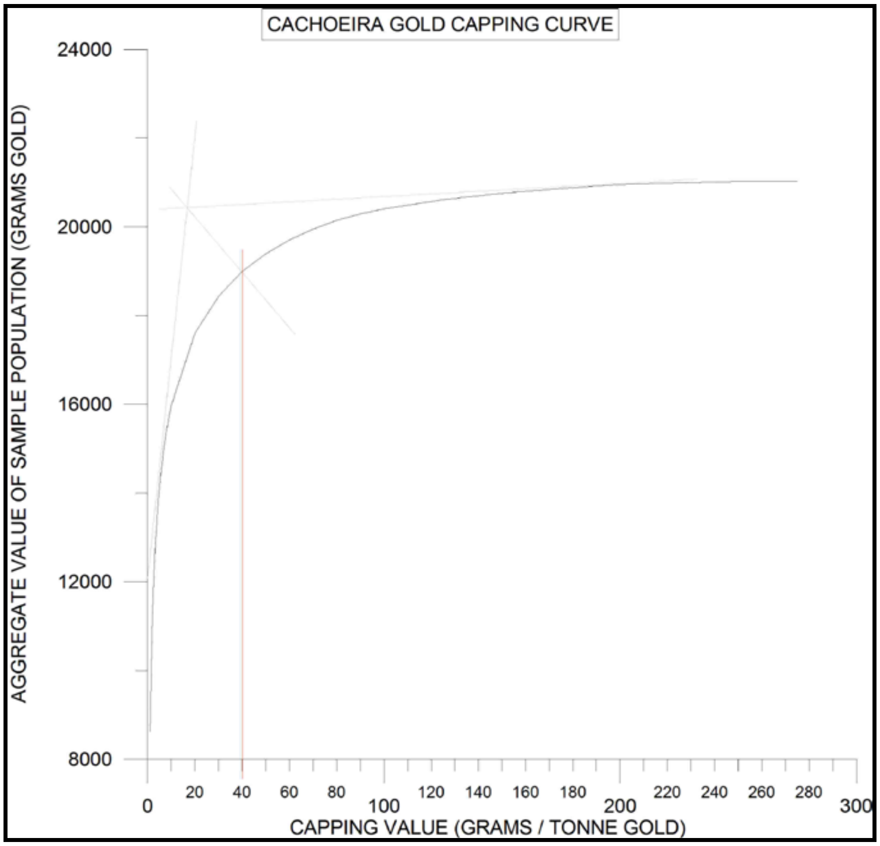
Table 14.4 shows a decile analysis of the Cachoeira assays. Nearly 80% of the aggregate value of all gold assays is contained within the top decile and the top two deciles account for 90% of the value of all assays. This distribution is characteristic of a sample population with a large proportion of low values and a small proportion of relatively very high values such that the aggregate value of the population is heavily influenced by a relatively few high values. Capping is warranted under this circumstance.

Table 14.4 Cachoeira Sample Assay Decile Analysis

Decile	Sum	Percentage
1	7.313	0.03
2	23.614	0.11
3	45.885	0.22
4	81.929	0.39
5	145.255	0.69
6	275.586	1.31
7	512.668	2.44
8	998.823	4.75
9	2,324.640	11.06
10	16,611.891	79.00
Total	**21,027.604**	**100.00**

The appropriate capping level was determined with the use of a capping curve. The curve is established by ranking the assays from highest to lowest then by substituting progressively lower capping values for the assays that are of greater value than the given capping value. This results in a table of decreasing capping values and correspondingly decreasing aggregate values for the sample population at those capping levels which can then be plotted as a curve is shown in Figure 14.1. The optimal capping level is considered to be the point of maximum flexure of the curve. In this case, that level is 40 g/t. Forty-seven assays were capped, which in turn reduced the aggregate value of the capped population by 10% relative to the uncapped population. Those 47 samples (approximately 0.01% of the sample population) contain approximately 18% of the aggregate gold content of that population.

Figure 14.1 Cachoeira Gold Assay Capping Curve



Capping curves were also estimated for the separate zones to determine whether a single capping value is appropriate for all three zones. Using the same methodology, the capping value for Arara was determined to be 30 g/t. The decrease from 40 to 30 g/t affects one assay value in addition to five that had been capped at 4 g/t. The move from a 40 to 30 g/t level reduces the aggregate value of the Arara sample population by 1.5%.

The capping value for the Coruja Zone was determined to be 20 g/t which affected 11 samples rather than the two that were capped at the 40 g/t level. When the 20 g/t cap is applied, the aggregate value of the Coruja sample population decreases by 4.5%.

When calculated separately, the capping value for the Tucano Zone remained unchanged at 40 g/t.

Because the Arara dataset is comprised of approximately 11,000 assay values and the Coruja dataset is comprised of approximately 8,400, Tetra Tech considers that the impact of the reduction in capped value of five and 11 samples respectively, would have an immaterially small impact on the estimation outcome. For that reason Tetra Tech carried out the estimation process using a single capping value.

14.2.3 Composites

Approximately 8% (3,284) of all samples in the Cachoeira dataset are 2 m in length; an additional 2% (937samples) of all samples exceed 2 m in length. Approximately 61.5% of all samples are 1 m in length and 20% are less than 1 m in length. Approximately 17% of all samples exceed 1 m in length which means that 83% of the samples are equal to or shorter than 1 m. For that reason, all samples were composited to 1 m. Drillholes were composited within lithological units in order to minimize dilution by incorporation of portions of adjacent units.

14.3 Bulk Density

The data set contained 3,370 specific gravity measurements of core samples from 137 drillholes. Most samples were collected at 5 m intervals in sections with quartz veining and related alteration. The samples were mostly collected from holes drilled in the Arara and Tucano zones; relatively few measurements were made in the Coruja zone.

Rather than using averages of samples within each zone or within specific lithologies, the specific gravity data for Arara and Tucano was incorporated into the estimation model and specific gravity values were interpolated into blocks during the resource estimation process. For Coruja, an average value of 2.26 g/cm^3, representing the average specific gravity value of the transition zone between saprolite and fresh rock, was used.

14.4 Geological Interpretation

The zones of mineralization at Cachoeira are comprised of three main components: 1) veins and shears, 2) alteration envelopes that surround the veins and shears, and 3) barren rock beyond the alteration envelopes. The methodology employed in the construction of the geological models (wireframes) used to constrain the resource estimate is described below but in brief the approach was as follows: The modelling process started with the veins and shear zones with the intent to encompass as many of the gold intercepts that equal or exceed 1.0 g/t. The vein and shear zone models largely excluded gold assay values of less than 1.0 g/t gold and also excluded many assay values in excess of 1.0 g/t that could not persuasively be incorporated into one of the modeled shears. The alteration envelopes were created to capture those assay values that were excluded from the veins and shears. Because the distribution of gold assays in the alteration envelopes forms complex shapes both within and between sections, it proved overly difficult to generate functional models of them; therefore the alteration envelopes were constructed as simple boxes that enveloped all or most of the drillholes that contained measurable quantities of gold. In some areas the boundaries of these volumes are a considerable distance (more than 100 m) from the nearest drillhole. To avoid the population of blocks in these areas of no data the interpolation process was constrained to a maximum distance of 75 m from the nearest drillhole. Any area beyond the boundaries of the alteration envelopes was ignored during the estimation process regardless of whether there were data in those areas.

The geological target of primary interest within the Property is gold contained within quartz veins, networks of veins, and shear zones. However, a satisfactory representation of these veins and shears could not be established entirely on the basis of the lithological core logging data provided to Tetra Tech as part of the data set. Therefore, it was necessary to establish geological domains for the resource estimates of the three zones on a basis other than lithological description. During the site inspection, it was noted that gold assay values in excess of 1 g/t are commonly associated with quartz veining. Therefore, instead of using lithology, it was found that a reasonable interpretation of the continuity of mineralized zones from hole to hole within one section and from section to section along strike, could generally be established on the basis of distribution of gold assays in excess of 1 g/t. Consequently, geological domains were constructed on the basis of magnitude and distribution of gold assay values and their apparent continuity along strike and down dip. These domains as modeled are considered by Tetra Tech to approximate shear zones rather than individual, mineralized quartz veins, an interpretation that is substantiated by observations made underground at the Tucano Zone where it was observed that a given shear zone is a persistent feature but within it, individual quartz veins are of variable continuity. Because the distribution of higher grades of gold mineralization within shears is variable there are gaps in the distribution of 1 g/t gold mineralization although the trend that contains the gold persists. In those instances it was found that the presence of the structure was in almost all cases was indicated by the presence of gold in excess of 0.5 g/t.

For the Arara and Tucano zones, Tetra Tech constructed an envelope that enclosed all or nearly all the drillholes that occurred within each zone. This envelope surrounds the shear zone models for each of those zones and was intended to capture all the assay data that was not contained within the shear zone models.

The function of the envelope was simply to constrain the subsequent resource estimation within physical limits as this offers the advantage of permitting reconciliation between the volume of the resource estimate and the volume of the geological solid as a means of checking the efficacy of the estimation process.

Because of the simple shape and vertical sides to the envelope, the envelopes do, in some areas, extend significantly beyond the nearest drillhole. This, however, is not of significant relevance to the outcome of the estimate as the interpolation process was primarily constrained not by the boundaries of the envelope but by the dimensions of the search ellipse. Although the ellipse has dimensions of 150 m (strike) by 100 m (dip) by 25 m (across strike/perpendicular to dip), the maximum distance from the centre of the search ellipse at which any block can be populated by a grade estimate is half of each of those dimensions, i.e. 75 m along strike, 50 m down the up-dip and 12.5 m across strike. Therefore, during the interpolation process, the centre of the search ellipse is anchored at the centre of the block being interpolated. As a result, the use of grades, high or low, was restricted to half the ellipse dimensions.

As part of the Cachoeira data package, Brazil Resources provided to Tetra Tech, geological solids for the Tucano Zone that had been prepared for the 2012 RPA resource estimate. The geological solids prepared by RPA for the Arara and Coruja Zones were not available and are known only from illustrations in the RPA 2012 technical report.

Tetra Tech initially assumed that those geological solids would be the most appropriate representations of mineralization within the Tucano Zone and as a first step in the modeling process, imported the Itasca solids into the Tetra Tech model. However, when those solids were compared in three dimensions with the distribution of gold assay values in excess of 1.0 g/t, three limitations with the solids were observed: a) the solids fail to capture a significant number of assays within the structures that the solids are inferred to represent; b) the geological solids exclude assay values along strike and up and down dip that reasonably are contained within extensions to the structures represented by the geological solids although extensions to the geological solids are clearly implied by the distribution of gold assays even if the lithological data do not support the extension of the quartz veins or shears; c) the orientation of several of the geological solids are inconsistent with the trends displayed by the other solids, by the structural trends observed by Tetra Tech during the underground inspection at Tucano and by the morphology of shear zones in general.

For these reasons Tetra Tech elected to generate its own geological solids for Tucano. As no existing (RPA) geological solids were available for Coruja and Arara, Tetra Tech was obliged in any case to develop its own solids for those zones.

The method employed by Tetra Tech was based on observations made underground at Tucano. The zone is bounded to the east by a prominent shear that appears to be the structural boundary of the zone in that direction. To the west of that bounding shear are a number of parallel but irregular shears that contain quartz veins, vein networks, and stringers with intervening intervals of low-grade and less-sheared rock. Both the shears and intervening low-grade zones have apparent width dimensions of one to several meters. Therefore Tetra Tech commenced the modelling process by linking the easternmost gold assays within the Tucano Zone into a single shear. When the reasonably interpretable limits of that structure had been reached, Tetra Tech constructed a similar and parallel model for the next shear to the west. This process was extended until there were insufficient data to permit the reasonable correlation of assay values from one section to another.

After the Tucano Zone had been modelled in this manner a similar approach was applied to the Coruja and then the Arara zones. The distribution of significant (greater than 1.0 g/t) gold assays in both these zones was found to be similar to that observed and modelled for the Tucano Zone.

The Arara, Coruja, and Tucano zones were modelled separately and resources were estimated separately for each of the three zones. Data is not evenly distributed among the three zones; the greatest amount of data is available for Tucano and there is almost as much data for Arara. There is relatively little data for Coruja. At Arara, wireframes for seven individual, east-dipping veins or shears were constructed; at Tucano, six west-dipping zones were modelled and at Coruja there was sufficient data to model only a single vein. However, the Coruja vein is interesting in that at the southern end of the vein, closer to Tucano, the dip is to the west and to the north progressively steepens until, closer to Arara, the dip of the vein is to the east.

In addition to the veins and shears, the quartz-albite alteration that surrounds the veins and shears typically contains sub-gram quantities of gold. The shape of these alteration zones is complex and they could not be satisfactorily modeled with the amount and distribution of data available. Instead, simple volumes were constructed to contain the drillholes and the veins and shears at Arara and Tucano. There was insufficient data to construct a similar alteration envelope for the Coruja zone.

Each zone was assigned a unique lithological code: Arara veins (11), Coruja veins (21), Tucano veins (31), Arara alteration envelope (19) and Tucano alteration envelope (39). Unique coding ensured that the grade of each zone was estimated solely on the basis of samples within that zone.

Small-scale mining is currently taking place at Tucano; in addition there are a number of historical shafts and underground workings that have removed portions of the resource to be estimated. Therefore, prior to the interpolation process, the void spaces represented by shafts and underground workings were subtracted from the geological solids that represent the shears and veins as well as the surrounding alteration envelope.

14.5 SPATIAL ANALYSIS

Although there are nearly 3,800 composites within the modelled veins and shears in the three zones, it was not possible to obtain satisfactory variograms because there are multiple, stacked veins that are highly variable in both strike and dip. The variograms that result from the analysis of datasets of this nature tend to be meaningless firstly because the variogram modeling exercise assumes that all composite values represent a single vein, which is not the case, and secondly because the variable strike and dip produce short-range inconsistencies in correlation between sample points. The problem posed by multiple veins can be addressed by selecting a single vein as being representative of a set but in many cases including this one, single veins lack a sufficient number of samples to permit the estimation of a meaningful variogram. Therefore, in the absence of calculated variograms and the search ellipses that are based on the variograms, search ellipses were constructed to emulate the general strike and dip of the three zones. Table 14.5 summarizes the search ellipse parameters for each of the zones.

Table 14.5 Cachoeira Search Ellipse Parameters

Zone	Principal Azimuth (°)	Principal Dip (°)	Intermediate Azimuth (°)	Range X Axis (m)	Range Y Axis (m)	Range Z Axis (m)
Arara	-90	60	30	150	100	25
Coruja	70	0	0	150	100	25
Tucano	80	-35	0	150	100	25

As shown in Table 14.5, the search ellipses for all three zones have the same dimensions. A single size was used because the size of a functional search ellipse is heavily dependent upon the spacing of drillholes and the drillhole spacing is similar in all three of the zones under consideration. The width of the ellipse (25 m) is considerably wider than any individual shear or quartz vein in any of the three zones, but this width was chosen to compensate for short-range variability in strike and dip of the shears and veins. If a narrower ellipse was used the possibility exists that portions of the shears and veins would be 'overlooked' during the search process with the result that some blocks might be assigned a zero grade not because mineralization is absent but because the relevant data were not taken into account. It should be noted that although the search ellipses for all three zones have the same dimensions, the dip of each search ellipse is specific to the zone being estimated. It should also be noted that while the maximum range of the search ellipse is extensive, the samples used for estimation are constrained to be within the corresponding complex vein envelope domains which prevents inappropriate estimation. Figure 14.4 to Figure 14.8 demonstrate that estimated blocks are constrained to the vein envelopes.

The average distance for the Indicated portion of the Arara envelope resource was 39.7 m and for the Arara Inferred Resource was 69.7 m. For the Tucano envelope, the mean distance for the Indicated Resource was 34.9 m and for the inferred was 71.8 m. Because those are averages, it can be reasonably inferred that half the distances are less than the average and that significantly less than half the blocks with grade are located at the maximum distance of 75 m from the supporting drillholes. Therefore, it can safely be said that the maximum distance that any high-grade (or low-grade) sample was extrapolated in the estimation of a block grade was 75 m but in fact the average distance is significantly less.

A second limitation to the profligate influence of high-grade samples is the number of samples that were used in the estimation process. As Table 14.7 shows, for the Arara alteration envelope the indicated resource was based on an average of 12 samples for each block and the inferred resource was based on an average of 11 samples. The corresponding sample support for the Tucano alteration envelope is 12 samples for the indicated and 11 samples for the inferred. These numbers mean that any one sample can, on average, be expected to have contributed approximately 8% (1/12) to 9% (1/11) of the estimated block value.

As a final constraint on the influence of high-grades, Tetra Tech has stated the resource estimate on the basis of capped gold grades so that the influence of high grades was constrained before the estimation process began.

14.6 RESOURCE BLOCK MODEL

A single block model was constructed to contain the three zones for which resources were to be estimated. This model covers a volume approximately 4,000 m in length (north-south), 500 m in width (east-west) and 150 m in depth. Table 14.6 summarizes the block model parameters.

Table 14.6 Cachoeira Block Model Parameters

	Number	Size (m)	Origin	Coordinates
Columns	200	5	X	327625 Minimum X
Rows	425	10 (Strike)	Y	9804000 Minimum Y
Levels	75	5	Z	150 Maximum Z

14.7 INTERPOLATION PLAN

Resources were estimated by ID^2 weighting and grades were interpolated into blocks in a single pass. A minimum of two and a maximum of 12 composites within the volume of the search ellipse were necessary for a grade to be interpolated into a block. A maximum of two composites was permitted per drillhole so that a grade could be interpolated into a block on the basis of a single drillhole.

Composites could only be drawn from the geological model for which a grade was being estimated, i.e. only composites from Tucano veins could be used to estimate grades for those veins and only composites from the Tucano alteration envelope could be used to estimate grades for that envelope.

In addition to capped and uncapped gold grades, the number of drillholes and composites used for each estimated value was recorded as well as the mean distance of those composites from the centroid of the block.

14.8 MINERAL RESOURCE CLASSIFICATION

Resources were classified as Indicated or Inferred. In order for a block to be classified as Indicated, it was necessary that the contained grade was based on a minimum of four drillholes and that the mean distance of the composites from those holes was 50 m or less from the centroid of the block. All blocks that failed to meet the criteria for Indicated status but had an estimated grade of at least 0.001 g/t gold were classified as Inferred.

It should be pointed out that although all blocks with an estimated grade of 0.001 g/t gold or higher were included in the resource tabulation, a grade of 0.35 g/t gold was considered the minimum threshold for reasonable prospects of economic extraction. Therefore, 0.35 g/t was taken as the base case and all blocks with a contained grade of less than 0.35 g/t fall below the threshold and do not contribute to the stated resource (Section 14.8). Table 14.7 summarizes the number of holes, composites, and mean distances for blocks in each of the three zones.

Table 14.7 Block Model Estimation Quality

Zone Resource Classification	No. of Holes	No. of Composites	Mean Distance (m)
Arara Veins Indicated	6.4	12.0	41.5
Arara Veins Inferred	6.0	11.1	61.5
Coruja Veins Indicated	6.5	11.7	45.2
Coruja Veins Inferred	6.1	10.9	60.2
Tucano Veins Indicated	6.3	11.9	31.9
Tucano Veins Inferred	5.8	10.9	62.8
Arara Alteration Indicated	6.1	12.0	39.7
Arara Alteration Inferred	5.6	11.0	69.5
Tucano Alteration Indicated	6.2	12.0	34.9
Tucano Alteration Inferred	5.5	10.7	71.8

Table 14.7 indicates that the resource estimate has been based on a significant quantity of data, the estimations for all zones of each category are of similar quality.

14.9 Mineral Resource Tabulation

Veins and shear zones were estimated separately from the alteration envelopes. Table 14.10 is a tabulation of results from the veins, Table 14.11 from the alteration envelopes and Table 14.10 is a summation that combines both veins and zones.

14.10 Reasonable Prospects of Economic Extraction

The base case, highlighted in grey, was taken at a threshold of 0.35 g/t gold which is the level determined by RPA in 2012 on the basis of a conceptual open pit that incorporated gold price (US$1,238/oz), mining (US$2.60/t), processing (US$10.00/t) and general and administrative costs (US$1.50/t) and gold recovery (90%). These factors were combined with a 45° pit slope angle to generate a discard (lower threshold) grade of 0.35 g/t gold.

Tetra Tech did not constrain the following resource estimate with conceptual pits, but the RPA calculated threshold grade is considered to be a credible estimate of the reasonable prospect of economic extraction as, among other things, it is comparable to the range of estimated grade thresholds estimated for the Aurizona Property that is owned by Luna Gold. Aurizona is located in Maranhão State in northeast Brazil, approximately 100 km from the Property. The geology, physical environment and general operating conditions are similar to those that may be expected at Cachoeira. As the Aurizona Property is at an early stage of production, Tetra Tech considers it a good working example for expected potentially economic grades because of the similarities in site topography, deposit type, expected geotechnical conditions and anticipated metallurgy. The estimated resources and reserves for the Aurizona mine have been constrained by optimized pits; the resource for Cachoeira has not been constrained by a conceptual pit. The Aurizona mine has passed through a series of advanced engineering and design, as well as construction phases leading to production. All possible costs have been established and revenues are known on the basis of sales contracts or prevailing market conditions. By contrast, there have been no engineering studies at Cachoeira and none of the relevant variables that have been determined for Aurizona is available for Cachoeira. For that reason, a conceptual pit, based on relevant and reasonable costs including potential relocation costs for some portion of Cachoeira village, and other input parameters such as pit-wall stability and metallurgical recoveries, cannot be generated at this time.

A comparison of the Cachoeira and Aurizona properties is shown in Table 14.8.

Table 14.8 Comparison of the Cachoeira and Aurizona Properties

Feature	Aurizona	Cachoeira	Comment
Location	Northeast Brazil	Northeast Brazil	100 km Apart
Topography	Flat	Flat	-
Climate	Tropical	Tropical	-
State Electrical Grid	Yes	Yes	-
Regional Geology	Metavolcanics	Metavolcanics	-
Geological Age	Proterozoic	Proterozoic	-
Mineral Commodity	Gold	Gold	-
Deposit Type	Shear-hosted Quartz Veins	Shear-hosted Quartz Veins	-
Resources Measured	19.5 Mt @ 1.36 g/t	N/A	-
Resources Indicated	62.5 Mt @ 1.38 g/t	17.5 Mt @ 1.23 g/t	-
Resources Inferred	18 Mt @ 1.74 g/t	15.7 Mt @ 1.07 g/t	-
Reserves Proven	19.4 Mt @ 1.28 g/t	N/A	-
Reserves Probable	36.6 Mt @ 1.35 g/t	N/A	-
Production	Started 2011	N/A	-
Mining method	Open Pit	N/A	Probable Open Pit
Production Rate	10,000 t/d	N/A	-
Metallurgical Extraction	Carbon-in-Pulp	N/A	-

The Aurizona Property is located within the São Luis Craton, an eastern extension of the Guyana Shield that extends from Venezuela to Brazil. In the region of the Aurizona Property, the São Luis Craton is comprised of the Paleoproterozoic-age Aurizona Group metavolcano-sedimentary succession, volcanics and granitoids of the Tromaí Intrusive Suite, all of which are covered by Phanerozoic sedimentary basin deposits and recent coastal sediments.

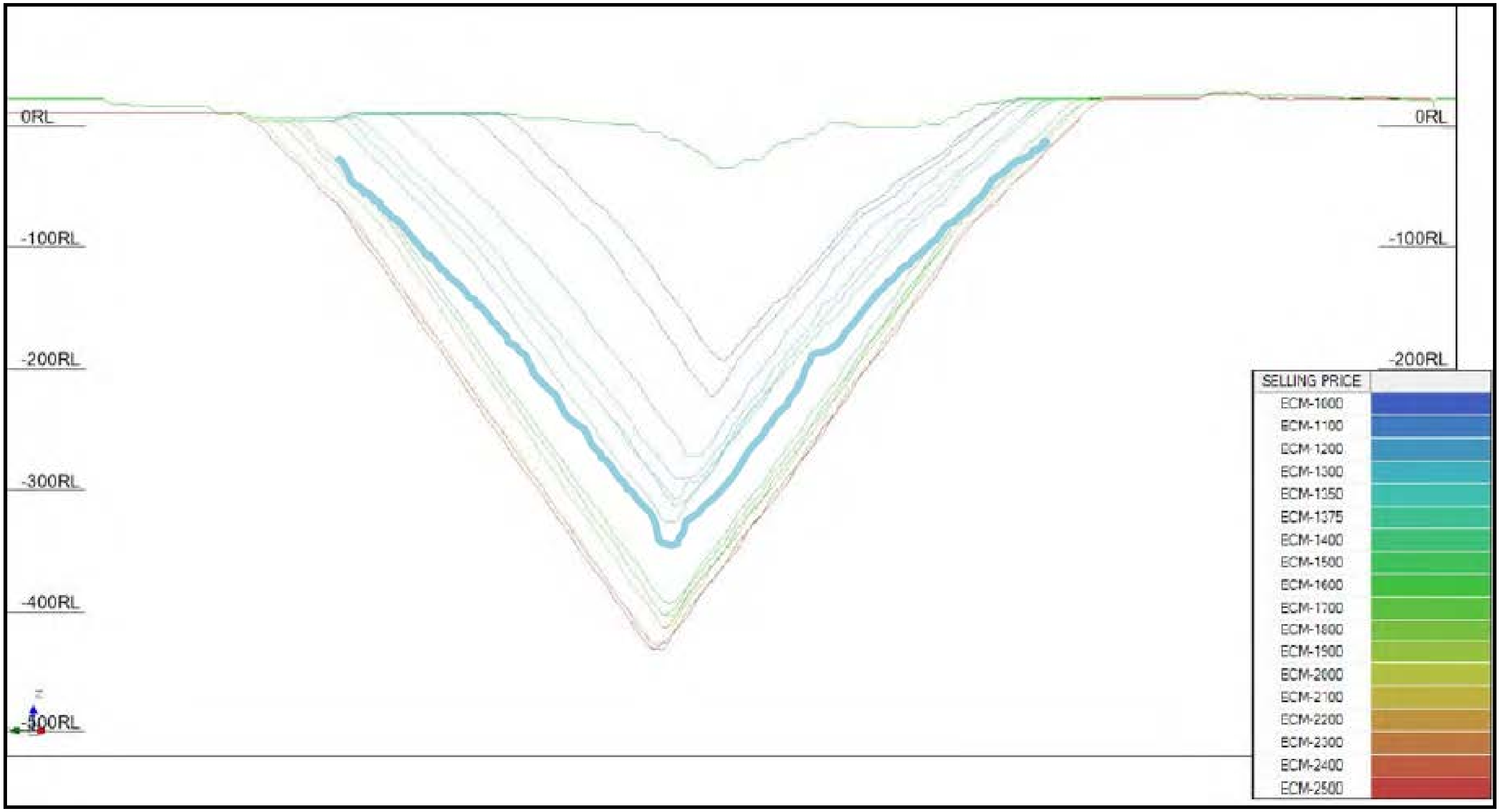
Aurizona Group lithologies underlie the Aurizona Property area and are comprised of a well-developed sequence of metavolcanosedimentary schists, intermediate to mafic metavolcanic and metapyroclastic rocks, in addition to subordinate quartzites, banded iron formation and metachert. These rocks have been intruded by tonalites and quartz porphyry.

The Property contains the Piaba, Tatajuba, Boa Esperança, Ferradura and Conceição gold deposits and several near mine exploration targets.

Piaba is a 3.3 km long shear-hosted orogenic gold deposit that trends east/northeast and is contained within a tonalite intrusive. The hanging wall sequence to the north is composed mainly of tonalite and quartz porphyry intrusives with subordinate dacitic volcanics. A distinctive graphitic volcano-sedimentary sequence forms a structural footwall limiting the deposit to the south. The host tonalite intrusive is medium to coarsely crystalline and highly brecciated and altered. The host volcanic sequence is andesitic to basaltic in composition and generally fine-grained. The mineralized material body dips steeply to the north/northwest. Gold occurs in several generations of quartz veins and also as disseminations within the host intrusives and volcanics. Hydrothermal alteration is intense and is dominated by quartz-graphite-chlorite-carbonate-sericite-pyrite. The Tatajubam Boa Esperança, Ferradura and Conceição deposits and near mine exploration targets have similar geology to Piaba.

Luna Gold has used a range of grade thresholds depending on the state of weathering of bedrock: 0.32 g/t gold for saprolite; 0.34 g/t gold for transitional rock and 0.40 g/t for fresh rock. Luna Gold performed pit optimizations using a range of gold prices. The optimal pit was obtained at a gold price of US$1,350/oz. The pit shell at this price extends approximately 350 m below surface (Figure 14.2). The heavy blue line in Figure 14.2 represents the US$1,350 shell. As the Cachoeira resource model extends to depth from surface at maximum, slightly over 200 m, Tetra Tech considers it reasonable to assume that the Cachoeira resource may ultimately be accessible to extraction by open pit.

Figure 14.2 Aurizona Pit Optimization Cross-Section



Source: Luna Gold, April 29, 2013 Technical Report

Luna Gold used a cut-off of 1.5 g/t for resources outside the open pits. Tetra Tech is not aware of the basis for the choice of such a high cut-off relative to those used for the open pits and the contemplated exploitation of the resources in question may be by underground methods. Therefore, it is Tetra Tech's opinion that the 1.5 g/t cut-off is inappropriate for use by analogy for the Property and believes the cut-off grades that have been applied to the in-pit resources are more indicative of potentially-economic grades at the Property.

The mining method of the Aurizona Property is open-pit. Resources are comprised of five separate deposits and include both pit-constrained resources and resources outside pits. The Luna Gold website states that the current resource includes approximately 19.5 Mt of Measured resource with an average grade of 1.36 g/t gold, 62.5 Mt of Indicated resource with an average grade of 1.38 g/t gold and inferred resources of 18 Mt with an average grade of 1.74 g/t. Proven reserves are 19.4 Mt with an average grade of 1.28 g/t and Probable reserves are 36.6 Mt with an average grade of 1.35 g/t.

Although a pitshell is a useful tool in establishing reasonable prospects of economic extraction for an advanced property, Tetra Tech considers the use of an analogous property, such as Aurizona, more appropriate in establishing reasonable prospects of economic extraction for a property at this level of development, in the absence of a meaningful dataset to support a conceptual pit shell. It is Tetra Tech's opinion that the parameters necessary to support a conceptual pit shell are tenuous, due to the paucity of geotechnical data and sensitivity to the limited sampling data on the periphery of the deposit.

To confirm the validity of the cut-off grade, a public information review of cut-off grades for 87 current open pit mines and properties provided the information that is graphed in Figure 14.3 and summarized in Table 14.9. The properties are: Agbaou, Akyem,Amulsar, Aurora, Bald Mountain, Blackwater, Blagodatnoye, Boddington, Boroo, Brucejack, Carlin, Caspiche, Cerro Blanco, Cerro Casale, Cerro Corona, Cerro Jumil, Choco 10, CHS Gold Mine, Condor, Cortez, Cote Lake, Courageous Lake, Crespo, Cripple Creek, Cuiu Cuiu, Detour Lake, Donlin, Douay, Essakane, Gaby, Gemfield, Goldstrike, Golpu, Gualcamayo, Hollister, Hycroft, Jeritt Canyon, Jeronimo, Jerusalem, Kisladag, KSM Deposit, Kumtor, La Colosa, La Libertad, Las Cristinas, Lihir, Livengood, Los Filos, Loulo, Magino, Malomir, Mana, Maricunga, Marigold, Marmato, Metates, Miraflores, Mt. Todd, Natalka,Obuasi (open pit), Olympias, Paracatu, Pascua-Lama, Phoenix, Pierina, Porgera, Rainy River, Rosebel, Rosia Montana, Round Mountain, Rovina, São Jorge, Shahuindo, Snowfield, South Kalgoorlie Operations, Sukari, Sunrise Dam, Super Pit Kalgoorlie, Tarkwa, Tasiast, Tengrela, Titiribi, Tocantinzhino, Turquoise Ridge, Veladero, Verniskoye and Yanacocha. Based on comparison with these figures, Tetra Tech believes that the threshold value of 0.35 g/t, applied to the current estimates is reasonable.

Figure 14.3 Current Cut-off Grades Used for Open Pit Operations and Projects

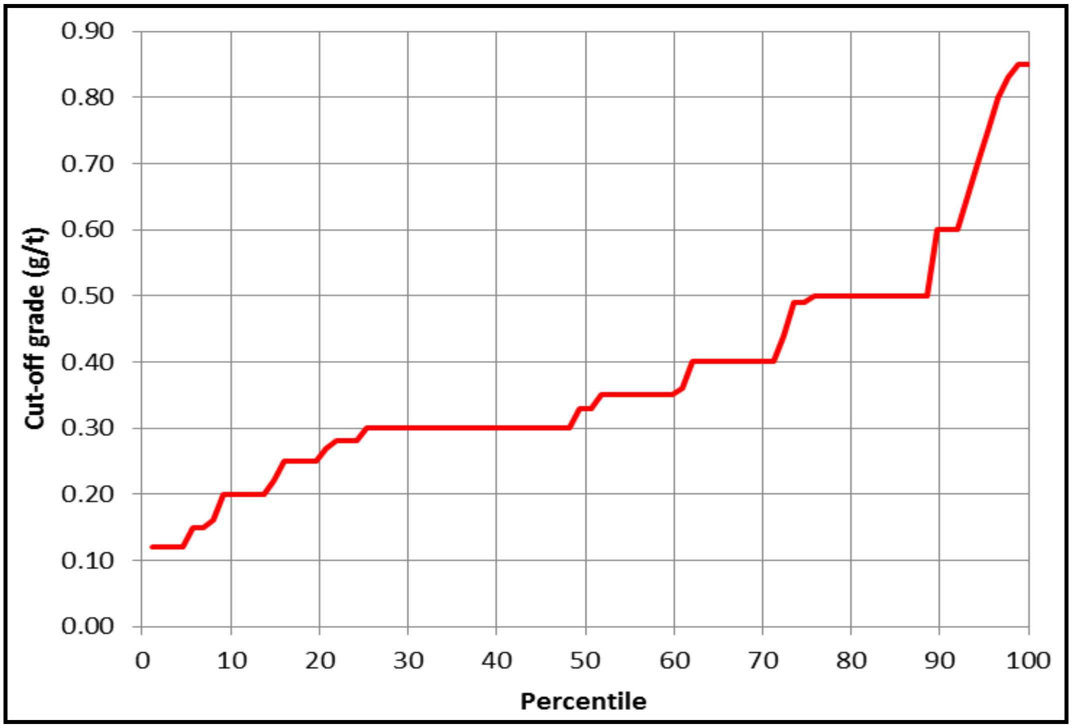


Table 14.9 Summary of Cut-off Grades for Open Pit Gold Projects

	Cut-off Grade (gold, g/t)	Number
Producing Operations	0.25	41
Study Properties	0.49	46
Overall	0.38	87

Table 14.10 Resource Estimation ID^2 Cachoeira Veins

Threshold (g/t)	Tonnes	Gold (g/t)	Gold Cap (g/t)	Threshold (g/t)	Tonnes	Gold (g/t)	Gold Cap (g/t)
Arara Veins Indicated				Arara Veins Inferred			
10.00	8,717	17.825	15.921	10.00	22,795	12.592	12.556
5.00	26,406	10.649	9.675	5.00	61,645	9.011	8.925
1.00	295,696	2.692	2.577	1.00	429,186	3.221	3.179
0.90	327,963	2.521	2.416	0.90	458,772	3.075	3.036
0.80	364,541	2.353	2.259	0.80	492,241	2.923	2.887
0.70	404,547	2.194	2.109	0.70	525,467	2.786	2.752
0.60	442,561	2.061	1.984	0.60	560,421	2.652	2.620
0.50	482,872	1.935	1.864	0.50	587,895	2.554	2.523
0.40	511,565	1.852	1.785	0.40	617,116	2.454	2.425
0.35	528,435	1.805	1.740	0.35	631,690	2.406	2.378
0.30	544,356	1.761	1.698	0.30	646,973	2.357	2.329
0.20	573,811	1.684	1.624	0.20	676,553	2.265	2.238
0.10	602,986	1.610	1.553	0.10	704,208	2.182	2.157
Coruja Veins Indicated				Coruja Veins Inferred			
10.00	1,053	12.662	12.662	10.00	44	31.732	19.176
5.00	8,960	7.252	7.181	5.00	8,497	5.995	5.880
1.00	53,374	2.830	2.814	1.00	82,692	2.285	2.273
0.90	58,084	2.678	2.663	0.90	91,600	2.155	2.144
0.80	61,251	2.583	2.569	0.80	98,718	2.060	2.051
0.70	63,092	2.530	2.516	0.70	104,688	1.985	1.976
0.60	67,373	2.410	2.398	0.60	115,106	1.864	1.856
0.50	75,927	2.202	2.190	0.50	125,384	1.757	1.749
0.40	81,135	2.090	2.080	0.40	134,419	1.669	1.662
0.35	84,272	2.026	2.016	0.35	139,835	1.619	1.612
0.30	87,968	1.955	1.945	0.30	141,340	1.605	1.598
0.20	92,671	1.868	1.859	0.20	161,224	1.439	1.433
0.10	99,117	1.756	1.747	0.10	187,480	1.258	1.253
Tucano Veins Indicated				Tucano Veins Inferred			
10.00	102,328	19.129	9.833	10.00	45,889	14.451	13.920
5.00	302,006	11.008	7.112	5.00	116,677	9.860	9.534
1.00	2,581,624	2.992	2.500	1.00	1,569,337	2.533	2.505
0.90	2,839,177	2.806	2.359	0.90	1,723,189	2.391	2.366
0.80	3,099,501	2.642	2.233	0.80	1,842,529	2.292	2.268
0.70	3,341,613	2.505	2.125	0.70	1,949,280	2.207	2.185
0.60	3,569,426	2.387	2.031	0.60	2,059,236	2.124	2.103
0.50	3,787,679	2.281	1.945	0.50	2,134,191	2.069	2.049
0.40	3,963,525	2.200	1.879	0.40	2,188,927	2.029	2.009
0.35	4,051,741	2.160	1.846	0.35	2,207,256	2.015	1.995
0.30	4,135,406	2.123	1.816	0.30	2,223,596	2.002	1.983
0.20	4,264,404	2.066	1.768	0.20	2,251,528	1.981	1.961
0.10	4,380,527	2.015	1.725	0.10	2,290,229	1.950	1.931

Table 14.11 Resource Estimation ID^2 Cachoeira Alteration Envelopes

Threshold (g/t)	Tonnes	Gold (g/t)	Gold Cap (g/t)	Threshold (g/t)	Tonnes	Gold (g/t)	Gold Cap (g/t)
Arara Alteration Envelope Indicated				Arara Alteration Envelope Inferred			
10.00	65,537	19.142	7.816	10.00	50,031	19.424	6.709
5.00	92,455	15.820	6.720	5.00	51,189	19.190	6.632
1.00	327,836	5.839	3.090	1.00	209,837	5.933	2.841
0.90	367,418	5.312	2.858	0.90	267,648	4.857	2.433
0.80	446,703	4.519	2.501	0.80	346,257	3.946	2.072
0.70	542,828	3.851	2.190	0.70	450,344	3.207	1.766
0.60	681,593	3.200	1.876	0.60	611,786	2.529	1.469
0.50	902,473	2.550	1.550	0.50	845,187	1.981	1.214
0.40	1,279,570	1.929	1.224	0.40	1,324,481	1.425	0.935
0.35	1,592,239	1.623	1.056	0.35	1,757,048	1.166	0.797
0.30	2,029,340	1.343	0.899	0.30	2,306,591	0.965	0.684
0.20	3,467,232	0.888	0.627	0.20	4,213,452	0.639	0.485
0.10	6,221,286	0.559	0.413	0.10	8,624,647	0.385	0.309
Tucano Alteration Envelope Indicated				Tucano Alteration Envelope Inferred			
10.00	78,624	18.090	11.156	10.00	21,819	12.395	11.890
5.00	241,914	10.562	7.736	5.00	104,676	7.862	7.509
1.00	2,868,671	2.523	2.265	1.00	2,313,336	1.942	1.908
0.90	3,368,016	2.290	2.070	0.90	2,812,564	1.766	1.738
0.80	3,954,349	2.076	1.889	0.80	3,425,952	1.601	1.578
0.70	4,801,989	1.842	1.687	0.70	4,152,562	1.452	1.433
0.60	5,998,691	1.603	1.479	0.60	5,152,193	1.296	1.280
0.50	7,608,198	1.380	1.282	0.50	6,657,826	1.126	1.114
0.40	9,800,122	1.171	1.095	0.40	9,145,654	0.941	0.932
0.35	11,213,406	1.071	1.004	0.35	10,930,751	0.849	0.841
0.30	12,911,465	0.973	0.915	0.30	13,193,830	0.759	0.753
0.20	17,317,924	0.788	0.745	0.20	19,610,990	0.591	0.587
0.10	24,006,637	0.609	0.578	0.10	28,929,699	0.448	0.445

Table 14.12 Cachoeira Resource Estimate Summary

	Tonnes @ 0.35 g/t	Gold (g/t)	Gold Cap (g/t)	Gold (troy oz)	Gold Cap (troy oz)
Indicated					
Arara Veins	528,435	1.80	1.74	30,658	29,554
Coruja Veins	84,272	2.02	2.01	5,490	5,463
Tucano Veins	4,051,741	2.16	1.84	281,365	240,514
Total	**4,664,448**	**2.12**	**1.84**	**317,514**	**275,531**
Arara Halo	1,592,239	1.62	1.05	83,098	54,081
Tucano Halo	11,213,406	1.07	1.00	386,124	362,064
Total	**12,805,645**	**1.14**	**1.01**	**469,223**	**416,145**
Total Indicated	**17,470,093**	**1.40**	**1.23**	**786,737**	**691,676**
Arara Veins and Halo	2,120,674	1.67	1.23	113,757	83,635
Coruja Veins	84,272	2.03	2.00	5,490	5,415
Tucano Veins and Halo	15,265,147	1.36	1.23	667,490	602,578
Total Indicated	**17,470,093**	**1.40**	**1.23**	**786,737**	**691,676**
Inferred					
Arara Veins	631,690	2.40	2.37	48,871	48,293
Coruja Veins	139,835	1.61	1.61	7,277	7,246
Tucano Veins	2,207,256	2.01	1.99	142,982	141,588
Total	**2,978,781**	**2.08**	**2.06**	**199,130**	**197,126**
Arara Halo	1,757,048	1.16	0.79	65,865	45,001
Tucano Halo	10,930,751	0.84	0.84	298,205	295,629
Total	**12,687,799**	**0.89**	**0.84**	**364,070**	**340,630**
Total Inferred	**15,666,580**	**1.12**	**1.07**	**563,200**	**537,756**
Arara Veins and Halo	2,388,739	1.49	1.21	114,735	93,294
Coruja Veins	139,835	1.62	1.61	7,277	7,246
Tucano Veins and Halo	13,138,007	1.04	1.04	441,187	437,217
Total Inferred	**15,666,580**	**1.12**	**1.07**	**563,200**	**537,756**

14.11 BLOCK MODEL VALIDATION

The block model was validated visually by examining the relationship between block grades and the grades of the most proximal (within approximately 50 m in and between vertical sections) assays. There were no obvious discrepancies between the two. A second check was a comparison between the mean block grade and the mean composite grade. The average grade of uncapped gold grades in the block model is 1.8 g/t; the average grade of the corresponding composites is 1.9 g/t which is interpreted to be sufficiently similar to indicate that the estimate and underlying data are in good agreement. The third test was a visual examination of the “goodness of fit” of the block models to the underlying geological solids. Figure 14.4 demonstrates that the Arara block model closely mimics the vein/shear boundaries. Figure 14.5 demonstrates that the block model for the Arara alteration envelope is well-constrained within the geological solid that represents the alteration envelope but, as explained in Section 14.4, the alteration envelope resource was conservatively estimated with the result that grades were not estimated for significant portions of the alteration envelope and are represented in Figure 14.5 by blank areas.

Figure 14.6 is a vertical section through the Coruja vein-shear zone block model; no alteration envelope was constructed for Coruja.

Figure 14.7 is a vertical section through the Tucano vein-shear zone block model and Figure 14.8 is a corresponding vertical section through the Tucano alteration envelope. As for the Arara alteration envelope block model it should be noted that voids exist within the Tucano alteration envelope block model because of the constraints placed upon the estimation process; estimated blocks extend to the boundaries of the alteration envelope only where data provide sufficient support.

Figure 14.4 Vertical Section Through the Arara Shear Zone Block Model

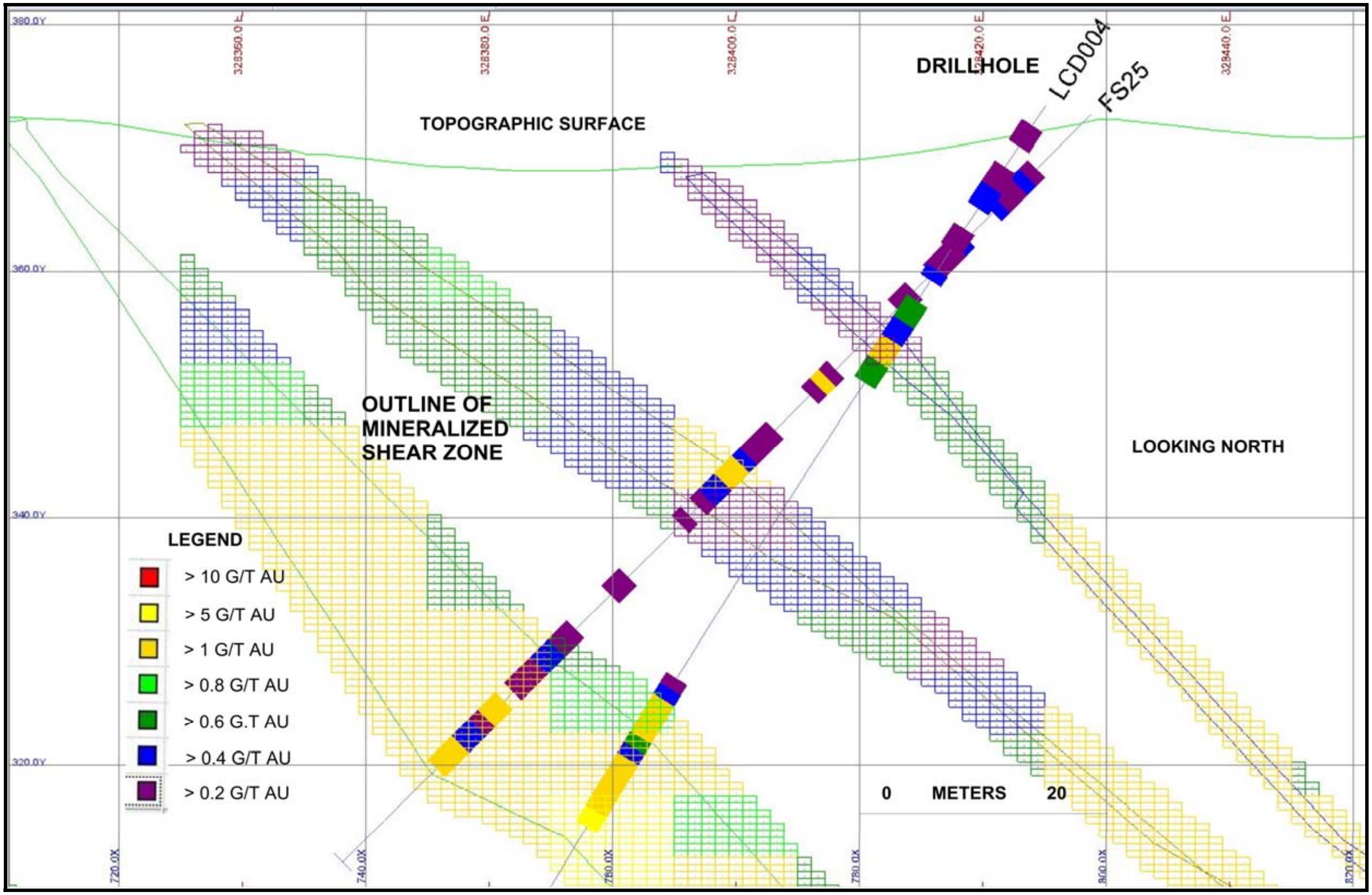


Figure 14.5 Vertical Section through the Arara Alteration Block Model

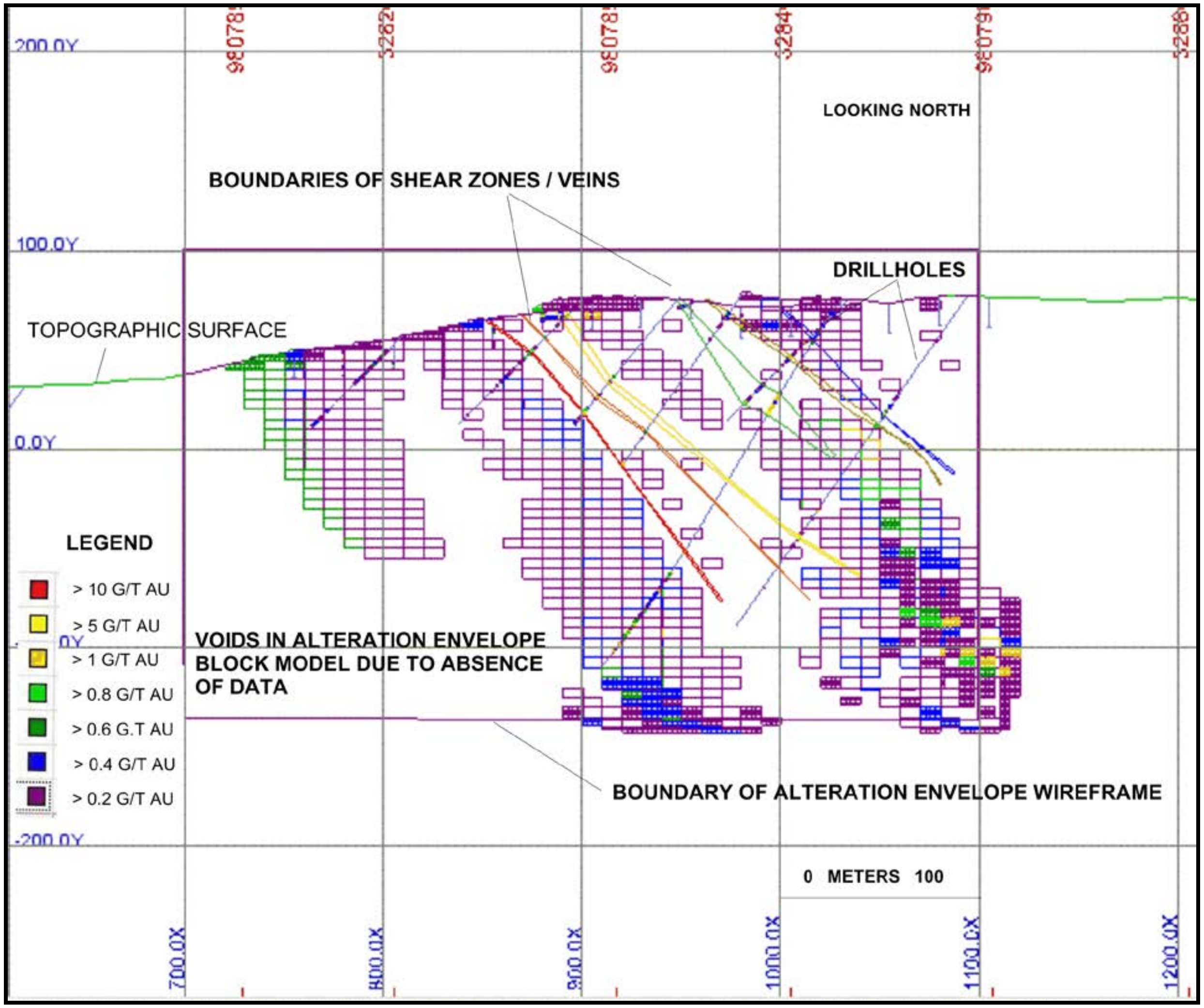


Figure 14.6 Vertical Section Through the Coruja Shear Zone Block Model

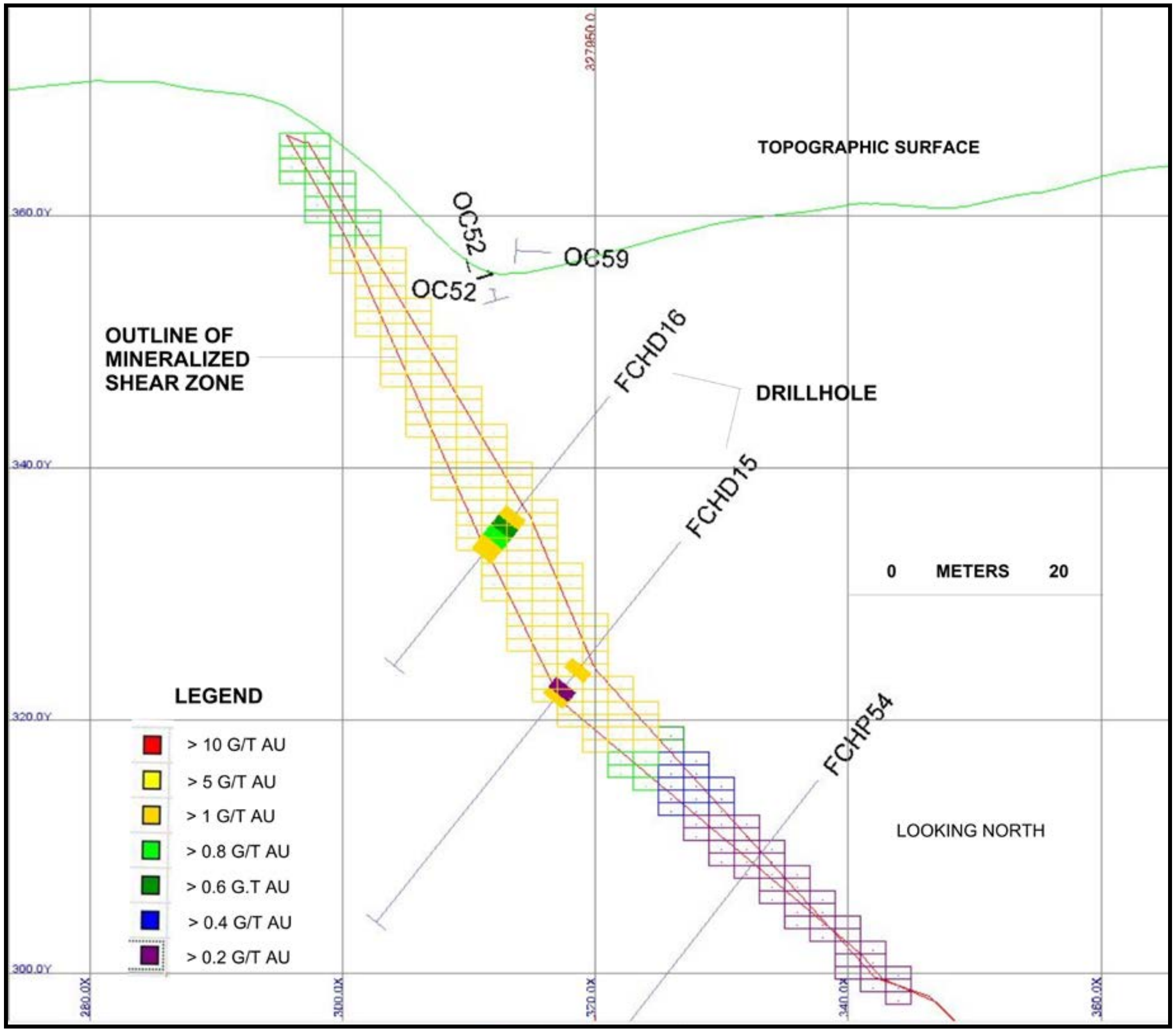


Figure 14.7 Vertical Section Through the Tucano Shear Zone Block Model

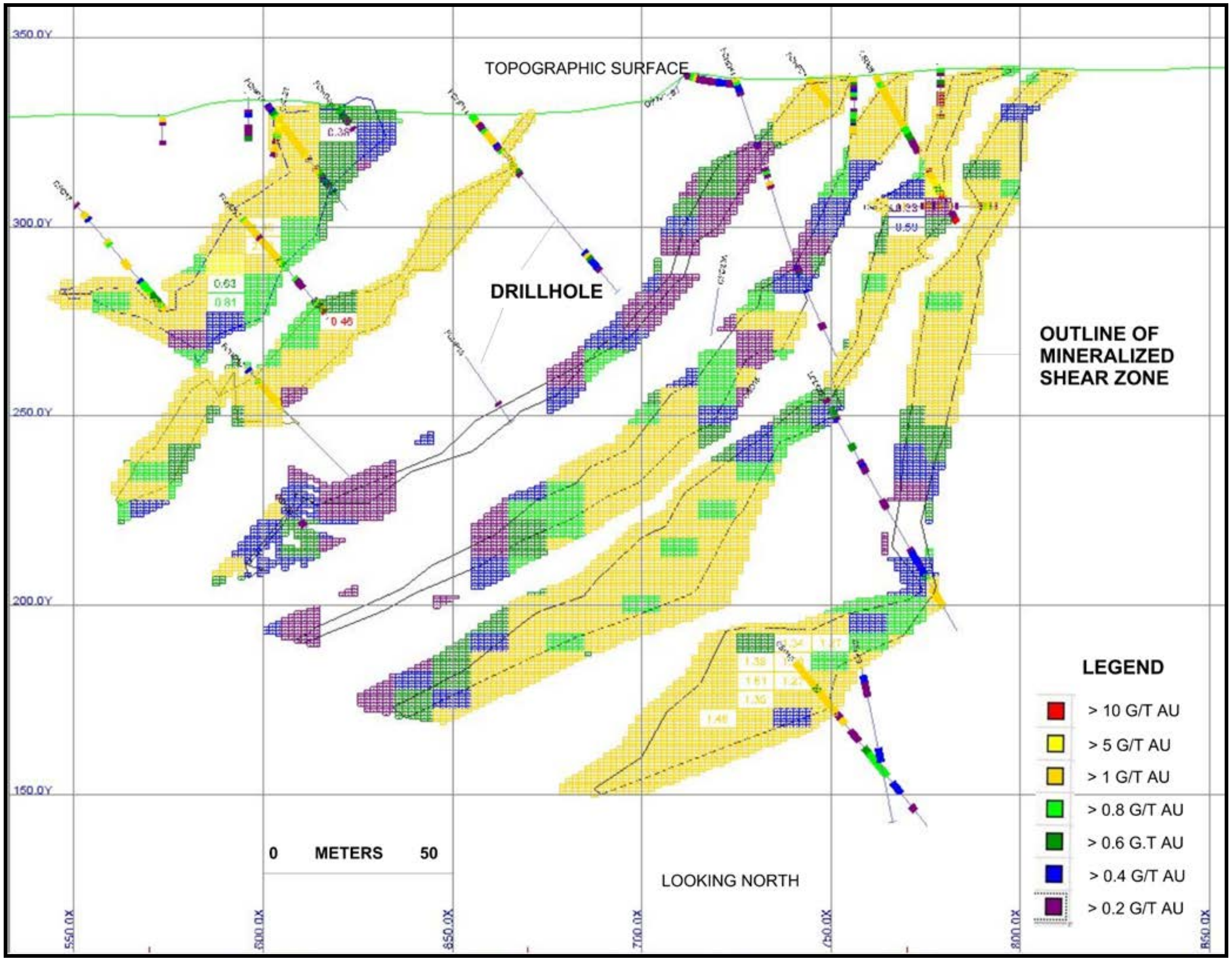
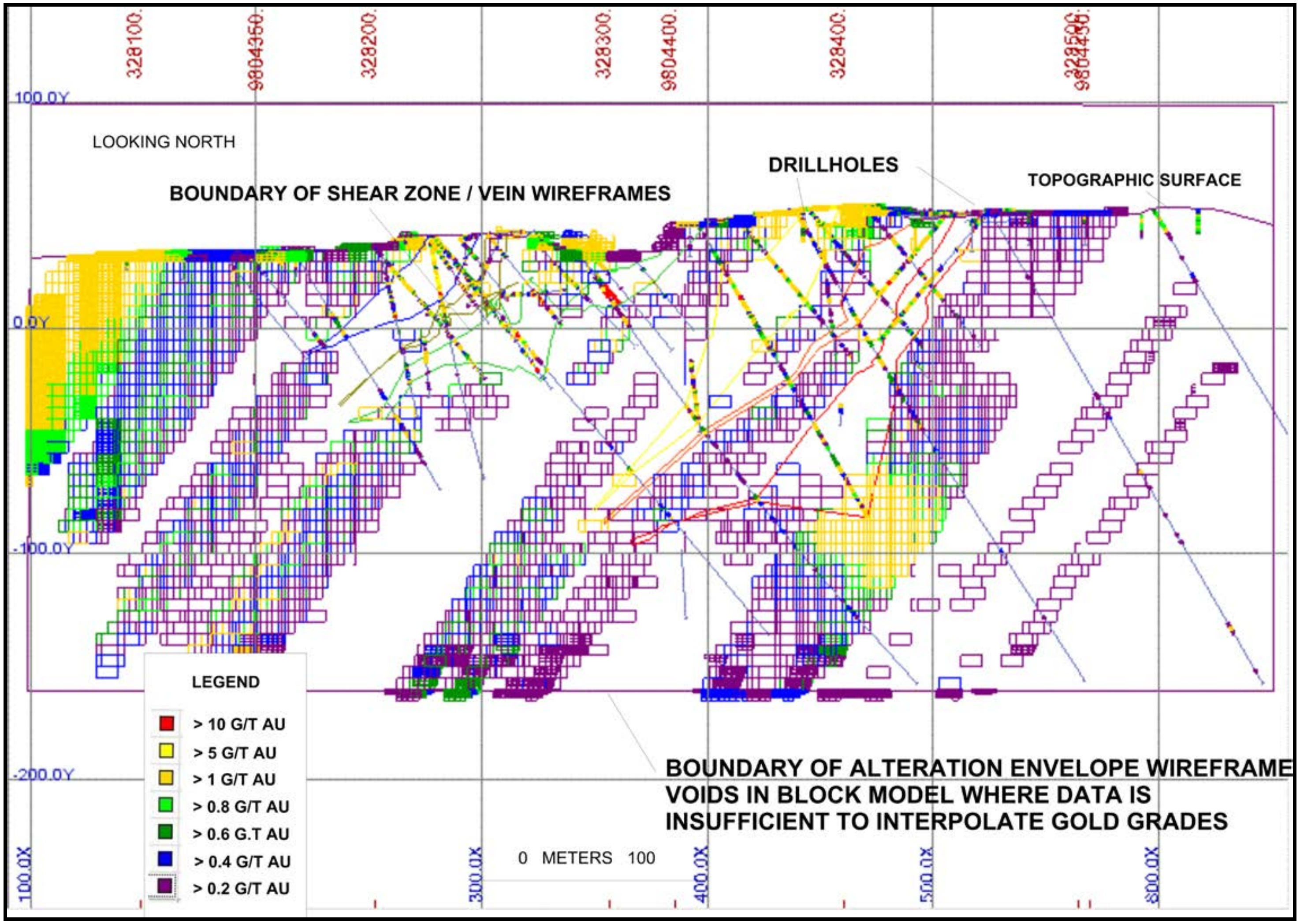


Figure 14.8 Vertical Section Through the Tucano Alteration Envelope Block Model



14.12 COMPARISON OF TETRA TECH AND RPA ESTIMATES

Table 14.11 shows a comparison between the current Tetra Tech resource estimate for the Property and the July 19, 2012 estimate prepared by RPA using the same dataset.

The RPA estimate does not differentiate between shear zone-hosted and alteration envelope-hosted resources so that a direct comparison between it and the Tetra Tech estimate is not possible. However, to the extent possible, the differences are discussed below.

As shown Table 14.11, the difference between the indicated estimates for the Arara Zone is insignificantly small. The reason for this is that the RPA conceptual pit is essentially coincident with the indicated portions of the combined Tetra Tech shear zone/vein (25%) and alteration envelope (75%) geological domains. Also, in part, the similarity is a reflection of the relative similarity of the geological models that were produced by both Tetra Tech and RPA for the Arara Zone. This similarity does not hold for the other two zones.

The two inferred estimates for the Arara Zone differ significantly: the RPA estimate contains only 38,000 t of Inferred Resource for the Arara Zone whereas the Tetra Tech estimate contains approximately 2.39 Mt. This difference is attributable to the fact that the RPA conceptual pit has excluded a large volume of rock that is represented by the Tetra Tech alteration envelope model that comprises 64% of the Tetra Tech Inferred Resource for the Arara Zone.

The RPA indicated estimate for the Coruja Zone is approximately four times larger than the Tetra Tech estimate (352,000 t versus 84,000 t). By contrast, the Tetra Tech Inferred Resource for the Coruja Zone is approximately three times larger than the corresponding RPA estimate (140,000 t versus 47,000 t). These differences are attributable to the fact that RPA modelled more mineralized shear zone/vein domains within the Coruja Zone than Tetra Tech did. It is Tetra Tech's opinion that the data are too sparse to permit the confident interpretation of more than a single shear zone/vein domain and are too sparse to permit the confident identification of an alteration envelope of any dimension. Therefore, the Tetra Tech estimate for the Coruja Zone contains fewer tonnes than the RPA estimate although it should be noted that the average grades estimated by Tetra Tech are higher than the corresponding grades estimated by RPA because Tetra Tech modelled only the most continuous trend of mineralized shear zone and therefore captured more gold mineralization within that domain than did RPA in their more numerous but more discontinuous domains.

The greatest difference between the two estimates relates to the Tucano Zone which is, by both estimates, the most significant of the three mineralized zones on the Property.

Although the grades estimated by both Tetra Tech and RPA are similar for both the Indicated and Inferred Resources within the Tucano Zone, the tonnages differ substantially: the Tetra Tech indicated resource contains approximately 5 M more tonnes and the Inferred Resource 7.8 Mt than the RPA estimate.

The shear zone/vein tonnage estimated by Tetra Tech in the indicated category is approximately 4 Mt. Although it is not explicit, it appears that the corresponding tonnage of shear zone/vein mineralization estimated by RPA amounts to approximately 2.5 Mt so that 1.5 of the 5 Mt difference can be attributed to the more continuous shear zones that were modelled by Tetra Tech relative to the more segmented zones modelled by RPA.

The balance of the difference, the additional approximately 3.5 Mt estimated by Tetra Tech can be assumed to fall outside the RPA conceptual pit and is interpreted by Tetra Tech to be largely comprised of alteration envelope material because the difference between the Tetra Tech indicated alteration envelope resource and the corresponding RPA resource is 3.6 Mt (11.2 M estimated by Tetra Tech versus 7.6 M estimated by RPA).

The Inferred Resource estimated by Tetra Tech for the Tucano Zone contains approximately 11 Mt versus 5.3 M estimated by RPA. Approximately 2.2 of the 11 Mt estimated by Tetra Tech is represented by shear zones/veins and the balance by alteration envelope. As for the difference between the indicated resources, the difference of 5.7 Mt for the Inferred Resource is assumed to be represented by mineralization that falls outside the bounds of the RPA conceptual pit. However, these resources are by definition based on sparse data and whether, if they were better-defined they would remain outside the conceptual pit cannot be determined. It therefore is considered premature to exclude them from the resource estimate, particularly as they are in the resource category of the lowest level of confidence and are not being represented as resources that are substantially known; their existence, in terms of both tonnage and grade, are being inferred and are identified as such.

14.13 OTHER RELEVANT FACTORS

Tetra Tech is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, and political or other relevant factors that could materially affect this resource estimate with the exception that if they wish to exploit the Tucano Zone, Brazil Resources will be obliged to acquire surface rights that may encompass a portion of the village of Cachoeira. As neither the extent of those surface rights, the timing relating to their acquisition, nor the terms under which those rights may be obtained are presently known, the impact of their acquisition cannot be judged at this time.

Table 14.13 Comparison of the Tetra Tech and RPA Cachoeira Resource Estimates

Tetra Tech Resource Estimate (this report)				RPA Estimate (July 19, 2012)				Difference Between Estimates		
	Tonnes at 0.35 g/t	Gold Cap (g/t)	Gold Cap (troy oz)		Tonnes at 0.35 g/t	Gold Cap (g/t)	Gold Cap (troy oz)	Tonnes at 0.35 g/t	Gold Cap (g/t)	Gold Cap (troy oz)
Indicated										
Arara	2,120,674	1.23	83,635	Arara	2,104,321	0.92	62,243	16,353	0.31	21,392
Coruja	84,272	2.00	5,415	Coruja	351,941	1.16	13,126	-267,669	0.84	-7,711
Tucano	15,265,147	1.23	602,578	Tucano	10,077,236	1.14	369,349	5,187,911	0.09	233,229
Total Indicated	**17,470,093**	**1.23**	**691,676**	**Total Indicated**	**12,533,498**	**1.10**	**444,718**	**4,936,595**	**0.05**	**246,910**
Inferred										
Arara	2,388,739	1.21	93,294	Arara	38,112	0.72	882	2,350,627	0.49	92,412
Coruja	139,835	1.61	7,246	Coruja	46,729	0.90	1,352	93,106	0.71	5,893
Tucano	13,138,007	1.04	437,217	Tucano	5,344,462	1.28	219,940	7,793,545	-0.24	217,276
Total Inferred	**15,666,581**	**1.07**	**537,756**	**Total Inferred**	**5,429,303**	**1.27**	**222,175**	**10,237,278**	**-0.07**	**315,582**

15.0 ADJACENT PROPERTIES

There are no adjacent properties the description of which would enhance the current understanding of the Property.

16.0 OTHER RELEVANT DATA AND INFORMATION

There is no additional information or explanation that would make this technical report more understandable and not misleading.

17.0 INTERPRETATIONS AND CONCLUSIONS

The Property in underlain by a shear zone of regional extent that cuts Precambrian-age metasedimentary and metavolcanic rocks.

The shear zone contains gold and pyrite in association with quartz veins, veinlets, and networks.

The veins and host shear zones are commonly surrounded by an irregular alteration envelope comprised principally of quartz-albite-pyrite. This envelope contains lower-grade but potentially significant quantities of gold.

There are three principal and similar zones of gold mineralization within the Property, named Arara, Coruja and Tucano (from north to south).

The Property has been the subject of significant exploration programs since the late 1970s and has been exploited on a small scale since the 1980s by artisanal miners.

The Arara and Tucano Zones have been explored more extensively and intensively than the intervening Coruja Zone.

Resource estimates have been carried out for the three zones. Separate estimates have been made for the vein/shear zones and for the surrounding alteration envelopes. Resources contained the alteration envelope have not been estimated for the Coruja zone because available data is too sparse to confidently permit an interpretation of its geometry and dimensions.

Resources have been estimated using ID^2 weighting.

On the basis of a similar estimation conducted in 2012, a lower grade threshold of 0.35 g/t gold was chosen as the base case.

Resources have been classified as indicated or inferred. A synopsis of the estimate is presented below in Table 17.1.

Table 17.1 Cachoeira ID^2 Resource Estimate Synopsis

	Tonnes @ 0.35 g/t	Gold (g/t)	Gold Cap (g/t)	Gold (troy oz)	Gold Cap (troy oz)
Indicated					
Arara Veins	528,435	1.80	1.74	30,658	29,554
Coruja Veins	84,272	2.02	2.01	5,490	5,463
Tucano Veins	4,051,741	2.16	1.84	281,365	240,514
Total	**4,664,448**	**2.12**	**1.84**	**317,514**	**275,531**
Arara Halo	1,592,239	1.62	1.05	83,098	54,081
Tucano Halo	11,213,406	1.07	1.00	386,124	362,064
Total	**12,805,645**	**1.14**	**1.01**	**469,223**	**416,145**
Total Indicated	**17,470,093**	**1.40**	**1.23**	**786,737**	**691,676**
Arara Veins and Halo	2,120,674	1.67	1.23	113,757	83,635
Coruja Veins	84,272	2.03	2.00	5,490	5,415
Tucano Veins and Halo	15,265,147	1.36	1.23	667,490	602,578
Total Indicated	**17,470,093**	**1.40**	**1.23**	**786,737**	**691,676**
Inferred					
Arara Veins	631,690	2.40	2.37	48,871	48,293
Coruja Veins	139,835	1.61	1.61	7,277	7,246
Tucano Veins	2,207,256	2.01	1.99	142,982	141,588
Total	**2,978,781**	**2.08**	**2.06**	**199,130**	**197,126**
Arara Halo	1,757,048	1.16	0.79	65,865	45,001
Tucano Halo	10,930,751	0.84	0.84	298,205	295,629
Total	**12,687,799**	**0.89**	**0.84**	**364,070**	**340,630**
Total Inferred	**15,666,580**	**1.12**	**1.07**	**563,200**	**537,756**
Arara Veins and Halo	2,388,739	1.49	1.21	114,735	93,294
Coruja Veins	139,835	1.62	1.61	7,277	7,246
Tucano Veins and Halo	13,138,007	1.04	1.04	441,187	437,217
Total Inferred	**15,666,580**	**1.12**	**1.07**	**563,200**	**537,756**

Significant exploration potential remains around and within the three known zones and the potential exists to locate additional gold mineralization along the shear zone where it passes to the northeast beyond the present eastern boundary of the Property.

The Property extends to the north well beyond the probably point of exit of the shear zone to the northeast beyond the eastern boundary of the Property. The exploration potential of the area of the Property to the north of probably limits of the shear zone is considered to be low.

18.0 RECOMMENDATIONS

Recommendations for further work on the Property include:

- conduct in-fill drilling in critical portions of the three zones to support the upgrading of currently Inferred portions of those zones into the Indicated resource category
- conduct exploratory drilling elsewhere within the Property where historical drillholes have intersected indications of mineralization that have not been incorporated into any of the currently interpreted vein/shear zones
- carry out metallurgical tests of mineralization from the known zones to determine how best to recover the gold
- explore the possibility of acquiring exploration rights to the northeastward extension of the shear zone where it passes out of the eastern boundary of the Property.

A budget for this work as well as necessary expenditures for permitting and socio-economic studies is shown in Table 18.1. If this work is successful, the outcomes will be:

- to increase the indicated portion of the currently known resource
- to expand the currently known resource
- to advance the Property toward production.

Table 18.1 Recommended Exploration Budget

Description	Value ($)
Drilling 5,000 m @ $250/m Total Cost	1,250,000
Analyses 5,000 m @ $25/Sample	125,000
Metallurgical Tests (Arara and Tucano)	450,000
Salaries and Consulting Fees	830,000
Vehicle Expenses	260,000
Contingency	150,000
Socio-economic Consulting	145,000
Licencing and Permitting	820,000
Scoping Study	350,000
Total	**4,380,000**

19.0 REFERENCES

Companhia Vale do Rio Doce, February 1989 “Projeto Ouro Mineração C.C.O. Estudos Preliminares de Condcentração Gravítica e Lixiviação com Cianeto de Minéro de Ouro”.

Companhia Vale do Rio Doce, June 1989 “Projeto Ouro Mineração C.C.O. Ensaios de Extração de Ouro Através de Lixiviação en Coluna com Cianeto

Lakefield Research, July 2000 “Metallurgical Testwork on Four Ore Samples Submitted by Gold Fields Exploration Draft Report Project LR 3278”

Luna Gold, April 29, 2013 “NI 43-101 Technical Report, Aurizona Resource and Reserve Update, Brazil For Luna Gold Corp. (Company report)”

Luna Gold Website: www.lunagold.com/en/explorationprojects/AurizonaResourceStatements

Roscoe Postle Associates Inc. (RPA), July 19, 2012. Technical Report on the Cachoeira Project, Pará State, Brazil. For Brazil Resources Inc.

20.0 CERTIFICATE OF QUALIFIED PERSON

I, Gregory Z. Mosher, P.Geo., of North Vancouver, British Columbia, do hereby certify:

- I am a Senior Geologist with Tetra Tech WEI Inc. with a business address at Suite 800, 555 West Hastings Street, Vancouver, British Columbia, V6B 1M1.
- This certificate applies to the technical report entitled Technical Report and Resource Estimate on the Cachoeira Property, Pará State, Brazil, dated April 17, 2013 and amended and re-stated October 2, 2013 (the "Technical Report").
- I am a graduate of Dalhousie University (B.Sc. Hons., 1970) and McGill University (M.Sc. Applied, 1973). I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia, License #19267. My relevant experience with respect to shear-hosted gold deposits includes over 30 years of exploration for and evaluation of such deposits in a wide variety of geological settings. Additionally I have conducted resource estimates of shear-hosted gold deposits over the past eight years including the Jinlongshan, Qishiwu, Yuan Jia Ling and Sawayaerdun properties in China; the Taç and Çorak properties in Turkey; the Monument Bay property in Manitoba and the Lynx Property in the Yukon. I am a "Qualified Person" for the purposes of National Instrument 43-101 (the "Instrument").
- My most recent personal inspection of the Property was February 2 and 3, 2013 for a period of two half days.
- I am responsible for Sections 1.0 to 20.0 of the Technical Report.
- I am independent of Brazil Resources Inc. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the Technical Report has been prepared in compliance with the Instrument.
- As of the date of this certificate, 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.

Signed and dated this 2nd day of October, 2013 at Vancouver, British Columbia.

Original document signed and sealed by
Gregory Z. Mosher, P.Geo.

Gregory Z. Mosher, P.Geo.
Senior Geologist
Tetra Tech WEI Inc.