TECHNICAL REPORT

ON THE

BOROO GOLD MINE

MONGOLIA

CENTERRA GOLD INC.

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Centerra Gold Inc.

December 17, 2009
Toronto, Canada

Boroo Site - Satellite Image

September 2009

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1. SUMMARY

1.1 Boroo Gold Project

The Boroo open pit gold project, located in northern Mongolia, was the first significant foreign investment of industrial development in the country since 1979 and after reaching commercial production on March 1, 2004 has produced in excess of 1.26 million ounces by October 31, 2009.

The Boroo Gold Company Limited (BGC) is the current project operator and is wholly owned by Centerra Gold Inc. (Centerra). BGC originally acquired the Boroo project in 1997. In 1998 AGR Limited (AGR), an unlisted public company incorporated in the British Virgin Islands, acquired an initial 85% interest in BGC with the Altai Trading Company Limited (Altai), a Mongolian private company, holding the remaining 15%. In 2000, Altai sold two-thirds of its interest to AGR resulting in AGR holding a 95% interest in BGC and Altai holding the remaining 5%.

In 2002, Cameco Gold Inc. (Cameco Gold), the predecessor to Centerra, acquired a 56% interest in AGR followed later in 2004 with Cameco Gold acquiring the remaining 44% interest in AGR. At the time of Centerra's initial public offering and listing on the TSX exchange in 2004, Centerra held a 95% interest in BGC with Altai holding the remaining 5%. In 2007, Centerra acquired Altai's 5% interest in BGC, resulting in Centerra owing 100% of BGC.

Boroo has now been in commercial production for over five years and as of November 1, 2009, it is estimated that it will produce a further 438,000 ounces of gold to December 31, 2015 at an estimated average cash cost of $433 per ounce.

Gold production is expected to come from three sources:

- The processing of the remaining Boroo oxide and transitional ores in 2010;
- Heap leach production until 2013; and
- The processing of remaining Boroo refractory ore through a BIOX® facility which is planned for installation at Boroo for processing of Gatsuurt refractory ore.

If the BIOX® facilities are not constructed at Boroo, the remaining Boroo refractory ore would be processed through the existing mill at a lower recovery and gold production.

1.2 Property Location and Description

The Boroo gold project is located in the Republic of Mongolia some 110 kilometres to the northwest of the capital city of Ulaanbaatar and about 230 kilometres to the south of the international boundary with Russia, at 48°45' N and 106°10' E.

In the Boroo mine area, BGC has been granted the exclusive rights to all hard-rock minerals and placer deposits within a number of contiguous mining licenses, which cover 6 354 hectares of land centred on, and surrounding the Boroo gold deposit. The licenses are located in about equal measure in the counties (soums) of Bayangol and Mandal, situated in the province (aimag) of Selenge.

1.3 Geology and Mineralization

The Boroo gold deposit is a low silica Au+As sulphide system associated with a zone of quartz-sericite-pyrite (QSP) alteration in the sub horizontal Boroo fault. Boroo is an intrusion-related gold deposit and hosted by a Cambrian-Ordovician sequence of highly deformed shales, siltstones and fine sandstones of the Haraa turbidite sediments, and the Paleozoic granitoids of the Boroo Complex.

Gold mineralization on the Boroo project is controlled by a northerly trending thrust fault that dips at a very low angle to the west. In the northern part of the property, the thrust fault cuts across the contact between sedimentary rocks and granitic rocks, while in the southern part of the property the thrust fault is entirely contained within sedimentary rocks. Gold mineralization within the thrust fault zone is found together with disseminated sulphides in a pervasive zone of quartz-sericite alteration, and also in quartz-sulphide veins in which gold is commonly coarse-grained.

To date, four zones of economic gold mineralization have been identified on the Boroo property along the trend of the thrust fault, identified as Zones 2, 3, 5 and 6. The gold mineralization and the enclosing near-surface rocks have been subject to weathering and resulting oxidation. The oxide zone, generally located near surface has undergone the highest degree of oxidation, followed by a transitional zone, and then the underlying fresh rocks in the primary zone of mineralization.

1.4 Mineral Reserves and Resources and LOM plan at October 31, 2009

In October 2009, mineral reserves and resources for the Boroo project were estimated by Dan Redmond, P. Geo., Director of Mining, of the Technical Services Department of Centerra and are listed as of October 31, 2009. These reserves and resources include heap leach processing in the Life-of-Mine (LOM) plan outlined in the tables below.

This update assumed a gold price of $825 per ounce and with cut-off grades of 0.5 g/t gold for the heap leach, and 1.2 g/t gold for processing either through the existing mill or BIOX® facility.

Fresh ore makes up 74% of the remaining in-situ reserves that will be processed through the existing Boroo mill with transition and minor amounts of oxide ore making up the balance. Heap leach reserves, the majority of which now sit in stockpiles are made up of oxide, transitional and minor fresh ore types.

Boroo Mineral Reserves and Mineral Resources at October 31, 2009

Reserves[1] (Tonnes and ounces in thousands)[6][7]										
	Proven			**Probable**			**Total Proven and Probable Mineral Reserves**			
Property	Tonnes	Grade (g/t)	Contained Gold (oz)	Tonnes	Grade (g/t)	Contained Gold (oz)	Tonnes	Grade (g/t)	Contained Gold (oz)	Mining Method[3]
Boroo[1] [5]	9,923	0.9	274	6,426	1.7	341	**16,349**	**1.2**	**615**	OP

Measured and Indicated Resources[2] (Tonnes and ounces in thousands)[6][7]										
	Measured			**Indicated**			**Total Measured and Indicated Mineral Resources**			
Property	Tonnes	Grade (g/t)	Contained Gold (oz)	Tonnes	Grade (g/t)	Contained Gold (oz)	Tonnes	Grade (g/t)	Contained Gold (oz)	Mining Method[3]
Boroo[4] [5]	452	2.2	32	4,464	1.5	210	**4,916**	**1.5**	**242**	OP

Inferred Mineral Resources[2] (Tonnes and ounces in thousands)[6][7][8]				
	Inferred			
Property	Tonnes	Grade (g/t)	Contained Gold (oz)	Mining Method[3]
Boroo[4] [5]	**7,323**	**1.0**	**233**	OP

1. The reserves have been estimated based on a gold price of $825 per ounce.
2. Mineral resources are in addition to reserves. Mineral resources do not have demonstrated economic viability.
3. “OP” means open pit.
4. Open pit resources occur outside the current ultimate pits which have been designed using a gold price of $825 per ounce.
5. The reserves and resources at Boroo are estimated based on a 0.5 g/t of gold cutoff grade.
6. A conversion factor of 31.10348 grams per ounce of gold is used in the reserve and resource estimates.
7. Numbers may not add up due to rounding.
8. Inferred mineral resources have a great amount of uncertainty as to their existence and as to whether they can be mined legally or economically. It cannot be assumed that all or part of the inferred mineral resources will ever be upgraded to a higher category.

The proven and probable reserves as of October 31, 2009, including the stockpiles, are estimated at 615,000 ounces of contained gold, compared to 778,000 ounces of contained gold as at the year end 2008 which is an increase of 25,000 ounces of contained gold before accounting for production in the first ten months of 2009 (to October 31), where 135,000 contained ounces of gold were fed to the mill, and 53,000 ounces of contained gold were added to heap leach pad. The remaining reserves are divided about equally between heap leach and milling.

Measured and indicated resources are estimated at 242,000 ounces of contained gold using the same cut-off grade as the reserve estimate and no changes to the final pit design, cut-off, grade or resource block model were completed in 2009, there was no change to these resource figures relative to the 2008 year end.

At the Boroo mine, there was no significant change as a result of updating the reserves and resources. In the updated life-of-mine plan, outlined below, some of the refractory ore scheduled for milling has been deferred into future years to take advantage of higher recoveries and revenues from processing using the planned Bio-oxidation circuit when it is in operation.

Total gold production from Boroo is estimated to be 438,000 ounces from November 1, 2009 to 2015 year end as outlined below:

Boroo Life-Of-Mine Production Forecast November 1, 2009 to December 31, 2015
-thousands of tonnes of ore and waste and ounces of gold-

			2009 (1)	2010	2011	2012	2013	2014	2015	Total
Mining	Milling Ore	t	769	445			1 377	626		3 217
	Grade	Au (g/t)	2.2	2.2			2.5	3.3		2.5
	Heap leach Ore	t	684	405			1562	558		3 209
	Grade	Au (g/t)	0.9	1.0			0.7	0.6		0.8
	Waste	t	987	416			8 748	5 536		15 687
	Total	t	2 440	1266			11 687	6 720		22 113
Mill Stockpile (2)	**(t)**	472	845							
Closing Inventory	**(g/t)**	2.9	2.6							
HL Stockpile (2)	**(t)**	9 451	9 742	7 147	4 147	1 147				
Closing Inventory	**(g/t)**	0.8	0.8	0.8	0.8	0.8				
Milling	Ore	t	397	1 289						
	Grade	Au (g/t)	2.2	2.5						
	Recovery	%	74%	62%						
	Recovered Gold	Ounces	21	63						
Heap Leach	Ore	t	393	3 000	3 000	3 000	2 709	558		12 660
	Grade	Au (g/t)	0.8	0.8	0.8	0.8	0.8	0.6		0.8
	Recovery	%	0%	60%	60%	57%	54%	164%		66%
	Recovered Gold	Ounces	0	44	47	42	37	18	16	204 (3)
BIOX®	Ore	t					1 377	626		2 003
	Grade	Au (g/t)					2.5	3.25		2.7
	Recovery	%					85%	85%		85%
	Recovered Gold	Ounces					94	56		150
Total Gold Produced		**Ounces**	**21**	**107**	**47**	**42**	**131**	**74**	**16**	**438**
Cash Cost per Ounce		**$/oz**	556	370	351	387	544	458	107	**433**

(1) From November 1, 2009 to December, 31 2015.
(2) Closing Ore Stockpile Inventory at October 31, 2009
(3) Heap Leach Total Ore production included gold from ore currently stacked on the leach pad

The mining of mineral reserves at Boroo requires rather shallow open pits with a consequent overall modest waste-to-ore strip ratio. Mining at Boroo will temporarily cease in 2010 (for both milling and heap leach ore) with the remaining equipment redeployed to Gatsuurt mine operations. Limited equipment will remain at Boroo for re-handling stockpiled heap leach ore. Mining at Boroo will resume in 2013 to access refractory ore for processing in the BIOX® facilities planned to be installed for processing Gatsuurt refractory ore.

1.5 Mining and Gold Processing Operations

Development and construction activities commenced at the Boroo site in 2002 as a conventional open-pit gold mining operation built to initially mine about 1.7 million tonnes of ore per year with an expected average gold grade of 3.6 g/t.

At the current mill facility commissioned in late 2003, gold processing is conventional with standard gravity and leaching flowsheets with an average gold recovery of 87% to date. Actual mill throughput has consistently been approximately 2.2 million tonnes per year since 2005.

The heap leach facility was commissioned in 2008 where low grade ore is stacked and leached at a nominal rate of 3 million tonnes per year. An ultimate recovery of 66% will be achieved through initial leaching and secondary leaching of stacked ore. Production prior to the suspension in May 2009 of heap leaching operations due to the expiry of the temporary heap leach operating permit is approximately 43,000 ounces. The final operating permit is expected but the date is not known.

1.6 Projected Economic Performance

Boroo has operated as a relatively low-cost gold producer, because of the low waste-to-ore ratio, good ore grade and amenability of the ore to standard metallurgical treatment. The resulting cash cost per ounce of gold produced, including a 5% royalty on gold sales paid to the Government of Mongolia, is estimated to average about $433 per ounce over the period November 1, 2009 to 2015 year end.

Based on projected gold production for the Boroo mine and associated operating costs for the period November 1, 2009 to 2015 year end, estimates for sustaining capital, royalty and taxes, and a gold price of $825 per ounce, the Boroo mine would have net cash flow of $95.5 million.

As outlined in the LOM plan, the processing of Boroo refractory ore through the planned BIOX® facilities at Boroo for the processing of Gatsuurt refractory ore would provide the highest overall recovery and resulting gold production. If the BIOX® facilities are not constructed at Boroo, the remaining refractory ore would be processed through the existing mill at a lower recovery and gold production.

Costs for sustaining capital and funding of the reclamation trust for the period from November 1, 2009 to 2015 year end are estimated to be $32.9 million while further expansions of the existing Boroo tailings management facility will be undertaken as part of the Gatsuurt project and therefore costs associated with this have not been included.

In summary, the performance of the Boroo project has been very satisfactory to date with the project having been developed and brought into production as planned. The operating results from the first five years have met all expectations with respect to grade, tonnage, mill throughput and gold production.

1.7 Mongolian Regulatory Matters and Legislation

BGC and Centerra have encountered a number of Mongolian regulatory issues during 2009. In particular, on June 12, 2009, the main operating licenses at Centerra's Boroo mine were suspended by the Minerals Resources Authority of Mongolia ("MRAM") following extensive inspections of the Boroo mine operation conducted by the General Department of Specialized Inspection ("SSIA"). In its report, the SSIA expressed its view that a number of deficiencies existed at the Boroo mine. After discussions by Centerra and its subsidiaries with both the MRAM and the SSIA, the suspension of the operating licenses was lifted on July 27, 2009. Despite the lifting of the suspension, several issues arising from the inspections continue to be discussed by Centerra and the Mongolian regulatory authorities.

On October 23, 2009, Centerra received a very significant claim for compensation from the SSIA in respect of certain mineral reserves, including state alluvial reserves covered by the Boroo mine licenses, that are recorded in the Mongolian state reserves registry but for which there are no or incomplete records or reports of mining activity. Centerra disputes the claim. While Centerra cannot give assurances, it believes settlement will be concluded through negotiation and will not result in a material impact. In addition, the SSIA inspections raised a concern about the production and sale of gold from the Boroo heap leach facility. Centerra understands that this matter has been referred to the Mongolian Ministry of Finance for review but has received no official notice of any concern. On November 2, 2009, Centerra received a letter from the Mongolian Ministry of Finance re-iterating some of the issues raised by the SSIA and indicating that the Boroo Stability Agreement would be terminated if such issues were not resolved within a period of 120 days from the date of the letter. The Company is in discussions with the Ministry of Finance regarding such concerns.

While Centerra believes that the issues raised by the Ministry of Finance will be resolved through negotiations with the authorities without a material impact on the Company, there can be no assurance that this will be the case.

1.8 Conclusions and Recommendations

This review of the Boroo project has confirmed the following key items:

1. The remaining proven and probable mineral reserves of 16.35 million tonnes with an

average grade of 1.2 g/t gold with 615,000 contained ounces and at the gold price of $825 per ounce shows a net cash flow of $95.5 million based on the ore to be treated according to the LOM plan. This demonstrates that the remaining Boroo mineral reserves are economically viable.

2. The heap leach was commissioned in June 2008 at a capital cost of $26 million and produced approximately 43,000 oz as of the expiry of the temporary operating permit in May 2009, when heap leach operations were suspended. A permanent operating permit must be obtained to resume heap leach gold production. BGC has been pursuing a full time permit since heap leach pilot operation commenced in 2008. Although BGC reports that this permit approval is expected, the exact date of approval is not known on the date of record for this report.
3. In 2010, the Boroo mine operation will wind up and it is currently planned that the majority of the current mining fleet at Boroo will be transferred to the Gatsuurt operation.
4. As of October 31, 2009, the Boroo mine has recorded an average mill head gold grade of 3.62 g/t from the milling of 13.3 million tonnes. A total of 5.86 million tonnes of low grade ore has been stacked for heap leaching at a grade of 0.72 g/t. and has performed well relative to the original expectations of the project in 2004.
5. As no apparent viable exploration targets remain in and near the Boroo mine, no additional exploration is planned at this time.

2. INTRODUCTION

2.1 General

The Boroo open pit gold project, located in northern Mongolia, was the first significant foreign investment of industrial development in the country since 1979 and after reaching commercial production on March 1, 2004 has produced in excess of 1.26 million ounces by October 31, 2009.

The Boroo Gold Company Limited (BGC) is the current project operator and is wholly owned by Centerra Gold Inc. (Centerra). BGC originally acquired the Boroo project in 1997. In 1998 AGR Limited (AGR), an unlisted public company incorporated in the British Virgin Islands, acquired an initial 85% interest in BGC with the Altai Trading Company Limited (Altai), a Mongolian private company, holding the remaining 15%. In 2000, Altai sold two-thirds of its interest to AGR resulting in AGR holding a 95% interest in BGC and Altai holding the remaining 5%.

In 2002, Cameco Gold Inc. (Cameco Gold), the predecessor to Centerra, acquired a 56% interest in AGR followed later in 2004 with Cameco Gold acquiring the remaining 44% interest in AGR. At the time of Centerra's initial public offering and listing on the TSX exchange in 2004, Centerra held a 95% interest in BGC with Altai holding the remaining 5%. In 2007, Centerra acquired Altai's 5% interest in BGC, resulting in Centerra owing 100% of BGC.

Boroo has now been in commercial production for over five years and as of November 1, 2009 is estimated to produce a further 438,000 ounces of gold to the beginning of 2015 at an estimated average cash cost of $433 per ounce.

2.2 Terms of Reference

The Boroo gold deposit was initially discovered in 1910, and an undocumented amount of gold was produced intermittently from near-surface deposits until about 1945. The area was extensively explored by a joint East German (DDR)-Mongolian geological expedition from 1982 to 1990. Much of the early project database, and nearly all of the diamond drilling done, originates from this period. Additional work was carried out from 1991 to 1994 by the Boroo Gold Mining Joint Venture (the Mining Bureau of the Government of Mongolia and the Morrison-Knudson Gold Company). Only limited drilling with poor core recoveries was undertaken during this latter time period.

BGC acquired the Boroo project in 1997, and completed initial due diligence diamond drilling in 1997. AGR acquired its initial indirect interest in BGC in 1998 and embarked on an extensive reserve delineation drill program. Additional in-fill drilling was completed between in 2002 and 2006, without success in defining additional reserves and resources.

The results of the various historic field campaigns, earlier feasibility studies and internal studies have been collated into a large number of reports and technical documents (see **Section 19**).

Following an in-house due diligence process, Cameco Gold acquired its initial interest in AGR on February 28, 2002. A production decision was taken shortly thereafter, based on the SRK (2001) mineral reserve estimate that was discounted by 20% on the grade, while increasing the mineable tonnes by a like percentage. The reason for the adjustments was the judgment by Cameco Gold staff that the 2001 SRK mineral reserve estimate was too optimistic. Construction commenced in June 2002, and the project started commissioning in early November 2003. Commercial production at Boroo was achieved on March 1, 2004. The heap leach project was commissioned in June 2008 and operated under a temporary operating permit until operations were suspended in May 2009 due to the expiration of the temporary operating permit. As of the date of this report, the heap leach operations are still suspended while waiting for a permanent operating permit.

The mineral resources and reserves for the Boroo Mine were last estimated in 2005 by Reserva International Inc. (Reserva). The Reserva model continues to be the basis for the current resource and reserve estimates (October 31, 2009). The October 31, 2009 resource and reserve estimates have been prepared in accordance with National Instrument 43-101 *Standards of Disclosure for Mineral Projects* (NI 43-101).

The purpose of this report is to provide an update of the heap leach operations at Boroo.

The estimation process is under the control of the Boroo mine engineering and geology group and Centerra in Toronto by Daniel Redmond, P. Geo., who is a qualified person within the meaning of NI 43-101.

In preparing this report, the authors have drawn on many of the earlier studies and reports as sources of information. Independent sampling, or sample analysis, or surveys to verify the validity of the assay data, the location of drill holes, or the location or validity of mining claims have not been conducted. Data provided by BGC has been evaluated on the basis of the experience of the authors in the mining industry, and particularly in the gold sector. The author has visited the mine two to three times per year since the start of 2006 and is familiar with all aspects of the operation. The last visit was made from October 3 to 10, 2009. A complete list of sources of information and data is set out in **Section 19** of this report.

This report uses the metric system of units, deviating only to report ounces of gold, and the currency used is the United States dollar, unless otherwise indicated.

2.3 Report Contributions

The contributions of the co-authors are as follows:

- Tommaso Roberto Raponi; overall responsibility for the report except for the sections noted below for which Dan Redmond is responsible;
- Dan Redmond; Sections 6-13, and 15.

3. RELIANCE ON OTHER EXPERTS

The authors have relied and believe they have a reasonable basis to rely upon the following individuals who have contributed environmental, legal, marketing and taxation information stated in this report, as noted below:

John Kazakoff, President, Boroo Gold Company, Sections 16.7.

Doug Krahn, Direct of Finance and Administration, Boroo Gold Company, Section 16.11.

Rick Blake, Director of Human Resources, Boroo Gold Company, Section 16.5.

Mike Kelly, Mine Manager, Boroo Gold Company, Section 16.4.

Jargalsaikhan L., Director of EHS, Boroo Gold Company, Sections 16.6, 16.7, 16.8, and 16.9.

Frank Herbert, General Counsel and Corporate Secretary, Centerra Gold Inc., Section 16.11.

4. PROPERTY DESCRIPTION AND LOCATION

The Boroo gold project is located in the Republic of Mongolia some 110 kilometres to the northwest of the capital city of Ulaanbaatar and about 230 kilometres to the south of the international boundary with Russia, at 48°45' N and 106°10' E. **Figure 2** shows the location of all of the license areas in the northern part of Mongolia held either by BGC or Centerra Gold Mongolia LLC (CGM).

In the Boroo mine area, BGC has been granted the exclusive rights to all hard-rock minerals and placer deposits within a number of contiguous mining licenses, which cover 6 354 hectares of land centred on, and surrounding the Boroo gold deposit. The licenses are located in about equal measure in the counties (soums) of Bayangol and Mandal, situated in the province (aimag) of Selenge. Both the aimag and the soums play an important role in some of the permitting and environmental management aspects of the project, as will be discussed in greater detail in **Section 16.** The particulars of the individual mining licenses are summarized in **Table 1** .

Map Source: Licence information from CGM

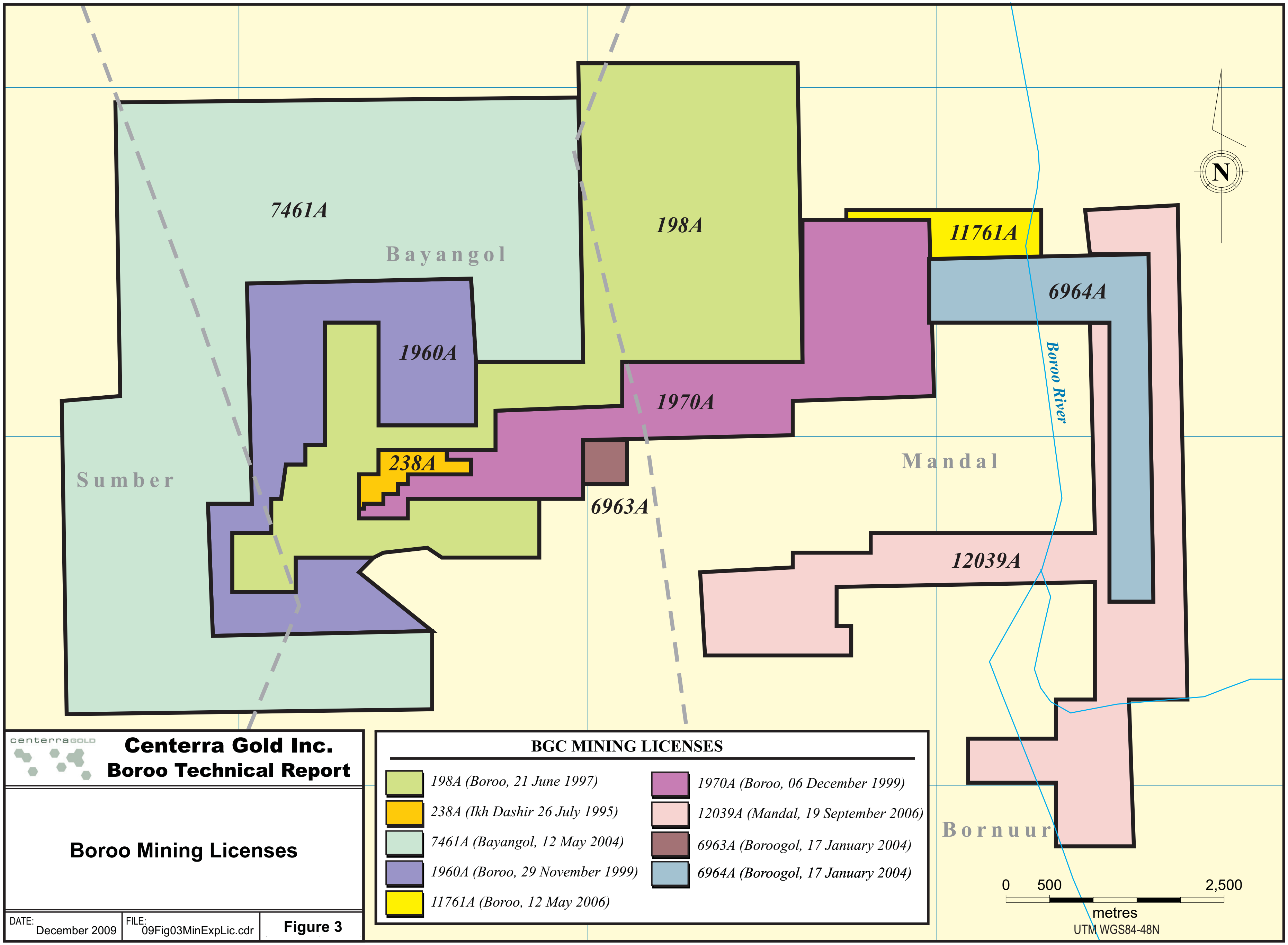
Centerra Gold Inc.
Boroo Technical Report

Location Map

DATE: December 2009 | FILE: 09Fig01LocMap.cdr | **Figure 1**

Drawing modified after Strathcona 2004.

Drawing modified after Strathcona 2004.



Centerra Gold Inc.
Boroo Technical Report

Boroo Mining Licenses

DATE: December 2009	FILE: 09Fig03MinExpLic.cdr	Figure 3

BGC MINING LICENSES

- 198A (Boroo, 21 June 1997)
- 238A (Ikh Dashir 26 July 1995)
- 7461A (Bayangol, 12 May 2004)
- 1960A (Boroo, 29 November 1999)
- 11761A (Boroo, 12 May 2006)
- 1970A (Boroo, 06 December 1999)
- 12039A (Mandal, 19 September 2006)
- 6963A (Boroogol, 17 January 2004)
- 6964A (Boroogol, 17 January 2004)

Map Source: Licences information from Centerra Gold Monglia LLC., status as of October 31st, 2009.

Table 1 Boroo Mining Licenses held by BGC, October 2009

License No.	License Name	Area (hectares)	Issue Date	Annual Fees	Expiry Date
198 A	Boroo	1 400	June 21, 1997	$21,000	July 4, 2026
238 A	Ikh Dashir	41	July 26, 1995	$615	July 26, 2025
1960 A	Boroo	589	November 28, 1999	$8,835	November 29, 2029
1970 A	Boroo	643	December 6, 1999	$9,645	December 6, 2029
6963 A	Bayangol	25	January 17, 2004	$375	January 17, 2034
6964 A	Boroogol	345	January 17, 2004	$5,175	January 17, 2034
7461A	Nariin Khondii	2 321	May 12, 2004	$34,815	May 12, 2034
11761A	Ikh Dashir	79	May 12, 2006	$1,185	May 12, 2036
12039A	Ikh Mandal	911	September 19, 2006	$13,665	September 20, 2036
Total		**6 354**		**$87,310**	

Mining License A-32 covering the Boroo gold deposits was originally granted to Altai on July 4, 1996 for an initial period of 15 years. BGC was established in 1997 as a joint venture between Altai (50%) and the London-based Asia Mining Investment Corporation (AMIC, 50%). Mining License A-32 was transferred to BGC by the Ministry of Energy, Geology and Mining on June 21, 1997 by Special Ministerial decree (Order A\107). It was re-registered as License 198 A on September 20, 1997 as part of the adjustments when a new mining law was promulgated in Mongolia.

Mining license 238 A was re-registered, also on September 20, 1997, from its pre-decessor license A-62 (originally issued to Mongol Erdene on July 26, 1995) and subsequently transferred to Altai on January 23, 1998. Altai in turn transferred the license to BGC on May 5, 1999.

The remaining mining license 1960A was granted to BGC directly on the date indicated in **Table 1**.

Centerra has advised that, other than a gold and silver royalty of 5% payable to the Mongolian Government (**Section 16.10)** and a 50% profit royalty payable to Altai in case of gold production from alluvial operations on license 238 A, there are no other royalties, payments or other agreements or encumbrances related to the Boroo mining licenses.

Surface rights have been negotiated with the soums, providing sufficient surface area for the mill, heap leach facilities, for tailings and waste rock disposal. An order of the governor of Bayangol soum dated November 11, 2003 provides BGC with the use of 1 451.7 hectares for ten years for an annual payment of 12 million tugriks (the local currency, currently approximately $10 000). A similar order by the governor of Mandal soum dated November 5, 2003 provides BGC with the use of 274 hectares for an annual payment of 4 million tugriks (currently approximately $3400).

The mining license areas held by BGC enclose a mining license covering the Altan Dashir placer gold deposit, owned and operated intermittently by Undram Sed, a Mongolian company. While this enclosed area does not hinder operations, BGC have agreed in principle to acquire this license in consideration for a cash payment and to enter into a two-year agreement to use equipment operated by Undram Sed.

The Boroo mine site includes an open pit mine with waste and ore stockpiles. Higher grade ore is processed in a mill with a nominal capacity of 6 900 tonnes per day (t/d). Lower grade ore is processed through a heap leach facility. There is a camp/residence for employees, a warehouse, maintenance shops and offices.

A permanent tailings management facility (TMF) in the Ikh Dashir valley is connected to the process plant by a 5 km pipeline. This facility received government approval in 2003. The bottom of the TMF was sealed with a compacted clay liner and a high density polyethylene liner on all embankments. The design of the TMF provides for an ultimate storage capacity of 11 million cubic metres of tailings, sufficient for the tonnage to be mined for the entire life of the mine. In 2007, an extension of the original dam was constructed. The tailings dam walls are at final design for the existing Boroo reserves. Lateral dykes were constructed in 2008 for water management purposes.

The TMF will be expanded in 2009 for the processing of Gatsuurt ore as part of the Gatsuurt Project.

For a discussion on the environmental management system employed at Boroo, please see **Section 16.7** of this report. Mine closure and reclamation are discussed in **Section 16.8** of this report.

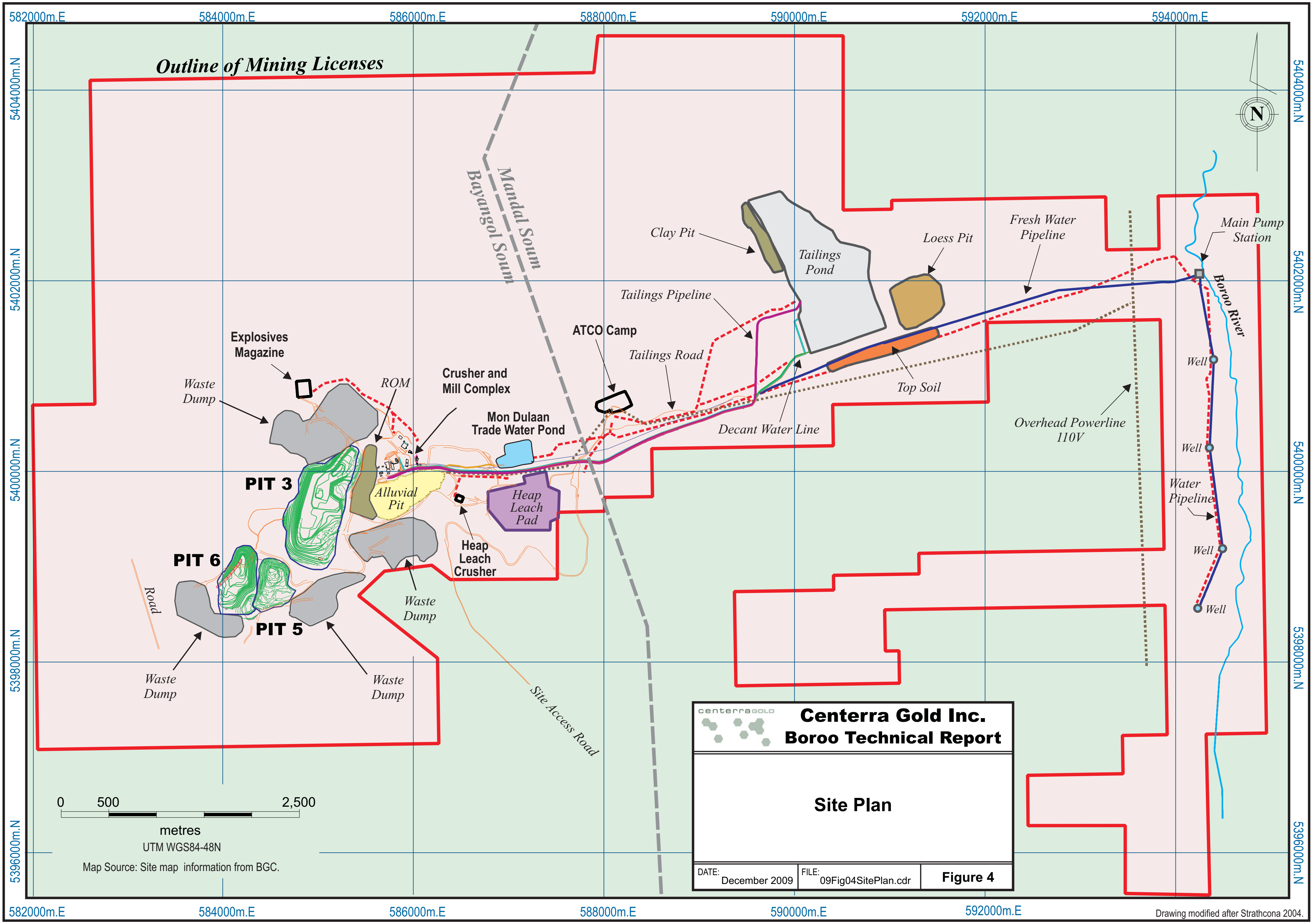
The mining plan for 2009 was submitted and approved by the SSIA and the Mineral Resources and Petroleum Authority of Mongolia (MPRAM). Mining plans must be submitted in the first quarter of every year for approval of the agencies noted above. All permits and licenses required for the conduct of mining operations at Boroo are currently in good standing. Some of these permits are with Mongolian state agencies and some are with the other local agencies and authorities. This is subject to the issues regarding Mongolian regulatory matters discussed in **Section 1.7** and **Section 16.6**. including the absence of a final heap leach operating permit.

The Government Committee Act on Commissioning of the Boroo facilities into operation gives BGC the right to operate and produce gold. The Stability Agreement originally concluded between BGC and the Mongolian Government represented by the Minister of Finance on July 8, 1998 and amended on May 9, 2000, and on August 3, 2007 stipulates that there will be no nationalization, compulsory acquisition or illegal confiscation of the project by the Government of Mongolia. The Stability Agreement applies to any hard rock gold production from the Boroo gold deposits.

A general site plan is provided in **Figure 4**. Power for the operation is supplied from the main Mongolian grid via a 110 KVA line that has the capacity to supply 40 MW of power to the site. The national grid is connected to the Russian grid in the north.

Historic records indicate a generally stable power supply, with few interruptions. A power supply agreement was entered into by AGR on August 21, 2000 with the Electrical Power Supply Office of Darkhan Province, a Mongolian-registered company. The price per kilowatt-hour (kWh) for 2009 was 68 tugriks (about \$0.0469/kWh), but is scheduled to increase to 88 tugriks (about \$0.0665/kWh) for 2010.

Other agreements include a water supply agreement with the Mandal Soum that covers the taking of water from five wells along the Boroo River. The annual payment for the water is nominal.


Outline of Mining Licenses
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590000m.E
592000m.E
594000m.E
5404000m.N
5402000m.N
5400000m.N
5398000m.N
5396000m.N
N
Mandal Soum
Bayangol Soum
Clay Pit
Tailings Pond
Loess Pit
Fresh Water Pipeline
Main Pump Station
Boroo River
Tailings Pipeline
ATCO Camp
Tailings Road
Explosives Magazine
Waste Dump
ROM
Crusher and Mill Complex
Mon Dulaan Trade Water Pond
Decant Water Line
Top Soil
Overhead Powerline 110V
Well
Water Pipeline
PIT 3
Alluvial Pit
Heap Leach Pad
Heap Leach Crusher
PIT 6
PIT 5
Road
Site Access Road
0
500
2,500
metres
UTM WGS84-48N
Map Source: Site map information from BGC.
centerraGOLD
Centerra Gold Inc.
Boroo Technical Report
Site Plan
DATE: December 2009
FILE: 09Fig04SitePlan.cdr
Figure 4
Drawing modified after Strathcona 2004.

BGC also controls a number of exploration licenses that surround the area covered by the mining licenses. These are shown in **Table 2** and **Figure 2.**

Table 2 BGC Boroo Area Exploration Licenses - October 31, 2009

License No.	**License Name**	**Area** (hectares)	**Issue Date**	**Annual Fees**	**Expiry Date**
5847X	Gana Ondor Uul	4 230	May 26, 2003	$6,345	May 26, 2012
5848X	Mongolog Uul	2 508	May 26, 2003	$3,762	May 26, 2012
6061 X	Ikh Olont	4 975	July 16, 2003	$7,463	Jul 16, 2012
6265X	Khalzan Uul – 3	366	September 2, 2003	$549	September 2, 2012
Total		**12 079**		**$18,119**	

According to the Mongolian mining law enacted in 2006, an exploration license is initially issued for a period of three years, and can be renewed twice for three years, for a total of nine years, at which time the claims must be abandoned.

Conversion of an exploration license into a mining license is possible only if the estimated reserve is approved by the state Mineral Reserves Committee.

Annual fees are graduated, starting with $0.10 per hectare in year one, $0.20 per hectare in years two, $0.30 per hectare in years three, $1.00 per hectare in years four to six and finally increasing to $1.50 per hectare in years seven to nine.

5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRA-STRUCTURE AND PHYSIOGRAPHY

The Boroo mine site is easily reached by travelling northward from Ulaanbaatar on the paved Ulaanbaatar-Irkutsk highway for about 130 kilometres (km), then on an improved all-weather road east of the highway for about 10 km, the total trip taking just over two hours to complete. The railroad town of Baruunkharaa is located about 20 km north of the junction of the all-weather road with the Ulaanbaatar-Irkutsk highway (**Figure 2**). Ulaanbaatar is served by commercial aircraft connecting to national and international destinations.

The Boroo area is sparsely populated, inhabited mainly by nomadic herdsmen living in single family camps on rural land or in small villages. The nearest towns are Baruunkharaa (20 km north), Zuunkharaa (25 km north-east) and Bornuur (32 km). Of these, only Baruunkharaa and Zuunkharaa have populations exceeding 3000 people, and are served by the Trans-Mongolian railway that links Ulaanbaatar with Irkutsk and Beijing. This important rail link passes within 20 km of the Boroo gold deposit.

The mine is situated in an area of gently or moderately steeply rolling hills, largely covered by grasslands but with small discontinuous forests of birch and alder trees on north facing slopes. The average elevation is about 1 200 m above sea level. Boroogol (gol meaning river) is the main drainage system in the area and flows northward into the Kharaagol, a major river that continues northward into Russia and ultimately into Lake Baikal. The Ikh Dashir valley, which originates in the area of the Boroo deposit and is host to placer gold resources, is a mostly dry western tributary of the Boroogol.

North-central Mongolia is semi-arid with a continental climate. It is a land of extreme seasonal and diurnal temperature variations. Winter temperatures can dip to -40° C while summer temperatures may exceed +40° C. The mean annual temperature is about 0° C, but there is no permafrost in the Boroo area. The dry continental climate of northern Mongolia results in the Boroo region having more than 300 days of sunshine each year and only a light snow cover in winter. The area receives about 250 mm of precipitation per year, most as rain during the rainy season of July and August.

The operating conditions resemble those that might be found in northern Alberta or the southern parts of the western Northwest Territories, if perhaps somewhat drier. There is no principal impediment to industrial activities as exemplified by the operation of the placer gold dredges that operate from April through October when streams are ice-free, and by the large Erdenet open-pit copper-porphyry mine, located some 180 km west of Boroo, which operates year-round. The Erdenet mine reportedly milled 26 million t of ore in 2008 from which 525 624 t of copper concentrate (24% Cu) and 3 795 t of molybdenum concentrate (50% Mo) were produced (Erdinet website, 2009). The Boroo mining project operates continuously throughout the year.

The Boroo mine provides employment for 616 employees as of October 31, 2009, of which 536 were citizens of Mongolia and 26 were expatriates. In addition, there were 54 temporary Mongolian workers and contractors.

The mine site is served by the Mongolian national power grid via a 110 kVA line that connects to a 110 kV overhead power line. Power supply has been reliable; however, the mine maintains emergency generators capable of supplying power required for vital services in case of power outages. Fresh water for human and industrial use is taken from five wells that tap into the water table in the Boroo River valley (**Figure 4**). Draw-down tests have shown that a supply in excess of 80 litres per second can be sustained from the five wells which compares to a maximum requirement of 70 litres per second.

Boroo has all of the required facilities to support production such as a camp/residence for their employees, a warehouse, maintenance shops, offices, and other services. A description of the essential mining, treatment and general operating facilities is provided in **Section 16**. Boroo has sufficient surface rights to conduct and complete mining operations as defined by the current life of mine plan.

6. PROJECT HISTORY

The Boroo deposit was reportedly discovered in 1910 and was exploited by Mongolor on an industrial scale until the 1920's when the facilities were destroyed during a civil war. Activities did not start again until about 1933, when the gold potential of the area was again investigated, followed by the installation of a gold refinery in 1942 that probably treated gold from the mining of a number of individual, near-surface quartz veins (Cameco Gold Mongolia Inc., 2004b). There are no production records from this time. Events in the ensuing years until about 1965 remain undocumented.

6.1 Exploration History

The exploration history of the Boroo deposit that is currently being mined commenced with prospecting activities between 1965 and 1969 that led to the recognition of Boroo's potential as a bulk-mineable deposit and ultimately to a program of detailed field evaluation and reserve estimation by a joint East German (DDR)-Mongolian (MPR) Geological Expedition from 1982 to 1990. During this time, the deposit area was drilled using vertical core holes on an approximate 80 m x 80 m grid with in-fill drilling to a density of 40 m x 40 m and even 40 m x 20 m in two areas along the eastern edge of the areas of interest. These diamond core holes of the Joint Expedition, (JE), generally had a comparably large diameter of 76 millimetres (mm), larger than HQ core size, less frequently 52 mm (between NQ and HQ), 93 mm or 112 mm, both larger than PQ core size.

In addition, as part geological expedition, two bulk samples were obtained from small underground openings for pilot-scale metallurgical testing with initial bench scale testing conducted in Freiberg, East Germany, followed by pilot scale testing by Irgiredmet, Irkutsk, Russia, in 1987. Other studies examined the metallurgical character of both oxidized and fresh ores.

The East German-Mongolian project was terminated in 1991 because of German reunification.

From 1991 to 1994, the concession, which includes the Boroo deposits, was controlled by the Boroo Gold Mining Joint Venture comprised of Mongol Erdene, representing the Mining Bureau of the Government of Mongolia (51%), and Morrison Knudsen Exploration (MKE) representing the Morrison-Knudsen Gold Company (49%). MKE

drilled 19 vertical diamond holes, apparently with reported poor core recovery. The location of these holes is uncertain, and they are not used in the current database.
In 1994, MKE engaged the Simons Mining Group to prepare a feasibility study (H. A. Simons, 1994) that investigated a heap leach (oxide only) and a combined heap leach/treatment plant option (oxides plus sulphides). Subsequently, MKE allowed the joint venture to lapse because of unsatisfactory project economics at the time.

In 1997, BGC acquired the Boroo project and completed nine confirmatory diamond drill holes and check assaying of DDR sample splits. The new drill holes were sampled by Australian consultants Mining and Resource Technology (MRT) personnel in Mongolia, and MRT established an electronic database for the project.

In May 1998 Resolute Limited (Resolute), an Australian gold mining and exploration company, was introduced to the project, and at the end of 1998, a tentative agreement was in place whereby AGR, an affiliate of Resolute, would indirectly acquire 85% of BGC. The remaining 15% was retained by Altai. In August 2000, AGR purchased two-thirds of the Altai interest, leaving Altai with a 5% indirect interest in BGC.

As part of the preparation for a bankable feasibility document, AGR undertook a significant in-fill drill program of the deposit area in 1999 to bring the existing “reserves” to comply with the Australian JORC code for reporting of mineral resources and mineral reserves. The definition drilling programs goal was to evaluate mineralization within optimized pit shells developed by Resolute in July 1998. The main zones of mineralization were drilled on a nominal 40-metre by 40-metre pattern. Ulaanbaatar-based Gobi Drilling, a division of Radial Drilling of Townsville, Australia, was contracted for a combined reverse circulation (RC) and diamond drilling program undertaken in 1999.

Three drilling programs with tightly-spaced RC holes were also undertaken by BGC in 1999 to establish the continuity of mineralization and to provide a geostatistical basis for the mineral resource estimation process. These were completed on what was defined as Zone 5 and on the interpreted “high grade lens” in Zone 3.

Since the Cameco/Centerra acquisition of the Boroo project in 2002, additional RC in-fill drilling was undertaken in 2002 to 2005 by BGC which resulted in a substantial amount of additional data being created the project. The majority of this drilling was for reserve/resource delineation and definition purposes the results of which have been included in the current resource and reserve estimation model.

During the period from 2006 to October 31, 2009, the majority of drilling outlined in **Table 3** was condemnation drilling well outside the limits of the Boroo reserve model or drilling to collect samples for additional metallurgical test-work and geotechnical studies and therefore would have no material impact on the resource model.

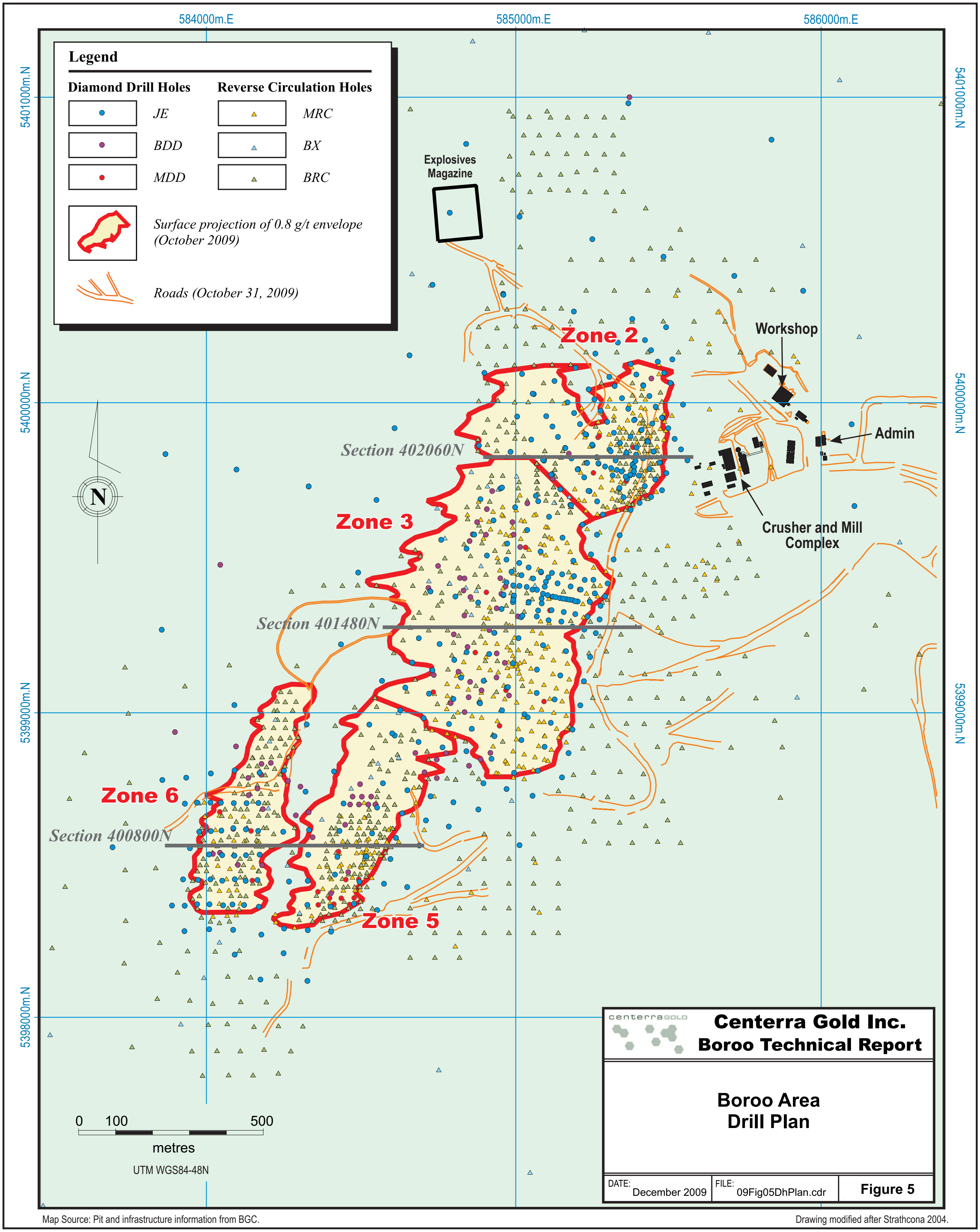
Once mining operations were started in 2003, on site drilling and exploration has been carried out by the Boroo mine geological staff with the assistance of CGM exploration staff. All diamond drill core, RC samples, rejects and pulps from drilling since 2004 are in locked storage at the Boroo mine site.

From 2003-2009, further exploration drilling was completed throughout the mine using diamond and reverse circulation (RC) drilling methods; described below and within the scope of the drilling program a total of 913 holes totaling 90 000 m were completed around the Boroo project. Drill cores from diamond and chips from RC drilling of all drill holes completed throughout the entire deposit were sampled.

The various drill programs at Boroo are summarized in **Table 3**. **Figure 5** shows the coverage by the various drill campaigns. Boroo mining operations use a truncated Gauss-Kruger grid aligned with astronomic north**.**

Table 3 Summary of Completed Drilling

Year	Company	Type of Drilling	Drill Hole Prefix	Number of Holes	Length (m)
1982-88	DDR-MPR Expedition	DDH	JE	343	28 431
1992-94	MKG/Erdene	DDH	-	19	Unknown
1997	BGC	DDH	BG	9	735
1999	BGC	DDH	MDD	28	1 852
Sub -total		*DDH*		*399*	*31 018*
1999	BGC	RC	MRC	162	10 945
2002	BGC	RC	MRC	177	10 097
2003	BGC and CGM	RC	BRC, BX	233	10 115
2004	BGC	RC, DDH	BRC, BRD	242	26 160
2005	BGC	RC, DDH	BRC, BRD	308	36 237
2006	BGC	RC, DDH	BRC, BRD	96	13 874
2007	BGC	DDH	BDD, BGD	14	1 325
2008	BGC	DDH	BDD, BGD	20	1 910
Totals				1 651	141 681



Map Source: Pit and infrastructure information from BGC.

Drawing modified after Strathcona 2004.

6.2 Historical Estimates

There have been numerous estimates of the mineral resources and reserves of the bulk-mineable deposits at Boroo, reflecting different methods and the database plateaus reached at various times. A partial listing is given in **Table 4,** and explanatory notes are offered on historical estimates.

Table 4 Historical Estimates
– millions of tonnes and contained ounces –

Year	Method	Author	Type	Classification	CoG (g/t)	Tonnes	Gold (g/t)	Contained Ounces
Historical Estimates								
1989	Polygonal	DDR-MPR	Reserve 1	B & C 3	0.8	13.8	3.1	1.4
1994	BM, PO	H. A Simons	Reserve 1 (HL)	Unclassified	Unspecified	3.5	2.4	0.3
	BM, PO		Reserve 1 (HL/Plant)	Unclassified	Unspecified	7.8	2.1	0.5
1997	BM	MRT	Resource 1	Unclassified	0.7	26.9	2.2	1.9
			Resource 1	Unclassified	1.5	13.0	3.4	1.4
1998	Sectional	Resolute	Resource 1	Unclassified	Unknown	9.1	2.8	0.8 **2**
1999	BM, PO, PD	AGR (Feasibility)	Reserve 1	Unclassified	1.0	11.0	2.8	1.0

Notes:

1. Historical estimates pre-date NI 43-101 and may not satisfy the current CIM reporting and classification standards and should not be relied on.
2. CoG = Cut-off grade; BM = block; PO = pit optimization; PD = pit design; HL = heap leach
3. Category B in the Soviet system is broadly equivalent to the current "proven", C_1 to the current "probable" category. Only about 14% of the 1989 total was classified as category B.

The first mineral reserve estimate for the bulk-mineable mineralization at Boroo was completed at the end of the DDR-MPR geological expeditions in 1989 using the Soviet reserve evaluation and classification criteria. The reserves of the Ikh Dashir placer deposit were also estimated in 1989 but have not been included in Boroo's current or in the life-of-mine plan.

MKE had a preliminary mineral resource estimation on the deposit prepared in 1992 (not shown in **Table 4**). After additional fieldwork, MKE in 1994 engaged Cominco Engineering Services and their successor, H.A. Simons (Simons, 1994) to prepare a feasibility study of the Boroo project. Because of the lower metallurgical recovery achievable by heap leaching, the mineral reserves considered for the two approaches are significantly lower than other estimates using the same database.

In 1997, the Australian group Mining and Resource Technology (MRT) completed a preliminary mineral resource estimate using DDR-MPR geological expedition and BGC drilling data compiled by MRT.

In May 1998 Resolute used the MRT database to carry out a sectional interpretation of the deposit (Tchaikov, 1998). The model envisaged six individual zones numbered 1 through 6.

All of the mineral resource and reserve estimates in **Table 4** are "historical estimates" for the purpose of NI 43-101 and do not satisfy the current CIM reporting and classification standards and should not be relied on.

6.3 Recent Estimates

Following additional drilling by BGC in 2002 and 2003, the reserves and resources of the Boroo mine were updated by Geostat Systems International Inc. (GEOSTAT) in July 2003 in conjunction with the Centerra Initial Public Offering (IPO) was in accordance with Canadian reporting standards as required by NI 43-101.

For preparing the reserve and resource estimate, GEOSTAT used a block model approach in which a 0.8 grams per tonne gold grade shell envelop was employed as a primary guide to define ore shapes. As BGC was in the process of developing the current milling facility at the Boroo site, the requirement for the model to estimate resources and reserves below 1.0 g/t was not necessary as the expected operating cut-off at that time was estimated to be 1.2 g/t.

In late 2005, following another significant program of exploration drilling, the Boroo reserve and resource estimate was again updated utilizing and block model developed by Reserva International with the assistance of BGC staff. The model is discussed in greater detail in **Section 15**, and is the estimate on which the October 31, 2009 Boroo reserve and resource estimate and corresponding life-of-mine plan is based upon.

Table 5 summarizes Centerra's public disclosure of Boroo mineral reserve and resource estimates since the IPO and highlights the steady growth of mineral reserves and resources during the period from the IPO to 2005 year end as a result of extensive new drilling used in the Reserva 2005 model and expansion of the ultimate pit due to high gold prices.

For the 2006 year end disclosure, Centerra included both reserves and resources at a new lower cut-off of 0.2 g/t gold to include feed for a low grade heap leaching operation. As a result of including significant amounts of new low grade material into the estimate of reserves and resources, at 2006 year end, there was an increase in the total tonnes in all categories and a corresponding reduction in the average grade.

Since 2006 there has been little additional exploration at the Boroo project due to the limited number of possible areas to define new mineralization and annual mining and milling production at Boroo has resulted in a steady depletion of the projects mineral reserves.

Table 5 Summary of Recent Boroo Reserve and Resources Estimates

Estimate Date		**Proven and Probable Reserves**			**Measured and Indicated Resources**			**Inferred Resources**		
		Tonne (x1000)	Au Grade (g/t)	Contained Gold (oz) (x1000)	Tonne (x1000)	Au Grade (g/t)	Contained Gold (oz) (x1000)	Tonne (x1000)	Au Grade (g/t)	Contained Gold (oz) (x1000)
Centerra IPO	GEOSTAT 2004	10 169	3.5	1 158	3 387	2.1	228	869	3.0	83
2004 Year End	GEOSTAT 2004	11 811	3.1	1 172	2 595	2.3	194	3 215	1.9	193
2005 Year End	Reserva 2005	13 390	2.9	1 218	2 652	2.4	201	2 563	2.0	167
2006 Year End	Reserva 2005	24 523	1.6	1 173	6 199	1.4	284	7 772	1.0	240
2007 Year End	Reserva 2005	24 089	1.4	1048	5 468	1.5	254	7 723	1.0	239
2008 Year End	Reserva 2005	18 455	1.3	778	4 916	1.5	242	7 323	1.0	233
October 31, 2009	Reserva 2005	16 349	1.2	615	4 916	1.5	242	7 323	1.0	233

Detailed descriptions of the above are included in Centerra's IPO prospectus and annual information forms corresponding to each of the above dates and accessible at www.sedar.com.

6.4 Production History

The Boroo mill started processing ore in 2003 and reached commercial in March 1, 2004. As of October 31, 2009; a total of 13.3 million tonnes of ore from has been milled with an average gold content of 3.6 g/t. with 1.34 million ounces of gold have been recovered. The Boroo production history is summarized in **Table 6**.

Table 6 Boroo Production History
To October 31, 2009
-thousands of tonnes and thousands of ounces-

	Units	2003	2004	2005	2006	2007	2008	2009	Total
Mine									
Waste	t	3 561	11 057	15 974	15 890	15 113	15 405	5 421	82 421
Low Grade/HL Ore	t	32	53	369	677	3 631	3 629	2 740	11 131
Mill Ore	t	146	1 851	2 516	2 481	2 405	2 416	2 005	13 820
Mill Ore Grade	g/t	3.91	4.04	4.07	4.25	3.68	2.70	2.60	3.58
Waste to Ore Ratio		20.0	5.80	5.53	5.03	1.58	2.50	1.10	3.30
Mill									
Throughput	t	113	1 849	2 232	2 387	2 549	2 496	1 666	13 292
Head Grade	g/t	2.94	4.52	4.23	4.25	3.62	2.69	2.53	3.62
Gold Recovery	%	97.0	93.7	91.5	87.0	85.3	77.7	76.2	86.6
Gold Recovered	oz	10,367	251,740	277,522	283,710	252,946	167, 487	97,031	1,340,8 03
Gold Poured	oz	4,326	245,702	285,787	282,802	254,547	167,463	96,745	1,337,3 72
Heap Leach									
Ore Stacked	t						3 684	2 177	5 861
Head Grade	g/t						0.74	0.76	0.75
Gold Poured	oz						25,174	23,409	48,583

6.5 Ownership

A summary of the prior ownership of the Boroo project is outlined in **Section 2.1** of this report.

7. GEOLOGICAL SETTING

7.1 Plate-Tectonic Setting

Mongolia occupies a central part of the Asian continent, and an interior portion of the Eurasian Plate. Major tectonic events took place during the Paleozoic and early Mesozoic when exotic terranes and micro-plates were repeatedly accreted to the ancient core of the Siberian plate. The age of the terranes in Mongolia thus decreases southward, with the northern Tuva Terrane consisting mostly of Proterozoic and Lower Paleozoic rocks while the Southern Terrane contains an important component of Permian to Jurassic intrusives. A major Caledonian event cratonized northern Mongolia, while a subsequent Hercynian event affected central and southern Mongolia. Post-Permian intrusions were of anorogenic alkalic affinity, and Mesozoic volcanics were extruded in response to extensional relaxation (adapted from IFC, 2002).

The structural setting of north-central Mongolia is dominated by several north-easterly striking strike-slip faults of regional extent that are considered terrane-bounding in nature and may have tens of kilometres of cumulative sinistral displacement (**Figure 6).** The Gatsuurt deposit is controlled by one of these, the Yeroogol Fault, while the Boroo gold deposits are interpreted to be located near a second-order; north-westerly striking sympathetic structure locally termed the “Highway Fault”.

7.2 Boroo Bedrock Geology

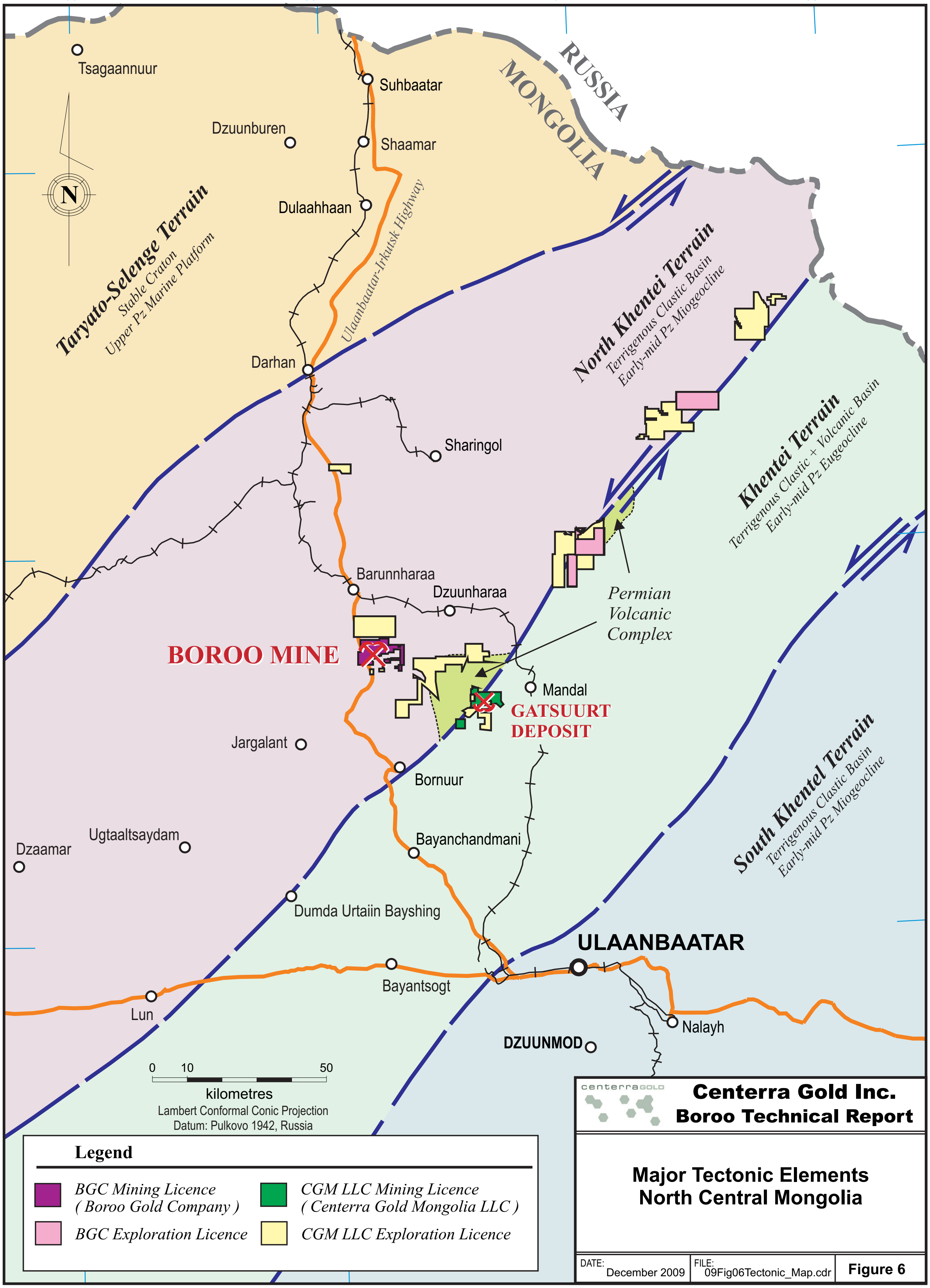
The geology of the Boroo area (**Figure 7** and **Figure 8**) is dominated by the folded Haraa sediments, (PZhr in), a fairly monotonous sequence of flysch sediments consisting of siltstone, sandstone and greywacke. These rocks are of regional extent and are interpreted to be of Lower Paleozoic age. Intrusive rocks of the Boroo Complex, of early Paleozoic age (~520 to 450 Ma), have intruded the sediments. In the area, the Boroo complex is represented by leucocratic granite and granodiorite (PZgr), underlying the eastern part of **(Figure 7).**

Detailed drilling around the Boroo gold deposits shows that the contact between the intrusive and the sedimentary rocks is highly irregular, with sedimentary xenoliths floating in the intrusive rocks in the border zone. A significantly younger igneous event of probably late Paleozoic age is restricted to narrow vertical and shallow dipping dikes and fissures of granitic to dioritic composition.

The fault pattern, with the exception of the gold-bearing structures, is poorly known, but two crossing, high-angle, faults are indicated in , one of them striking 70°, the other 340°, parallel to the Highway Fault mentioned above. The trace of the 340° fault, in its northern part, is directly underneath the Ikh Dashir Placer. A parallel fault is indicated on the satellite picture some 1.7 km to the east.

Much of the general area around the mine is covered by overburden that can reach several tens of metres in thickness and that consists of colluvium and loess, and minor alluvium deposited in head water drainages. The alluvial deposits can contain significant gold placer deposits. In addition, the colluvium deriving from Zone 3 also contains placer resources.

Oxidation has affected the rocks in the area to a depth of 40 m to 60 m. Oxidation is accompanied by kaolinization of the feldspar crystals in the granitic rocks, but, not having taken place under tropical conditions, has not progressed to the formation of a saprolite profile, with the rocks retaining most of their original strength even near-surface.



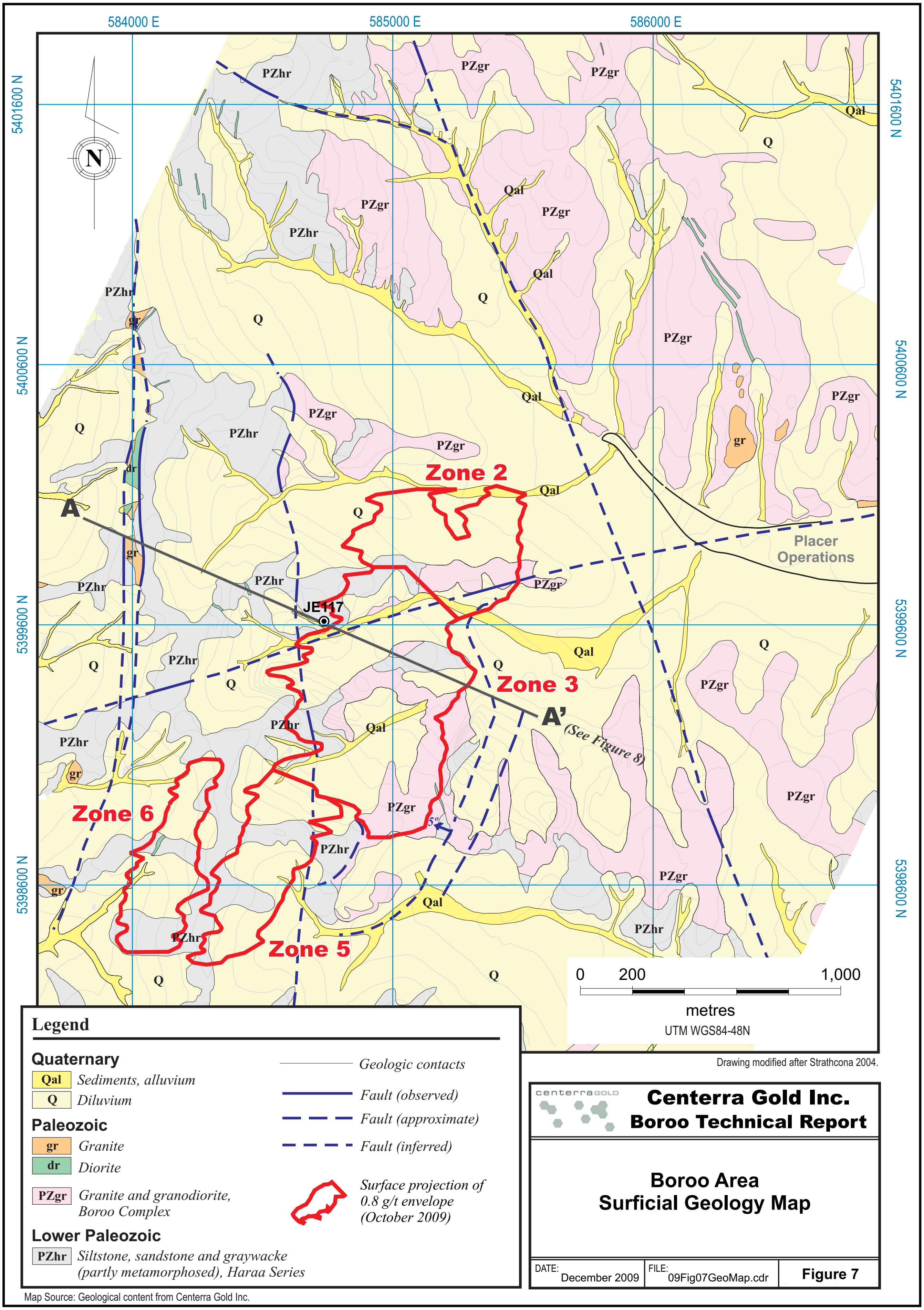
Centerra Gold Inc.
Boroo Technical Report

Major Tectonic Elements
North Central Mongolia

DATE: December 2009	FILE: 09Fig06Tectonic_Map.cdr	**Figure 6**

Map Source: Licence information and geological content from CGM.

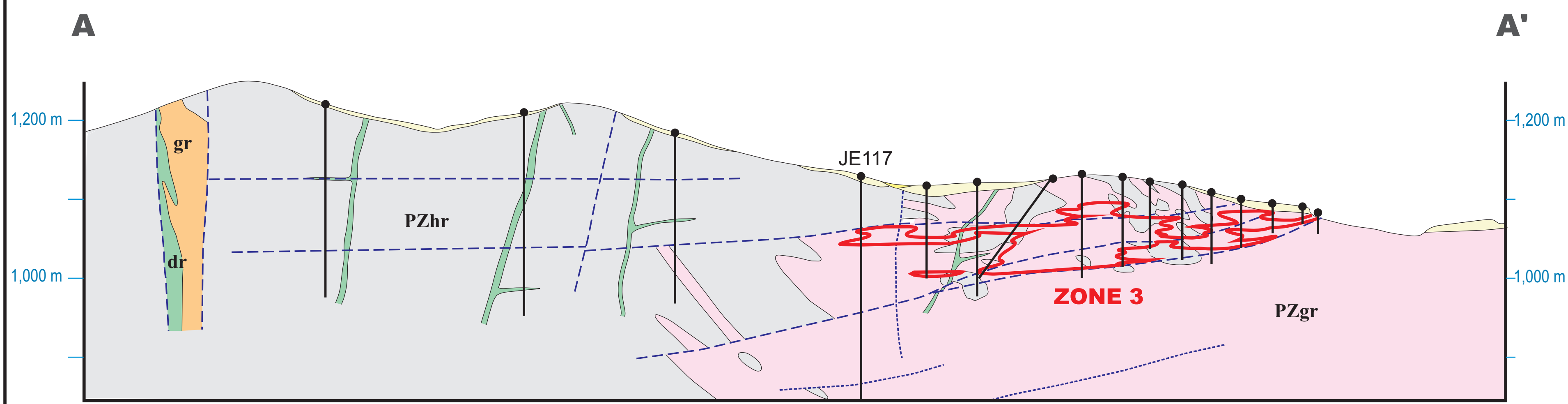
Drawing modified after Strathcona 2004.



Centerra Gold Inc.
Boroo Technical Report

Boroo Area Surficial Geology Map

DATE: December 2009	FILE: 09Fig07GeoMap.cdr	Figure 7



(looking northeast)

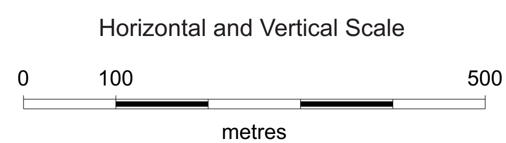
Legend

Quaternary
- Qal — *Sediments, alluvium*
- Q — *Diluvium*

Paleozoic
- gr — *Granite*
- dr — *Diorite*
- PZgr — *Granite and granodiorite, Boroo Complex*

Lower Paleozoic
- PZhr — *Siltstone, sandstone, and graywacke (partly metamorphosed), Haraa Series*

- *Geologic contacts*
- *Fault (approximate)*
- *Fault (inferred)*
- *Mineralized zone*
- *Selected drill holes*



Map Source: Geological content from Centerra Gold Inc.

Centerra Gold Inc.
Boroo Technical Report

Boroo Area Geology
Typical Cross Section

DATE: December 2009	FILE: 09Fig08TypeSect.cdr	Figure 8

Drawing modified after Strathcona 2004.

8. DEPOSIT TYPE

The Boroo gold deposit is a low silica Au+As sulphide system associated with a zone of quartz-sericite-pyrite (QSP) alteration in the sub horizontal Boroo fault. Boroo is a intrusion-related gold deposit and hosted by a Cambrian-Ordovician sequence of highly deformed shales, siltstones and fine sandstones of the Haraa turbidite sediments, and the Paleozoic granitoids of the Boroo Complex.

9. MINERALIZATION

The bulk mineable gold mineralization at Boroo is hosted in a strongly quartz–sericite altered and sulfidized nearly flat lying zone controlled by the Boroo fault. The fault has been traced for a distance of 2.4 km and is thought to be a thrust fault that dips at an angle of 10° to the north west and trending north east (see **Figure 7**). It cuts across the intrusive contact between sediments and granitic rocks in the north, but is entirely contained within the sediments in the south.

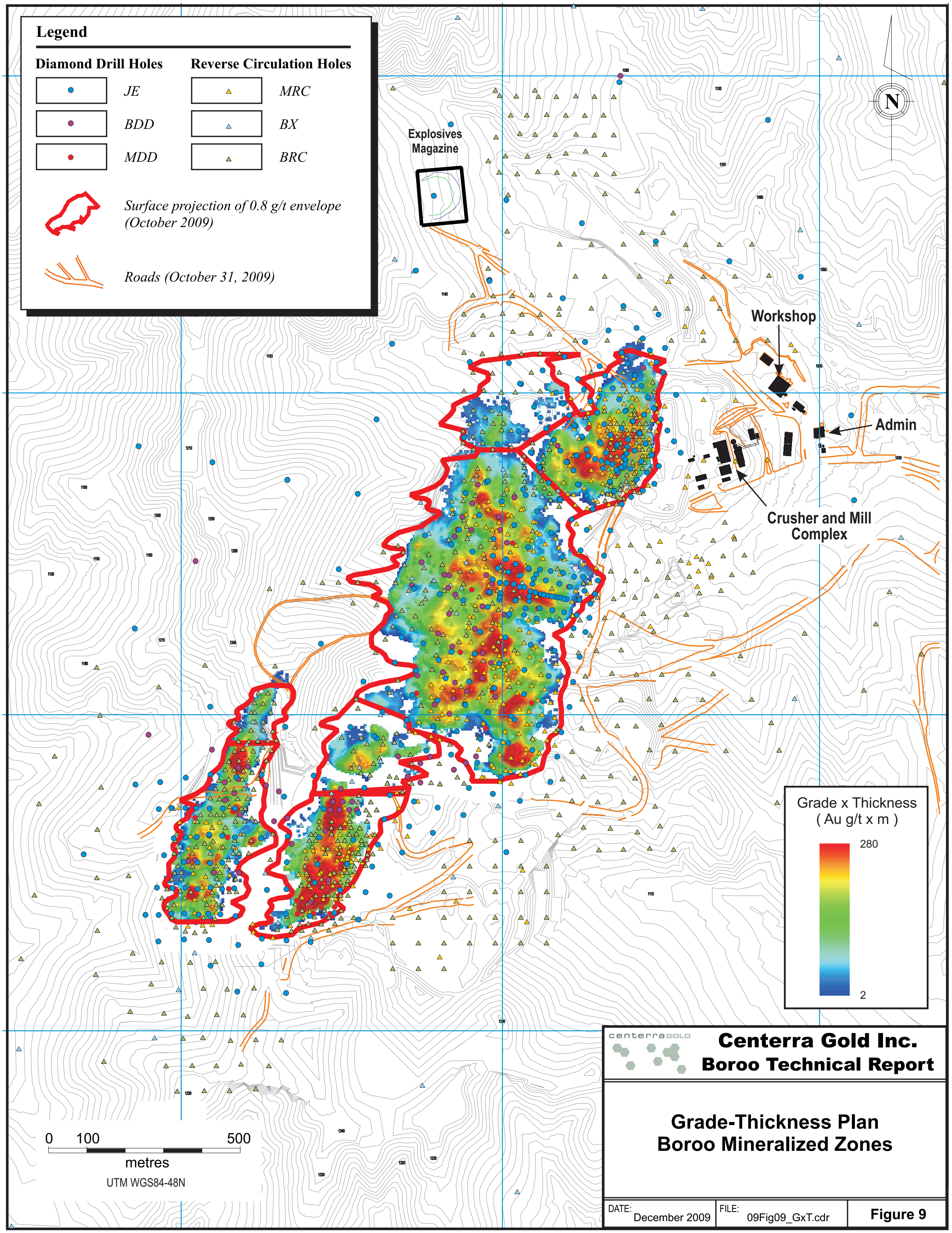
In the cross section, the Boroo fault shows a slightly undulated shape with the structure becoming thicker to the northwest, where the alteration and mineralization decrease. The Boroo fault is variously altered and mineralized, and where these features are strongest, individual deposits are formed. These are termed, from north to south, Pit 2, 3, 5 and 6. All of the deposits are elongated in a northeasterly direction, with a length to width ratio of about two to one. In Pit 2, 5 and 6, mineralisation is controlled by Boroo fault and is in the foot wall. But in Pit 3, there is low grade mineralisation in both hanging wall and foot wall. Grade-thickness contours show the same overall elongation (**Figure 9**) probably caused more by the width than by the gold grade, with the multiple, superimposed zones of alteration and mineralization responsible for the thicker parts. The thickness of the individual deposits thus varies from a few metres at the deposit edges to several tens of metres. **Figures 10, 11** and **12** provide sectional views of the three main deposits, with Pits 5 and 6 shown together in **Figure 12**.

Two main types of mineralization have been noted:

- *Gold-sulphide* zones host the largest proportion of gold mineralization at Boroo. This type of mineralization is strongly altered quartz-sericite sulphidized zones that occur in thin, irregular veinlets, less often in breccia zones, and disseminated within the pervasive alteration. The intensity of sulphide mineralisation depends on primary host rock and intensity of alteration being stronger in the granites than metasediments. The main sulphide minerals are pyrite, arseonpyrite and rarely chalcopyrite, tetrahedrite and galena occur. It appears that the gold in this mineralization is relatively fine-grained.
- *Gold-quartz vein type.* The second major gold bearing facies is massive, white quartz veins in which gold is commonly coarse-grained. The thickness of quartz veins varies from a few centimetres up to 3 m and appear as infill veins and veinlets in fractures within mostly metasediments. Veins contain small amount of sulphides and mostly coarse grained visible gold. This type of mineralization from a volume perspective is subordinate, however, can carry very high gold values of up to several hundred grams per tonne

The two main types of mineralization described above have different gold grade distribution patterns. Gold content is high in quartz. Gold values are also higher where there is quartz stockwork mineralization associated with pyrite-arsenopyrite ore. Silver values are generally low and are not obviously correlated with gold. Silver values can be higher in the quartz veins in Pit 5 and Pit 6. Silver values, higher than 10 g/t, occur mostly in quartz veins in metasediments and are very variable. The sulphide content in both types of mineralization is relatively low, typically a few percent. Arsenic is highly anomalous (up to 21 500 g/t) but highly variable in the different pits; 103-112 g/t in Pit 2, 3158-3843 g/t in Pit 3 and more than 1% in the metasediments of Pit 5. A positive correlation with gold is restricted to gold values up to about 2 g/t.

It has long been recognized that the degree of oxidation is an important economic parameter at Boroo, as the gold in the fresh ore has a refractory component that limits the metallurgical recovery. Three facies of oxidation have been defined. All sulphides are completely or predominantly oxidized in the oxide zone, and additionally, the feldspars in the granitic rocks have been partly or completely altered to kaolin. In the transition zone, kaolinization of the feldspars is partial and the original sulphides survive in the core of oxidized grains. In the fresh zone, there is no discernable oxidation in the sulphide minerals.



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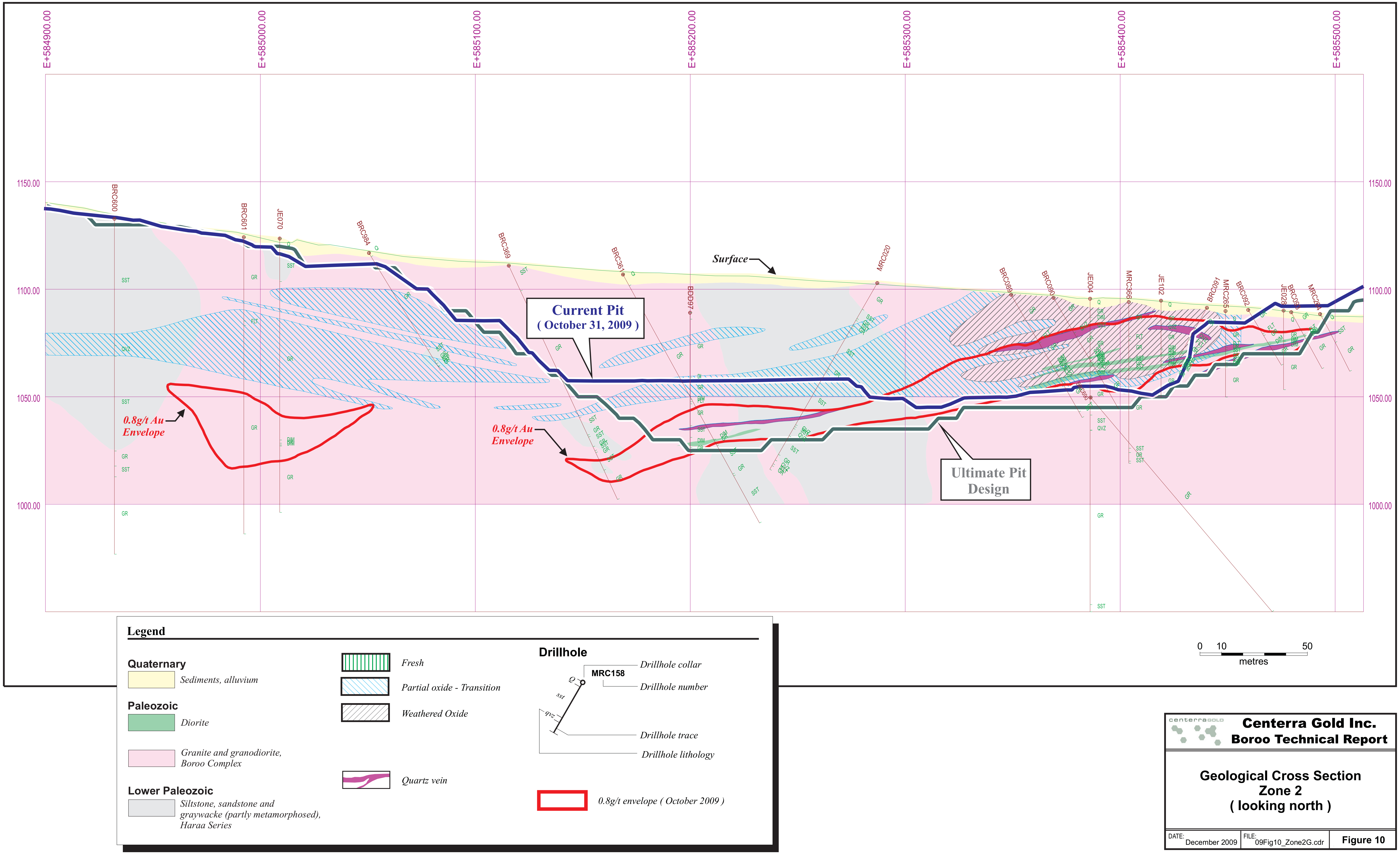
Grade-Thickness Plan
Boroo Mineralized Zones

DATE: December 2009	FILE: 09Fig09_GxT.cdr	**Figure 9**

Map Source: Pit and infrastructure information from BGC.



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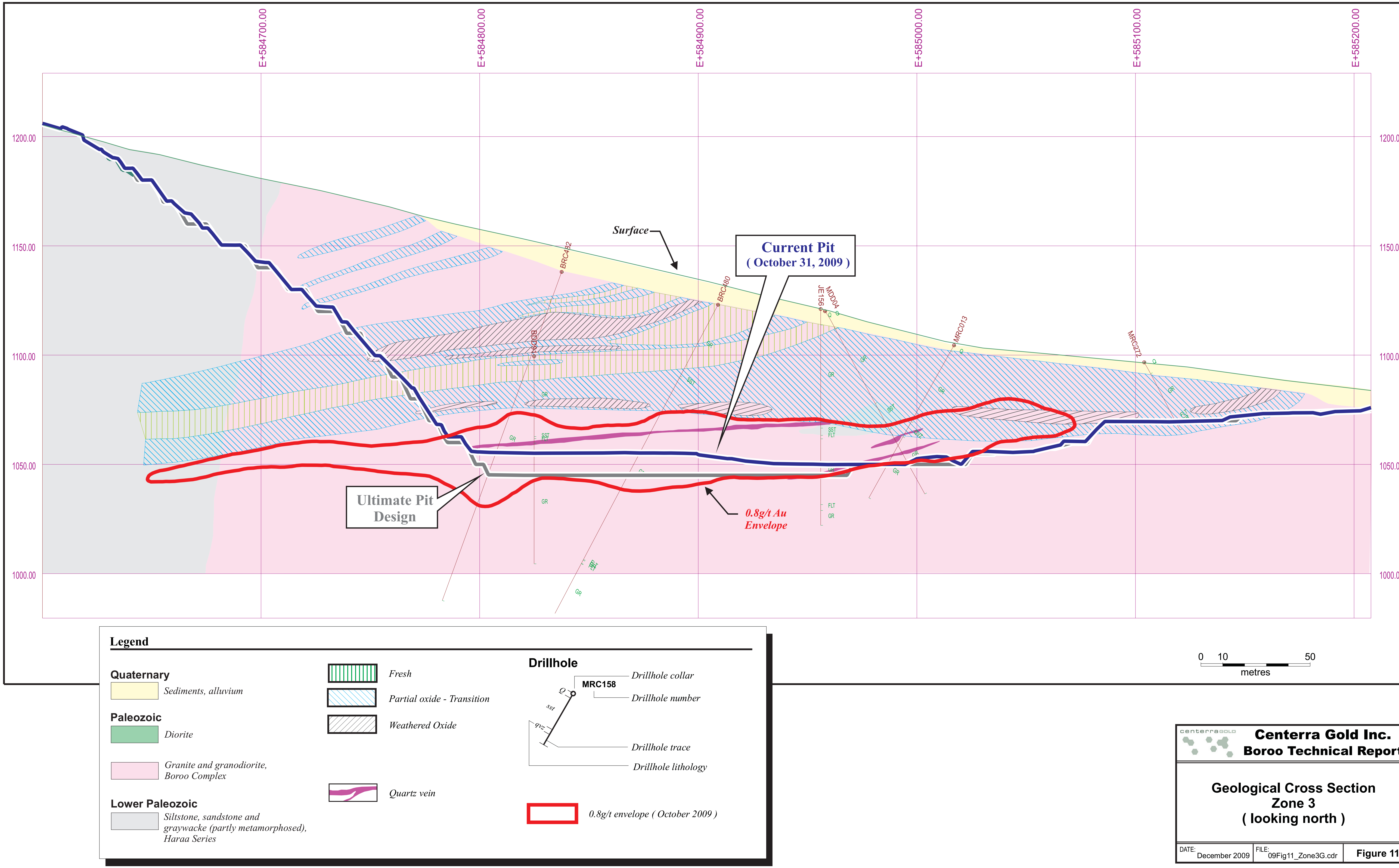
Geological Cross Section
Zone 2
(looking north)

DATE: December 2009	FILE: 09Fig10_Zone2G.cdr	**Figure 10**



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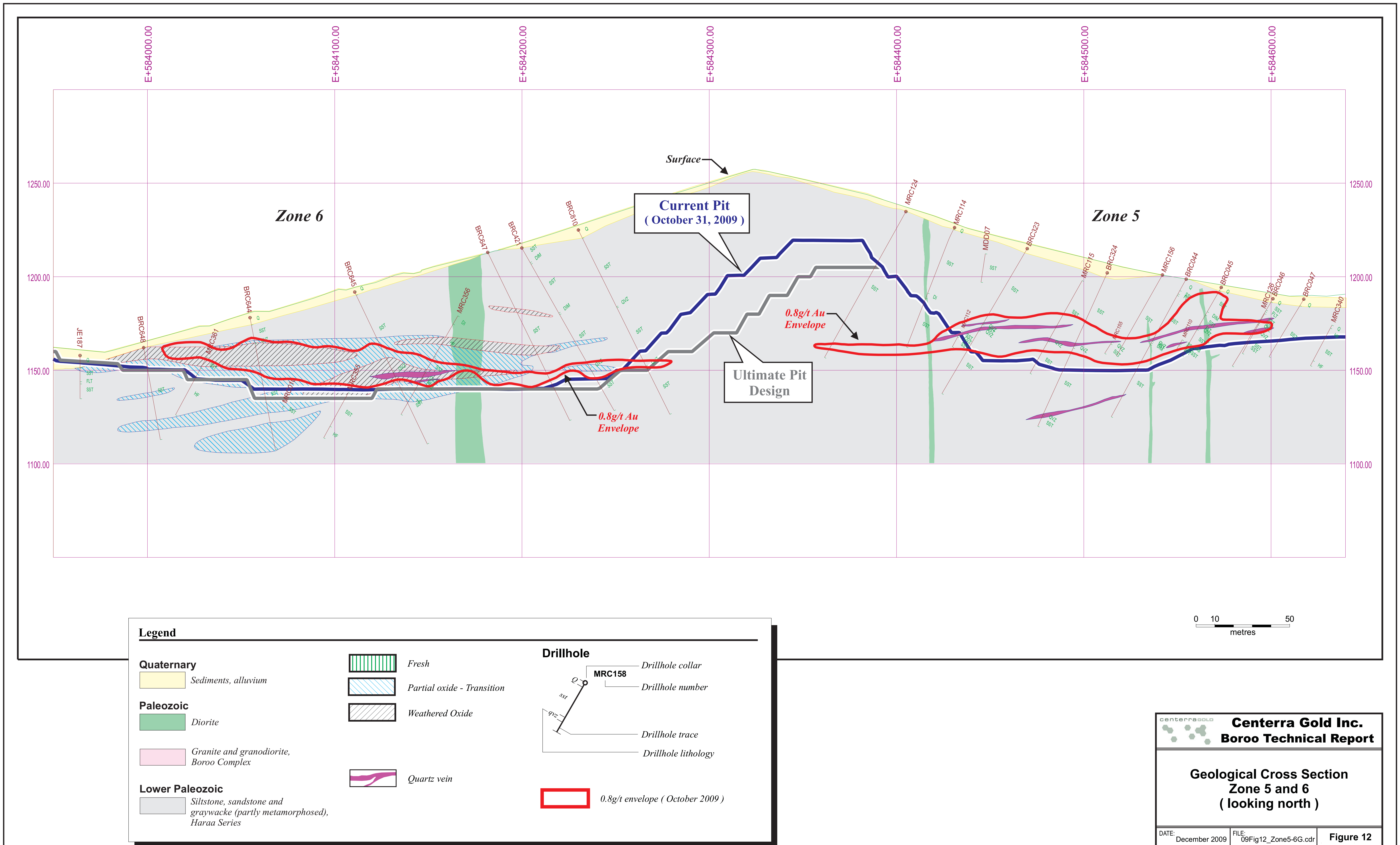
Geological Cross Section
Zone 3
(looking north)

DATE: December 2009	FILE: 09Fig11_Zone3G.cdr	Figure 11



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Geological Cross Section
Zone 5 and 6
(looking north)

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December 2009	09Fig12_Zone5-6G.cdr	Figure 12

10. EXPLORATION AND DRILLING

10.1 Boroo Exploration

To date, the level of exploration drilling in and around the ultimate Boroo open pits has been significant and has now tested all of the known targets and mineralized extensions that have the possibility of developing further mineral resources. For this reason, Centerra has no plans to complete any additional exploration in close proximity to the Boroo open pit operation.

There is still however an opportunity for possible mineral resource additions from additional zones of mineralization in the area immediately surrounding the larger Boroo mining licenses, and ore from identified resources in the region under Centerra control and within economic transport distance to the Boroo processing facilities.. This is discussed later in this section of the report.

Regional exploration pertinent to the Boroo has been undertaken since 1999 in two different corporate settings and on two sets of mining and exploration licenses that are shown in **Figure 2**. The northern Mongolia exploration licenses held by BGC form the Boroo project.

Cameco has also been involved in exploration in the region since 1997. The original land position was centred on the Gatsuurt deposit and was assembled by Cascadia Chemicals and Minerals Corporation, which later became Cascadia Minerals Inc. (Cascadia) during 1996 and 1997, with Cameco assuming a role in the project in 1997. Over time Cameco consolidated its interest in various corporate entities to create Centerra Gold Mongolia (CGM) that holds its interests in mining and exploration licenses in the region.

The CGM land position is continually changing with large mature licenses being reduced in size and new licenses being acquired. As of October 31st, 2009 the CGM holds 7 mining licenses totaling 3 565 ha hectares and 29 exploration licenses totaling 106 007 hectares. A portion of the land position covers non-contiguous blocks over a 250-kilometre strike length of the Yeroogol regional fault system. Most of the remaining exploration licenses are along the trend of the Boroo deposit.

The land package represents a very substantial license area in a region that has not been subjected to much surface exploration employing modern concepts and methods.

10.2 Gatsuurt Project

The Gatsuurt project is by far the most important within the large land package described above. The Gatsuurt project is the subject of a separate NI-43-101 report entitled "Technical Report on the Gatsuurt Gold Project, Northern Mongolia" prepared for Centerra Gold Inc. by Roscoe Postle Associates Inc., dated May 9, 2006.

10.3 Other Targets

The broader region around the Boroo and Gatsuurt deposits has been covered by stream sediment sampling since 1999, targeting second and higher order streams. The area involved is roughly centred on the Boroo deposit and extends for a total of 250 km along the northeast-southwest strike and with a width that varies from 30 to 80 km, covering two structural lineaments, one interpreted to be associated with the Boroo deposit, the other with Gatsuurt.

Within this overall area, 8,662 samples had been collected in the period 1999 to 2007 by Cascadia, BGC and CGM personnel. The method works well in areas of low overburden with gold and arsenic being the main elements of interest, but gives a subdued response in areas of deep loess cover. Similarly, soil geochemical responses are adversely affected in areas of substantial loess cover which acts as an impermeable blanket.

A large number of target areas indicated by the stream geochemical results, and the large number of exploration licenses acquired by CGM were in response to stream sediment survey results. Reconnaissance work has been undertaken on licenses acquired in earlier years, and detailed follow-up work (prospecting, soil geochemical sampling, geophysical surveys and test drilling) has taken place on a number of others. The best results to date have been obtained at the following prospects:

1. At Ulaan Bulag, located 14 km to the southeast of Boroo, initial drilling has encountered a mineralized system similar to Boroo in altered granitic rocks of the Boroo Intrusive Complex. Initial drill results generally returned values of 1 to 2 g/t gold over lengths of 2 m to 20 m.

   Additional exploration work, which included geophysical surveys, trenching and diamond drilling at Ulaan Bulag lead to the development of a Mongolian category reserves and resources in 2008. The Mongolian category reserves and resources were confirmed by the Mongolian State Mineral Authorities and the Exploration License was transferred into Mining Licenses on November 30, 2009. Additional detailed drilling to define and expand this advanced prospect is planned in 2010.

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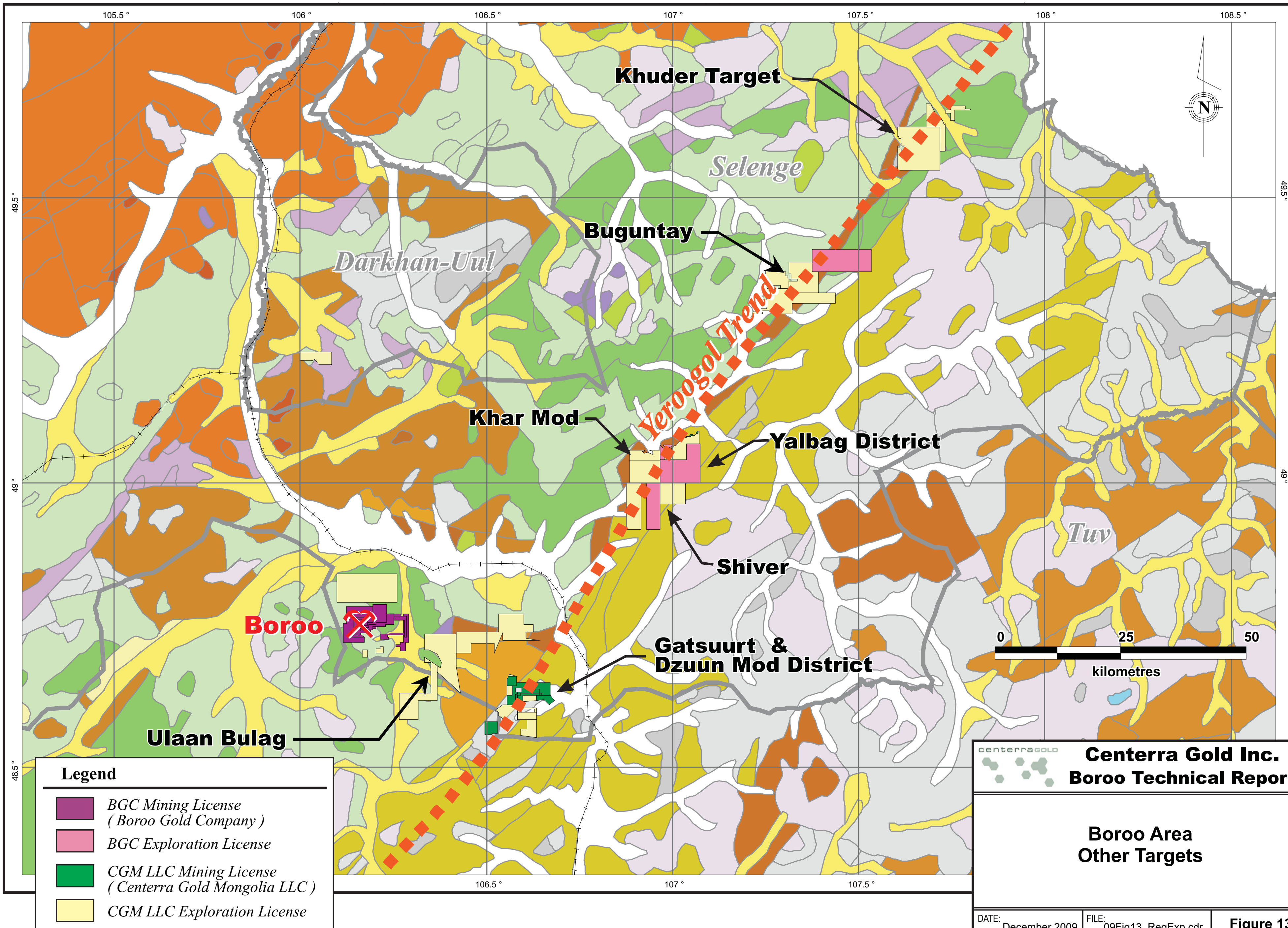
2. In addition CGM has identified several advanced exploration targets along the Yeroogol trend, including (from NE to SW) Khuder, Khar Mod, Yalbag, Shiver and prospects in the Dzuun Mod district around Gatsuurt namely Balj, Biluut and Bulgiin. Further target definition work and drilling are planned for these prospects in 2010 **(Figure 13)**.

10.4 Ikh Dashir Placer Deposit

The Ikh Dashir placer deposit was transferred to BGC by Altai in 1998. Approximately 60% of the original volume of 2.8 million cubic metres with an average gold grade of 1.7 g/m^3 (or about 0.8 to 0.9 g/t, just at the level of the cut-off grade for sub-grade material) estimated by the DDR-MPR expedition in 1989 was thought to be still available for mining. This estimate was not prepared in accordance with current mineral reserve and resource and may not be a resource or reserve under the CIM definitions.



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Boroo Technical Report

Boroo Area
Other Targets

DATE: December 2009	FILE: 09Fig13_RegExp.cdr	Figure 13

In 2005 to 2006, a detailed exploration program was undertaken to establish the boundaries of the previously mined areas of the Ikh Dashir placer deposit and to update the reserve estimate for the deposit. When this work was completed the updated reserve estimate for the placer deposit was registered with the National Registry of Mineral Reserves. The programme identified 68 blocks with an estimated non compliant indicated placer resource of 2 124 kg or 68,288 oz of gold.

BGC issued a tender for the mining and processing of the Ikh Dashir placer deposit in late 2006. MDT was selected as the contractor to mine a part of the Ikh Dashir placer deposit. Seasonal placer mining operations began in July 2007 and an estimated 26 kg (836 oz) of gold were recovered in 2007, 398 kg (12,796 oz) in 2008 and 431 kg (13,857 oz) in 2009.

In 2010, placer mining operations are planned to complete extraction of the remaining recoverable gold.

10.5 Exploration around the Boroo Deposit

Field investigations undertaken by CGM in the in 2002 and 2003 demonstrated that the Boroo gold mineralization is characterized by a pronounced stream geochemical response, including the development of alluvial and colluvial placer deposits. The fresh and transitional mineralization responds well to induced polarization surveys showing an increased chargeability coupled with a decrease in resistivity. The oxidized portions of the deposits do not show such a response, given the destruction of any sulphides. Overall, the mineralized zones appear to occupy magnetic lows, which may, in the granitic rocks at least, be interpreted to indicate the destruction of the primary magnetite in these rocks by the mineralizing solutions.

By the end of 2003, the stream geochemical, induced polarization (IP) and magnetic coverage was complete in the immediate Boroo area. The area within a distance of two kilometres from the pits planned for production had been drilled fairly extensively, if on a relatively open pattern, and most of the obvious geophysical targets had been tested. The results did not indicate the likelihood of an undiscovered major zone of mineralization in proximity to the known deposits, a conclusion confirmed by the results of condemnation drilling to the north of Zones 2 and 5 that did intersect the mineralized low-angle fault but found only a few, discontinuous assay intervals with a grade above 1.2 g/t gold.

Additional limited geophysical surveys were carried out in 2005 to supplement the earlier data. A compilation and review of all of the geological, geochemical and geophysical data was carried out in 2006. Twenty four drill holes were completed in 2006 to test the targets identified. The results were negative and so the opportunity for adding mineral resources in close proximity to the Boroo open pits has been exhausted.

10.6 Boroo Historical Drilling

The drilling that has been completed at Boroo is described in **Section 6.1**.

10.7 Discussion

While the possibilities of adding mineral reserves in the immediate Boroo mine area have been exhausted, the Gatsuurt project will utilize the Boroo infrastructure by adding approximately one year of oxide ore to the Boroo mine life, and an additional five years of operation with the addition of process facilities for processing refractory ore. These new facilities will permit the processing of Boroo refractory ore once Gatsuurt refractory has been processed. The Boroo infrastructure and process facilities will be available as a regional resource for any additional reserves that may be located within economic transport distance.

Beyond the Boroo and Gatsuurt deposits that have been known for a long time and have given rise to placer operations, the surrounding area in northern Mongolia has, prior to the arrival of western-based companies, not been systematically explored at the "grass-roots" level using modern concepts and exploration technologies. This process is still in the early stages.

Centerra, through Boroo Gold and CGM, have assembled a very large land package covering what could turn out to be a new gold district, and have already identified several advanced exploration prospects and drill targets.

11. SAMPLING METHOD AND APPROACH

11.1 Historical Methods

When BGC conducted their due diligence drilling in 1997 under the supervision of an independent Australian consulting firm, a critical review of the DDR-MPR drilling and sampling and assaying methods was conducted, as described in Waltho, 1998. Waltho also had the opportunity to inspect some of the DDR-MPR drill core from the JE holes.

Waltho reported that the drill logs and assay ledgers were of excellent quality, and describes the sample protocol used that observed lithologic boundaries and identified sections of lost core.

Nearly all of the drill core was split in two, and a one-half split submitted for assay. According to SRK 2000, most of the sampling appears to have been done by splitting rather than sawing. Full core was used for assaying in cases where the core was smaller than 76 mm and for drill holes that were spaced so tightly that their results were used to estimate Soviet category B resources. Unfortunately, most of the remaining half-core record has been lost, having been misplaced or destroyed since 1997 and was not available for more recent due-diligence studies or reviews.

On the basis of the evidence given by authors who had the opportunity to observe the results of the historical methods and approach to drill core sampling and that this period of drilling has no material impact on the current reserve and resource estimate, the author of this report has concluded that the methods applied reflect reasonably historical and current industry standards, and that there are no obvious negative issues with this drilling.

11.2 AGR/BGC Methodology

In 1997 BGC conducted a due-diligence drilling program consisting of nine diamond drill holes (**Table 4**). Drilling was performed by Vancouver-based Can-Asia Drilling Services Ltd. The holes were sampled by (MRT) personnel in Mongolia (Waltho, 1998). The core was stored at the BGC exploration camp in a locked shipping container. MRT sampled the drill holes following lithological intervals based on the BGC geological logs in a manner that provided samples with an average down-hole length of about one metre. Whole core was sampled, and 661 samples were packed in heavy plastic bags which were sealed using staples and a self-adhesive label. Bags were carefully packed into small wooden crates that were nailed closed for shipment to Analabs in Townsville, Australia.

Drill core from the 28 hole MDD drilling program completed by AGR in 1999 were shipped to Analabs in Ulaanbaatar for sawing. SRK (2000 a), who were able to physically inspect much of the JE and later BGC drill core pronounced themselves satisfied: *"In summary, core sampling is* considered *by SRK to be acceptable for the purpose of the project*" (SRK 2000 a, page 11), with the "purpose of the project" referring to the AGR Feasibility Study.

Subsequent drilling as part of the feasibility study was by the reverse circulation methods, with the sample protocol used for the MRC holes in 1999 described in SRK (2000 a) as follows;

- A first-pass sample taken by scooping chips from each one-metre interval and combining into four-metre composites. One-metre "re-samples" were taken at the same time, using the more conventional and more reliable Jones riffle splitter, however, these were only submitted for assay if the four-metre composite "scoop" assay returned a value of greater than 0.2 g/t. The samples from occasional wet intervals were also taken by scoop, which would normally be considered an unsatisfactory method. There is unfortunately no records from the drill logs form this period outlining how many RC holes had wet intervals, and how many such intervals are in the database.

After Cameco assumed responsibility for the project in March of 2002, the logging and sampling protocols were updated and improved. For RC drilling, new protocols focused on improvement of the sampling quality which included on-site chip tray filling, permanent geological control and preliminary field logging. Chip trays were sent to the CGM Ulaanbaatar office, where detailed logging took place. The geology and alteration of the cuttings were systematically logged and recorded in digital format.

This information was used to specify mineralized intervals where one-metre samples from intervals identified as mineralized or altered were submitted for assay directly. When samples appeared visually un-mineralized, two-metre composite samples were created and assayed. Where these samples returned anomalous gold values, the appropriate one-metre sample were also submitted and assayed.

Transport of the samples from the Boroo site to Analabs Ulaanbaatar where the receiving officer at the laboratory certified the samples as received was under the supervision of a staff geologist.

General sample protocol for the BX and BRC holes in 2003 did not significantly differ from that of the previous RC drilling campaign.

11.3 Current Methodology

Since 2003, both RC and diamond core drilling completed on the Boroo project under the direction of the Boroo exploration staff with the sampling method and approach described as follows:

- RC samples were taken at 1 m intervals. RC cuttings were collected from the sample collector; dry samples are mixed using the three stage sample splitter. Two sets of samples weighing, 3 kg to 5 kg, each are packed in identically numbered cloth bags; one submitted for laboratory testing; the other stored in the secure sample storage area on the mine-site as a coarse reject. From the primary sample, a sub-sample is taken, screened through a 2 mm sieve, rinsed with water and the sieve oversize packed in special chip tray, for geological logging. From the logging results, samples identified to be mineralized are sent for laboratory analysis, are composited to intervals of 1 metre intervals and shipped for analysis where as samples identified without alteration or mineralization, are composited to intervals of 2 metres before being shipped for analysis.

- Chip trays are in locked storage at CGM's Ulaanbaatar office; rejects and pulps currently are stored in locked storage in CGM's warehouse in Ulaanbaatar.
- Continuous sampling of drill core is carried out at intervals at 1 m in the mineralized section and at 2 m intervals in unaltered host rocks. Drill core is split or cut in half using a diamond saw, half of each sample is used for assaying and geochemical analysis and the remaining half-core is stored for record keeping at the mine site.

12. SAMPLE PREPARATION, ANALYSIS AND SECURITY

12.1 Historic Methods (pre -1997)

The sample preparation and analysis protocols of the DDR-MPR campaigns is described in Waltho (1998) and Cameco Gold Mongolia LLC (2004 b). The samples produced from drill core or underground openings were submitted to the Central Laboratory in Ulaanbaatar, a Soviet-era institution. Each sample was initially crushed to -1 mm and a 1 kg split was coarse pulverized to minus 315 microns (50 mesh). This material was split into two 250 g sub-samples of which the first was subjected to a spectral gold analysis without further comminution. For this method, the pulverized sample is digested in aqua regia and the gold adsorbed by powdered activated carbon. The activated carbon is combusted in an optical emission spectrograph using a direct current arc, and the resulting spectrum fixed on photographic plates where the strength of the signal is compared to known gold concentrations. This method was in wide use in the former USSR, both for gold and also for other metals.

Samples returning elevated gold values (the threshold was variably set at 0.1 g/t or 0.2 g/t), were re-assayed using the second 250 g split that was pulverized to minus 63 microns (230 mesh) and subjected to a 50 g fire assay with an atomic adsorption (AA) finish (Waltho, 1998, page 85). Given the secrecy surrounding any precious metals exploration and its results in the former USSR, there is reason to believe that security measures were taken to protect the samples (and the information derived from them), although no actual information is available.

A number of trace elements were determined to occur among them silver, arsenic, antimony, chromium, nickel, and barium.

According to Waltho (1998) and Cameco Mongolia Gold LLC (2004 b), a rigorous check assaying regime was maintained during the DDR-MPR programs, involving the systematic submission of duplicate samples amounting to 5% to 10% of the total sample stream to three outside laboratories, all of them in the former East Germany (in Halle, Stendal and Bismuth). Waltho has reviewed the results of 439 duplicate assays in 1997 and has concluded that they *"...indicate excellent agreement between original gold assay and duplicate assay.....The duplicate assay precision exceeds ten percent for 50 percent of sample pairs*." (Waltho 1998, page 86)

As part of their very detailed project review in 1999, SRK (2000 a) have also commented on the fire assay results of the JE drill holes. They noted that the ...*"fire assaying of JE holes is* *generally of poor precision*." and that "*...the overall precision is not adequate to enable reliable local estimation of resources for bankable feasibility*." They also note, however, that "*... there is little overall bias between original fire assay and repeat fire assays. The issue relates to precision, not accuracy*. " And they finally conclude "*...that area solely informed by JE holes should not be considered for conversion to reserves in the feasibility study, i.e. can only have the status of Inferred Resources. Areas with substantial modern drilling can be classified as Indicated. In these areas, the JE holes can be used."* (SRK 2000 a, pages 16, 17).

As part of the BGC due diligence in 1997, 254 repeat "*samples collected from original DDR-MPR expedition drill core .... by BGC geologists were also analysed at Analabs, Ulaanbaatar."* Despite a problem to exactly match the original sample intervals due to lost core intervals that had moved, the "*analysis of this data by MRT confirmed the existence and tenor of mineralisation at Boroo. ... The work completed by MRT demonstrates that original DDR-MPR expedition gold assays are both accurate and precise*." (Waltho 1998, Summary, page ii).

There is a difference of opinion between Waltho (1998) and SRK (2000 a) regarding the precision of the JE drill hole fire assay database. Having reviewed the graphs in both reports, we do not consider the lack of precision in the JE assay data sufficient grounds to relegate areas solely defined by JE holes to the inferred resource category, although the argument is now largely moot, because, as of October 31, 2009, a small and immaterial amount of the drill hole database is constituted by the JE holes, the majority of the reserves effected by this drilling has now been mined out.

There is no indication that the historical part of the Boroo assay data base is biased, but individual assay results do have a significant degree of imprecision, as a result of the inhomogeneous distribution of the gold in the Boroo mineralization ("nugget effect").

12.2 AGR and BGC Methodology (from 1997)

Sample preparation and assaying protocols used, and security precautions taken in the years 1999 to 2003 are described by drill campaign (refer to **Table 3**).

12.3 1999 Drill Program

The 661 samples originating from the nine BGC due-diligence diamond drill holes in 1997 (BG series) were initially analysed at Analabs in Townsville, Australia using a 50-gram fire assay aliquot with an AA finish under supervision by MRT. Analabs was subsequently certified by the Council of the National Association of Testing Authorities, Australia, as an accredited laboratory in September of 2000, but did not have that certification in 1997. All samples assaying greater than 4 g/t gold were re-assayed in duplicate using gravimetric and metallics screened fire assay techniques to confirm the accuracy of fire assay data and examine the contribution of coarse gold to high grades associated with some samples.

For the 1999 program, assays were performed at Analabs in Ulaanbaatar, a commercial laboratory established by its Australian parent that had not yet received certification. The sample and assay protocol used by AGR/BGC for the 1999 MRC drill holes (**Table 3**), that represent nearly one-quarter of the drill hole database for the current resource estimate, is described and commented upon in SRK, 2000 a:

Samples received are dried for three to four hours;

- A one-half to one-kilogram sample is riffled out for further crushing and pulverizing;
- Crush the sub-sample in a jaw crusher to minus 5 mm;
- Pulverize the sub-sample to 95% passing 75 microns (200 mesh). The capacity of the pulverizer was the reason for the initial sample splitting after drying;
- A 50-gram aliquot of the pulp is fire assayed with an AA finish at all gold concentrations.

The following observations can be made on the sample preparation and assaying protocols for the 1999 program:

1. The initial splitting of the RC samples into sub-samples with a mass of only one-half to one kilogram before further comminution will have increased the sample error attached to those assay results, due to the inhomogeneous gold distribution in this style of mineralization, continuing the poor reliability of individual assays of the earlier drill campaigns.
2. The use of the metallics screen assay method is a more reliable method for such materials, and that method could have been put to good use on the higher-grade part of the Boroo sample population to reduce the variance of individual assay results. The lack of a laboratory balance at Analabs to perform a gravimetric finish for gold assays of >10 g/t is a further deficiency, one that still remains;
3. The results of internal pulp repeat assays at Analabs are graphed in SRK (2000 a), showing very good precision;
4. AGR/BGC did not add any external standards to the sample stream, a quality control and assurance measure that was standard industry practice at the time.

The sample preparation and assay protocols in place during the 1999 drill program were less than optimal for Boroo-type gold mineralization, affecting about one-quarter of the database used in the current resource estimate. The lack of proper quality control does not mean that the resulting assay data are unreliable, but it means that reliability cannot be documented.

Indirect evidence is, however, available as to the performance of Analabs in 1999:

While BGC did not submit any external standards together with the samples from Boroo, the exploration group of CGM (and predecessor company Cascadia), undertaking work elsewhere, did. The results of the CGM quality assurance-quality control (QA/QC) measures were reviewed by Analytical Solutions (2002), who concluded that the results "*... for standards submitted to Analabs in 1999 are biased low ...*" and that there was "*... a possibility that Analabs had technical difficulties during this time period that could affect gold assays.*" (Executive Summary, first point).

1. Cameco Gold (2001) report that 657 new splits were renumbered and submitted to Analabs by BGC. The results are described as follows: "*The original and duplicate assay pairs show poor reproducibility, however there is not a bias ...*" (page 8). The poor reproducibility is at least in part the obvious result of the poor sample preparation protocol and the resultant increase in the sample error. Analytical Solutions (2002) conclude with respect to this set of 657 repeat assays as follows: "*For re-splits between 5 to 10 g/t Au there is no statistical significance to the differences* [i.e., there is no bias]*, probably due to inhomogeneity of the rejects with respect to gold. Samples with low gold grades (<5 g/t) show that there may be slight statistically significant bias towards higher assays in the original splits compared to the re-split assays.*" (Analytical Solutions, 2002, page 11).
2. In 2002, a further 436 check assays were performed on samples from the 1999 MRC drill holes. This included 338 samples collected from the coarse reject bags stored at the Boroo site (Cameco Gold Mongolia, 2003 b). The entire content of each coarse reject bag was recovered, re-bagged and sent to Analabs for sample preparation and fire assay. The original bags were rotted and open to the wind, rain and surface contamination, and it was difficult to confirm the exact sample numbers, but they all appeared to be in the original order as laid out by BGC geologists originally responsible for archiving the samples.
3. The repeat assay results show no significant differences between the means and standard deviations between the two assay sets, but scattergrams demonstrate considerable differences of individual pairs, in line with earlier findings and additionally caused by the poor condition of the samples and identification problems during sample retrieval.

Finally, 98 pulps were also recovered from storage in Ulaanbaatar and re-assayed by Analabs. Comparison between original assays and re-assays of the 98 pulp samples shows a good correlation ($R^2 > 0.9$) between the two sets.

As was apparent for the early (historical) assay data, that part of the Boroo assay data base created in 1999 is not biased, but, as before, individual assay results have a significant degree of imprecision, as a result of the sample preparation protocol and the small aliquot size, particularly for high-grade samples.

12.4 2003 to 2008 Drill Programs

From 2003-2008, exploration drilling was completed throughout the mine using diamond and reverse circulation (RC) drilling methods; and within the scope of the drilling program a total of 468 holes were completed for exploration purposes; 134 holes for reserve definition; 295 holes for condemnation; and 16 for geotechnical and metallurgical purposes, respectively. Drill cores from diamond and chips from RC drilling of all drill holes completed throughout the entire deposit were sampled. Sampling method and approach is described in **Section 11** of this report.

As the Boroo mine has operated without an on site assay laboratory, all geological, mine and mill samples are bagged and logged at site for shipment to a commercial laboratory in Ulaanbaatar for sample preparation and assaying. From 2002 to 2006, SGS Mongolia Laboratories (SGS) was employed.

Since 2007, the limited number of additional exploration samples shipped for analysis have been performed by Actlabs Asia LLC in Ulaanbaatar, which commenced operations in June 2006 and achieved ISO 17025 accreditation in March 2008. Actlabs Asia LLC participates in Proficiency Testing Programs with both CANMET in Canada and Geostats in Australia.

As the majority of the drilling that would impact the reserves and resources, was done between 2003 and 2005 when Boroo was shipping exploration samples to SGS Mongolia (SGS) in Ulaanbaatar, the sample preparation procedures from the SGS laboratory are described as follows:

- All samples received by SGS are received with an internal sample control number and entered into the laboratory information management system (LIMS) which eliminates the need for manual data entry and reduces human transcription error
- The samples are sorted and dried prior to being crushed to 90% passing 3.0 mm in a Rhino/Terminator jaw crusher before being reduced in a Lab Tech Essa 201 8-bin

rotary splitter to a 750 g to 1.1 g sub sample.

- The sub sample, which is suitable in size for single pass comminution in an Labtech LM2 bowl and ring pulveriser is pulverized to 80% passing 75 micrometers. The crusher and pulverizer are flushed by compressed air after each sample.
- Two splits of 300 g each are taken, with one allocated for assay and the second archived.
- Assaying employs fire assay digestion on a one assay ton aliquots and an atomic absorption finish on a 10 ML volume by a Varian Spectra 50A or 55B unit. Detection limit is 0.01 g/t, or 10 ppb.
- SGS using conventional flux and crucibles fires 50 samples per batch and dissolves the prill by HNO_3/HCl.

12.5 Internal quality assurance and certification of labs

As with most commercial labs, SGS utilize their own certified standards and blanks as part of their QA/QC process. As an example, one in ten samples is subjected to additional assaying for control purposes. All sample tests were depicted at test control monitor of the lab. Results two times higher than the standard deviation are considered to be the warning level and further monitoring tests are performed if this deviation is three times higher. Selected samples are subject to re-assaying if the deviation exceeds the warning level and all samples are re-assayed if the results exceeded monitoring level.

By October 2005, the bias variation at SGS was between -1.82 % and +2.83 % which is considered satisfactory. Other deviations are between +3.8% and +4.8 % which are also below the maximum variation level of 5%.

Test results performed by the SGS lab were reviewed by Linda Bloom of Analytical Solutions Ltd based in Toronto and assessed satisfactory as per request of the SGMK. Bloom has issued a number of recommendations pertaining to the operational quality assurance program of both SGS and SGMK which were adhered by these organizations.

12.5.1 Boroo QA/QC - Sample Preparation

BGC mine staff undertake an industry standard quality control and quality assurance program which is designed to provide confidence in the accuracy of the assaying process of the mine exploration drilling. QA/QC reports are prepared and presented to Centerra on a quarterly basis. The QA/QC program consists of the following stages with and annualized summary of QA/QC samples submitted listed in **Table 7.**

- One of two commercial blanks is added at a rate of one in every 20 to 40 samples. Submitted to the commercial laboratory.
- Standards are added a rate of one in every 20 to 40 samples.
- Duplicate samples amounting to 5% of the total number of samples are submitted for testing.
- Control tests are performed on approximately 200 samples at a secondary laboratory if the grade is above 0.8 g/t gold. The control tests cover approximately 8% of the mineralized samples and are performed in the second half of each year.

The number of samples, which were collected and tested at laboratories within the scope of the BGC mining exploration program, and the number of control samples used for quality control of the samples are shown below in **Table 7**.

Table 7 Summary of Quality Control Samples Utilized 2004 to 2008

Year	No. of Samples	Quality Control Samples		
		Blank	Standards	Duplicates
2004	16 260	167	373	-
2005	25 604	338	663	89
2006	8 851	356	487	281
2007	611	75	291	80
2008	1 619	51	53	8
Total	**52 945**	**987**	**1 867**	**458**

12.5.1.1 Blank samples

Blanks are prepared from rejects of the original splitting of samples that assay below the detection limits of the laboratory. These reject samples are returned to the mine site where they are packed and classified into oxide, transitional and fresh material according to the mine general lithology. A certain number of blank samples are sent each time when sending samples for laboratory testing.

Blank samples with the same lithology to drill samples are included in shipments sent to assay to determine whether there is a source of any contamination during the sample preparation stage, i.e. crushing, pulverization and fire assay. Laboratory test results of blank samples assaying below 0.1 g/t gold are deemed to be within the permissible level.

A total of 167 blank control samples of types Blank A and Blank B were tested in 2004. Of these, a total of 15 samples had grades of over 0.1 g/t which were re-tested in bulk samples. The resulting conclusion was that the test work was successful, as the grade of all blanks was detected to be below 0.1 g/t gold. These blank samples were prepared in the Shea Clark Smith (SCS) laboratory, Nevada, USA.

12.5.1.2 Standard Samples

Standards are packaged in weights of 50 g in a pulverized form and labels with codes on the samples are taken off and numbered with new numbers prior to inclusion into the bulk assay for submission to the labs.

Bias in the quality assurance has occurred if the test results of two sequenced standard samples is two times higher or lower from the standard deviation of a given standard; if the test result of any standard is three times higher or lower than the standard deviation then these shipments shall be subject to re-assaying. **Table 8** and **Table 9** demonstrate test indicators prepared by SCS, while **Table 10** and **Table 11** demonstrate test indicators of standard samples prepared by Rocklabs during 2006 to 2007, respectively. In accordance with the tables, a highest number of samples that did not meet test requirements were recorded in 2004 (24), while lowest number was recorded in 2007 (4).

Table 8 Indicators of standard sample test of SCS for 2004

Standard sample	Quantity	Standard value				Post-test indicators			Errors of numbering	Samples which did not meet test requirements
		Standard grade, g/t	Samples within standard deviation, %			Average value, g/t	Standard deviations of samples	Tested, %		
			+/- 1	+/- 2	+/- 3					
2004										
ST 0.6	61	0.6	77.0	100.0	100.0	0.51	0.11	85.0	2	
ST 1.0	122	1.0	84.0	91.0	96.0	1.04	0.30	104.0		5
ST 3.0	68	3.0	7.0	57.0	93.0	2.51	0.27	84.0		5
ST 5.5	19	5.5	32.0	79.0	95.0	4.65	0.55	85.0		1
ST 8.0	24	8.0	24.0	40.0	60.0	9.04	0.61	113.0		10
ST 12.0	13	12.0	69.0	85.0	85.0	11.94	0.72	99.5		2
ST 15.0	28	15.0	71.0	89.0	100.0	15.11	0.62	100.7	1	
ST 19.0	27	19.0	44.0	85.0	100.0	18.36	1.03	96.6		
ST 23.0	11	23.0	64.0	82.0	100.0	23.56	1.09	102.4		
	373								**3**	**23**

Table 9 Indicators of standard sample test of SCS for 2005

Standard sample	Quantity	Standard value				Post-test indicators			Errors of numbering +/- 1	Samples which did not meet test requirements Standard grade, g/t +/- 2
		Standard grade, g/t	Samples within standard deviation, %			Average value, г/т	Standard deviations of samples	Assayed, %		
			+/- 1	+/- 2	+/- 3					
2005										
ST 0.6	48	0.6	94.0	100.0	100.0	0.56	0.07	93.3		
ST 1.0	29	1.0	97.0	97.0	100.0	0.96	0.13	96.0		
ST 3.0	44	3.0	48.0	95.0	100.0	2.70	0.18	90.0		
ST 5.5	27	5.5	67.0	100.0	100.0	5.11	0.30	93.0		
ST 8.0	25	8.0	32.0	84.0	92.0	8.57	0.69	107.0		2
ST 12.0	26	12.0	58.0	92.0	100.0	11.95	0.58	99.6		
ST 15.0	24	15.0	63.0	75.0	96.0	14.73	0.85	98.2		1
ST 19.0	25	19.0	56.0	84.0	96.0	18.64	1.16	98.1	1	1
ST 23.0	17	23.0	29.0	94.0	100.0	22.30	1.08	96.9		
	265								**1**	**4**

Table 10 Indicators of standard sample test of Rocklabs for 2006

Standard sample	Quantity	Standard value					Post-test indicators			Errors of numbering +/- 1	Samples which did not meet test requirements Standard grade, g/t +/- 2
		Standard grade, g/t	Samples within standard deviation, %	Average value, г/т			Standard deviations of samples	Assayed, %	Standard grade, g/t		
				+/- 1	+/- 2	+/- 3					
2006											
OXD27	7	0.416	0.025	57.0	86.0	86.0	0.411	0.04	98.8		1
OXF41	8	0.815	0.024	0.0	50.0	88.0	0.830	0.06	101.8	1	1
OXH37	14	1.286	0.039	57.0	93.0	100.0	1.297	0.04	100.9		
OXJ36	3	2.398	0.073	0.0	33.0	67.0	2.340	0.24	97.6		1
OXP39	4	14.890	0.200	25.0	75.0	75.0	14.450	0.33	97.0		1
SE19	138	0.583	0.026	46.0	81.0	97.0	0.609	0.03	104.5		4
SF12	129	0.819	0.028	56.0	87.0	99.0	0.820	0.03	100.1		1
SH13	16	1.315	0.034	31.0	69.0	94.0	1.349	0.05	102.6		1
SJ22	70	2.604	0.042	34.0	59.0	99.0	2.593	0.08	99.6		1
SK21	37	4.048	0.091	30.0	62.0	100.0	3.933	0.12	97.2		
SL20	1	5.911	0.176	0.0	0.0	100.0	6.270		106.1		
SP17	23	18.130	0.434	39.0	61.0	87.0	17.597	0.83	97.1	1	3
OXC44	9	0.197	0.013	67.0	89.0	100.0	0.205	0.01	104.1		
OXD43	14	0.401	0.021	43.0	64.0	93.0	0.422	0.04	105.2		1
OXG46	3	1.037	0.041	67.0	67.0	100.0	1.063	0.05	102.5		
OXL34	11	5.758	0.173	64.0	73.0	100.0	5.817	0.26	101.0		
	487									**2**	**15**

Table 11 Indicators of standard sample test of Rocklabs for 2007

Standard sample	Quantity	Standard value					Post-test indicators			Samples which did not meet test requirements Standard grade, g/t ±2
		Standard grade, g/t	Samples within standard deviation, %	Average value, g/t			Standard deviations of samples	Assayed, %	Standard grade, g/t	
				±1	±2	±3				
2007										
OXF41	24	0.815	0.024	63.0	83.0	96.0	0.794	0.04	97.4	1
OXH37	24	1.286	0.039	58.0	71.0	100.0	1.303	0.06	101.3	
OXJ36	23	2.398	0.073	39.0	70.0	96.0	2.433	0.14	101.5	1
OXP39	11	14.890	0.200	55.0	73.0	100.0	14.854	0.32	99.8	
SE19	12	0.583	0.026	67.0	92.0	100.0	0.597	0.03	102.4	
SF12	11	0.819	0.028	45.0	73.0	100.0	0.838	0.05	102.3	
SH13	13	1.315	0.034	69.0	92.0	100.0	1.305	0.03	99.2	
SJ22	25	2.604	0.042	32.0	80.0	100.0	2.613	0.07	100.3	
SK21	22	4.048	0.091	73.0	82.0	100.0	4.098	0.11	101.2	
SL20	10	5.911	0.176	100.0	100.0	100.0	5.941	0.07	100.5	
SP17	2	18.130	0.434	50.0	50.0	100.0	17.570		96.9	
SQ18	10	30.490	0.880	50.0	90.0	100.0	31.430	0.57	103.1	
OXC44	13	0.197	0.013	77.0	92.0	100.0	0.205	0.01	104.1	
OXD43	13	0.401	0.021	85.0	100.0	100.0	0.408	0.02	101.7	
OXG46	14	1.037	0.041	86.0	86.0	100.0	1.021	0.04	98.5	
OXL34	21	5.758	0.173	76.0	100.0	100.0	5.812	0.13	100.9	
OXH52	5	1.291	0.025	20.0	60.0	80.0	1.261	0.11	97.7	1
SE29	6	0.597	0.016	17.0	83.0	100.0	0.608	0.03	101.8	
SI25	11	1.801	0.044	27.0	55.0	100.0	1.771	0.08	98.3	
SK33	7	4.041	0.103	0.0	57.0	100.0	3.987	0.22	98.7	
SL34	6	5.893	0.140	50.0	67.0	100.0	5.865	0.28	99.5	
SN26	8	8.543	0.175	38.0	75.0	88.0	8.269	0.22	96.8	1
	291									**4**

A total of 1 814 standard samples were tested during 2004 to 2007 from which 53 or 3% did not meet test requirements and 257 samples from 24 bulk samples with bias were re-assayed and results reviewed; consequently the database was revised. Accordingly, 108 samples were tested in 2004, 50 in 2005, 78 in 2006 and 21 in 2007. Grades of standard samples re-assayed have reached permissible level.

No exploration drilling was conducted at Boroo in 2008 or 2009.

12.5.1.3 Duplicate samples

Duplicate samples are obtained through same regime as samples extracted from drill-holes by RC drilling, whilst one quarter of the core is taken as a duplicate during core sampling. The samples were assayed with one duplicate for every 20 to 40 samples or 5% of all samples were included into samples submitted for assaying. Theoretically, the grade of the duplicate samples should be the same as the original sample; however, as variations occur due to gold distribution and the number of gold particles occurring naturally. Therefore, if distribution of the grade is +/-20% compared to the original sample, it shall be considered as a normal indicator for audit purposes. RC drill duplicate samples check the quality of assaying of the area, while duplicate core samples demonstrate the even distribution of gold. Duplicate samples are numbered and packaged in the same way as the original sample and sent for assaying.

Since 2005 monitoring of duplicate samples has become the norm. During 2005 a total of 89 duplicate samples were assayed; 281 samples in 2006 and 80 samples in 200. All duplicate samples were assayed by SGS Laboratories (SGS) in 2005 and 96% of duplicate samples in 2006. While, 26% of all duplicate samples were assayed by SGS in 2007.

Table 12 Relative variation of duplicate samples from gross sample

Year	Total duplicate samples	Number of samples applicable to the interval					
		< +/-5%	< +/-10%	< +/-20%	< +/-25%	< +/-50%	> +/-50%
2005	**89**	52	53	55	56	62	27
		58%	60%	62%	63%	70%	30%
2006	**281**	128	136	157	162	190	91
		46%	48%	56%	58%	68%	32%
2007	**80**	19	25	33	35	47	33
		24%	31%	41%	44%	59%	41%

Table 13 Test results of duplicate samples (per year)

Year	Total duplicate samples	Core sample			RC drill sample		
		In > Dup	In < Dup	In = Dup	In > Dup	In < Dup	In = Dup
2005	**89**				18	20	51
					20%	23%	57%
2006	**281**	28	20	26	51	62	94
		10%	7%	9%	18%	22%	33%
2007	**80**	36	29	15			
		45%	36%	19%			

In 2006, duplicate samples were collected from all drill samples for assaying, whilst in 2005 only from RC drill samples and in 2007 from core samples.

In accordance with the assaying performed during 2005 and 2007 (**Table 13**), the RC drill sample duplicates were two times higher and within +/-5% of the core sample duplicates. Duplicate sample results are included in the monthly geological report. The results of blank and standards assays are used to determine if any samples should be re-assayed. A total of 61 samples were re-assayed between 2005 and 2007.

12.6 Bulk Density Determination

A total of 2319 samples were collected from drill core by the DDR-MPR expedition, and another 158 from MDD holes for the purpose of specific gravity determinations. Samples consisted of meta-sedimentary rocks, granite, diorite and altered/mineralized rocks. The DDR-MPR data were obtained using the method of total immersion of unwrapped and unwaxed whole drill core in water and determination of the volume displaced. This method can be reliably translated into bulk densities only for non-porous drill core. However, the specific gravity figures will be higher than the bulk density where rock porosity at the surface of the core is encountered and filled with water during the process.

The specific gravity data have been directly translated into bulk density figures. The database was large enough to allow Geostat (2003 b) to interpolate by kriging the bulk density data for the various zones of weathering in each deposit. The results are summarized in **Table 14**:

Table 14 Average Bulk Densities of the Mineralization and by Weathering Zone
– tonnes per cubic metre –

Zone	Oxide	Transition	Primary	Total
2	2.59	2.60	2.67	2.62
3	2.54	2.57	2.59	2.57
5	2.60	2.67	2.70	2.65
6	2.66	2.65	2.69	2.67
Total	**2.56**	**2.59**	**2.62**	**2.59**

The bulk density of 2.62 tonnes per cubic metre for the primary hard rock appears reasonable, given the composition of this material. These values have been used throughout the operation of the Boroo mine.

13. DATA VERIFICATION

During the AGR, 1999 feasibility study of the Boroo project, the information from surface trenches and drill holes was entered into a computerized database. Drill collar coordinates, assay results, and information on lithology, alteration and mineralization were recorded in the mine database that is used for early reserve and resource estimation purposes. This data was validated at different times, initially by MRT for BGC in early 1998, later by BGC, SRK and subsequently by CGM who performed a rigorous database evaluation in 2002/2003.

In general, the database underlying the current Boroo mineral resource estimate, assembled prior to 2002, has been verified several times in the past and while a few issues with some of the historical holes, core loss and minor clerical errors exist, the author feels that this would not have a material effect on the outcome of the current reserve and resource estimates, particularly as much of this historical exploration data applied has now been mined out.

Since 2003, a substantial amount of additional drill data has been added by BGC where checks to the database are being performed regularly under the supervision of the BGC Chief Geologist, who is responsible for its up keep and reliability.

During this same time, the author of this report has also on several occasions while at the Boroo site undertaken verification of both the exploration and production data sets by performing independent reconciliation and reviews between the exploration drilling results obtained from several years of mine and mill production.

The author believes the 6 years of reliable operational performance of the Boroo project relative to the reserve model developed from the exploration dataset has provided the most significant confidence in the reliability of both the overall exploration and production data used in this report. The reserve and resource model constructed from this exploration data set can be considered reliable, and mining at Boroo is now close to completion.

14. MINERAL PROCESSING AND METALLURGICAL TESTING

14.1 Metallurgical Testwork

14.1.1 Direct Milling Ore

The current Boroo ore processing flowsheet is the result of a number of past metallurgical test programs.

Historical testing (pre-1999) included the following major programs:

- Pilot scale metallurgical supervised by DDR-MPR technical personnel with bench scale tests were conducted in Freiberg, East Germany and pilot scale testing by Irgiredmet, Irkutsk, Russia, in 1987 (USSR All Union Export and Import Association (Tsvetmetpromexport), 1987).
- McClelland Laboratories Inc. of Sparks, Nevada in 1991 recommended to Morrison Knudsen Company Inc. bench scale column leach tests, flotation and cyanidation testing.
- A comprehensive program in 1997 at AMMTEC Limited, Balcatta, Australia including grinding, leaching, column leaching and gravity concentration testing on diamond drill core and reverse circulation drilling chip samples. The program established base recoveries of 95% to 90% for oxide and upper transitional ores and 85% for lower transitional ores.
- Comminution testing was undertaken by Orway Mineral Consultants of Mt. Pleasant, Western Australia in 1999. Bond ball mill work indices of 12.2 and 13.0 for oxidized and fresh "granite", respectively, were determined while the figures for the Haara sediments (hornfels) were much higher in the range of 22.3 to 24.6. Several options for the design of a comminution circuit were evaluated.

Additional bottle roll testwork at a grind of 80% passing 75 microns on ore within the planned open pits that had not been adequately covered earlier was undertaken in 2002 (Chapman, 2003), using ore from the lower transitional or fresh material. Again, the results in the fresh ore were very variable, averaging 75% gold recovery, but ranging from 57% to 90%.

Operational results showed that gold recovery predictions for the oxidized and transitional zones at 95% and 90% were accurate.

Early metallurgical data for the primary or fresh ore at Boroo, and the expected average gold recovery at 77% was based on limited testing.

In April/May 2006, recovery for ore milled from Pit 5 dropped to low to mid 80% range. Changes made in the mill to restore the higher recoveries did not succeed. These included reduced throughput to increase the fineness of grind and increase CIL retention time and also higher free cyanide levels. Ore from the area under production was not identified as fresh ore but visually it was clear that it was. Diagnostic leach tests on mill tailings during the period of low recovery found that 24% to 35% of the gold was locked in sulphide. There was an overall trend that gold locked in sulphides increased with increasing sulphide sulphur levels.

Additional drilling was completed in Pits 3 and 6 to provide samples for better defining a recovery model for fresh ore. The initial observation that recovery became refractory with increasing sulphide concentrations was not found to be universally true. The study found that samples had to be evaluated visually for both sulphide mineral liberation and matrix oxidation to determine if recovery was going to be an issue. Several samples while showing surface oxidation had poor recoveries. The reason identified was that the sulphide mineral surfaces did not show any oxidation thus encapsulating the gold.

Additional leach tests identified more ore that was refractory, with recoveries significantly below 50%. At this point, the ore would be uneconomic to process in the existing operation. In late 2007, a composite sample of drill core from Pit 6 and Pit 3 representing potential refractory ore, was sent to SGS Lakefield Africa for flotation and biological oxidation of the resulting flotation concentrate using the BIOX® process was initiated. The testing would determine if the Boroo refractory ore could be processed through the planned modification of the Boroo mill to process refractory ore using sulphide flotation followed by BIOX® treatment of the flotation concentrate and cyanide leaching and carbon in pulp recovery of the dissolved gold. The results of the testing showed that the gold recovery of the composite could be increased from 47% to 87% with the proposed treatment.

The BIOX® process was developed by and licensed through Gold Fields Ltd. of South Africa. The process utilizes a mixed population of acidithiobacillus ferrooxidans, acidithiobacillus thiooxidans and leptospirillum ferrooxidans and proprietary processing equipment to oxidize sulphur in refractory gold concentrates.

14.1.2 Heap Leach Ore

In 2005 preliminary testing was started to determine the amenability of low grade stockpiled ore to heap leaching. This would allow for processing of low grade ore that would have been stockpiled for milling once mining was completed. Processing this ore while higher grade ore is being processed presents an opportunity to increase cash flow. The lower cost of heap leaching can potentially allow lower grade material that would be otherwise classified as waste to be processed.

The ore types tested were primarily oxide and transition. The availability of samples of fresh ore was limited by the state of current pit development. Metallurgical testing was conducted by AMMTEC in Australia, Kappes-Cassiday & Associates (KCA) in Colorado, and BGC.

AMMTEC tested three samples (low grade oxide, oxide and sulphide) in columns at crushed to -25 mm. The results demonstrated that all of the samples were amenable to leaching at this crush size, with recoveries ranging from 65% for the sulphide sample to 91% for the low grade oxide sample.

KCA tested three samples of ore grade material at sizes designated "as-received" (oxide and fresh samples to be -150 mm while the transition sample was -100 mm) and "-25 mm". The columns were operated up to 78 days with solution to ore ratios up to 4.5:1. Recoveries on the as-received samples ranged from 44% for the sulphide sample to 88% for the oxide. Recoveries on the -25 mm crushed column tests ranged from 53% for the sulphide sample to 88% for the oxide sample. The results demonstrated that at coarser sizes, good recoveries were obtained for the transition and oxide samples.

To provide more definitive information on possible recoveries at coarse crush sizes, crib tests were carried out on three large bulk samples of low grade run of mine ore. Each test utilized 60 to 70 t of sample. The cribs consisted of two containers welded end to end, set up vertically. A solution drainage system was incorporated into the bottom of each crib prior to sample placement. Drip emitters were used to distribute leach solution on top of each sample. Gold dissolved in solution was adsorbed onto small activated carbon columns. The barren solution from the carbon columns was circulated back to the crib. Two samples were treated as received while another was crushed using the mill primary crusher. All samples were collected from Pit 3.

One sample was identified as oxide. The other samples were identified as low grade transition and the other as high grade transition. The high grade transition sample was crushed through the mill feed jaw crusher with a closed side setting of 125 mm.

The samples used for the crib testing program were found to be representative of oxide and transitional ores that would be processed by heap leaching, in the opinion of the author. The calculated head grades would represent higher grade material that would be heap leached.

The test results shown in **Table 15** are based on gold extraction to solution plus gold in the leach residue.

Table 15 Results of Crib Leach Tests Conducted at Boroo Mine, 2006

Sample	Calculated Head Grade (g/t Gold)	Extraction (% Au) at Days of Leaching					Ultimate Extraction (% Au)	Total Leach Time (days)
		15	30	45	60	75		
Oxide	1.01	55.7	68.1	75.1	80.1	83.5	83.9	83
Low Grade Transition	1.05	44.4	57.4	61.7	64.3	66.0	66.4	83
High Grade Transition	0.92	56.7	69.5	76.0	79.7	82.0	82.2	79

Based on the crib test results, it appears that after solution to ore application ratio of 1:1 or approximately 30 days of leaching, gold recovery of 50% of ultimate recovery is achieved (ultimate recovery defined as solution to ore ratio of 4:1). The 4:1 ratio will be obtained in the later leach cycles when additional lifts are under primary leach and the lower lifts are under re-leach.

The results discussed in this section formed the basis of Centerra's "In-House Heap Leach Feasibility Study Boroo Gold Project", completed in August 2006. On the basis of the test data for recovery versus crush size and an economic trade off study contained in this report, the decision was made to crush run of mine ore to -125 mm.

14.2 Mill Process Flowsheet

The simplified flowsheet for Boroo ore (**Figure 14**) based on the test results described above, is a standard layout that consists of crushing, grinding, gravity concentration, cyanide leaching and gold recovery in a carbon-in-pulp (CIP) circuit.

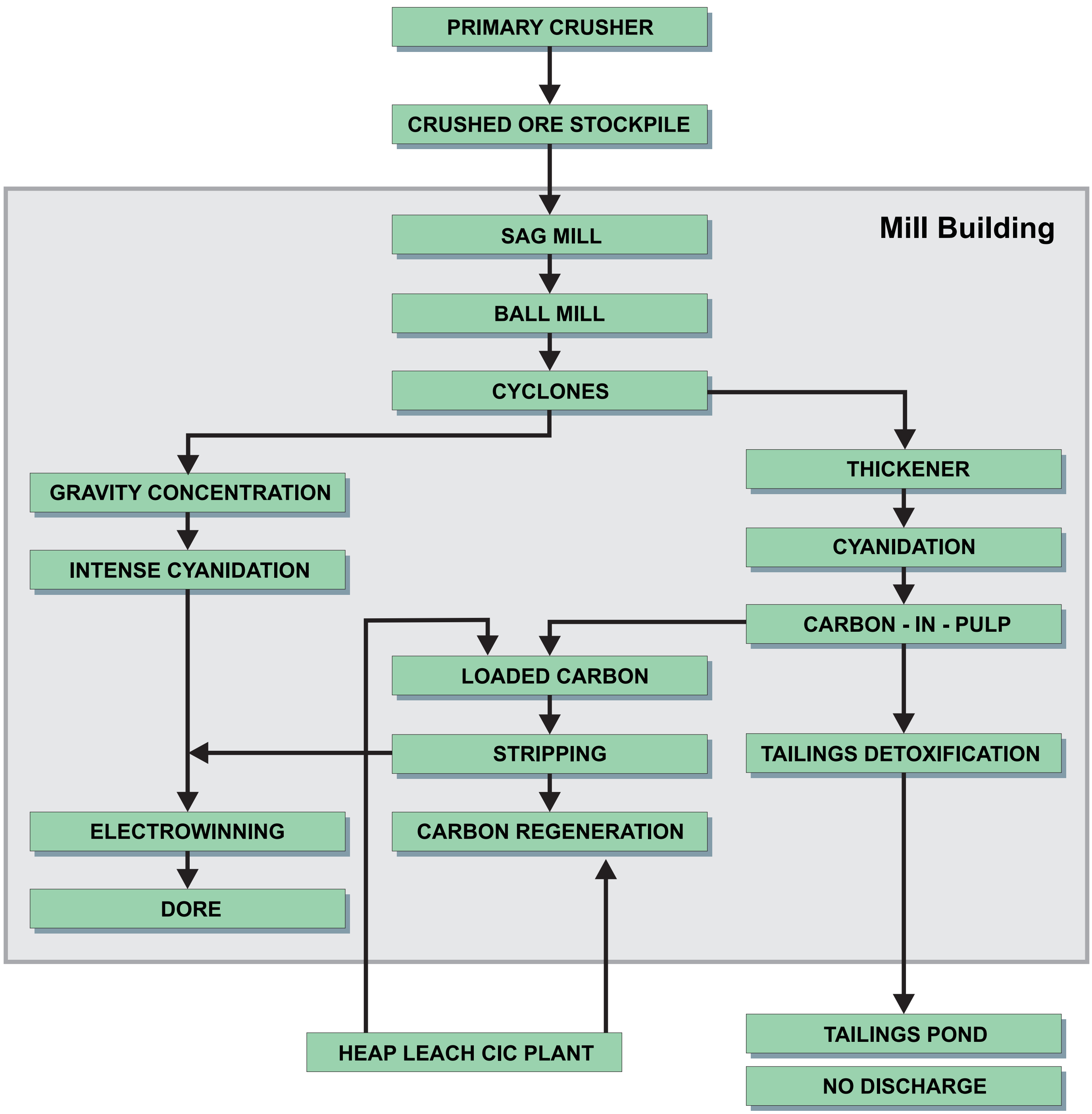
A jaw crusher reduces the ore to 100% minus 20 centimetres. The crushed ore is fed directly to a semi-autogenous (SAG) mill (8.5-metre diameter) or to a temporary coarse ore stockpile from which it can be reclaimed during crusher maintenance.

Limefor pH control is added ahead of the SAG mill which, together with a ball mill, reduces the particle size to 80% passing 75 microns. Cyclones part the ore into two streams, with the cyclone underflow reporting to the ball mill. About 17% of the total cyclone underflow reports to the gravity circuit, which consists of two 750 mm Knelson concentrators followed by an Acacia reactor where the gravity-recovered gold is leached in high cyanide solution.

The cyclone overflow is thickened prior to the leaching circuit that consists of two pre-leach tanks where air is injected, followed by six CIP tanks. Gold in solution from the leaching circuit is recovered on the carbon in the CIP circuit and subsequently stripped from the carbon and again put in solution to be recovered by electrowinning, followed by smelting and the production of doré bullion.

The tailings after processing of the ore have an average grade of 0.1 g/t gold and are thickened and detoxified to meet a target cyanide level of one milligram per litre (mg/L) using a modified sulphur dioxide-air process. Heavy metals are removed by treatment with ferric sulphate. The tailings are discharged by gravity to the permanent tailings facility, 5 km from the process plant (**Figure 4**). The tailings storage is designed for no discharge, with all of the water being reclaimed for re-use in the mill, and will have an ultimate capacity of ten million cubic metres, sufficient for the tonnage to be mined as per the life-of-mine plan (**Section 15**). The height of the dams retaining the tailings will be increased yearly until 2007 and can be further expanded as required.

The Boroo mill was designed with a capacity to process 1.8 million tonnes per year of (5000 t/d). Throughput has steadily increased and now is 2.2 million tonnes per year (7 000 t/d).



Centerra Gold Inc.
Boroo Technical Report

Mill Flowsheet

DATE: December 2009	FILE: 09Fig14_MillFlowSheet.cdr	Figure 14

Map Source: Flowsheet contents from Centerra Gold Inc.

Drawing modified after Strathcona 2004.

14.3 Heap Leach Flowsheet

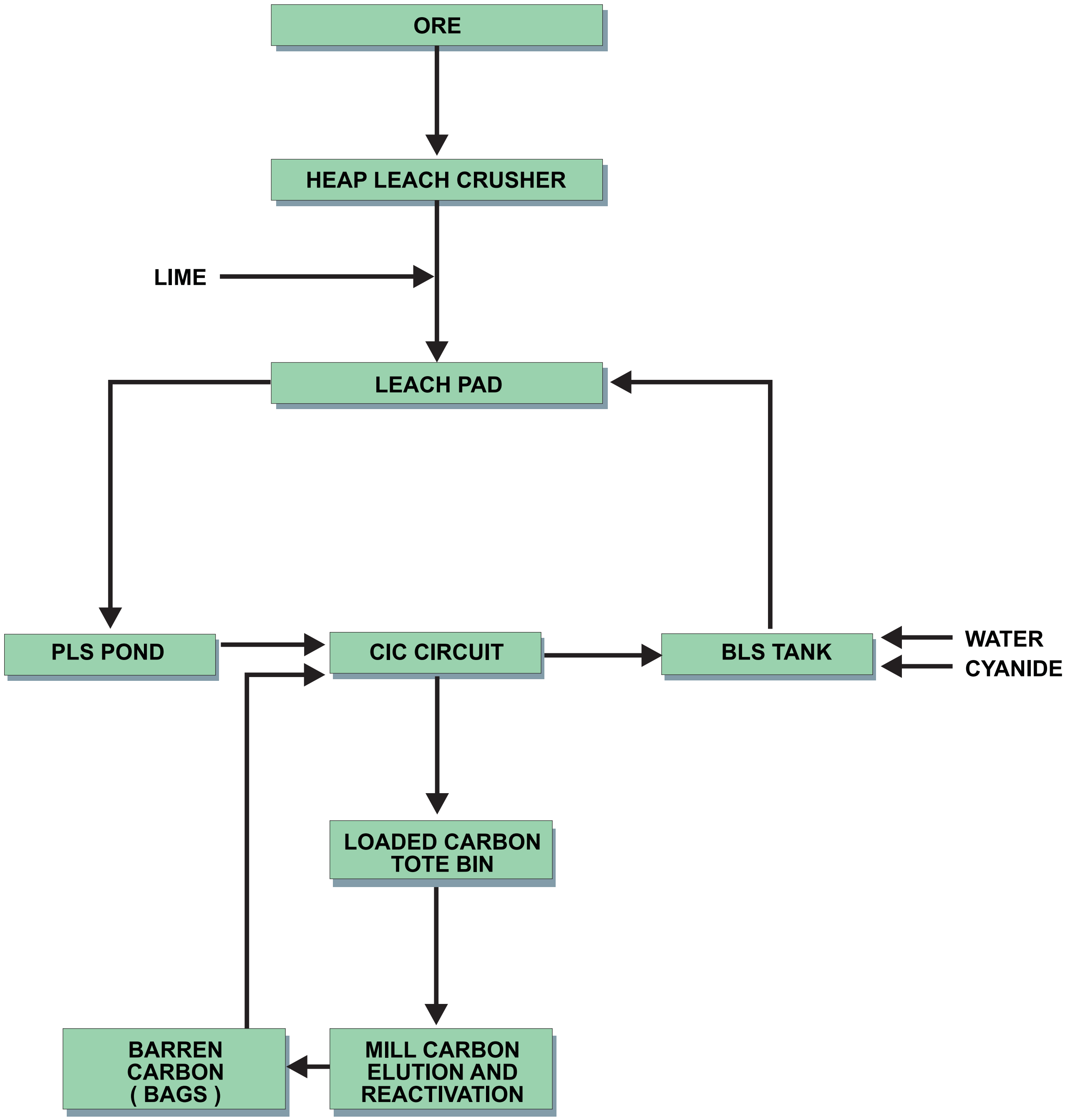
Run of mine low grade ore is hauled from the mine to a stockpile near the heap leach pad in the winter, November to March, and crushed and stacked during the summer, April to October. Ore will be stacked in 10 m lifts to a maximum height of 60 m above the liner. The activity is seasonal to avoid burying ice or frozen material in the heap. Leaching will proceed year-round so sufficient ore must be stacked on the pad in the summer to permit primary leaching throughout the winter.

Solution will be applied by buried drip emitter at a rate of 0.012 $m^3/h/m^2$ on active cells of approximately 400 000 t on a 30 day primary leach cycle. Solution will drain by gravity to the pregnant leach solution (PLS) pond where it will be collected and pumped to a Carbon-in-Column (CIC) recovery plant located at the mill site. Gold will be adsorbed by activated carbon and recovered in the existing Mill elution circuit. Barren leach solution (BLS) will be heated and flow by gravity back to the pad where it will be re-used.

The pad liner is a composite, 2-layer geomembrane composed of a compacted, low permeability soil base overlain by 1.5 mm LLDPE (linear low density polyethylene) sheeting approximately 300 000 m^2 in area. Ponds and ditches are triple-lined with a soil base, LLDPE, and HDPE (high density polyethylene) sheeting. Leak detection is designed for both collection ditches and ponds. Ground water wells will be located both up and downstream of the pad for monitoring purposes.

All pipelines are double-lined either by pipe-in-pipe or pipe-on-liner. Main solution delivery and distribution lines are insulated and heat-traced as required. A storm water pond located adjacent to the PLS pond is sized to handle runoff from the pad for the projected 100-year storm event or accept overflow from the PLS pond. Diversion ditches will prevent additional runoff from entering the pad area. The BLS tank is designed to overflow into the mill final tails tank if an upset condition in the circuit occurs.

A simplified flowsheet for the heap leach is shown in **Figure 15**



Map Source: Flowsheet contents from Centerra Gold Inc.

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Boroo Technical Report

Heap Leach Flowsheet

DATE: December 2009	FILE: 09Fig15_HLFlowSheet.cdr	Figure 15

15. MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

15.1 General

The model used as the basis for the October 31, 2009 reserve and resource estimate was constructed in late 2005 by Reserva International (Reserva, 2005) with the assistance of the Boroo mine staff. This model has been used to estimate mineral reserves and additional resources since its creation and has proven to be a reliable estimator of reserves and resources for the Boroo project. Its construction parameters are described in detail later in this section of the report.

As discussed in **Section 6**, since the creation of the block model, the limited additional drilling completed at Boroo in the periods from 2006 to October 31, 2009 has either been condemnation drilling well outside the limits of the Boroo resource model, large diameter core drilling for the collection of metallurgical samples or geotechnical drilling and therefore has provided no material information that would influence the block model.

Since the block model was created, changing gold prices, an improved understanding of the metallurgical characteristics of the ore, updated geotechnical parameters and a detailed study of the potential of heap leach processing of low grade mineralization have resulted in changes to the Boroo life of mine pit design and resulting inventories of mineral reserves and resources. However, the original contained gold resource in the block model has remained the same.

15.2 Geological and Gold Grade Modeling

The Boroo deposit has historically been divided into five separate mineralized zones or pit areas i.e., from north to south, Zone 2, 3, 4, 5 and 6. To constrain the interpolation and modeling of both high grade and surrounding lower grade gold mineralization in each of these areas, limits in the form of grade shells at nominally 0.2 g/t and a 0.8 g/t gold grade range were created by Boroo staff, and defined by polygonal outlines on horizontal benches at 2.5 m intervals. This plan map interpretation was also validated and confirmed on corresponding east-west trending vertical cross sections spaced at 20 m intervals.

In most cases, the 0.8 g/t Au polygons were developed first as the limits of the higher grade mineralization were general better defined by the 2.5 m bench composites gold exploration data and three dimensional triangulated surfaces representing the original topographic and quaternary surfaces.

The 0.8 g/t Au and 0.2 g/t Au shell interpretation limits were then compared against the production blasthole data available at the time which determined that the 0.8 g/t Au shell limits should be tightened up relative to the first pass interpretation, to localize higher grade zones, that have been observed in mining. The final plan view polygons were then utilized to create 3D triangulated solids (0.2 g/t and 0.8 g/t shells) for each of the zones, and used to successively update a 'Shell' block model, assigning separate unique integer codes to blocks falling within the 0.2 g/t Au and 0.8 g/t Au shells.

In conjunction with the limits of gold grades, the level of oxidation of mineralized material has an obvious impact on the gold ore processing and recoveries and needed to be captured in the block model.

Sectional interpretations outlining three levels of oxidation state, namely: oxide, transition and fresh ore were developed on vertical cross sections; these interpretations were based in part on observations of oxidation occurring in the current mining areas and extensive re-logging of the available historical exploration samples. Once finalized, the sectional interpretations were simply extruded into 3D solids and used to update an oxide state into the grade shell block model described above.

15.3 Block Model

All available exploration data was utilized for the resource modeling process and although the total number of exploration drilling data points have increased relative to the information available prior to the start of mining production at Boroo, the new data appears to have confirmed to a large extent the contained gold grades in each zone.

A review of assay capping grades was undertaken and determined that the original capping grades used in previous models were still reliable controls on the high grade gold fraction and as a result were used again to update the model.

The cap values used were as follow:

Zone 2	35 g/t
Zone 3	45 g/t
Zone 4	20 g/t
Zone 5	90 g/t
Zone 6	45 g/t

A conditional manipulation was utilized to create an additional field in the gold assay database for the capped grades, with gold values equal to or greater than the cap value being set to the appropriate value, by pit. Gold values were, therefore, capped before compositing.

The original assay datasets were of varying lengths, which makes their grades not directly comparable. The sample size was therefore standardized by drill hole sample compositing, utilizing 2.5 m bench composites defined by the standard bench definitions for the Boroo open pit. Missing assay data were ignored in the length weighted averaging. Composites at the end of the drill hole with lengths less that 1 m in length were not considered for interpolation.

In order to control the use of composites during interpolation to those that are contained in the individual 0.8 g/t and 0.2 g/t Au grade shell, each bench composite was tagged with the shell identifier code. In this way, only composites flagged as being in the 0.8 g/t Au shell were used during the interpolation of blocks within the 0.8 g/t Au shell. The same was done for composites within the lower grade 0.2 g/t Au shell. In this way, a hard boundary for the purpose of gold grade interpolation was established and smearing of high grade data into the lower grade shells was prevented.

As in previous block models, block grades were initially interpolated using conventional ordinary kriging utilizing the 2.5 m cut grade composites within the mineralized envelopes. Variogram models generated in earlier reports were reviewed and retained, as the additional data did not modify them materially.

Kriging was completed in 3 passes, with an increased search ellipsoid in each pass to ensure sufficient samples were used. In addition, the blocks interpolated in each pass were assigned a search pass code of 1, 2 or 3.

One issue that is often developed in ordinary kriged block models such as at Boroo is the effect of over-smoothing the data, i.e. the resulting block grades do not show the right variability of the grade of blocks of the particular size selected. The tonnage above an applied cut-off (e.g. 1.2 g/t Au) is typically overstated at an average grade which is too low and the amount of metal is also over-stated.

To address this potential issue in earlier studies (Geostat Systems International, 2003, 2004) a conditional simulation method was used to 'un-smooth' the block kriged grades. The resulting model was globally unbiased (the mean of the corrected grades is the same as the mean of the original grades), but proved to be 'locally biased' when comparing the corrected block grades to the blast hole derived block grades. Geostat accordingly developed an alternative method of generating globally and locally unbiased estimates of tonnage and average grade in 5 m x 5 m x 2.5 m blocks above a cut-off based on multiple indicator kriging (MIK). This refined approach was used in the current block model.

Given the well demonstrated production history and the reliability of the block model for estimating gold grades this classification strategy is considered by the author to be conservative and is in accordance with the guidelines of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Resource and Reserve definitions.

15.4 Mineral Reserve Estimation

Mineral reserves are that part of the mineral resource that can be safely and profitably mined given a specific set of technical and economic parameters. These include the gold price, mine and mill operating costs, general and administrative costs metallurgical recovery and geotechnical characteristics that dictate the maximum pit slope angles, and equipment size parameters and production rates.

Centerra utilized the Whittle computer software package to define the "optimium" pit size and shape by interrogating each block of the block model as to its ability to pay for its removal plus the incremental tonnage of waste that must be removed to mine the block. Detailed mine planning using this and other commercial software then creates a number of intermittent pit designs that test the ability to access sufficient ore to provide adequate mill feed while postponing waste mining as long as possible. This process results in one or more "pit shells" which recover the economic part of the mineral resources and which are then engineered in detail by adding ramps for mining access and by smoothing of the pit walls. This approach is considered as best industry practices and meets the CIM reserve definitions required to be adhered to by NI 43-101.

15.5 Dilution Provisions

In the block model, no additional provisions were introduced to account for external dilution or losses during mining, While these factors always occur to some degree during mining, it would appear from the reliability of the block model relative to the production results obtained to date that the required levels of adjustment for these factors has been adequately accounted for in the initial interpolation and later un-smoothing introduced during block model creation.

15.6 Economic Pit Design Parameters

The remaining mineral reserves at Boroo available for mining at October 31, 2009 were estimated by Centerra, on the block model described, the physical pit design parameters described in **Section 15.7** below and at a gold price of $825 per ounce. The main economic parameters for this pit design are summarized and compared to 2009 actual operating cost data in **Table 16**.

The proposed life of mine plan outlined in **Table 22** assumes that some of the remaining refractory ore at the end of the Boroo mine life will be deferred for several years to 2013 to 2014 and will be processed utilizing the BIOX® processing technology that may be developed at the current Boroo mill as part of the development of the Gatsuurt project.

While the processing of this refractory ore utilizing the BIOX® process plant would provide a benefit to BGC is the way of higher gold recovery, these reserves are not dependent of the development of the BIOX® plant and could be economically processed in the current Boroo facility.

Table 16 Economic Design Parameters at October 31, 2009

	October 31 , 2009 Actual	Pit 3/6
Gold Price ($/ounce)	$935	$825
Mine (per tonne of ore/ waste mined)	$1.53	$1.80
Current Boroo Mill (per tonne milled)	$8.50	$9.91
Heap Leach (per tonne stacked)	$1.60	$2.80
BIOX® Process (per tonne milled)	N/A	$17.93
Administration (per tonne Milled or BIOX®)	$7.60	$8.84
Administration (when only heap leach is operation (per tonne leached) (1)	N/A	$2.00
Average Current Mill Gold Recovery (%)	71.7%	63.0%
Final Heap Leach Recovery (Stockpiled Reserves)	(2)	60%
Final Heap Leach Recovery (in pit Reserves)	(3)	40%
Gold Refining Fee ($/oz)	$3.20	$3.20

(1) Currently all administration costs are charged against per tonne milled and it is expected that in the future all administration costs will be charged against the BIOX® plant processing Gatsuurt ore.

(2) Material currently stacked on pad has not been placed under leach due to operational shutdown of heap leach facility.

(3) Heap leach ore to be mined at the end of the Boroo pit is expected to be more refractory and has been given a lower overall recovery.

15.7 Physical Pit Design Parameters

The slope design parameters for the individual sectors of the remaining Boroo pits are summarized in **Table 17** and **Table 18**. These are based on design parameters developed by Centerra and BGC geotechnical staff.

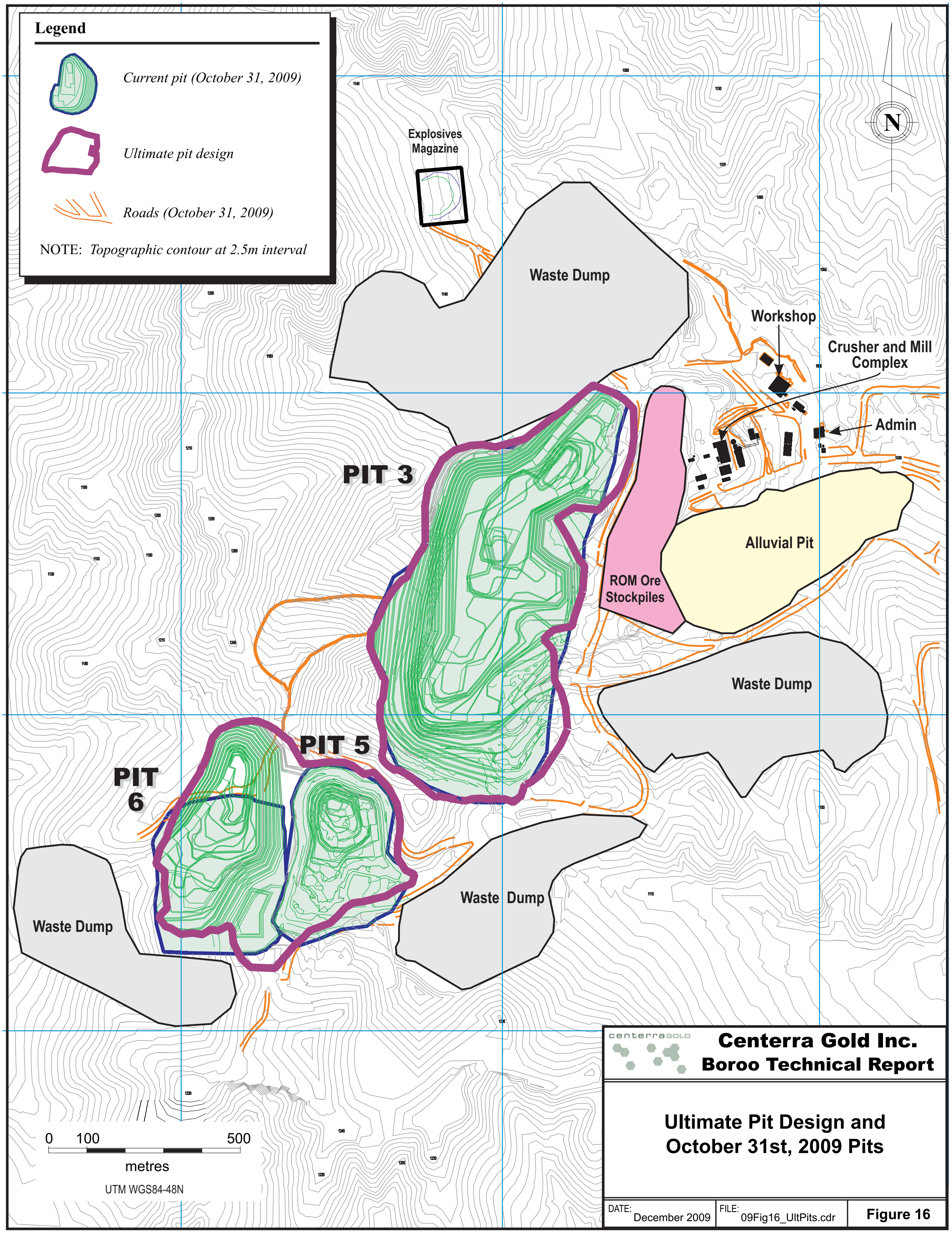
Table 17 Pit 3 Physical Design Parameters

Design wall Azimuth	**0 to 180**	**180 to 220**	**220 to 260**	**260 to 300**	**300 to 330**	**330 to 360**
Bench Height (m)	5	5	5	5	5	5
Berm Spacing (m)	10	10	10	10	10	10
Berm Face Angle	63°	63°	63°	63°	63°	63°
Berm Width (m)	9.3	9.3	8.8	3.4-5.7	3.4-5.7	5.7
Overall Angle	35^0	35^0	36^0	46^0	46^0	43^0

Table 18 Pit 6 Physical Design Parameters

Design wall Azimuth	90 to 130	130 to 270	270 to 310	310 to 90
Bench Height (metres)	5	N/A	5	5
Berm Spacing (metres)	10	N/A	10	10
Berm Face Angle	63°	N/A	63°	63°
Berm Width (metres)	3.4-5.0	N/A	3.4	5.7
Overall Angle	$40\text{-}50^0$	N/A	50^0	43^0

The relatively horizontal nature of the mineralization of the Boroo deposit has allowed for relatively shallow mining, with ultimate pit depths of 130 m below the original surface. The remaining open pits with ultimate pit designs are shown in **Figure 16**. The ultimate pit outlines in section are shown in **Figure 16** to **Figure 18** found at the end of this section.



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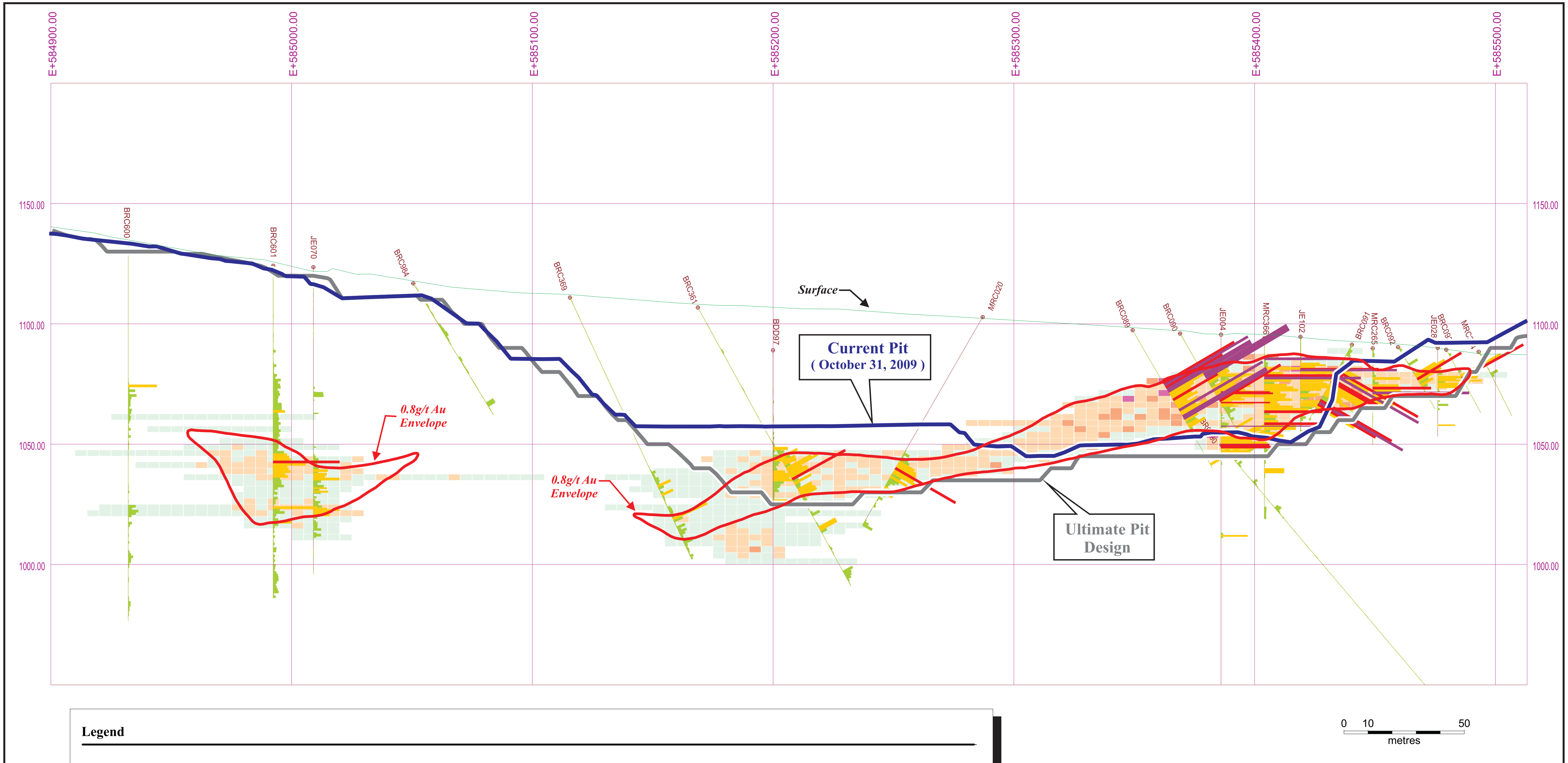
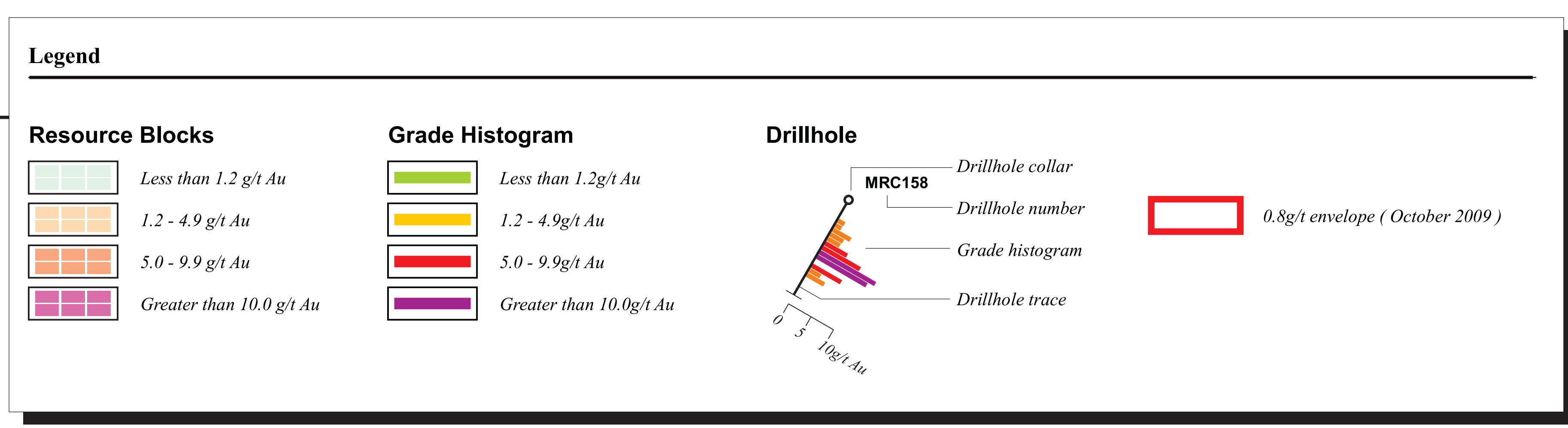
Ultimate Pit Design and October 31st, 2009 Pits

DATE: December 2009	FILE: 09Fig16_UltPits.cdr	Figure 16

Map Source: Pit and infrastructure information from BGC.

Drawing modified after Strathcona 2004.





centerragold

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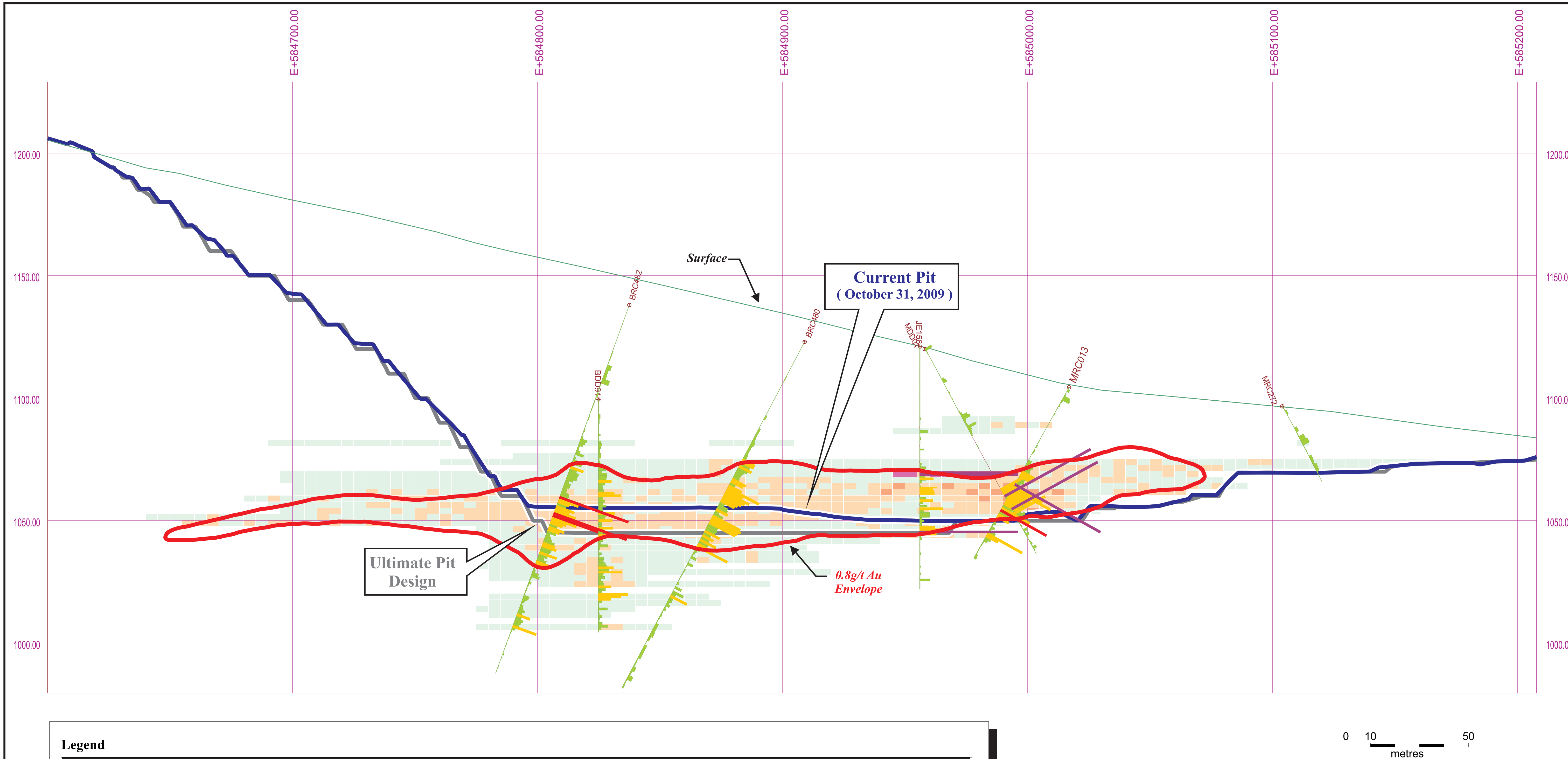
Block Model Cross Section
Zone 2
(looking north)

DATE: December 2009	FILE: 09Fig17_Zone2B.cdr	Figure 17



Legend

Resource Blocks

- *Less than 1.2 g/t Au*
- *1.2 - 4.9 g/t Au*
- *5.0 - 9.9 g/t Au*
- *Greater than 10.0 g/t Au*

Grade Histogram

- *Less than 1.2g/t Au*
- *1.2 - 4.9g/t Au*
- *5.0 - 9.9g/t Au*
- *Greater than 10.0g/t Au*

Drillhole

MRC158

Drillhole collar

Drillhole number

Grade histogram

Drillhole trace

0 5 10g/t Au

0.8g/t envelope (October 2009)

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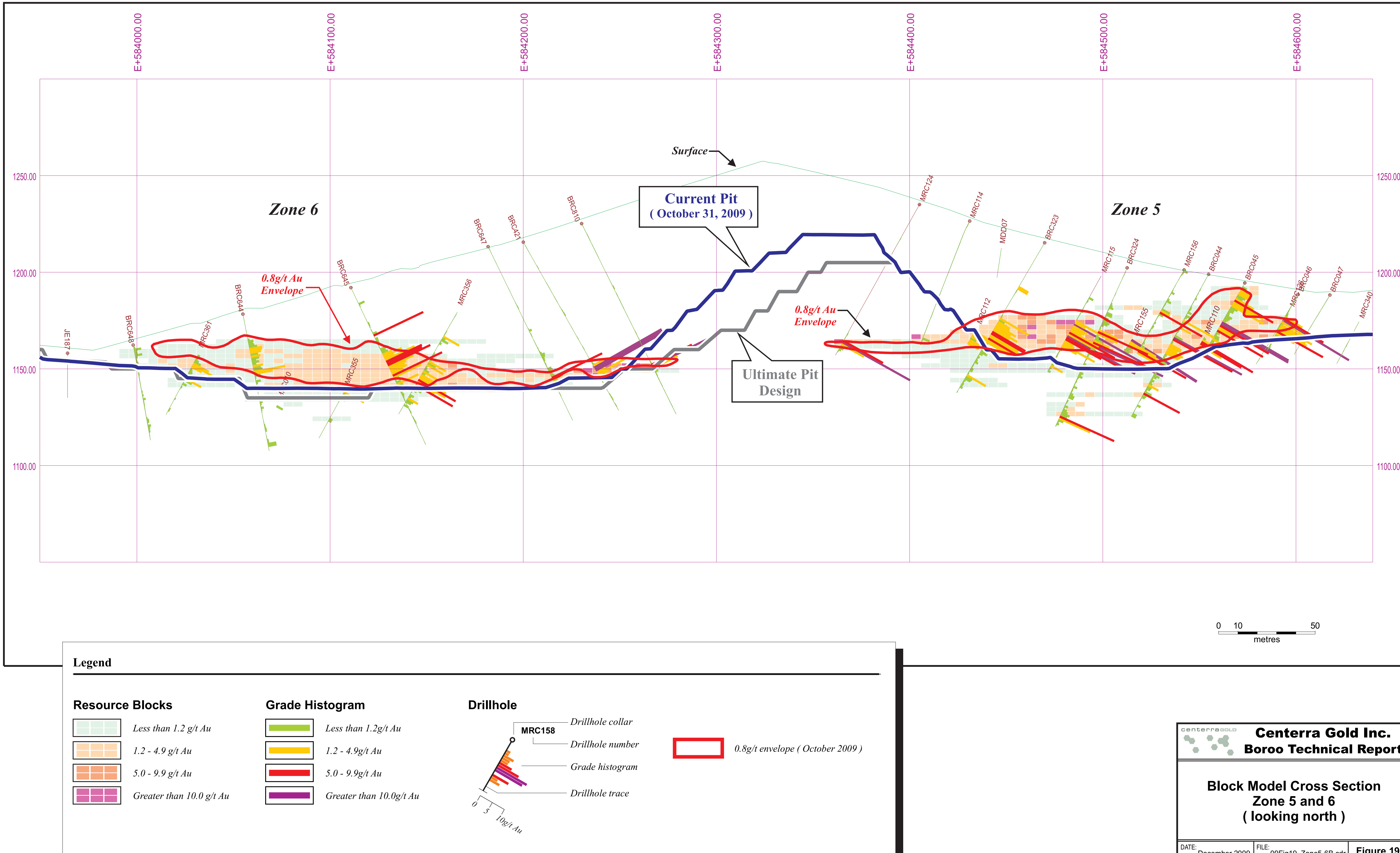
Geological Cross Section
Zone 3
(looking north)

DATE: December 2009	FILE: 09Fig18_Zone3B.cdr	**Figure 18**



Centerra Gold Inc.
Boroo Technical Report

Block Model Cross Section
Zone 5 and 6
(looking north)

DATE: December 2009 | FILE: 09Fig19_Zone5-6B.cdr | **Figure 19**

15.8 Cut-Off Grade

The cut-off grade used to report the reserves has been chosen by Centerra at greater than 0.5 g/t gold for heap leach ore and greater than 1.2 g/t gold for milling.

15.9 October 31, 2009 Mineral Reserve Estimate

Table 19 outlines the estimate of the total mineral reserves Boroo project at a gold price of $825 and were estimated by Dan Redmond, P. Geo., Director of Mining, of the Technical Services Department of Centerra.

Table 19 Boroo Mineral Reserves as of October 31, 2009
(thousands of tonnes of ore and waste, thousands of ounces)

	Tonnes	Gold Grade (g/t)	Contained Gold Ounces
By Category			
Proven			
Milling Stockpile	472	2.9	43
Heap Leach Stockpiles	9 451	0.8	231
Total Proven	**9 923**	**0.9**	**274**
Probable (in pit)			
Milling and BIOX® Ore	3 217	2.5	263
Heap Leach Ore	3 209	0.8	78
Total Probable	**6 426**	**1.7**	**341**
Total Mineral Reserves	**16 349**	**1.2**	**615**

The stockpile inventories in **Table 19** are those reported in the October 2009 mine month-end report, while the in-pit mineral reserves are those quoted by the mine development plan, and reflect the mineral reserve status as of October 31, 2009.

15.10 Reserve Classification

The reserve classification will normally reflect the original resource classification, with measured resources becoming proven reserves and indicated resources becoming probable reserves. However, as with resources, Centerra has taken a more pragmatic approach to reserve classification whereby both milling and heap leaching ore material that is currently contained within a designated stockpile is classified as proven reserves while ore material that has yet to be mined is classified as probable reserves as they to a certain degree represent a higher level of uncertainty. Given the reasonable performance of the Boroo operation over the last several years, the author believes this classification to be prudent and reasonable under NI 43-101 guidelines as follows:

*A **'Mineral Reserve'** is the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined.*

*A **'Proven Mineral Reserve'** is the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.*

*A **'Probable Mineral Reserve'** is the economically mineable part of an Indicated, and in some circumstances a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified.*

Given the excellent performance of the Boroo operation, other than the Mongolian regulatory matters discussed in **Section 16.6**, issues relating to the heap leach operating permits, there is currently no known environmental, permitting, legal, title, taxation socio-economic, marketing and political or other relevant issues that might materially affect the Boroo estimate of mineral reserves in **Table 19.**

15.11 Accuracy of the Reserve Estimate

Since the creation of the block model, BGC staff has kept reconciliation data that compares the tonnages and grades predicted by this current block model being used for reserve estimation with actual tonnages and grade mined from the pit as determined by the grade control data.

Operational history at Boroo has indicated that the ore control model, based on blast-hole data and truck counts, is a good estimator of what is fed to the mill after accounting for delays from time to time as ore is stockpiled before processing and as a result, a comparative of the ore control model with the reserve model provides a reasonable in-situ estimate of the how the reserve model predicts ore tonnage and grade in the pit.

Table 20 summarizes the reconciliation between the predictions of the Boroo reserve model and with the corresponding ore control model over the last five years.

Table 20 Reconciliation of the Boroo Grade Control and Reserve Model to October 31, 2009
(thousands of tonnes of ore and thousands of ounces)

Boroo Deposit

	Block Model			*Ore Control Model*		
	Tonnes (x1000)	Au (g/t)	Au (oz) (x1000)	Tonnes (x1000)	Au (g/t)	Au (oz) (x1000)
2005	1115	3.38	121	1 459	3.52	165
2006	1701	3.37	184	1 697	3.81	208
2007	1846	3.28	195	2 009	3.34	216
2008	1799	2.75	159	1 617	2.41	125
2009 (1)	1565	2.74	138	18 75	2.64	159
Total	**8 026**	**3.09**	**797**	**8657**	**3.14**	**873**

(1) to October 31, 2009

15.12 Reconciliation with Year-End 2008 Mineral Reserve Estimate

The Boroo mineral reserves at the end of 2008 stood at 18.445 million tonnes with an average gold grade of 1.3 g/t Au. **Table 21** provides a comparison between the 2008 year end and October 31, 2009 estimates, by deposit.

Table 21 Comparison of Year-End 2008 and October 31, 2009 Boroo Mineral Reserves (thousands of tonnes of ore and waste, thousands of ounces)

	October 31, 2009			2008 Year End		
	Tonnes	Au (g/t)	Au (oz)	Tonnes	Au (g/t)	Au (oz)
Mill Proven Stockpile	472	2.9	43	125	2.1	8
Heap Leach Proven Stockpile	9 451	0.8	231	8 890	0.8	224
Mill/BIOX® Probable *in situ*	3 217	2.5	263	5 814	2.5	467
Heap Leach Probable *in situ*	3 209	0.8	78	3 626	0.7	79
	16 349	1.2	615	18 445	1.3	778
Waste *(in pit)*	15 687			23 724		
Strip Ratio *(in situ material*	2.4/1			2.5/1		

Including milling of 135,000 ounces of gold and the stacking of 53,000 ounces of gold onto the heap leach pad to October 31, 2009, there has been a net gain of 25,000 ounces of gold in reserves from 2008 year end with this increase due to the discovery of more ore during mining in 2009 than what was predicted by the reserve model.

15.13 Life of Mine Plan

Based on the estimate of mineral reserves as of October 31, 2009 (**Table 19**), Centerra and BGC staff have developed a Life-of-Mine (LOM) plan for the remainder of the Boroo Project that is summarized in **Table 22** and is based on the following assumptions which the author feels are reasonable:

All required permits for the heap leach process facility are obtained by January 1, 2010 or shortly there after:

- The Boroo ore does not become more refractory in nature which would affect mill recoveries;
- No further suspension of Boroo's operating licenses occurs;
- Prices for fuel oil, reagents and other consumables remain consistent with Centerra's current estimates; and
- All necessary permits, licenses and approvals are received in a timely manner.

Note the life-of-mine plans do not make allowance for inflation, changes in exchange rates and movements in the gold price.

Some of the remaining refractory ore at the end of the Boroo mine life will be deferred for several years to 2013 to 2014 and will be processed utilizing the BIOX® processing technology that Centerra may develop at the current Boroo Mill as part of the development of the Gatsuurt project. Operating costs and improved recoveries related to the BIOX® processing of this ore have been included in the LOM plan but Capital costs related to the construction are assumed to be bore by the Gatsuurt Project and have not been included in the economic analysis of the LOM plan.

While the processing of this refractory ore utilizing the BIOX® process plant would provide a benefit to Centerra is the way of higher gold recovery, these reserves are not dependent of the development of the plant and could be economically processed in the current Boroo facility.

Table 22 Life-Of-Mine Plan and Mill/ Heap Leach Production Forecast November 1, 2009 to December 31, 2015

(thousands of tonnes of ore and waste and ounces of gold)

			2009 [1]	2010	2011	2012	2013	2014	2015	Total
Mining	Milling Ore	Tonnes	769	445			1 377	626		3 217
	Grade	Au (g/t)	2.2	2.2			2.5	3.3		2.5
	Heap leach Ore	Tonnes	684	405			1562	558		3 209
	Grade	Au (g/t)	0.9	1.0			0.7	0.6		0.8
	Waste	Tonnes	987	416			8 748	5 536		15 687
	Total	Tonnes	2 440	1266			11 687	6 720		22 113
Mill Stockpile [2]	**(t)**	472	845							
Closing Inventory	**(g/t)**	2.9	2.6							
HL Stockpile [2]	**(t)**	9 451	9 742	7 147	4 147	1 147				
Closing Inventory	**(g/t)**	0.8	0.8	0.8	0.8	0.8				
Milling	Ore	Tonnes	397	1 289						
	Grade	Au (g/t)	2.2	2.5						
	Recovery	%	74%	62%						
	Recovered Gold	Ounces	21	63						
Heap Leach	Ore	Tonnes	393	3 000	3 000	3 000	2 709	558		12 660
	Grade	Au (g/t)	0.8	0.8	0.8	0.8	0.8	0.6		0.8
	Recovery	%	0%	60%	604	57%	54%	164%		66%
	Recovered Gold	Ounces	0	44	47	42	37	18	16	204 [3]
BIOX®	Ore	Tonnes					1 377	626		2 003
	Grade	Au (g/t)					2.5	3.25		2.7
	Recovery	%					85%	85%		85%
	Recovered Gold	Ounces					94	56		150
Total Gold Produced		**Ounces**	**21**	**107**	**47**	**42**	**131**	**74**	**16**	**438**

(4) From November 1 to December 31, 2009.
(5) Closing Ore Stockpile Inventory at October 31, 2009.
(6) Heap Leach Total Ore production included gold from ore currently stacked on the leach pad.

15.14 Additional Mineral Resources

The reserve estimation process described in this section defines those portions of block model that can be converted to the mineral reserves summarized in **Table 19**. Additional mineral resources have been estimated outside of the current ultimate pit designs as set forth in **Table 23.**

As with the Mineral reserves, the Boroo mineral resources were estimated above a cut-off of 0.5 g/t and were estimated by Dan Redmond, P. Geo., Director of Mining, of the Technical Services Department of Centerra

Table 23 Boroo Mineral Resources in Addition to Mineral Reserves As of October 31, 2009

Category	Tonnes (000's)	Gold (g/t)	Contained Gold Ounces (000's)
Measured Resources	452	2.2	32
Indicated Resources	4 464	1.5	210
Inferred Resources	7 323	1.0	233

Mineral resources that are not mineral reserves have no demonstrated economic viability. Additionally, inferred mineral resources have a large degree of uncertainty as to their existence and as to whether they can be mined legally or economically. It cannot be assumed that all or any part of the inferred resources can be upgraded to a higher resource category.

The estimates of mineral resources for the open pit have been based upon an overall cut-off grade of 0.5 g/t gold and include both heap leach and milling ore. As no changes to the final pit design, cut-off grade or resource block model were done in 2009, there was no change in resources figures for Boroo from 2008 year end.

15.15 Resource Classification

The mineral resource and reserve classification for the Boroo project into measured, indicated and inferred resources and proven and probable mineral reserves considered for open-pit mining was original proposed to be based on the search pass in which the block was interpolated. However, this method often produces a "spotted dog" effect with circular decreasing levels of classification as distance of the block relative to

exploration data.
Resource blocks interpolated in the first search pass, where the oxidation state is well understood and are located within close proximity to the ultimate pit design were classified as measured resources, blocks interpolated in the second pass, where the wider spaced drilling provides less confidence in the oxidation state were classified as indicated resources, and blocks interpolated in the third pass, were exploration data is wider spaced away from the limits of the ultimate pit were classified as inferred resources.

The classifications are in accordance with the guidelines of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Resource and Reserve Definitions as required by NI 43-101, that read in part as follows:

*A '**Measured Resource**' is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.*

*A '**Measured Mineral Resource**' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit.*

*An '**Indicated Mineral Resource**' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit.*

*An '**Inferred Mineral Resource**' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity.*

16. ADDITIONAL INFORMATION FOR PRODUCTION PROPERTIES

16.1 Mining

The Boroo mining operations are based on conventional open-pit methods. Operations are planned to stop during the first half of 2010. Mining operations are now active only in Pit 3. The mining rate has reduced from a maximum rate of 60 000 t/d in 2008 to 40 000 t/d during 2009 to a rate of 25 000 t/d for 2010.

Mining commenced in 2003 with the initial ore for processing coming from Zone 2 (Pit 2) while the waste removal program for the higher-grade Zone 5 (Pit 5) was in progress. In later years mining moved into Zones 3 (Pit 3) and Zones 6 (Pit 6). It is planned to leave refractory ore in-situ in both of these pits until a sulphide treatment plant becomes available for the treatment of this ore type. Bench heights were initially 5 m with ore mined on half-benches for improved grade control in flat-lying ore. During 2008 and continuing into 2009 bench heights were increased to 7.5 m, with ore mined in 3 lifts.

Blasthole drilling is carried out with two rotary-percussion drill rigs, with holes of 115 mm diameter drilled on a 5 m x 5 m pattern, with wider spacing in waste rock. Bulk explosives trucks blend ammonium nitrate with fuel oil as each hole is loaded, and explosives consumption is 0.4 kg/m^3 of ore or waste.

The principal rock handling equipment is supplied by Caterpillar and includes two 7.6 m^3 hydraulic excavators and six 50 t haul trucks. Additional haul trucks are to be used for reclamation and for tailings dam construction. The waste rock mined is deposited on waste dumps or used to backfill mined areas.

Additional mining equipment includes two large front-end loaders for ore handling and blending, two tracked and one wheel dozer for the maintenance of waste dumps and benches, and two graders maintain the roads and bench floors.

Current mining operations are below the water table, hence the need for emulsion in wet areas of the mine for blasting operations. Grade control in mining is achieved by manual sampling of the blasthole drill cuttings. Three separate samples are taken from each blast hole, one for each 2.5 m lift. The material is then classified as either allows ore, heap leach ore or waste selection within the short vertical intervals.

The blast hole samples are assayed at the Actabs laboratory in Ulaanbaatar. A large proportion of each sample needs to be pulverized, and the metallics screen method is required to obtain results that are both accurate and reproducible and allow grade control decisions to be made based on limited samples. The blast hole assay data are combined into an ore control model that is being used to determine the boundaries for the various grade categories and to estimate the monthly pit production. The blasthole cuttings are logged, and a geological map is produced for each bench mined. The grade and geological maps produced as a result of the grade control work are assembled into packages that can be readily used in mining operations and are of excellent quality.

One in seven blasthole samples is randomly selected for leach testing. The leach tests are conducted on a small sub-sample and subjected to an accelerated leach with the addition of a Leachwell tablet. The Leachwell tablet contains, cyanide, caustic and a leach accelerant. The tests are completed in 24 hours. Leach tailings are assayed in addition to the leach solution to determine the recovery.

16.2 Milling

The Mill flowsheet includes the following major unit operations;

- Primary Crushing;
- Grinding and classification including gravity concentration;
- Thickening and leach/carbon in pulp (CIP);
- Carbon elution and reactivation;
- Gold electrowinning and refining;
- Cyanide detoxification; and
- Tailings storage.

Figure 16 shows the simplified Mill flowsheet.

The Boroo mill was originally designed with a throughput of 1.8 million tonnes per annum or a daily rate of 5 000 t/d. Mill commissioning commenced in December 2003 and by March 1, 2004 when commercial production was achieved, mill throughput was 4 900 t/d. Since then throughput has steadily increased to where it is 2.2 million tonnes per year or 7 000 t/d.

Mill recovery has steadily decreased since the depletion of oxide and transitional ore. When processing sulphide or fresh ore, mill recovery is typically in the range of 60% to 70%. A significant portion of the recovery is still achieved in gravity separation.

ROM (run-of-mine) ore is dumped by truck or loader over a static grizzly. Undersize passes into the 140 tonne ROM bin. Ore is drawn from the ROM bin by an apron feeder which directly feeds the primary crusher. Crushed ore is transferred to a surge bin which has a nominal 50 tonne capacity. If the primary crushing rate exceeds the SAG milling rate then the surge bin overflows to a stacker conveyor transferring excess ore to the emergency stockpile.

Locally made burnt lime is added to ore on the SAG mill feed conveyor for pH control in the leach circuit.

A central dust collector is installed adjacent to the crusher building and through a series of ducts collect dust from the crusher discharge and conveyor transfer points.

Grinding is performed by an open circuit 8.5 m diameter 3 500 kW SAG mill followed by 4.8 m diameter 3 000 kW ball mill operating in closed circuit with a cyclone cluster for classification. Cyclone underflow is split between the ball mill and the gravity concentration circuit. Cyclone overflow is directed through trash screens to the leach feed thickener.

Grinding circuit product is nominally 80% passing 90 micrometers.

Approximately 20% of the cyclone underflow is directed to the gravity circuit. The circuit is composed of two Knelson concentrators. The concentrators extract coarse gold which is directed to an Acacia Reactor. The reactor leaches the gold with a strong cyanide solution. The pregnant solution is then pumped to the elution circuit for electrowinning. The range of gravity gold recoveries is zero to 70%. Average gravity recovery is 35% to 55%. Gravity concentration tailings gravitate to the mill discharge pump box.

Pre-leach thickener overflow is pumped to the make-up process water tanks and the underflow is pumped to the leach tanks at a density of 55% solids to maximize water recovery to grinding.

A combination two-stage leach and six stage carbon in pulp (CIP) circuit recovers the remaining gold. The circuit has a nominal residence time of 18 hours. An oxygen plant was installed in 2007 to improve leach kinetics and offset the loss of retention time from the increase in throughput since start up.

In the CIP circuit the barren carbon is moved counter currently to the slurry flow to adsorb dissolved gold. Inter-stage screens in each of the six CIP tanks are used for carbon retention. Loaded carbon is pumped to the carbon elution circuit.

The 3 t capacity carbon elution circuit is based on the AARL (Anglo American Research Laboratories) elution process. Loaded carbon typically contains between 2 000 g/t to 3 000 g/t gold. Loaded carbon from the heap leach is also processed through the existing elution circuit.

After the acid wash, the carbon is transferred to the elution column where it is subjected to heat of 120^{o}C and pressure of 150 kPa for 6 hours. The stripped carbon is transferred to reactivation. The carbon is reactivated in a vertical kiln at 600^{o}C. After wet screening to remove undersize carbon, the reactivated carbon is pumped to the No. 6 CIP tank or the heap leach carbon in column (CIC) circuit.

The pregnant eluate from carbon elution is mixed with the pregnant solution from the Acacia Reactor.

Gold is recovered in the electrowinning cells where the gold is plated onto steel wool cathodes. The steel wool is calcined and refined to doré bullion in a tilting furnace.

Tailings slurry from the CIP circuit is pumped to the detoxification plant. The detoxification plant consists of two (2) stages of cyanide destruction where copper sulphate, sodium metabisulphite and compressed air are added to complete cyanide detoxification. Cyanide levels must be reduced to less than 1 mg/L weak acid dissociable cyanide (WAD) for disposal. This is followed by a single stage of arsenic precipitation using ferric sulphate solution. The slurry then flows by gravity to the TMF.

Detoxified slurry gravitates to a tailings storage facility approximately 5 km distant from and 150 meters below the process plant through an HDPE (high density polyethylene) pipeline.

Tailings slurry is discharged around the TMF via spigotted outlets located at regular intervals around the embankments. Decant pontoon pumps remove water from the tailings dam during non winter months.

16.3 Heap Leach

16.3.1 Ore Handling

Nominally 3.0 million tonnes of heap leach feed will be crushed and stacked on the leach pad. Crushing will be primarily conducted between April and October to ensure that frozen material or ice layers are not buried in the pad during stacking. Stacking will proceed during winter months provided that there is significant accumulation of snow that could get buried and form an ice lens as stated. Ore will be hauled from the pit or stockpiles near the pit to a heap leach stockpile located on the old Undramsed property adjacent to the main gate. Crushing and stacking will proceed at a nominal rate of 10 000 t/d.

Ore will be stockpiled by primarily by grade. Stockpiled ore will be fed from stockpile to the crusher by front end loader. The crusher is a jaw crusher operating with a closed side setting of 125 mm. Crushed ore is mixed with burnt lime on the discharge conveyor that feeds onto a surge pile. Ore will be loaded into 35 t trucks by a front-end loader, and hauled to the leach pad where the material will be stacked in 10 m lifts. Four trucks will be employed hauling material from the crusher to the pad.

16.3.2 Heap Leach Pad

The leach pad comprises an area roughly 600 m x 500 m located on the south side of the Ikh Dashir Valley about 250 m east of the existing ger camp. The heap leach pad will provide an ultimate ore capacity of 18.5 million tonnes and will be constructed in two phases. Capacity was based on an average stacked ore density of 1.7 t/m^3 and a maximum heap height of 60 m over the pad liner. The leach pad is lined with a 300 mm compacted soil base overlain by 1.5 mm linear low density polyethylene (LLDPE) synthetic liner and a 600 mm layer of crushed liner cover. The solution collection system consists of pipe placed within the liner cover layer. Primary solution collection is from 75 mm perforated pipes placed at a spacing of 10 m across the entire lined pad. The 75 mm pipes convey flow to larger collector pipes which convey pregnant solution flows to the PLS pond.

Phase 1 of the leach pad will be constructed with a lined surface area of 183,000 m^2 which will provide sufficient capacity for the 5.8 million tonnes of ore comprising the first three 10-meter lifts. Subsequent phases of pad expansion will provide a total leach pad area of about 293 000 m^2. Ore will be stacked in lifts around the perimeter of the heap to provide an average overall ore slope of 2:1 (horizontal to vertical). Heap slopes have been designed employing static and dynamic factors-of-safety of 1.5 and 1.1 respectively to ensure operational and post-closure stability under both normal and earthquake conditions.

16.3.3 Solution Management

The design barren (BLS) and pregnant (PLS) leach solution flow rate of 343 m^3/h was calculated based on a leaching ratio of 1:1 (tonnes of solution to tonnes of ore), derived from metallurgical test results and the annualized ore production rate of 8 220 t/d. The solution delivery systems for PLS and BLS are sized to accommodate an additional 120 m^3/h temporary flow capacity to allow operating at a higher application rate for recirculation of excess solution resulting from storm events.

Solution is applied to the ore on the pad at an average rate of about 0.012 $m^3/h/m^2$. Capacity exists to increase the application rate on a short-term basis by 30%. Solution will be collected by a drainage system described previously, which directs PLS to the PLS pond located at the northeast corner of the leach pad.

The PLS pond is sized to accommodate 8 hours of operational flows plus 24 hour “drain down” of the ore heap. The PLS pond is fitted with a sump and well riser pipe to pump PLS to the plant at a normal rate of 325 m^3/h. During upset conditions, such as a power or pump outage, or a severe storm event, solution can flow by gravity from the PLS pond to a lined storm pond located adjacent to the PLS pond. The storm pond is sized to a volume of 39 200 m^3 to accommodate the 104 mm of precipitation resulting from the projected 100-year, 24-hour storm event.

The PLS pond lining system consists of a 300 mm layer of compacted soil, a 1.5 mm LLDPE liner, and a leak detection layer consisting of a geonet and a 2 millimeter primary HDPE liner. The storm pond is lined with a 2 mm HDPE primary liner placed on a 300 mm layer of compacted soil. Runoff from areas upslope of the leach pad will be routed around the facility using diversion ditches channels.

16.3.4 Leaching Operations

Normal summer operation will involve placement of drip emitter piping on the heap and connecting to one of the four dual header pipes to irrigate the active leach area. Each active leach cell will be approximately 165 m x 165 m or 28 000 m^2. The stacking of each cell occurs approximately twice as fast (30 days) as leaching (60 days), permitting additional emitter piping to be placed throughout the summer. This provides sufficient material to conduct primary leaching of three cells during the winter prior to the resumption of stacking the following spring. Valves on the distribution header pipeline, accessible by manhole through insulating cover, will permit solution to be redirected as required.

Various measures employed at other cold-weather heap leach operations have been incorporated into the operating plan to manage winter conditions. These include sufficient fleet for summer-only stacking, heat-traced BLS tanks and pipelines, a BLS solution heater, back-up power, and emitter lines buried under 2.5 m of crushed ore cover. A snow machine is also available to generate a blanket of artificial snow over active leaching areas to act as a layer of insulation. Provisions have also been made for ripping frozen ore prior to resuming leaching in the spring, temporary over-irrigation to melt potential ice layers in the heap, draining pipelines upon shutdown, and frost protection on the PLS pond.

16.3.5 Gold Recovery

Gold is recovered from the PLS using a CIC plant. PLS will flow through five, 2.4 m diameter columns loaded with activated carbon. Solution is introduced into the base of each column and will overflow via launder to the next stage. Carbon is periodically transferred upstream by recessed-impeller pumps progressively adsorbing more gold from solution. When carbon in the first column achieves gold loading of 5 000 g/t it will be transferred to the elution circuit in the existing plant for stripping.

The CIC plant will be located between the existing cyanide detoxification and mill buildings. This area will be enclosed and will become an integral part of the process plant making use of existing facilities for reagent mixing and facilitating supervision of operations. PLS will enter the CIC plant at east end of the building and will cascade toward the west. Barren solution overflowing from the last column will pass over a carbon safety screen prior to being pumped to a heated and insulated BLS Tank. Make-up water and cyanide concentration will be managed in the BLS Tank again, taking advantage of the proximity of the CIC plant to existing infrastructure.

Variable frequency drives interlocked with ultrasonic level indicators will ensure that pumps delivering PLS to the CIC plant and returning BLS to the heap maintain solution flow within an acceptable range. Overflow conditions will cause the BLS Tank to discharge excess solution to the final tails tank in the detoxification circuit or PLS to the storm water pond. BLS will pass through a diesel fired solution heater which will raise the temperature of the BLS 5^{o} C prior to returning to the heap.

16.3.6 Project Development

Engineering for the heap leach project was commenced in January 2007 with TetraTech completing the design for the heap leach pad and solution management systems and Ausenco Pty. Ltd. of Brisbane, Australia providing process design, and procurement assistance for equipment and supplies. BGC procurement provided purchasing and expediting services. A modular crushing and screening plant was purchased to meet the requirements of overdrain material for the heap leach pad and subsequent ore crushing requirements. Significant delays were experienced with the delivery and erection of this equipment. Additionally, delays at the Mongolia-China border were caused by congestion on in bound supplies to Mongolia and market supply delays contributed to significant construction delays. Lining of the PLS and storm water ponds was completed in the fall of 2007. Phase I of the heap leach pad (169 900 m^2) was also completed in the fall of 2007. The remaining 118 000 m^2 (Phase II) was completed in 2008.

The project was mechanically and electrically completed in March 2008. The start of leaching was delayed until June 2008 due to permitting issues. A temporary permit was issued at that point to permit trial leaching operations. The permit was extended in October 2008. Leaching continued throughout the winter without any significant cold weather issues. Ore stacking was also continued as weather permitted.

In May 2009, heap leach operations were suspended with the expiry of the temporary permit. In July 2009, with the resumption of operations, BLS application was resumed albeit with no additional cyanide addition to maintain the process water balance. Crushing and stacking operations also resumed at that time. As the date of this report, no permanent permit has been issued for the heap leach operation.

16.3.7 Heap Leach Capital and Operating Costs

The capital cost of the heap leach project increased to approximately $26 million due to over runs related to the cost of the CIC building, remediation measures required to correct deficiencies with the modular crusher and increased cost of process equipment over estimated costs. The operating availability and throughput of the modular crusher continue to be an area of concern.

Operating costs to the end of 2008 averaged $2.90/t of ore leached. Year to date costs in 2009 until the suspension of operations was $2.52/t of ore leached. Operating costs have been budgeted at $2.90/t of ore leached for 2010.

16.3.8 Heap Leach Gold Production

Ore stacked to the end of 2008 was 3 300 751 t at an average grade of 0.74 g/t gold, with a total of 78,530 oz. Gold leached is estimated from the PLS volumes and solution grade (less the BLS gold grade) as it enters and leaves the CIC circuit. As a check the gold content of the loaded carbon transferred to the Mill for elution is also estimated. Gold poured is included with Mill production is the electrowinning is common to both Mill and heap leach.

To the end of 2008, a total of 25,435 oz of gold had been extracted, at an approximate recovery of 32%.

Ore stacked to the end of May 2009 was 1 601 822 t at an average gold grade of 0.75 g/t resulting in 38,625 contained ounces. Gold extracted for the same period was 17,762 oz.

Production to date has been largely from primary extraction that is from the first leaching of ore stacked and not from a second leaching from ore stacked above. Total gold extracted to date is 43,197 oz, resulting in a recovery of approximately 37%. This represents the first year of operation and is within expectations.

Since May 2009, ore continues to be stacked with residual gold extraction from recirculation of BLS with no additional cyanide added. Ore stacked in 2009 to the end of October is 2 144 194 t at an average grade of 0.76 g/t gold. Ounces contained are 52,392 oz. Year to date production for 2009 for the same period is 23,499 oz gold.

16.4 Tailings Management Facility

The tailings management facility (TMF) at Boroo was commissioned in late 2003 as a single-cell paddock style facility. Subsequent expansion works involved extending two perimeter embankments towards the natural high points to the north-east and north-west, thereby creating a valley style facility within the Bag Tashir valley to the North. Continued expansion of the facility was achieved through the successive construction of cut-off embankments further north and up the valley.

- The basin contained within the embankments is fully lined with clay;
- Perimeter embankments are lined on their upstream slopes with a 1.5 mm thick high density polyethylene (HDPE) geomembrane liner;
- The perimeter embankments are raised in the downstream direction using soil fill;
- A decant facility is located off a small causeway to the south west of the facility. This is equipped with a floating pontoon pump structure;
- Underdrains are located at the base of the main perimeter embankments,;

16.5 Human Resources

The Boroo operation employs a total of 616 permanent and temporary employees as at October 31, 2009, distributed by department as shown in **Table 24**.

Table 24 Boroo Employees as at October 31, 2009

Department	Mongolian Nationals		Expatriates		TOTAL
	Permanent	Temporary	Expat	TCN	
Mine	173	42	2	0	217
Mill	61	11	3	0	75
Maintenance	134	0	5	7	146
UB Administration	58	0	7	0	65
Site Administration	87	0	1	0	88
Gatsuurt Road Construction	23	1	1	0	25
TOTAL	**536**	**54**	**19**	**7**	**616**

The Mill employees include both mill and heap leach personnel. The proportion of Mongolian nationals in the permanent work force at Boroo is over 95%. This reflects the Centerra policy of involving the residents of Mongolia to the maximum extent. National employees receive ongoing coaching and monitoring in their current roles to maximize their performance and to prepare them for positions of greater responsibility in accordance with company needs.

The language used for communications between management and supervisory staff is English, but all manuals, policies and instructions are maintained in the Mongolian language as well as English. A number of translators are employed at the operation to permit collaboration between national and expatriate employees. Turnover in the labour force is relatively low due to a variety of factors including highly competitive salaries and working conditions compared to other mining companies in Mongolia.

16.6 Permits and Licenses

The required operating permits for the Boroo mine have been issued to BGC, except the Heap Leach operating permit which is currently awating approval from the Minister of Mineral Resources and Energy. Some of these permits are with Mongolian state agencies, some with the local agencies of the aimag (province) Selenge, and others are with the governors of the two counties (soums) of Bayangol and Mandal on which the Boroo facilities are located. The major operating permits are briefly characterized as follows:

1. The Minerals Authority of Mongolia (MAM) has granted the various mining licenses as described in **Section 4**;
2. The Detailed Environmental Impact Assessment (DEIA) prepared by JEMR Consulting Co., Ltd., 1999 and updated by SENES Consultants Limited, 2002, and the Environmental Monitoring and Protection Plans have been approved by the Mongolian Government. Recent addenda include specific sections dealing with a revised tailings storage design, addition of a tailings detoxification plant, increased production and the sewage system;
3. Three Addendums to the DEIA were prepared in 2003, 2005 and 2007 to include additions and changes to the project;
4. Specialized Inspection General Agency (SIGA) and MAM have approved the mining plan for 2008 and 2009. Future annual mine plans are also required to be submitted for approval;
5. Agreements are in place for land use with the Bayangol and Mandal Soum administrations, including the operation of the permanent camp, reagent storage, mining of aggregate materials, fuel storage, mill, operation of a fuel dispensing station, building of the tailings dam and heap leach facilities; Agreements are updated as required;
6. Licenses for the import, storage, use, and disposal of reagents and chemicals are in place, and include permits for the import, transport, use and on-site storage of cyanide which was recently renewed for 2010; and
7. The BGC Annual Emergency Response Plan has been accepted and approved by the SIGA, Government's Disaster Agency and Mining Safety Association.

Some of the permits that have been issued for the Boroo mine are for the forecast mine life, others are for three years, and others have to be renewed annually. Among the latter are the licenses for the import, storage, use, and disposal of reagents and chemicals, environmental monitoring reports and plans, the mine plan and the health and safety plan. Permits that are issued by the Mongolian state agencies for an initial period of three years include the letter of authorization to mine, and the permits for the importation, transport, storage and use of cyanide.

BGC have confirmed that all required licenses and permits by BGC Compliance Team for the development and operation of the Boroo mine have been secured, except the Heap Leach operating permit. The Mongolian authorities have been generally cooperative in providing permits as required with the exception of the regulatory issues experienced in 2009 and described below. It is anticipated that this cooperation will return given the importance of the Boroo mine for the local economy.

On June 12, 2009, the main operating licenses of the Boroo mine were suspended by the Minerals Resources Authority of Mongolia ("MRAM") following extensive inspections of the Boroo mine operation conducted by the General Department of Specialized Inspection ("SSIA")SSIA. In its report, the SSIA expressed its view that a number of deficiencies existed at the Boroo mine. After discussions by Centerra and its subsidiaries with both the MRAM and the SSIA, the suspension of the operating licenses was lifted on July 27, 2009. Despite the lifting of the suspension, several issues arising from the inspections continue to be discussed by Centerra and the Mongolian regulatory authorities.

The SSIA indicated its concern regarding the status of certain mineral reserves, including state alluvial reserves covered by the Boroo mine licenses that are recorded in the Mongolian state reserves registry but for which there are no or incomplete records or reports of mining activity. The Company and the SSIA have conducted detailed surveys to determine the status of such reserves including whether such reserves have been mined by Boroo or a predecessor license holder or have been rendered un-mineable by the mining operations, for example by placement of overburden on top of such reserves. BGC believes that it has properly reported all of its mining activities since it began operations in 2004. However, alluvial deposits on the Boroo licenses were subject to extensive mining activity prior to Centerra's acquisition of the licenses. On October 23, 2009, BGC received a very significant claim for compensation from the SSIA. BGC and Centerra dispute the claim and believes settlement will be concluded through.

In addition, the SSIA inspections raised a concern about the production and sale of gold from the heap leach facility. The heap leach facility was operated under a temporary permit from June 2008 until the expiry of the temporary permit in April, 2009 and paid all relevant royalties and taxes with respect to gold produced from the heap leach facility during that period. BGC believes that it had all necessary permits to carry out its heap leach activities and that any regulatory concerns are unfounded. BGC is continuing its effort to obtain a final permit for the operation of its heap leach facility at the Boroo mine. BGC understands that this matter has been referred to the Mongolian Ministry of Finance for review but has received no official notice of any concern.

16.7 Environmental Management System

An Environmental Management System has been developed by BGC with the assistance of Centerra to address the impacts of the Boroo operation on the environment and to monitor compliance with the various permits issued by the state and provincial authorities. The system provides scheduled monitoring, engineering controls and reporting on the following areas:

- Tailings management facility;
- Mill site and mine waste dumps effluents;
- Acid generation potential testing (waste dumps and tailings);
- Dust control;
- Spill and environmental incidents on-site and off-site;
- Environmental reclamation;
- Hazardous materials handling;
- Environmental impact monitoring;

- Planning for site decommissioning and rehabilitation;
- Potable water treatment system;
- Sewage treatment operation; and
- Landfill operation and inventory.

BGC has received several audits on EMS including both from CGM and also external consultants. The latest one was conducted by SENES consulting in September 2009.

The tailings management facility (TMF) is designed for zero discharge and is located in the Ikh Dashir River valley (**Figure 4**). It consists of a tailings line, tailings dam, several monitoring wells and a decant water reclaim system to pump the reclaimed water from the tailings pond back to the mill process water tanks. These facilities received government approval in 2003. The tailings pipeline runs approximately six kilometers in length and the ground surface is inclined 1.7% down gradient from the Mill to TMF. The tailings dam was designed by, and constructed under the supervision of Golder Associates and Mongolian engineering and design consultants to assure compliance with quality requirements. The dam has a current footprint of 928 by 1785 meters and is up to 24 meters in maximum height. The bottom of the tailings storage area was sealed with a compacted clay liner and an HDPE liner on dam embankments.

The tailings facility underwent six phases of extension, with the last phase completed in November 2009. During the last extension, two interim dykes were built and north and eastern dams were raised.

In April 2008, the Mongolian government's State Committee has approved 5 staged extension works on BGC tailings dam and its all documents are stored in Mongolian State Archive.

Annually Environmental Protection Plan and an Environmental Monitoring Plans (EPP and EMP) were formulated and submitted to the Ministry of Nature, Environment and Tourism (MNET) in the beginning of each year. In the end of each year, Annual Environmental Reports detailing the completion status of EPP and EMPs were submitted to MNET.

16.8 Closure Provisions

BGC developed the Mine Closure and Reclamation Plan for Boroo site in 2008. Due to Ministry requirements, the plan was re-written as a closure DEIA and was reviewed by local soum's general public in September 2009. In early November, BGC sought comments on Closure DEIA from Bayangol and Mandal soum people's representative khurals. Currently, BGC is seeking approval from MNET.

The current life of mine plan calls for mining to end at Boroo in the first quarter of 2010, with milling of stockpiled Boroo ore ending in the second quarter of 2010. Gatsuurt oxide ore will be processed starting the in the third quarter of 2010, with a duration of approximately one year. The refractory ore treatment facilities based on the BIOX® process are expected to start construction in the second quarter of 2010 with commissioning scheduled for the third quarter of 2011. Gatsuurt sulphide ore would then be processed. Mining of the remaining Boroo refractory ore would recommence in 2013 and would be completed in 2014.

In the scenario described in the previous paragraph, areas at the Boroo site not impacted by future activities would be progressively reclaimed. Should the construction of the BIOX® and related facilities not proceed, then the remaining Boroo sulphide ore will be mined in 2010 and processed through the existing process plant at a much lower recovery. Operations would end in 2011 and complete reclamation of the Boroo site would commence.

Currently there is $20 million committed for funding reclamation activities. Centerra annually deposits 50% of the upcoming year's reclamation budget into a government account and recovers this money when the annual reclamation commitments are completed.

16.9 Occupational Health and Safety

The Health & Safety at BGC is a culmination of effective interpersonal and intrapersonal interactions between all departments and employees resulting in a concerted dynamic to make the Boroo mine the safest site in Mongolia.

BGC's safety statistics are comparable or better than many North American mining operations. From 2005 to 2007 BGC had 887 days with no Lost Time Injury (LTI) or 2.4 years and achieved 4 million-hours without LTI and have experienced no acute poisoning or occupational diseases. At the time of writing this report BGC has gone for 423 days or over 2 million-hours without LTI.

BGC has provided input into the process of developing the Law on Occupational Health & Safety of Mongolia which passed by parliament on May 31, 2009.

New employees at Boroo receive general safety orientation, hazard identification and emergency response courses including basic first aid within two days of starting work, as well as safety training specific to the job before being allowed to work unsupervised. The rules to be followed are outlined in a detailed brochure entitled Occupational Health and Safety Handbook that addresses such items as chemical toxic elements, transportation and machinery, blasting, fire prevention and control, the safe handling of electricity and includes detailed emergency response plans.

16.10 Gold Sales

All gold doré produced by BGC at the Boroo mine is currently exported and refined under a contract with Johnson Matthey plc (JM). The terms provide that:

- Gold is delivered to JM at the mine site with JM assuming the risk relating to security and transport, and responsibility for insurance from Boroo to the JM refinery in the United Kingdom;
- Gold is refined by JM to meet purity and impurity specifications; and
- BGC may elect to take physical delivery of the refined gold, or to sell it to JM with an early payment provision to receive 95% of the value based on the mine site assay within two working days of delivery to the refinery, and the balance following agreement of assays.
- To date, BGC has elected to sell all gold doré to JM. However, Mongolbank, the Mongolian Central Bank, has indicated a desire to purchase BGC's gold doré.

16.11 Corporate Profit Tax and Royalty

The Boroo Stability Agreement, entered into by BGC and the Mongolian Government in 1998 and first amended in 2000, guaranteed that Mongolian tax laws in effect in 1998 would apply to BGC's income from the project unless more favourable laws took effect and the Minister of Finance confirmed that the more favourable laws apply. In accordance with the law at the time, the Stability Agreement provided that BGC was exempt from income tax for a period of three years following commencement of commercial production and was entitled to 50% tax relief for the subsequent three-year period. BGC began commercial production on March 1, 2004.

In September 2006, at the request of the Mongolian Government, Centerra and BGC entered into discussions with the Government regarding amendments to the Stability Agreement, including its tax stabilization provisions.

On August 3, 2007, Centerra and the Government of Mongolia agreed to an amendment to the Stability Agreement pursuant to which, effective January 1, 2007, Boroo is subject to a 10% rate for taxable income up to 3.0 billion tugriks and a 25% rate for taxable income above that amount, until the termination of the Stability Agreement in July 2013. Prior to the amendment, the Company was subject to income tax at the rate of 20% for the three-year period commencing March 1, 2007 and 40% thereafter. In addition, effective August 3, 2007, the mineral royalty payable is 5% rather than the 2.5% previously applicable.

The Stability Agreement applies to the Boroo mine and does not apply to the Gatsuurt property. It expires on July 3, 2013.

On November 2, 2009, Centerra received a letter from the Mongolian Ministry of Finance re-iterating some of the issues raised by the SSIA and indicating that the Boroo Stability Agreement would be terminated if such issues were not resolved within a period of 120 days from the date of the letter. Centerra and BGC are in discussions with the Ministry of Finance regarding such concerns.

16.11.1 Windfall Profits Tax

On May 14, 2006, the Mongolian Parliament passed a new law that imposes a windfall profits tax of 68% in respect to gold sales at a price in excess of $500 per ounce. On November 25, 2008, the Parliament enacted a change to the windfall profits tax in respect to gold sales raising the threshold price to $850 per ounce. The Government acknowledged that the windfall profits tax does not apply to Boroo's operations in relation to the Boroo hardrock mining license.

In August 2009, the Government of Mongolia repealed its windfall profits tax of 68% in respect of gold sales at a price in excess of $850 per ounce, with the repeal to take effect on January 1, 2011.

16.11.2 Value Added Tax

Mongolia levies a value-added tax (VAT) of 15% on goods and services produced in, as well as goods imported into Mongolia. The Stability Agreement provides for a VAT at 10% on imported goods into Mongolia by BGC. Under the stability agreement BGC is permitted to offset any VAT that it pays against other taxes payable in respect of its Boroo mine operation. In early 2009, the Mongolian Ministry of Finance expressed its view that, despite the terms of the Boroo Stability Agreement, BGC would not in the future be permitted to offset its VAT overpayment against corporate income tax. In response, Centerra and BGC have notified the Ministry of Finance that it expects the Mongolian Government to abide by the terms of the Boroo Stability Agreement. In November 2009, Centerra was notified by the Ministry of Finance officials that it would allow BGC to offset VAT overpayments up to August 31, 2009. Recovery of VAT overpayments from September 1, 2009 onwards may continue to be subject to negotiations with the Ministry of Finance.

16.12 Economic Analysis

The following economic analysis is based on mining the remaining Boroo mineral reserves (**Table 19**), which will be mined in Q1 2010 with the balance of the sulphide reserves being mined and processed in 2013 and 2014. This delay in processing the balance of the Boroo reserves is a result of the decision to use the BIOX® process to obtain an increase in the recovery on the remaining fresh ore.

The assumption that Boroo sulphide reserves will be mined and processed in 2013 and 2014 is subject to BGC's management's future decision to process prior to or after Gatsuurt sulphide ore.

16.13 Production Forecast

Table 25 summarizes the forecast of gold production from Boroo over the next five years (the remaining mine life) based on the current LOM plan (**Section 16**).

Table 25 Boroo Production Forecast November 1, 2009 to December 31, 2015
- thousands of tonnes of ore and waste and ounces of gold -

	Units	2009	2010	2011	2012	2013	2014	2015	Total
Mining									
Ore	t	769	445			1 377	626	0	**3 217**
Heap Leach Ore		684	405			1 562	558	0	**3 209**
Waste	t	987	416			8 748	5 536	0	**15 687**
Waste-to-ore	Ratio	1.2	0.5			3.0	4.7	-	**2.4**
Stockpiles - Ore	t	845	0			0	0	0	
Stockpiles - HL	t	9 742	7 147	4 147	1 147	0	0	0	
Milling									
Ore	t	397	1 289			1 377	626		**3 689**
Grade	g/t Au	2.2	2.5			2.5	3.3		**2.6**
Gold recovery	%	74	62			85	85		**76**
Gold recovered	oz	21	63			94	56		**234**
Heap Leach									
Stacked Ore	t	393	3 000	3 000	3 000	2 709	558		**12 660**
Grade	g/t Au	0.76	0.76	0.76	0.76	0.76	0.60		**0.76**
Gold recovery	%	0	60	64	57	45	164[1]		**66**
Gold recovered	oz	0	44	47	42	37	18	16[2]	**204**
Gold Produced	**oz**	**21**	**107**	**47**	**42**	**131**	**74**	**16**	**433**

Notes: 1. The recovery over 100% is from secondary leaching of previously stacked ore plus primary leached ore.
2. Gold recovered from leaching of previously stacked ore with no additional ore stacked.
3. 2009 production is from November 1 to December 31.

16.14 Cash Production (Operating) Costs

16.14.1 Operating Costs

The estimated operating costs cover open-pit mining and milling at the Boroo mine site, including on-site administration and the costs administered from the office located in Ulaanbaatar (**Table 26**).

Table 26 **Boroo Operating Cost Forecast from November 1, 2009 to December 31, 2015**

Activity		2009	2010	2011	2012	2013	2014	2015	Total
Mining	$x1000	3 733	2 279	0	0	21 037	12 096	0	**39 145**
Milling	$x1000	3 372	12 774	0	0	0	0	0	**16 146**
Heap Leaching	$x1000	629	8 400	8 400	8 400	7 586	1 562	0	**34 977**
BIOX® Processing	$x1000	0	0	0	0	24 690	11 224	0	**35 914**
Administration	$x1000	3 015	11 395	6 000	6 000	12 173	5 534	1 000	**45 116**
Royalty (at **$825** Gold Price)		867	4 414	1 939	1 733	5 407	3 036	660	**18 055**
Refining Fee	$x1000	67	342	150	134	419	236	51	**1 401**
Total Operating Costs	**$x1000**	**11 683**	**39 604**	**16 489**	**16 267**	**71 311**	**33 688**	**1 711**	**190 754**
Mining (Ore and Waste)	$/t mined	1.53	1.80	1.80	1.80	1.80	1.80	1.80	**1.77**
Milling	$/t milled	8.50	9.91	-	-	-	-	-	**9.58**
Heap Leaching	$/t stacked	1.60	2.80	2.80	2.80	2.80	2.80	2.80	**2.76**
BIOX® Processing	$/t milled	-	-	-	-	17.93	17.93	17.93	**17.93**

[1] Mining cost in 2010, 2013 and 2014 are based on the budget 2010 cost per tonne mined

[2] Milling cost t in 2010 is based on the budget 2010 cost, and the milling cost per tonne milled in 2013 and 2014 are based on the BIOX® cost per tonne budgeted for Gatsuurt ore processed trough the BIOX® plant from 2012 budget

[3] Heap Leach cost for 2010 and 2011 and 2012 are based on budgets and Heap Leach cost is based on actual 2009 leaching cost per ounces poured

[4] Site and off-site administration cost in 2010 is based from 2010 budget. In 2011 and 2012, administration costs only includes Heap Leach portion (calculated as a percentage from actual 2009 data). 2013 administration costs are based on administration cost per tonne milled from 2009 actual

[5] sales royalties at gold price of $825 per ounce

Some of the remaining refractory ore at the end of the Boroo mine life will be deferred for several years to 2013 to 2014 and will be processed utilizing the BIOX® processing technology that Centerra may develop at the current Boroo Mill as part of the development of the Gatsuurt project. Operating costs and improved recoveries related to the BIOX® processing of this ore have been included in the LOM plan but Capital costs related to the construction are assumed to be bore by the Gatsuurt Project and have not been included in the Economic analysis of the LOM plan.

The increase of $0.27 on average cost per tonne mined compared to the 2009 Q3 forecast of $1.53, is mainly due to the consumable cost increase such as diesel mainly due to inflation, as well as, payroll related cost increase from pay raise assumptions.

The increase in milling costs from 2009 to 2010 cost mainly due to higher electricity costs. In 2013 and 2014, as the ore will be processed trough the BIOX® plant, the cost per tonne milled as per above **Table 26** is the best estimation we have as of to date.

16.14.2 Gold Institute Standard Unit Cost

Unit cash production costs for gold, calculated in accordance with the Gold Institute Standard, include all cash production costs and production and sales related royalties. **Table 27** summarizes the cash production costs per ounce of gold produced at Boroo, which averages about $433 per ounce over the current projected life of the mine with only minor variations related to the effect of the gold price on the royalty on sales revenue.

Table 27 Gold Cash Production Costs November 1, 2009 to December 31, 2015
- $ per ounce -

Gold price	2009	2010	2011	2012	2013	2014	2015	**Average**
per ounce								
$725	547	362	345	382	537	448	99	**428**
$825	**552**	**367**	**350**	**387**	**542**	**453**	**104**	**433**
$925	557	372	355	392	547	458	109	**438**
$1 025	562	377	360	397	552	463	114	**443**
$1 125	567	382	365	402	557	468	119	**448**

16.15 Sustaining Capital Costs

On going capital costs for Boroo, shown in **Table 28**, consist of sustaining capital expenditures and reclamation costs.

Capital expenditures include the sustaining capital, reclamation costs and extension of the tailings storage capacity totalling $32.85 million over the projected life of the mine.
Capital costs required to provide tailings storage capacity for the processing Gatsuurt ore will be provided by the Gatsuurt project. Sufficient capacity will be provided to accommodate the Boroo that will be processed in 2013 and 2014.

The reclamation costs are based on the latest estimation from Golder Associates study on Boroo mine closure plan report.

Table 28 On-Going Capital Costs November 1, 2009 to December 31, 2015
- $ millions -

Project Costs - $ millions	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**Total**
Sustaining capital	0.55	5.74	2.87	3.35	2.50	2.50	0	**19.19**
Reclamation costs	0.62	4.17	2.65	1.53	1.50	2.44	2.44	**18.11**
Total Project Costs	**1.17**	**9.91**	**5.51**	**4.88**	**4.00**	**4.94**	**2.44**	**32.85**

16.16 Boroo Mine Cash Flow

Using a gold price of $825 per ounce, the LOM plan has been used to project the net cash flow for the period November 1, 2009 to the end of 2015 and is summarized in **Table 29**, and which totals 95.5 million, after operating costs, capital expenditures and taxes but excluding BIOX® capital costs. The net present value (NPV) for the net cash flow presented in **Table 30** is presented in **Table 29**.

Table 29 Boroo Mine Net Cash Flow November 1, 2009 to December 31, 2015
- $ millions and thousands of ounces -

	2009	2010	2011	2012	2013	2014	2015	Total
Gold Sold (oz)	21	107	46	42	131	74	16	**437**
Gold Price ($/oz)	825	825	825	825	825	825	825	**825**
Revenue	**17.35**	**88.3.**	**38.0**	**34.7**	**108.1**	**61.1**	**13.2**	**360.5**
Operating Costs	10.7	34.8	14.2	14.5	65.6	30.5	1.0	**171.3**
Capital Costs	1.2	9.9	5.5	4.9	4.0	4.9	2.4	**32.9**
Royalty	0.9	4.4	1.9	1.7	5.4	3.1	0.7	**18.0**
Income Tax	1.4	12.3	5.5	4.6	9.3	6.9	2.9	**42.8**
Total Cash Outflow	**14.2**	**61.4**	**27.1**	**25.7**	**84.2**	**45.3**	**7.04**	**265.0**
Net Cash Flow	**3.1**	**26.9**	**10.9**	**8.9**	**23.8**	**15.7**	**6.2**	**95.5**
Cumulative Cash Flow	3.1	30.0	40.9	49.8	736	89.3	95.5	

Table 30 NPV of Boroo Mine Net Cash Flow November 1, 2009 to December 31, 2015 at $825
- $ millions -

Net Present Value	
0%	95.5
5%	78.9
10%	66.1
15%	56.2

Cash flows were estimated at gold prices between $725 per ounce up to $1125 per ounce over the period November 1, 2009 to year end 2015. The NPV's of these cash flows at discount rates of 0%, 5% and 10% are shown in the upper part of **Table 31**. In addition the operating costs and gold grades were varied by 10% above and below the base case to determine their effect on NPV at a gold price of $825 per ounce. This analysis is shown in the lower portion of **Table 31**.

Table 31 Cash Flow Sensitivity Analysis
At 0%, 5% and 10% Discount Rates
- $ millions -

Sensitivity to Gold Price at 0%, 5% an 10% Discount Rate				
	Discount Rate	**0%**	**5%**	**10%**
Gold ($/oz) Price	725	64.4	53.2	44.6
	825	**95.5**	**78.9**	**66.1**
	925	126.7	104.6	87.7
	1025	157.8	130.3	109.2
	1125	188.9	155.9	130.7

Sensitivity to Other Variables at $825/oz and 0% Discount Rate		
Variable	**Operating Costs**	**Gold Grade**
+10%	82.7	121.2
Base Case	**95.5**	**95.5**
-10%	108.4	69.8

A 10% increase in operating costs has larger impact on NPV than a 10% drop in gold grade indicating that the operation is sensitive to operating costs. This is expected for a low grade operation as is the case in this instance.

16.17 Life of Mine Plan

The life of mine plan (LOM) is discussed in **Section 15.13** of this report.

16.18 Payback of Capital

The initial construction capital of the Boroo operation has how been paid back and the remaining sustaining capital outlined in **Table 29** will be paid for with proceeds of future gold production.

17. INTERPRETATION AND CONCLUSIONS

This review of the Boroo project has confirmed the following key items:

1. The remaining proven and probable mineral reserves of 16.35 million tonnes with an average grade of 1.2 g/t gold with 615,000 contained ounces and at the gold price of $825 per ounce shows a net cash flow of $95.5 million based on the ore to be treated according to the LOM plan. This demonstrates that the remaining Boroo mineral reserves are economically viable.
2. The heap leach was commissioned in June 2008 at a capital cost of $26 million and produced approximately 43,000 oz as of the expiry of the temporary operating permit in May 2009, when heap leach operations were suspended. A permanent operating permit must be obtained to resume heap leach gold production. BGC has been pursuing a full time permit since heap leach pilot operation commenced in 2008. Although BGC reports that this permit approval is expected, the exact date of approval is not known on the date of record for this report.
3. In 2010, the Boroo mine operation will wind up and it is currently planned that the majority of the current mining fleet at Boroo will be transferred to the Gatsuurt operation.
4. As of October 31, 2009, the Boroo mine has recorded an average mill head gold grade of 3.62 g/t from the milling of 13.3 million tonnes. A total of 5.86 million tonnes of low grade ore has been stacked for heap leaching at a grade of 0.72 g/t. and has performed well relative to the original expectations of the project in 2004.
5. As no apparent viable exploration targets remain in and near the Boroo mine, no additional exploration is planned at this time.

18. RECOMMENDATIONS

1. A permanent heap leach operating permit needs be obtained to resume gold production from the Boroo Heap Leach facility. BGC has been pursuing a full time permit since heap leach pilot operation commenced in 2008. Although BGC reports that this permit approval is expected, the exact date of approval is not known on the date of record for this report.

2. The current LOM plan has made some general assumptions with relation to processing of oxide and sulphide ores from Gatsuurt and how that could impact future production from Boroo. While Gatsuurt production in not required to mine and process the remaining Boroo reserves, the benefits that could be obtained by having Gatssurt developed would improve the economic return on Centerra's investments in Mongolia. Centerra and BGC need to continue it efforts to resolve any issues related to the full development of the Gatsuurt project.

3. A Gatsuurt project team has been established that is currently constructing the Gatsuurt mine facilities and haulage road to Boroo. CGM is also working towards obtaining the requirement government approvals and permits so that oxide ore mining can commence for the first shipments to Boroo in the third quarter of 2010. An EPCM contractor has also been engaged for the addition of the BIOX® and related facilities at Boroo, with construction planned to start in May 2010 and commissioning the BIOX® and related facilities in the third quarter of 2011.

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20. DATE AND SIGNATURE PAGE

This technical report entitled "Technical Report on the Boroo Gold Mine Mongolia" dated December 17, 2009 has been prepared for Centerra Gold Inc. by Dan Redmond, P. Geo. and Tommaso Roberto Raponi, P.Eng., each of whom are qualified persons as defined by NI 43-101.

Signed, sealed and submitted on December 16, 2009.

_*(signed) Dan Redmond*____________
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_*(signed) Tommaso Roberto Raponi*____
Tommaso Roberto Raponi, P. Eng.