

**HIGH RIVER GOLD MINES LTD
OJSC BURYATZOLOTO**

**NI 43-101 TECHNICAL REPORT AND
AUDIT OF THE
RESOURCE AND RESERVE ESTIMATES
FOR THE
ZUN-HOLBA GOLD MINE
REPUBLIC OF BURYATIA (BURYATIA),
RUSSIAN FEDERATION**

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1.0 SUMMARY

1.1 INTRODUCTION

High River Gold Mines Ltd. (High River) and its subsidiary Open Joint Stock Company Buryatzoloto (Buryatzoloto) have retained Micon International Limited (Micon) to conduct an audit of the resource and reserve estimates for the Zun-Holba gold mine (Zun-Holba Project) in the Republic of Buryatia of the Russian Federation. The report is based on the December 31, 2011 Russian classified “reserve” and “operational reserve” estimates for the Zun-Holba Project, which were then adjusted to account for the depletion of the resources and reserves to April 1, 2012. This report was commissioned to provide High River and Buryatzoloto with an independent Technical Report auditing the Russian classified “reserves” and “operational reserves” and converting them to be compliant both with the Australasian Joint Ore Reserves Committee (JORC) code and the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) standards and definitions for the estimation of resources and reserves. This report also comments on the propriety of the continuing studies and budget for the Zun-Holba Project.

Wherever in this report the term reserves appears in quotations (“reserves” or “operational reserves”) it refers to reserve estimates conducted according to the Russian classification system or terminology. Such “reserves” were extracted from the Russian reports used to compile this report. In no instance should the term be taken as meaning mineral reserves which are compliant with the JORC or the CIM standards and definitions.

The term Zun-Holba Property, in this report, refers to the entire area covered by the mineral licenses, while the term Zun-Holba mine or Project refers to the area within the mineral licenses on which the mining and exploration programs have been conducted.

The most recent Technical Report for Zun-Holba was entitled “Technical Report on the Zun-Holba Project, Republic of Buryatia, Russian Federation”, dated April 5, 2012 and authored by Ricardo A. Valls, M. Sc, P. Geo. The Technical Report has been filed by High River on the System for Electronic Document Analysis and Retrieval (SEDAR).

Micon does not have nor has it previously had any material interest in High River, Buryatzoloto or related entities. The relationship with High River and Buryatzoloto is solely a professional association between the client and the independent consultant. This report is prepared in return for fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

This report includes technical information which requires subsequent calculations or estimates to derive sub-totals, totals and weighted averages. Such calculations or estimations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, Micon does not consider them to be material.

This report is intended to be used by High River and Buryatzoloto subject to the terms and conditions of their agreement with Micon. That agreement permits High River and

Buryatzoloto to file this report as a Technical Report with the Canadian Securities Administrators pursuant to provincial securities legislation. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at that party's sole risk.

The conclusions and recommendations in this report reflect the authors' best independent judgment in light of the information available to them at the time of writing. The authors and Micon reserve the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to them subsequent to the date of this report. Use of this report acknowledges acceptance of the foregoing conditions.

1.2 LOCATION AND PROPERTY DESCRIPTION

The Zun-Holba mine is located in the western portion of Buryatia within the Okinskiy district, which borders with the Irkutsk Region to the north and west, and Mongolia to the south. The mine is situated 736 km west of Ulan-Ude, 100 km from the village of Mondy and 150 km from the village of Orlik, which is the district centre. It is located about 2,000 m above sea level.

1.3 OWNERSHIP

High River advises that it holds its interest in the Zun-Holba Project through its 85% ownership of Buryatzoloto. Buryatzoloto, a Russian company, owns a 100% interest in the Zun-Holba Project and has operated the mine since 1996. Buryatzoloto's head office is located in Ulan-Ude, which is the capital of the Republic of Buryatia.

Within the Okinskiy district Buryatzoloto holds five licenses for the Zun-Holba mine and for portions of the area around it. The mineral licenses are not all contiguous and vary in size. Exploitation license UDE 00213 BE is 242.2 ha in area and covers the Zun-Holba deposit, exploration-exploitation license UDE 00419 BR covers 67 km² around the Zun-Holba mine, exploration-exploitation license UDE 00231 BR covers 3.1 km² around the Pionerskoye deposit exploration-exploitation license UDE 01367 BR covers 8.0 km² for the Smezhny site and exploration-exploitation license UDE 01368 BR covers 38.0 km² for the Yuzhny site. Licenses UDE 01367 BR and UDE 01368 BR were acquired in March, 2011.

The annual payments for the licenses vary, with exploitation license UDE 00213 BE subject to an annual tax of equalling 6% of the gold and 6.5% of the silver revenue from the recovered metal. The other two exploration-exploitation licenses UDE 00419 BR and UDE 00231 BR are subject to a payment of 203 roubles per km² or approximately US \$7.98 per km². Buryatzoloto has advised Micon that all of the license requirements have been fulfilled.

In Russia, the subsoil rights are held by the State; however, since 1993, the right to explore and develop the mineral wealth in the subsoil can be obtained by acquiring licenses through state auction.

1.4 HISTORY

Construction of the mine was originally approved by the State Committee of the Reserves (SCR) in 1973; however, no mining activity was carried out between 1973 and 1984. Gradual development of the deposit started in 1986 and full mining and processing operations commenced in 1991.

Prior to 1991, mining operations at the Zun-Holba mine were undertaken by the Artel (co-operator) Sayany of the industrial union Zabaikalzoloto which is located in the city of Chita.

In January, 1991, a state gold mining company (Buryatzoloto) was founded with its assets comprised of a placer mine (Tsipicanskiy) and both the Zun-Holba and Irokinda mines. During the disintegration of the USSR, reformation occurred; which led to the Tsipicanskiy placer mine becoming a joint stock company and Buryatzoloto receiving exploration-mining licenses for the Irokinda and Zun-Holba deposits.

Prior to 1995, all exploration and mining works on the Zun-Holba property were conducted by State organizations; however, between 1994 and 1995 Buryatzoloto became an open joint stock company and the licenses were reregistered to the company. At this time, 30% of the company shares were acquired by High River via an open cash auction, with High River acquiring 85% of Buryatzoloto's stock by 2005.

1.5 GEOLOGY AND MINERALIZATION

Geologically, the Zun-Holba deposit is located within a caledonide system of the Eastern Sayan within the northeastern peripheral part of the Garganskaya dome which comprises the core of the sublatéral Gargan-Butugolskiy anticlinorium. From a structural point of view, the deposit is positioned within the zone of the Samarta-Holbinskaya intradome syncline and is subconformable to the Holbinskaya zone of faults that intersects the intradome syncline zone. Metallogenically, the deposit is included in the Holbinskoye mineralized area of the Urik-Kitoiskaya mineralized zone of the Garganskiy gold district.

The Holbinskoye mineralized area includes the Zun-Holba and Baroon-Holba gold deposits, along with a number of occurrences such as the Smezhnoye, Pravoberezhnoye, etc.

The geological setting of the Holbinskoye mineralized area is composed of the following:

- 1) Archean-lower Proterozoic metamorphosed rocks of the Garganskaya dome basement.
- 2) Vend-Cambrian schist-carbonate rocks as the dome cover.
- 3) Riphean-Vend ophiolite association as a tectonic cover.
- 4) Baroon-Holba volcano-plutonic complex as a paleovolcanic structure.

- 5) Intrusions of the Sumsunurskiy complex of lower-middle Paleozoic plagiogranite.
- 6) Holbinskaya faults zone.

On the Zun-Holba mine property, there are 23 mineralized zones which have been explored with different exploration grids: the Severnoye-1,2,3,5; Vavilovskoye-1,2,3,5,6; Sulphidnoye; Sulphidnoye-1,2,3,4; Dorzhy-Banzarovskoye; Parallelnoye; Dorozhoye-2,3,4; Babkina; Bulba; Listvenitovoye and the Dalnee zone which was discovered in 2005. As the basis of mineral reserve estimation, the following mineralized zones are considered as the largest; the Sulphidnoye-1 mineralized zone contains 39% of the deposit's "reserves", the Vavilovskoye-1 contains 23.3%, the Severnoye-1 contains 10% and the Vavilovskoye-3 contains 5%. The remaining 22.7% of the mineral "reserves" for the Zun-Holba deposit are distributed in the other 19 mineralized zones.

In the deposit, there is a vertical zoning from surface to depth as represented by the change in different morphologic types of the mineralized zones from typical veins to vein-like bodies and to mineralized zones. Within the steeply dipping shear zone, only two types of mineralized zones are considered to have industrial mineralization. They are mineralized bands (79% of the "reserves") and vein-like zones (21% of the "reserves"). There is also an increase in thickness and strike length of the mineralized zones at depth, from 1-2 m in thickness and 20-50 m in strike length, to 3-5 m in thickness and up to 1,000 m in strike length.

The internal construction of the mineralized zones is complex. The vein-like zones and mineralized bands have a mosaic construction. They are composed of rocks fragments with different amounts of gold: black schist, quartzite, listvenite (hydrothermal rocks which form within ultrabasic and carbonate rocks and their main mineral is fuchsite (chromian mica)), quartz and quartz-sulphide ores cemented by berezite (hydrothermal alteration consisting of quartz, sericite, pyrite) rocks which are sometimes gold-bearing, but more often barren. The veins have a sulphide-quartz composition with distinct boundaries which often intersect the host rocks. Typical quartz veins are seen seldom at the deposit.

The mineralization is grouped in two types:

- 1) Quartz-sulphide rocks.
- 2) Gold-bearing altered host rocks such as silicate, carbonate and graphite-containing schists.

The amount of sulphides in the mineralized rock is 8 to 9% with the dominant mineral within the sulphides being pyrite at 90 to 95%. The secondary sulphide minerals amount to approximately 5 to 7% and are represented by galena, sphalerite, chalcopyrite, as well as accessory minerals including arsenopyrite, fahlore and bournonite.

According to the Russian classification system for mineral deposits, the Zun-Holba deposit corresponds to a vein deposit of the third category of complexity. The third category of

complexity or “Group 3 Deposits” is defined in the more recent Russian “reserve” classification guidelines dated December 11, 2006 as:

“Group 3. Deposits (subsoil areas) of complex geological structure with large and average size orebodies, having strongly dislocated bedding, characterized by very variable thickness and inner structure, sometimes immature quality of the minerals, and very uneven distribution of the basic valuable components. The peculiarities of the structure of the deposits (subsoil areas) are determined by the possibility of development of “reserves” of categories C₁ and C₂ in the process of exploration” (Translation to English from Russian, July, 2007).

The Zun-Holba mine can be classified as an orogenic quartz-carbonate vein gold deposit (Robert, et al, 2007).

1.6 EXPLORATION

The exploration programs at Zun-Holba have been broken down into 3 categories: prospecting programs, exploitation-exploration programs and stope-definition exploration of shaft levels between the 1440 and 1340 m levels.

Exploration in 2011 consisted of the following work:

- 632 m of underground drifting.
- 39,710 m of underground drilling.
- 47 km² of mapping.
- 26,639 m of surface drilling.

The exploration program underground is an integral part of the mining operations and will continue into the future. The estimated "reserve" gain due to the exploration program in 2011 was approximately 479,000 t containing 3,254.3 kg gold.

The main focus of the underground exploration program is to explore the flanks and down dip potential of the Zun-Holba deposit. The program consists of channel sampling within the underground workings (drifts and cross-cuts) and drilling from drill chambers specifically designed to maximize the drill coverage from each station.

The 2012 exploration program is a continuation of the 2011 program and consists of drifting, sampling, and underground drilling, and surface drilling on the Perspektivnaya, Yuzhnaya and Pionerskaya zones, along with mapping and trenching.

The 2012 exploration program includes 930 m of drifting and sampling. During the Micon site visit in May, 2012, two drill rigs were exploring from the surface and three were drilling underground from drilling chambers, located on levels 1390 and 1730 m.

The main objective of the underground exploration is to upgrade and develop the existing C₂ and P₁ Russian “reserves” and provide the basis for the future operation the mine. The

corporate goal is to prove up to 3 t Au in the area above level 1290. Underground definition drilling extends the ore shoots and prepares the area for mining within the main mine area. The company has planned 32,520 m of exploration underground drilling and 8,000 m of definition drilling in 2012.

In addition, 2012 surface drilling is continuing to testing the deep levels of the Perspektivnaya (main mine area) and Yuzhnaya zones and the upper levels of the Pionerskaya zone. The company has planned 32,770 m of surface drilling on the Pionerskoye deposit zone, Perspektivnaya zone and old tailing ponds.

The estimated budget for the exploration program at the Zun-Holba Project for 2012 is 362,159,000 roubles (US \$11.9 million).

1.7 MINERAL RESOURCE AND RESERVE ESTIMATION

All companies conducting work in Russia must have their “reserve” estimates approved by the Russian state organizations and must classify the “reserves” according to the Russian system for the particular mineral and deposit type, prior to mining. Once a company is mining a deposit, regular “reserve” reports must be filed with the state authorities.

Micon has conducted a review and audit of Buryatzoloto’s Russian “reserves” and converted these into a JORC and CIM compliant mineral resource and reserve estimate.

1.7.1 Mineral Resource Estimate

Micon’s audited and converted resource estimates for the Zun-Holba mine are summarized in Table 1.1 for the Measured and Indicated Mineral Resources, and in Table 1.2 for the Inferred Mineral Resources. The effective date of the resource estimate is April 1, 2012.

Table 1.1
Total Measured and Indicated JORC and CIM Compliant Mineral Resources for the Zun-Holba Mine

Russian Category	JORC and CIM Category	Tonnes (t)	Gold Grade (g/t)	Metal (kg)
Balance	Measured	451,600	11.36	5,100
Balance	Indicated	261,300	10.45	2,700
	Total Measured and Indicated	712,900	11.03	7,800

There are no off-balance Russian “reserves” that were converted to JORC and CIM compliant Measured or Indicated resources.

Table 1.2
Total Inferred Resources for Zun-Holba Mine (Russian Balance and Off-Balance)

Russian Category	JORC and CIM Category	Tonnes (t)	Gold Grade (g/t)	Metal (kg)
Balance	Inferred	35,200	12.46	400
Off-Balance	Inferred	56,700	9.64	600
	Total Inferred	91,900	10.73	1,000

At a minimum gold grade of 7 g/t and a minimum mining width of 0.8 m, Micon estimates that the total remaining mineral resource at the Zun-Holba mine as of April 1, 2012 is 712,900 tonnes at a grade of 11.03 g/t gold for the Measured and Indicated Mineral Resources, and 91,900 tonnes at a grade of 10.73 g/t gold for the Inferred Mineral Resources. The Measured and Indicated portion of the mineral resources contains an estimated 7,800 kg of gold, while the Inferred resource contains approximately 1,000 kg of gold. The figures in Tables 1.1 and 1.2 have been rounded to reflect that the resources figures are estimates. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

The stated April 1, 2012 mineral resources are not materially affected by any known environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant issues, to the best knowledge of the authors. There are no known mining, metallurgical, infrastructure, or other factors that materially affect this mineral resource estimate.

1.7.2 Mineral Reserve Estimate

Micon has also audited Buryatzoloto's "operational reserves" for the Zun-Holba mine and converted these into JORC and CIM compliant mineral reserves. The mineral reserves have been derived directly from the mineral resources, using Buryatzoloto's parameters for dilution and mining losses. The Measured and Indicated resources reported in Table 1.1 form the undiluted portion of the mineral reserves.

Dilution and ore losses were estimated by Buryatzoloto for each block individually, using a set of parameters for the estimated wall rock dilution and dilution with rock waste fill. Also included in the "operational reserve" estimate were allowances for ore lost in stopes owing to incomplete mucking on the stope floor or as a result of leaving pillars.

Since the original Russian "operational reserves" estimated losses and variable dilution percentages for each of the mineralized blocks and these data were included in the "reserve" tables, Micon has used the same losses and dilution during its conversion of the Russian "operational reserves" into JORC and CIM compliant reserves.

The result of Micon's audit and conversion of the Russian "operational reserves" into Proven and Probable Mineral Reserves is summarized in Table 1.3. The effective date of the reserve estimate is April 1, 2012.

Table 1.3
Total Proven and Probable JORC and CIM Compliant Mineral Reserves for the Zun-Holba Mine

Category	Tonnes (t)	Grade (g/t)	Metal (kg)
Proven	505,300	9.06	4,600
Probable	383,700	7.85	3,000
Total Proven and Probable	889,000	8.54	7,600

Micon estimates that the total remaining Mineral Reserve at the Zun-Holba mine as of April 1, 2012 is 889,000 t at a grade of 8.54 g/t gold, containing an estimated 7,600 kg of gold.

These reserves represent approximately 2.6 years of mine life at the current production rate of 340,000 t per year. The figures in Table 1.3 have been rounded to reflect that the reserve figures are estimates.

The mineral reserves shown in Table 1.3 are compliant with the both the JORC code and current CIM standards and definitions. Micon is not aware of any significant technical, legal, environmental or political considerations which would affect the extraction and processing of the mineral reserves at the Zun-Holba mine.

1.7.3 Discussion of Estimated “Reserve” Grades Versus Actual Grades at the Zun-Holba Project

A number of views have been expressed regarding the differences between the “reserve” grade and the actual mill grades at the Zun-Holba Project in the past. This has created a concern and belief by various parties that the “reserve” grades have been overstated. Micon addressed this issue specifically in its previous 2008 Technical Report, when converting the resources and reserves at the Zun-Holba Project from the Russian “reserves” and “operational reserves” into CIM compliant estimates.

In essence, Micon concluded that this confusion arose because of a misunderstanding of the nature of the reported Russian “reserves”. Prior to Micon’s initial Technical Report on Zun-Holba, which was issued in 2007, High River published the state-approved Russian “reserve” estimates, which are based upon parameters approved by the state and which make no allowance for either mining losses or dilution. These estimates, therefore, do not qualify as mineral reserves under either the JORC or CIM standards and definitions.

For the purpose of mine planning and economic analysis, Buryatzoloto, in common with many mining companies in Russia, converts the state-approved “reserves” into “operational reserves”, by incorporating allowances for mining losses and dilution. Because of the allowance for dilution, the grade of the “operational reserves” is invariably lower than the grade of the state-approved “reserves”. These “operational reserves”, however, are not officially recognized in Russia, and are rarely published.

For detailed annual budgeting, Buryatzoloto adds an additional factor to the grade of the “operational reserves”, based on a comparison between the grade of the “operational reserve” and the actual mined grade for the previous year. This procedure is similar to applying a mine call factor to the estimated reserve grade, resulting in a further reduction in the estimated grade of the run-of-mine ore. Thus, anyone who does not fully understand the Russian system for estimating “reserves”, and who compares actual mined grades with the official reserve grade, is liable to conclude that the grade of the “reserves” has been seriously overestimated.

In order to clarify the differences between the grades shown in High River’s publication of the Russian “reserves” and the actual operational grades, Micon has prepared the comparison shown in Table 1.4 and Figure 1.1 between the actual mined grade at the Zun-Holba mine since 1995, and the official “reserve” grade, the “operational reserve” grade and the budgeted

mine grade. In general, for the years beyond 1996, there is reasonable agreement between the budgeted and actual mining and processing grades.

Table 1.4
Zun-Holba Mine Summary of the Reserve and Production Grades from 1995 to 2012 (First Quarter)

Year	“Reserve” Grade (g/t)	“Operational Reserve” Grade (g/t)	Budgeted Mining Grade (g/t)	Actual Mining Grade (g/t)	Budgeted Processing Grade (g/t)	Actual Processing Grade (g/t)
1995*	11.7	7.8	7.8	10.2	6.7	6.7
1996*	10.9	---	6.8	10.9	7.5	8.3
1997**	10.6	7.6	8.1	13.1	8.1	9.9
1998**	17.6	12.3	10.4	15.4	10.4	11.3
1999**	16.4	11.6	11.1	13.5	11.1	10.2
2000**	16.2	11.6	9.9	12.8	9.9	10.8
2001	16.6	11.6	10.5	12.2	10.5	10.1
2002	16.6	11.6	10.5	11.8	10.5	10.1
2003	16.1	12.4	10.2	12.0	10.1	9.5
2004	16.3	12.1	9.6	11.6	9.6	9.5
2005	15.6	11.4	9.2	11.2	9.3	9.3
2006	15.5	11.3	9.3	11.0	9.3	9.3
2007	15.3	11.1	9.2	10.1	9.3	8.9
2008	14.2	10.2	8.5	9.6	8.4	8.3
2009	13.1	10.1	8.2	10.9	7.71	8.1
2010	13.0	10.0	7.08	8.7	6.9	6.5
2011	13.4	10.3	6.3	7.5	6.3	6.2
2012*** First Quarter	10.9	8.4	6.38	6.4 (January - April)	6.38	5.9 (January - April)

Note: *Reserve grades according to 5-GR forms.

**Reserve grades from the reports issued by Buryatzoloto.

***Budget and “reserve” grades reflect the yearly but actual grades reflect only the first quarter.

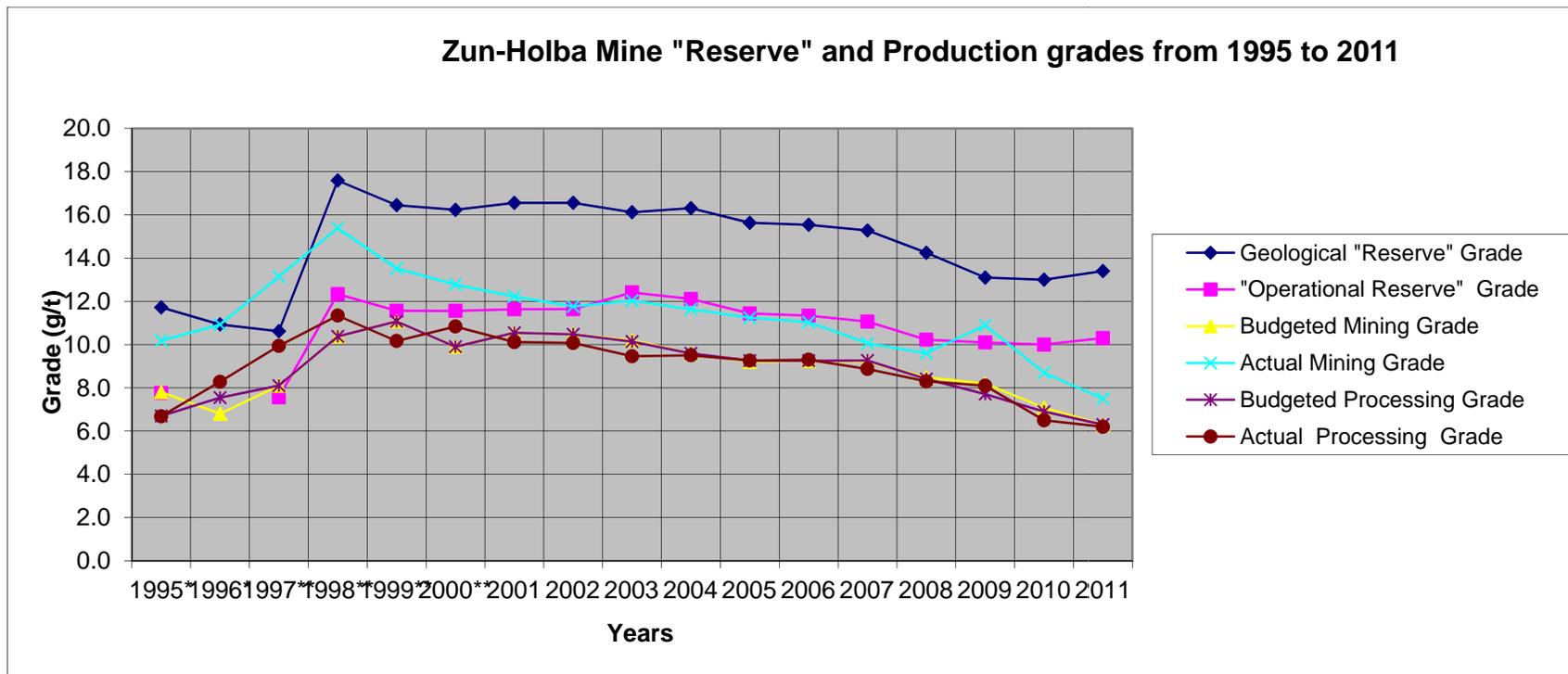
1.8 OPERATIONS AT THE ZUN-HOLBA MINE

Between 1991 and the first quarter of 2012, Buryatzoloto mined a total of 4,728,038 t of diluted ore containing 50,838 kg of gold. In addition, from 1991 to 2007, Buryatzoloto processed 4,775,011 t of ore and recovered 37,744 ounces of gold in doré.

In 2011, Buryatzoloto mined a total of 339,910 t of diluted ore at an average grade of 7.5 g/t gold for a total of 2,543.5 kg of gold. In the first quarter of 2012, Buryatzoloto mined a total of 116,563 t of diluted ore at an average grade of 6.4 g/t gold for a total of 745.7 kg of gold.

The yearly run-of-mine diluted ore and processed ore from 1987 to the first quarter of 2012 is summarized in Table 1.5.

Figure 1.1
Zun-Holba Mine "Reserve" and Production Grade Statistics from 1995 to 2011



Note: *Reserve grades according to 5-GR forms.
 **Reserve grades from the reports issued by Buryatzoloto.

Table 1.5
Summary of the Yearly Run-of-Mine Diluted Ore and Processed Ore from 1987 to 2012 (First Quarter)

Year	Run-of-Mine Ore			Ore Processed		
	Tonnes	Average Gold Grade (g/t)	Contained Gold (kg)	Tonnes	Recovered Gold, (kg)	
					In Doré*	Refined Gold
1987	975	4.6	9.0	7,975	No Data	72.6
1988	19,007	6.7	126.7	16,492	No Data	130.1
1989	37,396	5.2	195.1	42,226	No Data	192.7
1990	44,508	9.7	432.6	48,640	453.88	329.0
Total 1987 to 1990	101,886	7.5	763.4	115,333	453.88	724.4
1991	72,345	8.7	628.4	69,884	575.96	514.5
1992	94,973	9.9	946.2	98,318	849.8	680.7
1993	153,850	9.0	1,384.7	114,465	837.4	777.0
1994	182,924	8.6	1,598.6	168,815	1,171.0	1,072.2
1995	151,984	9.7	1,547.9	193,035	1,225.0	1,123.1
1996	192,692	8.6	2,105.2	207,678	1,636.8	1,520.5
1997	200,820	13.1	2,638.7	203,421	1,908.8	1,777.3
1998	190,858	15.4	2,937.2	203,421	2,079.4	1,960.9
1999	216,021	13.5	2,921.2	215,502	2,082.3	2,021.7
2000	225,528	12.8	2,881.6	220,646	2,270.0	2,202.1
2001	222,232	12.2	2,718.2	230,796	2,224.1	2,166.2
2002	232,439	11.8	2,734.5	227,366	2,182.3	2,133.9
2003	229,200	12.0	2,758.3	229,332	2,062.3	2,030.0
2004	235,540	11.6	2,740.7	225,208	2,025.4	2,022.2
2005	247,974	11.2	2,787.8	240,958	2,221.0	2,172.4
2006	252,391	11.0	2,785.7	245,655	2,220.4	2,180.6
2007	266,437	10.1	2,680.6	259,574	2,302.7	2,160.9
2008	285,684	9.6	2,733.9	271,948	2,258.3	2,163.2
2009	292,929	10.9	3,189.5	315,777	2,549.6	2,291.6
2010	324,744	8.7	2,830.3	347,742	2,251.9	2,037.1
2011	339,910	7.5	2,543.5	368,489	2,292.4	2,108
2012 First Quarter	116,563	6.4	745.7	116,981	689.4	627.7
Total 1991 to 2012 First Quarter	4,728,038	10.8	50,838	4,775,011	39,916	37,744
Total	4,829,924	10.7	51,602	4,890,344	40,370	38,468

*Note: Limited to data post 1990.

Table provided by OJSC Buryatzoloto.

1.8.1 Mining Methods

Due to both the geotechnical factors and the geological features of the mineralized bodies within the deposit, the following mining methods are used at Zun-Holba:

- Shrinkage stoping with short blast holes (up to 6% of production).
- Timbered stoping method (up to 3% of production).
- Cut-and-fill method (up to 42% of production).
- Shrinkage stopping with backfill (up to 50% of production)

The primary mining methods are shrinkage stoping and conventional cut-and-fill, with up to 92% of the present mining being conducted using these methods. Two different variations of the cut-and fill-method are used at Zun-Holba:

- Bottom-up (overhand) cut-and-fill method.
- Top-down (underhand) cut-and-fill method.

All mining methods are labour intensive, with the use of both jacklegs and stopers to drill the blast holes. Extraction of the broken material is accomplished primarily by using slushers to move the material into the ore and waste passes. From the ore and waste passes, the broken material is loaded into rail cars using either a chute (for the cut-and-fill and timbered stoping methods) or a mucking machine (shrinkage stoping).

1.8.2 Processing Methods

The run-of-mine material is processed at the Samarta plant using the following flowsheet:

- Two crushing stages with screening of the material after the second stage at 16 or 18 mm sizes.
- Two grinding stages using ball mills.
- Gravity concentration to recover the free gold.
- Flotation of gravity tailings to recover the finer gold particles.
- Cyanidation leaching and adsorption of the flotation concentrate.

The final product of the process at the Zun-Holba mine is doré bars which are then shipped out for further refining.

1.9 CONCLUSIONS AND RECOMMENDATIONS

High River, through its 85% ownership in Buryatzoloto, has an interest in the Zun-Holba mine which has been producing gold since 1991. Although a number of mineralized areas have been exploited in the past, both successful exploration programs and improvements in mining techniques have allowed mining to be extended into new areas and to be expanded within the boundaries of previously mined areas.

The mineral resources and mineral reserves reported herein for the Zun-Holba mine were audited and converted from the Russian classification system into JORC code and CIM compliant mineral resource and reserve categories.

Based on the mineral reserves estimated as of April 1, 2012, the Zun-Holba mine has a remaining life of approximately 2.6 years. In Micon's opinion, however, there is a high probability that ongoing exploration and development will result in the delineation of additional reserves for the following reasons:

- The known mineralization at the Zun-Holba mine continues to be open both along the flanks of the deposit, as well as, at depth and, as yet, the mineralization does not appear to be constrained by any major geological features, other than the host fracture system.

- There are a number of untested exploration targets identified at the Zun-Holba Property.
- The Zun-Holba mine has enjoyed considerable success in converting resources to reserves in the past and should continue to do so into the future.

It is Micon's opinion, therefore, that Buryatzoloto and High River could reasonably expect that further exploration and underground development will result in the delineation of additional resources and reserves. In Micon's opinion, such additional exploration and development is warranted since the property has considerable geological potential.

1.9.1 Further Recommendations

This Technical Report, which both audits and converts the April 1, 2012 Russian "reserves" into JORC and CIM compliant mineral resources and mineral reserves for Buryatzoloto's Zun-Holba mine, is Micon's third Technical Reports regarding this topic. Micon has reviewed the recommendations from the previous Technical Report with Buryatzoloto's personnel and makes the following recommendations:

- 1) Micon recommends that High River and Buryatzoloto continue with the development of protocols for reporting the year-end mineral resources and reserves as JORC or CIM compliant figures. This would most likely occur once the "reserves" have been reported to the Russian state, as these figures could then be used as the basis for reporting the JORC or CIM compliant resources. The results of the conversion to JORC or CIM compliant mineral resources and reserves should be published in a report for the use of both High River and Buryatzoloto.
- 2) Micon recommends that Buryatzoloto continues to pursue the possibility that the on-site laboratory can join a proficiency program of round-robin testing, such as the one run by CanMet.
- 3) Micon recommends that Buryatzoloto incorporates the mine call factor which it applies to the budgeted grades into the "operational reserve" estimates, in order to reduce grade differences between the "operational reserve" estimates and the actual milling grades at the Zun-Holba mine.
- 4) Micon recommends that Buryatzoloto starts using electronic transmission of the laboratory results to the geological team (text, Excel or other electronic format), so that the data can be imported directly into geological or 3-D geological software.
- 5) Micon recommends that Buryatzoloto updates the existing quality assurance and quality control protocol and starts inserting certified reference material into the sample stream for both exploration drilling and channel sampling.
- 6) Micon recommends that Buryatzoloto's staff start using an electronic software for core logging and 3-D geological software for resource estimation.

- 7) Micon recommends that, in addition to inclinometry, the geophysical exploration team should use high resolution down-hole induced polarization and resistivity surveys to collect data between the existing deep and short holes. The high resolution induced polarization and magnetics survey may help to outline zones of blind mineralization.
- 8) Micon recommends that the exploration team monitor the drilling programs continuously, especially the deep holes, and, if the results are not satisfactory, the program should be altered accordingly.

2.0 INTRODUCTION AND TERMS OF REFERENCE

High River Gold Mines Ltd. (High River) and its subsidiary Open Joint Stock Company Buryatzoloto (Buryatzoloto) have retained Micon International Limited (Micon) to conduct an audit of the resource and reserve estimates for the Zun-Holba gold mine (Zun-Holba Project) in the Republic of Buryatia of the Russian Federation. The report is based on the December 31, 2011 Russian classified “reserve” and “operational reserve” estimates for the Zun-Holba Project, which were then adjusted to account for the depletion of the resources and reserves to April 1, 2012. This report was commissioned to provide High River and Buryatzoloto with an independent Technical Report auditing the Russian classified “reserves” and “operational reserves” and converting them to be compliant both with the Australasian Joint Ore Reserves Committee (JORC) code and the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) standards and definitions for the estimation of resources and reserves. This report also comments on the propriety of the continuing studies and budget for the Zun-Holba Project.

This report constitutes the third time that the mineral resources and mineral reserves for the Zun-Holba Project have been audited by Micon and reported according to the JORC and CIM standards. Micon’s first Technical Report regarding the status of the resources and reserves at the Zun-Holba mine was entitled “NI 43-101 Technical Report and Audit of the Resource and Reserve Estimates for the Zun-Holba Gold Mine, Republic of Buryatia (Buryatia), Russian Federation” and dated August 30, 2007. Micon’s second Technical Report was entitled “NI 43-101 Technical Report and Audit of the Resource and Reserve Estimates for the Zun-Holba Gold Mine, Republic of Buryatia (Buryatia), Russian Federation” and dated October 10, 2008. Both reports have been published on SEDAR by High River.

The most recent Technical Report for the Zun-Holba Project was entitled “Technical Report on the Zun-Holba Project, Republic of Buryatia, Russian Federation”, dated April 5, 2012 and authored by Ricardo A. Valls, M.Sc, P. Geo. The Technical Report has also been filed on SEDAR.

The geological setting of the property, mineralization style and occurrences, and exploration history were described in reports that were prepared by Roscoe Postle Associates Inc. (RPA) (1994), the Russian Project Finance Bank (RPFb) (1995), Curtis and Cameron (2007), Lewis and Leader (2007 and 2008) and in various Russian government and other publications listed in Section 28 “References”. The relevant sections of those reports are reproduced herein.

The term Zun-Holba Property, in this report, refers to the entire area covered by the mineral license, while the term Zun-Holba mine or Project refers to the area within the mineral license on which the mining and exploration programs have been conducted.

All currency amounts are stated in US dollars or Russian roubles, as specified, with costs and commodity prices typically expressed in US dollars. Quantities are generally stated in Système International d’Unités (SI) units, the standard Canadian and international practice,

including metric tons (tonnes, t) and kilograms (kg) for weight, kilometres (km) or metres (m) for distance, hectares (ha) for area, grams (g) and grams per metric tonne (g/t) for gold and silver grades (g/t Au, g/t Ag). Wherever applicable, any Imperial units of measure encountered have been converted to metric units for reporting consistency. Precious metal grades may be expressed in parts per million (ppm) or parts per billion (ppb) and their quantities may also be reported in troy ounces (ounces, oz), a common practice in the mining industry. Table 2.1 is a list of the various abbreviations used throughout this report.

Wherever in this report the term reserves appears in quotations (“reserves” or “operational reserves”) it refers to reserve estimates conducted according to the Russian classification system or terminology. Such “reserves” have been extracted from the Russian reports used to compile this report. In no instance should the term be taken as meaning mineral reserves which are compliant with the JORC code or the CIM standards and definitions.

The following Russian terminology may be used in this report:

- 1) “Balance Reserves” is the term used in Russia to denote the state-approved “reserves” or estimated mineral blocks considered to be economic at the time of the estimate.
- 2) “Off-Balance Reserves” is the term used in Russia to denote the state-approved “reserves” or estimated mineral blocks considered to be uneconomic at the time of the estimate.
- 3) “Operational Reserves” is a term used by Buryatzoloto and the state to denote that portion of the “reserves” to which dilution and mining recovery factors have been applied.
- 4) “Berezite” is a Russian term for an altered rock or alteration zone containing quartz-sericite with pyrite, and “berezitized” is the term for a quartz-sericite alteration without pyrite.
- 5) “Ore Field” is a Russian geological term referring to a relatively small mineralized area comprised of genetically connected contiguous ore bodies of the same or similar age confined to local tectonic elements, and areas with host rocks favourable for mineralization or genetically connected with igneous bodies. Ore fields are parts of ore districts, zones or clusters. The area of an “ore field” varies from several to 10 to 20, rarely up to several tens, of square kilometres.

Micon first visited High River’s and Buryatzoloto’s Zun-Holba Project between June 7 and 10, 2007 with the first portion of the trip devoted to reviewing the database in Ulan-Ude and the actual site visit to the Zun-Holba Project occurring between June 8 and 10, 2007. Micon was assisted during the 2007 visit by a number of employees working for Buryatzoloto.

**Table 2.1
List of the Abbreviations**

Name	Abbreviations	Name	Abbreviations
Australasian Joint Ore Reserves Committee	JORC	Million metric tonnes per year	Mt/y
Canadian Institute of Mining, Metallurgy and Petroleum	CIM	Milligram(s)	mg
Canadian National Instrument 43-101	NI 43-101	Millimetre(s)	mm
Carbon in leach	CIL	North American Datum	NAD
Centimetre(s)	cm	Net present value	NPV
Day	d	Net smelter return	NSR
Degree(s)	°	Not available/applicable	n.a.
Degrees Celsius	°C	Open Joint Stock Company Buryatzoloto	Buryatzoloto
Digital elevation model	DEM	Ounces	oz
Dollar(s), Canadian and US	\$, CDNS\$ and US\$	Ounces per year	oz/y
European Bank of Reconstruction and Development	EBRD	Parts per billion	ppb
Gram(s)	g	Parts per million	ppm
Grams per metric tonne	g/t	Percent(age)	%
Greater than	>	Quality Assurance/Quality Control	QA/QC
Hectare(s)	ha	Republic of Buryatia	Buryatia
High River Gold Mines Ltd.	High River	Roscoe Postle Associates Inc.	RPA
Hour(s)	h	Russian Project Finance Bank	RPFB
Internal rate of return	IRR	Second	s
Kilogram(s)	kg	Specific gravity	SG
Kilometre(s)	km	System for Electronic Document Analysis and Retrieval	SEDAR
Less than	<	Système International d'Unités	SI
Litre(s)	L	Tonne (metric)	t
Metre(s)	m	Tonnes (metric) per day	t/d
Micon International Limited	Micon	Tonnes (metric) per month	t/m
Million tonnes	Mt	Universal Transverse Mercator	UTM
Million ounces	Moz	Year	y
Million years	Ma		

Micon then visited Buryatzoloto's Ulan-Ude corporate offices between May 18 and May 27, 2008. The Zun-Holba database was reviewed, along with the reconciliation documentation and 2007 budget versus actual mill production. Micon did not revisit the Zun-Holba mine site during 2008.

More recently, Micon visited the Zun-Holba Project between May 15 and June 1, 2012, with the actual site visit occurring between May 16 and 19. The second portion of the trip was devoted to reviewing the database in Ulan-Ude. Micon was assisted during the 2012 visit by Gennadyi B. Shulyak, Chief Geologist of OJSC Buryatzoloto, Evgeny I. Moskva, Deputy Chief Geologist, as well as by various Buryatzoloto personnel in both Zun-Holba and Ulan-Ude.

The review of the Zun-Holba Project was based on published material researched by Micon, as well as data, professional opinions and unpublished material submitted by the professional staff of High River and Buryatzoloto or their consultants. Much of the data came from reports prepared by or for by High River or Buryatzoloto.

The 2012 review of the database for the resource and reserve estimation parameters was conducted during discussions in both Zun-Holba and Ulan-Ude. The audit of the Russian "reserve" estimate and conversion of that estimate, into JORC and CIM compliant mineral resource and mineral reserve categories commenced in May, 2012. This review included the December 31, 2011 annual estimate with adjustments for the material mined up to April 1, 2012.

Micon is pleased to acknowledge the helpful cooperation of High River's and Buryatzoloto's management and personnel, as well as the Zun-Holba project personnel, all of whom made any and all data requested available and responded openly and helpfully to all questions, queries and requests for material.

The Qualified Persons responsible for the preparation of this report are William J. Lewis, B.Sc., P.Geo. and Tania Ilieva, Ph. D., P. Geo, both senior geologists with Micon in Toronto, and Barnard Foo, M.Eng., P.Eng., MBA, a senior mining engineer, with Micon in Vancouver.

Mr. Lewis and Ms. Ilieva visited Ulan-Ude, headquarters for Buryatzoloto, and the Zun-Holba Project in May, 2012. During the site visit to the Zun-Holba mine, the database and "reserve" estimation parameters were discussed and a tour of both the underground mine workings and surface facilities was conducted. A visit to a current exploration drill site was also made and the exploration potential of the area was discussed. During the visit to Ulan-Ude, the final review of the database and model for the "reserve" estimate was performed and work on this Technical Report was initiated.

Micon does not have nor has it previously had any material interest in High River, Buryatzoloto or related entities. The relationship with High River and Buryatzoloto is solely a professional association between the client and the independent consultant. This report is

prepared in return for fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

This report includes technical information which requires subsequent calculations or estimates to derive sub-totals, totals and weighted averages. Such calculations or estimations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, Micon does not consider them to be material.

This report is intended to be used by High River and Buryatzoloto subject to the terms and conditions of their agreement with Micon. That agreement permits High River and Buryatzoloto to file this report as a Technical Report with the Canadian Securities Administrators pursuant to provincial securities legislation. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at that party's sole risk.

The conclusions and recommendations in this report reflect the authors' best independent judgment in light of the information available to them at the time of writing. The authors and Micon reserve the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to them subsequent to the date of this report. Use of this report acknowledges acceptance of the foregoing conditions.

3.0 RELIANCE ON OTHER EXPERTS

Micon has reviewed and analyzed data provided by High River and Buryatzoloto, and has drawn its own conclusions therefrom, augmented by its direct field examination. Micon has not carried out any independent exploration work, drilled any holes or carried out any program of sampling and assaying on the property. The Zun-Holba Project is a successfully operating gold mine and any samples collected by Micon would only reflect the mineralization at the sample location and not necessarily the economic nature of the mineralization at the mine. In addition, at the current time, it is illegal to remove geological samples from Russia.

The Russian “reserve” estimates reviewed herein were prepared according to the state protocols and requirements for the deposit type into which the mineralization at the Zun-Holba mine falls under the Russian classification system. The Russian classification system for estimating “reserves” does not comply with either the JORC code or CIM definitions and, therefore, such estimates are not reportable as mineral resources and mineral reserves by High River. The current Russian “reserve” and “operational reserve” estimates were audited and converted into JORC and CIM compliant mineral resource and mineral reserve estimates by Micon.

While exercising all reasonable diligence in checking, confirming and testing it, Micon has relied upon High River’s and Buryatzoloto’s presentation of the project data from both themselves and previous organizations in formulating its opinion.

Micon has not reviewed or independently verified any of the documents or agreements under which Buryatzoloto and High River hold title to the Zun-Holba mine or the underlying mineral concessions and Micon offers no legal opinion as to the validity of the mineral titles claimed. A description of the property, and ownership thereof, is provided for general information purposes only. Comments on the state of environmental conditions, liability and remediation have been made where required by NI 43-101, based on comments or data obtained from Buryatzoloto or High River. Micon offers no opinion on the state of the environment on the property. Statements with respect to environmental considerations are provided for information purposes only and have not been verified by Micon.

The descriptions of geology, mineralization and exploration are taken from reports prepared by or for High River and Buryatzoloto, and from various government publications. The conclusions of this report rely on data available in published and unpublished reports, and information supplied by High River and Buryatzoloto. The information provided to High River and Buryatzoloto was supplied by reputable organizations and Micon has no reason to doubt its validity.

In a number of cases, information has been derived from Russian reports which were translated into English. While Micon does employ qualified translators, inaccuracies related to the translations may arise due to the complexity of the subject matter, language variations and the context of the material being translated.

The maps and tables for this report were reproduced or derived from reports written for High River and Buryatzoloto and the majority of the photographs were taken by one of the authors of this report during the 2007 and 2012 site visits.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 LOCATION AND OWNERSHIP

The Zun-Holba mine is located in the western portion of the Republic of Buryatia within the Okinskiy district, which borders with the Irkutsk Region to the north and west, and Mongolia to the south. The location of the mine is shown in Figure 4.1.

The mine is situated 736 km west of the Buryatian republic capital city of Ulan-Ude, 100 km from the village of Mondy and 150 km from the village of Orlik, which is the district centre. It is located about 2,000 m above sea level. The longitude and latitude for the site are approximately 52°04' N, 100°50' E, respectively.

High River advises that it holds its interest in the Zun-Holba Project through its 85% ownership of the Open Joint Stock Company Buryatzoloto (Buryatzoloto). Buryatzoloto, a Russian company, owns a 100% interest in the Zun-Holba Project and has operated the mine since 1996. Buryatzoloto's head office is located in Ulan-Ude.

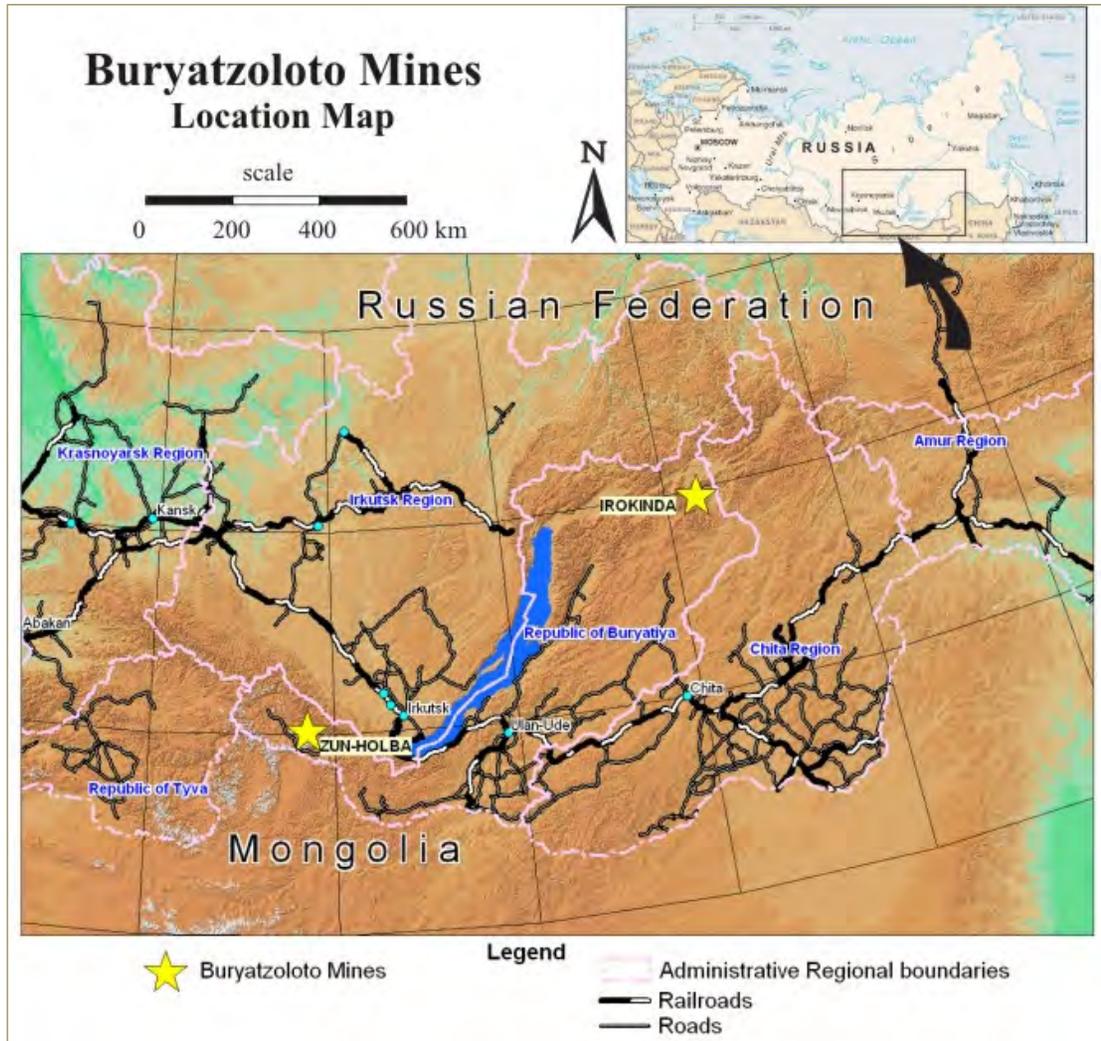
Since the previous Micon 2008 Technical Report was published, Nord Gold N.V. has gained control of High River through its ownership of 75% of the outstanding shares.

4.2 MINING LICENSES

Within the Okinskiy district, Buryatzoloto holds five licenses for the Zun-Holba mine and for portions of the area around it (Figure 4.2). They are as follows:

- Exploitation license UDE 00213 BE of 242.2 ha in area covers the Zun-Holba deposit. The license area has been given the status of a "mining allotment" with a licensed depth for mining from the surface to the 900 m elevation. The license was granted to mine gold and silver at the Zun-Holba deposit and gives the right for any exploration works within the mining allotment. "Reserves" of the central part of the deposit were explored in detail by state organizations until Buryatzoloto received this license.
- Exploration-exploitation license UDE 00419 BR covers 67 km² around the Zun-Holba mine. Initially this license was issued on July 30, 1999 to carry out evaluation and detailed exploration, with simultaneous mining of gold, and covered 306 km². On February 28, 2002, Buryatzoloto initiated a change of the license area to 41.3 km² and finally on July 17, 2003, the company initiated a change of the license area to 67 km².
- Exploration-exploitation license UDE 00231 BR covers 3.1 km² for the Pionerskoye deposit. Prior to receiving of the license by Buryatzoloto, all prior explored reserves were mined. Between 1999 and 2007, a total of 36,181 tonnes containing-563 kg of

Figure 4.1
Zun-Holba Project Location Map



Map originally provided by OJSC Buryatzoloto for the 2007 Micon Technical Report.

Figure 4.2
Zun-Holba Project Mineral Concessions Map

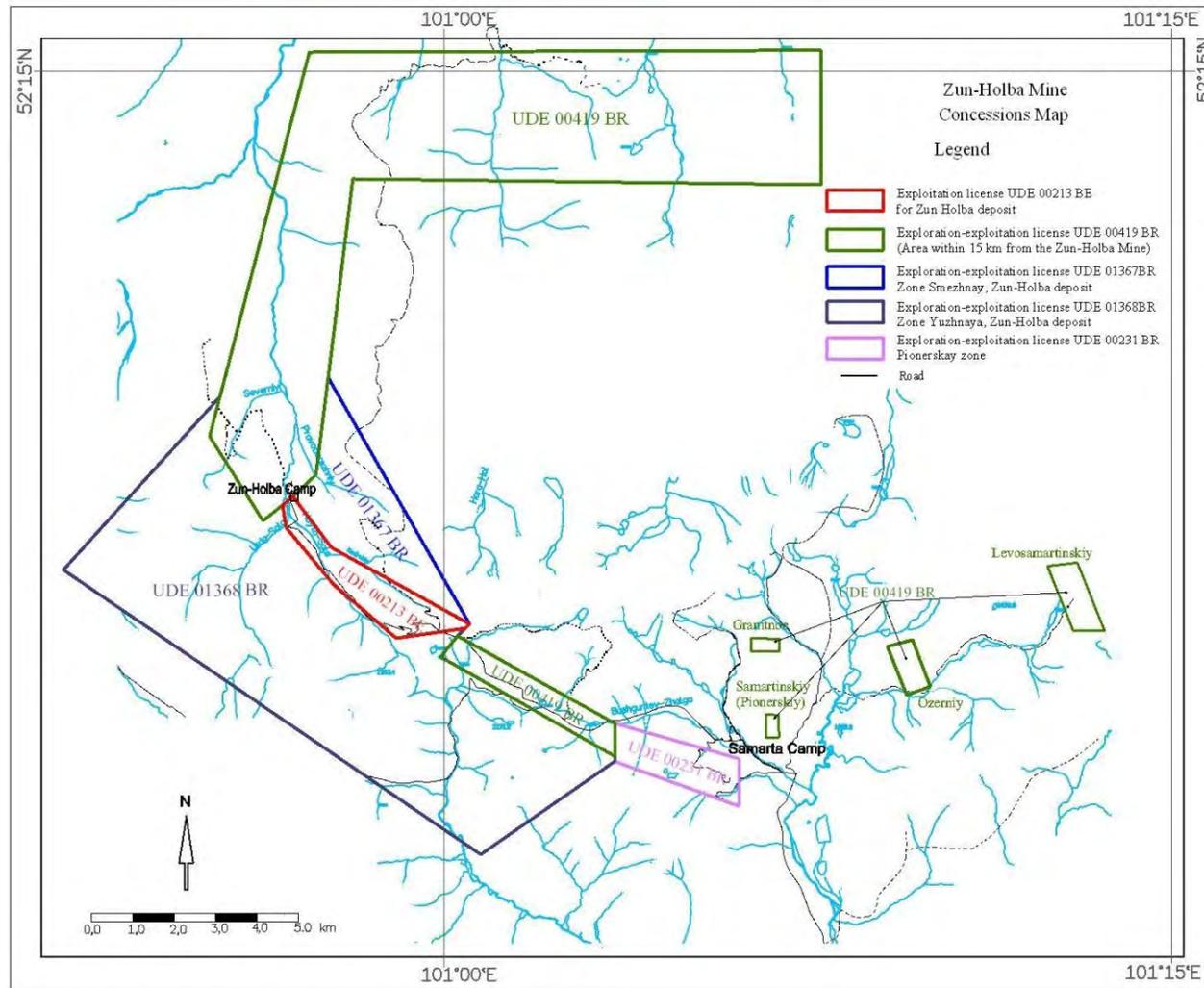


Figure created in June, 2012 by Micon based upon information supplied by OJSC Buryatzoloto.

gold was mined. Within the licensed area, a total of 753.5 m of exploration underground workings was developed.

- Exploration-exploitation license UDE 01367 BR covers 8.0 km² for the Smezhny site. This license was acquired in March, 2011 and Buryatzoloto is in the process of conducting exploration.
- Exploration-exploitation license UDE 01368 BR covers 38.0 km² for the Yuzhny site. This license was also acquired in March, 2011 and Buryatzoloto is in the process of conducting exploration.

The Zun-Holba mine inventory consists of the following deposits: the Zun-Holba deposit (license UDE 00213 BE), the Pionerskoye deposit (license UDE 00231 BR) and the Smezhnoye and Pravoberezhnoye deposits located within license UDE 00419 BR. A summary of the license information is tabulated in Table 4.1 and the coordinates of the corner points are listed in Table 4.2.

4.3 MINERAL RIGHTS

In Russia, the subsoil rights are held by the state; however, since 1993, the right to explore and develop the mineral wealth in the subsoil can be obtained by acquiring licenses through a state auction.

In January, 1991, a state gold mining company Buryatzoloto was founded, containing the following assets: the placer mine (Tsipicanskiy), and the Irokinda and Zun-Holba mines. During the disintegration of the Soviet Union, reformations were conducted, whereby the Tsipicanskiy placer mine became a separate joint stock company, and Buryatzoloto received the exploration-mining licenses for both the Irokinda and Zun-Holba deposits.

Between 1994 and 1995, Buryatzoloto became an open joint stock company and the licenses were reregistered to the company. At that time, 30% of the company shares were acquired by High River, a Canadian gold-mining company, via an open cash auction. By 2005, High River had increased its holdings in Buryatzoloto to 85% of the shares.

There are state topographic maps of 1:100,000, 1:50,000 and 1:25,000 scales issued between 1960 and 1980 which cover the Zun-Holba deposits and adjacent areas. In 1982, the state agency #1 "GUGKa" covered a 9.6 sq. km area with a plane-table survey of 1:2,000 scale which included the Zun-Holba deposit and its surroundings.

Underground surveying has been performed from the start of mining operations at the Zun-Holba deposit and was carried out by the survey service of the Zun-Holba exploration team during 1982-1993. Surveying has been conducted by the Zun-Holba mine survey department since 1993. All surveying was and is done by underground survey traverses of 1;1,000 scale.

Table 4.1
Summary of the License Information for the Zun-Holba Project

License Series	License Number	Type of License	Description	Date License Granted	Date License Expires	License Area	Annual Fees ¹ (Rubles)	Annual Fee (US \$/km ²)
UDE	00213	BE Exploitation	Zun-Holba gold deposit	May 22, 1998	January 11, 2019	242.2 ha	Au – 6% Ag – 6.5% of revenue from the recovered metal.	-----
UDE	00419	BR Exploration/Exploitation	Area within a 15 km radius of the Zun-Holba deposit	July 30, 1999	June 29, 2024	67 km ²	203 Roubles/km ²	\$6.34
UDE	00231	BR Exploration/Exploitation	Pionerskoye gold deposit	July 10, 1999	July 9, 2013 ²	3.1 km ²	203 Roubles/km ²	\$6.34
UDE	01367	BR Exploration/Exploitation	Smezhny site	March 05,2011	March 1, 2031	8.0 km ²	203 Roubles/km ²	\$6.34
UDE	01368	BR Exploration/Exploitation	Yuzhny site	March 05,2011	March 1, 2031	38.0 km ²	203 Roubles/km ²	\$6.34

Note 1: The exchange rate used was 32.00 Russian Roubles equals 1 United States Dollar.

Note 2: Buryatzoloto is in the process of renewing License UDE-00231 for another 5 years.

Table derived from data provided by OJSC Buryatzoloto.

Table 4.2
Corner Point Coordinates for the Zun-Holba Mining and Exploration Licenses

Point Number	License Number	Description	Local X	Local Y	Latitude N	Longitude E
1	UDE 00213 BE	Zun-Holba gold deposit	80400	38500		
2			80300	38400		
3			80060	36725		
4			81350	35215		
5			82730	34065		
6			83750	33900		
7			83610	34240		
8			82250	35160		
9			81915	35750		
1	UDE 00419 BR	Area within a 15 km radius Levosamartinskiy area (=Levosamartinskaya)	53185	81879	52° 08' 40"	101° 14' 16"
4			52462	81797	52° 07' 46"	101° 14' 48"
3			53080	80245	52° 07' 47"	101° 14' 08"
2			53851	80245	52° 08' 38"	101° 13' 38"
5	UDE 00419 BR	Area within a 15 km radius Osernyi area (=Ozerny or Ozernoye)	49205	80023	52° 07' 44"	101° 10' 44"
8			48598	79859	52° 07' 01"	101° 10' 34"
7			49637	78891	52° 07' 07"	101° 11' 05"
6			49065	78692	52° 07' 39"	101° 10' 12"
9	UDE 00419 BR	Area within a 15 km radius Granitnoe (=Granitnoye or Granitniy)	45995	80046	52° 07' 48"	101° 07' 55"
12			45307	80058	52° 07' 49"	101° 07' 19"
11			45307	79743	52° 07' 38"	101° 07' 19"
10			45995	79743	52° 07' 38"	101° 07' 55"
13	UDE 00419 BR	Area within a 15 km radius Samartinskoe	46766	77397	52° 06' 21"	101° 08' 32"
16			46462	77397	52° 06' 22"	101° 08' 16"
15			46462	76837	52° 06' 04"	101° 08' 15"
14			46789	76848	52° 06' 04"	101° 08' 32"
19	UDE 00419 BR	Area within a 15 km radius Pionerskiy	37802	79603	52° 07' 41"	101° 00' 44"
20			38201	80105	52° 07' 57"	101° 01' 06"
17			41980	78032	52° 06' 46"	101° 04' 21"
18			41980	77203	52° 06' 20"	101° 04' 20"
22	UDE 00419 BR	Area within a 15 km radius Holba	33507	82894	52° 09' 31"	100° 57' 03"
23			32211	84913	52° 10' 38"	100° 55' 58"
24			34615	94251	52° 15' 36"	100° 58' 18"
25			39541	94215	52° 15' 26"	101° 09' 10"
26			39238	92243	52° 13' 41"	101° 09' 05"
27			35666	91146	52° 13' 56"	100° 59' 09"
21			34791	84015	52° 10' 06"	100° 58' 12"
1	UDE 00231 BR	Pionerskoye gold deposit (=Pionerskaya)	77080	42000		
2			78000	42000		
3			77145	45000		
4			76000	45000		
1	UDE 01367 BR	Smezhny (=Smezhnyi or Smezhnaya)			52° 11' 53"	100° 58' 03"
2					52° 08' 06"	101° 01' 22"
3					52° 08' 57"	100° 59' 00"
4					52° 09' 09"	100° 58' 29"
5					52° 09' 42"	100° 57' 54"
6					52° 09' 51"	100° 58' 06"
7					52° 11' 21"	100° 57' 46"
1	UDE 01368 BR	Yuzhny (=Yuzhnyi or Yuzhnaya)			52° 10' 13"	100° 55' 41"
2					52° 09' 39"	100° 55' 29"
3					52° 09' 02"	100° 56' 33"
4					52° 09' 28"	100° 57' 31"
5					52° 09' 25"	100° 57' 32"
6					52° 08' 40"	100° 58' 31"
7					52° 07' 57"	100° 59' 48"
8					52° 08' 03"	101° 01' 17"
9					52° 07' 57"	101° 00' 36"
10					52° 07' 30"	101° 00' 36"
11					52° 06' 20"	101° 04' 22"
12					52° 06' 16"	101° 04' 21"
13					52° 05' 06"	101° 01' 28"
14					52° 08' 57"	100° 52' 48"

Table derived from data provided by OJSC Buryatzoloto.

As part of the obligations to maintain the licenses, Buryatzoloto must do the following:

- 1) Submit to the state quarterly and annual statistical forms regarding exploration programs and costs.
- 2) Submit to the state annual statistical forms regarding reserves and mining which include details regarding mining recovery, dilution, reserve conversion, etc.
- 3) Submit to the Buryatnedra agency all information regarding the regular payments for use of the subsoil. Buryatzoloto has advised Micon that it has fulfilled all obligations concerning this information and the subsoil usage payments.
- 4) Observe all obligations with reference to environmental protection. Buryatzoloto has advised Micon that it has fulfilled this obligation and that it is in compliance with the existing environmental regulations.
- 5) Pay the mining tax in accordance with the Russian Federation tax code monthly in the amount of 6% of the revenue from the recovered gold and 6.5% of the revenue from the recovered silver.

4.4 MICON COMMENTS

Micon is unaware of any other outstanding environmental liabilities at the Zun-Holba Project, other than those normally associated with an operating mine in Russia. Micon is unable to comment on any remediation which may have been undertaken by previous companies.

Micon is unaware of any other significant factors or risks that may affect access, title or the right or ability of Buryatzoloto to perform work on the Zun-Holba Property.

Other than those discussed previously, Micon is not aware of any royalties, back-in rights, payments or other agreements and encumbrances which apply to the Zun-Holba Property.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 ACCESSIBILITY AND LOCAL RESOURCES

The Zun-Holba mine site contains the entire mine infrastructure and includes the engineering office and accommodation for the mine personal. The closest settlement to the mine is the village of Samarta which is linked to the village of Mondy via a 100 km long dirt road (covered with gravel). From the village of Mondy, it is 203 km via a paved road to the village of Kultuk at the southern end of Lake Baikal. From Kultuk, a paved highway connects to the cities of Ulan-Ude to the east and Irkutsk to the north. Kultuk is also the nearest station of the Trans-Siberian railway line, where the transfer point for bags of flotation concentrate shipped from the Irokinda mine is located.

Access to the district centre of Orlik with a population of approximately 1,000 inhabitants is available through the village of Mondy via a 50 km long dirt road. The population of the Okinskiy district is approximately 4,500 inhabitants and, as a result, hiring of labour is possible mainly by tapping the resources of other districts of the Republic of Buryatia and the adjacent Irkutsk region.

In terms of economy, the district is poorly developed. Agriculture is also poorly developed with the portion of ploughed land not exceeding 1% of the land area. The traditional agricultural activity is animal breeding (cattle, horse, some sheep) for use as meat.

Ulan-Ude is an old Russian city which dates back over 350 years, and is the current capital and regional centre for Buryatia. Ulan-Ude hosts an international airport with numerous regional flights to other major Russian cities, as well as international destinations.

5.2 PHYSIOGRAPHY

The Zun-Holba deposit lies in a very dissected area of relief in the western part of the Kitoiskie bald peaks. The highest elevation is 3,001.6 m as represented by the Ulan-Sardak mountain, and the lowest elevation is 1,273.6 m located at the mouth of the Hara-Gol river. Relative distances between the highest mountain tops and the river valleys range from 400 to 500 m and up to 800-1,000 m. Slope grades of the mountain ridge of the Kitoiskie bald peaks reach up to 60⁰, and some cases have vertical walls.

The network of rivers within the district is typical of mountainous regions with the largest rivers Urik and Kitoy having continuous year round water flow. During the winter months almost all of the small rivers are completely frozen. During the spring and summer floods, the water level in rivers and lakes typically rises by 1.5 to 2 m. The rivers are usually ice-bound in November and spring break-up occurs in May. There are numerous lakes within the district.

Figure 5.1 is a panoramic view from one point along the road between the village of Mondy and Samarta. Figure 5.2 is a panoramic view of some of the topographic features in the area of Zun-Holba.

The area is situated in a seismically active region with a possible maximum intensity of earthquakes of 9 points according to the GEOFIAN scale. The Alpine-like part of the Zun-Holba property is subject to avalanche hazards.

The vegetation surrounding the Zun-Holba deposit is sparse because of its location within landscapes of mountain tundra, bare rock and rocky riverscapes. The vegetation is composed of larch, cedar (Siberian pine), short cedar, short birch and bushes, along with widespread lichens and mosses.

The wildlife in the area is abundant and consists of elk, Siberian stag, Siberian mountain goat, musk deer, wild boar, bear, wolf, fox, lynx, wolverine, squirrel, sable, ermine, chipmunk and rabbit. There are fresh water fish in the rivers and lakes including grayling, goldilocks and burbot. Biologists have determined that there are more than 150 species of birds in the Okinskiy district.

5.3 CLIMATE

The climate is continental with large daily variations in the temperature. The annual precipitation is 500 millimetres (mm). The annual average temperature is minus 7.4°C with an average temperature in July of plus 15°C and in January of minus 22°C. Winter lasts about 7 months with snow cover formed around the middle of October and melting by the middle or end of May. The thickness of the snow varies from 10 cm to 70 cm. But even at the height of summer at the higher elevations snow can precipitate at any time. Permafrost is pervasive in the area with depths up to 250 to 300 m. Seasonal melting of the permafrost is accompanied by wide development of solifluction in the slopes and the formation of swamps in the upper parts of river valleys.

5.4 INFRASTRUCTURE

Processing of the run-of-mine ore is performed in a gravity-flotation plant, with further processing of flotation concentrate in a carbon-in-pulp (CIP) plant. Industrial water for the mill is completely recycled from the flotation tailings pond. The flotation concentrate is processed in the CIP plant, using cyanide. The CIP plant discharges its tailings directly into its own tailings pond, from which water is recycled to the CIP plant. Excess water of the CIP tailings pond is detoxified and delivered into the mill tailings pond.

In 2008, bulk heap leach tests were conducted, with the test heap leach pad constructed inside the existing tailings storage facility. However, the resulting recovery was considered to be uneconomic and the project was aborted.

Figure 5.1
Panoramic View along the Road between Mondy and Samarta



Photograph derived from the 2007 Micon Technical Report.

Figure 5.2
Panoramic View of the Topography in the Area of the Zun-Holba Mine



Photograph derived from the 2007 Micon Technical Report.

The source of the water supply for the camp of Samarta is underground water derived from capped wells located on the right bank of the Samarta river, while the water supply for the camp located at the mine is derived from drill holes, with a water-intake system located on the right bank of the Zun-Holba river.

In 2002, the European Bank of Reconstruction and Development (EBRD) provided to Buryatzoloto a credit of US\$ 8.1 million for further development of the Zun-Holba mine. With this credit, the company successfully launched an 86 km long 110 kilovolt (kV) power line from Mondy to Samarta. This power line now reliably supplies electricity to the infrastructure of the Zun-Holba mine, as well as two districts of the Republic of Buryatia.

At the Samarta site, emergency electrical supply is provided by eleven power generators with a total capacity of 8,360 kilowatts.

Buryatzoloto advises Micon that the existing tailings area is sufficient for several years of production, with additional areas available for future tailings disposal.

Figure 5.3 is a view of the Zun-Holba camp and mine buildings which are located approximately 18 km from the Samarta site. The Zun-Holba site is the main staging area for the workers conducting the underground mining and extraction operations, while Samarta is the main staging area for the processing operations

Figure 5.3
View of the Zun-Holba Camp and Mine Buildings



Photograph derived from the 2007 Micon Technical Report.

6.0 HISTORY

6.1 GENERAL DISCUSSION

A general outline of the previous exploration and development work conducted on the Zun-Holba property is provided in this section to demonstrate that sufficient work has been conducted to merit the estimation of resources and reserves at the project.

Resource and reserve estimates were prepared for the Project prior to 2007, but they are not discussed in this section. The “reserves” prior to 2007 were estimated using the Russian classification system and they do not comply with the JORC code or current CIM standards and definitions for estimating resources and reserves as required by NI 43-101 “Standards of Disclosure for Mineral Projects.” Therefore, they will not be discussed as part of this report.

The prior estimates have been superseded by later JORC and CIM compliant estimates that have been published in Technical Reports (2007, 2008 and 2012), posted on SEDAR.

6.2 ZUN-HOLBA DEPOSIT OWNERS

Construction of the mine was approved by the State Committee of the Reserves (SCR) of the USSR in 1973, but no mining was carried out between 1973 and 1984. Gradual development of the deposit started in 1986 and full mining and processing operations commenced in 1991.

Prior to 1991, mining operations at the Zun-Holba mine were undertaken by the Artel (co-operator) Sayany of the industrial union Zabaikalzoloto which is located in the city of Chita.

In January, 1991, a state gold mining company (Buryatzoloto) was founded with its assets comprised of a placer mine (Tsipicanskiy) and both the Zun-Hoba and Irokinda mines.

During the disintegration of the USSR, reformation occurred, which lead to the Tsipicanskiy placer mine becoming a joint stock company and Buryatzoloto receiving exploration-mining licenses for the Irokinda and Zun-Holba deposits.

Prior to 1995, all exploration and mining works on the Zun-Holba property were conducted by state organizations; however, between 1994 and 1995 Buryatzoloto became an open joint stock company and the licenses were reregistered to the company. At that time 30% of the company shares were acquired by High River through an open cash auction. By 2005, High River had acquired 85% of Buryatzoloto’s stock.

With the inception of Buryatzoloto, the period of active development began with production growth targeted, as well as implementation of a development program that allowed the company to create a modern efficient operation at the mine and improve the social conditions for its staff.

6.3 HISTORICAL EXPLORATION

Gold in the Zun-Holba area was discovered in 1955 by geologists of the State Ilchirskaya expedition of the trust Soyuzgeolasbest. Between 1956 and 1959, evaluation work was carried out, after which full scale exploration programs were conducted between 1959 and 1993.

During the first stage of exploration between 1956 and 1959, the mineralized zones Sulphidnoye, Dorzhy-Banzarovskoye, Severnoye-1, -2, Dorozhnoye-1, -2, -3, -4 and Parallelnoye were discovered. Between 1974 and 1976, the Vavilovskoye mineralized zone was found and, by 1991, all the currently known mineralized zones had been discovered.

6.3.1 1982 to 1993 Detailed Exploration by the State Geological Association Buryatgeologia

Between 1982 and 1993, detailed exploration was conducted by the Zun-Holba exploration team of the Okinskaya expedition of the State Industrial Geological Association Buryatgeologia.

During the detailed exploration program at the Zun-Holba deposit, exploration drifts to trace mineralization were developed 50 to 100 m apart, vertically. In addition, a total of 1,006 drill holes including 326 surface and 680 underground holes were drilled. Between surface and the #11 adit level, the drilling grid varies from 20 x 20 m to 50 x 50 m; between the adit #11 and adit # 12 levels, the drilling grid was from 40 x 40 m to 40 x 60 m and, below the adit #12 level, the grid was 20 to 30 m x 40 to 160 m. The main core diameters were 59 mm and 76 mm with an average core recovery of 84%. A summary of the main work conducted during the detailed exploration programs between 1982 and 1993 is provided in Table 6.1.

Table 6.1
Summary of the Work Conducted from 1982 and 1993 during the Detailed Exploration Programs

Type of Work	Unit	1982 to 1993 Exploration
Excavation; mining	m	42,285
Trenches	m ³	192,848
Host rock drifts	m	6,413
Exploration drifts	m	13,247
Raises	m	3,751
Cross-cuts	m	18,573
Drilling	m	174,539
Sampling		
Channel	Number of samples	93,352
Core	Number of samples	60,940
Metallurgical	Number of samples	20
Bulk sampling	Number of samples	53
Soil sampling	Number of samples	26,499

Table derived from data provided by OJSC Buryatzoloto.

The continuity of the mineralized bodies down dip was confirmed by 50 m and 100 m long raises 40 to 60 m apart along the strike of the mineralization in the levels above adit #5, and 100 to 150 m apart at the adits #8 and #12 levels.

Analysis of the exploration grid density and geometry demonstrated that, for an exploration grid with a spacing of up to 40 m, the maximum values of bias did not exceed 3 to 4% for the thickness, 10 to 11% for the grade and 20 to 21% for the metrogram (grade x thickness). The reliability of the drilling was checked by using raises developed along the profiles of the trial drill holes, as well as by estimating the thickness and grade separately for the drill holes and the raises. As a result of mining, it was determined that drill holes understated the thickness by 23%, the gold grade by 26% and silver grade by 28%.

A variety of sampling methods were used, including channel, core, bulk and metallurgical samplings. The cross-section of channel samples was 5 x 10 cm. The channel sampling was continuous with sample lengths varying from 0.1 m to 1 m (maximum length of sample did not exceed 1 m).

Core sampling was conducted in all of the exploration drill holes with the entire core containing the mineralized intersection sent for assaying during the sampling process and no core retained as reference. The core sample length ranged from 0.1 to 2.0 m depending on the width of the mineralized intersections.

Down-hole geophysical surveys were conducted simultaneously with the detailed exploration drilling to identify the inclination of the drill holes, to identify the lithological (rock) sequence and the depth of the quartz-sulphide mineralized bodies, to study the continuity and morphology of the mineralized bodies, and to determine the deposit structure. The geophysical surveys were also used in the “reserve” estimation to determine an in situ density using the gamma-method.

A total of 18 laboratory and 2 bulk samples were used for metallurgical testing of the mineralization. The laboratory samples were tested at the laboratories of Buryatgeologia in the city of Ulan-Ude, Central Scientific Research Exploration Institute (CSIGRI) in the city of Moscow, Irkutsk Scientific Research Institute of Noble Metals and Diamonds (IrGIRM) in the city of Irkutsk and the TransBaikalia Scientific Research Institute ZabSII in the city of Chita. The bulk samples were tested at the Baleiskaya pilot plant. The scope of sampling and analytical work was enough to conduct a comprehensive evaluation of the deposit.

Analyses of samples for gold and silver were done using the fire assay method at the laboratory of the Okinskaya expedition until 1985 and then at the central laboratory of Buryatgeologia. The State Committee of Reserves (SCR) of the Russian Federation recognized the assays as reasonable and acceptable (minutes #71 as of 24.07.92 and #432-dsp as of 11.07.1997).

6.3.2 1993 to First Quarter 2012 Exploration by Buryatzoloto

Prior to 1999, Buryatzoloto conducted no exploration programs on the deposit and in the surrounding area. The main scope of the exploration programs completed between 1999 and the first quarter of 2012 by Buryatzoloto and the resulting “reserve” additions as a result of the exploration are summarized in Table 6.2.

Table 6.2
Summary of the Exploration Programs Conducted from 1993 to 2011 by Buryatzoloto

Year	Scope of the Exploration Programs					Additional “Reserves” (C ₂)*		Actual Cost (1,000 Roubles)
	Drifting (linear m)	Surface Drilling (m)	Underground Drilling (m)	Trenches (m ³)	Mapping (km ²)	Ore (1,000 t)	Contained Gold (kg)	
1993 to 1998	No exploration programs							
1999	1,240.3	2,331.7	-----	987	27.7	46.8	973.7	20,812
2000	3,560	12,904.1	350	30,847	43.6	-114	-478.9	64,400
2001	503	-----	11,413	21,394	26	2.5	66	33,795
2002	-----	12,865.8	10,389.4	15,232	19.8	83.8	2,002.8	52,100
2003	42	7,446.1	17,165.9	17,448	25	217	3,744	46,870
2004	-----	3,292	-----	-----	3	2.7	65.0	22,266
2005	64	-----	7,736	-----	-----	37	590	12,790
2006	124.9	-----	2,755	-----	-----	-----	-----	8,955
2007	1,092	-----	3,003	34,372	-----	194	1,506	39,697
2008	1,311	476.0	30,728.1	5,927.0	-----	237	1,814.6	69,621
2009	743	-----	19,701.8	-----	-----	43	676	60,502
2010	627	21,210.4	37,052.1	-----	-----	196	2,077.7	194,320
2011	632	26,639.5	39,710.4	-----	47	479	3,254.3	295,292
2012 (First Quarter only)	-----	6,990.7	15,112.5	-----	-----	-----	-----	-----
Total	9,939.20	87,165.60	180,004.70	126,207.00	192.10	1,424.80	12,783.91	921,420.00

*“Reserves” approved by the state authorities.

Table derived from data provided by OJSC Buryatzoloto.

6.3.2.1 Exploration within License UDE 00213 BE (Zun-Holba Deposit)

Since 1999, exploration programs have converted some of the “reserves” in the Babkina mineralized zone from category C₂ into category C₁ and continued to develop the #8 adit level. In 2000, development continued on the Babkina mineralized zone with development on the #8 adit level, 1790 m level, # 12 adit level and raises. Cross-cut #18 for drilling, and a drift and raises on the Severnoye-3 mineralized zone, were developed from the #12 adit level.

Since 2000, Buryatzoloto has conducted drilling programs to evaluate the lower levels of the Zun-Holba deposit between the 1690 m and 1290 m levels. One of the features of the drilling programs has been to drill a fan of holes from each drill chamber.

During the first stage of the exploration program between 2000 and 2001, 22 drill holes totalling 11,763 m from 6 drill stations on the #12 adit level were drilled into the mineralized bodies of the Severnoye-3, Severnoye-1, Vavilovskoye-1, Sulphidnoye-1 and Babkina zones. The drilling was done along nine sectional lines following a grid pattern consisting of 200 m along strike and 100 m down dip on the mineralized zones. The drilling results identified the presence of gold mineralization at the lower levels which could be estimated as prognostic resources of P₁ category (Russian classification system).

Between 2002 and 2003, the grid pattern of drilling on the mineralized bodies of the Severnoye-1, 2, Vavilovskoye-1,3, Sulphidnoye 1,2 and Babkina zones was reduced between the 1690 m and 1400 m levels. The spacing between holes was 80 m along strike and 50 m down dip. A total of 82 drill holes totalling 27,555 m were drilled. A total of 6,824 kg of contained gold was added to the mineralized zones Sulphidnoye, Vavilovskoye and Severnoye-1, -2.

All holes were drilled to depths which varied from 288.2 m (drill hole CG-1) to 757.69 m (drill hole CG-7) using a Delta-Base-630M-HS drill rig. The drilling diameter was 76 mm (NQ) with the core recovery of mineralized sections ranging from 98 to 99%. Down-hole orientation surveys were conducted in all drill holes.

During mining operations, Buryatzoloto is continuously carrying out definition drilling on the state approved “reserves”. From 2003 to December 31, 2011, a total of 4,635.9 linear m of underground workings were developed in order to prepare drilling stations, and 1,389 definition holes were drilled from these stations. The drilling was conducted on the mineralized zones Severnoye-2, Severnoye-1, Vavilovskoye-1, Vavilovskoye-3, Sulphidnoye-1, Sulphidnoye-2 between the 1740 m and 1390 m levels, on the Severnoye-3 mineralized zone between the 1890 (adit 16) m and 1690 m levels and on the Dalnee zone. The drilling followed a grid pattern of 40 m spacing along strike and 50 m down dip, followed by infill drilling 20 m along strike and 17 m down dip. The grid allowed the mine to classify the “reserves” as indicated and to include them in the mine plan. In 2005, during the drilling on the Severnoye-1 mineralized zone between the 1540 and 1420 m levels, the Dalnee mineralized zone was discovered 18 to 30 m southwest of the Severnoye-1 zone. A total of 1,394.7 m was drilled on the Dalnee zone using a 20 m x 20 m grid spacing and the zone was estimated to contain 486 kg of gold which was classified as C₂ category material according to the Russian classification system.

In 2011, at Severnoye-3, a total of 8,347.4 m was drilled using 20 m x 20 m grid spacing and the zone was estimated to contain approximately 2,400 kg of gold which was classified as C₂ category.

Since 2003, the Zun-Holba mine has been working to convert the “reserves” of the lower levels from the Russian classification into CIM compliant mineral resource and mineral reserve estimates. The work has included a sequential conversion of resources into reserves by drilling on a closer spaced grid. These works are as follows:

- Evaluation of Russian P₁ category (prognostic) “reserves” so that they are equivalent to the CIM inferred category. This work has been conducted between the 1740 m and 1290 m levels from the Listvenitovoye zone to the Babkina zone (along the deposit strike).
- Conversion of the P₁ category (inferred) “reserves” of the mineralized zones Severnoye-3, Severnoye-2, Severnoye-1, Vavilovskoye, Sulphidnoye and Babkina between the 1690 m and 1290 m levels into “reserves” of the Russian C₂ category,

which can then be classified into the indicated resource category according to the CIM classification.

- Conversion of the C₂ category “reserves” into “reserves” of the Russian C₁ category, which can then be classified into the CIM probable or proven categories. This work occurred between the 1690 m and 1390 m levels from the Severnoye-2 zone to the Babkina zone.

6.3.2.2 Exploration Within License UDE 00419 BR (Adjacent Areas)

Between 1999 and 2007, within concession UDE 00419 BR, a number of exploration programs were conducted, including:

- Soil sampling and traverses following a 100 x 20 m grid covering an area of 145 km².
- 85,908 m³ of trenching.
- 38,840 m of surface drilling on promising folded structures and faults.

The total scope of the exploration done within the concession UDE 00419 BR is summarized in Table 6.2, included previously.

As a result of these exploration programs, the extent of the Dalnaya zone was determined. Drilling on the zone revealed that carbonate-siliceous rocks hosted lens-like quartz and sericite-carbonate-quartz bodies containing sulphide mineralization. The zone has an average gold grade of 10 g/t and a thickness of 0.8 m. The Dalnaya zone was evaluated for prognostic resources of the P₁ category in the amount of 533,000 t, containing 5,000 kg of gold with a density for the mineralized portion of 2.7 t/m³. The Dalnaya zone has a gold-silver ratio of 3-4:1 whereas the gold-silver ratio for the Zun-Holba deposit is 1:1 at the lower levels. It is believed that the Dalnaya zone is part of the roots of the mineralized structure at Zun-Holba. Based on the exploration programs and their results, geological maps with a scale of 1:10,000 covering a 177 km² area were created.

In 2008 and 2009, no surface exploration was performed within the license area.

In 2010 and 2011, 21 holes were drilled at a 80 m x 80 m spacing on the Dalnaya zone. The P₁ “resources” were estimated and reduced to 500 kg. On the Smezhnaya zone, 4 holes intersected 1.5 to 2 m of mineralization, with grades less than 1 g/t.

6.3.2.3 Exploration Within License UDE 00231 BR (Pionerskoye deposit)

The Nadezhda and Fooksitovaya veins, within the Nadezhda (Zolotoy) target located on the southeastern flank of the Pionerskoye deposit, were covered with an exploration program at a 1: 2,000 scale. Numerous quartz-pyrite veins hosted by shear zones within a granitic-gneiss were discovered in 1958. However, most of the veins were poorly explored, in spite of high gold grades in some rock-chip and channel samples. In 1966, the Pionerskaya exploration team carried out exploration programs on the target to evaluate the Fooksitovaya and

Nadezhda veins, which are located in a fracture zone and have a significant amount of sulphide mineralization and strike length.

In 2003, the Samartinskaya team of the Buryatzolotorazvedka expedition drilled 16 holes from three drill stations. Three gold-bearing zones were discovered:

- 1) The first zone includes the Nadezhda vein. The vein was encountered in drill hole C-101 where the vein exhibited a true thickness of 0.21 m with a gold grade of 2.8 g/t. Drill hole C-113 also intersected the vein which graded 10.8 g/t gold over 0.62 m. The vein was also stripped on surface by trench #51 which encountered a mineralized intersection with an average gold grade of 58.3 g/t over 0.24 m. From this trench, the vein was cut with drill hole C-116 which intersected 0.4 m grading 17.5 g/t gold. A further three holes intersected the vein with thicknesses of 0.06 m, 0.05 m, 0.11 m, respectively, but the fire assays did not return any gold grades.
- 2) The second zone (Zone-1), which is up to 2 m thick, was cut by eleven drill holes and is represented by a set of thinly separated quartz veinlets with the thickness varying from 0.03 m to 0.33 m and grades from 0.1 g/t to 31.2 g/t gold.
- 3) The third zone (Zone-2), with an average thickness of 8.51 m, is located north of Zone-1. Zone-2 was intersected by drill holes in the subsurface portion and is represented by quartz-sulphide veinlets. The veinlets have thicknesses varying from 0.03 m to 0.05 m and the number of veinlets per metre of core is not more than one. Based on the spectrometric results, the host rocks filling the space between the veinlets do not contain any gold grades. The average gold grade for the rock mass is 0.9 g/t gold.

In 2004, Zun-Holba mine personnel excavated trench # 2 across the strike of Zone-2. The trench exposed a zone of weakly altered, berezitized granite-gneiss containing rare quartz veinlets. The trench bottom was sampled by a 14 m long continuous channel consisting of one metre samples. Twelve samples intersected a mineralized interval with fire assays for the interval varying from 0.7 g/t to 14.6 g/t gold and averaging 2.63 g/t gold.

A 28 m long trench # 3 was excavated along the strike of the Nadezhda vein and sampled by cross channel samples located 3 to 5 m apart. The average thickness of the sampled part of the vein is 0.51 m and average gold grade is 23.7 g/t.

In 2004, an additional exploration program on the Pionerskoye gold deposit (Nadezhda vein) was designed and approved, comprising:

- 1) A 105 m long adit # 1.
- 2) 114 m of cross-cuts.
- 3) Development of the adit # 2 portal (2147 m level).

The Nadezhda vein was traced on the 2200 m level over the entire length of the adit and was represented by a vein-veinlets zone. At the junction of adit # 1 and cross-cut # 1/1, a 7.0 m wide vein-veinlet zone with berezization and silicification alteration, containing a gold grade of 5.3 g/t, was identified. A 4.22 m wide vein-veinlet zone with gold grade of 8.0 g/t was located at the 17 m point of cross-cut # 1/1 and this interval ties into a mineralized interval within trench # 12 (2.63 g/t gold over 12.0 m).

The data obtained on the vein zones at the Nadezhda target allowed the Zun-Holba exploration team to estimate that, according to the Russian classification of “reserves”, up to 800 kg of contained gold were located within the low grade gold mineralization and that this could be classified as P (prognostic) “reserves”.

The exploration team at Zun-Holba is continuing to outline further veins with its 2012 surface exploration programs, and further programs are being planned for the following years.

6.4 HISTORICAL AND CURRENT MINING AND PRODUCTION

6.4.1 Mining History

Mining operations at the Zun-Holba deposit have been undertaken since 1964. During the first stage between 1964 and 1966, the Pionerskiy mine worked on the Sulphidnoye mineralized zone between the adit #2 (2260.8 m) and adit #4 (2115 m) levels and on the Dorzhi-Banzarovskoye mineralized zone between the adit #1 (2257 m) and adit #3 (2114 m) levels. From 1964 to 1966, a total of 9,938 t of ore containing 234.5 kg of gold was mined.

Regular mining operations, along with parallel exploration programs, started in 1987 on the upper levels by the Artel Sayany, and by the middle of 1991, a total of 141,000 t of ore had been milled and a total of 1,647.5 kg of gold has been produced. The Artel worked on the mineralized zones Sulphidnoye, Sulphidnoye-1, Dorzhy-Banzarovskoye, Vavilovskoy-1 and Severnoye-2.

Since Buryatzoloto started working on the deposit in 1991, the company has continued to develop the mineralized zones Sulphidnoye, Sulphidnoye-1, Dorzhy-Bansarovskoye, Vavilovskoye-1 and Severnoye-2. Between 1997 and 1999, the Severnoye-1, -3 and -4, Babkina and Listvenitovoye mineralized zones were brought into the mining and production sequence at Zun-Holba.

The Pionerskoye deposit was included in the underground mining operation from 1998 to the completion of mining in 2006. Between 1998 and 2006, a total of 36,000 t of ore containing 563 kg of gold was mined from the Pionerskoye deposit.

Between 1991 and to the first quarter of 2012, Buryatzoloto mined a total of 4,728,038 t of ore containing 50,838 kg of gold. In addition, from 1991 to 2007, Buryatzoloto processed 4,775,011 t of ore and recovered 37,744 ounces of gold in doré.

In 2011, Buryatzoloto mined a total of 339,910 t of ore at an average grade of 7.5 g/t gold for a total of 2,543.5 kg of gold. In the first quarter of 2012, Buryatzoloto mined a total of 116,563 t of ore at an average grade of 6.4 g/t gold for a total of 745.7 kg of gold.

The yearly run-of-mine and processed ore from 1987 to the first quarter of 2012 is summarized in Table 6.3.

Table 6.3
Summary of the Yearly Run-of-Mine and Processed Ore from 1987 to 2012 (First Quarter)

Year	Run-of-Mine Ore			Ore Processed		
	Tonnes	Average Gold Grade (g/t)	Contained Gold (kg)	Tonnes	Recovered Gold, (kg)	
					In Doré*	Refined Gold
1987	975	4.6	9.0	7,975	No Data	72.6
1988	19,007	6.7	126.7	16,492	No Data	130.1
1989	37,396	5.2	195.1	42,226	No Data	192.7
1990	44,508	9.7	432.6	48,640	453.88	329.0
Total 1987 to 1990	101,886	7.5	763.4	115,333	453.88	724.4
1991	72,345	8.7	628.4	69,884	575.96	514.5
1992	94,973	9.9	946.2	98,318	849.8	680.7
1993	153,850	9.0	1,384.7	114,465	837.4	777.0
1994	182,924	8.6	1,598.6	168,815	1,171.0	1,072.2
1995	151,984	9.7	1,547.9	193,035	1,225.0	1,123.1
1996	192,692	8.6	2,105.2	207,678	1,636.8	1,520.5
1997	200,820	13.1	2,638.7	203,421	1,908.8	1,777.3
1998	190,858	15.4	2,937.2	203,421	2,079.4	1,960.9
1999	216,021	13.5	2,921.2	215,502	2,082.3	2,021.7
2000	225,528	12.8	2,881.6	220,646	2,270.0	2,202.1
2001	222,232	12.2	2,718.2	230,796	2,224.1	2,166.2
2002	232,439	11.8	2,734.5	227,366	2,182.3	2,133.9
2003	229,200	12.0	2,758.3	229,332	2,062.3	2,030.0
2004	235,540	11.6	2,740.7	225,208	2,025.4	2,022.2
2005	247,974	11.2	2,787.8	240,958	2,221.0	2,172.4
2006	252,391	11.0	2,785.7	245,655	2,220.4	2,180.6
2007	266,437	10.1	2,680.6	259,574	2,302.7	2,160.9
2008	285,684	9.6	2,733.9	271,948	2,258.3	2,163.2
2009	292,929	10.9	3,189.5	315,777	2,549.6	2,291.6
2010	324,744	8.7	2,830.3	347,742	2,251.9	2,037.1
2011	339,910	7.5	2,543.5	368,489	2,292.4	2,108
2012 First Quarter	116,563	6.4	745.7	116,981	689.4	627.7
Total 1991 to 2012 First Quarter	4,728,038	10.8	50,838	4,775,011	39,916	37,744
Total	4,829,924	10.7	51,602	4,890,344	40,370	38,468

*Note: Limited to data post 1990.

Table derived from data provided by OJSC Buryatzoloto.

6.4.2 Historical Mining Method

For the Pionerskiy mine operation (1998 to 2006), a room-and-pillar mining method was employed with the rooms located progressively upwards (bottom-up method). This method applicable to long shallow dipping mineralized bodies where there are conditions of stable host rocks and mineralization. The rooms had a length of up to 8 m. Ore was broken using short blast holes and hand held drilling machines. The broken ore was removed using slushers into a sublevel drift. Ground support was provided by using temporary pillars and, in some places, wooden posts.

Artel Sayany used a shrinkage stoping method at the Zun-Holba mine. Ore was drilled and broken using short holes and hand held drilling machines and removed by slushers. Between 1987 and 1991, the Artel developed drifts located in the host rocks, renewed drifts situated within the mineralization located on the adit 1, 2, 3, 4, 5, 11 levels which had filled in with ice, and developed raises 40 to 50 m apart along the strike of the mineralized zones Sulphidnoye, Sulphidnoye-1, Dorzhy-Banzarovskoye, Vavilovskoye-1 and Severnoye-2. The Artel additionally developed adits # 4 bis and # 5 bis with both ore and waste rock drifts, raises 40 m to 50 m apart and cross-cuts to expose the mineralized zones for their entire thickness.

6.5 PRE 2007 “RUSSIAN” RESOURCE AND RESERVE ESTIMATES

Prior to Micon’s 2007 Technical Report, all “reserve” estimates for the Zun-Holba mine were completed using the Russian classification system. All mining projects within the Russian Federation use the state-approved classification system and all reserve estimates must be approved by the state prior to any mining occurring.

Since the “reserve” estimates prior to 2007 were conducted according to the Russian classification system, they do not comply with the JORC code or CIM standards and definitions for estimating mineral resources and mineral reserves and they will not be discussed in this report. These estimates have been superseded by later JORC and CIM compliant estimates that have been published in Technical Reports (2007, 2008 and 2012) which have been posted on SEDAR.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

The Zun-Holba deposit is located within a caledonide system of the Eastern Sayan within the northeastern peripheral part of the Garganskaya dome which comprises the core of the sublatlateral Gargan-Butugolskiy anticlinorium. From a structural point of view, the deposit is positioned within the zone of the Samarta-Holbinskaya intradome syncline and is subconformable to the Holbiskaya zone of faults that intersects the intradome syncline zone. Metallogenically, the deposit is included in the Holbinskoye mineralized area of the Urik-Kitoiskaya mineralized zone of the Garganskiy gold district.

7.1 REGIONAL GEOLOGY OF THE HOLBINSKOYE MINERALIZED AREA

The Holbinskoye mineralized area includes the Zun-Holba and Baroon-Holba gold deposits, along with a number of occurrences such as the Smezhnoye, Pravoberezhnoye, etc.

The geological setting of the Holbinskoye mineralized area is composed of the following:

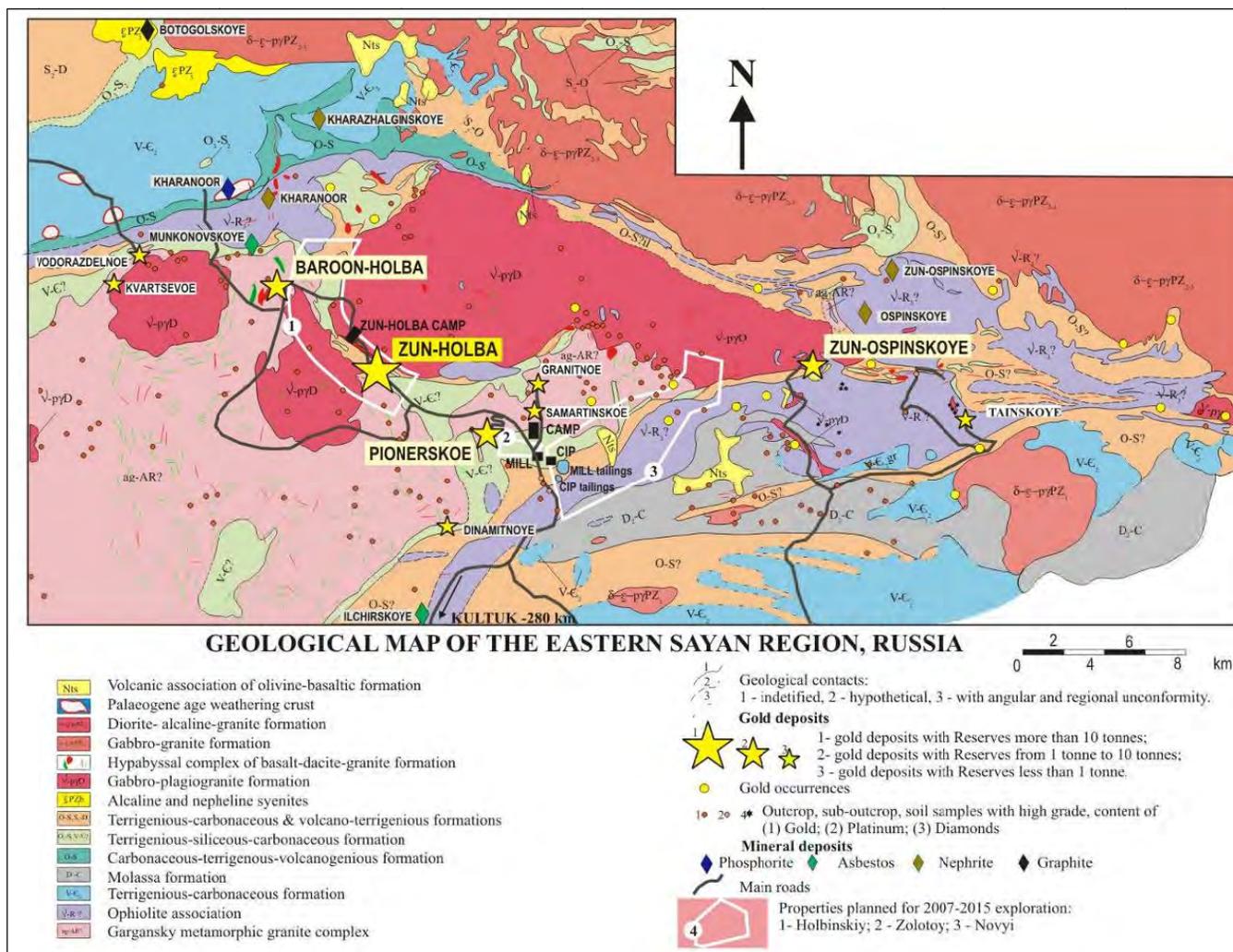
- 1) Archean-lower Proterozoic metamorphosed rocks of the Garganskaya dome basement.
- 2) Vend-Cambrian schist-carbonate rocks as the dome cover.
- 3) Riphean-Vend ophiolite association as a tectonic cover.
- 4) Baroon-Holba volcano-plutonic complex as a paleovolcanic structure.
- 5) Intrusions of the Sumsunurskiy complex of lower-middle Paleozoic plagiogranite.
- 6) Holbinskaya faults zone.

See Figure 7.1 for a map of the regional geology in the area surrounding the Zun-Holba mine.

7.1.1 Garganskiy Metamorphosed Complex (Garganskaya Dome Basement Complex)

The Garganskaya dome basement complex occurs in the southern part of the Holbinskoye mineralized area and is represented by three gneissogranite domes: the Samartinskiy, Ulzytinskiy and Garganskiy domes. The domes consist of polymetamorphosed crystal rocks which are mainly Archean-lower Proterozoic gneissogranites and gneissogranodiorites. The domes are 5 to 20 km in diameter and are often ellipse-like in form with their contacts dipping towards the host rocks at an angle of 50° to 80°, rarely vertical and extremely rarely in contact with another dome. The contact surface between the gneissogranite domes and the host rocks of the Riphean schist-carbonate complex is semi-conformable. Geological data obtained from various expeditions and exploration programs suggest that the domes intruded in a semi-rigid state into the plastic Riphean-lower Proterozoic schist-carbonate host rocks.

Figure 7.1
Regional Geology of the Zun-Holba Mine Project



Map provided by OJSC Buryatzoloto and first published in the 2007 Micon Technical Report.

Thick shear and crumple zones which press the corners and edges of the relatively rigid blocks are the boundaries of the domes. Based on potassium-argon ratio, they have an absolute age of 870 to 460 Ma that corresponds with the time of the caledonides of the region.

7.1.2 Vend-Silurian Schist-Carbonate Complex

The Vend-Silurian schist-carbonate complex covers the Garganskaya dome and lies unconformably on the basement complex with both angular and stratigraphic discordance. The complex includes the Vend-Cambrian Irkutnay suite of terrigenous-siliceous-carbonate rocks and the Ordovician-Silurian Ilchirskaya rock package of volcanogenic-terrigenous rocks.

Within the Holbinskoye mineralized area, rocks of the complex fill the Samarta-Holbinskaya intradome syncline zone and underlie the ophiolite tectonic cover. The Samarta-Holbinskaya intradome syncline zone splits the Samartinskiy, Ulzytinskiy and Garganskiy gneissogranite domes. Siliceous-carbonate and volcanogenic-sedimentary rocks of the Irkutnaya suite and Ilchirskaya suite filling the intradome zone occur at shallow dip angles (5 to 10° up to 30°) and are usually monoclinical. The rock structure becomes complicated within the internal part of the intradome zone and within the axis zone where the rocks are folded into narrow disharmonic folds that are very complicated in morphology, and often with pinched wings and removed crown. The intradome syncline zones are the main structures controlling the distribution of the gold mineralization within the Garganskaya dome. At the same time, most of the discovered deposits and occurrences are located within the Samarta-Holbinskaya intradome zone. The Zun-Holba deposit is situated within the axis zone of the structure, with the Baroon-Holba deposit at the northwestern flank and the Pionerskoye deposit at the southeastern flank.

7.1.3 Ophiolite Association of Rocks (Tectonic Cover)

Towards the south and north of the Holbinskoye mineralized area beyond the gneissogranite domes there are ophiolites which have been being traced around the Garganskaya dome over tens of km. The southern boundary of hyperbasites is a natural northern boundary of the mineralized area. The ophiolite association includes the Ilchirskiy complex of intrusive hyperbasites, a volcano-plutonic rock package consisting of pillow lava and siliceous schists. Rocks of the ophiolite association occur as a sheet like body of the tectonic cover with a mélangé at its basement, and underlying rocks of the Ilchirskaya rock package plunge to the south and north from the Garganskaya dome and make wings of these structures.

7.1.4 Baroon-Holbiskiy Volcano-Plutonic Complex

Intrusive and effusive gabbros (basalt) within the mineralized area belong to the Baroon-Holbiskiy volcano-plutonic complex. These rocks form a fragment of a paleovolcanic structure located at the dividing ridge of the Zun-Holba and the Baroon-Holba rivers which is partly destroyed and metamorphosed by granitoids of the Sumsunurskiy

massif. The Baroon-Holbinskiy complex also includes numerous dykes of phyoritic diabase with chlorite at the Baroon-Holba deposit and they also occur in gneissogranite of the basement complex. At the Zun-Holba deposit, dykes of phyoritic diabase of the Verblud (Camel) mountain are referred to as part of this complex.

Within the complex, it has been determined that there are amphibolized gabbro, gabbro-diabase and diabase porphyrite, as well as small size bodies and lenses of pyroxenite and serpentinite. From their chemical composition, the rocks are classified as high basic ones close to gabbroids of the ophiolite association. The relative age of upper Riphean-Vend rocks of the complex is determined due to the close connection with the Ilchirskaya suite rocks.

7.1.5 Sumsunurskiy Intrusive Complex

Within the Sumsunurskiy intrusive complex, two phases of intrusions are defined. The first phase is composed of gabbro, gabbro-diorite, pyroxene diorite, pyroxenite and hornblendite. These rocks occur as small sized bodies located at the southwestern part of the massif, at the edge of the zone.

The second phase is represented by plagiogranite, tonalite, biotite and biotite-amphibole granodiorite, diorite, quartz diorite and leucocratic plagiogranite. The rocks of the second phase compose the main volume of the Ambartogolskiy massif.

Granitoid massifs of the Sumsunurskiy complex are situated at the northwestern and northern parts of the Garganskaya dome and along the contact of different age rocks of the region such as the schist-carbonate cover of the dome and the ophiolite association. Within the Holbinskiy mineralized area, there are the Ambartogolskiy massif of 300 km² in area, the Sumsunurskiy massif of 60 km² in area and the Urikskiy massif of 100 km² in area. The last one bounds the mineralized area to the east. The Garganskiy massif of 100 km² in area is situated beyond the mineralized area.

The age of granitoids of the Sumsunurskiy complex is 400 to 420 Ma. These rocks are considered to be a source of the heat which led to formation and movement of fluids, and to the mobilization and reprecipitation of gold.

7.1.6 Holbinskaya Fault Zone

The Holbinskaya fault zone represents a set of lensed and branched subparallel northwest trending faults which intersect the Samarta-Holbinskaya syncline intradome zone along the axis plane. Faults in schists and carbonate rocks of the dome cover are steeply dipping shear zones of 10 to 30 m thick. The gneissogranite basement rocks of the intradome structure are represented by shear, mylonitization and fracture zones of up to 400 m in thickness, that are accompanied by berezitation, silicification and sulphidization of the substratum.

The morphology of the Holbinskaya fault zone is characterized as a viscous fault with matter flow under conditions of rigid blocks. The formation of the zone is connected to the final movements of the gneissogranite domes and a change from plastic deformation into brittle deformation. The completion of the zone's formation is connected to a renewal of zones during the post intrusive stage of the Sumsunurskiy complex granite massif formation. Some of the faults of the Holbiskaya fault zone are mineralized, as is the case of the mineralized zones of the Zun-Holba, Baroon-Holba and Pionerskoye deposits.

7.2 ZUN-HOLBA MINE PROJECT GEOLOGY

The structure of the Zun-Holba mine property is characterized by a narrow anticline of the metamorphosed basement rocks which occurs on the Verblud (Camel) mountain. Wings of the anticline are composed of the cover rocks which are silicified limestones and dolomite of the Irkutnaya suite, and volcanogenic-terrigenous rocks of the Ilchirskaya package. The structure has a northwest strike and stretches over 7 km in length within the deposit limits. The northwestern closing of the anticline is veiled by granitoids of the Ambartogolskaya intrusion. The southeastern periclinal closing is defined in the area of the #1 to 4 adits. The structure crest line plunges towards the southeast at an angle of 40 to 45° under a granite massif. The anticline of the mountain Verblud governs the construction of the deposit, as the folds predetermine a stepped and echelon location for the mineralized zones. An overlap of faults forming simultaneously with folds of the Holbinskaya fault zone on the folded structure defined a mosaic distribution of the mineralized zones. The Holbiskaya fault zone within the Zun-Holba deposit limits led to formation of three northwest trending subparallel shear zones, are the Perspektivnaya, Yuzhnaya and Smezhnaya zones. These are the dominant structural features and host the gold mineralization at the mine (Figure 7.2).

A total of 24 subvertical mineralized zones were discovered within the Perspektivnaya shear zone and this is where almost all of the mineral "reserves" of the Zun-Holba deposit are concentrated. The mineralized zones are located on the northeastern limb of the anticline and are hosted by the hydrothermally altered volcanogenic-terrigenous rocks of the Ilchirskaya package at the contact with the Irkutnaya suite limestone.

On the Zun-Holba mine property there are 23 mineralized zones which have been explored with different exploration grids: the Severnoye-1,2,3,5; Vavilovskoye-1,2,3,5,6; Sulphidnoye; Sulphidnoye-1,2,3,4; Dorzhy-Banzarovskoye; Parallelnoye; Dorozhoye-2,3,4; Babkina; Bulba; Listvenitovoye, and the Dalnee zone which was discovered in 2005. As the basis of mineral "reserve" estimation, the following mineralized zones are considered as the largest: the Sulphidnoye-1 mineralized zone contains 39% of the deposit's "reserves", the Vavilovskoye-1 contains 23.3%, the Severnoye-1 contains 10% and the Vavilovskoye-3 contains 5%. The remaining 22.7% of the mineral "reserves" for the Zun-Holba deposit are distributed in the other 19 mineralized zones.

Figure 7.2
Local Geology Map of the Zun-Holba Property

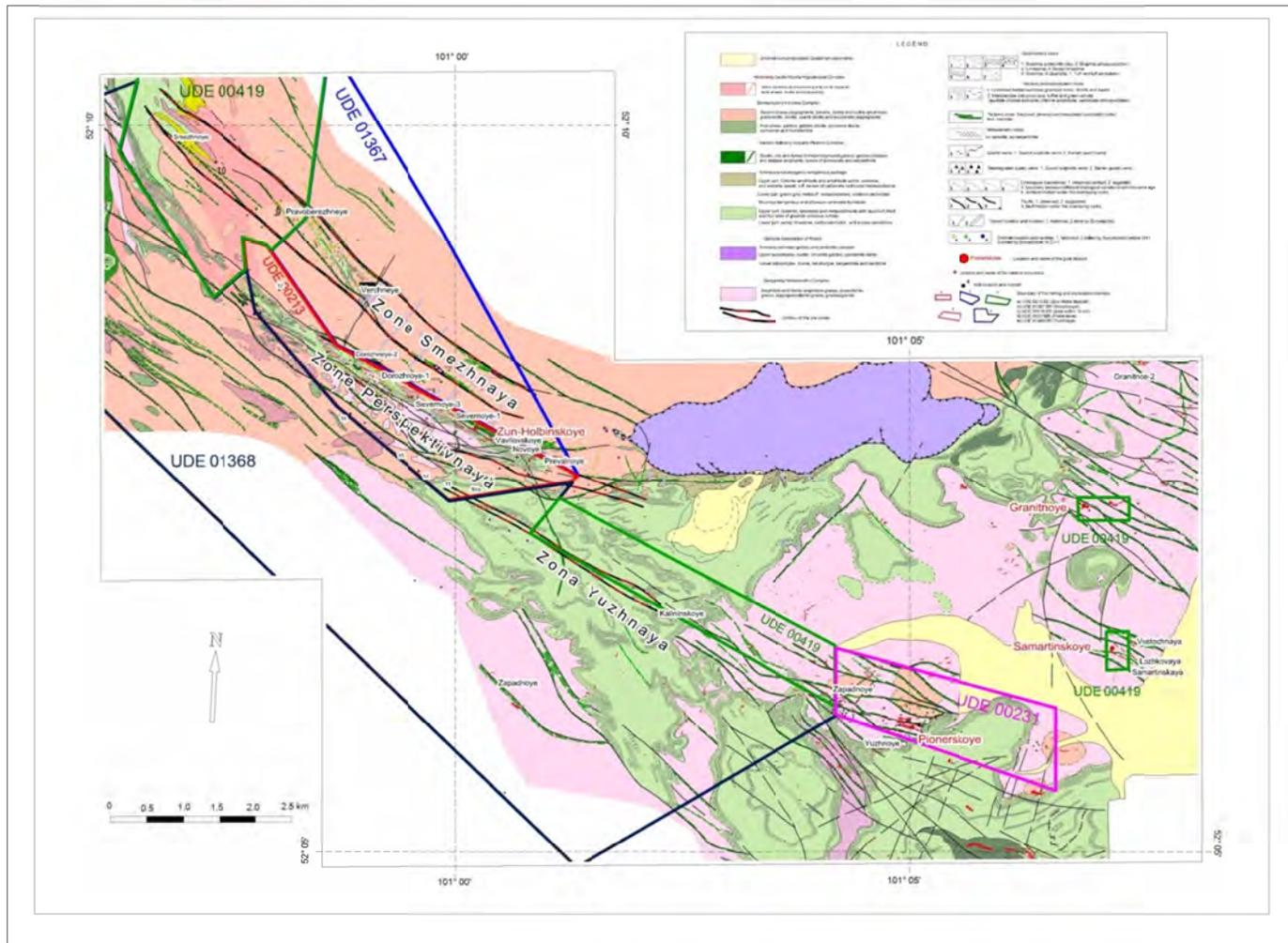


Figure created in June, 2012 by Micon based upon information supplied by OJSC Buryatzoloto.

At the deposit, there is a vertical zoning from surface to depth as represented by the change in different morphologic types of the mineralized zones from typical veins to vein-like bodies and to mineralized zones. Within the steeply dipping shear zone, only two types of mineralized zones are considered to have industrial mineralization. They are mineralized bands (79% of the “reserves”) and vein-like zones (21% of the “reserves”). There is also an increase in thickness and strike length of the mineralized zones at depth, from 1-2 m in thickness and 20-50 m in strike length to 3-5 m in thickness and up to 1,000 m in strike length.

The internal construction of the mineralized zones is complex. The vein-like zones and mineralized bands have a mosaic construction. They are composed of rock fragments with different amounts of gold: black schist, quartzite, listvenite (hydrothermal rocks which form within ultrabasic and carbonate rocks and their main mineral is fuchsite (chromian mica)), quartz and quartz-sulphide ores cemented by berezite (hydrothermal alteration consisting of quartz, sericite, pyrite) rocks which are sometimes gold-bearing but more often barren. The veins have a sulphide-quartz composition with distinct boundaries which often intersect the host rocks. Typical quartz veins are seen seldom at the deposit.

The mineralization is found in two types:

- 1) Quartz-sulphide rocks.
- 2) Gold-bearing altered host rocks such as silicate, carbonate and graphite-containing schists.

The amount of sulphides in the mineralized rock is 8 to 9% with the dominant mineral within the sulphides being pyrite at 90 to 95%. The secondary sulphide minerals amount to approximately 5 to 7% and are represented by galena, sphalerite, chalcopyrite, as well as accessory minerals including arsenopyrite, fahlore, and bournonite.

Within the Smezhnaya shear zone, two mineralized zones, the Smezhnoy and Pravoberezhnoye, were discovered which are separated by the Zun-Holba river valley. They contain up to 300 kg of gold. The Smezhnaya shear zone and especially the Verhny target located at the southeastern portion of the shear zone, where quartz-sulphide lenses of 0.05 to 0.1 m in thickness and 29.8 g/t to 54.8 g/t in gold grade were recorded, were not explored at depth and hold the potential that further economic mineral zones may be discovered.

The Yuzhnaya zone, which was partially explored by trenches, is represented by a shear zone containing silicification and pyritization, that formed in a gneiss-granite. The Yuzhnaya zone has a thickness of up to 20 m and gold grades in 1-metre long channel samples of between 1 and 2 g/t gold. At the 1740 m level (adit # 12), a 20 m thick zone of silicification, berezization and pyritization with gold grades of up to 1 to 2 g/t in 1-metre long channel samples was encountered. This mineralization is related to the Sulphidnoye-1 mineralized zone which was exposed for 240 m and accessed by cross-cut #13. There is a high potential for discovering mineralized zones in this area that are economically viable.

At the Zun-Holba deposit, the gold concentration is considered to be controlled by stratigraphic elements of the structure: the folds as well as the crumple and shear zones. A widespread system of post-mineralization faults, which are oriented subconformal with the strike of the mineralized zones and have vertical displacement amplitudes of from 1 to 2 m up to 20 m, breaks the continuity of the mineralization and contributes to the mosaic distribution of mineable material within the mineralized zones.

7.2.1 Zun-Holba Mineralized Zones

The locations of the mineralized zones at Zun-Holba are shown on Figure 7.2.

7.2.1.1 Sulphidnoye-1 Mineralized Zone

The Sulphidnoye-1 zone occurs in a package of rock deformed into folds and partly altered by hydrothermal processes. The zone consists of siliceous-carbon, siliceous-carbonate schists, silicified with sulphide mineralization, limestones with sulphide mineralization and massive sulphide mineralization with a typical bedded structure. The mineralized beds/bands envelop the complex disharmonious folds, often with plastic breaks in the continuity of the mineralized material on the flanks and with an extrusion of sulphide material into parts of the fold hinge. The thickness of the mineralized zone is as much as 4 to 7 m and the mineralization exhibits a massive texture.

The mineralized zone is located in limestones, has a northwestern strike (290 to 300°) and a steep dip (85 to 90°) towards the southwest, with the dip becoming a little shallower at the lower levels. The zone's southwestern boundary is a fault separating the zone from the Dorzhy-Banzarovskoye mineralized zone and, starting at the 1900 level, from the Babkina mineralized zone.

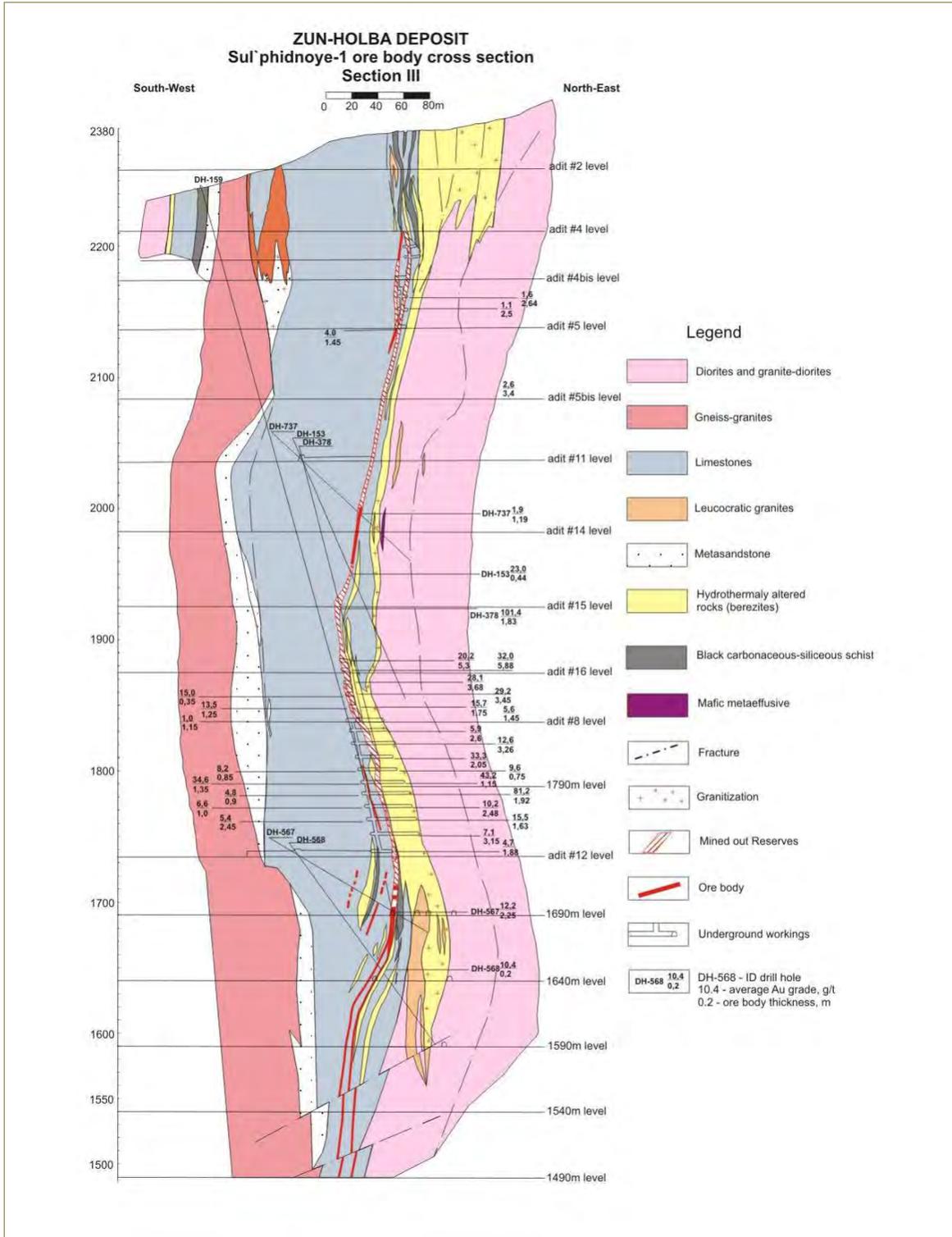
Within the zone, there are three types of mineralized rocks:

- 1) Massive sulphide mineralization.
- 2) Carbon-siliceous and carbon-siliceous-carbonate schists with sulphide mineralization.
- 3) Sulphide-quartz rocks (of lesser importance).

The carbon-siliceous schist and the other schists contain sulphide minerals, which are mainly represented by pyrite and range from 0.5% to 3.0% by volume and seldom up to 10%. The other sulphide minerals are noted as rare disseminations in pyrite or carbon-siliceous beds. The average thickness of the zone is 1.87 m with an average gold grade of 12.7 g/t.

The zone is being mined between the 1640 m and 1590 m levels. A cross-section showing the Sulphidnoye-1 mineral zone is presented in Figure 7.3.

Figure 7.3
Cross-Section of the Sulphidnoye Mineral Zone



Cross-Section provided by OJSC Buryatzoloto and first published in the 2007 Micon Technical Report.

7.2.1.2 Sulphidnoye-2 Mineralized Zone

The Sulphidnoye-2 zone is situated at the southeastern flank of the deposit. The Sulphidnoye-2 body is hosted by a shear zone with granitization processes and berezitized tuffaceous sandstones, sandstones and green chlorite schists. The zone is a vein accompanied by gold-bearing berezites. The zone has a northwestern (310 to 330°) strike and the dip varies from vertical to 75° towards the southwest. The zone's strike length is 105 m at the #8 adit level and 50 m at the #12 adit level. The average thickness is 1.45 m. The mineralized body consists of sulphide-quartz mineralization (45.8%) where sulphide minerals range from 3 to 5% up to 20%, and berezitized tuffaceous sandstones, sandstones and green chlorite-quartz schists. The average gold grade is 15.0 g/t.

The body is being mined between the 1640 m and 1590 m levels.

7.2.1.3 Vavilovskoye-1 Mineralized Zone

The Vavilovskoye-1 mineralized zone is hosted by berezitized volcanogenic and terrigenous rocks of the Ilchirskaya suite and berezitized granitoids of the Holbinskiy intrusive complex. The Vavilovskoye-1 zone is composed of bed- and dyke-like sulphide bodies, sulphide-quartz veins and zones of host altered gold-bearing veins, and rocks with sulphide mineralization. The average thickness is 1.57 m. The zone strikes to the northwest (300° to 320°) and has a subvertical dip.

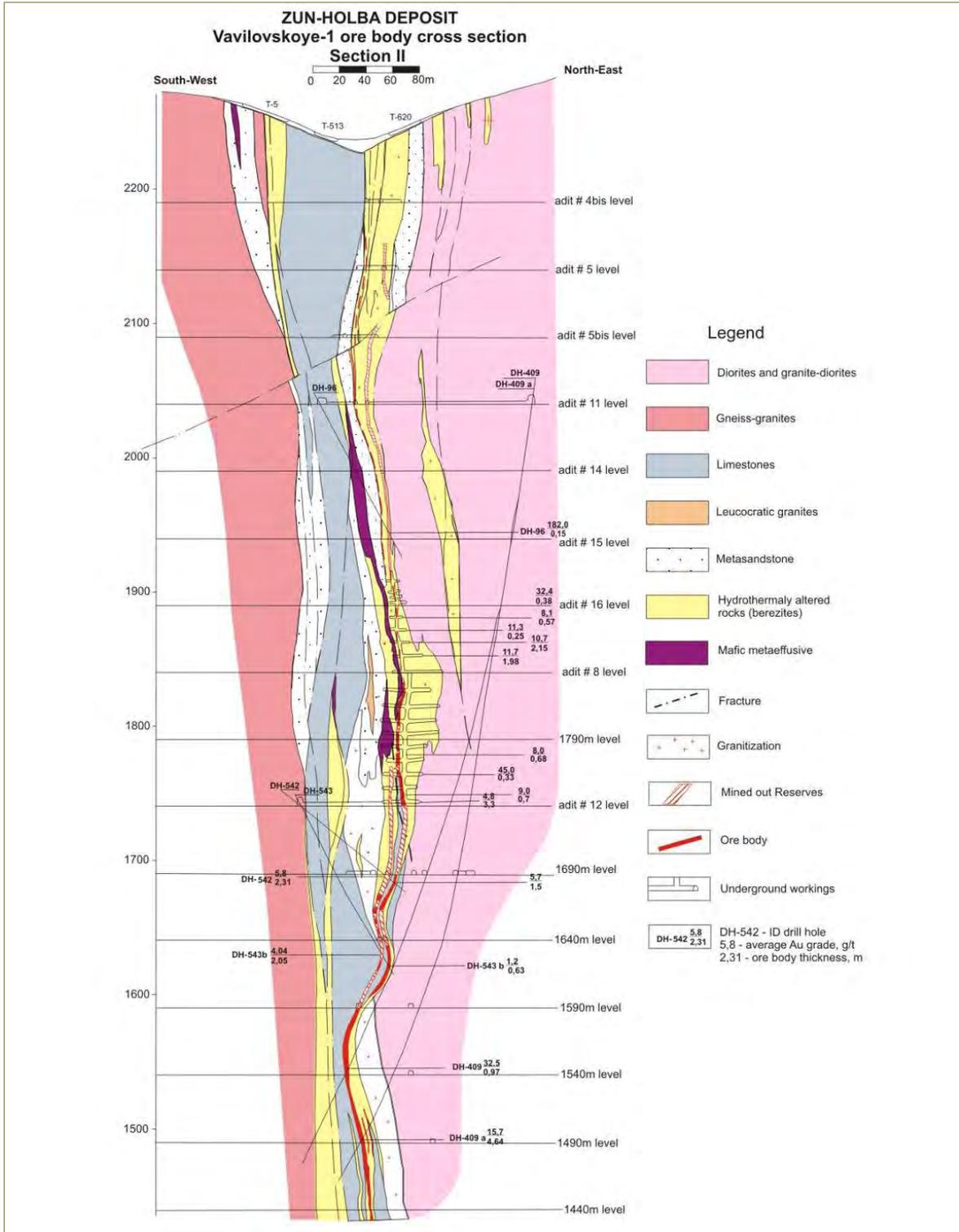
Morphological types are distributed in accordance with the sequence; bed-like sections occur in the central part of the zone, and these are changed along the strike and dip by the quartz-sulphide veins and sulphidization zones, which are hosted by berezitized rocks with insignificant sulphide mineralization. The bed-like bodies of substantial sulphide mineralization occupy 20% of the zone, the sulphide-quartz veins comprise 26% of the zone and 54% of the zone is composed of the mineralized areas. There is no secondary alteration of the mineralization.

The morphological types differ in composition. The bed-like zones contain sulphide-polymetallic mineralization (sulphide volume varies from 20% up to 40 to 60% with a maximum of 90%). The distribution of the sulphides is uniform. The bed-like zones are composed of pyrite, chalcopyrite, galena, quartz, calcite, with molybdenite, fuchsite and magnetite noted.

The veins and sulphide zones have sulphide minerals ranging in volume from 0.5 to 20%. Pyrite is the dominant mineral, with galena, sphalerite and molybdenite rarely noted. The average gold grade of the mineralized zone is 15.6 g/t.

The body is being mined between 1640 m and 1490 m levels. A cross-section showing the Vavilovskoye-1 mineralized zone is presented in Figure 7.4.

Figure 7.4
Cross-Section of the Vavilovskoye-1 Mineral Zone



Cross-Section provided by OJSC Buryatzoloto and first published in the 2007 Micon Technical Report.

7.2.1.4 Vavilovskoye-2 Mineralized Zone

The Vavilovskoye-2 zone is situated 3 to 10 m from the footwall of the Vavilovskoye-1 zone. The Vavilovskoye-2 zone is similar to the Vavilovskoye-1 zone in mineral composition and conditional bedding but is smaller in size. The strike length is 100 m at the #8 adit level, and the down-dip length varies from 12 to 140 m. The average thickness is approximately 1.33 m and the average gold grade is 15.6 g/t.

Most of the zone has already been mined.

7.2.1.5 Vavilovskoye-3 Mineralized Zone

The Vavilovskoye-3 zone is parallel to the Vavilovskoye-1 and has been delineated only at the #12 adit level and 22 m above the level. The zone is hosted by berezites, berezitized sandstones and tuffs. Below the #12 adit carbonate minerals and listvenites are widespread within the zone.

The mineralized zone is represented by a steeply dipping lens with a strike length of 256 m and a down-dip length of 190 m with an average thickness of 1.84 m. The zone does not increase in thickness in either the down dip or up dip directions. The strike direction of the zone is between 310 and 330° and the dip angle is 80° towards the southwest. Within the mineralized body there is a core quartz-sulphide vein of 0.15 to 1.0 m thick hosted by berezites and berezitized rocks.

The amount of quartz-sulphide mineralization within the body is 26.6% and the average gold grade is 17.0 g/t.

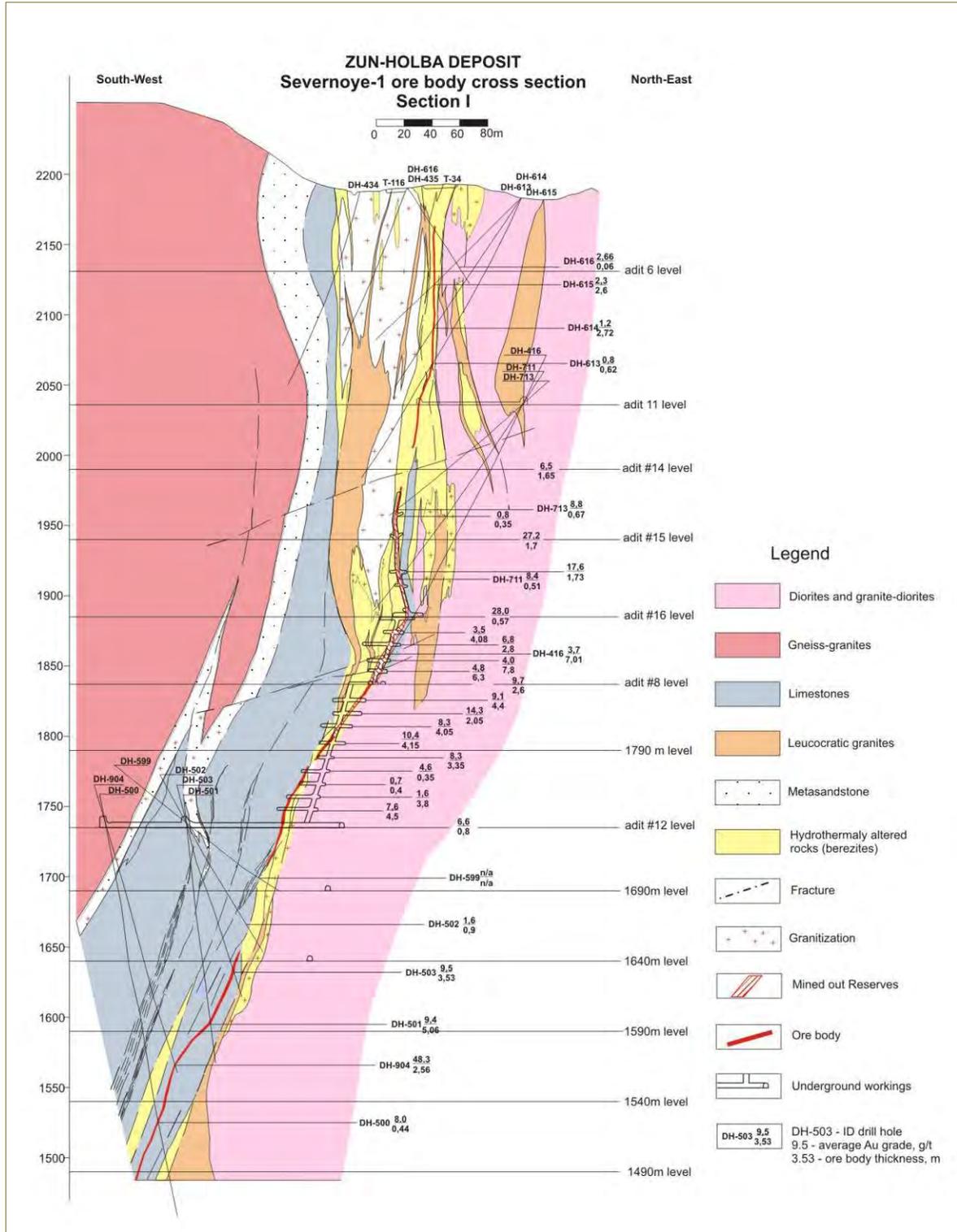
The body is being mined between the 1640 m and 1490 m levels.

7.2.1.6 Severnoye-1, -2 Mineralized Zone

The Severnoye-1 and -2 zone is located on the northwestern flank of the property. In the upper levels, the zone is represented by vein-like bodies hosted by a shear zone within berezitized intrusives and granitoids. Below the 1740 m level, the vein-like bodies change into a mineralized zone along with the appearance of black carbon-siliceous-carbonate schists with sulphide mineralization, limestones and intrusive rocks. The zone has a strike direction of between 310° and 330°. The body is steeply dipping to the southwest between 87° and 90°, with the dip becoming shallower (up to 68°) at depth. The average thickness of the zone is 2.15 m. The mineral composition of the zone depends on the presence within its outlines of quartz-sulphide mineralization (20.3% by volume), limestones (19.5% by volume), carbon-siliceous schists (16.2%) and silicate rocks including berezites (44%). The average gold grade is 17.6 g/t. The zone is being mined between 1640 m and 1490 m levels.

A cross-section showing the Severnoye-1 mineralized zone is presented in Figure 7.5.

Figure 7.5
Cross-Section of the Severnoye-1 Mineral Zone



Cross-Section provided by OJSC Buryatzoloto and first published in the 2007 Micon Technical Report.

7.2.1.7 Severnoye-3 Mineralized Zone

The Severnoye-3 mineralized zone is located 200 to 400 m northwest of the Severnoye-1 zone and has a southeast dip at an angle of 75° to 80°. The zone has a strike length of 43 m at the #8 adit level and 250 m at the #12 adit and narrows to 16 m above the #8 adit level. The zone is situated at the contact between limestones and berezitized tuffaceous sandstones. The internal construction of the mineralized zone is complex and, within the zone, there are vein-like bodies and lenses of quartz-sulphide composition, limestone with sulphide mineralization, carbon-carbonate (“black”) schists, berezites and berezitized sandstones. The amount of sulphide minerals does not exceed 20% in the quartz-sulphide mineralization and is 3 to 5% in altered rocks. The average gold grade is 18.6 g/t and the average thickness is 1.25 m. Exploration is planned for the zone between the 1790 m and 1640 m levels.

7.2.1.8 Babkina Mineralized Zone

The Babkina mineralized zone is situated at the southeastern end of the deposit and is represented by a quartz-sulphide vein which splits into lenses hosted by carbon-carbonate-siliceous schists and limestones. The zone strikes between 290° and 300° and dips at 85° to 87° towards the southwest. The strike length of the quartz lenses varies from 10 m to 40 m. The average gold grade is 10.8 g/t and the average thickness is 1.3 m. All economic material has been extracted from this zone and only uneconomic mineralization remains.

7.2.1.9 Parallelnoye Mineralized Zone

The Parallelnoye mineralized zone is situated on the northwestern flank of the Zun-Holba deposit and is exposed by the #7 adit. The zone is represented by a quartz-sulphide vein which splits into lenses and contains xenoliths of silicified mineralized limestone and quartz-carbonate-sericite schists.

The hanging wall host rock is represented by silicified limestones and the footwall host rocks are represented by quartz-carbonate-sericite schists.

The Parallelnoye mineralized zone strikes between 305 and 315° and dips to the southwest at 80 to 90°. The average thickness is 1.36 m and average gold grade is 11.5 g/t. All economic material has been extracted from this zone.

7.2.1.10 Other Zones

In addition to the main mineralized zones mentioned above, a number of other zones have been located on the Zun-Holba mine property, as shown in Table 7.1.

The mineralized bodies Vavilovskoye-5, 6, Sulphidnoye-4 and Dorozhnoye-3, 4 have gold grades ranging from 3 to 5 g/t and average thicknesses of up to 1 m.

Table 7.1
Other Mineralized Zones at the Zun-Holba Mine Property

Mineral Zone Name	Average Thickness(m)	Average Gold Grade (g/t)	Comments
Dorzhy-Banzarovskoye	2.51	10.4	Economic mineralization has been completely extracted.
Parallelnoye	1.36	11.5	Economic mineralization has been completely extracted.
Dorozhnoye-2	0.85	16.1	Not mined out
Bulba	1.31	8.4	Economic mineralization has been completely extracted.
Listvenitovove	1.87	23.9	Some economic mineralization has been extracted.
Sulphidnoye	0.8	14.9	Economic mineralization has been completely extracted.
Severnoye	1.5	6.7	Economic mineralization has been completely extracted.
Dalnee	2.46	16.2	Exploration planned between the 1490 m and 1390 m levels

Table provided by OJSC Buryatzoloto.

A long-section showing the locations of the various mineralized zones at the Zun-Holba mine is presented in Figure 7.6. This figure was first published in the 2007 Micon Technical Report and is for illustration of the various zones and a partial view of the underground workings only, as in most cases the drifts shown are currently active mining areas.

7.3 PIONERSKOYE PROPERTY GEOLOGY

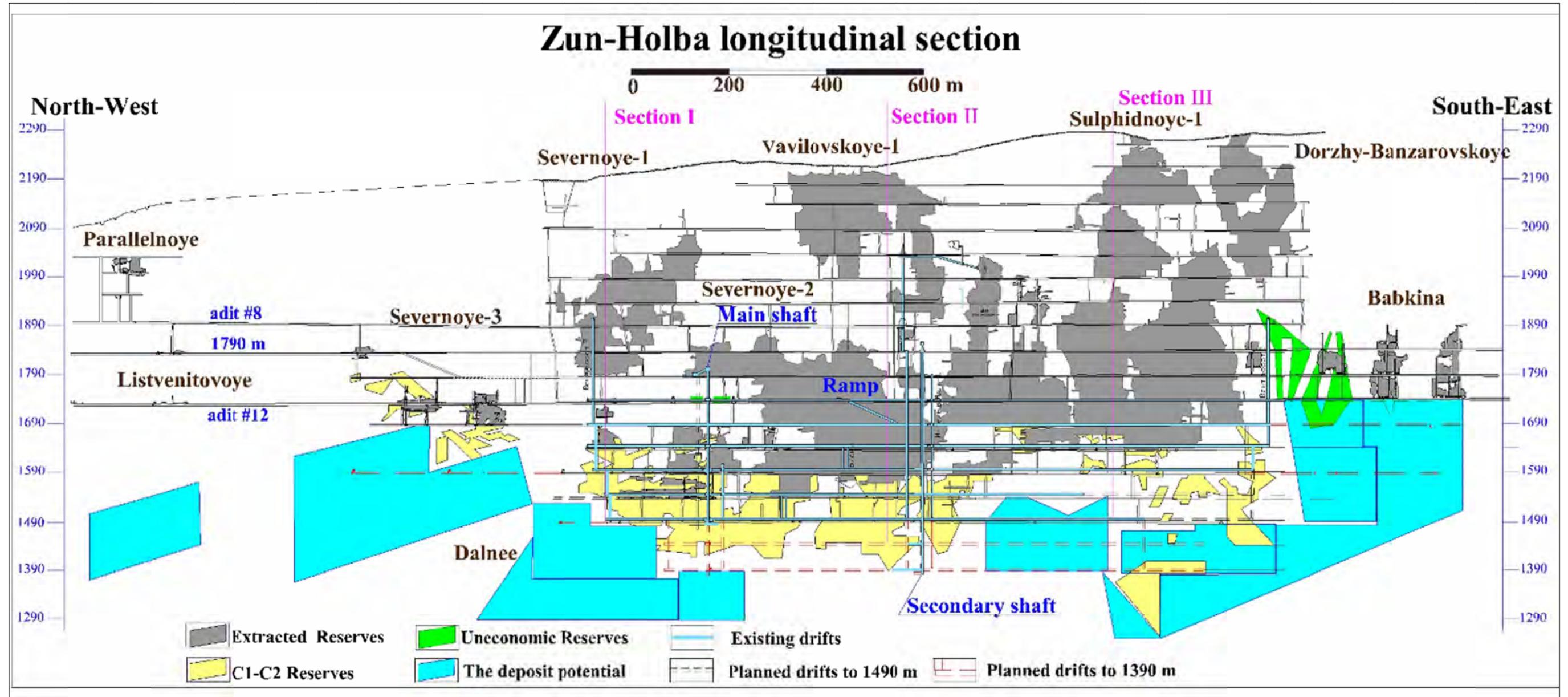
The Pionerskoye deposit is situated within the caledonide system of the Eastern Sayan in the northeastern peripheral part of the Garganskaya dome. Structurally, the deposit is positioned in the southwestern part of the Samartinskiy gneiss-granite dome and eastern flank of the Samarta-Holbinskaya intradome syncline zone. Metallogenically, the deposit is included in the Samartinskoye mineralized area of the Urik-Kitoiskaya mineralized zone of the Garganskiy gold district.

The geological setting of the Pionerskoye deposit is composed of Archean unsequenced rocks of the Garganskiy migmatite-plagiogneiss-granite complex of the Samartinskiy gneiss-granite dome, the Riphean-Cambrian schist-carbonate complex which is the cover of the dome, dykes and stocks of the Holbinskiy intrusive complex, mineralized shear zones and berizitization zones, and modern block-boulder-pebble sediments.

The Garganskiy complex is composed of granite-gneiss, granodiorite-gneiss, biotite-muscovite and biotite-amphibole gneiss.

The Samartinskiy granite-gneiss dome occupies 60% of the Pionerskoye deposit. The contact surface between the dome and the cover rocks is tectonic and semiconformable with the adjacent areas.

Figure 7.6
Longitudinal Section of the Zun-Holba Mine Indicating the Various Mining Levels and the Various Mineral Zones



Long Section provided by OJSC Buryatzoloto and first published in the 2007 Micon Technical Report.

The Riphean-Cambrian carbonate-schist complex, which is the cover of the Garganskaya dome, is situated unconformably on the Garganskiy complex of the dome basement and includes the Irkutnaya carbonate suites. The Ilchirskaya volcanogenic-terrigenous package of rocks was not found within the deposit area. The Irkutnaya suite sediments are thrust over the basement granitoid and form the eastern flank of the Samarta-Holbinskaya intradome syncline zone which divides the Samartinskiy and Ulzytinskiy granite-gneiss domes. The siliceous-carbonate rocks of the Irkutnaya suite forming the intradome zone are represented by marbled limestone with beds of carbon-sericite and graphitic-schists with a thickness of up to 3 m. This rock package plunges at 10° to 40°. The maximum thickness of the Ilchirskaya suite sediments at the southern part of the deposit is 500 m.

The Holbinskiy intrusive complex is represented by dykes of plagiogranite porphyrite and microdiorite. The dykes vary from 1 m to 10 m in thickness, from 280 to 290° in strike and from 70 to 85° in dip.

Overburden which completes the geological sequence is represented by block-boulder-pebble-sand sediments.

7.3.1 Pionerskoye Mineralized Zones

The mineralized bodies of the Pionerskoye deposit are localized within shear zones that formed in the granite-gneiss of the Garganskiy complex. The shear zones hosting quartz veins or lenses have a northwest strike (270° to 310°) and a 65° to 85° dip towards north, northeast, south and southwest. The thickness of the quartz veins or lenses varies over the strike and dip from 0.1 m to 20 to 25 m and averages 0.3 to 1 m.

The average gold grade of the extracted mineralization of the Pionerskoye deposit was 64.8 g/t. Intervals with similar grades are located at the western (Zapadny target) and eastern (Zolotoy and Nadezhda targets) flanks. The mineralized zones of the Pionerskiy type can be classified as thin, steeply dipping, echelon, small veins based on the morphological features, as well as a weakly sulphide (mainly pyrite) type of gold-quartz veins with high gold grades, based on the mineralogical composition. Gold is commonly present as coarse-grained material and forms free particles which account for more than 70% of the gold by volume. Extraction of the explored thin, short lenses and veins was completed in 2006. Figure 7.7 is a view of the adits at the Pionerskoye deposit.

Between 2000 and 2002, deluvial slope sediments which are present as a “placer” were stripped with slushers from the steep slope of the Pionerskiy kar. The stripped material was stockpiled and was estimated to contain 380 kg of gold. Gold in deluvial sediments is present as both free particles (about 30% by volume) and gold hosted by quartz and berezites (about 70% by volume).

Figure 7.7
A View of the Adits Located at the Pionerskoye Deposit



Photograph was taken during Micon's first site visit in 2007.

The Pionerskoye deposit was divided into three targets. They are, from the northwest to southeast, the Zapadny target, the Pionerskiy (Tsentralny) target and the Nadezhda (Zolotoy) target.

Based on the exploration and stoping results at the surface and adit levels of the Pionerskiy (Tsentralny) target, two zones have been identified hosting thin, short (up to 10 to 15 m along strike) quartz-sulphide veins and veinlets which are combined into linear-stockwork zones with thickness of up to 50 m.

Within the Nadezhda (Zolotoy) target, there are numerous quartz-pyrite veins-veinlets hosted by shear zones within granite-gneiss. The vein-veinlet mineralization is characterized by thin widths (up to 0.7 m) and gold grades of up to 58.3 g/t. Because of this configuration, the average gold grade for “the rock mass” is low (approximately 0.9 g/t gold). Based on the data received during exploration, three gold-bearing zones were recognized. The exploration team at the Zun-Holba mine prognosticated that up to 800 kg of gold could be contained in the low grade mineralization of the Nadezhda target.

All of the exploration programs at the Pionerskoye deposit are focused on creating a “reserve” base for heap leaching the low grade mineralization. The eastern flank of the Nadezhda target of the Pionerskoye deposit adjoins the production site of the gold processing plant. The tests conducted to date on heap leaching, however, have not yielded favourable results.

7.4 SMEZHNOYE AND PRAVOBEREZHNOY PROPERTIES GEOLOGY

Prior to 1980, the Smezhnaya zone was described by most researchers as a number of targets, such as Pravoberezhny, Smezhny and Verkhny, which were located within faults. Because of a reinterpretation of the geological setting of the Holbinskoye mineralized area, some targets were combined into a single zone which was then named the Smezhnaya zone.

The Smezhnaya zone involves a number of shear and alteration (berezitization) zones located close to each other with a total thickness of 300 to 600 m, hosted by granitoids of the Ambaragolskiy block. The Smezhnaya zone is situated 200 to 300 m northeast of the Perspektivnaya zone.

The Pravoberezhny target is present as a wide fractured zone within granitoids of the Sumsunurskiy complex which hosts long bodies of limestones, 30 to 50 m thick, and small lenses of carbon-siliceous-carbonate schists. Within the fractured zone, there are a set of parallel shear and berezitization zones which host lens-like quartz-sulphide bodies. The largest of the zones was explored by trenches and adit # 9. “Reserves” of C₂ category were estimated at 75 kg of gold. In 1993, the “reserves” were re-estimated at 150.3 kg of gold with an average gold grade of 25.0 g/t and thickness of 1.2 m and converted into C₁ category.

The Smezhny target was covered by initial exploration in 1964 to 1965 and detailed exploration in 1967 to 1971. From the perspective of geological setting, the target is present as a part of a syncline fold with a crest line plunging toward the southeast. Limestones were

found in the core of the fold. These limestones are changed by carbon-siliceous-carbonate schists, tuffs and sandstones at the wings. The mineralized zone is located at a continuation of the fold axis within granitoids of the Sumsunurskiy complex and represented by a zone of sheared berezites which host quartz-sulphide lenses. The target “reserves” were estimated at 70 kg of gold classified as C₁ in 1973. Between 1988 and 1994, the Vostochnaya team drilled 8 holes for a total of 2,500 m and re-estimated reserves at 170 kg of gold classified as C₁, with a gold grade of 7.1 g/t and a thickness of 0.85 m. In 1995, the target was renamed as the Smezhnoye deposit.

7.5 YUZH NAYA ZONE

The Yuzhnaya zone involves a number of almost parallel gold-bearing quartz veins, located within shear zones, southeast of the Perspektivnaya zone. The shear and alteration (berezitization) zones are located close to each other with a total thickness of 50 to 100 m, and are hosted by limestones and dolomites of the Irkutskaya terrigenous and siliceous formation and the Sumsunurskiy granitoid complex.

7.5.1 Kalininskoye Target

The Kalininskoye target is present as a wide fractured zone within limestones and dolomites cross-cut by faults and shear zones. Within the fractured zone, there are a set of parallel shear and berezitization zones which host gold bearing quartz-sulphide veins. The veins were explored by three deep drill holes and trenches and one grab sample returned 20.8 g/t gold.

7.5.2 Zapadnoye Target

The Zapadnoye target is present as a wide fractured zone within granitoids of the Sumsunurskiy complex which hosts long bodies of limestones of 30-50 m thick and small lenses of carbon-siliceous-carbonate schists. Within the fractured zone, there are a set of parallel shear and berezitization zones which host lens-like quartz-sulphide bodies. The longest of them has been explored by grab sampling and mapping. The company has planned trenching and drilling for 2012.

7.6 MINERALIZATION

The gold mineralization at Zun-Holba is associated with the quartz-sulphide rocks and gold-bearing altered host rocks; silicate, carbonate rocks and carbon-containing schists. The sulphide minerals amount to 8 to 9%, with pyrite the dominant mineral. Lesser amounts of galena, sphalerite and chalcopyrite are noted and arsenopyrite, fahlore, bournonite are the accessory minerals (Figure 7.7).

The metals of economic interest are gold and silver, with the average grades for the deposit being 11.0 g/t gold and 14.5 g/t silver. Gold is commonly present as very fine-grained (less than 0.07 mm), disseminated and powder-like (up to 95%) material. The gold distribution is

very irregular. Arsenic and sulphur are almost absent. Graphite represents the carbon material and is 0.2 to 1.5% by volume. There is almost no oxidation of the ore.

Figure 7.8

Quartz Vein with Visible Gold, Pyrite and Chalcopyrite from Adit 8, Block 69-C1, Zun-Holba Mine



Photograph was taken during the Micon 2012 site visit.

8.0 DEPOSIT TYPES

The Zun-Holba deposit is located within a northwest trending belt of metamorphosed and tightly folded volcanic and sedimentary rocks of Proterozoic age, which contain several broadly conformable quartz-sulphide veins. Six en echelon subvertical veins contain most of the gold within a 1.3 km long mineralized zone. The width of the veins varies from 80 cm to 15 m.

According to the Russian classification system for mineral deposits, the Zun-Holba deposit corresponds to a vein deposit of the third category of complexity. The third category of complexity or “Group 3 Deposits” are defined in the latest Russian “reserve” classification guidelines dated December 11, 2006 as:

“Group 3. Deposits (subsoil areas) of complex geological structure with large and average size orebodies, having strongly dislocated bedding, characterized by very variable thickness and inner structure, sometimes immature quality of the minerals, and very uneven distribution of the basic valuable components. The peculiarities of the structure of the deposits (subsoil areas) are determined by the possibility of development of the “reserves” of categories C₁ and C₂ in the process of exploration” (Translation to English from Russian, July, 2007).

According to the recent classifications of gold deposits, the Zun-Holba mine can be classified as an orogenic quartz-carbonate vein gold deposit (Robert, et al, 2007).

The gold deposits on the Zun-Holba Property can also be classified as intrusion related, low sulphidation epithermal gold deposits. The distinguishing characteristics for this deposit model are high Au:Ag ratios and a low base metal content. High-grade low sulphidation gold deposits are structurally controlled and usually they are hosted within volcanic units or their basement rocks. The hydrothermal wall rock alterations show lateral and vertical zoning and include silicification, sericitization, pyritization and propylitic alteration.

The exploration programs at the Zun-Holba Project are planned and executed on the basis of the deposit models discussed above.

9.0 EXPLORATION

A description of the historical exploration work conducted on the Zun-Holba mine is provided in Section 6. The exploration team at the Zun-Holba is continuing to outline further veins with its 2012 surface exploration programs, and further programs are already being planned for subsequent years.

9.1 2011 EXPLORATION PROGRAM

The exploration programs at Zun-Holba have been broken down into 3 categories: prospecting programs, exploitation-exploration programs and stope-definition between the 1440 and 1340 m levels.

The exploration in 2011 consisted of the following work:

- 632 m of underground drifting.
- 39,710 m of underground drilling.
- 47 km² of mapping.
- 26,639 m of surface drilling.

The exploration program underground is an integral part of the mining operations and they will continue into the future. Figure 9.1 illustrates the location of the underground drilling during the 2011 and 2012 drill programs. The estimated “reserve” gain due to the exploration programs in 2011 was approximately 479,000 t containing 3,254.3 kg gold.

The main focus of the underground exploration program is to explore the flanks and down dip potential of the Zun-Holba deposit. The program consists of channel sampling within the underground workings (drifts and cross-cuts) and drilling from drill chambers specifically designed to maximize the drill coverage from each station.

In 2011, the exploration group at the mine also conducted surface exploration on two new licenses, the Smezhnaya and Yuzhnaya targets. In addition to exploration at the mine, 41.5 km² were covered with geochemical survey and geological mapping. The encouraging results on the Smezhnaya and Pravoberezhnaya zone confirmed that the area merits additional exploration and the two exploration targets will be covered with 10,000 m of trenches during the field season of 2012.

In 2011, Buryatzoloto started a drilling and sampling program on the old tailing pond, located next to the Samarta processing plant. The first phase of the sampling was on a 100 x 100m grid. The average grade for gold is 0.72 g/t and the thickness is approximately 9.64 m. In February, 2012, in-fill drilling was conducted on a grid 50 x 50 m. A total of 83 holes were drilled, totalling 918.1 m (planned 1,090 m). Some of the assay results are still pending, but the company expects to increase the “reserve” with 2,600 kg of gold in category C₁ (Russian classification).

Figure 9.1
Longitudinal Section of the Zun-Holba Mine Indicating the Various Mining Levels, Mineral Zones and Exploration Programs (2011-Blue, 2012-Red)

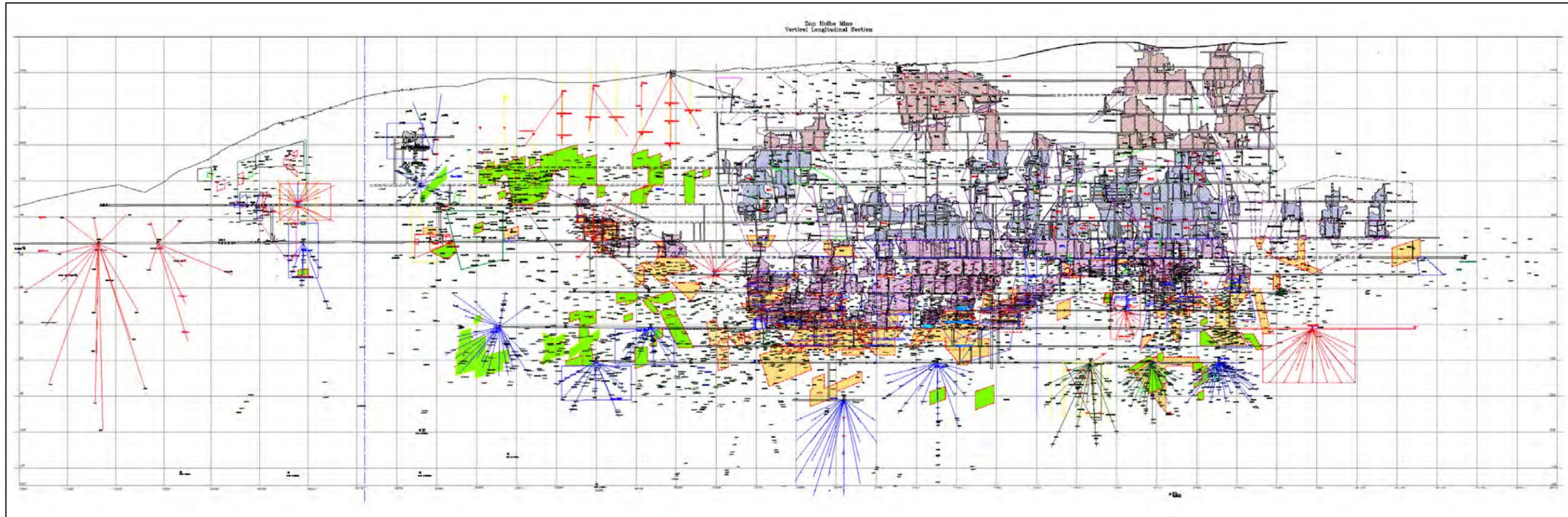


Figure created in June, 2012 by Micon based upon information supplied by OJSC Buryatzoloto.

9.2 2012 EXPLORATION PROGRAM

The 2012 exploration program is a continuation of the 2011 program and consists of drifting, sampling, and underground drilling, and surface drilling on the Perspektivnaya, Yuzhnaya and Pionerskaya zones, along with mapping and trenching.

The 2012 exploration program includes 930 m of drifting and sampling. The sampling method for the mineralization exposed by the underground drifts was developed during the detailed exploration stage and continues to be used. Sampling is also performed during the mining operations. A detailed description of sampling is found in Section 11.0 of this report.

During the site visit in May, 2012, two drill rigs were exploring from the surface and three were drilling, underground from drilling chambers located on levels 1390 and 1730 m.

The main objective of the underground exploration is to upgrade and develop the existing C₂ and P₁ Russian “reserves” and provides the basis for the future operation of the mine. The corporate goal is to prove up to 3 t Au in the area above level 1290. The underground definition drilling extends the ore shoots and prepares the area for mining within the main mine area. The company has planned 32,520 m exploration underground drilling and 8,000 m definition drilling in 2012. (Table 9.1)

In addition, 2012 surface drilling is continuing to test the deep levels of the Perspektivnaya (main mine area) and Yuzhnaya zones and the upper levels of the Pionerskaya zone. The company has planned 32,770 m surface drilling on Pionerskoye deposit zone, Perspektivnaya zone and old tailing ponds (Table 9.1).

The estimated budget for the exploration program at the Zun-Holba Project for 2012 is 362,159,000 roubles (US \$11.9 million).

**Table 9.1
Zun-Holba Exploration Work Program for 2012**

Exploration Activity	Total Metres	Expected “Reserve” Increase
Underground drifting (level 1730, 1640, 1540, 1490, 1390)	930	
Underground Drilling (Exploration + Definition) levels 1290, 1390, 1440, 1490, 1540, 1640, 1730	38,540	2,000 kg Au
Surface Drilling (details below)	32,770	1,000 kg Au
Pionerskoye deposit zone	3,200	
Severnoye 3 & Severnoye 1	6,800	
Vavilovskaya 1,2,3	1,480	
Perspektivnaya (down deep extension)	20,200	
Tailing pond (grid 50x50 m)	1,090	
Trenching (Smezhnoye zone, Pionerskoye deposit zone)	10,000	

During the site visit, the exploration team was testing the Sulphidnoye-1, -2 zone from the 1390 level and the Kontaktovoye zone from 1730 level (adit 12, drill chamber BK-9). The core from all exploration drill holes is sampled. The entire core containing the mineralized intersection from the underground drilling is sent for assaying at the internal laboratory and no core is retained as reference. This procedure is common in operating mines. The core sample length ranges from 0.1 to 2.0 m, depending on the width of the mineralized intersections.

Quality control of the sampling is conducted systematically by performing a comparison of the calculated and actual weights of the core samples. The reliability of core sampling is evaluated by conducting a comparison of core sampling with the bulk and channel samplings. It was determined that there was an insignificant understatement of gold and silver grades derived from the core sampling, which allowed the geologists to consider that the drilling results were reliable enough to outline mineralized bodies for “reserve” estimation.

Down-hole geophysical surveys are conducted simultaneously with the detailed exploration drilling to measure the inclination of the drill holes, and to identify the lithological (rock) sequence, the depth and continuity of the quartz veins, the morphology of the mineralized bodies, and the deposit structure. The geophysical surveys were also used for in-situ density estimation.

The known mineralization in the zones of the Zun-Holba mine continues to be open both along the flanks of the deposit and at depth, and the mineralization does not appear to be constrained by any major geological features, although some cross faults appear to have offset the mineralization.

9.3 MICON COMMENTS

The majority of the sampling at the Zun-Holba Project is related to underground sampling for operational purposes, as opposed to a true exploration program on an undeveloped project. For this reason, the discussions related to sampling methods and quality (Item 9b) and relevant information regarding location, number, type, nature and spacing or density of the samples collected (Item 9c) are located in Section 11 of this report, where they are discussed in the context of the sample preparation methods and quality control procedures employed before dispatching the samples to the analytical laboratory.

In terms of individual samples, there are no significant results as the majority of the samples collected at the Zun-Holba Project are collected in the course of day-to-day mining operations. The samples generated by exploration are taken for the purpose of identifying the extent of existing veins and for the purposes of outlining resources and reserves.

In general terms, the samples are representative of the mineralized material that is currently being mined and the grade of the individual samples appropriately reflects the variability of the mineralization contained in the vein.

10.0 DRILLING

10.1 GENERAL

A description of the historical drilling conducted at the Zun-Holba mine and surrounding property is provided in Section 6.

10.2 ZUN-HOLBA UNDERGROUND DRILLING PROGRAM

Underground drilling is an essential part of the exploration, stope definition, mine planning and grade control at the Zun-Holba mine. The underground drilling is performed from drill chambers with fans of 3 to 12 holes being drilled from each chamber (Figure 10.1).

Currently, the underground drilling is carried out using a 262 Diamec drill with BQ core (outside diameter equals 59.6 mm). The average drill hole length is approximately 250 m. A typical hole takes an average of 4 to 5 days to complete, or 10 shifts, with an average drilling rate of 26 to 32 m/shift. Figure 10.2 shows the 262 Diamec drill set-up and drilling underground. Core recovery is estimated to be in the range of 95 to 99% for the mineralized zone.

The ongoing underground exploration is conducted by the mine drilling personnel. The operating levels are 50 m apart. At the first stage, 3 holes are drilled per level, forming 40 m x 50 m grid. At the second stage, the grid is 20 m x 25 m to 20 m x 17 m. At the present time, the quartz veins with gold-bearing sulphide mineralization are explored from underground drill chambers located at the 1730 (adit 12), 1640, 1540, 1490, 1440 and 1390 levels.

In 2011, the following veins were explored: Severnoye-3, Sulphidnoye -1 and -2, Vavilovskoye-1, Parallelnoye, Dorozhnaya-4 and Kontaknoye.

The drilling on Severnoye-3 was conducted from underground levels 1390, 1490 and 1880 (adit 16). A total of 110 holes were drilled, including 53 exploration holes and 57 stope definition holes. More than 40 intersections of economic interest were found, with gold grades in the range from 4.13 to 173.9 g/t over intervals of 0.13 to 5.16 m. The exploration of these mineralized zones continues. Buryatzoloto geologists estimate that C₂ “reserves” will increase as result of the 2011 drill program by approximately 2,400 kg of gold including 1,550 kg of gold at adit levels 1840 m, 1890 m and 1940 m.

The drilling on Sulphidnoye-1 and Sulfidnoye-2 was done at the 1390 to 1290 levels. Forty five holes were drilled, including 6 exploration and 39 stope definition holes. The obtained gold grades ranged from 7.89 to 460.0 g/t with silver up to 344.8 g/t, over 0.24 to 1.99 m. The increase of the C₂ “reserves” is approximately 137 kg of gold.

Figure 10.1
Fans of Underground Drill Holes from Drill Chambers on Level 1390

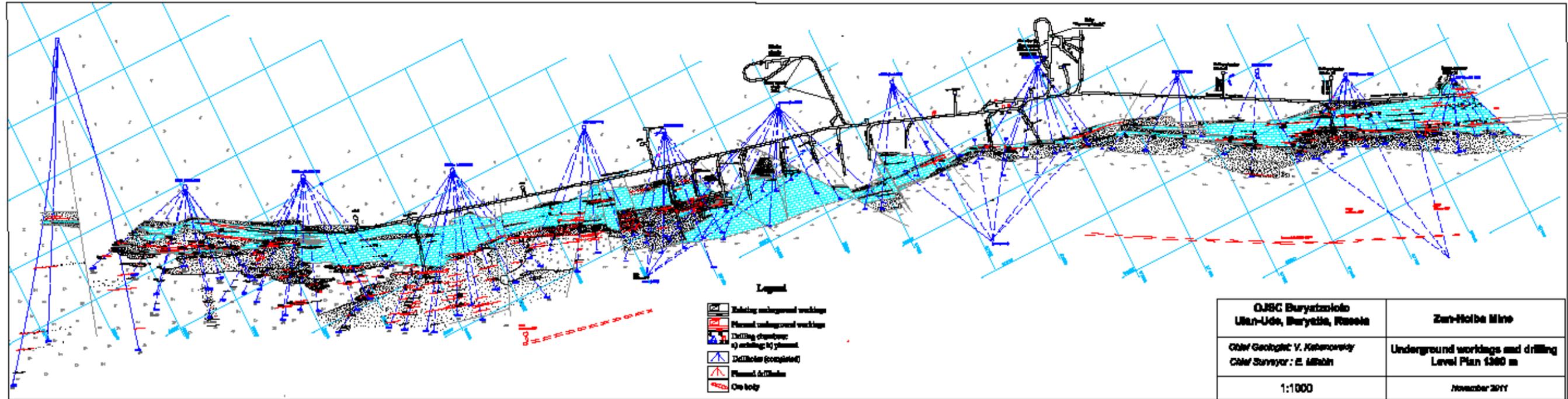


Figure created in July, 2012 by Micon based upon information supplied by OJSC Buryatzoloto.

Figure 10.2
A View of the Diamec 262 Drill Set-up Underground



Photograph taken during the 2012 Micon site visit.

Drilling on the Parallelnoye and the Dorozhnaya zones was done from the drill chamber at adit 16, and 29 exploration holes were drilled. The gold grades obtained were in the range of 0.2 to 36.4 g/t, with silver up to 353.4 g/t, over 0.14 to 0.77 m. The increase of the C₂ “reserves” is approximately 105 kg of gold.

Drilling on the Vavilovskoye-1 and Vavilovskoye- 2 zones was conducted from level 1390 m. Six exploration holes were drilled. The gold grades range from 0.2 to 5.0 g/t, with silver up to 16.3 g/t, over 0.2 to 0.82 m intervals. Drill hole PC-258 returned 12.0 g/t Au over 1.38 m. The increase of the C₂ “reserve” is approximately 344 kg of gold.

Drilling on Dorozhnaya-2 zone was done from chamber No 7 at levels from 1740 to 1640 m. Ten exploration holes were drilled. The gold grades were in the range of 4.73 g/t, with silver up to 11.9 g/t, over a 1.83 m interval. There was no increase of C₂ “reserves” in this zone.

Five exploration holes were drilled on the Kontaktovoye zone from chamber No. 9 at adit 12, between levels 1740 and 1490 m.

In 2011, the corporate goal of 21,091 m of exploration drilling was achieved at the Zun-Holba mine.

Since January 1, 2012, the following veins have been explored:

- 1) The Kontaktovoye vein is being explored from drill chamber BK-9, located on the Adit 12 Level (1730 elevation). Ten drill holes have been drilled. Some of the assay results are still pending, but two intervals of sulphide mineralization in

metasandstones were intersected. The veins are 0.81 m and 0.42 m wide and contain 9.2 g/t gold and 10.6 g/t, respectively.

- 2) The Kvarzevoye vein was drilled from drill chamber BK-8, located on the same level as Adit 12. Six drill holes were drilled and hole intersected the sulphide mineralization with a 0.89 m wide interval containing 3.6 g/t gold.
- 3) The Severnoye-5 vein was intersected from chamber BK-10 on the Adit 12 level. Gold-bearing sulphide mineralization in limestones was encountered in two intersections, which were 0.15 m and 0.64 m wide, with a gold content of 27.8 g/t and 4.7 g/t, respectively.
- 4) The Sulphidnoye-1 and Sulphidnoye -2 veins, were explored from drill chamber BK-9, located on Level 1390. The holes intersected the contact zone of carbonaceous shale and limestone. The width of the gold-bearing sulphide mineralization is from 0.49 m to 3.52 m, with gold content ranging from 1.22 g/t to 5.61 g/t. One of the drill holes cut a quartz-sulphide vein 0.49 m wide, containing 7.8 g/t gold and 19.1 g/t silver.

Buryatzoloto is also using a Bazooka drill rig for 10 m x 10 m stope definition drilling. In 2012, the company has planned 8,000 m of stope definition drilling, with an average hole length of 50 m to 60 m

10.3 ZUN-HOLBA SURFACE DRILLING PROGRAM

Buryatzoloto engaged LLC Russkay Burovaya Companiya, an independent contractor, based in Moscow, to execute the surface drilling program. The contractor has no interest in Buriyatzoloto or related companies. The drilling team is equipped with two drill rigs: a LF-230, used for the deep drilling (down to 2,000 m) and a LF-90 for short holes (Figure 10.3).

In 2012, the LF-230 is being used to test the down dip extensions of the Perspektivnaya zone. The deep holes are drilled in two steps. The first 1,000 m were drilled by the LF-90 rig and the hole is completed using the LF-230 rig. The drilling starts with HQ core and continues with NQ core size. Drill rig LF-90 is used for drilling short surface holes with NQ sized core.

Both the LF-230 and LF-90 drill rigs use salt water as drilling fluid and 5 m drill rods. The drilling contractor delivers the core to the core shack.

The average length of the surface holes is 250 to 300 m. The holes are located on the 40 m x 50 m grid and are spotted and lined up by the mine surveyor. The project geologist visits the drill rig every day and discusses the progress with the drilling team. The holes are surveyed with inclinometer IMS-36 during the drilling, in order to monitor the deviation. When the hole is finished, it is surveyed again, with readings for the azimuth and dip taken every 10m. During the site visit the company was drilling hole PC-592 on the Pionerskoye deposit.

Figure 10.3
Surface Rig LF-230 Drilling on the Pionerskoye Deposit



Photograph taken during Micon's 2012 site visit.

As of May 1, 2012, a total of 2,308 holes totalling 469,915.9 m had been drilled since 1982, and a total of 121,733 core and 76,278 chip samples had been taken.

During 2011, 39,362 m of surface drilling was completed, in line with the budgeted total. For 2012, Buryatzoloto has planned a minimum of 32,280 m of surface drilling. As of May 1, 2012, 6,990 m had been completed.

The first exploration target for 2012 is the upper part of the Severnoye-3 vein, Perspektivnaya zone (main deposit). The area contains an old adit that provided access to a high grade zone. The vein, with visible gold, is located at the top of a hill, but the high grade part has been mined out and the exploration group is now trying to expand the resources between the top of the hill and the level of Adit No. 14 (approximately. at the 2,000 m elevation). The surface exploration holes are drilled with LF-90 rig, with lengths of between 250 and 300 m. The drill holes are located on 7 sections with 3 to 4 holes per section, such that the mineralization will be explored on a 40 m x 50 m grid (Figure 10.4). The mineralized sections are sampled, the core is split, and half of the core is sent to Respublikansky Analitichesky Centre and SGS Laboratory in Chita.

Figure 10.4
Drill Hole Plan of the Pionerskaya Zone

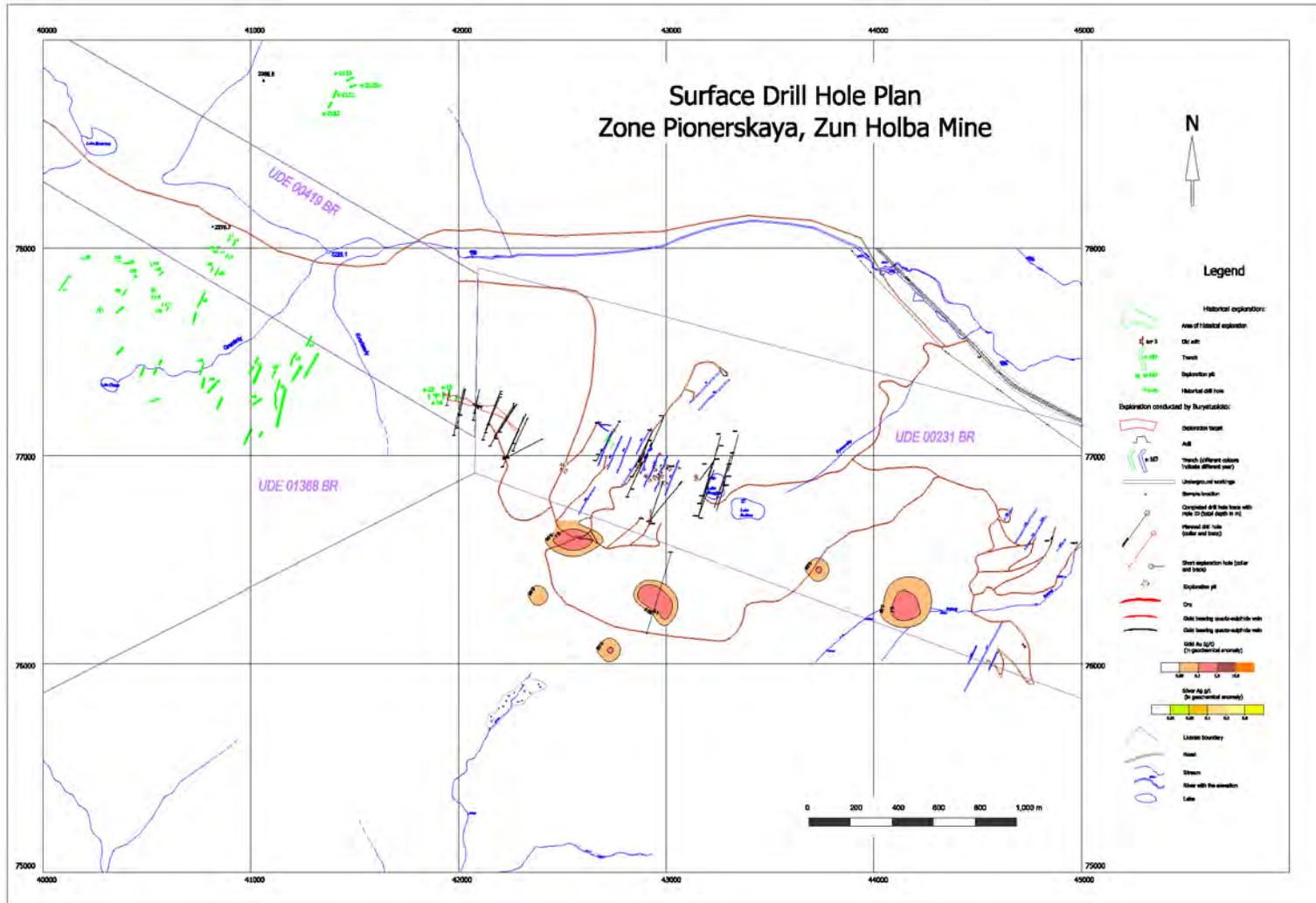


Figure created in July, 2012 by Micon based upon information supplied by OJSC Buryatzoloto.

The second exploration target is the down dip extension of Perspektivnaya zone. The main objective of this drilling is to outline the gold-bearing quartz vein at the 500 to 550 m elevation. Since 2010, nine deep holes have been drilled from the surface. The holes have depths ranging from 993.0 to 1,821.2 m. Buryatzoloto is encouraged by the results and plans to drill an additional 20,000 m in order to intersect the deep extension of the main deposit and the Severnaya-3 vein, in the expectation of increasing the “reserve” (Figure 10.5).

Table 10.1 shows the best intersections for selected drill holes from the 2011 drill program.

Table 10.1
Selected Results from the 2011 Drill Program

Drill Hole Information					Mineralized Intersection				Assay Results	
ID	Type	Length (m)	Azimuth °	Dip °	From (m)	To (m)	Width (m)	True Width (m)	Au (g/t)	Ag (g/t)
PC-391	UG	222.3	208.00	-33.0	92.2	92.4	0.20	0.15	44.60	35.60
PC-61	UG	174.3	158.00	-13.0	141.2	141.6	0.40	0.35	36.40	23.50
PC-382	UG	236.5	223.0	-48.0	143.4	144.1	0.70	0.39	33.00	33.80
PC-605	UG	152.7	82.0	+11.3	112.8	113.1	0.30	0.15	48.50	20.60
CE-1403	UG	204.0	204.0	-15.3	136	136.2	0.20	0.19	32.80	139.60
CE-1408	UG	225.0	203.0	-22.0	140.5	140.7	0.20	0.18	67.80	54.00
CE-1302	UG	136.0	193.0	-33.0	113.8	114.4	0.60	0.50	460.00	43.00
CE-1305	UG	116.1	205.0	-18.0	94.3	95	0.70	0.66	97.00	108.40
CE-1319	UG	131.9	248.0	-17.3	60.0	64.9	4.9	3.19	11.67	6.3
including					64.1	64.9	0.80		61.80	28.40
CE-1340	UG	161.2	79.0	+12.3	102.2	109.6	7.4	4.35	21.8	15.62
including					105.8	106	0.20		165.00	76.00
CE-1415	UG	184.4	240.0	-38.0	120.4	122.6	2.2	1.21	40.69	20.61
including					120.4	120.6	0.20		110.60	71.40
CE-1424	UG	172.0	229.0	-45.3	136.0	142.0	6.0	3.36	16.10	6.60
including					136.6	136.8	0.20		227.60	60.13
PC-536	S	321.0	41.0	-70	180	180.3	0.3	0.23	6.60	0.3
PC-537	S	408.0	41.0	-63.0	245.2	245.4	0.20	0.16	23.40	0.3
PC-555	S	522.3	106.3	-50.3	474.8	475.8	1.00	0.77	14.00	0.3

Note: Data provided by Buryatzoloto.
UG-underground drill hole.
S-surface drill hole.

For both underground drilling and surface drilling, the core recovery is typically 98 to 99%. There are no drilling, sampling or recovery factors that could materially impact the accuracy and reliability of the results.

10.4 MICON COMMENTS

Micon visited the drill rigs and the core logging facilities, reviewed the documentation and sampling procedures for both the underground and surface sampling during its visit to the site, and held discussions with the geological personnel. Micon concludes that the drilling and sampling at the mine are conducted in a manner which provides representative samples of the mineralization identified and that the sampling procedures meet current industry best practice guidelines. Therefore, Micon concludes that the samples can be used for resource and reserve estimations.

Figure 10.5
 Drill Plan of the Perspektivnaya and Smezhnaya Zones

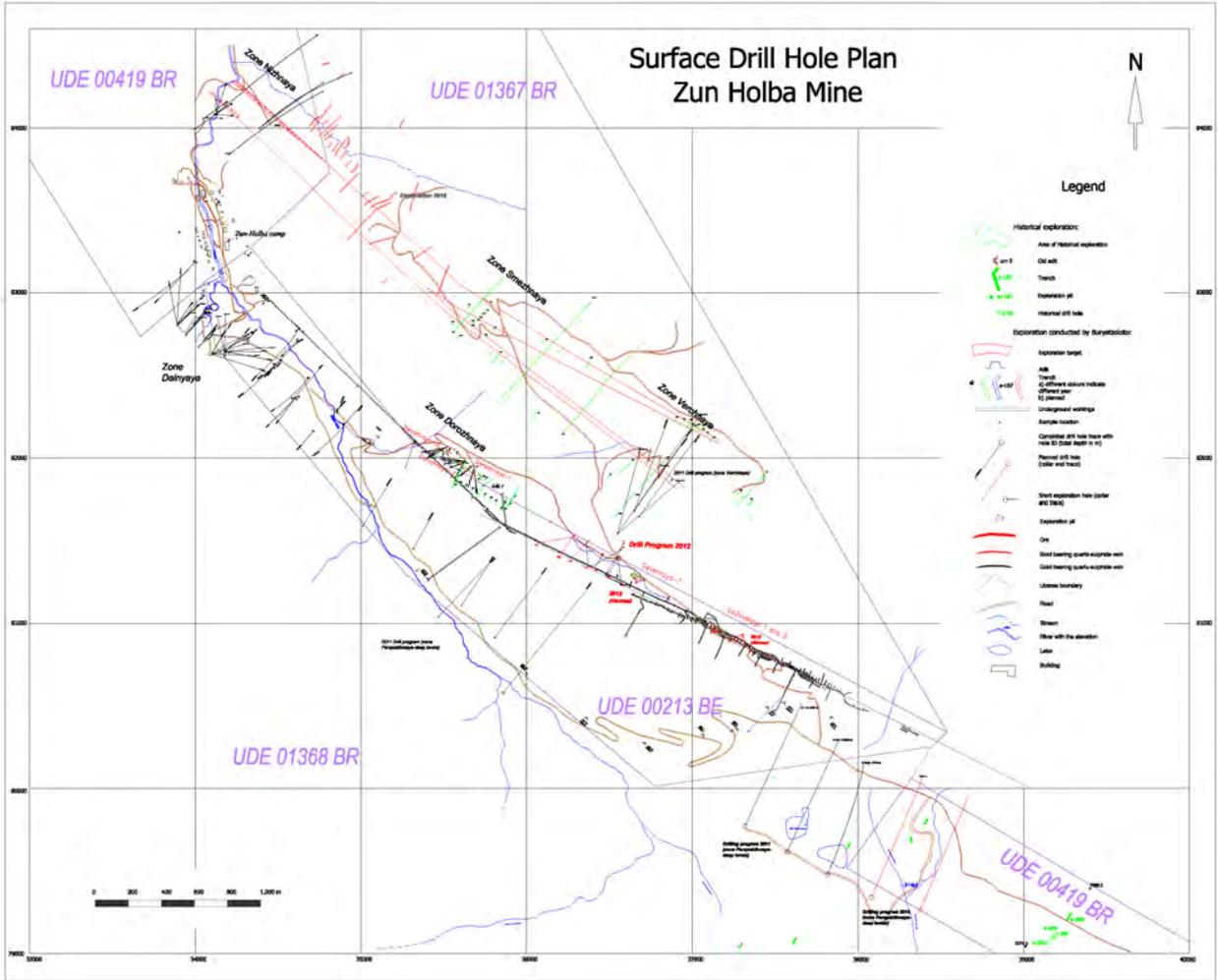


Figure created in July, 2012 by Micon based upon information supplied by OJSC Buryatzoloto.

Where applicable, the relationship between the sample length and true thickness of the mineralization is estimated. However, in the case of vein type deposits, the true width of the mineralization, as indicated in individual drill holes, can be deceptive, as the veins tend to pinch and swell and two closely spaced drill holes can provide different results. In the case of the Irokinda Project, the estimation of the true width of the mineralization based on a single drill hole is less important than the overall average width of the vein under investigation, and its relationship to the minimum mining width, and the average grade of the vein, as these factors will determine if the mineralization is included in the resource estimate.

Micon has reviewed the Zun-Holba Project drilling programs and has not noted any drilling, sampling or recovery factors that could materially impact the accuracy and reliability of the results.

11.0 SAMPLE PREPARATION, ANALYZES AND SECURITY

From 1982 to the present, there have been two organizations which have conducted exploration programs at the Zun-Holba mine site. Descriptions of the sampling methods and approach for the two organizations are provided in this section.

11.1 STATE GEOLOGICAL ASSOCIATION BURYATGEOLOGIA SAMPLING

From 1982 to 1993, detailed exploration consisting of channel, core, bulk and metallurgical sampling was conducted at the deposit by the State Geological Association Buryatgeologia. The scope of the sampling was summarized in Table 6.1.

11.1.1 Channel Sampling

Channel sampling of trenches was used to evaluate the quality and size of the mineralized zones and the controlling structures of the mineralization. The sampling was based on geological boundaries, with the length of the samples not more than 1.0 m and a cross-section of 5 m x 10 cm. The weight of the samples varied from 13 kg to 15 kg. The altered, mineralized rocks, quartz veins and quartz-sulphide rocks that had a thickness of less than 0.3 m were sampled using chip samples to get sufficient weight for the sample. The depth of the chip samples was 0.05 m, with their width equalling the thickness of the mineralized zone and length of the samples taken to achieve samples covering an area of 0.1 m².

The underground drifts were sampled with channel samples within the stopes spaced 2.5 to 3.5 m apart. The interval used was equal to two cycles of stope development and was chosen based on exploration experience. The cross-cuts which exposed the mineralized body for the whole thickness (during the detailed exploration such cross-cuts were developed 20 m apart along strike and 10 m apart up dip), and the access part of the ore exposure drifts, were sampled along the wall. Sampling of raises was conducted along two of the faces with an interval of 3.0 m. The cross-section of the channel samples in the underground workings was 5 x 10 cm.

The channel sampling of the stopes was continuous, with sample lengths varying from 0.1 m to 1 m (maximum length of sample did not exceed 1 m). The reliability of the 5 cm x 10 cm cross-section was evaluated by parallel channel samples of 3 cm x 5 cm and 5 cm x 20 cm cross-sections, which gave comparable results. The accuracy of the selected cross-section was controlled by a systematic comparison of the calculated and actual weights of the samples. The quality of sampling was controlled by taking channel samples with a larger cross-section (5 cm x 40 cm). The reliability of the channel sampling was checked by 53 bulk samples varying in weight from 1.15 tonnes to 1,000 tonnes, which included 1,371 channel samples taken from 203.95 metres of mineralized intersections. A direct comparison of data from the bulk sampling confirmed the reliability of the channel sampling.

11.1.2 Core Sampling

A total of 1,006 drill holes, including 326 surface holes and 680 underground holes, were drilled. The main drill diameters were 59 and 76 mm with the average core recovery was 84%.

Core sampling was conducted for all of the exploration drill holes with the entire core containing the mineralized intersections taken for the sampling. The core sample length ranged from 0.1 m to 2.0 m, depending on the width of mineralized intersections. Quality control of the sampling was conducted systematically by a comparison of calculated and actual weights of the core samples. The reliability of core sampling was evaluated by comparing the core sampling with the bulk and channel samplings. The comparison determined that there was no significant understatement of the gold and silver grades in the core sampling, indicating that the assays obtained from the drilling programs were reliable enough to outline the mineralized zones for the “reserve” estimates.

11.1.3 Sample Preparation, Analyses and Security

During the early detailed exploration programs, the preparation of both core and channel samples included crushing and grinding processes, which were performed using both hand and mechanical methods in the crushing facility of the Zun-Holba exploration team located at the Zun-Holba camp.

Crushing and grinding of the channel and chip samples were carried out in a multi-stage cycle, using a jaw crusher, cone crusher and pulverizer. The crushed material was split when the material comprising the samples was reduced to 1 mm. From one to four splits were made, depending on the weight of the samples. The split sample of 1.2 to 1.5 kg in weight was ground to 0.074 mm using a disk pulverizer and split into two portions, one of which was sent for fire assay and the other remained as the duplicate sample which was sent for spectrographic aurometric (goldmetric) and spectrographic analyses.

The core samples were processed following a single-stage cycle of crushing and grinding where the material was ground down to 0.074 mm without splitting.

Analyses of samples for gold and silver were done using the fire assay method at the laboratory of the Okinskaya expedition until 1985 and then at the central laboratory of the State Geological Association Buryatgeologia.

A total of 3,847 internal check analyses, or 3.73% of all samples from the project, and a total of 3,795 external check and 324 arbitration check analyses, were performed during the exploration programs. The samples were reanalyzed in the Central Laboratory of the State Geological Association Uralgeologia until the first half of 1985, in the Central Laboratory of Kamchatgeologia from the second half of 1985 until 1988 and, from 1988 to 1993, in the Central Laboratory of the State Geological Association Chitageologia. Processing of the check analyses was performed in accordance with the 1982 Research Council on Analytical Methods (RSAM) guidelines.

A summary of the number of samples submitted for internal, external and arbitration checks between 1982 and 1993 is shown in Table 11.1.

Table 11.1
Samples Submitted for Check Analysis between 1982 and 1993

Exploration Programs	Number of Check Assays		
	Internal	External	Arbitration
1982 to 1993	3,847	3,795	324

Table provided by OJSC Buryatzoloto.

The internal check analyses showed that a bias existed primarily in the 0 to 1 g/t gold grade range and rarely in the 1 to 4 g/t and 4 to 16 g/t grade ranges. The bias did not influence the “reserve” estimation because it affected only 5 to 6% of the total number of assays conducted. The external check assays identified significant systematic biases during some periods of sampling between 1986 and 1989 and, for the sampling conducted during these periods, a number of arbitration check assays were submitted for secondary assaying. The arbitration check assays which were conducted identified that the fire assays of the main laboratory were sufficiently accurate to be included in the “reserve” estimation.

11.2 BURYATZOLOTO SAMPLING

11.2.1 Channel Sampling

The sampling method for the mineralization exposed by the underground drifts was developed during the detailed exploration stage and continues to be used for exploration at the Zun-Holba deposit. Sampling is also performed during the mining operations as follows:

- 1) For the shrinkage stoping method, with drifts 1.0 to 1.5 m high, the drifts are sampled from the roof by 3 x 5 cm channel samples 3 m apart along the strike of the mineralized zone, using geological boundaries as the limiting factor for each sample. Within the “reserves” block, the drifts are sampled 3 to 8 m apart and averaging 6 m down or up dip.
- 2) For the top-down (underhand) or bottom-up (overhand) cut-and-fill methods, the sampling method is the same as that used for the shrinkage stoping. Along the strike of the mineralized zone, the spacing between the sample intersections is 3 m and averages 5 to 7 m down or up dip.

The area of mineralization covered by each exploration composite is between 11 and 33 m², with an average of approximately 21 m², and the tonnage covered by each composite varies from 28 to 249 t and averages 98 t.

Channel sampling can at times be a somewhat selective sampling method since it is occasionally difficult to take a representative sample due to variance in the hardness of the material being sampled. However, the practice of channel sampling is common around the world for underground deposits and the practice of systematically sampling the faces, backs

or walls of the development drifts tends to generate a very large set of samples which is, in most cases, statistically representative of the material being sampled. Channel sampling is a routine sampling method used in mines in order to identify ore and waste development rounds. In these cases, the chip sampling is submitted to the mine's on-site assay laboratory with the results available usually within 24 to 36 hours of being submitted.. The results obtained in the on-site laboratory are commonly used in the estimation of resources.

Micon reviewed the Zun-Holba mine's channel sampling procedures for both the underground and surface sampling during its visits to the site and in discussions with the geological personnel. Micon believes that the chip sampling procedures used by the Zun-Holba mine are conducted in a manner such that they are representative of the mineralization identified, and that they meet current industry best practice guidelines for this type of sampling. Therefore, Micon believes that the results can be used for the resource estimations conducted at the Zun-Holba mine.

11.2.2 Core Sampling

The mineralization is primarily drilled using either NQ (75.8 mm) diameter rods with a core diameter of 47.6 mm or BQ diameter rods with a core diameter of 35.6 mm. The entire core is sampled and the core recovery for mineralization is 98 to 99%. All drill holes are sampled. Before sampling, all core stored in the core boxes is photographed using a digital camera, with all photographs stored in the computer database and on compact disks. Between January 1, and April 30, 2012, a total of 167 drill holes totalling 22,103 m were drilled and a total of 8,767 core and chip samples were taken.

Depending on the geological boundaries, the mineralized samples have varying length, to a maximum of one metre. All host rocks without sulphide mineralization are photographed in the core boxes and sampled by chip samples up to 5 m in length. Figure 11.1 is a core sample with chalcopyrite mineralization from hole PC-577 drilled in the Pionerskoye zone.

The core is logged in a secure location by qualified personnel and Micon believes that the results can be used for resource estimation at Zun-Holba mine.

11.2.3 Sample Preparation, Analyses and Security

Between 1992 and 2006, channel and core samples were assayed in the fire assay laboratory of the Zun-Holba mine and the Republic Analytical Centre located in the city of Ulan-Ude. The external check analyses were conducted in the laboratory of IRGIREDMET located in the city of Irkutsk.

Preparation of the core and channel samples included crushing and grinding, which were performed using both hand and mechanical methods in the crushing facility of the Zun-Holba mine, located at Samarta.

Figure 11.1
Chalcopyrite Mineralization in a Core Sample from Drill Hole PC-577 in the Pionerskoye Zone



The procedures used for calculating sample weight, and for crushing and grinding of the samples remain the same as described in Section 11.1.3.

All mineralized channel, core and chip samples are fire assayed for gold and silver. The fire assay method includes crucible melting with preliminary roasting. When the gold grade is high, a doré bead is split. The fire assays are conducted using two parallel portions of one sample and, when assay results of these portions are significantly different, the assay is repeated.

The flowsheet for the preparation of core and channel samples is shown on Figure 11.2.

11.3 QUALITY ASSURANCE/ QUALITY CONTROL PROCEDURES

Certified reference materials have not been used as part of the quality assurance/quality control (QA/QC) protocol for any of the exploration programs at the Zun-Holba mine.

11.3.1 Internal and External Check Assays

Internal check assays are performed to find random errors in the analytical work at the laboratory. The check duplicate samples are encoded and then assayed at the laboratory of the Zun-Holba mine: where the check assays are conducted for each of the following gold grade ranges: 0 to 1 g/t (0.0 to 0.5; 0.5 to 1.0), 1 to 4 g/t, 4 to 16 g/t, 16 to 64 g/t, 64 to 128 g/t and more than 128 g/t. According to the Russian guidelines the number of check analyses for each grade range has to be not less than 30. Table 11.2 summarizes the internal check assays conducted for gold from 1999 to 2011.

Figure 11.2
Sample Processing Chart, used in the Zun-Holba Mine Laboratory

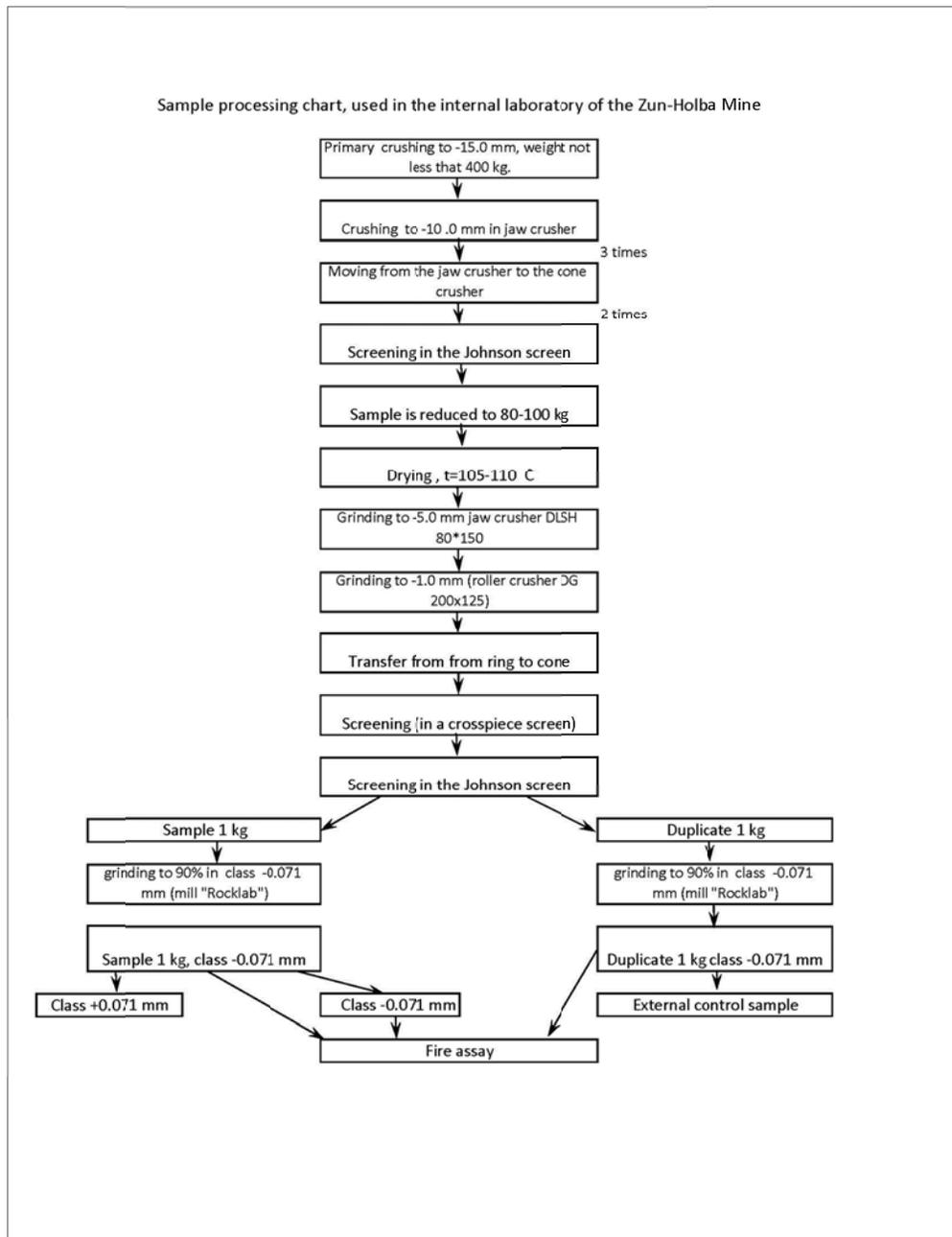


Figure created in June, 2012 by Micon based upon information supplied by OJSC Buryatzoloto.

Table 11.2
Results of the Internal Check Analysis for Gold (Fire Assay Method)

Year	Gold Grade Range Checked (g/t)	Number of Samples Checked		Average Gold Grade for Range (g/t)		Mean Square Deviation (g/t)		Relative Mean Square Deviation (%)		Maximum Limit of Relative Mean Square Deviation (%)
1999	0 - 1	45		0.59		0.09		15.94		30
	1 - 4	39		2.47		0.29		11.80		25
	4 - 16	39		9.02		0.98		10.89		18
	16 - 64	38		34.91		1.77		5.07		10
	>64	42		153.24		4.14		2.70		4.26
1st and 2nd half of 2000		1 st Half	2 nd Half	1 st Half	2 nd Half	1 st Half	2 nd Half	1 st Half	2 nd Half	
	0 - 1	32		0.61		0.16		26.31		30
	1 - 4	38	16	2.37	2.71	0.37	0.20	15.40	7.52	25
	4 - 16	39	17	10.07	9.33	0.86	0.62	8.51	6.65	18
	16 - 64	39	18	36.35	36.28	2.43	2.00	6.68	5.51	10
	>64	36	7	124.18	205.31	3.95	6.29	3.18	3.06	4.26
1st and 2nd half of 2001		1 st Half	2 nd Half	1 st Half	2 nd Half	1 st Half	2 nd Half	1 st Half	2 nd Half	
	0 - 4	79	29	1.55	2.16	0.258	0.470	16.61	21.90	25
	4 - 16	90	49	8.46	8.38	0.616	0.530	7.30	6.30	18
	16 - 64	50	36	31.22	34.39	1.940	2.650	6.22	7.71	10
	>64	27	7	142.04	207.44	5.979	6.277	4.20	3.00	4.26
1st and 2nd half of 2002		1 st Half	2 nd Half	1 st Half	2 nd Half	1 st Half	2 nd Half	1 st Half	2 nd Half	
	0 - 1	51	45	0.50	0.50	0.102	0.123	20.55	24.13	30
	1 - 4	55	56	2.55	2.16	0.317	0.360	12.42	16.67	25
	4 - 16	55	61	8.56	8.14	0.654	0.719	7.64	8.83	18
	16 - 64	52	63	31.32	29.85	3.053	2.098	9.75	7.03	10
>64	50	35	156.90	85.35	3.456	3.571	2.20	4.18	4.26	
1st and 2nd half of 2003		1 st Half	2 nd Half	1 st Half	2 nd Half	1 st Half	2 nd Half	1 st Half	2 nd Half	
	0 - 1	0	36	0.00	0.55	0.000	0.164	0.00	30.00	30
	1 - 4	25	54	2.24	2.73	0.151	0.494	6.72	18.11	25
	4 - 16	22	65	11.99	9.76	0.216	0.736	1.80	7.54	18
	16 - 64	24	57	33.67	36.66	0.941	1.854	2.80	5.06	10
>64	15	48	91.94	114.35	1.376	4.788	1.50	4.19	4.26	
2004	<0.5	50		0.08		0.02		23.38		30
	0 - 1	43		0.73		0.08		11.00		30
	1 - 4	45		2.02		0.14		6.97		25
	4 - 16	44		7.86		0.50		7.86		18
	16 - 64	44		31.29		2.16		6.90		10
	64 - 128	23		89.27		3.87		4.34		4.5
	>128	9		190.42		2.39		1.26		4.0
2005	<0.5	58		0.26		0.07		30.00		30
	0.5 - 1	53		0.73		0.18		28.10		30
	1 - 4	65		2.07		0.49		25.00		25
	4 - 16	64		9.04		1.50		17.00		18
	16 - 64	74		31.72		3.82		12.24		10
	64 - 128	26		87.62		5.52		6.33		4.5
	>128	10		212.04		4.85		2.27		4.0
2006	<0.5	70		0.24		0.05		20.80		30
	0.5 - 1	70		0.69		0.09		13.04		30
	1 - 4	70		1.99		0.13		6.53		25
	4 - 16	60		8.76		0.54		6.16		18
	16 - 64	46		31.81		1.18		3.71		10
	64 - 128	17		88.28		3.37		3.82		4.5
	>128	10		302.72		7.94		2.62		4.0
2007	<0.5	70		0.22		0.06		28.20		30
	0.5 - 1	60		0.71		0.198		30.08		30
	1 - 4	61		2.32		0.42		18.17		25
	4 - 16	55		9.00		1.21		13.96		18
	16 - 64	31		31.84		3.36		10.57		10
	64 - 128	3		86.93		6.31		7.07		4.5
	>128									
2008	0 - 1	53		0.49		0.14		28.02		30
	1-4	58		2.33		0.4		17.28		25
	4-16	48		8.31		1.198		14.42		18
	16 - 64	33		27.2		1.42		5.21		10
	64 - 128	22		87.51		3.44		3.93		4.5
	>128	21		236.98		7.5		3.16		4
2009	0 - 1	30		0.54		0.179		33		30
	1-4	30		2.57		0.561		21.9		25
	4-16	30		10.92		1.268		11.6		18

Year	Gold Grade Range Checked (g/t)	Number of Samples Checked	Average Gold Grade for Range (g/t)	Mean Square Deviation (g/t)	Relative Mean Square Deviation (%)	Maximum Limit of Relative Mean Square Deviation (%)			
2010	16 - 64	30	41.47	3.206	7.7	13			
	>64	30	117.58	4.466	3.8	4.5			
	0 - 1	23	0.51	0.151	29.6	30			
	1-4	19	2.51	0.521	20.8	25			
	4-16	30	11.3	1.923	17	18			
	16 - 64	28	39.57	4.447	11.2	13			
	>64	29	222.63	11.193	5	6.5			
2011		1 st Half	2 nd Half*	1 st Half	2 nd Half*	1 st Half	2 nd Half*		
	0 - 1	26		0.6		0.178		29.9	30
	1-4	23		2.76		0.486		17.6	25
	4-16	25		9.17		0.947		10.3	18
	16 - 64	30		43.51		3.116		9.2	13
	>64	28		170.88		9.444		5.5	6.5

*The data is being processed.

Table provided by OJSC Buryatzoloto.

Based on the initial assays and the corresponding check assays, a mean square deviation is calculated. A relative mean square deviation is also calculated and this value defines the comparability of the gold grades for the grade range. The value of the relative mean square deviation for the grade range must be no more than the maximum limits of the deviation indicated in the SCR guidelines.

External check assays for the gold grades are performed using the fire assay method at laboratories located in the cities of Irkutsk (IRGIREDMET) and Ulan-Ude (Republic Analytical Centre). The samples which were selected for the internal check assays are sent also for external check assays. Based on both the initial and check assays received from the laboratories, a systematic bias is calculated for each grade range. The significance of the systematic bias is evaluated by comparing it to the theoretical t-criteria (Student's distribution) and calculated t-criteria.

Table 11.3 summarizes the external check assays conducted for gold at the Zun-Holba mine between 1999 and 2011.

Both the internal and external check analyses for gold have been conducted in a systematic fashion for the Zun-Holba mine. There is a satisfactory comparison between the external and internal check assays, and these do not display any systematic biases.

Table 11.3
Results of the External Check Analysis for Gold (Fire Assay Method)

Year	Gold Grade Range Checked	Number of Samples Checked	Average Gold Grade for Range (g/t)	Absolute Systematic Bias (g/t)	Relative Systematic Bias (g/t)	Evaluation of Significant Systematic Biases	
						t-criteria (Student's distribution)	
						t-calculated	t-theoretical
1999	0 - 1	21	0.55	-0.12	-21.98	1.86	2.09
	1 - 4	23	2.58	-0.05	-1.85	0.59	2.07
	4 - 16	21	9.35	-0.67	-7.18	1.71	2.09
	16 - 64	21	35.2	-0.212	-0.60	0.47	2.09
	>64	23	153.03	-3.0	-1.96	1.8	2.07
2000 (1 st half)	0 - 1	20	0.58	-0.08	-13.48	1.8	2.09
	1 - 4	28	2.54	0.01	0.21	0.07	2.05
	4 - 16	29	10.33	-0.471	-4.56	1.94	2.05
	16 - 64	21	37.86	-1.869	-4.94	1.61	2.09
	>64	29	115.28	-6.84	-5.94	2.03	2.05

Year	Gold Grade Range Checked	Number of Samples Checked	Average Gold Grade for Range (g/t)	Absolute Systematic Bias (g/t)	Relative Systematic Bias (g/t)	Evaluation of Significant Systematic Biases	
						t-criteria (Student's distribution)	
						t-calculated	t-theoretical
2000 (2 nd half)	0 - 1	0	0	0.00	0.00	0	0
	1 - 4	32	1.98	-0.11	-5.57	1.18	2.04
	4 - 16	34	8.46	-0.22	-2.61	0.64	2.04
	16 - 64	34	31.69	-2.44	-7.70	3.19	2.04
	>64	29	185.53	-7.46	-4.02	2.76	2.05
2002 (1 st half)	0 - 1	45	0.52	0.0076	1.46	0.4	2.02
	1 - 4	50	2.68	-0.114	-4.23	1.89	2.01
	4 - 16	48	8.5	-0.7229	-8.51	6.09	2.03
	16 - 64	43	33.33	-2.474	-7.42	4.95	2.02
	>64	45	137.60	-3.80	-2.76	3.50	2.02
2002 (2 nd half)	0 - 1	23	0.52	0.06	11.06	1.58	2.07
	1 - 4	41	2.48	-0.13	-5.30	-1.18	2.02
	4 - 16	105	9.23	-0.73	-7.95	-3.72	1.98
	16 - 64	71	34.87	-2.00	-5.73	-4.30	2.00
	>64	29	147.30	-5.06	-3.43	-0.41	2.04
2003 (1 st half)	0 - 1	18	0.26	-0.0024	-0.90	0.08	2.09
	1 - 4	28	2.22	0.0007	0.33	0.11	2.04
	4 - 16	26	11.83	-0.387	-3.27	2.08	2.02
	16 - 64	29	39.18	-2.446	-6.24	5.39	2.05
	>64	25	100.30	3.126	3.12	0.50	2.05
2003 (2 nd half)	0 - 1	21	0.49	0.027	5.40	0.91	2.09
	1 - 4	30	2.81	-0.196	-6.95	0.55	1.95
	4 - 16	39	10.77	-1.268	-11.78	2.23	2.02
	16 - 64	28	36.78	-2.625	-7.14	6.23	2.05
	>64	27	122.06	-9.578	-7.85	3.41	2.05
2004	0 - 1	30	0.62	-0.02	-3.74	0.48	2.04
	1 - 4	30	2.4	-0.103	-4.31	1.14	2.04
	4 - 16	29	10.2	-0.455	-4.46	1.38	2.05
	16 - 64	28	38.05	-1.079	-2.83	1.35	2.05
	>64	31	111.87	-0.561	-0.5	0.81	2.04
2005	0 - 1	27	0.52	-0.03	-6.43	1.97	2.06
	1 - 4	33	2.48	-0.01	-0.37	0.05	2.04
	4 - 16	31	10.31	0.20	1.95	0.62	2.04
	16 - 64	30	38.56	0.74	1.91	0.85	2.04
	>64	31	131.12	-0.96	-0.73	1.72	2.04
2006	0 - 1	21	0.55	-0.12	-21.98	1.95	2.09
	1 - 4	21	2.57	-0.03	-1.11	0.32	2.09
	4 - 16	21	9.53	-0.49	-5.15	1.42	2.09
	16 - 64	28	35.41	-0.475	-1.34	1.11	2.05
	>64	24	149.6	-2.4	-1.60	1.43	2.07
2007	0 - 1	21	0.55	-0.12	-21.98	1.95	2.09
	1 - 4	21	2.57	-0.03	-1.11	0.32	2.09
	4 - 16	21	9.53	-0.49	-5.15	1.42	2.09
	16 - 64	28	35.41	-0.475	-1.34	1.11	2.05
	>64	24	149.6	-2.4	-1.60	1.43	2.07
2008	0 - 1	53	0.45	0.063	13.1	1.78	2
	1-4	58	2.34	-0.136	-6	1.79	2
	4-16	48	8.53	-0.375	-4.5	1.97	2.01
	16 - 64	33	27.49	-0.273	-1	0.91	2.04
	64-128	22	88.16	-1.16	-1.3	1.88	2.07
2009	0 - 1	21	239.6	-2.54	-1.1	1.06	2.08
	0 - 1	30	0.51	-0.014	-2.65	0.39	2.04
	1-4	30	2.57	-0.068	-2.66	1.99	2.04
	4-16	30	11.64	-0.05	-0.43	0.21	2.04
	16 - 64	30	41.73	0.757	1.81	1.6	2.04
2010	64-128	30	118.22	1.33	1.13	2.19	2.04
	0 - 1	23	0.47	-0.02	-4.21	0.75	2.07
	1-4	19	2.84	-0.119	-4.19	1.91	2.09
	4-16	30	11.78	-0.347	-2.94	2.04	2.04
	16 - 64	28	42.56	-0.857	-2.01	1.91	2.05
2011 (1 st Half)	64-128	29	228.03	-5.262	-2.31	1.5	2.04
	0 - 1	26	0.6	0.01	1.74	0.51	2.06
	1-4	23	2.88	-0.174	-6.06	0.51	2.07
	4-16	25	10.13	-0.348	1.02	1.7	2.06
	16 - 64	30	38.16	-0.05	-0.13	0.14	2.04
	64-128	28	150.21	-2.414	-1.61	1.24	2.05

Year	Gold Grade Range Checked	Number of Samples Checked	Average Gold Grade for Range (g/t)	Absolute Systematic Bias (g/t)	Relative Systematic Bias (g/t)	Evaluation of Significant Systematic Biases		
						t-criteria (Student's distribution)		
						t-calculated	t-theoretical	
2011 (2 nd Half)	The data is being processed.							

Table provided by OJSC Buryatzoloto.

11.4 MICON COMMENTS

Micon believes that, based on a review of the work conducted at the mine and on discussions with Zun-Holba personnel, Buryatzoloto applies a reasonable degree of care and diligence in monitoring the sample results on the property. Micon considers that the Quality Assurance/Quality Control (QA/QC) procedures and protocols employed at the Zun-Holba mine are rigorous enough to ensure that the sample data are appropriate for use in mineral resource and reserve estimations.

All samples are taken to the mine site laboratory by the geologists who collect the original sample. The laboratory is a secure area with limited access to outside personnel.

Like many mine laboratories around the world, the on-site laboratory is not ISO certified. However, the on-site laboratories in Russian mines are subject to strict state regulations which include regular visits and audits that ensure compliance with state standards for sample preparation and assaying.

Buryatzoloto has no relationship with the two out-side laboratories, IRGIREDMET and RATs Analytical Centre, where the external check assays are conducted. Both of these laboratories are independent. The two outside laboratories are also governed by Russian state regulations concerning the accuracy and quality of their operations.

12.0 DATA VERIFICATION

12.1 ZUN-HOLBA PROJECT SITE VISIT AND DATA REVIEW IN ULAN-UDE

As described previously, Micon has visited the Zun-Holba site twice, in 2007 and 2012, and the offices of Buryatzoloto three times, in 2007, 2008, and 2012.

Micon's review and audit of the Zun-Holba Project mineral resource and mineral reserve estimates included the following data verification exercises:

- A visit to the headquarters of Buryatzoloto in Ulan-Ude, where the material necessary for Micon's Technical Report was obtained and where the data input procedures, geological model, resource model parameters and resource classification methods were reviewed in detail.
- A site visit to the Zun-Holba Project, where the resource model, estimates, parameters and classification details were discussed further. The site visit also included an underground tour to examine the mining procedures, as well as to examine the veins for continuity and mineralization; geological mark-up procedures and mining methods were observed and discussed. During the 2012 site visit, Micon also visited two of the underground drill stations where exploration drilling was being conducted
- A site visit to the processing facilities and the tailings storage facilities, where information related to the processes involved was collected and discussed.
- A review of the resource block model, including a review of the cut-off grade, estimation procedures, capping of high grade assays and block estimation protocols.
- A discussion concerning the parameters used for the various categories under the system of Russian resource estimation, including a discussion on how they related to the CIM categories. These discussions took place both in Ulan-Ude and on the mine site.
- A discussion concerning the "operational reserves" and the parameters under which the state approved "reserves" were converted to "operational reserves".

A review of the spreadsheets of tabulated Russian "reserves" for each vein and by polygon block was undertaken to verify that:

- The appropriate methodology and parameters had been used to estimate the in-situ geological resources.
- The methodology and parameters for the quantities of dilution and recovery of the broken material within the stopping areas were appropriate and had been applied correctly.

- The estimates had been recorded correctly.
- The summary tables had correctly listed total tonnages, grades and contained metal within the “reserve” categories.
- The classification of the “reserves” had been applied in a consistent manner throughout the estimation process.
- The reconciliation between the “reserves” and the mine and mill production provided support for the validity of the reserve estimate.

A detailed block-by-block review of the Russian classified “reserves” was conducted, along with a review of the parameters by which these were converted to “operational reserves.” Discussions were also held as to the appropriate category in which to place the individual blocks according to the JORC and CIM classification systems. These discussions were held both in Ulan-Ude and at the Zun-Holba mine site, and it resulted in a better understanding of the “reserve” estimation processes at the Zun-Holba Project.

Micon concluded that the Russian estimate, as audited by Micon, had been reasonably prepared and could be used as the basis for the conversion of the Russian “reserves” into mineral resources and the Russian “operational reserves” into mineral reserves which conform to both the current JORC code and CIM standards and definitions.

12.2 EXPLORATION PROGRAM REVIEW

In May, 2012, Micon visited the surface targets where the exploration program was being conducted.

Micon, together with the project geologist, reviewed the core from the surface exploration, the drill sections and the logging and sampling procedures. Micon also held discussions with the exploration group on the current and future drilling programs and the exploration potential of the mineral licenses. The underground exploration will continue from the drill chambers located on levels 1640, 1490, 1390 and 1290. The exploration of the upper levels of the Perespektivnaya zone (veins Severnaya-3, Severnaya-1, -2, Vavilonskaya-2, -3) will continue with surface drilling in 2012 and 2013 and will reach the 2000 and 2040 levels.

Exploration on the adjacent Pionerskaya zone will continue with surface drilling on a 40 x 40 m grid. The objective is to outline the gold-bearing quartz vein and estimate “reserves” in category C₂.

12.3 ELECTRONIC DATABASE REVIEW

Micon reviewed the entire digital database for the Zun-Holba Project and validated the parameters and information contained in Excel spreadsheet tables. The database for the Project consists of the underground sampling from drifts, cross-cuts and raises along the mineralized veins and zones, and numerous underground and surface diamond drill holes.

There were some minor typographical errors or discrepancies in the digital database, caused by errors when transferring original drill log data from a written to a digital form. These errors were minor and in no way detract from the overall accuracy of the database.

At present, the majority of the database for the Zun-Holba Project is not in digital format and therefore not amendable to being analyzed using Datamine[®], Surpac[®] or a similar type of resource modelling software. As a result, it is currently impossible to create a block model for resource and reserve estimation. Underground geology is mapped and recorded as hand-drawn sketches of the drifts and mining lifts and sections. The geological information contained in these sketches could be used in assisting with the creation of a 3-D geological block model. In addition, both long and cross-sections of the drifts, cross-cuts and etc. exist as 2-D Autocad[®] drawings and this information could be imported directly into 3-D software.

Micon recommends that Buryatzoloto continues to convert its paper database into a digital format for the newer areas of the mine and that it implements or investigates the following:

- 1) The use of logging software for data capture and validation in digital format.
- 2) The use of an electronic format of transmission of the data from the down-hole survey instruments directly into the database.
- 3) The use of an electronic format for data exchange between the assay laboratories and geological departments.
- 4) The use of 3-D software for visualization of new mining areas and further exploration, as well as the future for resource and reserve estimation.

Micon believes that the move from a paper database to an electronic database will benefit Buryatzoloto in assisting with both the exploration and mining of the existing and potential mineral resources at the Zun-Holba Project.

12.4 DISCREPANCIES BETWEEN PREVIOUS PUBLISHED RUSSIAN “RESERVE” GRADES AND ACTUAL MILL GRADES FROM ZUN-HOLBA

A number of views have been expressed regarding the differences between the “reserve” grade and the actual mill grades at the Zun-Holba Project in the past. This has created a concern and belief by various parties that the “reserve” grades have been overstated. Micon addressed this issue specifically in its previous 2008 Technical Report, when converting the resources and reserves at the Zun-Holba Project from the Russian “reserves” and “operational reserves” into JORC and CIM compliant estimates.

In essence, Micon concluded that this confusion arose because of a misunderstanding of the nature of the reported Russian “reserves”. Prior to Micon’s initial Technical Report on the Zun-Holba mine, which was issued in 2007, High River published the state-approved Russian “reserve” estimates, which are based upon parameters approved by the state and

which make no allowance for either mining losses or dilution. These estimates, therefore, do not qualify as mineral reserves under both the JORC or CIM standards and definitions.

For the purpose of mine planning and economic analysis, Buryatzoloto, in common with many mining companies in Russia, converts the state-approved “reserves” into “operational reserves”, by incorporating allowances for mining losses and dilution. Because of the allowance for dilution, the grade of the “operational reserves” is invariably lower than the grade of the state-approved “reserves”. These “operational reserves”, however, are not officially recognized in Russia, and are rarely published.

For detailed annual budgeting, Buryatzoloto adds an additional factor to the grade of the “operational reserves”, based on a comparison between the grade of the “operational reserve” and the actual mined grade for the previous year. This procedure is similar to applying a mine call factor to the estimated reserve grade, resulting in a further reduction in the estimated grade of the run-of-mine ore. Thus, anyone who does not fully understand the Russian system for estimating “reserves”, and who compares actual mined grades with the official reserve grade, is liable to conclude that the grade of the “reserves” has been seriously overestimated.

In order to clarify the differences between the grades shown in High River’s publication of the Russian “reserves” and the actual operational grades, Micon has prepared the comparison shown in Table 12.1 and Figure 12.2 between the actual mine grade at Zun-Holba since 1995 and the official “reserve” grade, the “operational reserve” grade and the budgeted mine grade. In general there is reasonable agreement between the budgeted and actual mining and processing grades.

Table 12.1
Zun-Holba Mine Summary of the Reserve and Production Grades from 1995 to 2012 (First Quarter)

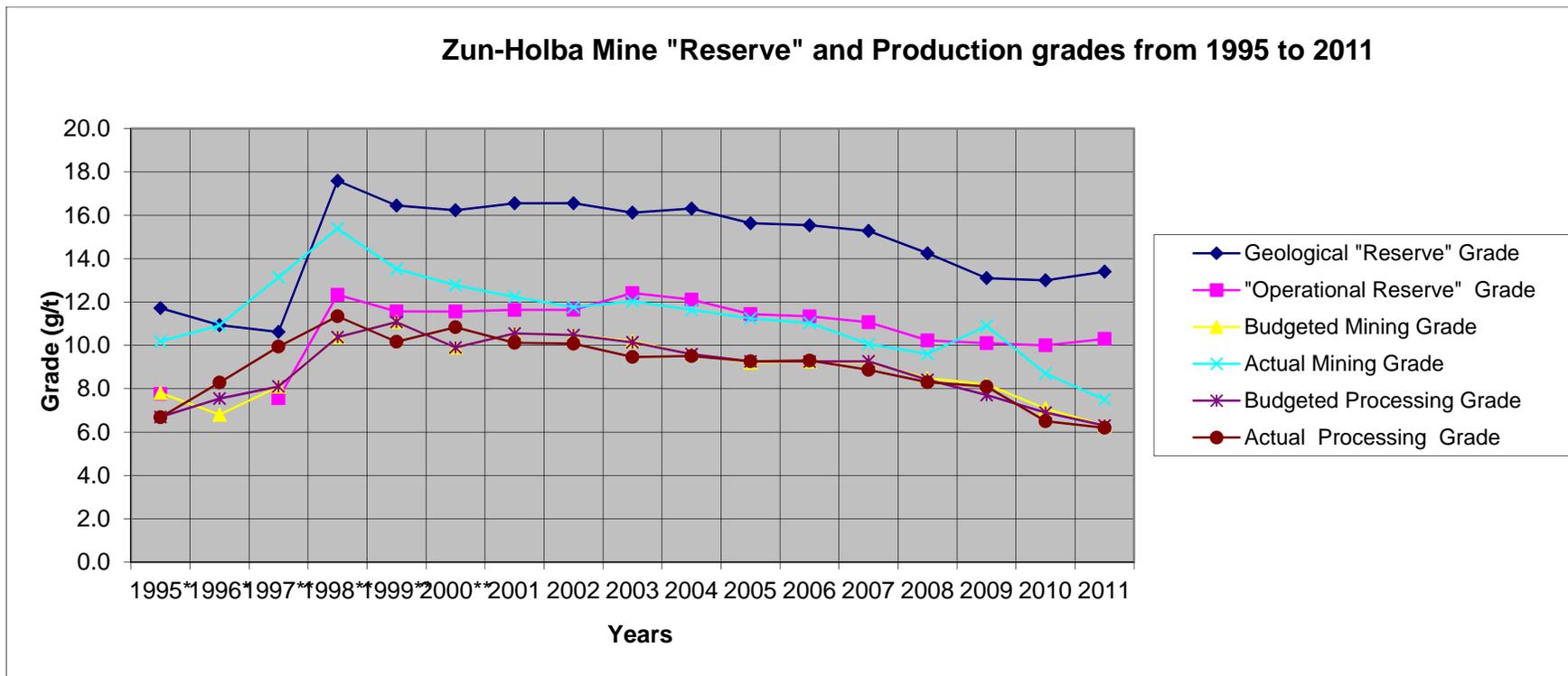
Year	Geological Reserve Grade (g/t)	Operational Reserve Grade (g/t)	Budgeted Mining Grade (g/t)	Actual Mining Grade (g/t)	Budgeted Processing Grade (g/t)	Actual Processing Grade (g/t)
1995*	11.7	7.8	7.8	10.2	6.7	6.7
1996*	10.9	---	6.8	10.9	7.5	8.3
1997**	10.6	7.6	8.1	13.1	8.1	9.9
1998**	17.6	12.3	10.4	15.4	10.4	11.3
1999**	16.4	11.6	11.1	13.5	11.1	10.2
2000**	16.2	11.6	9.9	12.8	9.9	10.8
2001	16.6	11.6	10.5	12.2	10.5	10.1
2002	16.6	11.6	10.5	11.8	10.5	10.1
2003	16.1	12.4	10.2	12.0	10.1	9.5
2004	16.3	12.1	9.6	11.6	9.6	9.5
2005	15.6	11.4	9.2	11.2	9.3	9.3
2006	15.5	11.3	9.3	11.0	9.3	9.3
2007	15.3	11.1	9.2	10.1	9.3	8.9
2008	14.2	10.2	8.5	9.6	8.4	8.3
2009	13.1	10.1	8.2	10.9	7.71	8.1
2010	13.0	10.0	7.08	8.7	6.9	6.5
2011	13.4	10.3	6.3	7.5	6.3	6.2
2012*** First Quarter	10.9	8.4	6.38	6.4 (January - April)	6.38	5.9 (January - April)

Note: *Reserve grades according to 5-GR forms.

**Reserve grades from the reports issued by Buryatzoloto.

***Budget and “reserve” grades reflect the yearly but actual grades reflect only the first quarter.

Figure 12.1
 Zun Holba Grade Statistics for the Zun-Holba Mine from 1995 to 2011



Note: *Reserve grades according to 5-GR forms.
 **Reserve grades from the reports issued by Buryatzoloto.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 GENERAL TESTING FOR THE MINE

Metallurgical testing for the Zun-Holba deposit was carried out on 18 laboratory samples with a weight varying from 0.2 to 1.5 t and 2 semi-industrial samples of 102 and 402.3 t. The laboratory samples were collected from the different types of mineralization and the semi-industrial samples were bulk samples which characterized the whole deposit. Additionally, a total of 1,000 mineralogical samples were collected.

The metallurgical testing of all the samples concluded that the different types of mineralization belong to a single processing type which was easily treated with the total recovery for gold varying from 92.9 to 97%, if a gravity-flotation scheme with cyanide leaching of the flotation concentrate was used. In 1996, 508.5 t of flotation concentrate were processed at the CIP plant of the Pervomaiskiy mine located in the Chita region, with a recovery of 90.9%. Based on these data, the IRGIREDMET Institute (city of Irkutsk) designed a CIP flowsheet for the Zun-Holba mine. In 1998, 250 t of the flotation concentrate from the Irokinda mine were processed at the IRGIREDMET Institute pilot plant, and this resulted in the Institute developing a CIP flowsheet, as an addition to the main Zun-Holba CIP circuit, to process the Irokinda concentrate.

Operational experience has demonstrated that the gravity-flotation scheme with cyanide leaching of the flotation concentrate used for recovery of the gold and silver at the Zun-Holba Project is an appropriate flowsheet.

13.2 HEAP LEACH TEST PROJECT

Due to existing off-balance “reserves” of low-grade (2 to 2.5 g/t) material, Buryatzoloto conducted a pilot test using heap leaching technology in 2008. Low-grade mineralization from the Pionerskoye deposit was used, but the resulting recovery appeared to be uneconomic, and the testwork was terminated.

Buryatzoloto is reviewing the use of heap leach technology for retreating the existing tailings material. Further studies will be necessary to investigate the economic viability of heap leaching this material.

13.3 MICON COMMENTS

The basis for any assumption or prediction concerning recovery is the operational history of the Irokinda processing facility, and that all of the veins discovered to date are characterized by generally similar mineral and recovery types, with low sulphides. The gold is relatively coarse grained and amenable to gravity concentration with no processing factors or deleterious elements that have had a significant effect on the economic extraction process.

14.0 MINERAL RESOURCE ESTIMATION

14.1 GENERAL DISCUSSION

The resource estimate discussed herein for the Zun-Holba mine was conducted as of April 1, 2012, based upon the estimate that was prepared according to the Russian “reserve” classification system for December 31, 2011, depleted by the mining conducted during the first quarter of 2012. As the majority owner of Buryatzoloto, High River accounts for a portion of these mineral resources and mineral reserves under its own reporting requirements as a company listed on the Toronto Stock Exchange.

This report represents the third time that the Russian classified “reserves” for the Zun-Holba Project have been converted by Micon into either JORC or CIM compliant resource and reserve estimates. Any differences between the Russian classified “reserves” and the JORC or CIM compliant mineral reserves are the result of differences in the classification systems and not the result of the estimation methodologies used, since, in general, the parameters and methodology used to classify the “reserves” according to the Russian system have been maintained.

14.2 RUSSIAN “RESERVE” CLASSIFICATION SYSTEM

The discussion regarding “reserves” in this section of the report refers to the 1981 Russian classification system. The Russian classification system is mandated by the state and all mines must have their “reserves” approved by the state prior to commencing mining operations. State approval of the parameters used to estimate the “reserves” is generally valid for a period of 5 years if a project is in production, and longer in the case of some exploration projects.

According to the Russian classification of “reserves”, there are seven categories divided into the following three main groups based on the level of exploration performed:

- 1) Explored “reserves”: categories A, B and C₁.
- 2) Evaluated “reserves”: category C₂.
- 3) Prognostic “reserves”: categories P₁, P₂ and P₃.

Categories A and B generally refer to only base metal and other deposits and are not used for gold deposits. The “reserve” category of each geological block is determined by the density of the exploration grid, which can include both drilling and drifting information. The minimum density of the exploration grid and the amount of exploration and development needed to place the mineralization into a “reserve” category are also dictated by the instruction booklets and parameters which the state publishes.

The allowable categories for reporting the Russian classified “reserves” at any given deposit depend on the type of deposit and the category into which the deposit falls. The Zun-Holba Project is a vein type gold deposit of the third category and can only report C₁ and C₂

“reserve” categories, no matter how much drilling or development has been conducted on the “reserves”.

Further, the Russian “reserve” classification system, while discussing economics, does not usually account for mining dilution or mining recoverability of the mineralized material. These factors and mill recoveries are usually accounted for under the term “operational reserves”. Thus, the state-approved “reserves” at a project would normally be classified as geological mineral resources under the CIM or JORC mineral resource and reserve classification systems. A better term for the Russian state-approved “reserves” would be in-situ mineral resources.

The Russian “reserve” classification system has been changed over time since its introduction in 1981, with the most recent changes being introduced at the beginning of 2009. The Russian system for classifying “reserves” does not currently conform to either the JORC code or the CIM standards and definitions and such “reserves” are not reportable under current NI 43-101 regulations.

14.3 ZUN-HOLBA PROJECT RESOURCE AND RESERVE ESTIMATION METHODOLOGIES

14.3.1 General Parameters and Methodology

For the Zun-Holba deposit, the “Geological Block” method which is similar to the polygonal method, has been used historically and is still being used to estimate “reserves.” Exploration and mining parameters approved by the SCR for the deposit, plus any geological conditions such as faults or dykes are used to outline a mineralized zone and the outline is plotted on a longitudinal section where the block area is measured (since 1997 using AutoCad). The area of the “reserve” block is multiplied by the average true width of the composited samples to estimate the volume, with the true width calculated based on the average dip of the zone in the block. The tonnage of the “reserve” block is estimated by multiplying the volume of the block by the specific gravity for the zone in which it is located.

The average gold grade of the block is estimated by averaging the grade of all assays within the block, weighted by their composite thicknesses, and the metal contained in the block is determined by multiplying the block tonnage by the average grade.

“Operational reserves” are estimated from the tonnages of the geological in-situ “reserves” by applying factors for mining recovery (loss in mining, %) and dilution. The mining recovery depends on the mining method and is defined by the project parameters which are approved by the company technical director and the state authority Rostekhnadzor. The amount of dilution depends on the mineralized zone’s thickness and mining method and averages 20 cm at both walls. The actual dilution is measured by the survey department.

14.3.2 Database Used For “Reserve” Estimate

The Zun-Holba mine database for “reserve” estimation consists of underground sampling of drifts, cross-cuts and raises along the mineralized veins and zones, as well as numerous underground and surface diamond drill holes. The drill hole collars were surveyed and inclinations recorded at 15 m intervals, for the most part.

The drill core is logged by the geological staff of the Zun-Holba mine and the following is compiled and recorded:

- Detailed lithological log.
- Photographs of all core stored in the core boxes prior to sampling. Photographs are stored in the computers and on CD.
- The diameter used for core drilling (BQ or NQ).
- Sampling details for entire core length.
- Core recovery, which has averaged between 98 and 99% for the mineralized areas.

Detailed assay plans (1:200) of the adit levels at 50 m intervals, cross-cuts spaced at 10 m intervals and cross-sectional views at the location of raises provide the basis for the geological interpretation and estimation of the average grades of the mining blocks.

Channel sampling across the mineralization in areas of shrinkage stoping averages 3 to 8 m apart along strike and 6 m up and down dip, while in the areas of cut-and-fill mining, the sampling averages 3 m along strike and from 5 to 7 m up and down dip.

14.3.3 Bulk Density Used For “Reserve” Estimate

At the Zun-Holba mine, the density is different for the various mineralized zones within the deposit. Between 1988 and 1991, the geophysical team of the central geologic-geophysical expedition of the State Industrial Geological Association Buryatgeologia measured the densities using a gamma method. Table 14.1 summarizes the different densities for the different mineralized zones.

Table 14.1
Summary of Densities for the Different Mineralized Zones at the Zun-Holba Mine

Mineral Zone	Density (t/m ³)
Sulphidnoye, Sulphidnoye-1, 2, 3	2.76
Vavilovskoye-1, 2, 3, 5	2.73
Severnoye-1	2.73
Severnoye -2	2.74
Dorzhy-Banzarovskoye, Babkina, Parallelnoye, Dorozhnoye, Severnoye -3, 5	2.74

Table provided by OJSC Buryatzoloto.

14.3.4 Cutting Levels for Gold Assays

Determination and capping of high outlier gold assays was first used for the 2002 “reserve” estimate. The determination for capping a gold grade is made by reviewing whether or not the thickness x grade (metrogram) of any individual composite is greater than 10% of the metrogram sum of a block (SCR minute 792-DPS as of 20.12.2002). Composites which had metrograms greater than 10% of the block’s metrogram sum were cut. For “reserve” estimations, the geological department at Zun-Holba mine uses the following methods for capping the high outlier assays:

- Capping is done for those composites which have metrograms more than 10% of the sum of the block metrogram. The metrograms of these composites are reduced to correspond to the metrogram sum representing the 10% portion of the block’s metrogram.
- Capping is done for those composites which have metrograms more than 10% of the sum of the block metrogram. The metrograms of these composites are changed to the closest metrogram which is not higher than 10% of the block’s metrogram sum.
- High assays of more than 50 g/t are cut if their influence on the block’s average grade is significant. Capping is done by changing the grade of the composite containing the high assay to 10% of the block’s metrogram sum.

The capping approach is based on the experience of Buryatzoloto geologists, who consider the individual influence of every high assay on the block’s average grade. In cases where the value of a metrogram is higher than 10% of the sum of the block’s metrogram due to thickness, grade capping is not performed.

14.3.5 Parameters Used For “Reserve” Estimation

Due to the expiry of the 1997 mining parameters in 2002, Buryatzoloto submitted a feasibility study to the state for approval. The feasibility study included exploration-mining parameters which were used to estimate “reserves” for the lower levels (between 1740 m and 1250 m) of the deposit. The “reserve” estimation involved the following mineralized zones: Sulphidnoye-1, 2, Vavilovskoye-1, 2, 3, 5, Severnoye-1, 3, Listvenitovoye and Babkina. The SCR approved the exploration-mining parameters (minute #792-DPS as of December 20, 2002). The 2002 exploration-mining parameters currently in use are as follows:

- Cut-off grade of 3 g/t gold to outline the boundaries of the mineralized zones.
- Minimum gold grade of 7 g/t over a mineralized zone composite intercept.
- Minimum mining thickness of 0.8 m. When thickness is less, but the gold grade is higher, it is recommended to use the metrogram.
- Minimum gold grade in a mineable block of 15.5 g/t gold.

- Minimum gold grade of 11.9 g/t gold in a block being mined with workings targeted to reach a mineable block.
- Maximum thickness of 3.0 m for waste rock and low grade mineralization being included in the “reserve” estimation.
- Uneconomic “reserves” are considered to be blocks with gold grade less than 15.5 g/t or 11.9 g/t, but higher than 7 g/t. In the Russian terminology, any uneconomic “reserves” are considered to be “off balance reserves” while economic “reserves” are considered to be “balance reserves”
- Estimate silver “reserves” within the outlines of the gold “reserves.”

The state-approved 2002 exploration-mining parameters are still currently being used to estimate “reserves” at the Zun-Holba mine. The price of gold used to estimate the parameters was US \$550/oz.

14.3.6 Buryatzoloto “Reserve” Inventory as of April 1, 2012

The Russian “reserve” ‘inventory, as estimated for the Zun-Holba mine, as of April 1, 2012, was compiled from a number of raw data sources which are summarized in Tables 14.2 and 14.3.

Table 14.2
Summary of the Zun-Holba Mine Balance “Reserves” as of January 1, 2012

Level	Block Parameters		“Reserves”			Broken Ore		
Orebody (Vein or Zone)	Area	Thickness	Au Grade	Tonnes	Gold	Tonnes	Au Grade	Gold
Block No.	m ²	M	g/t	t	kg	t	g/t	kg
<i>Adit 6</i>								
Severnoye-1								
1-C1	1,940	0.56	15.4	2,966	45.7			
<i>Adit 4bis</i>								
Vavilovskoye-1								
16-C1	651	1.30	12.1	2,310	27.9			
<i>Adit 15</i>								
Dorozhnoye-2								
86-C1	301	0.85	16.1	701	11.3			
Severnoye-3								
90-C2	12,851	1.37	9.0	48,392	433.6			
Total for Adit 15								
C1	301	0.85	16.1	701	11.3			
C2	12,851	1.37	9.0	48,392	433.6			
C1+C2	13,152	1.36	9.1	49,093	444.9			
<i>Adit 16</i>								
Severnoye-2								
10B-C1	0	0	0	0	0.0			
Severnoye-3								
90-C2	18,636	1.53	7.8	78,247	613.3	2	50.0	0.1
Dorozhnoye-3								

Level	Block Parameters		"Reserves"			Broken Ore		
Orebody (Vein or Zone)	Area	Thickness	Au Grade	Tonnes	Gold	Tonnes	Au Grade	Gold
Block No.	m ²	M	g/t	t	kg	t	g/t	kg
86-C2	505	0.87	6.6	1,198	7.9			
88-C2	678	0.80	16.5	1,492	24.6			
Total for Adit 16: C2								
	19,819	1.49	8.0	80,937	645.8	2	50.0	0.1
<i>Adit 8</i>								
Severnoye-1								
4A-C1	223	0.94	15.4	573	8.8			
Severnoye-2								
11A-C1	102	0.76	12.7	212	2.7			
Severnoye-3								
90-C2	11,369	1.33	8.0	41,339	331.7			
Vavilovskoye-1								
30A-C1	330	0.96	13.2	864	11.4			
Sulfidnoye-1								
59B-C1	0	0.0	0.0	0	0.0	0	0	0.0
Sulfidnoye-2								
70A-C2	48	0.43	28.1	57	1.6			
Dorozhnoye - 3								
86-C2	261	0.62	9.0	443	4.0			
87-C2	1,278	0.79	12.7	2,756	35.1			
Total for Adit 8								
C1	655	0.92	13.9	1,649	22.9	0	0	0.0
C2	12,956	1.25	8.4	44,595	372.4	0		0.0
C1+C2	13,611	1.24	8.5	46,244	395.3	0	0	0.0
<i>Level 1790m</i>								
Severnoye - 1								
4B-C1						0	0	0.0
Severnoye - 5								
91B-C1	594	0.93	22.5	1514	34.1			
Vavilovskoye-1								
30B-C1	74	0.49	21.2	99	2.1			
Sulfidnoye-2								
56B-C1								
70B-C2	48	0.43	28.1	57	1.6			
Dorozhnoye-3								
87-C2	1,013	0.84	14.2	2,332	33.2			
Total for Level 1790 m								
C1	668	0.88	22.4	1,613	36.2	0	0	0.0
C2	1,061	0.82	14.6	2,389	34.8	0		0.0
C1+C2	1,729	0.84	17.7	4,002	71.0	0	0	0.0
<i>Adit 12 (level 1740m)</i>								
Severnoye-2								
11B-C1	809	0.89	19.1	1,983	37.8			
Severnoye-3								
90-1-C1	381	1.34	4.5	1,399	6.3	405	4.2	1.7
Severnoye-5								
91-C2	1,177	0.50	24.9	1,612	40.2			
Listvenitovoye								
85A-1-C1	312	1.68	18.5	1,447	26.8			
85A-3-C1	260	0.87	31.6	620	19.6			
85A-2-C2	1,431	1.06	7.8	4,198	32.9			
Total for Listvenitovoye C1	572	1.32	22.4	2,067	46.4			
C2	1,431	0.87	7.8	4,198	32.9			

Level	Block Parameters		"Reserves"			Broken Ore		
Orebody (Vein or Zone)	Area	Thickness	Au Grade	Tonnes	Gold	Tonnes	Au Grade	Gold
Block No.	m ²	M	g/t	t	kg	t	g/t	kg
Vavilovskoye-1								
28A-C1	228	0.88	17.9	548	9.8			
Vavilovskoye-2								
39-C1	190	0.56	17.9	296	5.3			
Sulfidnoye-1								
62A-C1								
63B-C1	224	2.13	12.9	1,319	17.0			
Total for Adit 12								
C1	2,405	1.15	16.1	7,612	122.6	405	4.2	1.7
C2	2,608	0.87	12.6	5,810	73.1			
C1+C2	5,013	0.97	14.6	13,422	195.7	405	4.2	1.7
Total for Mountain Part								
C1	6,620	0.93	15.8	16,851	266.6	407	4.4	1.8
C2	49,295	1.34	8.6	182,123	1,559.7	0		0.0
C1+C2	55,915	1.29	9.2	198,974	1,826.3	407	4.4	1.8
Shaft Levels								
Level 1690m								
Severnoye-1								
6A-C1	133	1.30	12.7	472	6.0			
Severnoye-2								
7-C2	2,073	1.30	12.1	7,384	89.3	0	0	0.0
Severnoye - 3								
90-2-C1	926	1.11	8.0	2,811	22.5			
90-4-C1	283	2.05	9.7	1,590	15.4			
Total for Severnoye-3 C1	1,209	1.33	8.6	4,401	37.9			
Listvenitovoye								
85B-1-C1	42	0.95	23.9	109	2.6			
85B-2-C1	592	2.53	24.4	4,104	100.1			
85B-3-C1	32	0.87	38.2	76	2.9			
Total for Listvenitovoye C1	666	0.87	24.6	4,289	106			
85B-3-C2	1,869	1.60	15.3	8,194	125.4			
Total for Listvenitovoye C2	1,869	1.60	15.3	8,194	125.4			
Vavilovskoye-1								
28B-C1	194	0.98	16.0	520	8.3			
29B-C1	47	1.26	14.2	162	2.3			
Total for Vavilovskoye-1 C1	241	1.04	15.5	682	10.6			
Vavilovskoye-2								
39A-C1	30	0.55	17.8	45	0.8			
Vavilovskoye-3								
41B-C1	32	0.98	35.3	85	3.0			
Total for Vavilovskoye-3 C1	32	0.98	35.3	85	3.0			
Sulfidnoye -1								
63B-C1	148	3.60	11.7	1,471	17.2			
Total for Sulfidnoye-1 C1	148	3.60	11.7	1,471	17.2	0	0	0.0
Babkina								
82-C2	1,388	1.01	9.3	3,840	35.7	0	0	0.0
106A-C2	621	1.34	9.7	2,281	22.2	0	0	0.0
Total for Babkina	2,009	1.11	9.5	6,121	57.9	0	0	0.0
Total for Level 1690 m								
C1	2,458	1.69	15.8	11,445	181.1	0	0	0.0
C2	5,951	1.33	12.6	21,699	272.6	0	0	0.0
C1+C2	8,409	1.43	13.7	33,144	453.7	0	0	0.0
Level 1640m								

Level	Block Parameters		"Reserves"			Broken Ore		
Orebody (Vein or Zone)	Area	Thickness	Au Grade	Tonnes	Gold	Tonnes	Au Grade	Gold
Block No.	m ²	M	g/t	t	kg	t	g/t	kg
Severnoye-1								
7-C2	336	1.27	15.2	1,167	17.7	0	0	0.0
Severnoye-3								
90-5-C2	1,150	1.90	7.7	5,987	46.1	1217	8.5	10.3
Sulfidnoye-1								
63B-C1	157	1.80	24.0	780	18.7			
62-C2	34	1.50	9.2	141	1.3			
65B-C2	398	1.40	6.6	1,538	10.1			
Total for Sulfidnoye-1 C1	191	1.75	21.7	921	20.0	0	0	0.0
C2	398	1.40	6.6	1,538	10.1			
Babkina								
82-C2	2,163	1.63	12.5	9,660	120.8	1,911	6.2	11.8
106A-C2	3,031	1.50	10.9	12,457	135.8	476	6.7	3.2
Total for Babkina	5,194	1.55	11.6	22,117	256.6	2387	6.3	15.0
Total for Level 1640 m								
C1	191	1.75	21.7	921	20.0	0	0	0.0
C2	7,078	1.58	10.7	30,809	330.5	3,604	7.0	25.3
C1+C2	7,269	1.59	11.0	31,730	350.5	3,604	7.0	25.3
<i>Level 1590m</i>								
Severnoye-2								
7-C2	302	1.60	9.3	1,324	12.3			
Total for Severnoye-2 C2	302	1.61	9.3	1,324	12.3			
Severnoye-3								
90-5-C2	5,419	1.77	9.5	26,333	248.9	2,209	8.4	18.6
90-11-C2	390	0.41	16.7	438	7.3			
Total for Severnoye-3 C2	5,809	1.68	9.6	26,771	256.2	2,209	8.4	18.6
Vavilovskoye-1								
28A-C2	183	0.99	15.2	495	7.5			
Total for Vavilovskoye-1 C2	183	0.99	15.2	495	7.5			
Vavilovskoye-3								
41-C1	261	1.20	11.6	855	9.9			
Total for Vavilovskoye-3 C1	261	1.20	11.6	855	9.9			
C2								
Sulfidnoye-1								
62-C2	238	3.30	9.2	2,168	19.9	0	0	0.0
64-C2	136	0.85	19.7	319	6.3			
65B-C2	789	1.03	12.5	2,242	28.1			
Total for Sulfidnoye-1 C1								
C2	1,163	1.47	11.5	4,729	54.3	0	0	0.0
Sulfidnoye-2								
69-1-C2	255	0.88	16.4	622	10.2			
Total for Sulfidnoye-2 C1								
C2	255	0.88	16.4	622	10.2			
Babkina								
82-C2	718	0.60	15.1	1,180	17.8			
106A-C2	1,397	1.80	7.9	6,890	54.4			
Total for Level 1590m C1	261	1.19	11.6	855	9.9	0	0.0	0
C2	9,827	1.55	9.8	42,011	412.7	2,209	8.4	18.6
C1+C2	10,088	1.55	9.9	42,866	422.6	2,209	8.4	18.6
<i>Level 1540 m</i>								
Vavilovskoye-3								
41-C2	69	1.80	17.7	339	6.0			
Total for Vavilovskoye-3 C2	69	1.80	17.7	339	6.0	0	0	0.0

Level	Block Parameters		"Reserves"			Broken Ore		
Orebody (Vein or Zone)	Area	Thickness	Au Grade	Tonnes	Gold	Tonnes	Au Grade	Gold
Block No.	m ²	M	g/t	t	kg	t	g/t	kg
Severnoye - 2								
7-C2	936	1.21	13.2	3,102	41.0	0	0	0.0
Total for Severnoye-2	936	1.21	13.2	3,102	41.0	0	0	0.0
Severnoye-1								
8-C2	943	0.97	14.0	2,485	34.9			
Severnoye-3								
90-5-C2	4,694	1.47	6.4	18,967	122.2			
90-6-C2	1,746	0.41	34.0	1,968	67.0			
90-8-C2	1,759	0.49	8.4	2,362	19.8			
90-11-C2	2,848	1.06	11.8	8,307	97.8			
Total for Severnoye-3	11,047	1.04	9.7	31,604	306.8			
Sulfidnoye-1								
62-C2	928	1.90	8.3	4,866	40.4			
63B-C2	734	0.7	24.8	1,384	34.3	0	0	0.0
65B-C2	2,262	1.46	11.9	9,098	108.6	15	6.7	0.1
Total for Sulfidnoye-1	3,924	1.42	11.9	15,348	183.3	15	6.7	0.1
Sulfidnoye-2								
69B-C2	228	1.00	14.5	629	9.1	0	0	0.0
69-1-C2	1,932	0.92	10.8	4,882	52.8			
Total for Sulfidnoye-2	2,160	0.92	11.2	5,511	61.9	0	0	0.0
Total for Level 1540m C2	19,079	1.11	10.9	58,389	633.9	15	6.7	0.1
<i>Level 1490 m</i>								
Vavilovskoye-1								
28A-C2	0	0	0	0	0.0	0	0	0.0
Total for Vavilovskoye-1 C2	0	0	0	0	0.0	0	0	0.0
Vavilovskoye-3								
41-C2	96	2.30	14.9	603	9.0	1,001	8.9	8.9
41-1-C2	110	2.30	14.8	691	10.2	0	0	0.0
Total for Vavilovskoye-3 C2	206	2.30	14.8	1,294	19.2	1,001	8.9	8.9
Severnoye-1								
8-C2	271	1.80	18.5	1,332	24.6	0	0	0.0
Total for Severnoye-1	271	1.79	18.5	1,332	24.6	0	0	0.0
Severnoye-2								
7-C2	184	1.80	17.1	905	15.5	0	0	0.0
7-1-C2	394	1.34	11.8	1,436	16.9	0	0	0.0
Total for Severnoye-2	578	1.48	13.8	2,341	32.4	0	0	0.0
8-1-C2 (ore body Dalneye)	0	0	0	0	0.0	0	0	0.0
Severnoye-3								
90-6-C2	4,629	1.10	11.8	13,952	164.6			
90-7-C2	872	1.30	8.9	3,106	27.6			
90-8-C2	440	0.66	12.6	796	10.0			
90-9-C2	3,082	0.76	16.8	6,446	108.0			
90-11-C2	6,470	1.09	11.4	19,329	221.2			
Total for Severnoye-3	15,493	1.03	12.2	43,629	531.4			
Sulfidnoye-1								
62-C2	700	1.90	8.3	3,671	30.5	0	0	0.0
64-C2	536	1.90	6.9	2,811	19.4	59	5.1	0.3
65B-C2	3,333	1.22	14.2	11,193	159.0	199	8.5	1.7
Total for Sulfidnoye-1 C2	4,569	1.40	11.8	17,675	208.9	258	7.8	2.0
Sulfidnoye-2								
69B-C2	330	2.40	15.9	2,186	34.8			
Total for Level 1490 m C2	21,447	1.16	12.4	68,457	851.3	1259	8.7	10.9
<i>Level 1440 m</i>								

Level	Block Parameters		"Reserves"			Broken Ore		
Orebody (Vein or Zone)	Area	Thickness	Au Grade	Tonnes	Gold	Tonnes	Au Grade	Gold
Block No.	m ²	M	g/t	t	kg	t	g/t	kg
Severnoye - 1								
8-C2	2,744	1.67	10.2	12,528	128.0	69	14.5	1.0
Total for Severnoye - 1	2,744	1.67	10.2	12,528	128.0	69	14.5	1.0
Severnoye - 2								
7-C2	2,256	1.36	10.6	8,386	88.8	0	0	0.0
7-1-C2	2,208	2.33	12.5	14,055	176.0	68	7.4	0.5
Total for Severnoye - 2	4,464	1.84	11.8	22,441	264.8	68	7.4	0.5
8-1-C2 (orebody Dalneye)	3,210	2.08	12.8	18,202	233.5	0	0	0.0
Severnoye - 3								
90-7-C2	3,294	1.18	9.5	10,674	101.3			
90-6-C2	2,332	1.10	11.8	7,029	82.9			
90-9-C2	4,632	1.41	12.8	17,934	229.7			
90-11-C2	1,818	1.14	11.2	5,679	63.6			
Total for Severnoye -3	12,076	1.25	11.6	41,316	477.5			
Vavilovskoye - 1								
28A-C2	325	1.90	16.1	1,682	27.0	93	6.5	0.6
Total for Vavilovskoye - 1 C2	325	1.90	16.1	1,682	27.0	93	6.5	0.6
Vavilovskoye - 3								
41-C2	2,534	1.40	11.5	9,702	111.5	138	7.2	1.0
41-1-C2	2,098	2.17	16.3	12,401	202.7	216	7.4	1.6
Total for Vavilovskoye - 3 C2	4,632	1.75	14.2	22,103	314.2	354	7.3	2.6
Sulfidnoye - 1								
64-C2	690	0.90	9.1	1,719	15.6			
62A-C2	696	2.20	12.2	4,226	51.6			
65B-C2	4,856	1.68	10.0	22,501	225.7			
Total for Sulfidnoye-1 C2	6,242	1.65	10.3	28,446	292.9			
Total for Level 1440 m C2	33,693	1.58	11.8	146,718	1,737.9	584	8.0	4.7
<i>Level 1390 m</i>								
8-1-C2 (orebody Dalneye)	6,020	2.82	11.3	46,354	523.9			
Severnoye - 1								
8-C2	1,982	1.74	17.2	9,425	161.9	0	0	0.0
Severnoye -2								
7-1-C2	3,384	1.09	10.9	10,070	109.7	0	0	0.0
Total for Severnoye-2	3,384	1.09	10.9	10,070	109.7	0	0	0.0
Severnoye - 3								
90-7-C2	975	1.30	8.9	3,473	30.9			
90-9-C2	6,247	0.80	13.4	13,616	182.2			
90-10-C2	1,610	1.16	17.5	5,117	89.6			
Total for Severnoye-3	8,832	0.92	13.6	22,206	302.7			
Vavilovskoye - 1								
28A-C2	1,169	1.29	12.7	4,117	52.3	0	0	0.0
Vavilovskoye - 3								
41-C2	1,370	1.28	10.4	4,779	49.5	197	12.7	2.5
41-1-C2	524	2.10	12.0	3,004	36.0			
Total for Vavilovskoye-3	1,894	1.51	11.0	7,783	85.5	197	12.7	2.5
Sulfidnoye-1								
65B-C2	159	1.50	12.5	658	8.2			
64A-C2	881	1.20	10.7	2,911	31.1			
Total for Sulfidnoye-1 C2	1,040	1.24	11.0	3,569	39.3			
Total for Level 1390 m C2	24,321	1.55	12.3	103,524	1,275.3	197	12.7	2.5
<i>Level 1340 m</i>								
8-1-C2 (orebody Dalneye)	3,549	3.17	9.8	30,706	302.3			
Sulfidnoye-1								

Level	Block Parameters		"Reserves"			Broken Ore		
Orebody (Vein or Zone)	Area	Thickness	Au Grade	Tonnes	Gold	Tonnes	Au Grade	Gold
Block No.	m ²	M	g/t	t	kg	t	g/t	kg
64A-C2	2,637	1.41	10.1	10,230	103.0			
64A-1-C2	529	1.30	4.3	1,898	8.2			
Severnoye-2								
7-1-C2	587	1.90	12.6	3,056	38.5			
Total for Level 1340 m C2	7,302	2.29	9.8	45,890	452.0			
Level 1290 m								
Severnoye-2								
7-1-C2	3,504	1.90	12.6	18,242	229.8			
Vavilovskoye-3								
41-C2	2,871	1.15	10.8	9,018	97.3			
Sulfidnoye-1								
64A-C2	906	1.50	7.3	3,751	27.4			
64A-1-C2	584	0.70	10.8	1,122	12.1			
Total for Level 1290 m C2	7,865	1.49	11.4	32,133	366.6			
Level 1240 m								
41-C2	1,287	1.26	11.4	4,415	50.3			
Total for shaft levels								
C1	2,910	1.65	16.0	13,221	211.0	0	0	0.0
C2	137,850	1.46	11.5	554,045	6,383.1	7,868	7.9	62.1
C1+C2	140,760	1.47	11.6	56,7266	6,594.1	7,868	7.9	62.1
Total for the deposit								
C1	9,530	1.15	15.9	30,072	477.6	407	4.4	1.8
C2	187,145	1.43	10.8	736,168	7,942.8	7,868	7.9	62.1
C1+C2	196,675	1.42	11.0	766,240	8,420.4	8,275	7.7	63.9
Smezhnoye deposit								
C2			7.1	24,000	170.0			
Pravoberezhnoye deposit								
C1			25.0	6,000	150.0			
Pionerskoye deposit								
10-C1					0.0	0	0.0	0.0
Total for Holba mine								
C1	9,530	1.38	17.4	36,072	627.6	407	4.4	1.8
C2	187,145	1.48	10.7	760,168	8,112.8	7,868	7.9	62.1
C1+C2	196,675	1.47	11.0	796,240	8,740.4	8,275	7.7	63.9

Table provided by OJSC Buryatzoloto.

Table 14.3
Summary of the Zun-Holba Mine Off-Balance "Reserves" as of January 1, 2012

Level	Block Parameters			"Reserves"		
Orebody (Vein or Zone)	Area	Density	Width	Au Grade	Tonnes	Gold
Block No.	m ²		m	g/t	t	kg
Adit 16						
Babkina zone						
82A-1-C1	1,055	2.74	1.2	8.0	3,528	28.4
Adit 8						
Dorozhnoye-3 zone						
87A-C1	277	2.74	0.91	11.5	691	7.9
87B-C1	277	2.74	0.91	11.5	691	7.9
Babkina zone						
82A-1-C1	1,865	2.74	1.2	8.6	5,900	50.7
82A-2-C1	660	2.74	0.87	7.7	1,573	12.1
Level 1790						
Babkina zone						
82B-1-C1	1,875	2.74	1.18	9.0	6,062	54.6

Adit 12 (Level 1740)						
Parallelnoye zone						
84B-C1	2,514	2.74	0.7	6.9	4,822	33.3
Severnoye-2 zone						
13A-C1	530		1.01	10.1	1,467	14.8
Vavilovskoye-3 zone						
40-C2	453	2.74	2.25	8.0	2,783	22.3
Sulfidnoye-1 zone						
62A-C1	145	2.76	1.1	4.2	433	1.8
Bulba zone						
75-C2	145	2.76	5.82	8.1	2,329	18.9
Babkina zone						
82B-1-C1	1381	2.74	1.4	9.0	5,338	48.0
82B-2-C1	2,775	2.74	1.19	12.7	9,047	81.4
Level 1690						
Babkina zone						
82B-2-C1	2,663	2.74	1.5	13.7	10,695	146.5
103A-C1	439	2.74	0.80	13.7	962	13.2
106A-C1	127	2.74	1.14	12.6	397	5.0
Total Mine						
C1	16,583	2.74	1.1	9.8	51,606	505.6
C2	598	2.75	3.1	8.1	5,112	41.2
C1+C2	17,181	2.75	1.2	9.6	56,718	546.8

Table provided by OJSC Buryatzoloto.

Prior to being audited by Micon, the “reserves” of December 31, 2011, as shown in Tables 14.2 and 14.3, were adjusted to reflect mine production for the first quarter of 2012.

14.4 MICON AUDIT OF THE RUSSIAN “RESERVES” AND CONVERSION TO CIM COMPLIANT RESOURCES AND RESERVES FOR THE ZUN-HOLBA MINE

Micon has reviewed Buryatzoloto’s approach, procedures, parameters and calculations involved in the “reserve” estimates for the Zun-Holba mine. Micon’s audit concentrated on all aspects of the “reserve” estimation method and included a detailed block-by-block review of the “reserve” data, in order to convert the current Russian “reserves” into JORC and CIM compliant mineral resources and mineral reserves. The 2008 Micon classification was carried over from the previous estimate for those areas which had not been worked since Micon’s previous audit.

In Micon’s opinion, Buryatzoloto’s work is of a high technical standard and meets currently accepted industry practices. The database, which consists of drill logs, assays, underground sampling, sections and plans, is extensive and well documented.

The geological interpretation used as the basis for Buryatzoloto’s “reserve” estimate was found to be reasonable and coherent. The interpretation and correlation of the various mineralized lenses are supported by production adits and numerous cross-cuts, raises and sublevels. The drill hole spacing of between 20 m and 40 m, typically, but up to more than 100 m in some areas, generally supports the interpretation and definition of the mineralized zones.

It is Micon’s opinion that the quality of the drilling samples meets accepted industry standards and that the sampling and assays are representative of the areas examined.

The projections of the veins onto a horizontal plane have been properly constructed and, in some cases, cross-sections were prepared as well. The limits of each zone were determined carefully, with due consideration to the tenor of the mineralization and the geology, as well as the trends of the strike, dip and plunge of the zones. Figure 14.1 is longitudinal section showing the “reserve” blocks for the Severnoye-3 zone.

The “Geological Block” method of “reserve” estimation is similar to the polygonal method and can be rather mechanical and labour intensive in nature, although Buryatzoloto has computerized some of the interpretation by using SAPR AutoCad. This method is the generally accepted industry procedure for “reserve” estimation within the Russian Federation. As with any method, it must be carefully applied, with full consideration given to the continuity of the mineralization, especially where multiple zones are present. In Micon’s opinion, Buryatzoloto has carefully used the geological block method, and has meticulously applied the criteria used within the Russian Federation.

In estimating the “reserves”, Buryatzoloto follows the exploration-mining parameters approved by the SCR in 2002.

The same geological blocks are used to estimate “reserves” at all cut-off grades. These are the blocks that were constructed using a 3 g/t gold cut-off grade to outline the initial boundaries of the mineralized zones. At progressively higher cut-off grades, blocks are excluded from the “reserves” where the drill hole intersection grades or the width of the mineralization is below designated cut-off. This results in an irregular outline of the mineralized zone on the longitudinal section which is dictated by the block boundaries. If a new set of blocks and a new outline of the zone were generated for each change in the cut-off grade, the tonnages and grades may change somewhat, especially at higher cut-off grades.

The 3 g/t gold cut-off grade is applied across the zones to establish the boundaries of the mineralized zone. On the longitudinal sections, however, the minimum gold grade of 7 g/t gold over a composite intercept is used to establish the lateral limits to a mining block. The use of a higher than 1 g/t gold cut-off grade tends to effect the horizontal limits of the zone, rather than the lateral limits, and the higher cut-off grade coupled with the minimum mining width of 0.8 m, established by Buryatzoloto, helps prevent the presence of higher grades over narrow widths from overestimating the average grade. In areas where the thickness is less than the minimum mining width, but the grade is higher, Buryatzoloto uses the result of the metrogram (grade x width). Micon believes that this is also an effective method of evaluating and tempering the effect of higher grades over narrow widths.

For a block to be considered as mineable, the minimum grade of the block must be 15.5 g/t gold. If a block has to be developed through so as to reach a higher grade block, the minimum block grade falls to 11.9 g/t gold.

Figure 14.1
Longitudinal Section Showing "Reserve" Blocks for the Severnoye-3 Zone

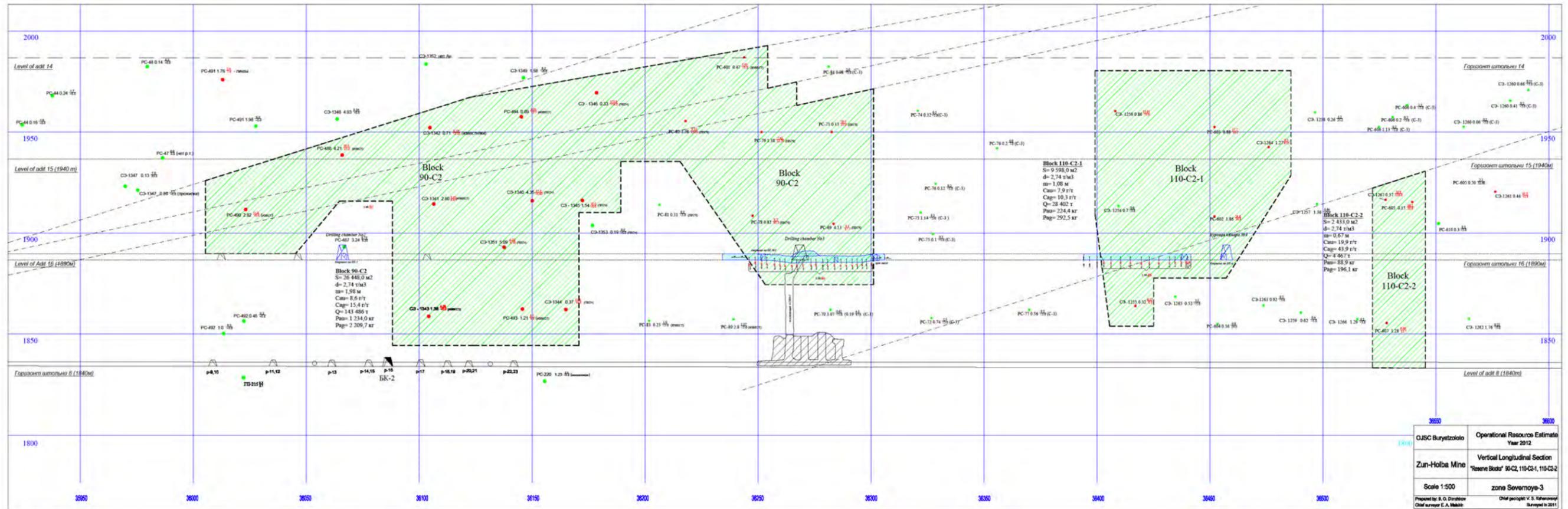


Figure created in June, 2012 by Micon based upon information supplied by OJSC Buryatzoloto.

A maximum thickness of 3.0 m for either waste rock or low grade mineralization is included in the “reserve” estimate. This applies to the estimation of internal dilution where multiple veins or a stockwork of veins are in close enough proximity that they can be mined as a single entity.

Buryatzoloto has also established a record of the currently uneconomic “reserve” blocks, such that they could be included in the mine plan should the economic outlook change in the future. At the present time, uneconomic blocks are considered to be blocks with gold grades less than 15.5 g/t or 11.9 g/t, but higher than 7 g/t.

Silver “reserves” are estimated for the areas within the outlines of the gold “reserves” but these are not reported by Buryatzoloto. Although the silver “reserves” were briefly discussed during the site visit, they were not audited and converted into JORC and CIM compliant mineral resources or mineral reserves by Micon.

14.4.1 Mineral Resource Classification

As a result of its audit, Micon agrees with the parameters used by Buryatzoloto to estimate resources and has used the basic “reserve” blocks estimated by Buryatzoloto as the starting point for the conversion of the Russian “reserves” at the Zun-Holba mine into JORC and CIM compliant mineral resources and mineral reserves.

For the conversion from the Russian “reserve” estimate, Micon reviewed the geological database (drilling, channel sampling, chip sampling) and the density of the information, (drilling, assaying, mining data, etc.) in order to categorize the Russian “reserve” blocks into appropriate JORC and CIM resource categories. The following classification criteria were used:

- 1) Measured Mineral Resources were considered to be that part of the Russian “reserve” where the quantity, grade or quality, densities, shapes, and physical characteristics were so well established that they could 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. Blocks which consisted of recoverable pillars, blocks which were part of existing stope production, and blocks which had been drilled and which also had been defined on at least one side by mine development were considered to be Measured Mineral Resources as defined by the JORC code and CIM standards and definitions.
- 2) Indicated Mineral Resources were considered to be that portion of the Russian “reserve” where the quantity, grade or quality, densities, shape, and physical characteristics, had been 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. Blocks which had closely spaced drilling and blocks which were defined by drilling and had at least one side or part of one side exposed by mine development were considered to be Indicated Mineral Resources. In the case of blocks which had been exposed partially

or completely on one side, the mining had generally exposed the upper portion of the block and the projection of the block was below the developed horizon.

- 3) Inferred Mineral Resources were considered to be that portion of the Russian “reserve” for which the quantity and grade or quality had been estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. For the purposes of the conversion of the Russian “reserves” into Inferred Mineral Resources, this categorization was generally confined to blocks which occurred on the flanks and down plunge of the mineralization, where exploration is ongoing. In most cases, these blocks were defined by at least one or more widely spaced drill holes which were within the lateral or down plunge projections of the mineralization.

The Russian classification system (C₁, C₂, etc.) was not used automatically to define the resource classifications for the Micon audit. Micon has used the quality and quantity of the geological data and interpretation as the primary determining factors in defining its classifications.

The results of Micon’s audit and conversion of the Russian “reserves” into compliant JORC and CIM resources are contained in Tables 14.4 to 14.7.

Table 14.4
Conversion of Russian Balance “Reserves” into JORC and CIM Compliant Measured Resources, by Adit, Level, Vein and Block, as of April 1, 2012

Location	Vein	Block	Tonnes (t)	Gold Grade (g/t)	Gold (kg)
Adit 6	Severnoye - 1	1-C1	2,966	15	46
Adit 4bis	Vavilovskoye - 1	16-C1	2,310	12	28
Adit 15	Dorozhnoye - 2	86-C1	701	16	11
Adit 16	Severnoye-3	90-C2	78,100	8	612
Adit 8	Severnoye-1	4A-C1	573	15.36	8.80
	Severnoye-2	11A-C1	212	13	3
	Vavilovskoye-1	30A-C1	864	13.19	11.40
	Sulfidnoye-2	70A-C2	57	28	2
	Dorozhnoye - 3	87-C2	2,756	12.74	35.10
	Total Adit 8		4,462	13.36	60
Level 1790	Severnoye - 5	91B-C1	1,514	22.52	34.10
	Vavilovskoye-1	30B-C1	99	21	2
	Sulfidnoye-2	70B-C2	57	28.07	1.60
	Dorozhnoye-3	87-C2	2,332	14	33
	Total Level 1790 m		4,002	17.74	71
Adit 12 (Level 1740 m)	Severnoye-2	11B-C1	1,983	19	38
	Severnoye-3	90-1-C1	0	0	0
	Listvenitovoye	85A-1-C1	1,447	19	27
		85A-3-C1	620	32	20
	Vavilovskoye-1	28A-C1	548	18	10
	Vavilovskoye-2	39-C1	296	18	5
	Sulfidnoye-1	63B-C1	1,319	13	17
	Total Adit 12		6,213	18.72	116
Level 1690 m	Severnoye-1	6A-C1	472	13	6
	Severnoye-2	7-C2 (13A-C1)	7,384	12	89
	Severnoye - 3	90-2-C1	2,811	8	23

Location	Vein	Block	Tonnes (t)	Gold Grade (g/t)	Gold (kg)
		90-4-C1	1,590	10	15
	Listvenitovoye	85B-1-C1	109	24	3
		85B-2-C1	4,104	24	100
		85B-3-C1	76	38	3
		85B-3-C2	8,194	15	125
	Vavilovskoye-1	28B-C1	520	16	8
		29B-C1	162	14	2
	Vavilovskoye-2	39A-C1	45	18	1
	Vavilovskoye-3	41B-C1	85	35	3
	Sulfidnoye -1	63B-C1	1,471	12	17
	Babkina	82-C2	3,840	9	36
		106A-C2	2,281	10	22
	Total Level 1690 m		33,144	13.69	454
Level 1640 m	Severnoye-1	7-C2	1,167	15	18
	Severnoye-3	90-5-C2	5,329	7	39
	Sulfidnoye-1	63B-C1	780	24	19
		62-C2	141	9	1
		65B-C2	1,538	7	10
	Babkina	82-C2	8,219	14	112
		106A-C2	7,774	13	98
	Total Level 1640 m		24,948	11.90	297
Level 1590 m	Severnoye - 2	7-C2	1,324	9	12
	Severnoye - 3	90-5-C2	20,721	11	221
	Vavilovskoye - 1	28A-C2	495	15	8
	Vavilovskoye - 3	41-C1	855	12	10
	Sulfidnoye - 1	62-C2	2,168	9	20
		64-C2	319	20	6
		65B-C2	2,242	13	28
	Sulfidnoye - 2	69-1-C2	622	16	10
	Total Level 1590 m		28,746	10.95	315
Level 1540 m	Vavilovskoye - 3	41-C2	339	18	6
	Severnoye - 2	7-C2	3,102	13	41
	Severnoye - 1	8-C2	2,485	14	35
	Severnoye - 3	90-5-C2	18,967	6	122
		90-8-C2	2,362	8	20
	Sulfidnoye - 1	62-C2	4,709	8	40
		63B-C2	1,384	25	34
	Sulfidnoye - 2	69B-C1	629	14	9
	Total Level 1540 m		33,977	9.04	307
Level 1490 m	Vavilovskoye - 3	41-C2	674	15	10
		41-1-C2	0	0	0
	Severnoye - 1	8-C2	1,332	18	25
	Severnoye - 2	7-C2	0	0	0
		7-1-C2	1,436	12	17
	Severnoye - 3	90-6-C2	13,952	12	165
		90-9-C2	6,446	17	108
	Sulfidnoye - 1	62-C2	3,671	8	31
		64-C2	2,811	7	19
		65B-C2	4,647	18	85
	Sulfidnoye - 2	69B-C1	2,186	16	35
	Total Level 1490 m		37,155	13.29	494
Level 1440 m	Severnoye - 1	8-C2	5,994	8	46
	Severnoye - 2	7-C2	934	26	24
		7-1-C2	14,055	13	176
	8-1-C2 (ore body Dalneye)		16,003	13	212
	Vavilovskoye - 1	28A-C2	497	26	13
	Vavilovskoye - 3	41-C2	6,466	13	86

Location	Vein	Block	Tonnes (t)	Gold Grade (g/t)	Gold (kg)
		41-1-C2	9,011	18	163
	Sulfidnoye - 1	62A-C2	3,337	12	40
	Total Level 1440 m		56,297	13.49	759
Level 1390 m	8-1-C2 (ore body Dalneye)		46,354	11	524
	Severnoye - 1	8-C2	8,871	17	155
	Severnoye - 2	7-1-C2	10,070	11	110
	Vavilovskoye - 1	28A-C2	3,109	15	47
	Vavilovskoye - 3	41-C2	3,814	10	40
		41-1-C2	2,783	12	33
	Sulfidnoye - 1	64A-C2	2,911	11	31
	Total Level 1390 m		77,912	12.06	940
Level 1340 m	8-1-C2 (ore body Dalneye)		30,706	10	302
	Total Level 1340 m		30,706	9.84	302
	Smezhnoye deposit		24,000	7	170
	Pravoberezhnoye deposit		6,000	25	150
	Total Measured		451,639	11.36	5,131

Table 14.5
Conversion of Russian Balance “Reserves” into JORC and CIM Compliant Indicated Resources, by Adit, Level, Vein and Block, as of April 1, 2012

Location	Vein	Block	Tonnes (t)	Gold Grade (g/t)	Gold (kg)
Adit 15	Severnoye - 3	90-C2	48,392	9	434
Adit 16	Dorozhnoye - 3	86-C2	1,198	7	8
		88-C2	1,492	16	25
	Total Adit 16		2,690	12.08	33
Adit 8	Severnoye-3	90-C2	41,339	8	332
	Dorozhnoye - 3	86-C2	443	9	4
	Total Adit 8		41,782	8.03	336
Level 1590 m	Babkina	82-C2	1,180	15	18
		106A-C2	6,890	8	54
	Total Level 1590 m		8,070	8.95	72
Level 1540 m	Severnoye - 3	90-6-C2	1,968	34	67
		90-11-C2	8,307	12	98
	Sulfidnoye - 1	65B-C2	7,782	13	100
	Total Level 1540 m		18,057	14.67	265
Level 1490 m	Severnoye - 3	90-7-C2	3,106	9	28
		90-11-C2	19,329	11	221
	Total 1490 Level		22,435	11.09	249
Level 1440 m	Severnoye - 3	90-7-C2	10,674	9	101
		90-6-C2	7,029	12	83
		90-9-C2	17,934	13	230
		90-11-C2	5,679	11	64
	Sulfidnoye - 1	65B-C2	22,501	10	226
	Total Level 1440 m		63,817	11.02	703
Level 1390 m	Severnoye - 3	90-7-C2	3,473	9	31
		90-9-C2	13,616	13	182
	Sulfidnoye - 1	65B-C2	658	12	8
	Total Level 1390 m		17,747	12.47	221
Level 1340 m	Sulfidnoye - 1	64A-C2	10,230	10	103
		64A-1-C2	1,898	4	8
	Severnoye -2	7-1-C2	3,056	13	39
	Total Level 1340 m		15,184	9.86	150
Level 1290 m	Severnoye -2	7-1-C2	18,242	13	230
	Sulfidnoye - 1	64A-C2	3,751	7	27
		64A-1-C2	1,122	11	12
	Total Level 1290 m		23,115	11.65	269

	Total Indicated	261,289	10.45	2,731
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There are no off-balance Russian “reserves” that were converted to JORC and CIM compliant Measured or Indicated resources.

Table 14.6
Conversion of Russian Balance “Reserves” into JORC and CIM Compliant Inferred Resources, by Adit, Level, Vein and Block, as of April 1, 2012

Location	Vein	Block	Tonnes (t)	Gold Grade (g/t)	Gold (kg)
Adit 12 (Level 1740 m)	Severnoye-5	91-C2	1,612	25	40
	Listvenitovoye	85A-2-C2	4,198	8	33
	Total Adit 12		5,810	12.58	73
Level 1590 m	Severnoye - 3	90-11-C2	438	17	7
Level 1540 m	Sulfidnoye - 2	69-1-C2	4,882	11	53
Level 1490 m	Severnoye - 3	90-8-C2	796	13	10
	Sulfidnoye - 1	65B-C2	2,999	14	43
	Total 1490 m		3,795	13.86	53
Level 1440 m	Sulfidnoye - 1	64-C2	1,719	9	16
Level 1390 m	Severnoye - 3	90-10-C2	5,117	18	90
Level 1290 m	Vavilovskoye - 3	41-C2	9,018	11	97
Level 1240 m	Vavilovskoye - 3	41-C2	4,415	11	50
	Total Inferred		35,194	12.46	439

Table 14.7
Conversion of Russian Off-Balance “Reserves” into JORC and CIM Compliant Inferred Resources, by Adit, Level, Vein and Block, as of April 1, 2012

Location	Vein	Block	Tonnes (t)	Gold Grade (g/t)	Gold (kg)
Adit 16	Babkina	82A-1-C1	3,528	8.0	28.4
Adit 8	Dorozhnoye-3	87A-C1	691	11.5	7.9
		87B-C1	691	11.5	7.9
	Babkina	82A-1-C1	5,900	8.6	50.7
		82A-2-C1	1,573	7.7	12.1
	Total Adit 8		8,855	8.88	78.6
Level 1790	Babkina	82B-1-C1	6,062	9.0	54.6
	Total 1790		6,062	9.01	54.6
Adit 12	Parallelnoye	84B-C1	4,822	6.9	33.3
	Severnoye-2	13A-C1	1,467	10.1	14.8
	Vavilovskoye-3	40-C2	2,783	8.0	22.3
	Sulfidnoye-1	62A-C1	433	4.2	1.8
	Bulba	75-C2	2,329	8.1	18.9
	Babkina	82B-1-C1	5,338	9.0	48.0
		82B-2-C1	9,047	12.7	81.4
	Total Adit 12		26,219	8.41	220.5
Level 1690	Babkina	82B-2-C1	10,695	13.7	146.5
		103A-C1	962	13.7	13.2
		106A-C1	397	12.6	5.0
	Total Level 1690		12,054	13.66	164.7
	Total Inferred		56,718	9.64	546.8

Tables 14.8 to 14.11 summarize the resources by adit and level for the Russian balance and off-balance “reserves”

Table 14.8
Conversion of Russian Balance “Reserves” into JORC and CIM Compliant Measured Resources, by Adit and Level, as of April 1, 2012

Location	Tonnes (t)	Gold Grade (g/t)	Gold (kg)
Adit 6	2,966	15	46
Adit 4bis	2,310	12	28
Adit 15	701	16	11
Adit 16	78,100	8	612
Adit 8	4,462	13	60
Level 1790	4,002	18	71
Adit 12 (Level 1740 m)	6,213	19	116
Level 1690 m	33,144	14	454
Level 1640 m	24,948	12	297
Level 1590 m	28,746	11	315
Level 1540 m	33,977	9	307
Level 1490 m	37,155	13	494
Level 1440 m	56,297	13	759
Level 1390 m	77,912	12	940
Level 1340 m	30,706	10	302
Smezhnoye deposit	24,000	7	170
Pravoberezhnoye deposit	6,000	25	150
Measured Total	451,639	11.36	5,131

Table 14.9
Conversion of Russian Balance “Reserves” into JORC and CIM Compliant Indicated Resources, by Adit and Level, as of April 1, 2012

Location	Tonnes (t)	Gold Grade (g/t)	Gold (kg)
Adit 15	48,392	9	434
Adit 16	2,690	12	33
Adit 8	41,782	8	336
Level 1590 m	8,070	9	72
Level 1540 m	18,057	15	265
Level 1490 m	22,435	11	249
Level 1440 m	63,817	11	703
Level 1390 m	17,747	12	221
Level 1340 m	15,184	10	150
Level 1290 m	23,115	12	269
Indicated Total	261,289	10.45	2,731

Table 14.10
Conversion of Russian Balance “Reserves” into JORC and CIM Compliant Inferred Resources, by Adit and Level, as of April 1, 2012

Location	Tonnes (t)	Gold Grade (g/t)	Gold (kg)
Adit 12 (Level 1740 m)	5,810	13	73
Level 1590 m	438	17	7
Level 1540 m	4,882	11	53
Level 1490 m	3,795	14	53
Level 1440 m	1,719	9	16
Level 1390 m	5,117	18	90
Level 1290 m	9,018	11	97
Level 1240 m	4,415	11	50
Total Inferred	35,194	12.46	439

Table 14.11
Conversion of Russian Off-Balance “Reserves” into JORC and CIM Compliant Inferred Resources, by Adit and Level, as of April 1, 2012

Location	Tonnes (t)	Gold Grade (g/t)	Gold (kg)
Adit 16	3,528	8.05	28.4
Adit 8	8,855	8.88	78.6
Level 1790	6,062	9.01	54.6
Adit 12	26,219	8.41	220.5
Level 1690	12,054	13.66	164.7
Total Inferred	56,718	9.64	546.8

Tables 14.12 and 14.13 summarize the total resources by category for the Russian balance and off-balance “reserves”, as rendered compliant with the JORC code and CIM classification as of April 1, 2012. There are no off-balance Russian “reserves” that were converted to JORC and CIM compliant Measured or Indicated resources.

Table 14.12
Total Measured and Indicated JORC and CIM Compliant Mineral Resources for the Zun-Holba Mine

Russian Category	JORC and CIM Category	Tonnes (t)	Gold Grade (g/t)	Gold (kg)
Balance	Measured	451,600	11.36	5,100
Balance	Indicated	261,300	10.45	2,700
	Total Measured and Indicated	712,900	11.03	7,800

Table 14.13
Total Inferred Resources for Zun-Holba Mine (Russian Balance and Off-Balance)

Russian Category	JORC and CIM Category	Tonnes (t)	Gold Grade (g/t)	Gold (kg)
Balance	Inferred	35,200	12.46	400
Off-Balance	Inferred	56,700	9.64	600
	Total Inferred	91,900	10.73	1,000

At a minimum gold grade of 7 g/t and a minimum mining width of 0.8 m, Micon estimates that the total remaining mineral resource at the Zun-Holba mine as of April 1, 2012 is 712,900 tonnes at a grade of 11.03 g/t gold for the Measured and Indicated Mineral Resources, and 91,900 tonnes at a grade of 10.73 g/t gold for the Inferred Mineral Resources. The Measured and Indicated portion of the mineral resources contains an estimated 7,800 kg of gold, while the Inferred resource contains approximately 1,000 kg of gold. The figures in Tables 14.12 and 14.13 have been rounded to reflect that the resources figures are estimates. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

The stated April 1, 2012 mineral resources are not materially affected by any known environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant issues, to the best knowledge of the authors. There are no known mining, metallurgical, infrastructure, or other factors that materially affect this mineral resource estimate.

15.0 MINERAL RESERVES

The “mineable mineral reserves” or “operational reserves”, as the term is used in Russia, are estimated from the tonnages of the “reserves” of in-situ mineralization by including factors for mining recovery (loss in mining, %) and dilution. The mining recovery depends on the mining method and is defined by the project parameters which are approved by the company technical director and the state authority Rostekhnadzor. The amount of dilution depends on the mineralized zone’s thickness and mining method and averages 15 cm at both walls. The dilution is estimated on a block-by-block basis for the mine.

The above parameters are incorporated into the mineral resource base in order to estimate the economically extractable units or “operational reserve” blocks.

For conversion from the Russian “operational reserve” estimate to a JORC and CIM compliant mineral reserve, Micon reviewed the parameters used to convert the in-situ “reserves” to an “operational reserve.” This consisted of reviewing the survey data on site at the mine, as well as the reconciliation data, and a discussion with the engineering and geology personnel on the aspects of dilution, the determination of what constitutes dilution in the case of the Zun-Holba mine, and the economic parameters used in order to categorize the Russian “operational reserve” blocks into appropriate JORC and CIM mineral reserve categories. Following its review, Micon accepted the estimates of mining losses and dilution used by Buryatzoloto in estimating “operational reserves”.

For the purposes of converting the Russian “operational reserve” blocks into applicable JORC and CIM compliant reserve blocks the following criteria were used:

- 1) The Proven Mineral Reserve is the economically mineable part of the Russian “reserve”, where the Russian “reserve” was able to be converted into a Measured Mineral Resource according to the JORC code and CIM standards. To demonstrate economic viability, the Russian “reserve” block had to have been converted into an “operational reserve”, with applicable mining losses and estimated dilution, and to have been scheduled into the Zun-Holba mine plan.
- 2) The Probable Mineral Reserve is the economically mineable part of the Russian “reserve” where the Russian “reserve”, was able to be converted into an Indicated Mineral Resource according to the JORC code and CIM standard. To demonstrate economic viability, the Russian “reserve” block had to have been converted into an “operational reserve”, with applicable mining losses and estimated dilution, and to have been scheduled into the Zun-Holba mine plan.

The results of Micon’s audit and conversion of the Russian “operational reserves” into compliant JORC and CIM reserves are contained in Tables 15.1 to 15.4. Tables 15.1 and 15.2 also identify the allowances for mining losses and dilution, on a block-by-block basis.

Table 15.1
**Conversion of Russian Balance “Reserves” into JORC and CIM Compliant Proven Reserves, by Adit,
Level, Vein and Block, as of April 1, 2012**

Location	Vein	Block	Proven Reserves			Dilution (%)	Losses (%)
			Tonnes (t)	Grade (g/t)	Gold (kg)		
Adit 6	Severnoye - 1	1-C1	4,002.50	10.87	43.51	41.75	4.8
Adit 4bis	Vavilovskoye - 1	16-C1	2,718.11	9.77	26.56	23.60	4.8
Adit 15	Dorozhnoye - 2	86-C1	880.90	12.21	10.76	32.00	4.8
Adit 16	Severnoye-3	90-C2	102,307.25	5.69	582.53	37.60	4.8
Adit 8	Severnoye-1	4A-C1	708.82	11.82	8.38	29.94	4.8
	Severnoye-2	11A-C1	271.47	9.47	2.57	34.51	4.8
	Vavilovskoye-1	30A-C1	1,065.59	10.18	10.85	29.55	4.8
	Sulfidnoye-2	70A-C2	62.83	24.24	1.52	15.79	4.8
	Dorozhnoye - 3	87-C2	3,463.30	9.65	33.42	32.00	4.8
	Total Adit 8		5,572.01	10.18	56.74		
Level 1790	Severnoye - 5	91B-C1	1,874.74	17.32	32.46	30.07	4.8
	Vavilovskoye-1	30B-C1	136.73	14.62	2.00	45.07	4.8
	Sulfidnoye-2	70B-C2	62.83	24.24	1.52	15.79	4.8
	Dorozhnoye-3	87-C2	2,930.48	10.79	31.61	32.00	4.8
	Total Level 1790 m		5,004.78	13.51	67.59		
Adit 12 (Level 1740 m)	Severnoye-2	11B-C1	2,469.83	14.57	35.99	30.83	4.8
	Severnoye-3	90-1-C1	0.00	0.00	0.00	30.93	4.8
	Listvenitovoye	85A-1-C1	1,640.79	15.55	25.51	19.11	4.8
		85A-3-C1	776.11	24.04	18.66	31.49	4.8
	Vavilovskoye-1	28A-C1	685.04	13.62	9.33	31.31	4.8
	Vavilovskoye-2	39-C1	398.28	12.67	5.05	41.34	4.8
	Sulfidnoye-1	63B-C1	1,453.96	11.13	16.18	15.79	4.8
	Total Adit 12		7,424.01	14.91	110.72		
Level 1690 m	Severnoye-1	6A-C1	555.39	10.28	5.71	23.60	4.8
	Severnoye-2	7-C2 (13A-C1)	8,649.88	9.83	85.01	23.05	4.8
	Severnoye - 3	90-2-C1	3,386.03	6.33	21.42	26.53	4.8
		90-4-C1	1,760.71	8.33	14.66	16.32	4.8
	Listvenitovoye	85B-1-C1	134.58	18.39	2.48	29.69	4.8
		85B-2-C1	4,440.31	21.46	95.30	13.65	4.8
		85B-3-C1	95.20	29.00	2.76	31.58	4.8
		85B-3-C2	7,800.69	15.30	119.38	31.58	4.8
	Vavilovskoye-1	28B-C1	638.55	12.37	7.90	28.99	4.8
		29B-C1	191.44	11.44	2.19	24.13	4.8
	Vavilovskoye-2	39A-C1	42.84	17.78	0.76	27.4	4.8
	Vavilovskoye-3	41B-C1	104.45	27.34	2.86	29.08	4.8
	Sulfidnoye -1	63B-C1	1,582.58	10.35	16.37	13.01	4.8
	Babkina	82-C2	4,539.26	7.49	33.99	24.17	4.8
		106A-C2	2,613.85	8.09	21.13	20.37	4.8
	Total Level 1690 m		36,535.77	11.82	431.92		
Level 1640 m	Severnoye-1	7-C2	1,367.07	12.33	16.85	23.05	4.8
	Severnoye-3	90-5-C2	6,057.41	6.10	36.94	19.40	4.8
	Sulfidnoye-1	63B-C1	839.17	21.21	17.80	13.01	4.8
		62-C2	153.96	8.04	1.24	14.70	4.8
		65B-C2	1,696.98	5.67	9.62	15.90	4.8
	Babkina	82-C2	9,715.67	10.96	106.53	24.17	4.8
		106A-C2	8,908.40	10.52	93.68	20.37	4.8
	Total Level 1640 m		28,738.65	9.84	282.65		
Level 1590 m	Severnoye - 2	7-C2	1,550.98	7.55	11.71	23.05	4.8
	Severnoye - 3	90-5-C2	23,553.31	8.91	209.92	19.40	4.8
	Vavilovskoye - 1	28A-C2	596.40	11.97	7.14	26.56	4.8
	Vavilovskoye - 3	41-C1	1,018.02	9.26	9.42	25.07	4.8
	Sulfidnoye - 1	62-C2	2,367.33	8.00	18.94	14.70	4.8

		64-C2	350.15	17.13	6.00	15.3	4.8
		65B-C2	2,473.75	10.81	26.75	15.90	4.8
	Sulfidnoye - 2	69-1-C2	682.74	14.22	9.71	15.3	4.8
	Total Level 1590 m		32,592.69	9.19	299.59		
Level 1540 m	Vavilovskoye - 3	41-C2	368.56	15.50	5.71	14.20	4.8
	Severnoye - 2	7-C2	3,633.79	10.74	39.03	23.05	4.8
	Severnoye - 1	8-C2	2,842.89	11.69	33.22	20.17	4.8
	Severnoye - 3	90-5-C2	21,559.56	5.40	116.33	19.40	4.8
		90-8-C2	2,248.62	8.38	18.85	19.4	4.8
	Sulfidnoye - 1	62-C2	5,141.96	7.37	37.89	14.70	4.8
		63B-C2	1,804.15	18.10	32.65	36.93	4.8
	Sulfidnoye - 2	69B-C1	819.95	10.57	8.66	36.93	4.8
	Total Level 1540 m		38,419.48	7.61	292.36		
Level 1490 m	Vavilovskoye - 3	41-C2	732.76	12.86	9.42	14.20	4.8
		41-1-C2	0.00	0.00	0.00	15.69	4.8
	Severnoye - 1	8-C2	1,523.83	15.37	23.42	20.17	4.8
	Severnoye - 2	7-C2	0.00	0.00	0.00	23.05	4.8
		7-1-C2	1,686.97	9.54	16.09	23.40	4.8
	Severnoye - 3	90-6-C2	17,183.32	9.12	156.70	29.37	4.8
		90-9-C2	7,938.91	12.95	102.82	29.37	4.8
	Sulfidnoye - 1	62-C2	4,008.53	7.24	29.04	14.70	4.8
		64-C2	3,085.51	5.99	18.47	15.3	4.8
		65B-C2	5,167.17	15.66	80.92	16.80	4.8
	Sulfidnoye - 2	69B-C1	2,849.61	11.63	33.13	36.93	4.8
	Total Level 1490 m		44,176.60	10.64	470.00		
Level 1440 m	Severnoye - 1	8-C2	6,857.25	6.37	43.70	20.17	4.8
	Severnoye - 2	7-C2	1,094.12	21.06	23.04	23.05	4.8
		7-1-C2	16,464.53	10.18	167.55	23.05	4.8
	8-1-C2 (ore body Dalneye)		19,911.96	10.14	201.82	30.70	4.8
	Vavilovskoye - 1	28A-C2	580.07	21.01	12.19	22.60	4.8
	Vavilovskoye - 3	41-C2	6,783.51	12.00	81.40	10.20	4.8
		41-1-C2	9,923.88	15.61	154.89	15.69	4.8
	Sulfidnoye - 1	62A-C2	3,605.70	10.64	38.37	13.50	4.8
	Total Level 1440 m		65,221.02	11.08	722.95		
Level 1390 m	8-1-C2 (ore body Dalneye)		57,676.61	8.65	498.75	30.70	4.8
	Severnoye - 1	8-C2	10,148.59	14.51	147.27	20.17	4.8
	Severnoye -2	7-1-C2	11,796.36	8.85	104.43	23.05	4.8
	Vavilovskoye - 1	28A-C2	3,628.68	12.25	44.46	22.60	4.8
	Vavilovskoye - 3	41-C2	4,001.28	9.52	38.08	10.20	4.8
		41-1-C2	3,065.11	10.37	31.80	15.69	4.8
	Sulfidnoye - 1	64A-C2	3,145.39	9.41	29.61	13.50	4.8
	Total Level 1390 m		93,462.02	9.57	894.40		
Level 1340 m	8-1-C2 (ore body Dalneye)		38,206.37	7.53	287.79	30.70	4.8
	Total Level 1340 m		38,206.37	7.53	287.79		
	Total Proven		505,262.18	9.06	4,580.07		

Table 15.2
Conversion of Russian Balance “Reserves” into JORC and CIM Compliant Probable Reserves, by Adit, Level, Vein and Block as of April 1, 2012

Location	Vein	Block	Probable Reserves			Dilution (%)	Losses (%)
			Tonnes (t)	Grade (g/t)	Gold (kg)		
Adit 15	Severnoye - 3	90-C2	63,391.20	6.51	412.79	37.60	4.8
Adit 16	Dorozhnoye - 3	86-C2	1,505.45	5.00	7.52	32.00	4.8
		88-C2	1,874.91	12.49	23.42	32.00	4.8
	Total Adit 16		66,771.56	6.65	443.73		
Adit 8	Severnoye-3	90-C2	54,152.11	5.83	315.78	37.60	4.8
	Dorozhnoye - 3	86-C2	556.69	6.84	3.81	32.00	4.8

Total Adit 8			54,708.80	5.84	319.59		
Level 1590 m	Babkina	82-C2	1,394.88	12.15	16.95	24.17	4.8
		106A-C2	7,895.41	6.56	51.79	20.37	4.8
Total Level 1590 m			9,290.28	7.40	68.73		
Level 1540 m	Severnoye - 3	90-6-C2	2,423.79	26.32	63.78	29.37	4.8
		90-11-C2	10,230.92	9.10	93.11	29.37	4.8
	Sulfidnoye - 1	65B-C2	8,541.96	11.16	95.30	15.30	4.8
Total Level 1540 m			21,196.67	11.90	252.18		
Level 1490 m	Severnoye - 3	90-7-C2	3,825.36	6.87	26.28	29.37	4.8
		90-11-C2	23,805.64	8.85	210.58	29.37	4.8
Total 1490 Level			27,631.00	8.57	236.86		
Level 1440 m	Severnoye - 3	90-7-C2	13,146.12	7.34	96.44	29.37	4.8
		90-6-C2	8,656.93	9.12	78.92	29.37	4.8
		90-9-C2	22,087.56	9.90	218.67	29.37	4.8
		90-11-C2	6,994.27	8.66	60.55	29.37	4.8
	Sulfidnoye - 1	65B-C2	24,698.36	8.70	214.87	15.30	4.8
Total Level 1440 m			75,583.24	8.86	669.45		
Level 1390 m	Severnoye - 3	90-7-C2	4,277.36	6.88	29.42	29.37	4.8
		90-9-C2	16,769.50	10.34	173.45	29.37	4.8
	Sulfidnoye - 1	65B-C2	722.26	10.81	7.81	15.30	4.8
Total Level 1390 m			21,769.11	9.68	210.68		
Level 1340 m	Sulfidnoye - 1	64A-C2	11,053.72	8.87	98.06	13.50	4.8
		64A-1-C2	2,050.83	3.81	7.81	13.50	4.8
	Severnoye -2	7-1-C2	3,579.91	10.24	36.65	23.05	4.8
Total Level 1340 m			16,684.45	8.54	142.51		
Level 1290 m	Severnoye -2	7-1-C2	21,369.34	10.24	218.77	23.05	4.8
	Sulfidnoye - 1	64A-C2	4,053.03	6.44	26.08	13.50	4.8
		64A-1-C2	1,212.34	9.50	11.52	13.50	4.8
Total Level 1290 m			26,634.71	9.63	256.37		
Total Probable			383,661.03	7.85	3,012.89		

Tables 15.3 and 15.4 summarize the Proven and Probable reserves by adit and level. No off-balance “reserves” were converted into compliant JORC and CIM reserves.

Table 15.3
Conversion of Russian Balance “Reserves” into JORC and CIM Compliant Proven Reserves, by Adit or Level, as of April 1, 2012

Location	Tonnes (t)	Grade (g/t)	Gold (kg)
Adit 6	4,002.50	10.87	43.51
Adit 4bis	2,718.11	9.77	26.56
Adit 15	880.90	12.21	10.76
Adit 16	102,307.25	5.69	582.53
Adit 8	5,572.01	10.18	56.74
Level 1790	5,004.78	13.51	67.59
Adit 12 (Level 1740 m)	7,424.01	14.91	110.72
Level 1690 m	36,535.77	11.82	431.92
Level 1640 m	28,738.65	9.84	282.65
Level 1590 m	32,592.69	9.19	299.59
Level 1540 m	38,419.48	7.61	292.36
Level 1490 m	44,176.60	10.64	470.00
Level 1440 m	65,221.02	11.08	722.95
Level 1390 m	93,462.02	9.57	894.40
Level 1340 m	38,206.37	7.53	287.79
Total Proven	505,262.18	9.06	4,580.07

Table 15.4
Conversion of Russian Balance “Reserves” into JORC and CIM Compliant Probable Reserves, by Adit or Level, as of April 1, 2012

Location	Tonnes (t)	Grade (g/t)	Gold (kg)
Adit 15	63,391.20	6.51	412.79
Adit 16	66,771.56	6.65	443.73
Adit 8	54,708.80	5.84	319.59
Level 1590 m	9,290.28	7.40	68.73
Level 1540 m	21,196.67	11.90	252.18
Level 1490 m	27,631.00	8.57	236.86
Level 1440 m	75,583.24	8.86	669.45
Level 1390 m	21,769.11	9.68	210.68
Level 1340 m	16,684.45	8.54	142.51
Level 1290 m	26,634.71	9.63	256.37
Total Probable	383,661.03	7.85	3,012.89

Table 15.5 summarizes the JORC and CIM compliant Proven and Probable Reserves for the Zun-Holba mine.

Table 15.5
Total Proven and Probable JORC and CIM Compliant Mineral Reserves for the Zun-Holba Mine

Category	Tonnes (t)	Grade (g/t)	Gold (kg)
Proven	505,300	9.06	4,600
Probable	383,700	7.85	3,000
Total Proven and Probable	889,000	8.54	7,600

Micon estimates that the total remaining Mineral Reserve at the Zun-Holba mine as of April 1, 2012 is 889,000 t at a grade of 8.54 g/t gold, containing an estimated 7,600 kg of gold. These reserves represent approximately 2.6 years of mine life at the current production rate of 340,000 t per year. The figures in Table 15.5 have been rounded to reflect that the reserve figures are estimates.

The mineral reserves shown in Table 15.5 are compliant with the both the JORC code and current CIM standards and definitions. Micon is not aware of any significant technical, legal, environmental or political considerations which would affect the extraction and processing of the mineral reserves at the Zun-Holba mine.

16.0 MINING METHODS

16.1 MINING METHODS AT ZUN-HOLBA

16.1.1 Mine Development

By the time Buryatzoloto became involved with the Zun-Holba mine, in 1991, the upper portion of the deposit had already been developed with the adits spaced 40 m to 50 m apart vertically. This development included: adits # 1 and #2 (the adit entrances at an elevation of 2,256 metre above sea level (m)), adits # 3 and # 4 (2,213.8 m), adit # 4 bis (2,173 m), adit # 5 (2,134.4 m), adit # 5 bis (2,083.4 m), adit # 11 (2,032.2 m), adit # 8 (1,820 m) and adit # 12 (1,740 m).

In the upper part of the deposit Buryatzoloto developed adits # 14 (adit entrance located at the 1,982.3 m), # 15 (1,935.0 m) and # 16 (1,883 m). Also, the 1790 m sublevel was developed between adits # 8 and # 12. “Reserves” of the deposit located below the adit # 12 level at a depth of 350 m are exposed by two vertical blind shafts. These shafts are the Glavny (Main) shaft developed from the 1790 m level and the Vspomogatelny (Secondary) shaft developed from the 1840 m level. Using a 50 m distance between active levels at the mine, the “reserves” below adit # 12 are accessed by five shaft levels, and two further shaft levels (1440 m and 1390 m) are in the process of being developed. The # 12 adit is the primary tramming level for both the upper and the lower (shaft) levels. The ore of the upper levels is transported via the ore passes to the adit # 12 level and then out of the mine. The ore from the lower levels is hoisted in the Glavny shaft to the 1790 m level where it is reloaded via the ore passes to the # 12 adit level and then transported out of the mine. The Vspomogatelny shaft is used to transport the ore and waste rock from the lower levels to the # 8 adit level, from which the waste rock is transported out of the mine and dumped to the waste rock stockpile. The ore is dumped through an ore pass to the # 12 adit level and then transported out of the mine, where it is dumped onto the ore stockpile.

An inclined track haulage ramp was developed at an angle of 25° from the # 12 adit (1740 m) level to the 1690 m level and is the main heading used for transportation of the ore and waste rock from the 1690 m level to the # 12 adit level.

The Glavny shaft is 400 m in depth, 17.11 m² in unsupported cross-section and 16.24 m² in timbered cross-section. The shaft is equipped with double-cage hoisting, manway and pipe-cable compartments, and is used to transport ore and waste rock.

The Vspomogatelny shaft is 450 m in depth and has the same cross-section as the Glavny shaft. This shaft is used mainly to transport personal, supplies and, additionally, ore and waste rock.

The mine also utilizes a system of transportation raises which includes an inclined raise between the # 8 adit and the sublevel. The raise is equipped with a winch. There is also a vertical raise between levels 1790 m and 1390 m, equipped with a hoist machine and a winch for heavier loads.

Ventilation for the working levels is provided by a ventilation raise which has a cross-section of 8.0 m² between the # 11 adit and 1640 m level and 6.25 m² between the 1640 m and 1490 m levels.

For the deep mining operation, a raise was developed to the levels included in the mining plan. The raise is located close to the central part of the reserve blocks and, on the flanks, ventilation raises # 2 and # 7 were developed which also function as additional exits.

Buryatzoloto conducts the mining operations at the Zun-Holba mine using its own employees, with accommodations located both in the community of Samarta and at the mine site itself.

16.1.2 Ground Conditions

Access drifts of 6.9 m² in cross-section are supported by bolts with grouted cement and by a partial timber frame when the cross-section is 8.0 m².

The shaft bays, warehousing and maintenance areas, tumbler stations, discharge stations and other infrastructure areas are supported by bolts, with the roof covered with mesh and a 50 mm thickness of grouted cement.

Junctions of workings located within unstable rocks are supported by metal with timbered roof and walls.

Figure 16.1 is a photograph showing the bolting pattern at Zun-Holba. Figure 16.2 is a photograph showing the timbered walls and roof in a development drift.

16.1.3 Stopping Methods

Due to both geological factors and the geological features of the mineralized bodies within the deposit, the following mining methods are used at Zun-Holba:

- 1) Shrinkage stoping with short blast holes (up to 6% of production).
- 2) Timbered stoping method (up to 3% of production).
- 3) Cut-and-fill method (up to 42% of production).
- 4) Shrinkage stoping with backfill (up to 50% of production)

Figure 16.1
Bolting Pattern in the Roof at the Zun-Holba Mine



Figure 16.2
Timbered Walls and Roof in a Development Drift at the Zun-Holba Mine



The usage for each mining method is described below:

Shrinkage stoping with short blast holes (jacklegs and stopers) is used for mineralized zones hosted by stable rocks. To prepare a mineable block for extraction, the mine develops a main transport drift, ore or waste rock drifts, a slusher drift and a timbered ventilation/manway raise. From the slusher drift, cross-cuts and transportation drifts are developed 2 to 3 m apart and then joined with each other to form a drift in which the ore zone is exposed.

Broken ore is retained within the stope to provide temporary support to the stope walls during active mining, and is completely drawn out only after the stope has reached its upper limits. During the active mining and blasting sequence, some ore is drawn out via the cross-cuts to the slusher drift after each blast in order to provide a working platform along the block length. The ore is moved via the ore pass to the transport drift where it is loaded into the muck cars.

- 1) Shrinkage stoping comprised of a large diameter longhole method is used in areas of stable mineralized bodies with a thickness of more than 3.0 m. This method is used in combination with the short blast hole method. The short blast hole method is used to expose the ore zone within the drift and the large diameter longhole method is used to drill the body to its boundaries. Short drilling of the horizontal workings is done using jacklegs and, of the vertical workings, using stopers with telescoping rods.

Preparation of a mineable block for this extraction method requires development of a main transport drift, a drift exposing the ore, cross-cuts, two raises at the flanks of the block and an ore pass. Junctions of the transport drift and cross-cuts are supported by a timbered roof and walls, with the bottom of the ore drift and the raises timbered and the ore pass free of any support.

- 2) The timbered stoping method is used for unstable mineralized zones with a thickness of up to 3.0 m

Ore preparation includes a pillar left above the drift and development of a bottom slusher drift. The waste rock preparation is similar to the shrinkage stoping method, with the broken ore passing through the cross-cuts located at the main transport drift level.

Drilling of the blast holes is done by jacklegs or stopers with telescoping rods. The stope walls are supported by timber framing which is installed following stope development. The ore is drawn out after each blast from the cross-cuts located at the transport drift level or from other cross-cuts. This method is similar to square set stoping.

- 3) The cut-and-fill mining method allows the mine to control the ground pressure within the stope, not only during mining activity but also after the stope is mined out. The

cost of mining extraction is increased significantly but this is compensated for by better grade control and a cost reduction in ground support.

The primary mining methods are shrinkage stoping and conventional cut-and-fill, with up to 92% of the present mining being conducted using these methods. Two different variations of the cut-and-fill method are used at Zun-Holba:

- 1) Bottom-up (overhand) cut-and-fill method.
- 2) Top-down (underhand) cut-and-fill method.

Descriptions of the two methods are provided below:

- 1) For mining using the bottom-up (overhand) cut-and-fill method, block extraction is done using horizontal drifts of 2.0 to 3.0 m in height, starting from the bottom of the block. After removal of the first lift of ore, the void is filled with cemented backfill, which is allowed to harden. After a predetermined curing time, a second lift (above the backfilled material) is mined. Drilling is done with jacklegs and stopers and the broken ore is removed with slusher winches. Ore is slushed into wooden chutes that facilitate transfer of the ore into muck cars for removal from the mine. Geological conditions in which this method is used include any zone thickness and dip, stable ore and unstable host rocks. Extraction of the mineralized blocks begins from the central part of the block and continues towards the flanks.
- 2) The top-down (underhand) cut-and-fill method is used for extraction of unstable mineralized zones.

Preparation for mining a block using this method starts with the development of a transport drift, raises and an ore-pass. Block extraction is done using inclined (3° to 5°) drifts up to 3.0 m high and 1.5 to 2.0 m, in width starting at the top of the mining block. When the ore is removed, the void is filled with cemented backfill and further extraction sequences are performed under the protection of the engineered backfill above. The mining block parameters are 50 m high and 60 m, long with extraction accomplished using jacklegs. The broken ore is delivered by slusher winches to the ore-passes.

All mining methods are labour intensive, with the use of both jacklegs and stopers to drill the blast holes. Extraction of the broken material is accomplished primarily by using slushers to move the material into the ore and waste passes. From the ore and waste passes, the broken material is loaded into rail cars using either a chute (for the cut-and-fill and timbered stoping methods) or a mucking machine (shrinkage stoping).

Figure 16.3 is a view of a slusher set-up to muck in a timbered stope and Figure 16.4 is a view of the rail cars used to transport broken material.

Figure 16.3
Slusher Setup to Muck in a Timbered Stope



Photograph was taken during the 2007 Micon site visit.

Figure 16.4
Rail Cars used to Transport Broken Material



Photograph was taken during the 2007 Micon site visit.

16.2 PRODUCTION

A detailed discussion of the past and present production has been presented in Section 6 of this report.

In 2011, Buryatzoloto mined a total of 339,910 t of ore at an average grade of 7.5 g/t gold, for a total of 2,543.5 kg of gold. In the first quarter of 2012, Buryatzoloto mined a total of 116,563 t of ore at an average grade of 6.4 g/t gold, for a total of 745.7 kg of gold.

The processing facility routinely processes more ore than is mined as a result of processing the concentrates from the Irokinda mine.

Based on the current reserves estimated in Section 15 of this report, the Zun-Holba mine has approximately 2.6 years of mine life at the current production rates.

17.0 RECOVERY METHODS

17.1 PROCESSING FACILITIES AND FLOWSHEETS

Run-of-mine material is processed at the Samarta plant using the following flowsheet (Figure 17.1):

- 1) Two crushing stages with screening of the material after the second stage at 16 or 18 mm sizes.
- 2) Two grinding stages using ball mills.
- 3) Gravity concentration to recover the free gold.
- 4) Flotation of gravity tailings to recover the finer gold particles.
- 5) Cyanidation leaching and adsorption (CIP) of the flotation concentrate.

The final product of the process at the Zun-Holba mine is doré bars which are then shipped out for further refining (Figure 17.2).

Figure 17.1
Schematic Processing Flowsheet

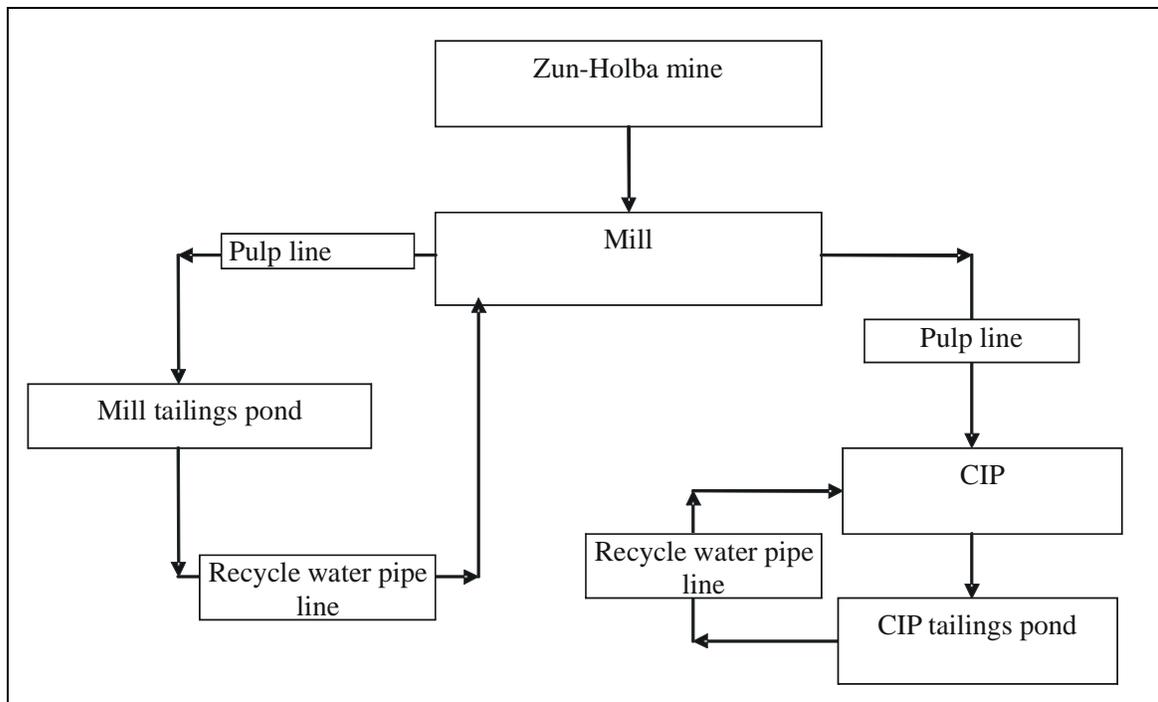


Figure created in July, 2012 by Micon based upon information supplied by OJSC Buryatzoloto.

Figure 17.2
Doré Bars Produced at the Samarta Processing Plant



Photograph taken during the 2007 Micon site visit.

Run-of-mine material is transported by trucks to the processing plant. The trucks are weighed on a strain-gauge weigh scale before being unloaded onto one of three stockpiles located ahead the crushing circuit. The stockpiled ore is fed to the crusher using a bulldozer which blends the material from the three stockpiles. From the crushing circuit, the crushed material is transported via conveyor to the fine ore bins.

From the fine ore bins the material is fed to three grinding-gravity-flotation circuits (Figure 17.3), with the following products being obtained:

- 1) Coarse gold from the gravity circuit, which is smelted to produce doré bars.
- 2) Flotation concentrates, which are transported to the CIP plant for further treatment.
- 3) Mill tailings, which are delivered to the mill tailings pond.

The flotation concentrate is leached with sodium cyanide and adsorbed into activated carbon at the CIP plant (Figure 17.4). Prior to 1998, when the CIP plant was commissioned, the flotation concentrate was shipped to a smelter located in the Urals. The products of the CIP plant are gold-silver doré bars and the CIP tailings which are stored in the CIP tailings pond. The flotation concentrate from the Irokinda mine is fed through its own pulp preparation circuit, where cyanide is added prior to the pregnant solutions being sent to the carbon columns for adsorption.

reached the 1,950.4 m level. At this point, the mine started to detoxify the excess recycled solutions during the warm season.

Detoxification of the recycled solutions is effected through the chlorination method, which allows for full oxidization of the toxic cyanides and thiocyanates, as well as precipitating the metals of cyanic complexes in the form of hydroxide compounds from the liquid phase. Calcium hypochlorite is used as a chlorine-containing oxidizer. The recycle solutions detoxification facility flowsheet is shown in Figure 17.5.

Figure 17.5
Recycle Solutions Detoxification Flowsheet

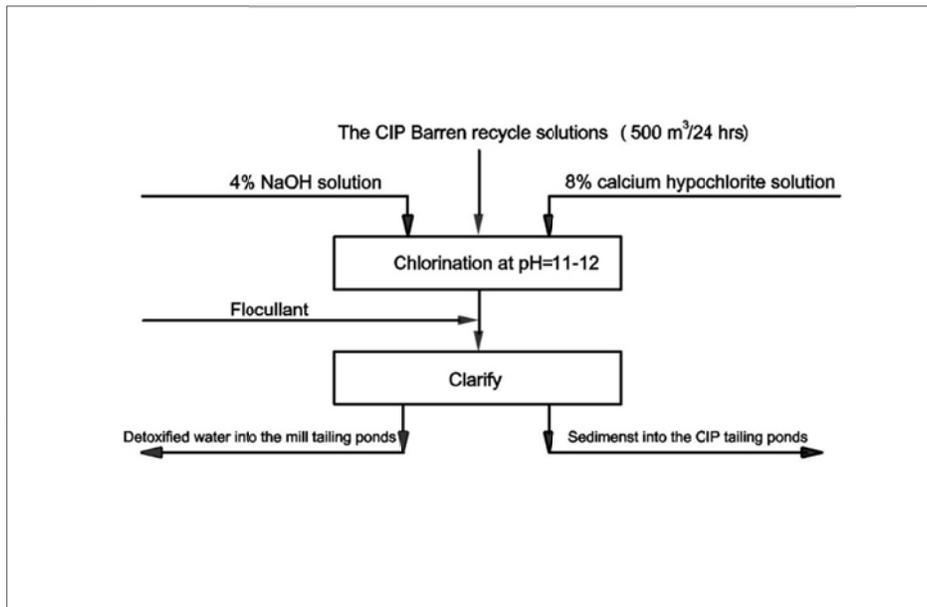


Figure created in June, 2012 by Micon based upon information supplied by OJSC Buryatzoloto.

The above method essentially allows for the full detoxification of the CIP plant recycle solutions. However, this method of detoxification of cyanides and thiocyanates had a number of disadvantages, such as a significant consumption of calcium hypochlorite and the high costs for its purchase and transportation. For this reason, it was decided to design and install a new detoxification method.

In 2002, the Baikal Environmental Management Institute issued a report entitled "Development of Technology for the Detoxification of CIP Plant Recycle Solutions at the Zun-Holba Mine" and, in 2003, issued a further report entitled "Optimization of Technology for Cyanide Recovery from the CIP Plant Recycle Solutions at the Zun-Holba Mine after Gold and Silver Recovery on to Zinc Dust". Based on the recommendations offered in these reports, a plant was designed incorporating detoxification of cyanide recycle solutions by calcium hypochlorite, with a preliminary volatilization of cyanides from the acidified recycle solutions in a centrifugal air-lift device.

Also, the possibility of recovering of dissolved gold, silver and copper in the CIP tailings pond recycled water, prior to discharge into the flotation tailings pond, was investigated, and the following facilities were installed:

- 1) A gold and silver cementation facility in October, 2004.
- 2) A recycle solutions detoxification facility in June, 2005.

The cementation facility has now been removed from the CIP circuit because the gold grade in the tailings decreased to 0.1 mg/l. Between October, 2004 and May, 2006, however the cementation facility produced 72.1 kg of gold and 881.8 kg of silver from the CIP recycle solutions.

The upgraded recycle solution detoxification facility includes sodium cyanide regeneration and the production of a copper-containing precipitate for the possible production of metallic copper, in addition to the detoxification of cyanide-containing solutions.

The redesigned detoxification facility flowsheet is shown in Figure 17.6.

17.3 PROCESS CONTROL

Process control for the mill facilities includes the following:

- 1) Sampling of the flotation feed to determine its density.
- 2) Determination of gold grade in the overflow of the hydrocyclone.
- 3) Automatic sampling of flotation tailings with a flowmeter every 10 minutes to determine of gold grade (g/t).
- 4) Screening of the tailings at a grain size of 0.074 mm.
- 5) Density determination of the classifier in the three circuits (periodical control).

Each truck load of ore delivered to the plant is weighed and the throughput rate is controlled by the conveyor scale (weightometer).

The quantity of flotation concentrate is measured by a flowmeter at the CIP plant. The quality of the flotation concentrate is determined by sampling the concentrate every 5 minutes during the shift. At the end of the shift, the composite flotation concentrate sample is sent to the fire assay laboratory for analysis.

The quantity and quality of gold in the doré bars is measured by weighing each bar produced and by taking a drill sample of the bar. The drill samples are assayed in the fire assay laboratory at the mine.

Figure 17.6
Redesigned Recycle Detoxification Facility Flowsheet

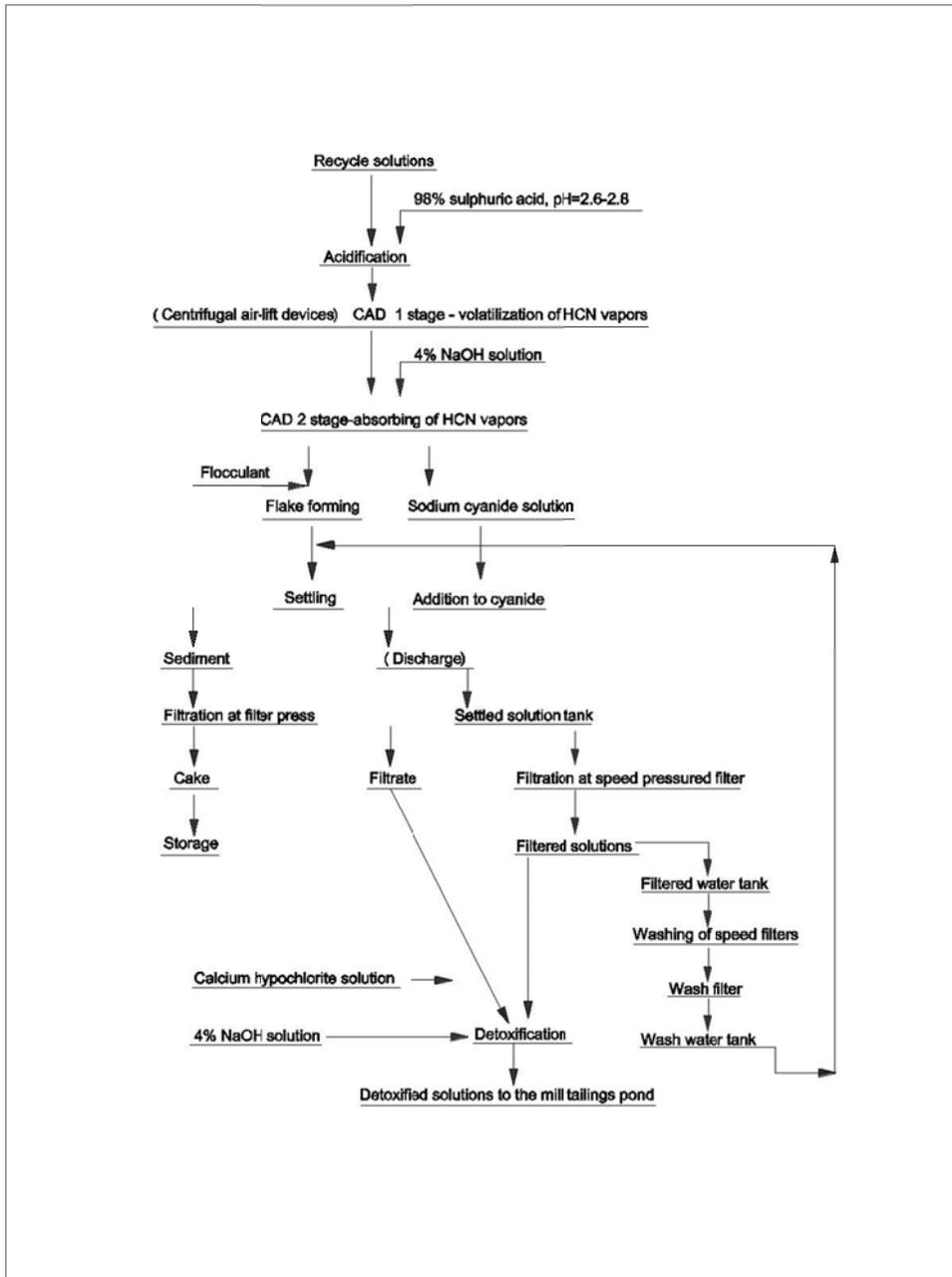


Figure created in June, 2012 by Micon based upon information supplied by OJSC Buryatzoloto.

Total tailings are sampled by an automatic sampler every 10 minutes while the plant is operating. The gold grade in the total tailings is determined in the dried samples at the fire assay laboratory.

Figures 17.7 and 17.8 are photographs of the plant facilities for the Zun-Holba Project at Samarta. Figure 17.7 shows an overview of the milling facilities, with the flotation tailings

pond in the background to the left and the CIP tailings pond located on the right side of the photograph. Figure 17.8 shows the mill facilities, with the flotation mill located on the right side and the CIP facilities located on the left side of the photograph.

17.4 MICON COMMENTS

During the site visit in May, 2012, Micon visited the processing plants and facilities at Samarta. The plants and facilities were clean, appear to be well maintained and were deemed to be in excellent condition.

Figure 17.7
Zun-Holba Mill Facilities with the Tailings Ponds in the Background



Photograph taken during 2007 Micon site visit.

Figure 17.8
Zun-Holba Mill Facilities with the Flotation Plant on the Left and the CIP Plant on the Right



Photograph taken during 2007 Micon site visit.

18.0 PROJECT INFRASTRUCTURE

18.1 ACCESS LOGISTICS

The village of Samarta is the main mine settlement, at which the mine head office, the ambulance, the central boiler-house and accommodation for personnel other than mining personnel are located. Samarta is close to the mill, CIP plant and tailings pond and is connected to the mine site by a 12 km gravel-covered dirt road. The mine site contains the entire mine infrastructure and includes the mine engineering office and accommodation for the mine personnel.

The closest district centre of Orlik, with a population of approximately 1,000 inhabitants, is accessible through the village of Mondy via a 50 km long dirt road. The Zun-Holba mine and the village of Samarta, are linked to the village of Mondy via a 100 km long dirt road, covered with gravel.

From the village of Mondy, it is 203 km via a paved road to the village of Kultuk at the southern end of Lake Baikal. From Kultuk, a paved highway connects to the cities of Ulan-Ude to the east and Irkutsk to the north. Kultuk is also the nearest station of the Trans-Siberian railway.

Access for personnel and material at and around the mine site is provided by a local network of all-weather roads.

18.2 POWER SUPPLY

In 2002, the European Bank of Reconstruction and Development (EBRD) provided to Buryatzoloto a credit of US \$8.1 million for further development of the Zun-Holba mine. With this credit, the Buryatzoloto constructed an 86 km long double-line 110 kV power line from Mondy to Samarta which now reliably supplies electricity to the infrastructure of the Zun-Holba, mine as well as two districts of the Republic of Buryatia.

The electrical energy demand of the Samarta and Zun-Holba sites is provided by two transformer substations (KTPB-110/35/6 kV) with transformers of 10,000 kilovolt-ampere capacity.

18.3 WATER

18.3.1 Fresh Water

The water supply for domestic drinking and industrial fire prevention for the camp of Samarta is derived from capped wells located on the right bank of the Samarta river.

The water supply for domestic drinking and industrial fire prevention for the camp located at the Zun-Holba mine is derived from drill holes, with a water-intake system located on the right bank of the Zun-Holba river.

18.3.2 Process Water

Water from the flotation plant tailing pond is recycled to the processing plant in a closed system. Water from the CIP tailing pond is recycled the CIP facility, as well.

18.3.3 Waste Water

Due to the recycling of the water back to the processing plants, there is no discharge of water into the environment at this time.

18.4 HEAT SUPPLY

The mine site, warehouses facilities, office and residential buildings are heated with hot water.

18.5 WAREHOUSES

There are warehouses located both at the Samarta and the Zun-Holba camps. The warehouses contain a sufficient stock of material for operating the mine and camps.

18.6 LABORATORY

The assay laboratory for the mine is located in the CIP plant. The laboratory has sufficient capacity to process the geological (mine and exploration) and process plant samples on a daily basis.

18.7 CONCENTRATE TRANSPORTATION AND STORAGE

Flotation concentrate is shipped from the Irokinda mine to the Zun-Holba processing plant by truck and railway. Kultuk is the station of the Trans-Siberian railway line closest to Zun-Holba. Buryatzoloto maintains a small transfer yard in Kultuk, where the bags with flotation concentrate from Irokinda are transferred from the rail cars to trucks for shipment to the Zun-Holba plant for final processing. Other supplies shipped by rail are also transferred to trucks in Kultuk for shipment to Zun-Holba.

18.8 TAILINGS AND MANAGEMENT FACILITIES

There are two tailings facilities at the Zun-Holba mine, both located fairly close to the processing facilities. The main tailings dam is used by the flotation mill (Figure 18.1). The second tailings facility is attached to the CIP plant and it also recycles its water back to the CIP (Figure 18.2). The distance from the process plant to the flotation tailing pond is about 400 m and the distance from the CIP plant to its tailing pond is about 1,000 m.

Figure 18.1
A View of the Flotation Plant Tailings Pond



Photograph taken during the 2007 Micon site visit.

Figure 18.2
A View of the CIP Plant Tailings Pond



Photograph taken during the 2007 Micon site visit.

The flotation tailings pond is located at the base of a mountain and could be subjected to an influx of water during the period of spring run-off. To prevent this, a diversionary channel has been cut between the tailings pond and the mountain slope (Figure 18.3).

Figure 18.3
A View of the Diversionary Channel around the Flotation Plant Tailings Pond



Photograph taken during the 2007 Micon site visit.

Since the previous Micon site visit in 2007, the tailings dam has been raised to accommodate an increased capacity. In 2010, OJSC Irgiredmet prepared a design for progressive increases in the height of the dam. The design includes the following stages:

- Stage 1 - During the 2009/2010 winter months, a 1 m increase to the dam was completed.
- Stage 2 - During the 2010/2011 winter months, a 2 m increase to the dam was completed to bring it up to the 1982 m level.
- Stage 3 - This stage is planned for the 2013/2014 winter months and will consist of raising the dam a further 2 m, to bring it up to the 1984 m level.

The raises to the dam consist of tailings, reinforced by a sand and gravel mix.

Buryatzoloto advised Micon that the existing tailings area is sufficient for several years of production and that additional areas are available for future disposal.

19.0 MARKET STUDIES AND CONTRACTS

19.1 MARKET

Gold is a metal that is traded on world markets, with benchmark prices generally based on the London market (London fix). Gold has two principal uses: product fabrication and bullion investment. Fabricated gold has a wide variety of end uses, including jewellery (the largest fabrication use), electronics, dentistry, industrial and decorative uses, medals, medallions and official coins. Gold bullion is held primarily as a store of value and as a safeguard against the depreciation of paper assets denominated in fiat currencies. Due to the size of the bullion market and the above-ground inventory of bullion, High River's activities will not influence gold prices. The doré produced by High River at its mines is further refined by third parties before being sold as bullion (99.99% pure gold). To a large extent, gold bullion is sold at the spot price.

High River's share of total gold production from all of its operating properties was approximately 334,584 ounces during 2011. Table 19.1 summarizes the high and low average annual London PM gold and silver price per ounce from 2002 to 2011.

Table 19.1
Average Annual High and Low London PM Fix for Gold and Silver from 2002 to 2011
(prices expressed in US\$/oz)

Year	Gold Price		Silver Price	
	High (US \$)	Low (US \$)	High (US \$)	Low (US \$)
2002	349.30	277.75	4.85	4.20
2003	416.25	319.90	5.96	4.37
2004	454.20	375.00	7.83	5.49
2005	536.50	411.10	9.23	6.39
2006	725.00	524.75	14.94	8.83
2007	841.10	608.30	15.82	11.67
2008	1,011.25	712.50	20.92	8.88
2009	1,212.50	810.0	10.51	19.18
2010	1,421.00	1,058.00	15.14	28.55
2011	1,895.00	1,319.00	26.68	48.70

Source: www.kitco.com

Over the period from 2008 to 2011, world gold price increased significantly. This had a favourable impact on revenue from production of all of High River's mines, including the Zun-Holba Project. The Russian rouble has also recently depreciated significantly against major currencies, partially offsetting the impact of local inflation.

19.2 CONTRACTS

High River and Buryatzoloto advise that there are no contracts for mining, smelting, refining, transportation, handling or sales that are outside normal or generally accepted practices

within the mining industry. High River and Buryatzoloto have a policy of not hedging or forward selling any of their products, unless required to do so by outside organizations.

The doré produced by High River is generally sent to the OJSC Prioksky Non-Ferrous Metals Plant (OJSC Prioksky) for refining. The payment for gold refining is made in advance.

The OJSC Prioksky conducts the gold refining within 3 days of receiving the doré and sends the gold (at least 98%) and silver (not more than 80%) to NOMOS bank. The refined bullion sent to the bank complies with the Russian state (GOST) standard requirements (Table 19.2).

Once all of the refining is completed, OJSC Prioksky informs Buryatzoloto of the amount of refined gold obtained along with the refinery parameters and settles the final payment for the gold. The remaining gold is then sent to the bank.

Table 19.2
Russian State (GOST) Standards for Gold and Silver Bars (Bullion)

Description		Gold	Silver
GOST Standard Number		28058-89	28595-90
Bar Dimensions (mm)	Length of Base	254	335+/-5
	Width of Base	88	135+/-5
	Length of top	229	300+/-5
	Width of top	59	100+/-5
	Height	35	80+/-5
Fineness of Bar (%)	Gold	99.99	0.0006
	Silver	0.005	99.99
Weight of Bar (kg)	-----	11 to 13.3	28 to 32

20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL AND COMMUNITY IMPACT

20.1 ENVIRONMENTAL STUDIES AND PERMITTING

The Zun-Holba mine has a lease on 495.3 ha of land, a portion of which is used for infrastructure. Upon completion of mining operations, all disturbed land will be subjected to reclamation processes in compliance with the mine closure project developed by the Sibgyprozoloto Institute in 1999. Any soil, which forms surface features and is kept in a natural condition, is characterized as land which is of a lower fertility. It is considered sufficient for biological restoration and will be left to revegetate naturally.

In accordance with the resolution of the Council of Ministers of the Russian Federation No. 307 as of March 14, 1997 “About the Approval of the Regulations on the State Water Monitoring” and “Regulations on the State Environmental Monitoring,” a program of environmental monitoring has been carried out at the Zun-Holba mine since 1999. This program includes monitoring of the surface and underground water and laboratory control of the soils, snow and air emissions.

The environmental laboratory monitoring and control at Zun-Holba are carried out by the environmental laboratory at the mine. The equipment available at the laboratory allows the mine to monitor a wide range of components in the water, soil and snow cover. In 2000, the laboratory was officially certified for the reliability of the results attained and, in 2005, the laboratory was re-certified. In addition, a number of outside state organizations are retained for monitoring purposes, as listed below:

- The engineering environmental laboratory of BIP SO of the Russian Academy of Science is responsible for duplicating the water analysis results issued by the mine laboratory.
- PGUP TTz Buryatgeomonitoring undertakes monitoring over the geologic and hydro-geologic environmental features.
- GUP Vostokrybcentre is engaged in monitoring the fish in the Samarta and Zun-Holba rivers.
- The Sanitation and Epidemiologic Centre of the Okinskiy district provides hydrochemical and hydrobiological monitoring and control over the underground water used in the water supply system.
- The Regional Environmental Research Centre (REITz) monitors air emissions.

Prior to September, 2002, the Zun-Holba mine was supplied with electricity from diesel power plants. During that period, potentially hazardous air emissions from all sources totalled 1,747 t. Once the 110 kV power line was completed and put into operation, these emissions were reduced to 535 t. Buryatzoloto is continuing to make every effort to reduce

hazardous air emissions. The Samarta and Zun-Holba boiler plants are equipped with gas-cleaning units with a cleaning efficiency of 83% and 70%, respectively. At the crushing plant, of the mill all dust emitting sources are equipped with water sprays, and dust-exhausting and collecting units with a capacity of 96% of the airborne material are installed.

At the reagent preparation facility of the CIP plant, there are 5 cyanic hydrogen and calcium hypochlorite filters with a capacity of 96%. The smelting facility is equipped with a scrubber with the capacity of reducing the solid emissions by 96% and the sulphur dioxide by 70%.

Natural water samples are taken once a month during warmer months and waste water sampling is conducted once every quarter. Air, soil and snow sampling is done once a year. The monitoring of the fish in both the Samarta and the Zun-Holba rivers is performed every four years.

Laboratory control data on natural, process and sewage water are submitted monthly to the Special Analytical Laboratory of the Republic of Buryatia, Buryatgeomonitoring and the Buryat Centre of Hydrometeorological Services. These data are published in the annual environmental reports issued by the above organizations.

Production and domestic wastes at the mine are collected in metallic containers to be transported for their utilization, re-use or burial off site.

According to the existing monitoring results, the environmental impact caused by the Zun-Holba operations is estimated as negligible by the state.

20.2 WORK SCHEDULE AND SOCIAL RESPONSIBILITY PROGRAM

20.2.1 Work Schedule

The Zun-Holba mine operates on a year-round working schedule with an uninterrupted work week and with the work arranged on a fly-in and fly-out basis. Due to the remote location of the mine, it is necessary to retain as many experienced specialists as possible, as a portion of the manpower, especially professional personnel, is supplied from other regions. To meet the production requirements and, at the same time, allow personnel to return to their place of residence from time to time, the main working schedule comprises two months spent at the mine site alternated with two months of rest. As a result of the alternate monthly schedule the work day consists of two 12-hour shifts. The total employees at the mine, at any one time is, 832. Total employees are 1,664. Table 20.1 is of a list of employees.

**Table 20.1
List of Zun-Holba Mine Personnel**

Divisions	Number of Employees	Employees per rotation
Production Mining Area 1	217	108
Managers, engineers and professional staff	7	4
Heading teams	78	78
Electromechanical service	10	5
Other underground workers	17	8

Divisions	Number of Employees	Employees per rotation
Production Mining Area 2	163	82
Managers, engineers and professional staff	7	4
Heading teams	96	48
Electromechanical service	50	25
Other underground workers	10	5
Mine Site Construction Areas	213	106
Managers, engineers and professional staff	10	5
Heading teams engaged in mine site construction (installation-construction)	130	75
Electromechanical service	64	32
Other underground workers	9	4
Mining Area 3	135	58
Managers, engineers and professional staff	7	4
Heading teams	74	37
Electromechanical service	24	12
Other underground workers	30	15
Underground Transport Unit (incl Hoist Service)	133	67
Managers, engineers and professional staff	8	4
Haulage men	28	14
Electromechanical service	29	15
Car exchange unit	40	20
Other underground workers	28	14
Underground Stowing Plant	84	41
Managers, engineers and technologists	9	5
Underground team	59	28
Electromechanical service	8	4
Crusher & sorter unit	5	2
Gravel & sand quarry	3	2
Rock Pressure Monitoring and Support Repair Department	24	12
Electromechanical Service for Mining Equipment Maintenance and Repair	51	26
Mining equipment repair team and duty personnel	14	7
Mine water drainage, networks and substations group	25	13
Ventilation Service	12	6
Geology and Mine Surveying Department	100	50
Managers, specialists and employees of geological dept.	26	13
Managers, specialists and employees of surveying dept.	18	9
Technical control and mine surveying service	20	10
Underground drilling	36	18
Blasting Service	28	14
Gold Recovery Plant	186	93
Senior managers and technologists of process and CIP plant	24	12
Process plant personnel	87	44
CIP plant personnel	75	38
Fire Assay Lab & Environmental Service	32	16
Managers, specialists and employees	10	5
Assaying group	16	8
Express analysis group	6	3
Logging, carpentry and repairs	30	15
Managers, specialists and employees	4	2
General	6	3
Logging area	20	10
Motor Transport Shop (Samarta garage, Ore truck and Mine area garage)	13	7
Power Supply and Electrical Services	107	53
Managers, specialists and employees	6	3
Maintenance and repair group	55	16
Heat department	46	14
Social Responsibility and community relations	94	47
Health and safety	12	6
Canteens No. 1 and No. 2	51	26
Communal service in Samarta and Zun-Holba settlements	25	14
Senior mine managers		
Chief Mine Engineer	1	
Mine specialists	36	18
Senior specialists and employees of underground operations	20	10
Accounting, human resources and training	25	12
Business development and administration	3	2
TOTAL:	1,664	832

Table created in July, 2012 by Micon based upon information supplied by OJSC Buryatzoloto.

20.2.2 Social Programs

The communities that economically benefit from the mine are the Samarta settlement, the village of Mondy and the administrative centre. The population of the Okinskiy district is approximately 4,500 inhabitants and, as a result, hiring of labour is possible mainly by tapping the resources of other districts of the Republic of Buryatia and the adjacent Irkutsk Region.

Buryatzoloto is committed to socially responsible operations and communications with all the parties involved in the process employees, their families, local communities and the authorities of the municipalities. The company has allocated funds for the repair of educational, medical, cultural and sports centres and facilities, landscaping, infrastructure maintenance and development of settlements and camps.

Buryatzoloto provides the following services and benefits to its employees:

- Safe and ergonomic design of work-related activities.
- Functional and quality safety gear, including appropriate clothing and footwear.
- Clean drinking water, food and accommodation.
- Training for the employees and their families.
- Health care, including preliminary, periodic and additional medical examination, additional medical and life insurance, preventive medicine treatment and on-going support in case of injury.
- Support to families of workers injured due to accidents, which includes financial compensation and assistance for the education of children, pensions for disabled family members, and other types of assistance depending on the needs of the family.
- Support and financial help in case of natural disasters such as fires, floods, earthquakes.
- Sport facilities at the camp (Figures 20.1 and 20.2).
- Financial and moral support for significant life events such as anniversaries, marriage, birth of a child.

In order to ensure fulfillment of its obligations for industrial health and safety, Zun-Holba has mine a rescue team and firefighters. The management and the experts from Buryatzoloto constantly monitor the potential sources of pollution or any other danger or potential harm to the health and lives of people or the environment, and taking steps to eliminate them or mitigate their effects.

Figure 20.1
View of the Library and Gymnasium (Left) and the Canteen (Right) at the Samarta Settlement



Figure 20.2
View of Employee Accommodations at the Samarta Settlement



21.0 CAPITAL AND OPERATING COSTS

21.1 CAPITAL AND OPERATING COSTS

Buryatzoloto's Zun-Holba mine is a modest sized underground operation which requires a certain amount of capital expenditure each year. Capital investments in 2011 totalled 204,745,000 roubles or approximately US \$6.4 million. Cash operating costs for 2011 totalled US \$807/oz of gold produced, which compares to an average gold price of US \$1,570/oz for 2011 based on a London PM fix. The 2012 cash operating costs for the Zun-Holba mine are expected to remain similar to the 2011 costs.

21.2 TAXES

Taxation in Canada and Russia is often complex and varies from one jurisdiction to the other. There are numerous calculations and allowances, all of which are outside the scope of this report. However, taxes are all levied in the normal course of business. High River is subject to the taxing jurisdictions of Russia and Canada, whereas Buryatzoloto is subject only to the taxing jurisdictions of Russia. High River and Buryatzoloto report that all taxes assessed have been paid or will be paid when due, aside from any protests or other tax relief available under law.

A summary of the current taxes and tax rates is shown in Table 21.1.

Table 21.1
Summary of the Current Taxes and Tax Rates for the Zun-Holba Mine

Tax Type	Source for Tax	Tax Rate	Law or regulation
Profit tax	Pretax profits	24%	Chapter #25 of the tax code of the Russian Federation.
Mineral mining tax			
- on gold	Revenue from the recovered gold	6%	Chapter #26 of the Russian Federation tax code.
- on silver	Revenue from the recovered silver	6.5%	
- on sand	Costs of mined sands	5.5%	
Water tax	Water consumption (Okinskiy district/Muiskiy district).	16.4/17.1 RUB/thousand m ³	Chapter #25.2 of the Russian Federation tax code.
	Discharge of the mine water.	17.9 RUB/thousand m ³	
Property tax	Mid-year asset value	2.2%	Chapter #30 of the Russian Federation tax code.
Land tax (Lease payment)	Land area	By type of lands	Chapter #31 of the Russian Federation tax code.
Exploration tax	Exploration area	By type of exploration property	Federal law #2395-1 21.02.1992
Personal income tax	Wage fund	13%	
Consolidated social tax	Wage funds		Chapter #24 Of the tax code
- Retirement fund		20%	
- Social insurance fund		3.2%	
- Federal compulsory medical		0.8%	

Tax Type	Source for Tax	Tax Rate	Law or regulation
insurance fund			
- Federal compulsory medical insurance fund		2%	
Social insurance fund on accidents	Payment in employee favour (grade of occupational risk)	3.4%	Federal law #125-FL 24.07.1998
Pollution payment	Air pollutant emissions	By type of pollutant	Federal law #7-FL 10.01.2002
Value added tax (Vat) due	Other operating income	10%, 18%	Chapter # 21 of the tax code
Transport tax	Motor output of vehicle	By type of vehicle	Chapter #28 Of the tax code

Table provided by OJSC Buryatzoloto.

22.0 ECONOMIC ANALYSIS

22.1 CASH FLOW FORECAST

Micon has not prepared a cash flow forecast or economic analysis for the Zun-Holba mine due to the limited mine life of the remaining reserves. As of April 1, 2012, audited proven and probable reserves for the Zun-Holba mine were approximately 889,000 tonnes, which represents approximately 2.6 years of mine life at the current production rate of 340,000 t per year. However, it is expected that underground exploration will be advanced through both diamond drilling and drifting, and that this will continue to add additional tonnage and ounces to the resource and reserve base.

The cash operating costs for 2012 are expected to be similar to those in 2011 which totaled US \$807/oz. The gold price has remained above US \$1,500 in 2012 indicating that the Zun-Holba mine will continue to exhibit positive economics.

22.2 FUTURE PRODUCTION POTENTIAL

The Zun-holba Property has a good undeveloped resource base and Micon believes that continued exploration and development are likely to lead to a high level of conversion of the present resources into reserves. Both the prior operators and Buryatzoloto, when it took over the Project in the early 1990's, faced a similar situation of limited reserves. The mine, however, has continued to discover and convert resources into reserves successfully since it first opened and this is expected to continue for some years into the future.

The known mineralization of the Zun-Holba mine continues to be open both along the flanks of the deposit, as well as at depth, and, as yet, the mineralization does not appear to be constrained by any major geological features. There are also a number of known veins for which exploration is continuing and, given the number of exploration targets identified on the property, there is every likelihood that the mine will continue to upgrade the known resources into reserves. There is no certainty, however, that the past success in maintaining reserves at the Zun-Holba mine will continue into the future.

23.0 ADJACENT PROPERTIES

Micon has not verified the information regarding adjacent properties and has not visited them or audited them. The information contained in this section of the report is not necessarily indicative of the mineralization at the Zun-Holba Project. The information was generally taken from the October, 2008 Micon Technical Report and updated for any areas where new information was available for the adjacent properties. The information for this section was provided and updated by Buryatzoloto.

23.1 OTHER MINERAL DEPOSITS IN THE DISTRICT

The main deposits and occurrences of the East Sayany (Eastern Sayan mountains) are concentrated adjacent to the Zun-Holba mine. The main gold properties are Vodorazdelnoye, Baroon-Holba, Pionerskoye, Dinamitnoye, Granitnoye, Samartinskoye and Zun-Ospinskoye. Between 2002 and 2004, the Baroon-Holba gold deposit was being developed as an underground mine, the property is now idle.

In addition to the gold deposits and properties, the district also hosts a number of industrial mineral properties, as summarized in the following paragraphs:

Phosphorite properties are represented by Kharanoor and Ukha-Golskoye. The asbestos properties are Ilchirskoye and Munkonovskoye. The Ukha-Golskoye phosphorite property is located approximately 40 km southwest of the Zun-Holba mine.

Nephrite properties include Ospinskoye, Zun-Ospinskoye, Kharanoor and Kharazhalskoye. Approximately 100 t/y of nephrite are mined at the Ilchirskoye deposit.

There are also the Botogolskoye graphite and Buralsardakskoye granulated quartz properties, as well as properties of chemically pure limestone and construction materials which Zun-Holba uses to construct roads and to prepare backfill material.

The Botogolskoye graphite deposit was mined into the 1990s, with a production rate of up to 200 tonnes per year. The Buralsardakskoye granulated quartz properties are located approximately 25 km west of the Zun-Holba mine.

See Figure 7.1 for the locations of some of the other mineral properties and mines within the area of the Zun-Holba mine property.

23.2 BAROON-HOLBA DEPOSIT

Details regarding the Baroon-Holba deposit are outlined below. The deposit is similar in nature to the Zun-Holba deposit and it is the only other gold deposit in the area which has been subjected to mining activities in the past few years and which is outside the influence of the mining activities on Buryatzoloto's licenses.

23.2.1 Location and Access

The Baroon-Holba deposit is located in the Okinskiy district of the Buryatia Republic, approximately 80 km south of the Orlik settlement and approximately 2 to 4 km to the northwest of the flanks of Zun-Holba gold deposit. From the nearest railway station at Kultuk, the deposit is connected by a paved road from Kultuk to Mondy of approximately 209 km and via a gravel road from Mondy to Samarta and to Baroon-Holba of approximately 134 km.

The deposit is in a mountainous area, divided in the central part of the deposit by the deep valley (450-500 m) of the Barun-Holba river. Absolute elevations of the valley bottoms vary from 1,640 to 1,650 m and reach 2,200 to 2,300 m in the surrounding watersheds.

23.2.2 Property, Geology and Infrastructure

Since 1998, JSC Zun-Hoda (a subsidiary enterprise of Polymetal) has owned the license covering the Baroon-Holba deposit (UDE 00206 BR) and the Haranursky area (UDE 00672 BR). Between 2000 and 2001, an underground mine was constructed on the deposit, in addition to a camp, administrative building, production buildings and a gold mill.

The Baroon-Holba deposit was discovered in 1961 and, from 1965 to 1973, exploration programs were conducted by the Okinskiy Geologic Exploration Team Buryatgeology on the deposit. According to the available exploration data, the main gold and silver “reserves” are concentrated in three gold-bearing zones: Zolotaya (64.2%), Central (32.3%) and Skrytaya (3.5%). The “reserves” have been outlined to a depth of 350 to 450 m from surface by adit levels located every 80 to 120 m. The Zolotaya zone is located on the right bank and the Central and Skrytaya zones are on the left bank of Barun-Holba river.

GKZ approved the “reserves” of the deposit in 1973 (protocol No. 7082 from 25.12.1973) in the amount of:

- 1) Balance category C₁: 181,400 t containing 6,132 kg gold and 4.1 t silver, category C₂: 110,000 t containing 2,783 kg gold and 2.2 t silver.
- 2) Off-balance category C₁: 26,800 t containing 297 kg gold and 0.4 t silver.

The basic structure of the deposit is the Zolotaya zone, which includes 10 veins and apophyses. For this zone, it was determined that 49 mineralized blocks existed according to the Russian “reserve” classification system, which included 48 balance category blocks and 1 off-balance category block.

23.2.3 Exploitation Exploration and Experimental Mining

In 1999, Polymetal completed a feasibility study for the development of the Baroon-Holba deposit and a detailed document regarding construction was compiled. Between 1999 and 2003, Polymetal conducted exploitation, exploration and experimental mining programs

within the Zolotaya zone on the right bank of the Barun-Holba river. Out of a total of 48 balance “reserve” blocks in the Zolotaya zone, exploitation-exploration programs were conducted on 40 blocks, with 18 blocks subjected to some degree of mining development.

Results of a comparison of the exploration and exploitation-exploration data for the Zolotaya zone indicated methodology problems, which had been indicated during the exploration stage and which had also been pointed out in the protocol by the GKZ.

An underground exploration drilling program, comprised of fan drilling on a 16 m to 8 x 8 m pattern, was conducted on 78% of the GKZ approved blocks, in order to further define the “reserves” of the Zolotaya zone. The results of the drilling program indicated that the “reserves” were significantly unconfirmed, with the gold and silver exhibiting a great variability in morphology, gaps in continuity of the mineralization, and spotty gold distribution. As the result of further “reserve” estimations within the Zolotaya zone, 146 blocks were identified, of which 91 were considered to be in the balance category and 55 in the off-balance category. In seven of the blocks approved by GKZ, the predicted mineralization was not found and 87,626 t containing 59.1% of the gold and 51.7% of the silver were not confirmed.

Experimental mining for the period from May 11, 2001 to August 24, 2003, extracted 18 blocks. Mining losses for this period corresponded to the original estimate, but dilution amounted to between 67.5 to 74.5%, compared to an original estimate of 34.0 to 69.9%. During the 2001 to 2003 period, 33,599 t were mined, containing 866.4 kg of gold and 531.6 kg of silver.

At the present time, the Baroon-Holba mine is idle.

24.0 OTHER RELEVANT DATA AND INFORMATION

All relevant data and information regarding Buryatzolotos's Zun-Holba Project are included in other sections of this Technical Report.

25.0 INTERPRETATION AND CONCLUSIONS

The Zun-Holba mine is a modest gold producer located in the Buryatia Republic of the Russian Federation. Zun-Holba is owned by Buryatzoloto, a Russian company, which, in turn, is owned 85% by High River. Development of the mineral deposit started in 1986, with full mining and processing operations commencing in 1991. Zun-Holba continues to have a good potential for the discovery of additional resources and reserves as both development and exploration at the mine continue.

25.1 AUDIT AND CONVERSION OF RUSSIAN “RESERVES”

Micon has conducted an audit of the Russian “reserves” and “operational reserves” for the Zun-Holba mine and has converted these “reserves” into mineral resource and mineral reserve estimates which conform to the JORC code and the CIM standards.

For the Zun-Holba deposit, the “Geological Block” method, which is similar to the polygonal method, has been used historically and is still being used to estimate “reserves.” Exploration and mining parameters, approved by the state for the deposit, plus any geological conditions such as faults or dykes, are used to outline a mineralized zone which is then projected onto a horizontal plane, taking into account the dip angle.

The mineralized veins or zones are explored with drifts and raises, which allow the geologists to trace and sample the mineralization continually along the strike and dip. Combined sampling plans of the vein, created by surveying the workings, are used for “reserve” estimation.

The average width of the mineralized vein is calculated as an arithmetic mean, due to the regular sampling of the mine workings. The average grade of a mineralized interval is determined as a weighted mean. The average width and grade of the mineralization within a “reserve” block is calculated using a weighted average.

The projection of the vein onto a horizontal plane at a scale of 1:1,000 is made using SAPR AutoCad, and the area of the block is calculated through the graphics capability of the program. Since the areas measured by the computer are horizontal projections of the corresponding areas in the plane of the vein, a correction is made to account for the dip angle of the estimated blocks.

The dip angle of the veins is determined in the underground workings. For “reserve” blocks created above the mining levels, the dip angle is determined by averaging the angles of the raises driven along the dip of the vein. For “reserve” blocks created below the mining level, the dip angle is assumed to be equal to the dip angle determined above the mining level.

For the conversion from the Russian “reserve” estimate, Micon reviewed the geological database (drilling, channel sampling, chip sampling) and the density of the information, (drilling, assaying, mining data, etc), in order to classify the Russian “reserve” blocks into appropriate JORC and CIM resource categories.

As a result of the audit, Micon agrees with the parameters used by Buryatzoloto to estimate resources and has used the basic “reserve” blocks estimated by Buryatzoloto’s personnel as the starting point for the conversion of the Russian “reserves” into CIM compliant mineral resources and mineral reserves.

The results of Micon’s audit and conversion of the Russian “reserves” into compliant JORC and CIM mineral resources are summarized in Tables 25.1 and 25.2. The effective date of this resource estimate is April 1, 2012.

Table 25.1
Total Measured and Indicated JORC and CIM Compliant Mineral Resources for the Zun-Holba Mine

Russian Category	JORC and CIM Category	Tonnes (t)	Gold Grade (g/t)	Metal (kg)
Balance	Measured	451,600	11.36	5,100
Balance	Indicated	261,300	10.45	2,700
	Total Measured and Indicated	712,900	11.03	7,800

There are no off-balance Russian “reserves” that were converted to JORC and CIM compliant Measured or Indicated resources.

Table 25.2
Total Inferred Resources for Zun-Holba Mine (Russian Balance and Off-Balance)

Russian Category	JORC and CIM Category	Tonnes (t)	Gold Grade (g/t)	Metal (kg)
Balance	Inferred	35,200	12.46	400
Off-Balance	Inferred	56,700	9.64	600
	Total Inferred	91,900	10.73	1,000

At a minimum gold grade of 7 g/t and a minimum mining width of 0.8 m, Micon estimates that the total remaining mineral resource at the Zun-Holba mine as of April 1, 2012 is 712,900 tonnes at a grade of 11.03 g/t gold for the Measured and Indicated Mineral Resources, and 91,900 tonnes at a grade of 10.73 g/t gold for the Inferred Mineral Resources. The Measured and Indicated portion of the mineral resources contains an estimated 7,800 kg of gold, while the Inferred resource contains approximately 1,000 kg of gold. The figures in Tables 25.1 and 25.2 have been rounded to reflect that the resources figures are estimates. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

The stated April 1, 2012 mineral resources are not materially affected by any known environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant issues, to the best knowledge of the authors. There are no known mining, metallurgical, infrastructure, or other factors that materially affect this mineral resource estimate.

“Operational reserves” are estimated from the geological in-situ “reserve” by including factors for mining recovery (loss in mining, %) and dilution. The mining recovery depends on the mining method and is defined by the project parameters which are approved by the company technical director and the state authority Rostekhnadzor. The amount of dilution

depends on the mineralized zone’s thickness and the mining method and averages 20 cm at both walls. The dilution is estimated on a block-by-block basis.

For the conversion from the Russian “operational reserve” estimate to a JORC and CIM compliant reserve, Micon reviewed the parameters used to convert the “reserves” to an “operational reserve.” This review consisted of examining the survey data on site at the mine, as well as the reconciliation data for the mine, and a discussion with the engineering and geology personnel on the aspects of dilution, the determination of just what constitutes dilution in the case of the Zun-Holba mine, and the economic parameters used in order to categorize the Russian “operational reserve” blocks into appropriate JORC and CIM mineral reserve categories.

The results of Micon’s audit and conversion of the Russian “operational reserves” into compliant JORC and CIM proven and probable mineral reserves are summarized in Table 25.3. The effective date of this reserve estimate is April 1, 2012.

Table 25.3
Total Proven and Probable JORC and CIM Compliant Mineral Reserves for the Zun-Holba Mine

Category	Tonnes (t)	Grade (g/t)	Metal (kg)
Proven	505,300	9.06	4,600
Probable	383,700	7.85	3,000
Total Proven and Probable	889,000	8.54	7,600

Micon estimates that the total remaining Mineral Reserve at the Zun-Holba mine as of April 1, 2012 is 889,000 t at a grade of 8.54 g/t gold, containing an estimated 7,600 kg of gold. These reserves represent approximately 2.6 years of mine life at the current production rate of 340,000 t per year. The figures in Table 25.3 have been rounded to reflect that the reserve figures are estimates.

The mineral reserves shown in Table 25.3 are compliant with the both the JORC code and current CIM standards and definitions. Micon is not aware of any significant technical, legal, environmental or political considerations which would affect the extraction and processing of the mineral reserves at the Zun-Holba mine.

Micon believes that the Zun-Holba Property continues to be highly prospective both along strike and down dip of the existing mineralization and that further resources could be converted into reserves with additional exploration and development.

Buryatzoloto is planning to conduct further drilling programs into the foreseeable future at Zun-Holba, in an effort to continue to expand the mineral resource base through both exploration and development. Buryatzoloto also plans on participating in any state auctions of mineral licenses, should the right opportunity arise.

25.2 CONCLUSIONS

High River, through its 85% ownership in Buryatzoloto, has an interest in the Zun-Holba mine which has been producing gold since 1991. Although a number of mineralized areas have been exploited in the past, both successful exploration programs and improvements in mining techniques have allowed mining to be extended into new areas and to be expanded within the boundaries of previously mined areas.

The mineral resources and mineral reserves reported herein for the Zun-Holba mine were audited and converted from the Russian classification system into JORC code and CIM compliant mineral resource and reserve categories.

Based on the mineral reserves estimated as of April 1, 2012, the Zun-Holba mine has a remaining life of approximately 2.6 years. In Micon's opinion, however, there is a high probability that ongoing exploration and development will result in the delineation of additional reserves for the following reasons:

- The known mineralization at the Zun-Holba mine continues to be open both along the flanks of the deposit and at depth and, as yet, the mineralization does not appear to be constrained by any major geological features, other than the host fracture system.
- There are a number of untested exploration targets identified at the Zun-Holba Property.
- The Zun-Holba mine has enjoyed considerable success in converting resources to reserves in the past and should continue to do so into the future.

It is Micon's opinion, therefore, that Buryatzoloto and High River could reasonably expect that further exploration and underground development will result in the delineation of additional resources and reserves. In Micon's opinion, such additional exploration and development is warranted since the property has considerable geological potential.

26.0 RECOMMENDATIONS

This Technical Report, which both audits and converts the December, 2007 Russian “reserves” into CIM compliant mineral resources and mineral reserves for Buryatzoloto’s Zun-Holba mine, is Micon’s third Technical Report regarding this topic.

26.1 BUDGET

In order to extend the mine life and maintain the Zun-Holba mine production at the current level, Buryatzoloto must continue the exploration of promising mineralized zone in Perspektivnaya zone and in the adjacent areas. The company is following the approved time schedule and budget for 2012 and expects an increase of approximately 3,000 kg Au in the inferred “mineral resources”. Micon recommends continuing with the same volume of exploration activities in 2013.

The proposed 2013 exploration at Zun-Holba will consist of:

- Detailed mapping, channel sampling and bulk sampling of the new underground workings to expand the previous mapping coverage and to characterize altered and mineralized zones identified during the excavation of four new cross-cuts, four drill chambers and one transportation drift.
- Preparation of nine drill pads and building access roads to the pads.
- Establishment of picketed grid (100-m spaced, northwest-trending grid lines, 25-m pickets) for use in a planned geophysical survey at the Yuzhnaya zone and to assist geological mapping and future surveys.
- approximately 20 line-km of induced polarization/resistivity (IP) surveying across the exposed alteration system at the Yuzhnaya target on 100-m spaced grid lines, to identify additional zones of high resistivity/low chargeability similar to those that correspond to areas of strong secondary silicification and gold-silver mineralization.
- Approximately 10,000 m of trenching in areas of strong secondary silicification and gold-silver mineralization at the Yuzhnaya zone.
- Additional diamond drilling at the Perspektivnaya zone, and Yuzhnaya:
 - To expand the volume and/or grade of the gold-silver mineralization at Perspektivnaya. Targets such as the Severnoye -3 and 5, Sulphidnoye-1, Kvatzevoye, Kontaktovoye and Babkina zones are proposed.
 - To test the deep mineralization of the Perspektivnaya zone.

- To test other geological and geophysical targets within the Yuzhnaya zone alteration system identified in previous programs. Targets such as the Sulphidnoye and Pionerskoye are envisioned as well.
- To continue drilling of the old tailing ponds.
- Mineralogical and metallurgical studies of the Pionerskoye mineralization, to further determine the amenability of the low grade gold mineralization to heap leaching,

Buriyatzoloto reports that initial hole locations for the upcoming drill campaign have been selected after the compilation and analysis of previous results. In general, fans of inclined holes, 60 to 600 m in length, drilled from nine surface drill pads and four underground drilling chambers are anticipated. The proposed budget and program are based on five diamond drill rigs and approximately 20,000 m of surface drilling and 32,500 m of underground drilling; however, this may be expanded if additional drill rigs become available.

The proposed exploration budget for the 2013 field season at Zun-Holba is almost the same as the budget for 2012 and totals 307,992,000 RUB (US\$9.6 million), as set out in Table 26.1.

Table 26.1
Proposed 2013 Zun-Holba Exploration Budget

Exploration Activity	Units	Volume	RUB (x 000)	US\$ (x 000)
Drilling				
Mobilization/demobilization		1	4,741,170.000	148,161.563
Surface diamond drilling (NQ size)	m	20200	122,242.134	3,820.067
Underground diamond drilling	m	32520	64,236.830	2,007.401
Down-hole geophysical survey	m	20200	6,766.372	211.449
Cementation of the drill holes	m	20200	4,734.476	147.952
Underground workings (930 m.)	m ³	7445	29,752.426	929.763
Construction of roads and drill pads	m ³	8000	14,009.840	437.808
Sampling and chemical analyses	samples		16,175.556	505.486
Mineralogical, petrographic and metallurgical studies	samples		3,179.505	99.360
LIDAR survey	km ²	200	5,000.000	156.250
Mine and surface surveys	m	on going	2,548.149	79.630
Exploration geologists (data processing and report preparation)			20,332.63	635.395
Surface geophysical surveys (IP, mag)	km	20	13,152.420	411.013
Hydrogeological survey		1	6,000.000	187.500
External consulting and filing			120.000	3.750
Total for the exploration program			307,992.000	9,624.750

Micon has reviewed the proposed programs for further work on the Zun-Holba Project and, in light of the observations made in this report, supports the concepts as outlined by Buryatzoloto. Given the prospective nature of the property, it is Micon's opinion that the Zun-Holba Project merits further exploration and development and that Buryatzoloto's proposed plans for further work are properly conceived and justified.

Micon recommends that Buryatzoloto conducts the further exploration and development as proposed, subject to funding and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations which may affect the program as a result of exploration activities themselves.

26.2 FURTHER RECOMMENDATIONS

Micon has reviewed the recommendations from its previous Technical Report with Buryatzoloto's personnel and makes the following recommendations:

- 1) Micon recommends that High River and Buryatzoloto continue with the development of protocols for reporting the year-end mineral resources and reserves as JORC or CIM compliant figures. This would most likely occur once the "reserves" have been reported to the Russian state, as these figures could then be used as the basis for reporting the JORC or CIM compliant resources. The results of the conversion to JORC or CIM compliant mineral resources and reserves should be published in a report for the use of both High River and Buryatzoloto.
- 2) Micon recommends that Buryatzoloto continues to pursue the possibility that the on-site laboratory can join a proficiency program of round-robin testing, such as the one run by CanMet.
- 3) Micon recommends that Buryatzoloto incorporates the mine call factor which it applies to the budgeted grades into the "operational reserve" estimates, in order to reduce grade differences between the "operational reserve" estimates and the actual milling grades at the Irokinda mine.
- 4) Micon recommends that Buryatzoloto starts using electronic transmission of the laboratory results to the geological team (text, Excel or other electronic format), so that the data can be imported directly into geological or 3-D geological software.
- 5) Micon recommends that Buryatzoloto updates the existing quality assurance and quality control protocol and starts inserting certified reference material into the sample stream for both exploration drilling and channel sampling.
- 6) Micon recommends that Buryatzoloto's staff start using an electronic software for core logging and 3-D geological software for resource estimation.
- 7) Micon recommends that, in addition to inclinometry, the geophysical exploration team should use high resolution down-hole induced polarization and resistivity surveys to collect data between the existing deep and short holes. The high resolution induced polarization and magnetics survey may help to outline zones of blind mineralization.

- 8) Micon recommends that the exploration team monitor the drilling programs continuously, especially the deep holes, and, if the results are not satisfactory, the program should be altered accordingly.

27.0 DATE AND SIGNATURE PAGE

MICON INTERNATIONAL LIMITED

“William J. Lewis” {signed and sealed}

William J. Lewis, B.Sc., P.Geo.
Senior Geologist

Report Date: September 10, 2012
Effective Date: April 1, 2012

“Tania Ilieva” {signed and sealed}

Tania Ilieva, Ph. D., P. Geo.
Senior Geologist

Report Date: September 10, 2012
Effective Date: April 1, 2012

“Barnard Foo” {signed and sealed}

Barnard Foo, M.Eng., P.Eng., MBA
Senior Engineer

Report Date: September 10, 2012
Effective Date: April 1, 2012

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29.0 CERTIFICATES OF AUTHORS

**CERTIFICATE OF AUTHOR
WILLIAM J. LEWIS**

As the co-author of this report on the Zun-Holba Project of Buryatzoloto, in the Buryatia Republic of the Russian Federation, I, William J. Lewis do hereby certify that:

- 1) I am employed as a Senior Geologist by, and carried out this assignment for, Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, tel. (416) 362-5135, fax (416) 362-5763, e-mail wlewis@micon-international.com;
- 2) I hold the following academic qualifications:

B.Sc. (Geology) University of British Columbia 1985
- 9) I am a registered Professional Geoscientist with the Association of Professional Engineers and Geoscientists of Manitoba (membership # 20480); as well, I am a member in good standing of several other technical associations and societies, including:
 - Association of Professional Engineers and Geoscientists of British Columbia (Membership # 20333).
 - Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories (Membership # 1450).
 - Association of Professional Geoscientists of Ontario (Membership # 1522).
 - The Geological Association of Canada (Associate Member # A5975).
 - The Canadian Institute of Mining, Metallurgy and Petroleum (Member # 94758).
- 1) I have worked as a geologist in the minerals industry for 26 years;
- 5) I am familiar with NI 43-101 and, by reason of education, experience and professional registration, I fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 4 years as an exploration geologist looking for gold and base metal deposits, more than 11 years as a mine geologist in underground mines and 3 years as a surficial geologist and 10 years as a consulting geologist on precious and base metals and industrial minerals;
- 6) I visited the City of Ulan-Ude in June, 2007 and the Zun-Holba Property between June 8 and 10, 2007. I also conducted a follow-up visit to Ulan-Ude in May, 2008 in to review the database used for the resource and reserve estimates. I visited the Zun-Holba Property for a second time between May 16 and 19, 2012 and Ulan-Ude for a third time between May 25 and June 1, 2012 to review the database used for the resource and reserve estimates contained in this report;
- 7) I co-authored the previous two Micon NI 43-101 Technical Reports and audited of the CIM compliant resource and reserve estimates for the Zun-Holba Property;
- 8) As of the date of this certificate to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this report not misleading;
- 9) I have read the NI 43-101 Instrument and this Technical Report has been prepared in compliance with this Instrument;
- 10) I am independent of OJSC Buryatzoloto and High River Gold Mines Ltd. as defined by Canadian NI 43-101 regulations and have provided consulting services to the companies.;
- 11) I am responsible for Sections (Items) 1 through 8, 12 (except 12.2), 13, 14, and 17 through 26 of the Technical Report dated September 10, 2012 entitled "NI 43-101 Technical Report and Audit of the Resource and Reserve Estimates for the Zun-Holba Gold Mine, Republic of Buryatia, Russian Federation." The effective date of the report is April 1, 2012.

Report dated this 10th day of September, 2012, Effective date April 1, 2012

"William J. Lewis" {signed and sealed}

William J. Lewis, B.Sc., P.Geo.
Senior Geologist, Micon International Limited

Certificate of Author Tania Ilieva

As a co-author of this Technical Report on the Zun-Holba Gold Mine in Republic of Buryatia, Russian Federation. I, Tania Ilieva do hereby certify that:

- 1) I am employed as a Senior Geologist by, and carried out this assignment for, Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, tel. (416) 362-5135, fax (416) 362-5763, e-mail tilieva@micon-international.com;
- 2) I hold the following academic qualifications:

B.Sc. (Geology) Institute of Mining and Geology, Sofia, Bulgaria 1986
Ph. D (Geology) University of Mining and Geology, Sofia, Bulgaria 2000
- 3) I am a registered Professional Geoscientist with the Association of Professional Geoscientists of Ontario (membership # 1259); as well, I am a member in good standing of several other technical associations and societies, including:

Association of Professional Engineers and Geophysicists of Manitoba (Membership # 34406)
The Canadian Institute of Mining, Metallurgy and Petroleum (Member # 149800)
- 4) I have worked as a geologist in the mining and minerals industry for 22 years;
- 5) I am familiar with NI 43-101 and, by reason of education, experience and professional registration I fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 6 years as an exploration geologist looking for gold and base metal deposits, more than 10 years as a research scientist, 6 years as a consulting geologist.
- 6) I visited the Zun-Holba Property between May 16 and 19, 2012 and Ulan-Ude between May 25 and June 1, 2012 to review the exploration programs and Quality Assurance/Quality Control (QA/QC) programs;
- 7) I have had no previous involvement with the Zun-Holba property;
- 8) As of the date of this certificate to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this report not misleading;
- 9) I am independent of OJSC Buryatzoloto and High River Gold Mines Ltd. as defined by Canadian NI 43-101 regulations and have provided consulting services to the companies;
- 10) I have read the NI 43-101 Instrument and this Technical Report has been prepared in compliance with this Instrument.
- 11) I am responsible for Sections 9, 10, 11, and 12.2, of this Technical Report dated September 10, 2012 with an effective date of April 1, 2012 and entitled "NI 43-101 Technical Report and Audit of the Resource and Reserve Estimates for the Zun-Holba Gold Mine Republic of Buryatia, Russian Federation".

Dated this 10th day of September, 2012, Effective date April 1, 2012

"Tania Ilieva" {signed and sealed}

Tania Ilieva, Ph. D., P. Geo.
Senior Geologist, Micon International Limited

Certificate of Author Barnard Foo

As co-author of this report entitled “NI 43-101 Technical Report and Audit of the Resource and Reserve Estimates for the Zun-Holba Gold Mine, Republic of Buryatia, (Buryatia), Russian Federation”, with an effective date of 1 April, 2012 (the “Technical Report”), I, Barnard Foo, do hereby certify that:

1. I am employed as a senior mining engineer by, and carried out this assignment for: Micon International Limited, Suite 900 - 390 Bay Street, Toronto, ON, M5H 2Y2. Tel. (416) 362-5135, Email: bfoo@micon-international.com
2. I hold the following academic qualifications:
 - Laurentian University, B.Eng., Mining Engineering 1998
 - University of British Columbia, M. Eng., Rock Mechanics 2007
 - University of Northern British Columbia, Executive MBA 2010
3. I am a registered Professional Engineers of Ontario (Membership # 100052925);
4. I have worked as a mining engineer in the minerals industry for 14 years;
5. I am familiar with NI 43-101 and, by reason of education, experience and professional registration; I fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 4 years as an mining engineer in cassiterite, base and precious metal deposits, 5 years in underground and open pit geotechnical engineering and 5 years with in mine design and mining project evaluations for the mineral industry;
6. I have not visited the Zun-Holba Gold Mine during the preparation of this report;
7. I am responsible for Sections 15 and 16 of the Technical Report.
8. I am independent of OJSC Buryatzoloto and High River Gold Mines Ltd., as defined in Section 1.5 of NI 43-101;
9. I have had no previous involvement with the property;
10. I have read NI 43-101 and the portions of this report for which I am responsible have been prepared in compliance with the instrument;
11. As of the date of this certificate to the best of my knowledge, information and belief, the sections of this Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make this report not misleading.

Dated this 10th day of September, 2012, Effective date April 1, 2012

“Barnard Foo” {signed and sealed}

Barnard Foo, M.Eng., P.Eng., MBA
Senior Mining Engineer

APPENDIX 1

Glossary of Mining Terms

GLOSSARY AND DEFINED TERMS

The following is a glossary of certain mining terms that may be used in this Technical Report.

A

- Adit** A horizontal passage from the surface into the mine providing access to a mineral deposit.
- Ag** Silver. A metallic chemical element with the chemical symbol Ag (Latin: argentum, from the Indo-European root *arg- for "grey" or "shining") and atomic number 47. A soft, white, lustrous transition metal, it has the highest electrical conductivity of any element and the highest thermal conductivity of any metal. The metal occurs naturally in its pure, free form (native silver), as an alloy with gold and other metals, and in minerals such as argentite and chlorargyrite. Most silver is produced as a by-product of copper, gold, lead, and zinc refining.
- Arsenopyrite** A tin-white or silver-white to steel-gray orthorhombic mineral: FeAsS.
- Assay** A chemical test performed on a sample of ores or minerals to determine the amount of valuable metals contained.
- Au** Gold. A chemical element with the symbol Au (from Latin: aurum "gold") and an atomic number of 79. Gold is a dense, soft, shiny, malleable and ductile metal. Pure gold has a bright yellow color and luster traditionally considered attractive, which it maintains without oxidizing in air or water. Chemically, gold is a transition metal and a group 11 element. It is one of the least reactive solid chemical elements. The metal therefore occurs often in free elemental (native) form, as nuggets or grains in rocks, in veins and in alluvial deposits. Less commonly, it occurs in minerals as gold compounds, usually with tellurium.

B

- Backfill** Waste material used to fill the void created by mining a mineral deposit (orebody).
- Back** A term used to denote the roof or ceiling of a mining drift.
- Ball mill** A steel cylinder filled with steel balls into which crushed ore is fed. The ball mill is rotated, causing the balls to cascade and grind the ore.
- Base metal** Any non-precious metal (e.g. copper, lead, zinc, nickel, etc.).
- Blasthole** A drill hole in a mine that is filled with explosives in order to blast loose a quantity of rock.

Bulk mining	Any large-scale, mechanized method of mining involving many thousands of tonnes of ore being brought to surface per day.
Bulk sample	A large sample of mineralized rock, frequently hundreds of tonnes, selected in such a manner as to be representative of the potential mineral deposit (orebody) being sampled and used to determine metallurgical characteristics.
Bullion	Metal formed into bars or ingots.
Buryatzoloto	OJSC Buryatzoloto, including, unless the context otherwise requires, the Company's subsidiaries.
By-product	A secondary metal or mineral product recovered in the milling process.
C	
Cage	Mining term used for an elevator.
Calcine	Name given to concentrate that is ready for smelting (i.e. the sulphur has been driven off by oxidation).
Chalcopyrite	A sulphide mineral of copper and iron; the most important ore mineral of copper.
Channel sample	A sample composed of pieces of vein or mineral deposit that have been cut out of a small trench or channel, usually about 10 cm wide and 2 cm deep.
Chip sample	A method of sampling a rock exposure whereby a regular series of small chips of rock is broken off along a line across the face, back or walls.
Chute	An opening, usually constructed of timber and equipped with a gate, through which ore is drawn from a stope into mine cars.
CIM	The Canadian Institute of Mining, Metallurgy and Petroleum.
CIM Standards	The CIM definitions and standards for mineral resources and mineral reserves adopted by CIM Council from time to time. The most recent update adopted by the CIM Council is effective as of November 27, 2010.
Concentrate	A fine, powdery product of the milling process containing a high percentage of valuable metal.
Contact	A geological term used to describe the line or plane along which two different rock formations meet.
Core	The long cylindrical piece of rock, about an inch in diameter, brought to surface by diamond drilling.
Core sample	One or several pieces of whole or split parts of core selected as a sample for analysis or assay.
Cross-cut	A horizontal opening driven from a shaft and (or near) right angles to the strike of a vein or other orebody. The term is also used to signify that a drill hole is crossing the mineralization at or near right angles to it.

Cu	Copper. A chemical element with the symbol Cu (from Latin: cuprum) and atomic number 29. It is a ductile metal with very high thermal and electrical conductivity. Pure copper is soft and malleable; an exposed surface has a reddish-orange tarnish. It is used as a conductor of heat and electricity, a building material, and a constituent of various metal alloys.
Custom smelter	A smelter which processes concentrates from independent mines. Concentrates may be purchased or the smelter may be contracted to do the processing for the independent company.
Cut-off grade	The lowest grade of mineralized rock that qualifies as ore grade in a given deposit, and is also used as the lowest grade below which the mineralized rock currently cannot be profitably exploited. Cut-off grades vary between deposits depending upon the amenability of ore to gold extraction and upon costs of production.
Cyanidation	A method of extracting exposed gold or silver grains from crushed or ground ore by dissolving it in a weak cyanide solution. May be carried out in tanks inside a mill or in heaps of ore out of doors.
Cyanide	A chemical species containing carbon and nitrogen used to dissolve gold and silver from ore.

D

Dacite	The extrusive (volcanic) equivalent of quartz diorite.
Decline	A sloping underground opening for machine access from level to level or from surface; also called a ramp.
Development	Underground work carried out for the purpose of opening up a mineral deposit. Includes shaft sinking, cross-cutting, drifting and raising.
Development drilling	Drilling to establish accurate estimates of mineral resources or reserves.
Dilution	Rock that is, by necessity, removed along with the ore in the mining process, subsequently lowering the grade of the ore.
Diorite	An intrusive igneous rock composed chiefly of sodic plagioclase, hornblende, biotite or pyroxene.
Dip	The angle at which a vein, structure or rock bed is inclined from the horizontal as measured at right angles to the strike.
Drift	A horizontal or nearly horizontal underground opening driven along a vein to gain access to the deposit.

E

Epithermal Hydrothermal mineral deposit formed within one kilometer of the earth's surface, in the temperature range of 50° to 200°C.

Epithermal deposit

A mineral deposit consisting of veins and replacement bodies, usually in volcanic or sedimentary rocks, containing precious metals or, more rarely, base metals.

Exploration Prospecting, sampling, mapping, diamond drilling and other work involved in searching for or defining a mineral deposit.

F

Face The end of a drift, cross-cut or stope in which work is taking place.

Fault A break in the Earth's crust caused by tectonic forces which have moved the rock on one side with respect to the other.

Flotation A milling process in which valuable mineral particles are induced to become attached to bubbles and float as others sink.

Fold Any bending or wrinkling of rock strata.

Footwall The rock on the underside of a vein or mineralized (ore) structure.

Fracture A break in the rock, the opening of which allows mineral-bearing solutions to enter. A "cross-fracture" is a minor break extending at more-or-less right angles to the direction of the principal fractures.

G

Galena Lead sulphide, the most common ore mineral of lead.

Grade Term used to indicate the concentration of an economically desirable mineral or element in its host rock as a function of its relative mass. With gold or silver, this term may be expressed as grams per tonne (g/t) or ounces per tonne (opt or oz/t).

Gram 0.0321507 troy ounces.

g/t Grams per metric tonne.

gpt Grams per tonne.

H

Hangingwall The rock on the upper side of a vein or mineral (ore) deposit.

High grade Rich mineralization (ore). As a verb, it refers to selective mining of the best mineralization (ore) in a deposit.

High River	High River Gold Mines Ltd., including, unless the context otherwise requires, the Company's subsidiaries.
Host rock	The rock surrounding a mineral (ore) deposit.
Hydrothermal	Processes associated with heated or superheated water, especially mineralization or alteration.

I

Indicated Mineral Resource

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. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

Inferred Mineral Resource

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. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

Intrusive	A body of igneous rock formed by the consolidation of magma intruded into other
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K

km	Kilometre(s). Equal to 0.62 miles.
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L

Leaching	The separation, selective removal or dissolving-out of soluble constituents from a rock or ore body by the natural actions of percolating solutions.
Level	The horizontal openings on a working horizon in a mine; it is customary to work mines from a shaft, establishing levels at regular intervals, generally about 50 m or more apart.
Limestone	A bedded, sedimentary deposit consisting chiefly of calcium carbonate.
Longhole Mining	

One of the mining methods used to conduct bulk tonnage mining underground

M

m Metre(s). Equal to 3.28 feet.

Marble A metamorphic rock derived from the recrystallization of limestone under intense heat and pressure.

Measured Mineral Resource

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, 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. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

Metallurgy The science and art of separating metals and metallic minerals from their ores by mechanical and chemical processes.

Metamorphic Affected by physical, chemical, and structural processes imposed by depth in the earth's crust.

Mill A plant in which ore is treated and metals are recovered or prepared for smelting; also a revolving drum used for the grinding of ores in preparation for treatment.

Mine An excavation on or beneath the surface of the ground from which mineral matter of value is extracted.

Mineral A naturally occurring homogeneous substance having definite physical properties and chemical composition and, if formed under favorable conditions, a definite crystal form.

Mineral Claim or Concession

That portion of public mineral lands which a party has staked or marked out in accordance with federal or state mining laws to acquire the right to explore for and exploit the minerals under the surface.

Mineralization The process or processes by which mineral or minerals are introduced into a rock, resulting in a valuable or potentially valuable deposit.

Mineral Resource

A concentration or occurrence of natural, solid, inorganic or fossilized organic material 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. The term mineral resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which mineral reserves may subsequently be defined by the consideration and application of technical, economic, legal, environmental, socio-economic and governmental factors. The phrase reasonable prospects for economic extraction implies a judgment by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. A mineral resource is an inventory of mineralization that under realistically assumed and justifiable technical and economic conditions, might become economically extractable. The term mineral resource used in this report is a Canadian mining term as defined in accordance with NI 43-101 – Standards of Disclosure for Mineral Projects under the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum (the CIM), Standards on Mineral Resource and Mineral Reserves Definitions and guidelines adopted by the CIM Council on December 11, 2005 and recently updated as of November 27, 2010 (the CIM Standards).

N

National Instrument 43-101

Means “Canadian” National Instrument 43-101 (NI 43-101) Standards of Disclosure for Mineral Projects, Form 43-101F1 and Companion Policy 43-101CP. NI 43-101 is a national instrument for the Standards of Disclosure for Mineral Projects within Canada. The Instrument is a codified set of rules and guidelines for reporting and displaying information related to mineral properties owned by, or explored by, companies which report these results on stock exchanges within Canada. This includes foreign-owned mining entities that trade on stock exchanges overseen by the Canadian Securities Administrators (CSA), even if they only trade on Over The Counter (OTC) derivatives or other instrumented securities. The NI 43-101 rules and guidelines were updated as of June 30, 2011.

Net Smelter Return

A payment made by a producer of metals based on the value of the gross metal production from the property, less deduction of certain limited costs including smelting, refining, transportation and insurance costs.

O

Orebody

A term used to denote the mineralization contained within an economic mineral deposit.

Outcrop	An exposure of rock or mineral deposit that can be seen on surface that is not covered by soil or water.
Oxidation	A chemical reaction caused by exposure to oxygen that results in a change in the chemical composition of a mineral.
Ounce	A measure of weight in gold and other precious metals, correctly troy ounces, which weigh 31.1 grams as distinct from an imperial ounce which weigh 28.4 grams.
oz	Ounce

P

Pb	Lead. A main-group element in the carbon group with the symbol Pb (from Latin: plumbum) and atomic number 82. Lead is a soft, malleable poor metal. It is also counted as one of the heavy metals. Metallic lead has a bluish-white color after being freshly cut, but it soon tarnishes to a dull grayish color when exposed to air. Lead has a shiny chrome-silver luster when it is melted into a liquid.
Plant	A building or group of buildings in which a process or function is carried out; at a mine site it will include warehouses, hoisting equipment, compressors, maintenance shops, offices and the mill or concentrator.
Pyrite	A common, pale-bronze or brass-yellow, mineral. Pyrite has a brilliant metallic luster and has been mistaken for gold. Pyrite is the most widespread and abundant of the sulfide minerals and occurs in all kinds of rocks.

Q

Qualified Person	Conforms to that definition under NI 43-101 for an individual: (a) to be an engineer or geoscientist with at least five years' experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these; (b) to have experience relevant to the subject matter of the mineral project and the technical report; and (c) to be a member in good standing of a professional association that, among other things, is self-regulatory, has been given authority by statute, admits members based on their qualifications and experience, requires compliance with professional standards of competence and ethics and has disciplinary powers to suspend or expel a member.
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R

Raise	A vertical hole between mine levels used to move ore or waste rock or to provide ventilation or access.
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Ramp	An inclined underground tunnel which provides access for exploration or a connection between levels of a mine.
Reclamation	The restoration of a site after mining or exploration activity is completed.
Recovery Rate	A term used in process metallurgy to indicate the proportion of valuable material obtained in the processing of an ore. It is generally stated as a percentage of the material recovered compared to the total material present.
Refining	The final stage of metal production in which impurities are removed from the molten metal.
Refractory ore	Ore that resists the action of chemical reagents in the normal treatment processes and which may require pressure leaching or other means to effect the full recovery of the valuable minerals.
Rod mill	A steel cylinder filled with steel rods into which crushed ore is fed. The rod mill is rotated, causing the balls to cascade and grind the ore.
S	
Shaft	A vertical passageway to an underground mine for moving personnel, equipment, supplies and material including ore and waste rock.
Shoot	A concentration of mineral values; that part of a vein or zone carrying values of ore grade.
Sill	A term used to denote the floor of a mining level or drift. Also, used to denote a mining level developed on mineralization or orebody.
Skarn	Name for the metamorphic rocks surrounding an igneous intrusive where it comes in contact with a limestone or dolostone formation.
Sphalerite	A zinc sulphide mineral; the most common ore mineral of zinc.
Stockpile	Broken mineralization (ore) heaped on surface, pending treatment or shipment.
Stope	An area in an underground mine where mineralization (ore) is mined.
Strike	The direction, or bearing from true north, of a vein or rock formation measured on a horizontal surface.
Stringer	A narrow vein or irregular filament of a mineral or minerals traversing a rock mass.
Sulphides	A group of minerals which contains sulfur and other metallic element such as copper and zinc. Gold is usually associated with sulphide enrichment in mineral deposits.

T

Tailings	Material rejected from a mill after most of the recoverable valuable minerals have been extracted.
Tailings pond	A low-lying depression used to confine tailings, the prime function of which is to allow enough time for heavy metals to settle out or for cyanide to be destroyed before water is discharged into the local watershed.
Tonne	A metric ton of 1,000 kilograms (2,205 pounds).
Tunnel	A horizontal underground opening, open to the atmosphere at both ends.

V

Vein	A fissure, fault or crack in a rock filled by minerals that have travelled upwards from some deep source.
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W

Wall rocks	Rock units on either side of a mineral deposit (orebody). The hangingwall and footwall rocks of an mineral deposit (orebody).
Waste	Unmineralized, or sometimes mineralized, rock that is not minable at a profit.

Z

Zn	Zinc. From the German Zink, or spelter (which may also refer to zinc alloys), is a metallic chemical element; it has the symbol Zn and atomic number 30. It is the first element in group 12 of the periodic table. Zinc is, in some respects, chemically similar to magnesium, because its ion is of similar size and its only common oxidation state is +2. Zinc is the 24th most abundant element in the Earth's crust and has five stable isotopes. The most common zinc ore is sphalerite (zinc blende), a zinc sulfide mineral.
Zone	An area of distinct mineralization.