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The Berezitovy Project, Russia, NI 43 101 Technical Report

July 2012

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HIGH RIVER GOLD MINES LTD

The Berezitovy Project, Russia, NI 43 101 Technical Report

July 2012

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1 SUMMARY

1.1 Introduction

Wardell Armstrong International (WAI) was commissioned by High River Gold Mines Ltd. (HRG) to prepare a National Instrument 43-101 (NI 43-101) compliant report on the Berezitovy Gold Mine in Russia.

This report documents the geological block modelling, the mineable reserve, mineral processing, environmental and social issues and financial assessment of the mining operations from project commencement to end of the mine life.

1.2 Project Location, Accessibility and Climate

The Berezitovy property is located in the Tyndinski district, within the western part of the Amurskaya Oblast of the Russian Federation, 1,000km north of Blagoveshensk, the Amurskaya Oblast capital city. The nearest population centre is Urusha (Pop. 4,700) located 50km to the south, on the Trans-Siberian railway and a major road.

The main road access to the site is from the railway station in the town of Scovorodino (~128km), initially westwards following the main Federal Highway between Chita and Khabarovsk and then north-westwards from the village of Madalan along the mine road, a distance of some 65km.

The average mean temperature for the region is -3.6°C. Summer temperatures can reach 36°C with average summer temperatures of 25.5°C. Winter temperatures can be as low as -50°C with an average winter temperature of -30°C.

1.3 History

The Berezitovy Deposit was discovered in 1932 during the development of a gold placer deposit in the Konstantinovsky Stream which has its source in the location of the current open pit. From 1960 to 1962 and from 1974 to 1980 Amurskaya Geological Expedition (AGE) undertook geological mapping, surface and underground exploration and evaluation of the Berezitovy deposit. Between 1975 and 1980 AGE carried out approximately 18,700 metres of drilling in 59 inclined holes oriented on grid due east. In total some 2,750 metres of trenching spaced 15 to 40 metres apart were completed on the deposit. In 1980, AGE carried out regional geochemical soil sampling over the whole property and anomalous concentrations of up to 30ppb Au were detected in several areas the most prominent of which covered 250m by 500m, coinciding with the main Berezitovy deposit.

In 2003 HRG acquired the licence and started undertaking exploration works. Modern mining operations began in December 2007. The deposit is mined by conventional open pit techniques with drill and blast, and haulage utilising CAT and Belaz trucks. In 2011, the mining rate was 1.8Mtpa and a processing rate at approximately 1.4Mtpa, further expansion to 2.0Mtpa is planned.

1.4 Property Ownership

The Berezitovy property is owned by High River Gold Mines Ltd, a Canadian based gold mining company with producing mines and advanced exploration projects in Burkina Faso and Russia. HRG holds the Berezitovy asset right through its 99.91% subsidiary Berezitovy Rudnik LLC. Its common shares (HRG) are traded on Toronto Stock Exchange (TSX). The Berezitovy licence number is BLG 11787 BR, covering 17km² and valid from 09 October 2003 until 01 August 2017. Apart from Berezitovy, HRG also has the Sergachinskaya exploration licence (BLG 14149-BR) which compromises six satellite areas and allows both exploration and subsequent mining activities for gold ores at each of the areas. This licence is valid from 04 July 2007 until 25 May 2032 and covers 167.2km².

1.5 Property Description

The Berezitovy Gold Mine is a well-established open pit producing 1.8Mtpa. The process plant had a throughput of approximately 1.4Mtpa, with 250t/hr through the CIP plant to a dry paste plant at a nominal average grade of 2.62g/t Au in 2011. Around Berezitovy, HRG has identified some exciting exploration targets that require further work.

1.6 Geology and Mineralisation

The Berezitovy deposit is bounded to the north by the east-northeast trending Severa (North) Sergachinski fault, to the south by the Yuzhna (South) Sergachinski fault, to the west by the north trending Khaiktinski fault and to the east by the similarly north trending Bolshe Ilichinski fault.

The area of the Berezitovy is underlain predominantly by early Proterozoic age, biotite-feldspar gneissose granites and granodiorites. The southern part of the area is marked by feldspar-pyroxene gabbro.

Gold mineralisation in and around the Berezitovy property is related to explosive breccia within granitic gneisses. This is present within a north-northwest trending and steeply southwest dipping zone of brecciated and hydrothermally altered granodiorite. In addition, gold mineralisation is associated with metasomatic alteration and quartz flooding in granitic and granodioritic rocks. The near surface oxidation zone is very shallow (5-7m deep) and mineralisation throughout is predominantly sulphides.

A set of east-west trending andesite porphyry and lamprophyre dykes cut the deposit and are generally not mineralised. Higher gold values, however, commonly occur along the dyke contacts and some gold mineralisation occurs in the dykes. A post mineral diorite dyke separates the main Berezitovy deposit into two parts; the northern area containing the North Zone and the southern one containing the Central and South Zones.

At Berezitovy, gold is associated with polymetallic sulphides and quartz-sericite (berezite) metasomatic alteration. Locally, tourmaline, garnet and epidote are also common. The overall outline of the mineralised zone is due to the juxtaposition of two inverted cone shaped structures (breccia pipes), which have provided channel ways to the hydrothermal fluids and the associated gold-polymetallic mineralisation.

Gold mineralisation, commonly in the range of 0.5-15g/t Au, is present in various facies of brecciated zones with disseminated sulphides and in silicified rocks. Sulphide mineralisation consists predominantly of pyrite, sphalerite and galena.

1.7 Exploration and Drilling

The main gold occurrences within the property (from north to south) are Berezitovy (North and South Zones); Flangovaya; Trubnaya (Pipe) – newly identified zone; Opozncan; Orogzhan; Beregovaya; and Yuzhnaya (South) zone.

Apart from Berezitovy, HRG also has title over a licence encompassing six satellite areas, namely, Perevalniy (Solmachmiy); Kolbachi (Quartsiviy); Pravoberezhniy; Videnovski (Videnovsovskiy); Koloktikan and Lazarevskii.

Of these, only Perevalniy has had recent work undertaken on it, and although at an early stage of exploration, trench results look promising. However, the results of the awaited assays will be crucial in making a more educated assessment of the styles, magnitude and tenor of any mineralisation present.

The others remain to be fully explored, although Orogzhan is worthy of note, even though it is the subject of a legal dispute, as the proximity to the mine (within 2km) make it of strategic importance should ore grade mineralisation be delineated. Orogzhan comprises two occurrences, namely Beregovaya and Yuznaya.

In 2002 and 2003, HRG carried out a programme of infill diamond drilling and underground sampling for metallurgical tests and a 25-hole infill surface diamond drilling programme totalling 4,644m.

Drilling around the current open pit during 2010 amounting to 10,879.9m in 34 holes of which 23 were exploration holes and 11 were twin drill holes to check quality of in-pit grade control data.

1.8 Mineral Resource & Mineral Reserves

The Mineral Resource and Mineral Reserve estimate presented in this Technical Report have been prepared in accordance with the guidelines of the JORC Code (2004), however for consistency the term Mineral Reserve has been used. It should be noted that for the purpose of this Technical Report the terms Mineral Reserve and Ore Reserve have the same meaning.

A summary of results of the evaluation of the in-situ resources are shown below, for three different cut-off grade levels: 0.3g/t, 0.5g/t and 0.7g/t Au.

Berezitovy Resource Estimate (WAI, 01 January 2012) (in accordance with the guidelines of the JORC Code (2004))					
Ore Type			Sulphide		
Cut Off Grade (g/t)			0.3	0.5	0.7
Measured	Tonnes (kt)		10,275	9,669	8,510
	Au (g/t)		1.66	1.74	1.89
	Metal	kg	17,046	16,791	16,094
		koz	548	540	517
Indicated	Tonnes (kt)		12,410	11,479	9,755
	Au (g/t)		1.38	1.45	1.60
	Metal	kg	17,066	16,685	15,644
		koz	549	536	503
Measured + Indicated	Tonnes (kt)		22,685	21,148	18,266
	Au (g/t)		1.50	1.58	1.74
	Metal	kg	34,112	33,476	31,738
		koz	1,097	1,076	1,020
Inferred	Tonnes (kt)		7,362	6,208	4,627
	Au (g/t)		1.11	1.24	1.45
	Metal	kg	8,150	7,679	6,729
		koz	262	247	216

NB –
1. Mineral Resources are not reserves until they have demonstrated economic viability based on a feasibility study or pre-feasibility study.
2. Mineral Resources are reported inclusive of any reserves.
3. Grade represents estimated contained metal in the ground and has not been adjusted for metallurgical recovery.

WAI has undertaken a pit optimisation using the *Mineral Resource* Block Model prepared by WAI and updated in January 2012**.** The model was depleted to contain only those *Mineral Resources* which have not been extracted as of 01 January 2012. WAI used NPV Scheduler® software for the optimisation, applying conceptual financial and technical parameters which have been provided by HRG. WAI estimated the Berezitovy open pit *Mineral Reserves* using the final optimised pit; the results indicate a total of 18.4Mt of Proven and Probable ore, with an average grade of 1.63g/t and 963kOz of contained gold (total includes 3.9Mt of stockpile ore). The life of mine schedule targets an average production rate of 2.0Mtpa of ore, with a total 14.4Mt of ore produced from the pit over a mine life of 8 years.

Berezitovy Open Pit Mineral Reserves as of 01 January 2012 (WAI) (in accordance with the guidelines of the JORC Code (2004))															
Ore Type	COG	**Proven**				**Probable**				**Proven + Probable**				**Pit Summary**	
		Ore (kt)	Au (g/t)	Au (kg)	Au (kOz)	Ore (kt)	Au (g/t)	Au (kg)	Au (kOz)	Ore (kt)	Au (g/t)	Au (kg)	Au (kOz)	Waste (kt)	Stripping Ratio (t/t)
Sulphide (In-situ)	0.50	9,102	1.71	15,531	499	5,332	1.91	10,189	328	14,433	1.78	25,721	827	38,656	2.68
Sulphide (Stockpiles)	0.50	-	-	-	-	3,917	1.08	4,245	136	3,917	1.08	4,245	136	-	-
Total	-	***9,102***	***1.71***	***15,531***	***499***	***9,249***	***1.56***	***14,435***	***464***	***18,351***	***1.63***	***29,966***	***963***	**-**	**-**

Note: Mining Factors of 6% Dilution and 97% Mining Recovery applied

*Waste is given inclusive of *Inferred* material.

Berezitovy Deposit LOM Mining Schedule (WAI 01 January 2012)										
Year		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Rock	**kt**	5,853	7,475	7,604	7,647	7,646	7,276	7,776	1,812	**53,089**
Waste	**kt**	4,152	5,474	5,605	5,647	5,645	5,276	5,777	1,079	**38,656**
Stripping Ratio	**t/t**	2.44	2.74	2.80	2.82	2.82	2.64	2.89	1.47	**2.68**
Total Ore	**kt**	**1,701**	**2,001**	**1,999**	**2,000**	**2,001**	**2,000**	**1,999**	**733**	**14,433**
Au Grade	**g/t**	**1.96**	**2.04**	**1.91**	**1.77**	**1.60**	**1.61**	**1.64**	**1.70**	**1.78**
Contained Metal	**kg**	**3,339**	**4,077**	**3,827**	**3,547**	**3,196**	**3,220**	**3,270**	**1,244**	**25,721**
	koz	**107**	**131**	**123**	**114**	**103**	**104**	**105**	**40**	**827**

Note: Mining Factors of 6% Dilution and 97% Mining Recovery applied

*Waste is given inclusive of *Inferred* material.

1.9 Mining

The Berezitovy Gold Mine is a well-established operation utilising a conventional open pit mining system; mining top-down bench by bench and employing drill and blast of ore and waste rock combined with truck haulage to the surface. Both ore and waste is loaded using hydraulic excavators and electric shovels, with 45t and 55t diesel powered BELAZ and CAT off-highway trucks for transport of rock.

The deposit is divided into two orebodies – Northern and Southern. The orebodies merge into one orebody, termed the Southern orebody, at the +600m level. As a result the Berezitovy production plan involves two pushbacks - Stage I Pit and Stage II Pit.

The Stage I pushback encompasses extraction of the Southern orebody (from 2006-2012/13), with mining occurring between the +820 and +630m horizons and at two working faces. Subsequent to merging of the two mining fronts at the +630m level, the Stage II pushback will begin with mining at one working face from the +630m horizon down to the pit limit.

There are three ore types at Berezitovy. High-grade ore is defined by gold grades of >2.0g/t Au and is sent straight to the mill after extraction. Medium-grade ore (balance ore) ranges between 1.0-2.0g/t Au and low-grade ore (off-balance ore) between 0.5-1.0g/t Au. At 01 January 2012, 1,398kt of medium-grade ore (average grade 1.71g/t) is stockpiled in various stockpiles at the pit outskirts, providing a contingent of almost a year of feed to the mill. In addition, 2,519kt of low-grade material (average grade 0.74g/t) is also stockpiled.

1.10 Mineral Processing

An annual processing capacity of approximately 1.4Mtpa was achieved in 2011, although this was well below the target 1.8Mtpa. The target is to achieve an annual throughput of 1.8Mtpa in 2012 and 2.0Mtpa in 2013.

Gold recoveries have gradually increased over the four year period, this can be attributed to the installation of a second ball mill in parallel with the original, which has rectified the problem of under grinding the material. A rate of 80-82% passing 74µm is now achieved. The productivity of these two ball mills is some 0.9Mtpa.

Since the modification of the three original Chinese filters and the installation of two new Russian filters, the filtration station has had no problems in coping with the increased capacity of the processing plant. It was reported that leach tails have not been sent directly to the wet tailings dam since October 2009. Although it is reported that the current filtration station would not be able to cope with an increase in production to 2.0Mtpa, further modifications would be made, or additional filters installed, in order to meet the increased demand. Under no circumstance would tailings be diverted to the wet tailings dam, as was previously the case.

Trial testwork, in which gravity processing equipment was incorporated into the grinding circuit, proved unsuccessful. This equipment has subsequently been removed.

The method of head sample analysis, in which the sample is filtered with both the solids and solution going for assay, still needs to be reviewed.

The economics of producing lead and zinc from the leach tailings should be reviewed through on-site laboratory flotation tests.

1.11 Environmental Studies

The health and safety procedures and protocols at the site are thorough and efficient. The scope of the H&S policies and the importance was placed on training and understanding of these procedures.

The fuel and oil storage facilities on site should be the priority for the site and although the fuel tanks are not used on a daily basis, the storage of emergency fuel supplies in them is not in line with national legislation or international best practice. This is a major area of risk for the company, a new facility is planned for construction, all efforts should be taken to ensure that the risk of contamination from the current facility is minimised.

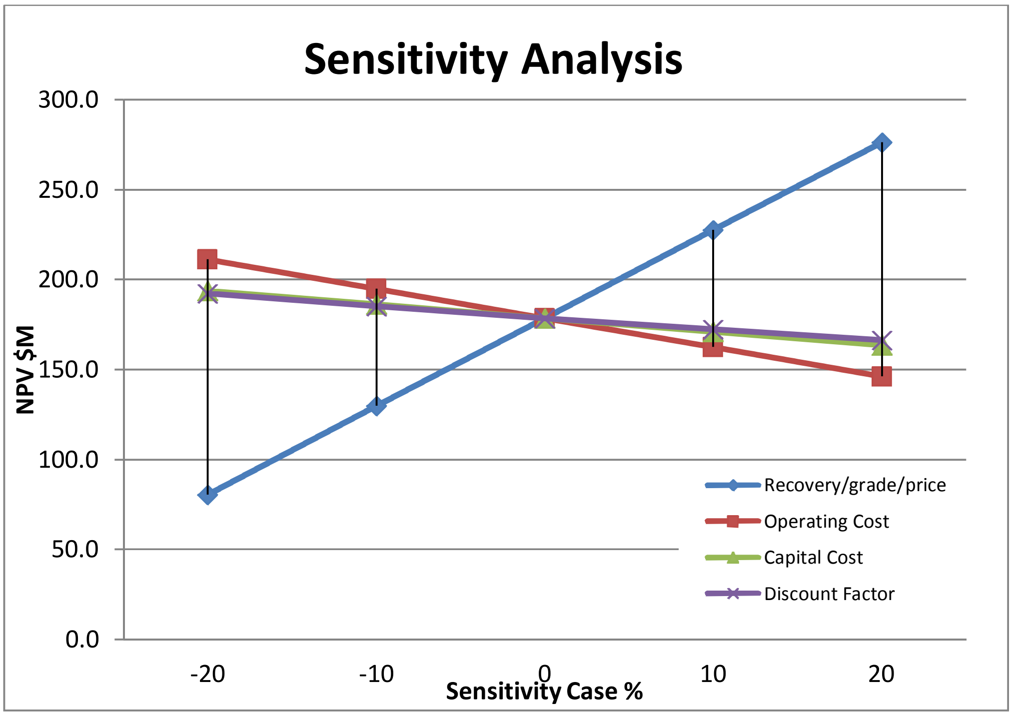
The environmental monitoring appeared to be compliant with the licence requirements however not enough data was scrutinised to comment on international compliance.

Whilst the site appears to comply with national legislation in the majority of areas, with the exception of fuel and oil storage, there are several aspects which fall short of international best practice.

1.12 Economic Analysis

The WAI life of mine model results in a positive NPV at various discount rates and at various gold prices at nominal input parameters. This shows that the reserves considered in the financial model are profitable for exploitation in the current economic environment.

Summary of Berezitovy Key Financial Indices	
NPV 5% (US$M)	221.4
NPV 11.2% (US$M)	**178.6**
NPV 15% (US$M)	158.5
NPV 20% (US$M)	137.1



The deposit consists of a large gold ore resource, with potential to increase, as the area is being intensively explored.

The fact that the key financial indices remain reasonably high given the conservative cost input parameters and recovery used in the models, shows good economic potential for the project.

1.13 Conclusions and Recommendations

The Berezitovy ore zone is well known through extensive drilling and exploitation. The geologic models for the emplacement of mineralisation appear robust and act as a good pointer for further potential mineralisation in the area.

A 300t sample was tested at the "Baley" pilot processing plant in the Russian Federation. Standard procedures were used in analysis and testing of samples. Based on testwork results Cyanide leaching followed by selective flotation of zinc and lead from leach tailings is chosen for process.

The Berezitovy processing plant was constructed between May 2006 and December 2007, recent additions and modifications to the plant have increased the processing capacity.

The Berezitovy Gold Mine is a well-established open pit operation, with pre-production having commenced in 2006. Ore production from the mine in 2011 was 1.8Mtpa. An annual processing capacity of approximately 1.4Mtpa was achieved in 2011, although this was well below the target 1.8Mtpa. The target is to achieve an annual throughput of 1.8Mtpa in 2012 and 2.0Mtpa in 2013. If successful, this will result in a projected average gold production of more than 100koz of gold per annum. Historic production statistics indicate that total cash costs for the first 7 months of 2011 were US$585/oz with an average total mine operating cost of US$1.83 per tonne of rock, equating to US$21.76 per tonne of ore mined.

2 INTRODUCTION

2.1 Purpose of the Technical Report

The Berezitovy Project is a gold project owned by High River Gold Mines Ltd ("HRG"), a Canadian based gold mining company with producing mines and advanced exploration projects in Burkina Faso and Russia. Its common shares (HRG) are traded on Toronto Stock Exchange (TSX).

This Technical Report has been prepared for HRG by or under the supervision of qualified persons within the meaning of NI 43-101 in support of HRG disclosure of scientific and technical information for the Berezitovy Project.

2.2 Independent Consultants

Wardell Armstrong International (WAI) has provided the mineral industry with specialised geological, mining, and processing expertise since 1987, initially as an independent company, but from 1999 as part of the Wardell Armstrong Group (WA). WAI's experience is worldwide and has been developed in the coal and metalliferous mining sector.

Our parent company is a mining engineering/environmental consultancy that services the industrial minerals sector from nine regional offices in the UK and international offices in Almaty, Kazakhstan, and Moscow. Total worldwide staff complement is now in excess of 400.

WAI, its directors, employees and associates neither has nor holds:

- Any rights to subscribe for shares in High River Gold Mines Ltd either now or in the future;
- Any vested interests in any concessions held by High River Gold Mines Ltd;
- Any rights to subscribe to any interests in any of the concessions held by High River Gold Mines Ltd, either now or in the future;
- Any vested interests in either any concessions held by High River Gold Mines Ltd or any adjacent concessions; and

- Any right to subscribe to any interests or concessions adjacent to those held by High River Gold Mines Ltd, either now or in the future.

WAI's only financial interest is the right to charge professional fees at normal commercial rates, plus normal overhead costs, for work carried out in connection with the investigations reported here. Payment of professional fees is not dependent either on project success or project financing.

WAI undertook a technical due diligence of the Berezitovy open pit gold mine and this study considered all aspects of the mine from geology and resources in accordance with guidelines of the JORC Code (2004), exploration potential, mining, processing, economics, and environmental and social issues.

WAI consultants visited the Berezitovy mine during the period 17-19 October 2009 and have followed up this with an update review from 02-04 September 2011. During the site visits, the WAI team inspected current exploration, production and process activities, discussed many aspects of the project including the 2005 OVOS, environmental monitoring programme, the Environmental Manager's personal action plan and various action plans and monitoring results.

This report has been prepared to be filed on SEDAR by WAI in compliance with NI 43-101.

The author has relied upon information from HRG staff and internal reports covering the areas of previous exploration, infrastructure, environmental and legal matters.

2.3 Personal Inspections of the Berezitovy Gold Project

The below-listed qualified person conducted personal inspections of the Berezitovy Project:

- Mark L Owen, BSc, MSc, MCSM, CGeol, EurGeol, FGS ; has conducted several inspections since his first visit during the period 17-19 October 2009 when the project office and licences held by HRG were visited and the data from the HRG licences were reviewed for the preparation of a mineral resource estimation (January 2012). During the visit, Mr. Owen completed a review of and compiled information on logging, QA/QC, density, sampling and assays performed by HRG for the Berezitovy project. A further visit was conducted between 02-04 September 2011, during which amongst other work all the target areas incorporated in the mineral resource estimation were visited.

2.4 Units and Currency

All units of measurement used in this report are metric unless otherwise stated. Tonnages are reported as metric tonnes ("t"), precious metal values in grams per tonne ("g/t") or parts per million ("ppm"), base metal values are reported in weight percentage ("%") or parts per million ("ppm"). Other references to geochemical analysis are in parts per million ("ppm") or parts per billion ("ppb") as reported by the originating laboratories.

Unless otherwise stated, all references to currency or "$" are to United States Dollars (US$).

Co-ordinate system for the Berezitovy project is Russian local coordinate system SK63.

3 RELIANCE ON OTHER EXPERTS

This technical report has been prepared by WAI on behalf of HRG. The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to WAI at the time of preparing this Technical Report including previous Technical Reports prepared on the Berezitovy Project and associated licences within the project;
- Assumptions, conditions, and qualifications as set forth in this Technical Report; and
- Data, reports, and other information supplied by HRG and other third party sources.

The qualified persons have not carried out any independent exploration work, drilled any holes or carried out any sampling and assaying on the Berezitovy Project.

For the purposes of this report, WAI has relied on ownership information provided by HRG. WAI has not researched property title or mineral rights for the Berezitovy Project and expresses no opinion as to the ownership status of the property. The description of the property, and ownership thereof, as set out in this technical report, is provided for general information purposes only.

Except for the purposes legislated under provincial securities laws, any use of this report by any third party are at that party's sole risk.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 Introduction

The Berezitovy property comprises one Mineral Licence (BLG 11787 BR) covering a total area of 17km^2. The area is located in the Prishulkino Structural-Metallogenic Zone which forms part of the eastern flank of the Eastern Transbaikal Upper Amur Region. The deposit was discovered in 1932 during development of gold placer deposits in the nearby Konstantinovsky stream and several exploration programmes have been carried out in the area since 1960. The Berezitovy Gold Mine is a well-established open pit which produced 1.8Mtpa in 2011 with a process plant throughput of approximately 1.4Mtpa.

4.2 Location

The Berezitovy property is located in the Tyndinski district, within the western part of the Amurskaya Oblast of the Russian Federation, 1,000km north of Blagoveshensk, the Amurskaya Oblast capital city (Figure 4.1). The regional centre is located at Tynda (Pop. Approx. 40,000) which is located 340km northeast of the property, the closest large town to the property is Skovorodino, approximately 128km southeast by road. The nearest population centre is Urusha (Pop. Approx.4,700) located 50km to the south, on the Trans-Siberian railway and a major road.

The project area is centred about the following co-ordinates:

WGS84 Latitude : 54^{o}27’46” North , SK63, 21400m
WGS84 Longitude : 122^{o}59’33” East, SK63, 82600m

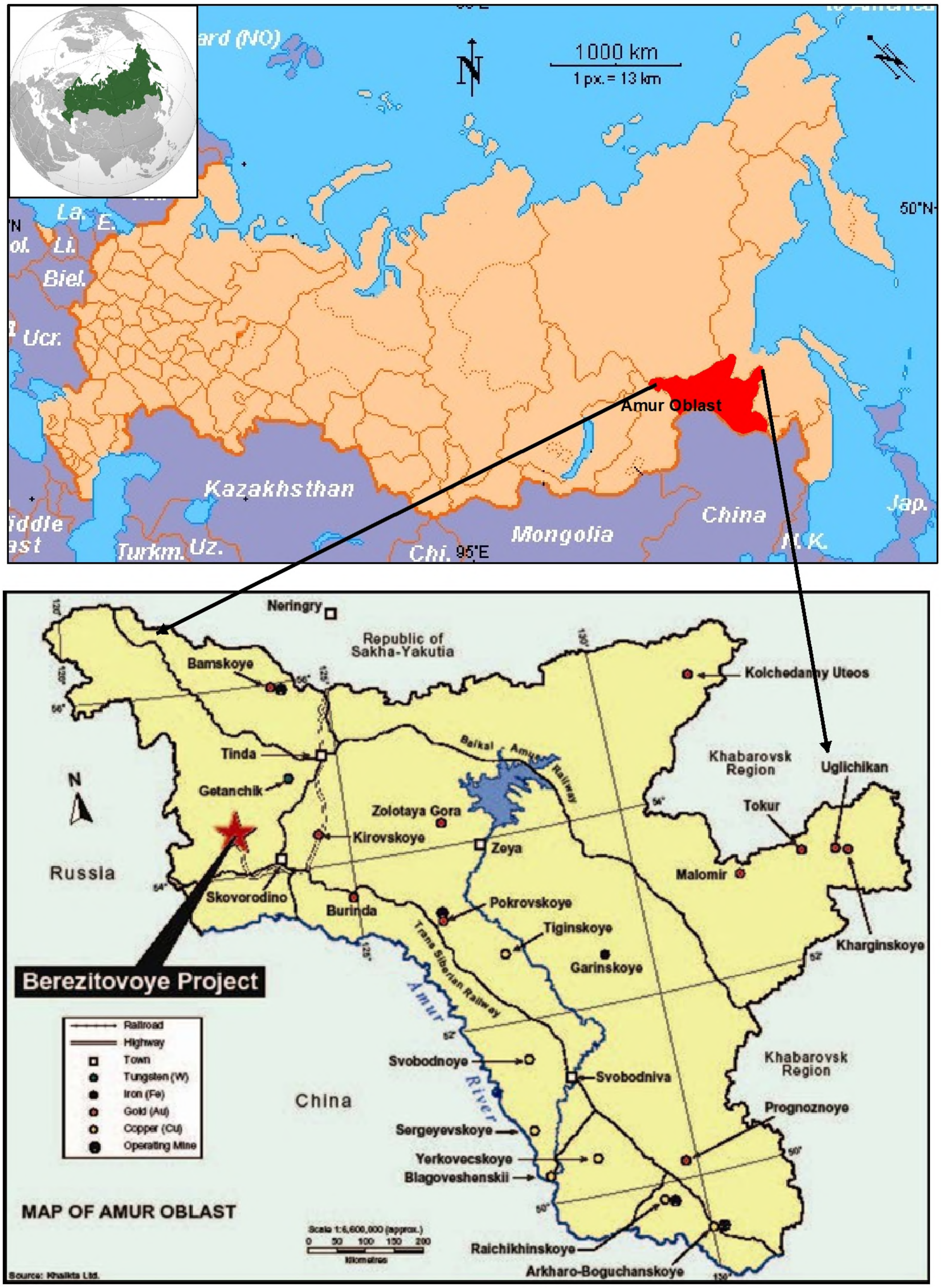


Figure 4.1: Location Map of the Berezitovy Project

4.3 Licences and Tenure

The Berezitovy property is owned by Limited Liability Society (OOO) Berezitovy Rudnik (Berezitovy Rudnik). Berezitovy Rudnik is a registered legal entity with the Regional Inspectorate, Taxation Department, the Government of the Russia Federation and authorised by a Licence of Registration dated May 26, 2003. This provided the company with the legal right to exploit the Berezitovy Deposit and undertake all business aspects in Russia associated with this work. Berezitovy Rudnik is owned by Amur Gold Limited of Cyprus and Limited Liability Society Khaikta registered in the Municipality of Tynda, Russian Federation.

The Berezitovy property comprises one Mineral Licence (BLG 11787 BR) covering a total area of 17km^2. The licence (in accordance with Russian Mining Law, which can be extended) is in good standing, allowing exploration and mining for gold and polymetallic ores to be carried out from 09 October 2003 until 01 August 2017. The licence area for the Berezitovy property is shown in Table 4.1 and Figure 4.2 below and the co-ordinates listed in Table 4.1 below. A Mining Contract No.1813 from 09 October 2003 covers mining of Berezitovy deposit only.

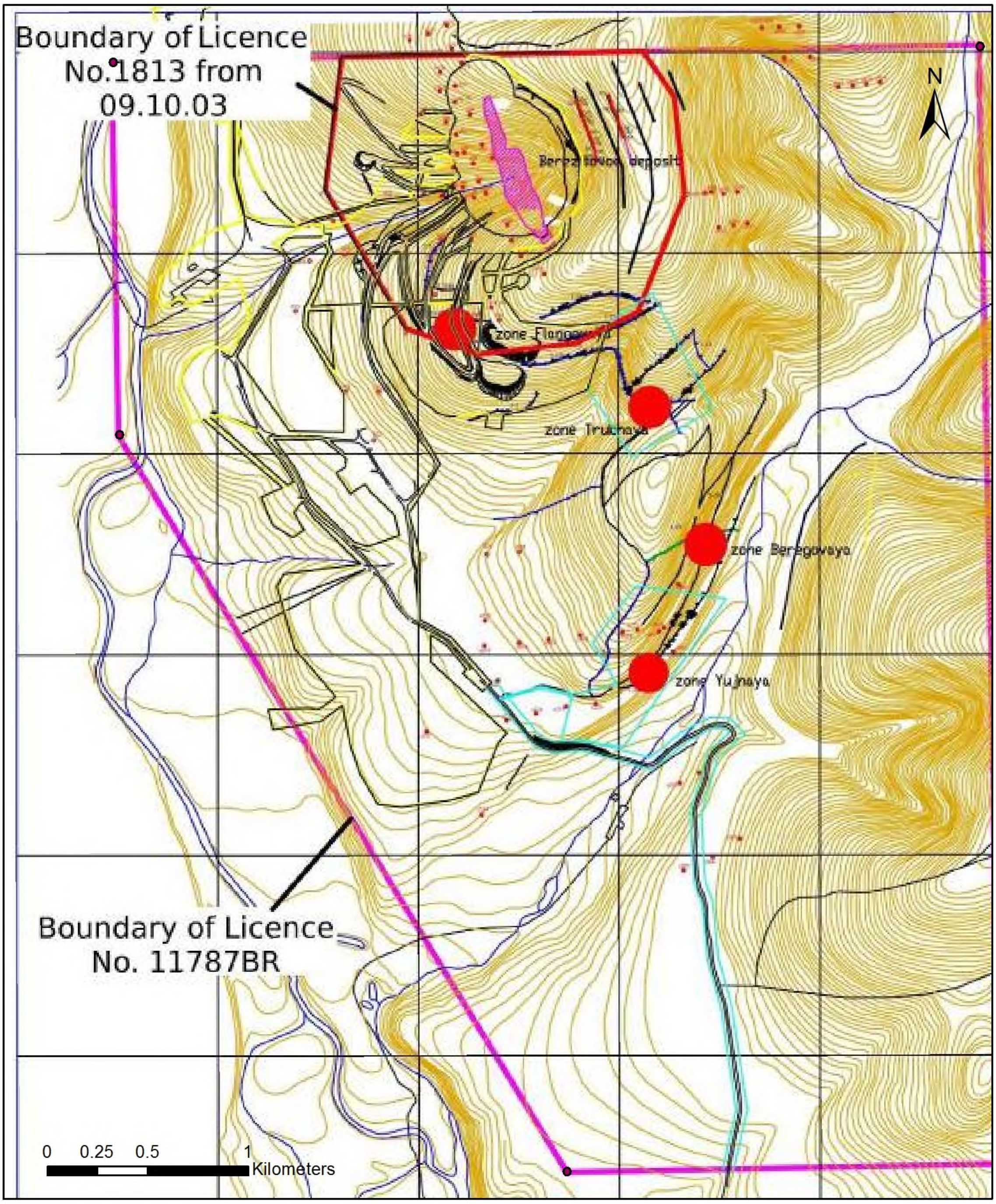


Figure 4.2: Position of the Berezitovy Licences Boundaries

Table 4.1: Licence BLG 11787-BR Coordinates		
Point	**Northing**	**Easting**
1	54°29’00”	122°57’30”
2	54°29’00”	123°01’30”
3	54°26’00”	123°01’30”
4	54°26’00”	122°59’30”
5	54°28’00”	122°57’30”

The Sergachinskaya exploration area, where some 6 identified exploration targets are located, is covered by license BLG 14149-BR. The licence is allocated into 6 separate areas, namely Videnovskiy, Koloktikan, Perevalniy, Pravoberezhniy, Lazarevskiy and Kolbachiy, totalling 162.7km^2. The licence is valid from 04 July 2007 until 25 May 2032 and allows both exploration and subsequent mining activities for gold ores at each of the areas.

The co-ordinates of the Sergachinskaya licence are given in Table 4.2 below and showed in Figure 4.3.

Table 4.2: Sergachinskaya Licence No.BLG 14149 BR

Vedenovskiy (Area 7.0km^2)		
1	54°26'55"	122°42'40"
2	54°26'55"	122°44'40"
3	54°25'15"	122°44'40"
4	54°25'15"	122°42'40"
Koloktikan (Area 3km^2)		
1	54°24'52"	122°44'25"
2	54°25'20"	122°46'30"
3	54°24'25"	122°47'10"
4	54°24'00"	122°45'15"
Perevalniy (Area 24.5km^2)		
1	54°21'45"	122°38'20"
2	54°22'45"	122°44'15"
3	54°21'05"	122°45'15"
4	54°20'10"	122°40'00"
5	54°20'10"	122°38'20"
Pravoberejniy (Area 17.7km^2)		
1	54°29'05"	122°52'10"
2	54°29'05"	122°56'40"
3	54°27'30"	122°57'15"
4	54°27'30"	122°52'10"
Lazarevskiy (Area 4.5km^2)		
1	54°24'10"	122°49'55"
2	54°24'40"	122°52'25"
3	54°23'50"	122°52'50"
4	54°23'20"	122°50'10"
Kolbachi (Area 105.7km^2)		
1	54°24'25"	122°57'10"
2	54°24'50"	123°00'50"
3	54°24'50"	123°05'30"
4	54°18'55"	123°05'30"
5	54°18'55"	122°54'30"
6	54°20'25"	122°54'30"
7	54°23'25"	122°57'10"

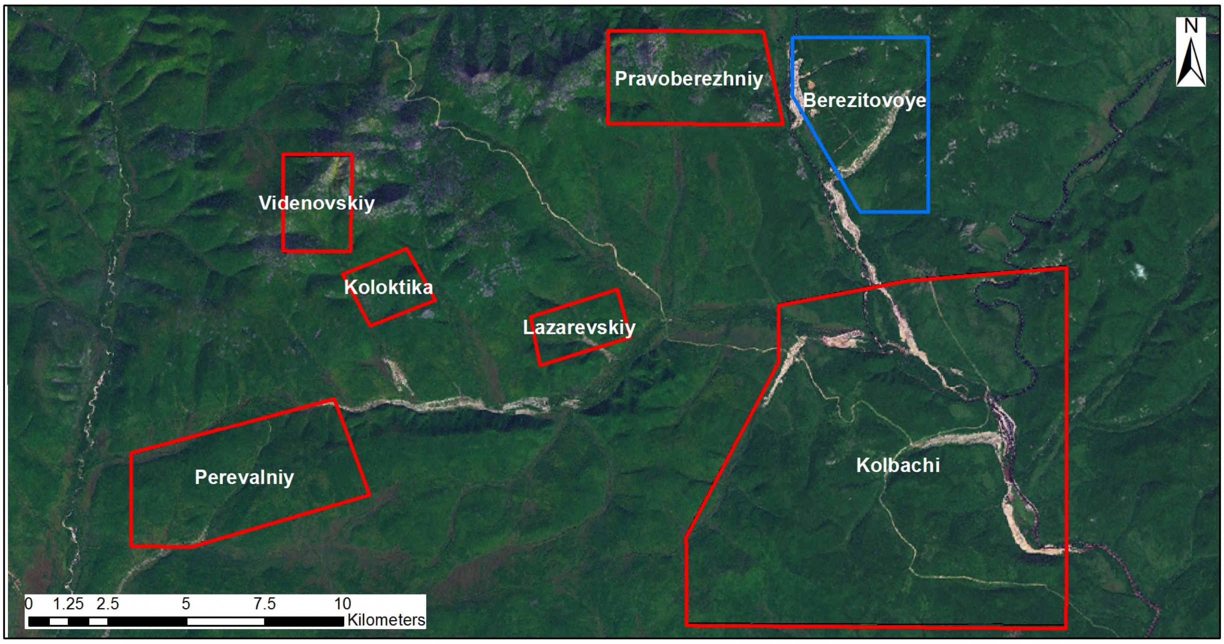


Figure 4.3: Sergachinskaya Licence Areas

4.4 Environmental Liabilities

Environmental liabilities relations to the Berezitovy Gold Project is discussed in details in Section 20 below.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Accessibility

The main road access to the site is from the railway station in the town of Scovorodino (a distance of approximately 128km), initially westwards following the main Federal Highway between Chita and Khabarovsk and then north-westwards from the village of Madalan (a station stop on the Trans-Siberian railway with a small settlement) along the mine road, a distance of some 65km (see Figure 5.1 below).

The route allows access for trucks and vehicular traffic to service the mine and has required construction of a 100m span bridge over the Khaikta River.

Figure 5.1: Plan showing Main Access Road to the Site

5.2 Physiography

Berezitovy is located in a mountainous region with elevations ranging from 500-1,300masl. Total relief from the valley bottom to the highest point on the property is approximately 500m. The area has a mid-mountain Taiga landscape with permafrost. The area is covered with fulvous podzol soils and marshes. Outcrops are rare and overburden thicknesses range from 2-10m.

5.3 Climate

The average mean temperature for the region is -3.6°C. Summer temperatures can reach 36°C with average summer temperatures of 25.5°C. The warmest month of the year is July. Winter temperatures can be as low as -50°C with the coldest month being January. The average winter temperature is -30°C, whilst the January average temperature is -34.7°C.

Average annual precipitation is 600mm with approximately 80% of precipitation falling in July and August and minimum values falling in January to February. The average snow cover is 30 to 50cm in forested areas and up to 100cm on windward slopes. Snow cover lasts for 165 to 180 days per year.

Average annual wind direction is from the north and north-east, with wind speeds averaging 7m/sec (25km/hr).

Operation at the Berezitovy Gold Mine continues throughout the year.

5.4 Fauna and Flora

Vegetation is characteristic of the northern part of the Taiga zone which comprises of northern pine, birch and spruce trees.

Wildlife includes Siberian grizzly bear, moose, rabbit, wild boar, chipmunk, mink, lynx, sable, fox, deer, elk and some 27 species of fresh water fish in streams and lakes including salmon, pike, carp, trout and catfish.

5.5 Seismicity

Berezitovy is in a seismically active area where earthquakes of magnitude 7 on the Richter scale have been recorded. Buildings in this area are therefore designed and built to Russian Federation requirements, which the project civil engineering consultants indicate equates to international building code UBC.

5.6 Local Resources and Infrastructure

Power is provided to the site from the main substation at Skovorodino through construction of a 101km, 110kW power line and backup power is provided at site.

The facilities supporting the mining and processing operations are mine maintenance shop, vehicle garage, main warehouse with laydown area equipped with gantry crane, fuel and lubricants storage and distribution facility, main electrical substation, rainwater collection ponds and treatment plant, explosives magazines, water reservoir and potable water wells located on the Oroghzan river, sanitary landfill and septic system for sewage treatment.

All employees are housed on site in a purpose built port cabin camp where the capacity is 415 people for four units holding 105 beds for non-staff employees and two 6 room units for staff employees. The camp area includes food storage, kitchens, catering and recreational facilities. The main mine dry is located in the camp area as well.

All freight for the site arrives at Urusha by rail or truck and is received at a transfer centre for trans-shipping to the mine.

6 HISTORY

6.1 Russia Gold History

Successful gold exploration and mining were introduced in Russia by Peter the Great. In 1702 the first silver deposit was discovered in Transbaikalia (Nerchinsky Mine) and in 1745 a peasant named Erofey Markov found gold on the eastern slope of the Ural Mountains and in 1748 the first Russian gold mine was set up.

According to United States Geological Survey base estimates, Russia has the third most extensive gold resources in the world. With the majority of gold extraction remaining generally in the control of state run industry, the nation was theoretically underrepresented in its global productivity total as Russia was the fifth largest gold producer in 2010. The total numbers of exploration enterprises are also considerably underrepresented by junior gold companies compared with activity in other mining jurisdictions, considering the vast underlying mineral potential in Russia. [1]

Since 2000, Russia's gold production has been steadily increasing with 154 t being produced in 2001, 181 t in 2002 and 182 t in 2003. Russia has a variable gold production industry with only 14% of its gold producers (about 78 companies) producing 74% of Russia's gold. Russia is thought to employ approximately 400,000 people in its gold mining industry. "Artels" or private entrepreneurial brigades of gold prospectors produce nearly half of Russia's gold production.

Canadian companies have been the largest foreign investors in Russia's gold industry, although investment has dropped almost 90% since 1995. Canada's Bema Gold, Western Pinnacle and High River Gold Mines are among the main investors, with Placer Dome and Barrick appraising the development of the giant Sukhoi Log gold lode in Irkutsk region, which has an estimated US$1.5 billion start-up cost. Apart from having a potential 43Moz resource base, Sukhoi Log also has significant PGM potential.

[1] http://goldinvestingnews.com/world-class-gold-deposits/gold-mining-in-russia)

The biggest producers included Polyus, Omolon Gold Co, Buryatzoloto and mines controlled by MNPO Polimetall. The great majority of Russian gold companies produce less than 100 kg/y. Kinross' Kubuka operation in Magadan completed open-pit mining in 2002. Kyzylkumredmotzoloto the holding companyof Navoi Mining and Metals Company and Uzolomosoltin were liquidated, with the production units being subsequently divided between Navoi Mining and Amalyk and placed under the management of the ministry - the Agency for Precious Metals. Production at Muruntau is estimated to have decreased by 4t to 67t. In Kyrgzystan production at Kumtor increased to 27%.

Most production is from placer deposits in the eastern parts of Russia, with most identified resources (60%) located in the Russian Far East and in eastern Siberia. Nearly half of Russia's gold is produced from the Magadan Oblast (26t), Krasnoyarsk (30t) and the Yakutia (20t) - Sabkha Republic regions. Hard rock deposits are generally low grade at around 4g/t. Due to the fact that most of Russia's production is sourced from placer deposits, the reserve base is being diminished rapidly. Emphasis is to be placed on the delineation of new mines, which is going to require major investments. [2]

6.2 Project History

The Berezitovy Deposit was discovered in 1932 during the development of a gold placer deposit in the Konstantinovsky Stream which has its source in the location of the current open pit. From 1960 to 1962 and from 1974 to 1980 Amurskaya Geological Expedition (AGE) undertook geological mapping, surface and underground exploration and evaluation of the Berezitovy deposit. Between 1975 and 1980 AGE carried out approximately 18,700 metres of drilling in 59 inclined holes oriented on grid due east. In total 2,750 metres of trenching spaced 15 to 40 metres apart were completed on the deposit. In 1980 geophysical surveys using airborne magnetic, radiometric and ground induced polarization (IP) were performed over the entire property, with a strong IP anomaly evident over the Berezitovy deposit. Regional geochemical soil sampling of the property was also undertaken with anomalous concentrations of up to 30 parts per billion (ppb) gold (Au) detected in several areas.

High River Gold Mines Ltd. carried out exploration programmes including infill diamond drilling and underground sampling. The Berezitovy Gold Mine is a well-established open pit

[2] http://www.mbendi.com/indy/ming/gold/as/ru/p0005.htm

operation, with pre-production having commenced in 2006. Ore production from the mine in 2011 was 1.8Mtpa with a process plant throughput of approximately 1.4Mtpa, with 250t/hr through the CIP plant to a dry paste plant at a nominal average grade of 2.62g/t Au.

6.3 Historical Exploration Studies

From 1936 to 1937, a pilot plant gold amalgamation operation was started, but gold recoveries were poor, ranging from 22-32%. In the 1950's the deposit was again studied, but as a polymetallic deposit to primarily exploit its base metal content, although the low zinc and lead content deemed the deposit uneconomic. From 1960 to 1962 and from 1974 to 1980, Amurskaya Geological Expedition (AGE) undertook geological mapping, surface and underground exploration and evaluation of the Berezitovy Deposit.

6.3.1 Surface Exploration

6.3.1.1 Geophysical Surveys

In 1980, AGE carried out a combined airborne magnetic and radiometric survey and a ground induced polarization (IP) geophysical survey over the entire property. Each IP survey line was 6km long and dipole separation was 20m. A magnetic low coincided with a strong IP anomaly detected over Berezitovy deposit area. Other IP anomalies of 8% chargeability were also detected in the southern part of the property, but other magnetic anomalies are poorly correlated with the regional geology.

6.3.1.2 Geochemical Surveys

In 1980, AGE carried out regional geochemical soil sampling over the whole property with survey lines spaced 400m apart. Anomalous concentrations of up to 30ppb Au were detected in several areas. The most prominent of these was 250m by 500m, which coincided with the main Berezitovy deposit. Another anomalous area 100m by 400m, trending north and situated downhill from a 50m by 400m area of in-situ gold mineralisation was identified. This anomaly is situated about 400m southwest of the Berezitovy. A few isolated anomalies of up to 30ppb Au are scattered around the property.

6.3.2 Surface Drilling

From 1975 to 1980, AGE carried out diamond drilling to outline the gold and silver mineralised zones of Berezitovy. In total, some 18,700m were completed in 59 inclined holes oriented due east.

6.3.3 Surface Trenching

Some 40 trenches totalling 2,750m and spaced 15-40m apart were excavated across the deposit.

6.3.4 Underground Exploration

From 1975 to 1980, AGE carried out detailed chip and channel sampling along cross-cuts and drifts of the 596, 676 and 756 m levels. The levels were driven 80m apart vertically. A total of 7,194m of underground development, in 61 crosscuts was developed. To explore the ore bodies across their true thickness, cross-cuts were driven from the adits and drifts 3 to 8m into the mineralised zone. On the 756 and 676m levels, cross-cuts were 40m apart along strike, whilst on the 596m level they were on 80m spacing. Cross-cuts on the 596m level were all connected with horizontal drilling. In areas of complex morphology and uneven spatial distribution of mineralisation, the cross-cuts spacing was reduced to 20m. Up dip continuity of mineralisation was checked with 4 raises driven half way between adit levels (40m plane of lode).

Cross-cut sampling was performed on both sides of the cross-cuts with sample lengths commonly of 1.0m. Until 1978, 10cm wide by 5cm deep channel samples were collected by hammer and chisel. From 1979 onwards, the samples were collected by diamond saw. In both cases the channel sampling was supervised by geological staff.

AGE also carried out underground diamond drilling from many of these cross-cuts with sampling of the drill holes at intervals varying from 1-2m. Underground diamond drilling totalled 8,655m in 115 holes. The inclinations of the drill holes ranged from horizontal to sub-vertical and were oriented up to 25° from the strike of the crosscuts. Diamond drill hole sampling was performed at intervals varying from 1.0-2.0m.

Mineralised zones were explored to the 516 metre level with a combination of angle surface drilling and underground drilling following an 80m by 40m grid, and to the 356 metre level using an 80m by 80m grid.

6.4 Historical Estimate (Roscoe Postle Associates Inc. 2003)

In 1982, AGE estimated B and C_1 category (Russian Federation system) resources at 14.1Mt with an average grade of 3.0g/t Au, 14.3g/t Ag, 0.93% Zn and 0.57% Pb, using a 1.5g/t equivalent Au cut-off grade (Ivanishenko and Kuzin, 1982), Roscoe Postle Associates Inc. (RPA) undertook a check estimate and essentially agreed with the AGE tonnage estimate, but suggested that the gold grade was likely overestimated.

In May 2003, results of the 2002 to 2003 diamond drilling programme were loaded into a Gemcom database and a mineral resource estimate started. Micon International Limited (Micon) provided a preliminary Whittle pit shell and supporting documentation during August 2003, so that the resource estimate could be constrained at depth. Roscoe Postle Associates Inc. (RPA) reviewed the Micon work and provided the mineral resource estimate to HRG, Buryatzoloto and Micon in September 2003.

In the RPA model, a 0.5g/t Au cut-off grade was applied to define the mineralised envelope and to construct a 3-D wireframe model of the mineralisation. The 0.5g/t Au cut-off grade was generally effective in defining mineralisation continuity. Some exceptions, however, were made in order to preserve zone continuity. A minimum thickness of approximately 4m was used to define mineralization envelopes.

After reviewing the data with Buryatzoloto personnel, RPA selected a 35g/t Au top cut level for Zone 1 resource assays and a 20g/t Au top cut for Zone 2 resource assays. All high assays were cut to these levels, before compositing to 3 metre lengths.

In 1982, AGE carried out detailed density measurements on channel samples collected along crosscuts on the three underground exploration development levels. These included density determinations by the pillar method and gamma ray method, with density determinations performed in the field as well as at the AGE laboratory. AGE considered a density of 2.84t/m^3 to be representative for the whole deposit and used it as the mineralisation tonnage factor.

Buryatzoloto measured the density of 200 core samples from the 2002 to 2003 drill programme. Core sample weights averaged approximately 130g with all samples located in mineralisation. The density averaged 2.87t/m³ and ranged from 2.46-4.69t/m³.

RPA noted that the 2003 density tests varied over a wide range and this probably reflects the variable sulphide content and different rock densities within the deposit. RPA used 2.87t/m³ as the tonnage factor for mineralisation. In RPA's opinion this was a reasonable figure to use as the global tonnage factor and also noted that any future density testwork was unlikely to have significant impact on this factor.

All available sampling information was used to construct the 3-D wireframe model of the mineralisation and, locally, the block model was extended vertically for approximately 500m below surface to the 350m level elevation. This was done to help control the wireframe model geometry and to help guide future exploration. However, it was accepted that mineralisation was too low grade to support an underground mining operation and the ultimate depth of an open pit would be limited by metal prices, operating costs, mill recoveries, pit slope angles and other factors.

The Micon Whittle pit shell was used as a guide to estimate the maximum potentially economic open pit depth and to constrain the resource at depth. Consequently, although the block model contains mineralisation below the Micon preliminary pit shell, only the mineralisation above it was included in the Mineral Resource estimate. The maximum preliminary Whittle pit shell depth is at approximately the 480m level elevation. The final pit together with the solids for the North and South zones is illustrated in Figure 6.1 below.

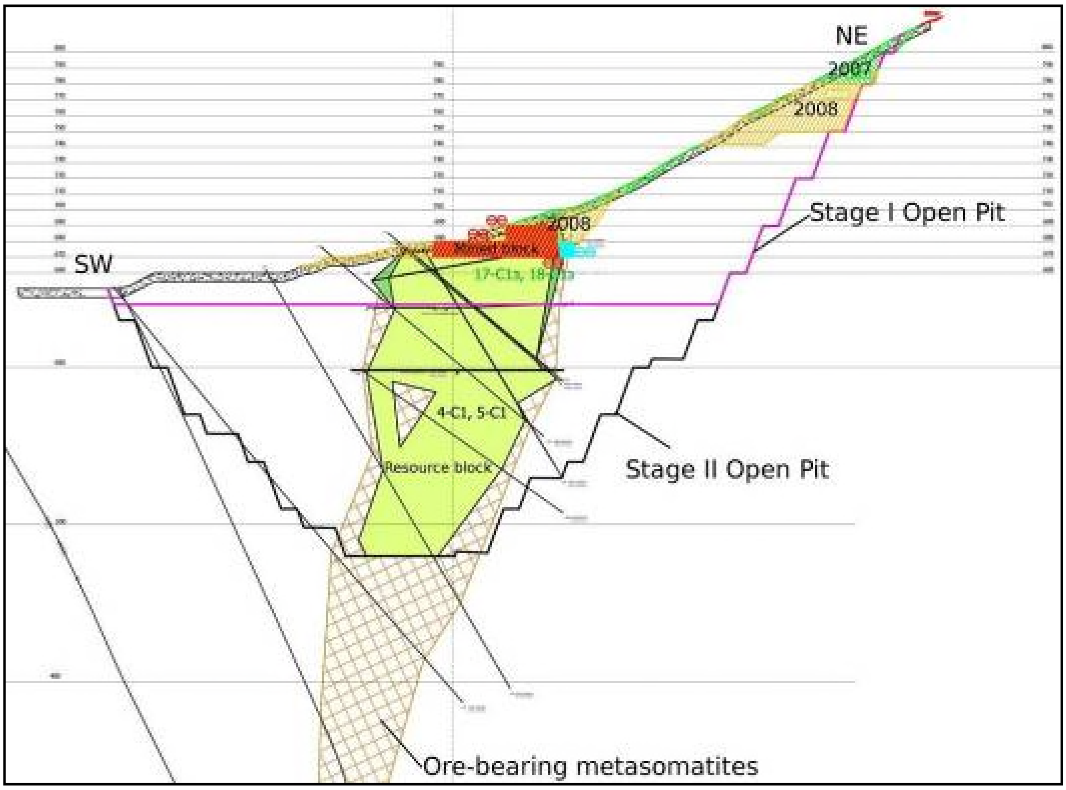


Figure 6.1: Typical Cross Section through the Two Stage Development of the Open Pit

RPA developed new Mineral Resource classifications criteria based on trend analysis work, variography studies and geological continuity. Overall, the mineralisation exhibits good gold grade and thickness continuity down dip and slightly shorter continuity along strike. The *Indicated* Mineral Resources were classified using a primary search radius for Zone 1 of 45x 60 x10m and for Zone 2 of 40x50x10m. The *Inferred* Mineral Resources were classified using a secondary search radius of 90x120x20m for Zone 1 and 80x100x20m for Zone 2. Almost all of the Mineral Resources were classified as *Indicated*. Approximately 2% of the Mineral Resources were classified as *Inferred*, with the majority located near surface at the southern end of the South Zone.

At a 0.9g/t Au cut-off grade the *Indicated* Mineral Resources were estimated to total some 14Mt at an average grade of 2.52g/t Au (2.84g/t Au uncut) and 12.70g/t Ag. Approximately 310kt of *Inferred* Mineral Resources are present with an average grade of 2.12g/t Au (2.19g/t Au, uncut) and 10.54g/t Ag.

The Mineral Resource estimate by RPA (September 2003) is given in Table 6.1 below.

Table 6.1: Berezitovy Mineral Resource Estimate (RPA September 2003)

Block Cut-Off Grade	Tonnes Above Cut-Off Grade	Cut Au* (g/t)	Uncut Au (g/t)	Ag (g/t)	Contained Cut Au* (oz Au)	Contained Ag (oz. Ag)
Zone 1 *Indicated* Mineral Resources						
1.4g/t Au	8,950,000	3.01	3.46	13.32	866,000	3,832,000
1.2g/t Au	9,500,000	2.91	3.33	13.00	889,000	3,971,000
1.0g/t Au	10,000,000	2.82	3.22	12.71	907,000	4,087,000
0.9g/t Au	**10,200,000**	**2.79**	**3.18**	**12.59**	**915,000**	**4,129,000**
0.8g/t Au	10,340,000	2.76	3.15	12.50	918,000	4,156,000
0.0g/t Au	10,580,000	2.71	3.09	12.34	922,000	4,197,000
Zone 2 *Indicated* Mineral Resources						
1.4g/t Au	2,340,000	2.24	2.42	13.80	168,000	1,036,000
1.2g/t Au	2,900,000	2.06	2.21	13.50	192,000	1,257,000
1.0g/t Au	3,480,000	1.90	2.02	13.18	213,000	1,476,000
0.9g/t Au	**3,840,000**	**1.81**	**1.92**	**12.99**	**223,000**	**1,602,000**
0.8g/t Au	4,040,000	1.76	1.87	12.88	228,000	1,672,000
0.0g/t Au	4,290,000	1.70	1.80	12.78	234,000	1,763,000
Total *Indicated* Resources above 0.9g/t Au	**14,040,000**	**2.52**	**2.84**	**12.70**	**1,138,000**	**5,731,000**
Zone 1 *Inferred* Mineral Resources						
1.4g/t Au	190,000	2.66	2.73	9.81	16,000	59,000
1.2g/t Au	200,000	2.57	2.64	9.65	16,000	62,000
1.0g/t Au	230,000	2.38	2.44	9.18	18,000	68,000
0.9g/t Au	**230,000**	**2.36**	**2.42**	**9.14**	**18,000**	**68,000**
0.8g/t Au	240,000	2.30	2.36	9.03	18,000	70,000
0.0g/t Au	260,000	2.20	2.25	8.73	18,000	73,000
Zone 2 I*nferred* Mineral Resources						
1.4g/t Au	30,000	1.82	2.03	13.26	2,000	14,000
1.2g/t Au	60,000	1.57	1.70	13.68	3,000	25,000
1.0g/t Au	80,000	1.45	1.55	13.89	4,000	34,000
0.9g/t Au	**80,000**	**1.42**	**1.51**	**13.89**	**4,000**	**36,000**
0.8g/t Au	80,000	1.41	1.50	13.81	4,000	37,000
0.0g/t Au	90,000	1.39	1.47	13.71	4,000	38,000
Total *Inferred* Resources above 0.9g/t Au	**310,000**	**2.12**	**2.19**	**10.54**	**21,000**	**105,000**

Notes:
(*) High Zone 1 assays cut to 35g/t Au and High Zone 2 assays cut to 20g/t Au. Silver assays were not cut;
The 0.9 g/t Au block cut-off grade is based on a US$350/oz gold price, US$5.75/t for processing, US$4.08 for G&A and royalties, and 87% gold recovery;
Mineralised wireframe models constructed based on approximately a 0.5g/t Au cut-off grade;
Blocks are 10x10x10m
Ordinary kriging grade interpolation for gold and inverse distance squared for silver;
Mineral Resources constrained at depth using a preliminary Whittle Four-X pit shell based on a US$400/oz gold price and a US$5.00 silver price and 45° pit slopes;
Tonnage factors: 2.87t/m³ for ore; 2.70t/m³ for waste rock; and 2.20t/m³ for overburden;
Gemcom Software International Inc. Resource Evaluation Edition Version 4.21 was used;
Mineral Resource estimate performed by Roscoe Postle Associates Inc; and
Qualified Person Luke Evans, M.Sc., P.Eng.

7 GEOLOGICAL SETTING AND MINERALISATION

7.1 Geological Setting

7.1.1 Regional Geology

Berezitovy is located in the Prishulkino Structural-Metallogenic Zone which forms part of the eastern flank of the Eastern Transbaikal Upper Amur Region. Structurally the deposit is situated within the Magochinskaya thrusted block of Archean age rocks and is near the intersection of Sergachinski and Khaiktinski regional faults. To the east, the northwest trending greenstone belt, also of Archean age, separates rocks of the Magochinskaya block from other Precambrian rocks of the Amur Region, and to the south, rocks of the Mongolian Miogeosyncline which trend east-north-eastwards.

Structurally, the region is characterised by three stages; Precambrian, Mesozoic and Quaternary events. The Precambrian and Mesozoic rocks have been intruded by several Jurassic age plutons, ranging from alaskites to lamprophyre. The folded volcanic and sedimentary rocks have also been affected by block faulting.

A regional map of the Sergachinskaya ore field showing the position of the main gold occurrences within it is shown in Figure 7.1 below.

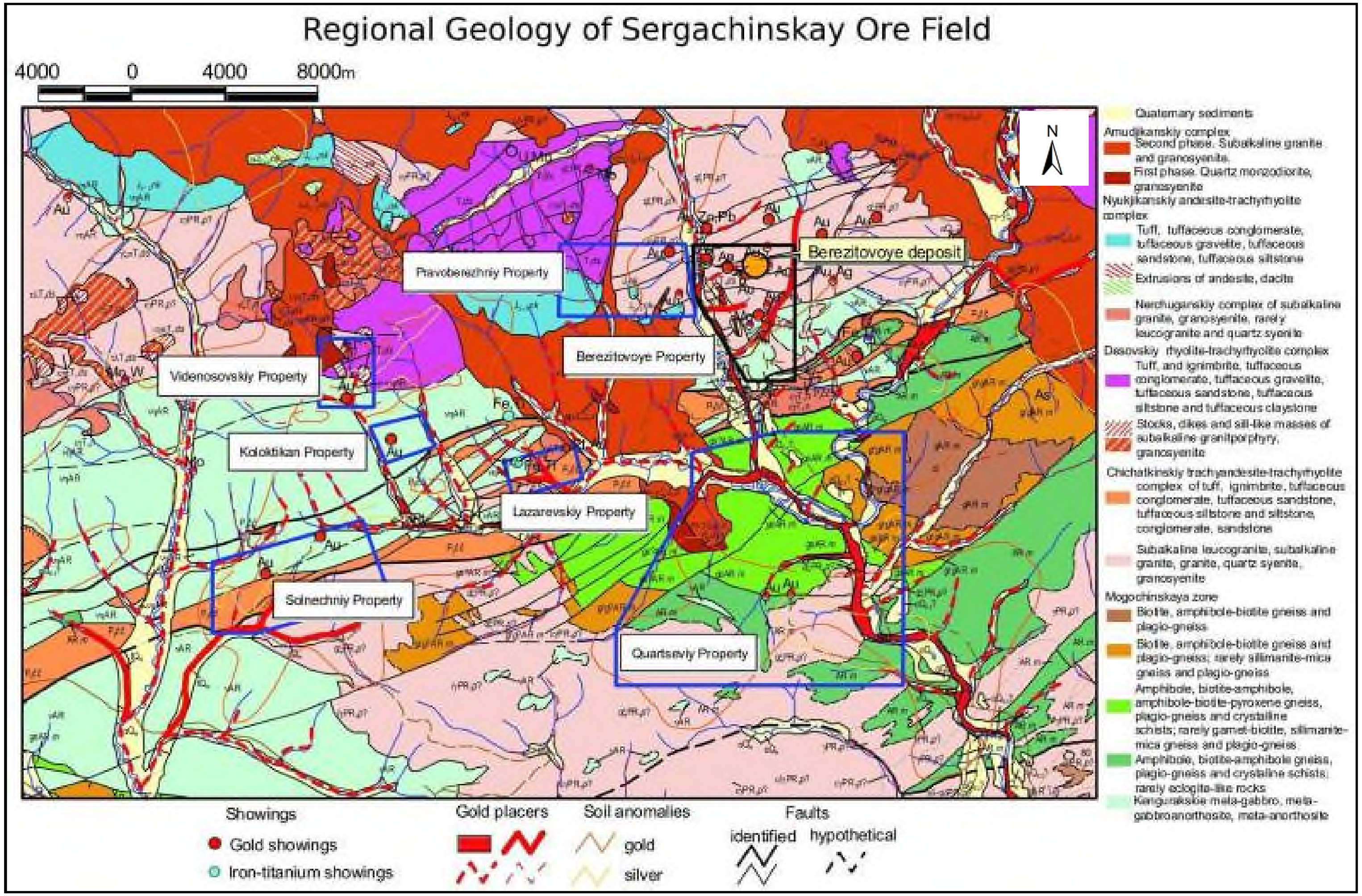


Figure 7.1: Regional Geology and Position of the Main Gold Deposits

7.1.2 Project Geology

Berezitovy is underlain predominantly by early Proterozoic age, biotite-feldspar gneissose granites and granodiorites. The southern part of the area is marked by feldspar-pyroxene gabbro. Due to the lack of outcrops, however, the general orientation of the foliation is uncertain, but is interpreted to be east-northeast from the regional trend of the lithological units. To the east and west of the property, Jurassic age granodiorite and diorites are present. To the south of the property, the Yuzhna-Sergachinski Fault separates the latter rocks from the Archean age Shurigiskaya and Amazarskaya Suites, containing interlayered biotite gneiss and biotite-feldspar gneiss. The relative ages of the rocks have been determined by Potassium-Argon dating.

The main gold occurrences within the property (from north to south) are:

- Berezitovy (North and South Zones);
- Flangovaya;
- Trubnaya (Pipe) – newly identified zone;
- Opozncan;
- Orogzhan;
- Beregovaya; and
- Yuzhnaya (South) zone.

The location of these is shown in Figure 7.3 below.

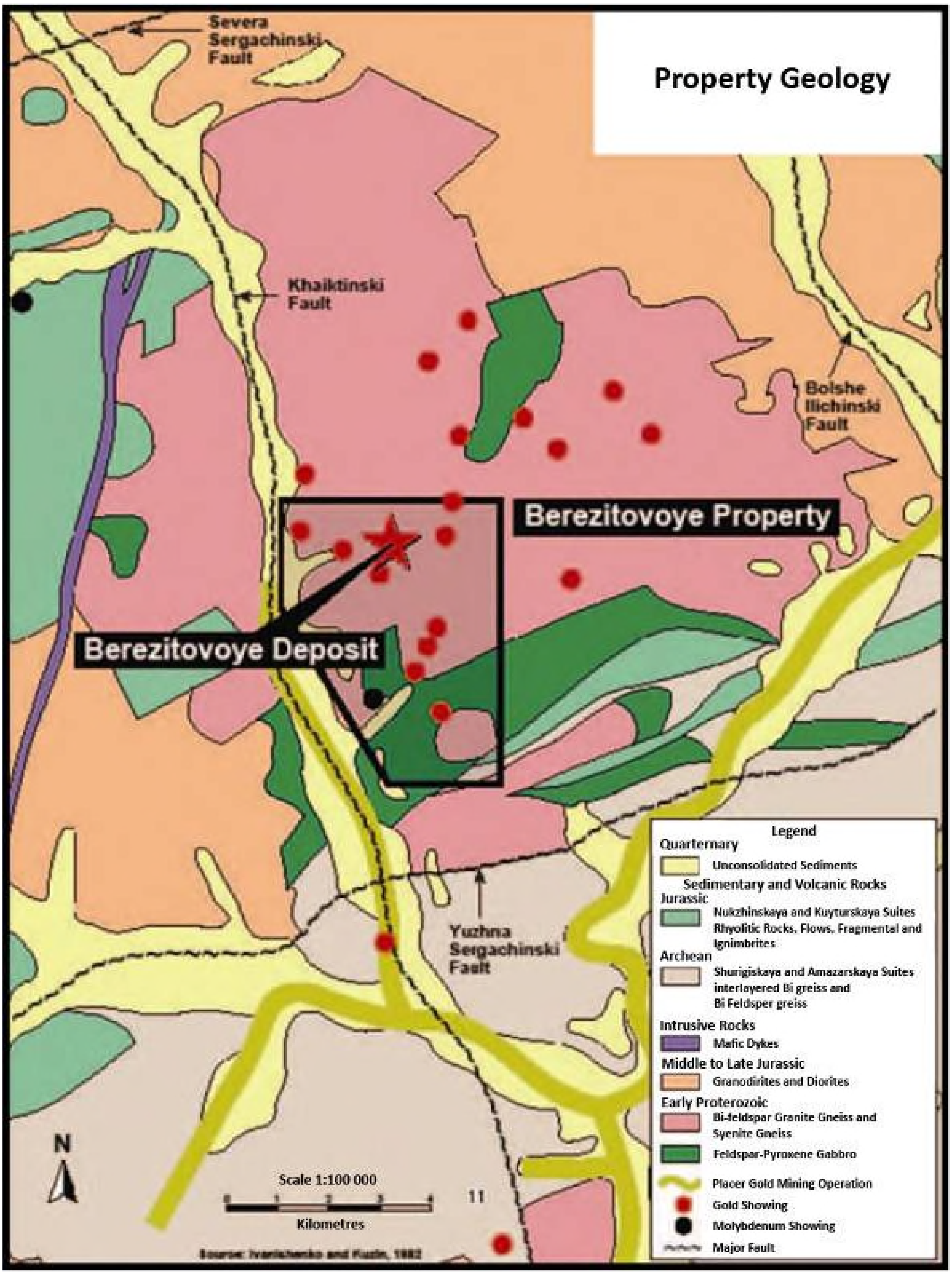


Figure 7.2: Property Geology

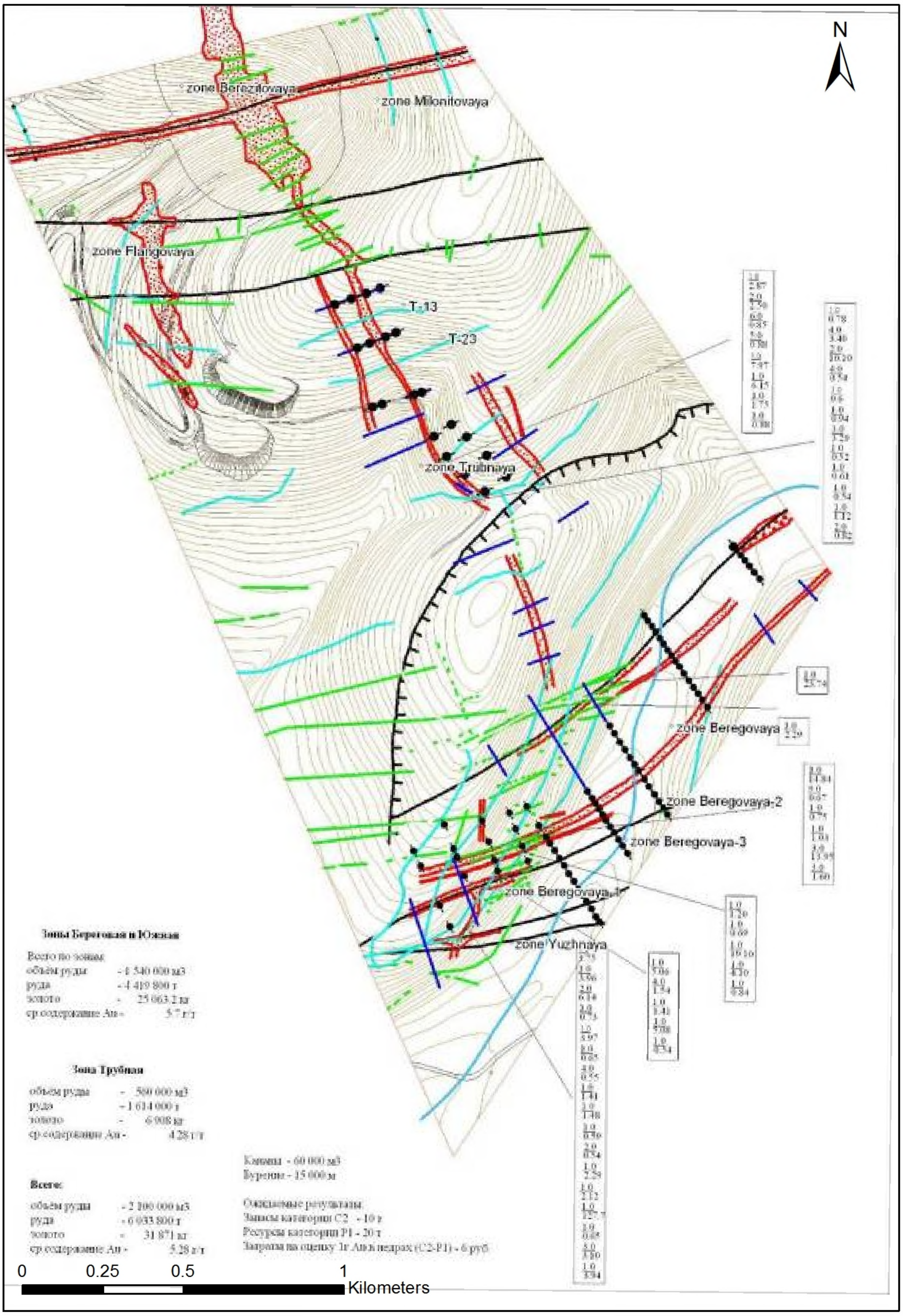


Figure 7.3: Location of the Main Gold Occurrences within the Property

Gold mineralisation in and around the Berezitovy property is related to explosive breccia within granitic gneisses. This is present within a north-northwest trending and steeply southwest dipping zone of brecciated and hydrothermally altered granodiorite. This zone, and several other zones of similar orientation in the general area, may represent the development of regional scale tension faults between the east-northeast trending Severa and Yuzhna Sergachinski faults. The uplifted block, which contains the gold mineralised zones, is in contact with younger sedimentary rocks on either side. Several granitic dykes are parallel to the regional trend and are mineralised close to the main zone.

Gold mineralisation is associated with metasomatic alteration and quartz flooding in granitic and granodioritic rocks. The near surface oxidation zone is very shallow (5-7m deep) and mineralisation throughout is predominantly sulphides.

A set of east-west trending andesite porphyry and lamprophyre dykes cut the deposit and are generally not mineralised (see Figure 7.4 below). Higher gold values, however, commonly occur along the dyke contacts and some gold mineralisation occurs in the dykes. A post mineral diorite dyke separates the main Berezitovy deposit into two parts; the northern area containing the North Zone and the southern one containing the Central and South Zones.

All mineralisation south of the diorite dyke is referred to as the South Zone (or Zone 1) and all of the mineralization north of this dyke as the North Zone (or Zone 2). The main diorite dyke is 5-10m wide, trends east-northeast and dips steeply to the northwest. The geology of the two zones is shown in Figure 7.5, Figure 7.6 and Figure 7.7 below.

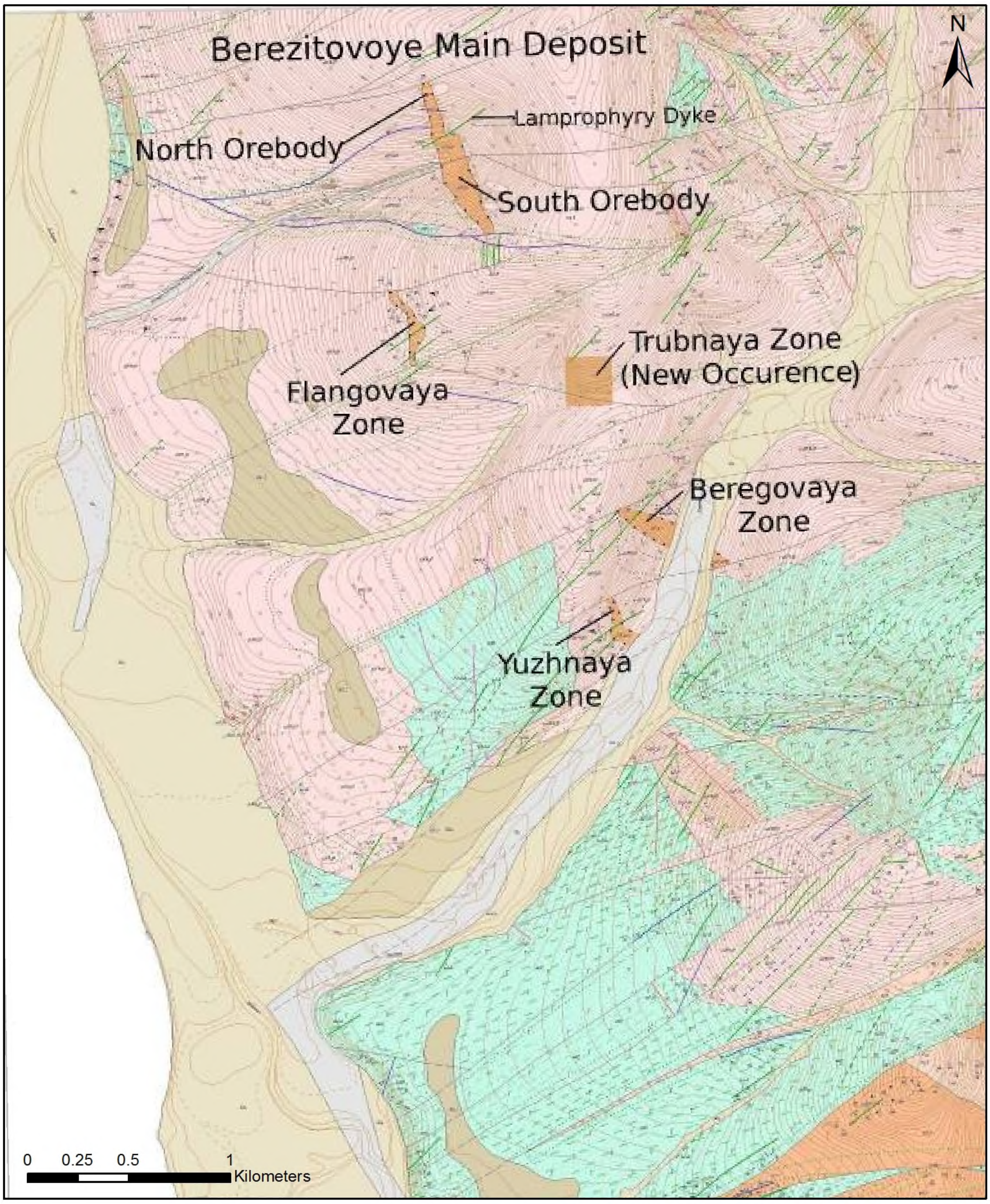
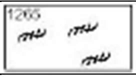
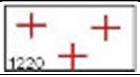
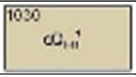
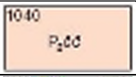
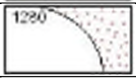
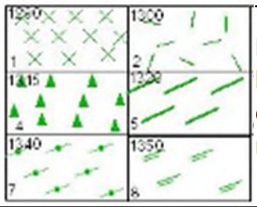
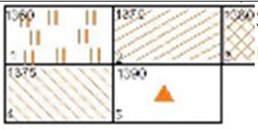
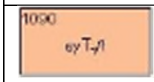
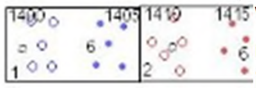
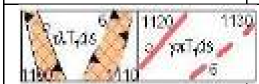
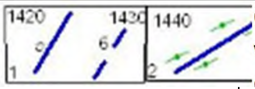
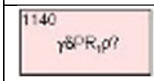
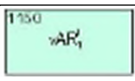
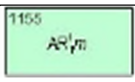
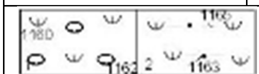
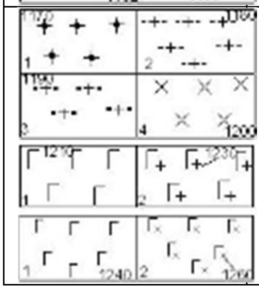


Figure 7.4: Geological Map of the Berezitovy Area

Legend for Figure 7.4			
	Quarternary system Holocene		Crystalline shale and gneiss
	Upper Neo-Pleistocene		Granitic rocks
	Lower Neo-Pleistocene		Diafluorine rocks
	Permian System. Upper Chichatkinskaya suite		Contact hornstones
	Late Jurassic. Third phase: Lamprophyre dykes		Tectonic rocks. Fragmented, brecciated, cataclasite, sheared rocks.
	Late Jurassic. Second phase: granodiorite-porphyry dykes		Shale quartz feldspar metasomatites
	Early Triassic. Sub-alkaline granites, granosyenites, quartz syenites		Veinlets of quartz rock, pyrite-impregnated rock
	Early Triassic. Desovskiy complex. Hydrothermally altered explosive breccias of rhyolites. Sub-vulcanic formations granite-porphyry dykes, granodiorite porphyry dykes, grano-syenite porphyry dykes		Quartz veins, quartz veins with mylonites, quartz veins with schist
	Proterozoic intrusive and metasomatic formations. Pozdnestanovoy complex nonfragmented. Granodiorites, granosyenites, and quartz syenites, subalkaline granites, gneiss granites and granodiorites		
	Achaean intrusive and metasomatic formations. Kengurakskie metagabbro		
	Achaean intrusive and metasomatic formations. Mogochinskaya metamorphic series		
	Tuffogenic conglomerates and gravelites		
	Intrusive rocks		

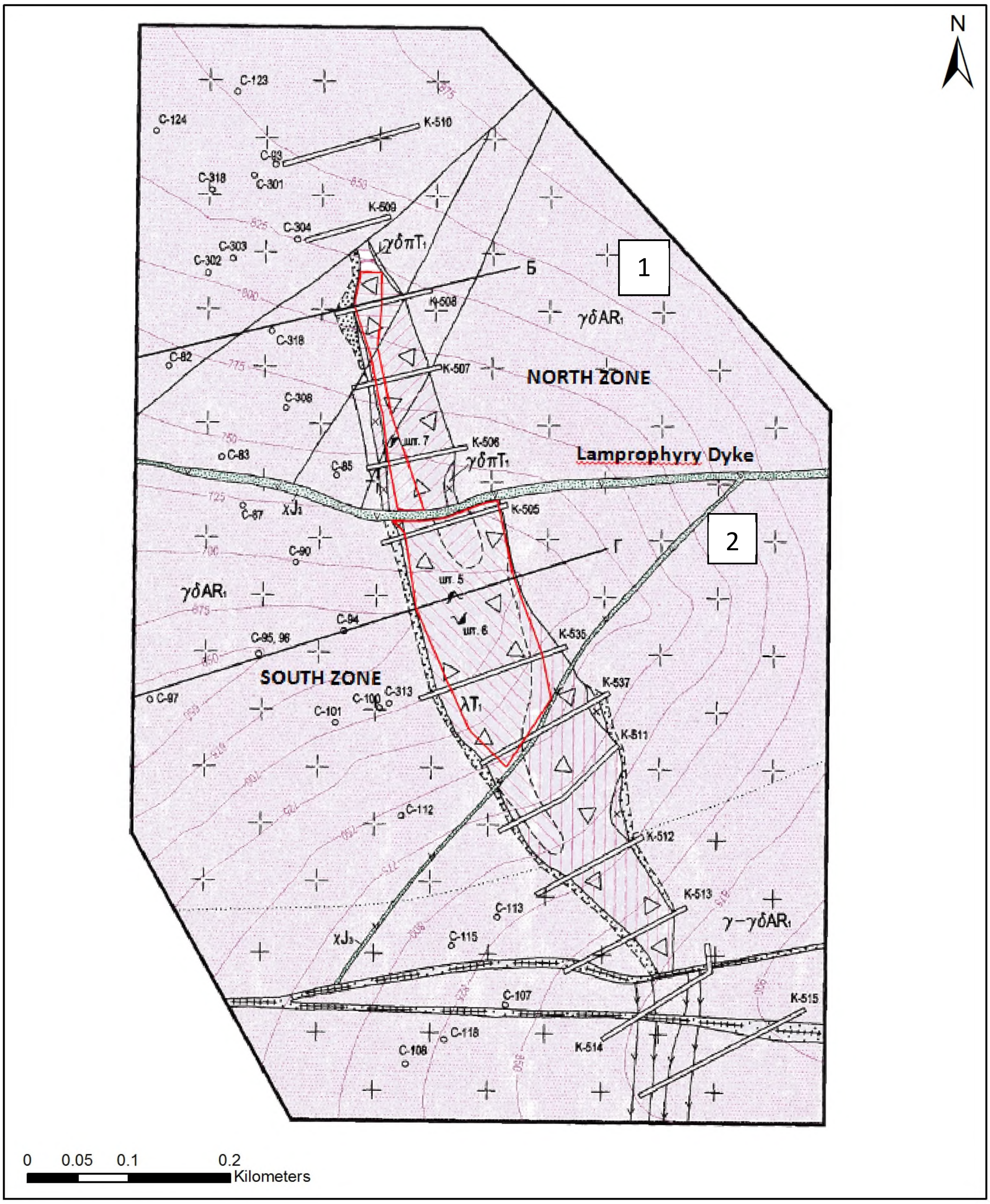


Figure 7.5: Geological Plan of the Main Ore Zone at Berezitovy

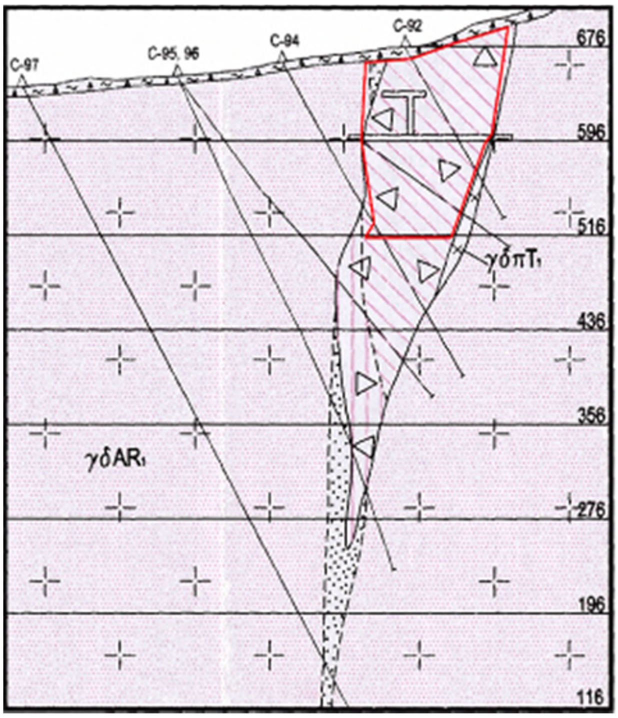


Figure 7.6: Typical Cross Section through South Zone (Section 1)

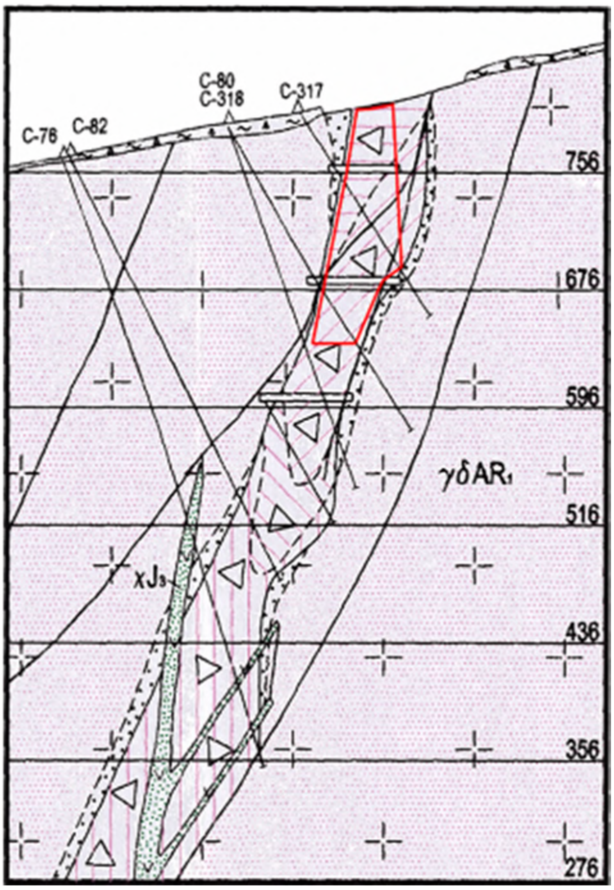


Figure 7.7: Typical Cross Section through North Zone (Section 2)

Legend for Figure 7.5 - Figure 7.7			
	Quaternary deluvial sediments. gravel, clay		Garnet--sericite-quartz-potassium
χJ3	Microdiorite and lamprophyry dykes,		Hydrothermally altered granodiorites
λT1	Lense-shaped hydrothermally altered explosive breccias	1 2	Boundaries of intrusive phase and metasomatite lithological boundaries
γδπT1	Hydrothermally altered granodiorite-porphyry dykes, diorite dykes and their eruptive breccias		Tectonic faults
γ-γδAR1	Gneiss-granites and granodiorites		Quartz veins
γδAR1	Porphyry granodiorites	K-507	Trenches
	Metasomatic rocks. Garnet-quartz-sericite-chlorite granodiorites	C-90 C-92	Boreholes and their numbers
	Garnet-quartz-sericite metasomatic rocks		Ore body contours
	Garnet-sericite -quartz metasomatic rocks		

A major shear zone (Milonitovaya zone) has been identified running east to west through the central section of the open pit. The zone of myolinitisation is strongly sheared, contains pyrrhotite and pyrite with quartz veinlets; has a microfolded structure, together with hydroxides on clay joints. The structure is typically 6-12m wide and is known to carry elevated gold grades, up to 18.3g/t Au.

The contact between the granodiorite and the main metasomatic alteration zone in South Zone can clearly be identified in the open pit.

7.1.3 Structure

The property is bounded to the north by the east-northeast trending Severa (North) Sergachinski fault, to the south by the Yuzhna (South) Sergachinski fault, to the west by the north trending Khaiktinski fault and to the east by the similarly north trending Bolshe Ilichinski fault. The former east-northeast trending Sergachinski structures define a graben, whereas the latter set define an upthrust block.

7.2 Mineralisation

At Berezitovy, gold is associated with polymetallic sulphides and quartz-sericite (berezite) metasomatic alteration. Locally, tourmaline, garnet and epidote are also common. The overall outline of the mineralised zone is due to the juxtaposition of two inverted cone shaped structures (breccia pipes), which have provided channel ways to the hydrothermal fluids and the associated gold-polymetallic mineralisation. The presence of shard fragments in the breccia may also indicate volcanic activity predating the mineralisation. The breccia contains fragments of diorite material within a groundmass of very fine-grained granitic and gneissic material.

Gold mineralisation, commonly in the range of 0.5-15g/t Au, is present in various facies of brecciated zones with disseminated sulphides and in silicified rocks. Sulphide mineralisation consists predominantly of pyrite, sphalerite and galena. Gold is commonly present in solid solution with silver as electrum.

Metal zoning is present within the deposit with:

- A pyritic zone in the southern extremity of the deposit;
- A polymetallic zone in the central part of the deposit;
- A sphalerite-rich zone in the west-central part of the deposit; and
- A galena-rich zone in the western part of the deposit.

Mineralogical studies (on diamond drill core) have shown that there is very little visible and mineralogical difference in mineralised material collected from the different zones.

High grade portions of mineralisation (greater than 10g/t Au) are uncommon and are present within narrow zones of limited strike extent, commonly 20-80m long and 2-10m wide. Observations based on the surface and underground geological mapping and sampling suggest the following:

- The South Zone resource mineralisation has significantly higher average gold and lead grades and similar average silver and zinc grades when compared to the North Zone;

- The South and North zones are separated by a late post-mineralisation diorite dyke; which has likely intruded a pre-existing cross-fault. Other cross-faults that dip steeply to the northwest appear to terminate the extremities of the North and South Zones. A number of other cross-faults have been intersected underground, particularly in the North Zone. It is probable that some cross-faults have displaced the mineralisation vertically;
- There are more cross-cutting andesite dykes in the South Zone, particularly in the area immediately south of the main diorite dyke;
- Higher gold assays occur along some andesite dyke contacts and this may be due to localized post-mineralisation remobilisation;
- Higher grade gold mineralisation is commonly associated with sulphides; and
- Higher grade gold mineralisation is generally associated with the two “roots” in the southern and northern parts of the deposit. The South Zone root occurs at approximately 950N to 1,000N and the North Zone root is centred at approximately 1,350N. Higher gold, silver, zinc and lead values are centred on these roots and the metal values tend to decrease, progressively, away from these roots which may represent the main fluid conduits. The North Zone root has less lead metal than the South Zone root.

8 DEPOSIT TYPE

Gold mineralization in and around the Berezitovy property is related to explosive breccia within granitic gneisses. At the Berezitovy Deposit, this is present within a north-northwest trending and steeply southwest dipping zone of brecciated and hydrothermally altered granodiorite. This zone, and several other zones of similar orientation in the general area, may represent regional scale tension gashes developed between the east-northeast trending Severa and Yuzhna Sergachinski faults. The uplifted block, which contains the gold mineralized zones, is in contact with younger sedimentary rocks on either side. Several granitic dikes are parallel to the regional trend and are mineralized close to the main zone.

Exploration work completed to date, by the AGE and by Khaikta, indicates that the Berezitovy property is situated in a geological environment amenable to mesothermal gold deposits. The geological model is gold mineralization associated with metasomatic alteration and quartz flooding in granitic and granodioritic rocks. Observations on underground surface exposures, drill core and mineralogical studies suggest that the near surface oxidation zone is very shallow (5-7 metres deep) and mineralization is predominantly sulphide.

A set of east trending andesite porphyry and lamprophyre dykes cut the deposit and are generally not mineralized. Higher gold values, however, commonly occur along the dyke contacts and some gold mineralization occurs within the dykes. A post mineral diorite dyke separates the deposit into two parts; a northern area containing the North Zone and a southern one containing the Central and South Zones. All mineralization south of this dyke is referred to as the South Zone (or Zone 1) and all of the mineralization north of this dyke as the North Zone (or Zone 2). The main diorite dyke is 5 to 10 metres wide, trends eastnortheast and dips steeply to the northwest.

9 EXPLORATION

9.1 Introduction

There are two principal licence areas within exploration area. These are the exploitation licence around and including the Berezitovy deposit (valid until 01 August 2017), and the Sergachinskaya exploration and mining licence encompassing the six satellite licences which is valid from 04 July 2007 to 25 May 2032.

9.2 Exploration at Berezitovy Deposit

9.2.1 Exploration by HRG (2002-2003)

Under the control of HRG, it was deemed prudent to carry out a programme of further infill diamond drilling and underground sampling. As operator of the project, OAO Buryatzoloto completed underground sampling in cross-cuts off Adit No. 5 for metallurgical tests and a 25-hole infill surface diamond drilling programme totalling 4,644m.

In 2002-2003, Buryatzoloto carried out a surface angled infill diamond drilling programme on a 20 x 20m grid in the southern and central parts of the deposit (Zone 1), and on a 40 x 40m grid in the northern part of the deposit (Zone 2). Buryatzoloto also continued to collect channel samples from trenches and underground workings along with core samples from the infill drilling programme. Samples were fire assayed for gold and silver and tested by chemical analysis for zinc and lead content. In addition Buryatzoloto continued to perform density determinations and investigate tonnage factors, moisture content, friability factors, and hardness of ore.

9.2.2 Exploration by HRG (2010)

In 2010, additional to the historical drilling 10,879.9m in 34 holes were completed. Down hole Gamma logging was conducted over 4830.4 m with a total of 7518m of samples taken for assay. Details of drilling work pertaining to the development and input to mineral estimations undertaken as part of this study are described in Section 10 and 14.

9.2.3 Exploration Areas within the Berezitovy Deposit

Geologic evidence suggests that the Berezitovy orebody extends to the south through the Trubny structure and down to Beregovaya and Yuzhnaya (these latter collectively known as Orogzhan (Figure 9.1). The Flangovaya prospect may also be part of this extension, although at the present time, waste dumps cover much of the occurrence and therefore it is not considered further here.

Figure 9.1: Geology and Location of the Berezitovy Satellites

9.2.3.1 Orogzhan

Although the subject of a legal dispute, it is worth briefly discussing the Orogzhan project, as the proximity to the mine (within 2km) make it of strategic importance should ore grade mineralisation be delineated. Orogzhan comprises two occurrences, namely Beregovaya and Yuznaya.

In outcrop, a sequence of gabbros and micro-gabbros are seen hosting a series of dominantly E-W trending tectonic structures which vary in width from a few centimetres to several metres. Pyritised mylonitic zones are also seen.

Historically, previous work had concentrated on trying to identify other “Berezitovy-type” structures with N-S trend, thus the trenching was orientated E-W and drilling orientated eastwards at approximately 60°. As a result, historic exploration results may be misleading.

There are number of northerly dipping E-W trending tectonic structures in outcrop at Orogzhan.

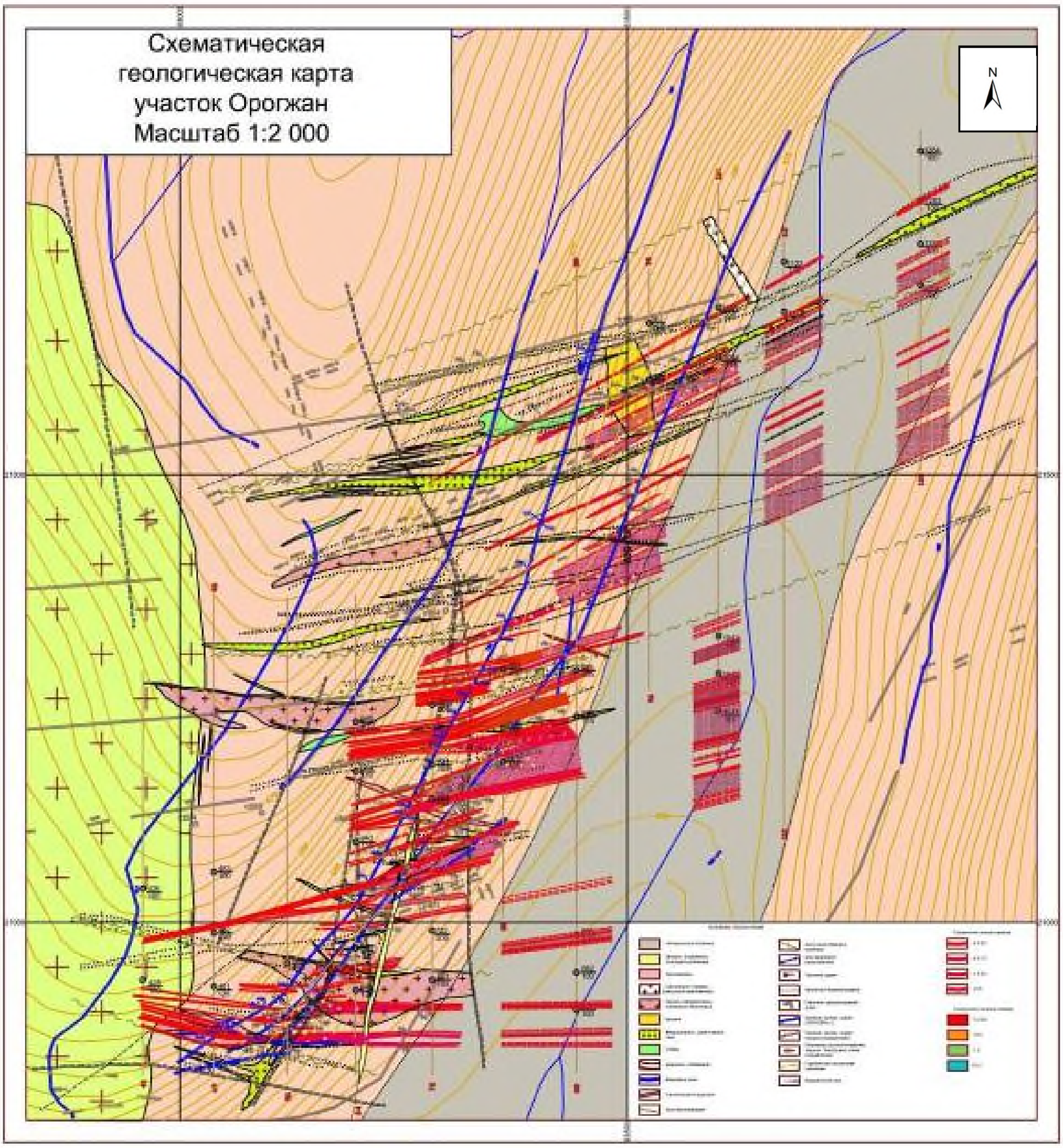


Figure 9.2: Orogzhan Mineralised Zones

Prior to the legal dispute over the licence, the Company had prepared drill sites to test the extent of the mineralisation.

9.2.3.2 Trubnaya

This N-S trending prospect lies between Berezitovy mine and Orogzhan and structurally appears to connect the two.

Trenching and limited drilling have produced some interesting grade and thickness intervals including 6m @ 2.65g/t Au, but at the present time, this site is only of moderate prospectivity.

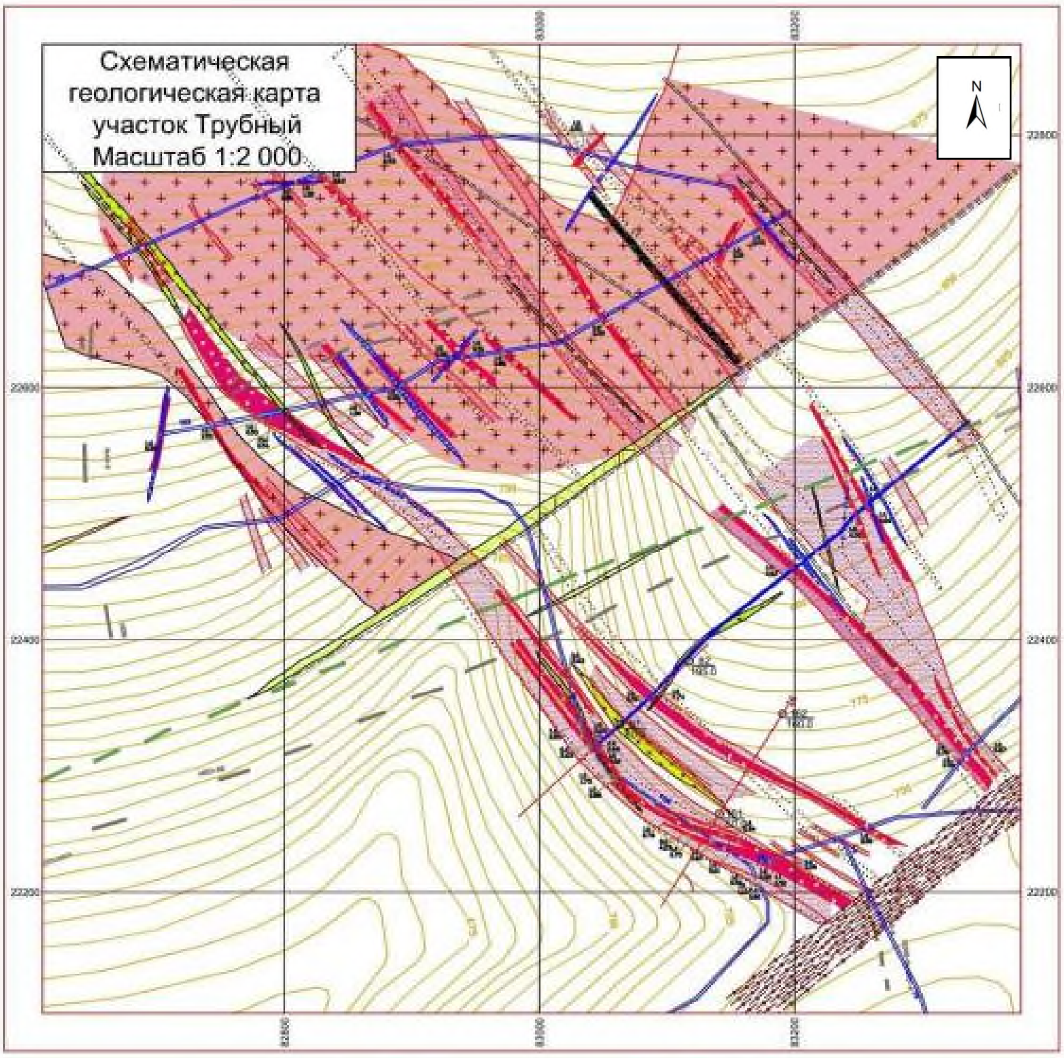


Figure 9.3: Mineralisation & Structure at Trubnaya

9.3 Exploration at Sergachinskaya

Sergachinskaya exploration and mining licence encompassing the six satellite licences (see Figure 9.4 below) which is valid from 04 July 2007 to 25 May 2032 which are:

- Perevalniy (Solnechniy);
- Kolbachi (Quartseviy);
- Pravoberezhnoye;

- Videnovski (Videnosovskiy);
- Koloktikan; and
- Lazarevskii.

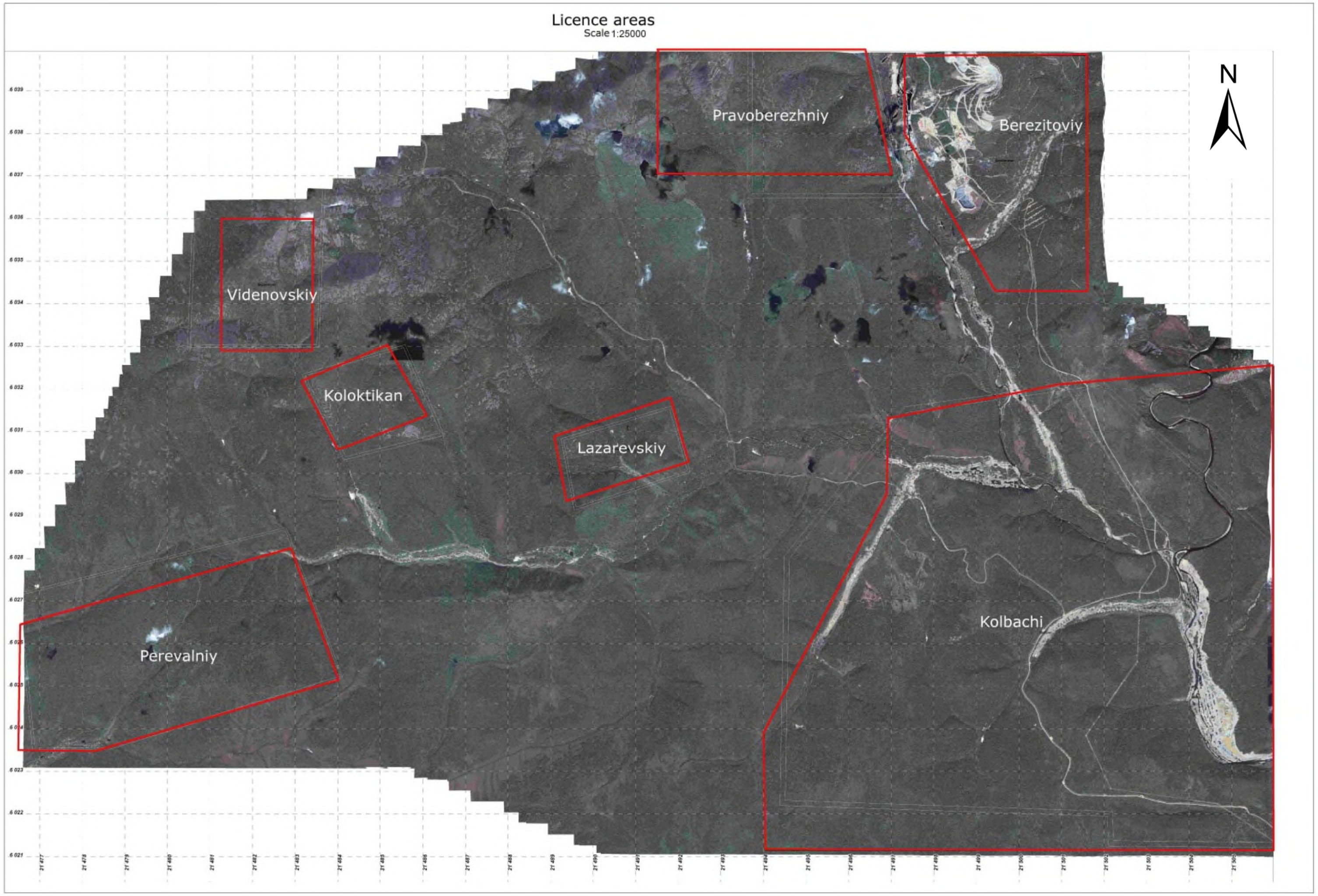


Figure 9.4: Location of the Six Blocks within the Sergachinskaya Exploration Licence

A summary of exploration works conducted during 2010 within the Sergachinskaya Licence are given in Table 9.1 below.

Table 9.1: Summary of Exploration within the Sergachinskaya Licence (2010)		
Type of Work	**Unit**	**Totals**
Perevalniy		
Trenching	m^3	16,100
	m	0
Trench Logging	m	1,119.6
Assays Sent for Analysis	No.	1,341
Assays Received		0
Kolbachi		
Drilling	m	121
	No.	1
Logging	m	121
Road Building	m	2,900
Samples Sent for Analysis	No.	261
Assays Received		0
Pravoberzhnoye		
Drilling	m	728
	No.	2
DTH Survey	m	728
Gamma Logging	m	728
Road Building	m	28,500
Preparation of Drilling Sites	m^3	150
	No.	2
Samples Sent for Analysis	No.	22
Assays Received	No.	0

All sample preparation and assay work on core, trench, chip and point samples was conducted at ALS in Chita using by ICP-22 for gold and ICP-61 for a multi-element suite.

A brief description of the works conducted by Berezitovy on these blocks to date is given in the sections below.

9.3.1 Perevalniy

The Perevalniy licence which occupies some 24.5km^2 lies some 20km to the southwest of Berezitovy, although the dirt road route is almost double this distance and can be accessed in around two hours from the mine.

Knowledge of gold occurrences within the Perevalniy area has been in existence for many years, primarily through extraction of placer gold from the adjacent river valleys. However, recent discoveries in the bed of rivers subject to placer mining have provided further interest in the area.

9.3.1.1 Geology

The geology of the area comprises broadly metagabbro-anorthosite and granitised metagabbros of Archean age to the north, trachyandesite and trachyrhyolites in the central part and porphyritic quartz-syenites and granite-syenites to the south.

The area is also cut by numerous dykes of various composition (but often granitic) and a strong northeast-southwest structural fabric. The dykes are believed to be Jurassic in age and are thought to have an important role in the mineralisation process.

9.3.1.2 Exploration Works 2007- 2009

A major soil geochemical exploration programme was undertaken in 2007-2008 which comprised samples taken over a 100m x 20m grid and analysed for multi-elements by atomic emission spectrometry.

The results of this work defined two main clusters of mineralisation. The western part of the area is dominated by a Cu, Mo, W, Ag signature, whilst a Au, As, Pb, Bi anomaly lies to the south and further eastwards.

In 2009, a major trenching programme, with core drilling, was undertaken to ground truth the gold soil anomalies.

In addition, channel sampling and trenching have also been undertaken at the northeast corner of the licence area where sulphide-gold mineralisation has been uncovered in the bed of a stream subject to placer mining. The small outcrop uncovered at the northeast extremity of the licence area has been extensively channel sampled and two 100m drill holes undertaken.

The channel samples have been cut with a diamond saw to ensure a uniform sample weight and precision cut.

The andesites exposed at surface are cut by a porphyry dyke, where sulphide rich mineralisation (predominantly pyrite) with a grade of nearly 8g/t Au over 60cm is seen. The andesites themselves are also mineralised.

The trenching programme completed five trenches, being excavated by bulldozer and channel sampled along their base. Trenches were aligned approximately N-S and spaced 320m apart,

Investigation of Trench 7, the most easterly, showed an abundance of syenite porphyry. Assay results from the trench are spotty, but gold mineralisation does appear to be related to the dykes as well as other tectonic features and alteration zones

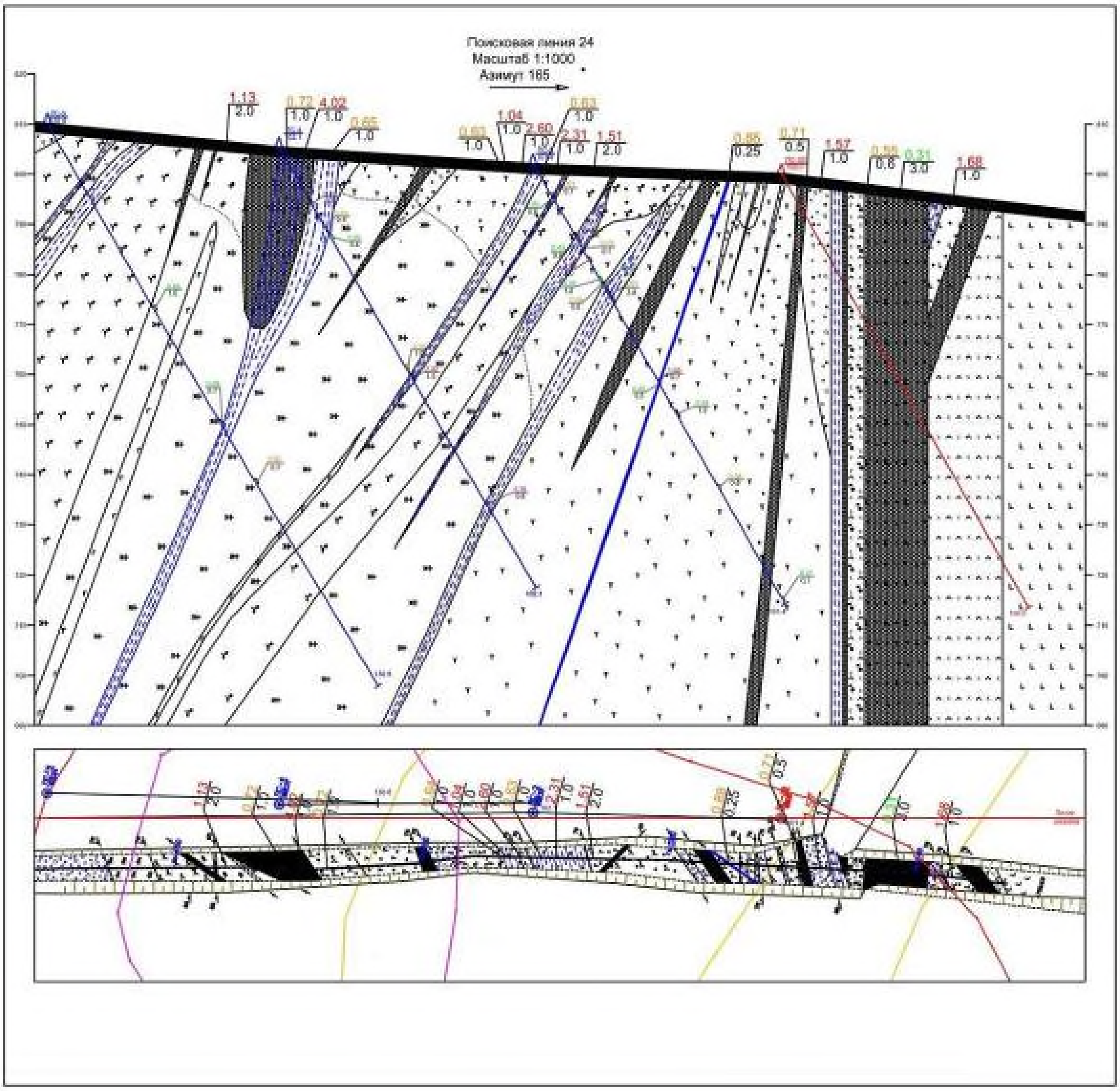


Figure 9.5: Section and Plan of Trench 7

A total of 36 holes were drilled in 2009, totalling 3,774.9m. Holes were drilled to depths of either 50 or 100m, inclined at 60° on an azimuth of 165° along 8 profiles.

A summary of the most significant intersections from the 2009 programme is given in Table 9.2 below.

Table 9.2: Summary of Drilling Intersections – Perevalniy (2009)

Hole No.	Interval From (m)	Interval To (m)	Thickness (m)	Gold Assay (g/t Au)
BH-1	3.5	4.0	0.5	5.04
	34.7	35.5	0.8	0.58
	96.2	97.0	0.8	3.42
BH-2	21.3	22.3	1.0	0.83
	108.7	109.3	0.6	1.99
	109.3	110.4	1.4	0.65
BH-3	7.0	7.7	0.7	0.61
	16.9	17.7	0.8	0.53
	19.3	20.0	0.7	0.70
	21.7	22.7	1.0	2.38
	27.2	32.3	5.1	0.57
	49.8	50.5	0.7	1.55
	74.2	75.0	0.8	0.58
BH-4	13.0	13.7	0.7	0.76
	20.1	20.5	0.4	0.70
	50.7	51.7	1.0	0.76
	52.7	54.2	0.5	2.76
	82.4	83.2	0.8	5.38
BH-5	82.7	83.4	0.7	0.92
BH-6	17.6	20.6	3.00	2.50
	25.6	26.6	1.00	0.54
	38.6	39.2	0.60	0.54
	42.2	43.0	0.80	0.59
	51.6	52.6	1.00	1.01
	63.5	64.5	1.00	0.81
	79.5	80.5	1.00	1.55
	80.5	81.5	1.00	0.71
	89.1	90.0	0.90	0.85
BH ПС-7	2.9	4.0	1.1	1.70
BH-8	36.2	37.0	0.8	1.13
	104.4	105.2	0.8	0.52
	111.6	112.6	1.0	0.51
	113.0	118.3	5.3	1.85
	132.2	132.8	0.6	0.96
	141.2	142.3	1.1	1.65
	151.6	152.5	0.9	0.51
BH-9	24.8	30.1	5.3	4.56
	42.2	42.5	0.3	1.23
	51.1	51.8	0.7	0.52
	52.7	53.7	1.0	1.38
BH-10	25.0	25.8	0.8	0.51
	40.3	41.0	0.7	0.83
	56.3	56.7	0.4	100.00

	56.7	57.1	0.4	0.65
	58.1	58.4	0.3	0.75
BH-11	137.6	138.5	0.9	0.50
BH-12	69.7	70.3	0.6	0.57
BH-13	45.7	48.0	2.3	0.61
	58.8	59.5	0.7	0.61
BH-14	40.5	40.8	0.3	0.54
	50.6	51.6	1.0	0.54
	60.0	60.8	0.8	1.49
BH-16	42.2	43.0	0.8	0.57
BH-17	4.7	5.3	0.6	1.17
	14.7	15.7	1.0	0.99
	1	2	3	4
	47.8	48.6	0.8	7.59
	68.4	69.1	0.7	0.84
	75.1	76.0	0.9	2.02
BH-18	5.7	6.7	1.0	1.09
	74.0	74.8	0.8	2.03
	83.0	83.6	0.6	0.86
	87.0	87.7	0.7	1.02
BH-19	48.7	49.4	0.7	1.52
	77.5	78.3	0.8	0.50
	116.4	117.4	1.0	0.88
	130.2	131.0	0.8	0.66
BH-20	23.2	23.9	0.7	1.48
	25.3	26.3	1.0	0.70
	36.9	37.6	0.7	1.20
	60.0	60.7	0.7	0.75
BH-21	18.1	18.9	0.8	0.67
	79.3	86.3	7.0	2.53
BH-22	18.0	19.0	1.0	2.10
BH-23	47.4	48.4	1.0	3.71
	48.4	48.9	0.5	0.51
BH-24	11.9	12.9	1.0	1.55
	12.9	14.6	1.7	0.67
	34.0	34.6	0.6	1.18
BH-25	17.3	17.9	0.6	0.53
	21.5	22.2	0.7	1.60
BH-26	12.7	14.9	2.2	0.58
	44.6	45.3	0.7	0.58
BH-27	83.5	84.5	1.0	1.00
	84.5	85.5	1.0	0.63
	99.2	99.9	0.7	0.55
	99.9	100.6	0.7	1.24
BH-29	162.0	162.8	0.8	0.60
BH-34	10.70	11.80	1.10	0.68
	37.0	38.30	1.30	4.40

	40.30	41.20	0.90	0.94
BH-36	166.90	167.50	0.60	0.52

Borehole No. 22 was drilled by Buryatzoloto Drilling Company from Ulan-Ude using a wireline modified Zif-650 drill rig producing 63mm core. The hole is located some 100m east of Trench 5.

An examination of the core showed a large thickness of porphyry with dolerite at the base. However, some areas of intense fracturing have caused considerable weathering, even at 60-70m depth.

Overall, the drilling appeared to have been undertaken in a proficient manner, and the core was stored in well kept core boxes, properly labelled with wooden marker chocks. Recovery appeared high, except for some fracture zones, where a high clay content and/or large numbers of fractures, have reduced this.

Towards the north end of Trench 4, a small outcrop of stockwork mineralisation within a porphyritic body showed visible molybdenite. Quartz veins have two principal directions of N-S and E-W.

9.3.1.3 Exploration Works (2010)

Only trenching was continued through 2009-2010 on the west part of Perevalniy with some promising results. A total of 15 trenches were excavated totalling 4,844.0m (84,411.0m^3).

In the central SW part of the licence, NNE-SSW trending structures containing sulphide mineralisation have been intersected by Trench 5, hosted in a crush zone within granite-syenite porphyry. The best intersection yielded 3.79g/t Au over a width of 6.0m. Two further trenches were excavated a further 105m to the NE (Trench 11) and 70.0m to the SW (Trench 10) along the structure, with a low grade intersection of 2.10m at 1.2g/t Au in Trench 10. The results from Trench 11 were inconsistent showing strong zones of alteration in grano-syenites, but with low grades (4.0m at 1.66g/t Au). Ore mineralisation is represented by interspersed sulphides of pyrite and arsenopyrite. Gold mineralisation appears to be confined to thin quartz veins.

To the south of this ore zone, Trenches 5 and 11 crossed a linear ore body, represented by a zone of crushing and cataclasis of a syenite-porphyry. Quartz veins occur within breccia. Gold bearing intersections included 1.0m a grade of 5.23g/t in Trench 5 and 3.0m at a grade of 6.14g/t Au in Trench 11.

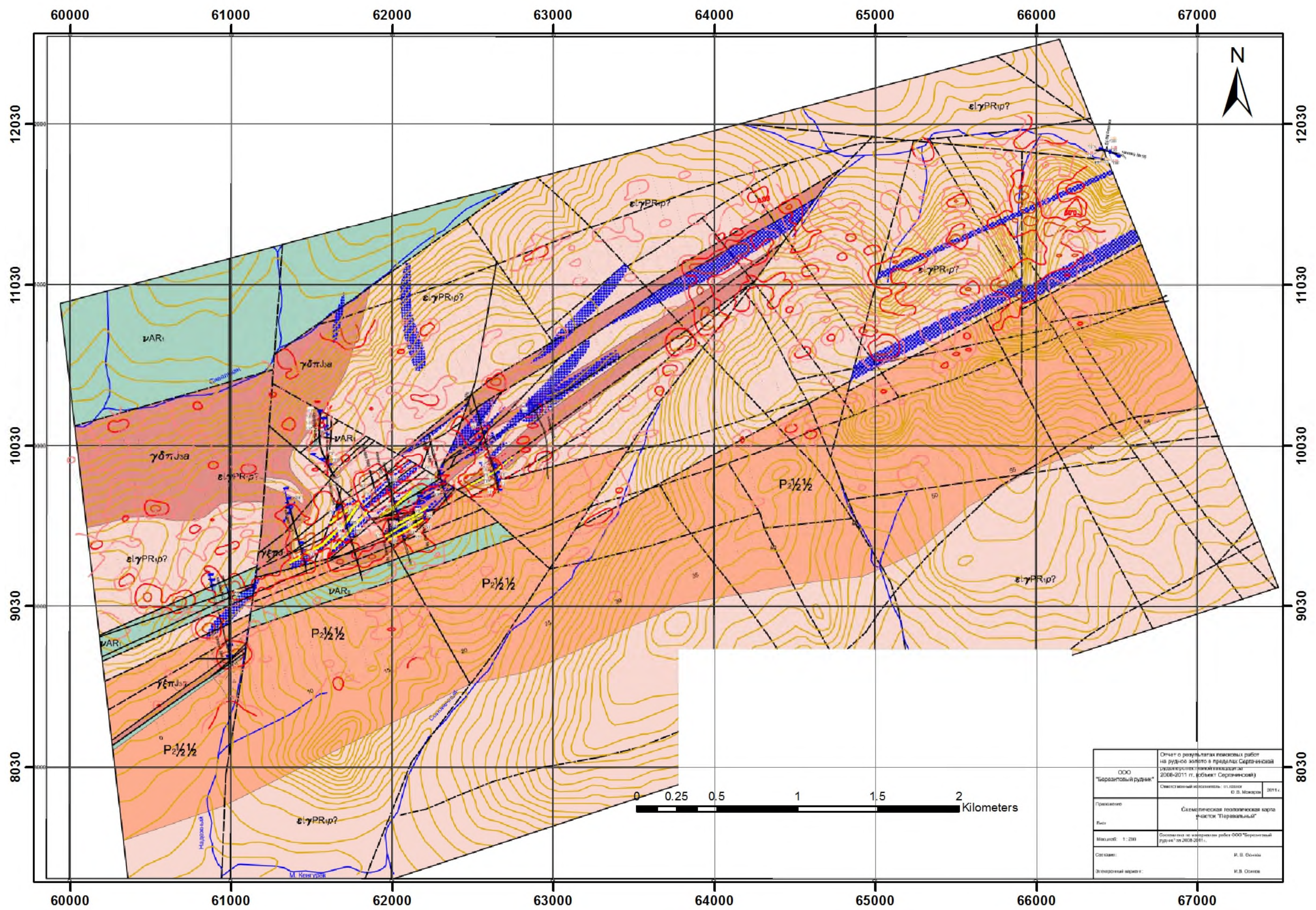


Figure 9.6: Geology of the Perevalniy Licence showing Location of Mineralised Zones

Legend for Figure 9.6 above	
γξπ3J3	Amudzhikanskiy complex (J3). Small bodies and dykes of granite-porphyry, granosienite-porphyrs, granodiorite-porphyry
P2½½	Andesites, trachidacites, rhyo-dacites, rhyolites and their tuffs
εlγPR1ρ?	Alkaline potassic granites, grano-syenites, syenites, leucogranites, granodiorite, quartz diorites, monozites
νAR1	Gabbro, diabase, gabbro-diabase
mt	Hydrothermally altered rocks, quartz-sericite metasomatic feldspar, often with veins of quartz, strongly piritizirovannye, rarely chalcopyrite, pyrrhotite, galena, sphalerite, molybdenite, wolframite (scheelite)
	Zone of intense silicification with pyritisation
	boundaries of potential ore zones
	Zones of crushing, cataclasis, intense fracturing, disintegration of rocks
	Faults
	Bedding dip and dip direction
а б 70 60	Bedding elements: a) contacts, b) - fracturing
ПС-4 / 805.47	2009 BHs: in the numerator – BHID, in the denominator – level mark
	Trenches done in 2009-2010
3.79 / 6.00	Assay results: in the numerator – Au grade g/t, in the denominator – thickness, m
	Au 0.4-0.69g/t
	Au 0.7-1.9 g/t
	> Au 2.0g/t
	Grade 0.01-0.029g/t Au
	Grade 0.03-0.099g/t Au
	Grade more than 0.1g/t Au

Three boreholes Nos.6, 7 and 8 were drilled along a profile over Trench 5 as shown in plan in Figure 9.7 and cross section in Figure 9.8 below.

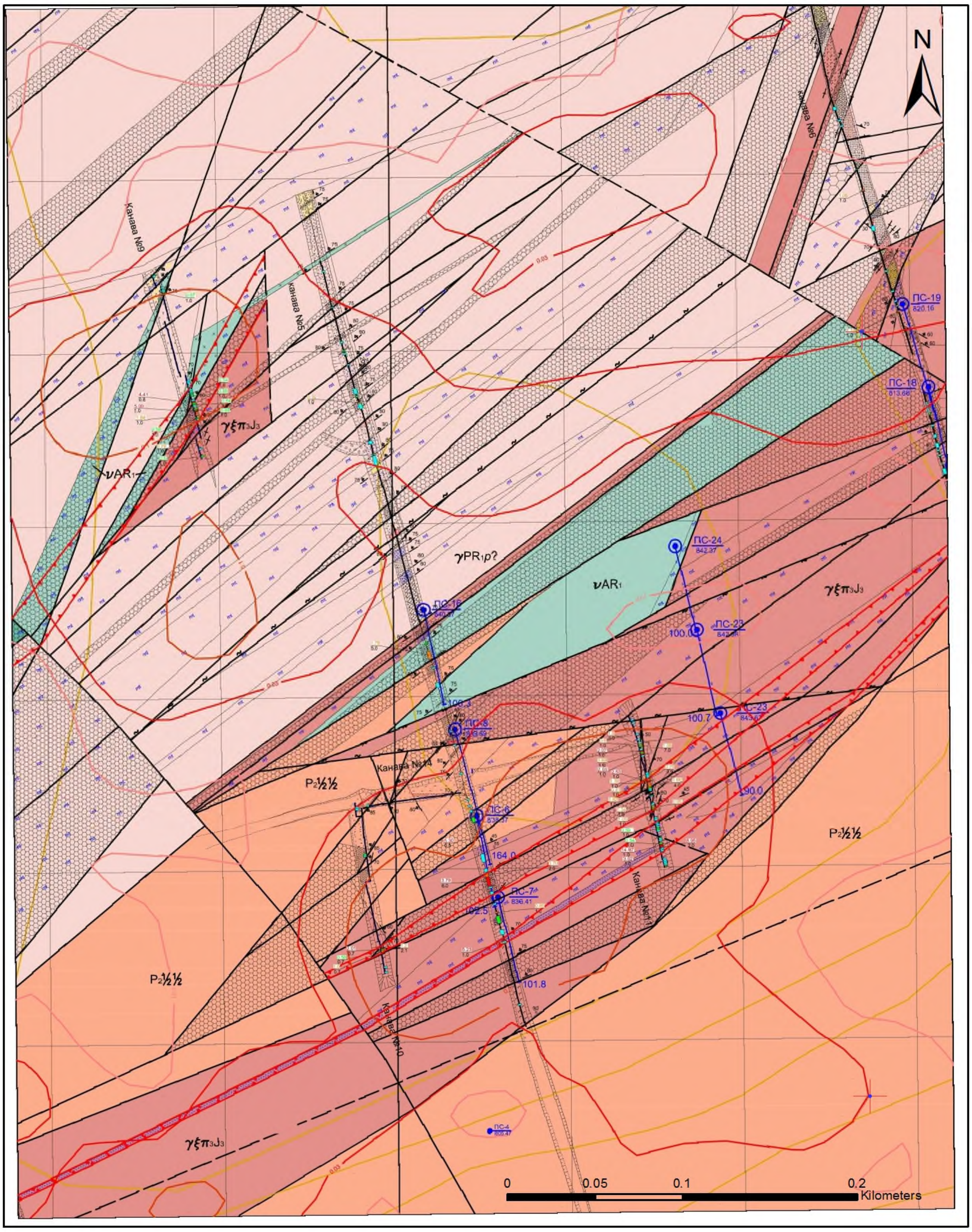


Figure 9.7: Location of Boreholes Nos. 6, 7 and 8 over Trench 5

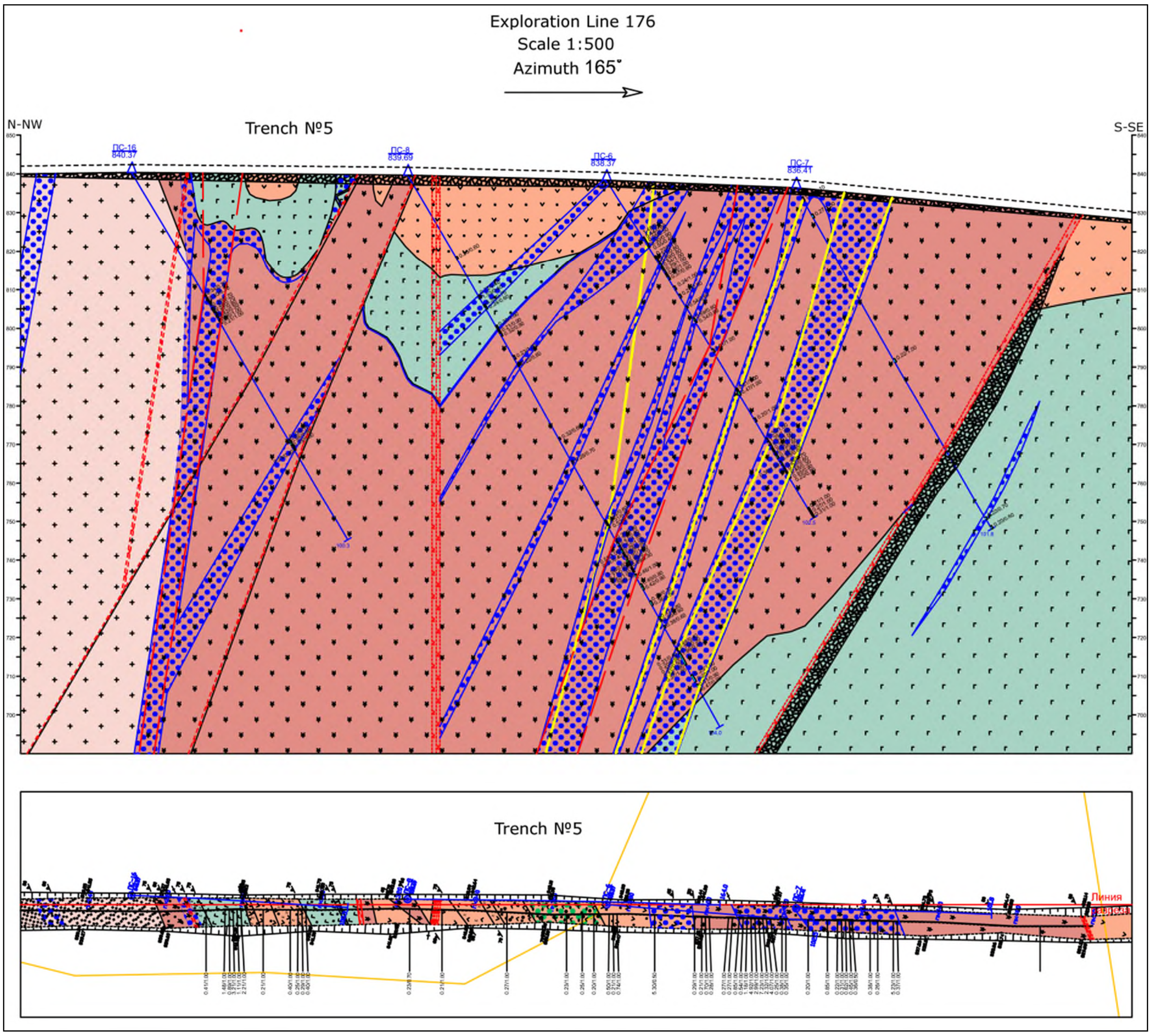


Figure 9.8: Cross Section through Trench 5

In summary exploration results to date indicate:

- The prospective area is located in South-Sergachinskiy fault zone, Tectonic faults are accompanied by thick disintegration and cataclasis zones;
- The zone contains metasomatic alteration, often localised in linear zones mostly with a NE-SW strike. In general, metasomatism is contained within all rock types;
- Geochemical halos are associated with zones of metasomatic alteration and tectonism; and
- Ore bearing mineralisation in general is connected with berezitised and silicified syenite-, granosyenite-porphyry and granite porphyry.

9.3.2 Kolbachi

The Kolbachi licence, which occupies some 105.7km^2, lies some 10km to the south of Berezitovy and has fairly good road access.

Initial prospecting took place in 1962, followed by geochemical work in 1984 which outlined a number of anomalies defining the licence boundary as seen today.

9.3.2.1 Geology

In general terms, the north half of the licence is composed of Archean gneiss with Jurassic age grano-monzonite in the northwest and Proterozoic granites in the south.

The southwest part of the area looks the most prospective with differentiated gneiss and granite having large silicified areas with pyrite. Jurassic dykes are also present in the area.

The first phase of geochemical sampling took place during 2008 on a grid of 100x200m, from which 6 poly-element anomalies were identified. The anomalies that were encountered did not appear to coincide with a historical phase of sampling and as a result, a further phase of check sampling has been conducted during 2011 (Figure 9.9).

The anomalies appear to have a NW strike, with the exception of anomaly #6 (NE strike). Multielement co-incident haloes have been identified including: Au, Ag, Cu, Zn, Pb, As, Mo and BI.

A single inclined borehole (TL-1100) was drilled during 2010 to a depth of 121.0m.

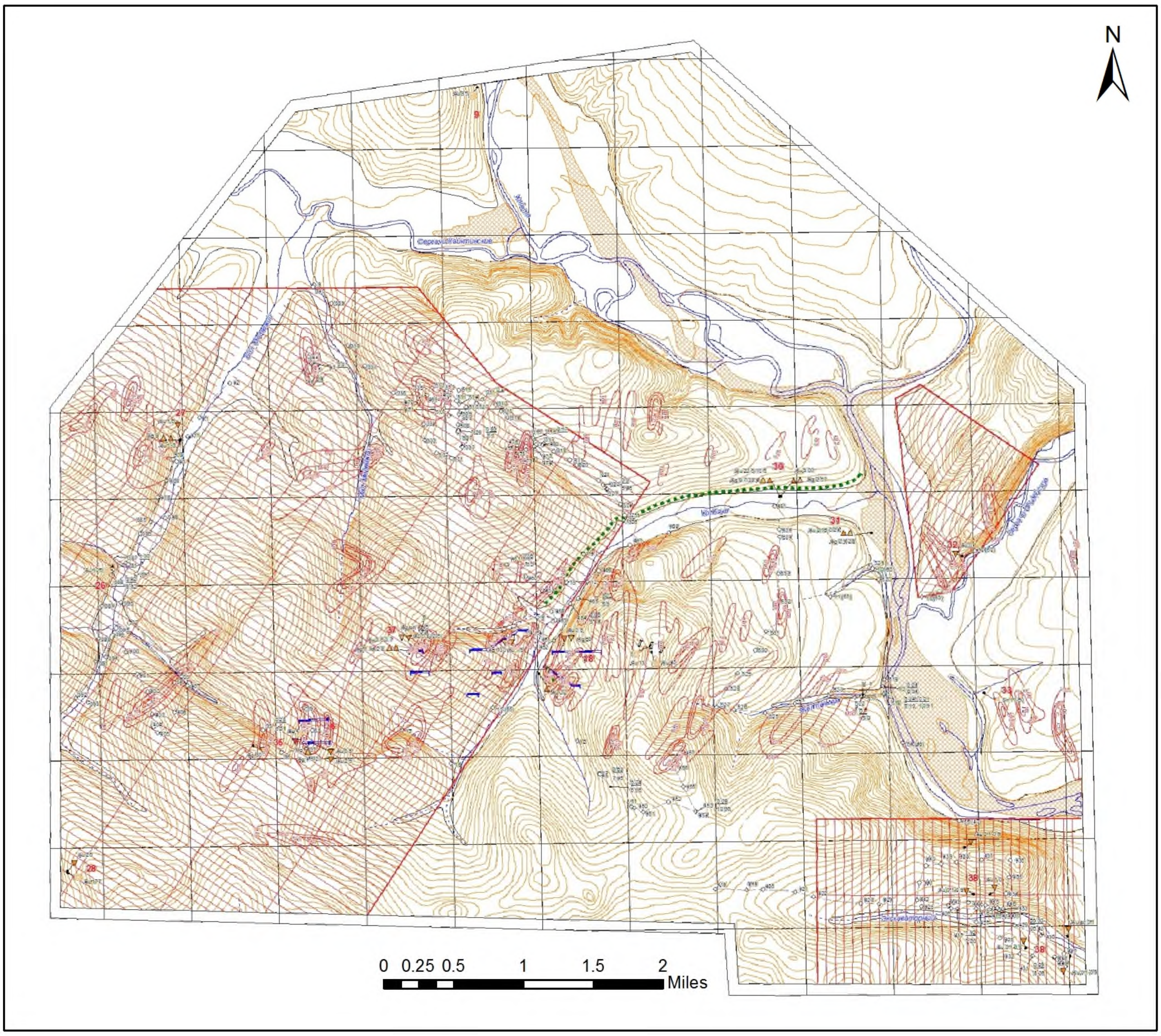
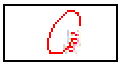
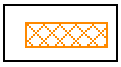
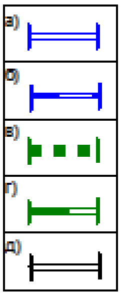
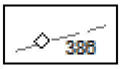
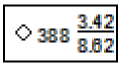
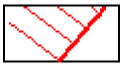


Figure 9.9: Location of Geochemical Sampling Grid and Soil Anomalies

Legend for Figure 9.9	
	Chip sampling results: a) spectrum analysis for Au in g/t, b) spectrum analysis for Ag in g/t, c) spectrum analysis Mb in %, d) mineralogical analysis - Au, number of characters, e) Au and Ag assay in g/t
	Au halos due to lithochemical sampling results, g/t
	Placer gold
	*Trenches*: a) 1984 b) 1984 c) 1987 d) 1984 e) 1962
	Geological Mapping routes and points of observations 2008
	Chip sampling results 2008. Point number, numerator – Au grade g/t, denominator – Ag grade g/t
	Detailed areas of exploration works, scale 1:10000

9.3.3 Pravoberezhnoye

This licence area (17.7km^2) lies immediately to the west of Berezitovy on the west side of the main valley and can be seen from accommodation camp. Many of the structures seen appear similar to those at the mine including a strong NE – structural trend, mylonites and relicts of Jurassic volcanic rocks.

In general terms, the area comprises Proterozoic gneisses with later Triassic granites. Within this framework, some disseminated sulphide areas have been defined with epidote and chlorite. In addition, areas of quartz veining and silicification have also been identified, all overprinting the older rocks. A hypothesis suggests that the volcanic rocks may be a cover over Berezitovy-style mineralisation.

Some historic geochemical and geophysical work has been undertaken and this work has been tested by the Company. This has included a trenching programme over defined anomalies, which has revealed grades up to 5.5g/t Au over an interval of 1.0m (Figure 9.10).

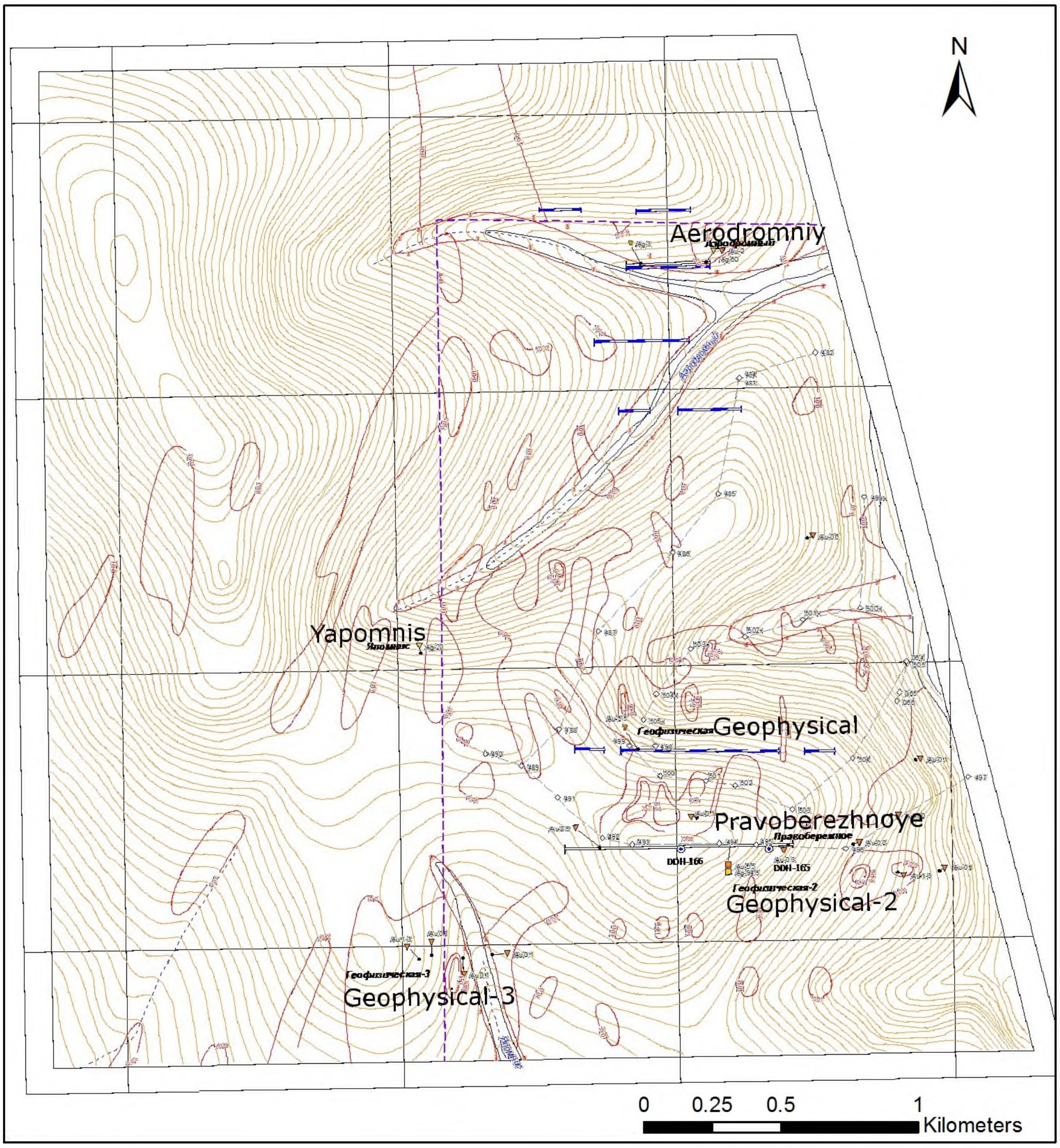


Figure 9.10: Location of Historical Trenches over Main Geophysical Anomalies

Two inclined boreholes (Holes 165 and 166) were drilled in 2010 totalling 728.0m over a promising anomaly at the Akininskoye ore occurrence; marked “Provoberezhnoye” in Figure 9.10 above. BH 166 was drilled to investigate the contact between Jurassic carbonaceous tuffs and Protoerozoic granite-gneiss. Grades ranged from 2.04m at 13.1g/t Au to 18.0m at 0.8g/t Au (Note: No top cutting applied).

As a result of this further geophysics has been conducted in 2011 on E-W orientated profiles to check the structural trend of this anomaly, which is thought to be N-S. Interpretation of the results is currently in progress (Figure 9.11). No drilling is planned for 2011.

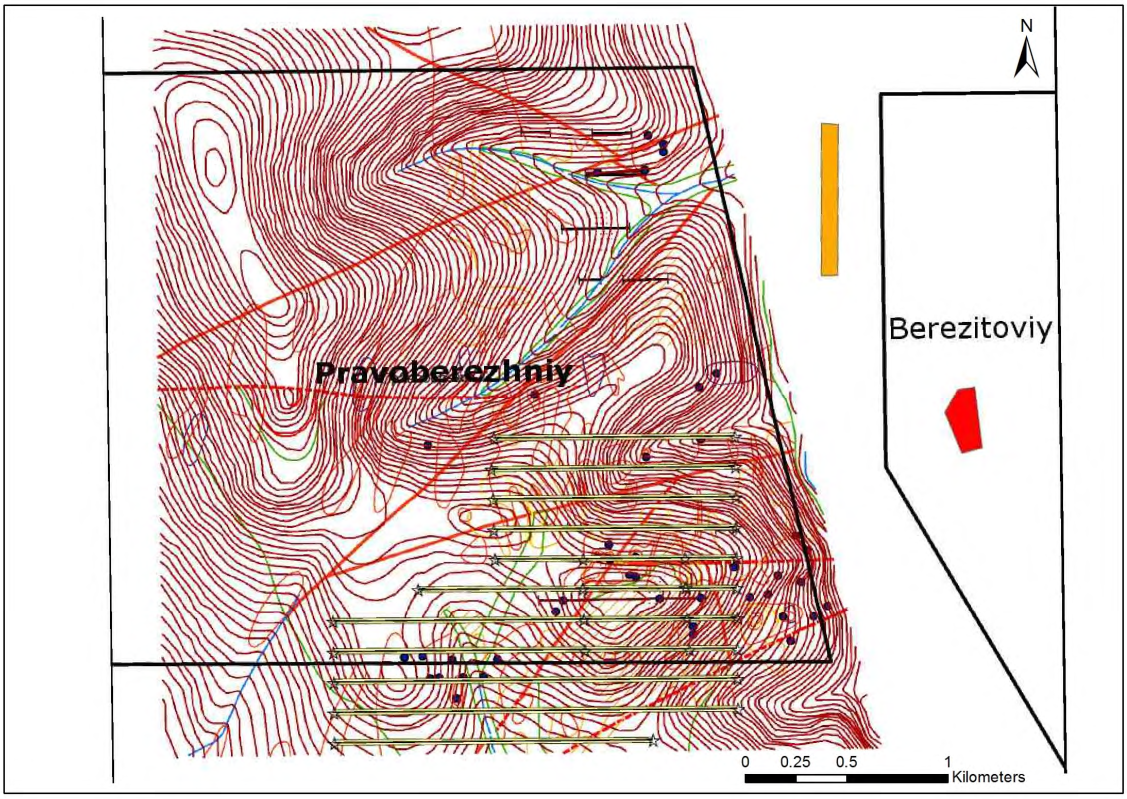


Figure 9.11: Location of New E-W Geophysical Profiles planned for 2011 (Marked in Green)

9.3.4 Videnovski

This small licence area in the northwest encompasses some 7km^2. The area is remote and to-date work has comprised reconnaissance mapping, grab sampling (which has given values up to 6.2g/t Au) and stream panning. Previous work on the licence has included geochemistry and limited trenching.

The area comprises Archean gabbro to the south, volcanic to the north and east, and Proterozoic granites and Jurassic monzonite/diorite to the northwest. Felsic volcanic (rhyolitic) domes are also encountered.

The targets in this area are alteration zones in younger rocks and vein-type mineralisation in gabbros (this latter type is less interesting). To date, only short (up to 150m) structures have been defined.

No recent works have been conducted here.

9.3.5 Koloktikan

This small licence (3.3km^2) in the west of the area has had limited trenching done in 1960, 1963 and 1984, which indicated some interest.

The Company has traversed the area on foot and a new work programme is planned, but has not been executed.

The area comprises Archean gabbros with Triassic rhyolites which includes a conical hill of pale, acidic rocks.

Mineralisation identified includes quartz veins in gabbros, up to 400m long, but only a few centimetres wide, although with average grades of 14g/t Au. The target is for wider, metasomatic zones around these veins, but as yet, no evidence for this style of mineralisation has been discovered.

No recent works have been conducted here.

9.3.6 Lazarevskii

This licence lies in the centre of the area and encompasses approximately 4.5km^2. Historically, the prospect was recommended for the potential identification of identifying beresitic alteration zones.

The terrain comprises granite-gneiss with some hornfels zones indicative of contact metamorphism. Gabbros are also present, some areas showing propylitic alteration with pyrrhotite. Alluvial gold deposits appear to coincide with these areas.

To test the geology, some IP and Resistivity has been done in the past, along with limited trenching and two drill profiles up to 350m depth. However, the results from this work were negative.

No recent works have been conducted here.

9.4 Exploration Program 2011

Exploratory work at Berezitovy was focussed as follows:

- Continued drilling on the Severnoye (North) ore body in a northerly direction up to boundary of the licence area between 810-630 horizons; and
- Tracing in a southerly direction of the Yuzhniy (South) ore body at deep horizons lower than the 480 horizon (800m long holes) and the 780-750 horizons outside of the current limits of the open pit.

Drilling was conducted at depth and on the flanks of the main deposit, this comprised of 7,860m in 22 holes over 14 profiles with holes to 800m, averaging 4-500m.

In addition works conducted by contractor JSC Amurgeologiya (at a cost of 206,732,104 roubles) included:

Geochemical Sampling

Geochemical sampling was conducted on a grid of 100x100m (10,800 samples – with 100 samples per 1km^2, including control samples (5% of total)) to cover almost all of the Sergichinskaya license area, with the exception of Perevalniy area, and part of Kolbachi. All samples were sent to ALS-Chita laboratory for analysis

Several promising geochemical anomalies have been discovered which include:

- The right bank of the Sergachi-Oldoiskie River (outfall area). Gold anomaly at the level of 0.01g/t Au. Maximal grade of 0.48g/t Au. Area of the anomaly is 0.39km^2;

- The left bank of the Excavatorniy stream (outfall area). Gold anomaly at above a level of 0.01g/t Au. Maximum grade of 0.15g/t Au. Area of the anomaly is 0.62km^2;
- The right bank of the Excavatorniy stream (outfall area). Gold anomaly at above a level of 0.01g/t Au. Maximum grade of 0.14g/t Au. Area of the anomaly is 0.57km^2;
- Anomaly of the left unnamed tributary of Khaikta River. Gold anomaly at above a level of 0.01g/t Au. Maximum grade of 1.13g/t Au. The anomaly encompasses 0.309km^2. It is possibly associated with alluvial terrace sediments of Khaikta River;
- Intersection of the Khaikta River with the Bolshoy Oldoy River. Gold anomaly grade above 0.01g/t Au. Maximum grade is 4.31g/t Au. Area is 0.228km^2. It is possibly associated with alluvial terrace sediments of Khaikta River;
- The right bank of the Khaikta River (at the intersection of the Kolbachi stream and Khaikta River). Gold anomaly grade above 0.01g/t Au. Maximum grade is 0.53g/t Au. Area is 0.275km^2. It is possibly associated with relict abrasion surface;
- Intersection of the Khaikta River and Maliy Medvezhiy stream. Gold anomaly grade above 0.01g/t Au. Maximum grade is 0.17g/t. Area is 0.741km^2. It is possibly associated with relict abrasion surface;
- The right bank of Bolshoy Medvezhiy stream. Gold anomaly grade above 0.01g/t Au. Maximum grade is 0.486g/t. Area is 0.252km^2;
- The upper reach of Kolbachi stream. Gold anomaly grade above 0.01g/t Au. Maximum grade is 1.16g/t Au. Area is 0.845km^2.; and
- The upper reach of Videnovskiy stream. Gold anomaly grade above 0.01g/t Au. Maximum grade is 0.74g/t Au. Area is 0.965km^2.

Surface Geophysics

Surface geophysical works included an electrical axial-dipole survey at 50m spacing and magnetic survey along the same profiles at 25m spacing. In some areas the electrical survey was infilled to 25m spacing. The total distance surveyed amounted to 27km. The survey works were conducted at two local sites: the right bank of the Pravoberezhniy - Anikinskoe occurrence (a previously discovered anomaly by Anikin 1981) and the upper reaches of the Kolbachi stream. The results of the surveys are as follows:

Anikinskoe Occurrence

The survey confirmed the presence of a blind anomaly. The geophysical data compared favourably with results of exploration drilling conducted in 2010 – boreholes 165, and 166, which intersected a zone of gold mineralisation approximately 30.6m wide with an average gold grade of 0.61g/t Au on the northern flank of geophysical anomaly. A similar anomaly with analogous parameters has also been identified in the northern part of the site.

The Upper Reaches of the Kolbachi Stream

The objective was to follow-up on a complex geochemical anomaly comprising secondary dissemination halos of Ag, Au, Pb, Zn). The anomaly was originally discovered in 2008.

The latest works confirmed the presence of geophysical anomaly that spatially coincides with complex geochemical anomaly along the secondary dissemination halos. Preliminary results indicate a possible localisation of low-grade gold-sulphide mineralisation in the zone of a postulated tectonic fault striking north-west.

9.5 Exploration Proposal for 2012

The total proposed exploration budget for 2012 is 137M RUB.

The proposed program of works includes:

- Drilling – 10,500m;
- Geochemical sampling -3,000 samples;
- Trenching – 55,000m^3; and
- Surface geophysics (electrical dipole and magnetic survey) – 100km.

10 DRILLING

10.1 Open Pit Infill Drilling

Additional drilling was completed in and around the current open pit during 2010 (using Longyear LM90 drill rigs with inhole wireline equipment) amounting to 10,879.9m in 34 holes (of which 23 were exploration holes and 11 were twin drill holes to check quality of in-pit grade control data). The majority of the holes were drilled with NQ wireline, but beyond depths of 4-500m holes were drilled in NQ size. In hole Gamma logging was conducted over 4,830.4m with a total of 7,518m of samples taken for assay.

The holes were targeted at detailed mapping of multiple basic dykes which cut the mineralisation within the pit, and defining inferred extensions to mineralisation, both along strike to the North and South and at depth. Drilling including four holes drilled in excess of 800m.

Results have been encouraging with extensions (additional *Inferred* resources) at depth for both the north and south ore bodies. Additional resources may exist to south of the open pit, these were identified from the in-pit grade control drilling program. The company recognises that this is a target that requires follow-up drilling.

The work completed in and around the current open pit in 2010 is summarised in Table 10.1 below.

Table 10.1: Summary of Exploration Works Berezitovy Open Pit (2010)

Type of Work	Unit	Totals
Drilling	m	10,879.9
	No.	34
DTH Survey	m	10,764.8
Gamma Logging	m	4,839.4
Preparation of Drill Sites	m^3	5,566
	No.	22
Sawing/core	m	10,028.8
Assays Sent for Analysis		7,394
Assays Received		5,422

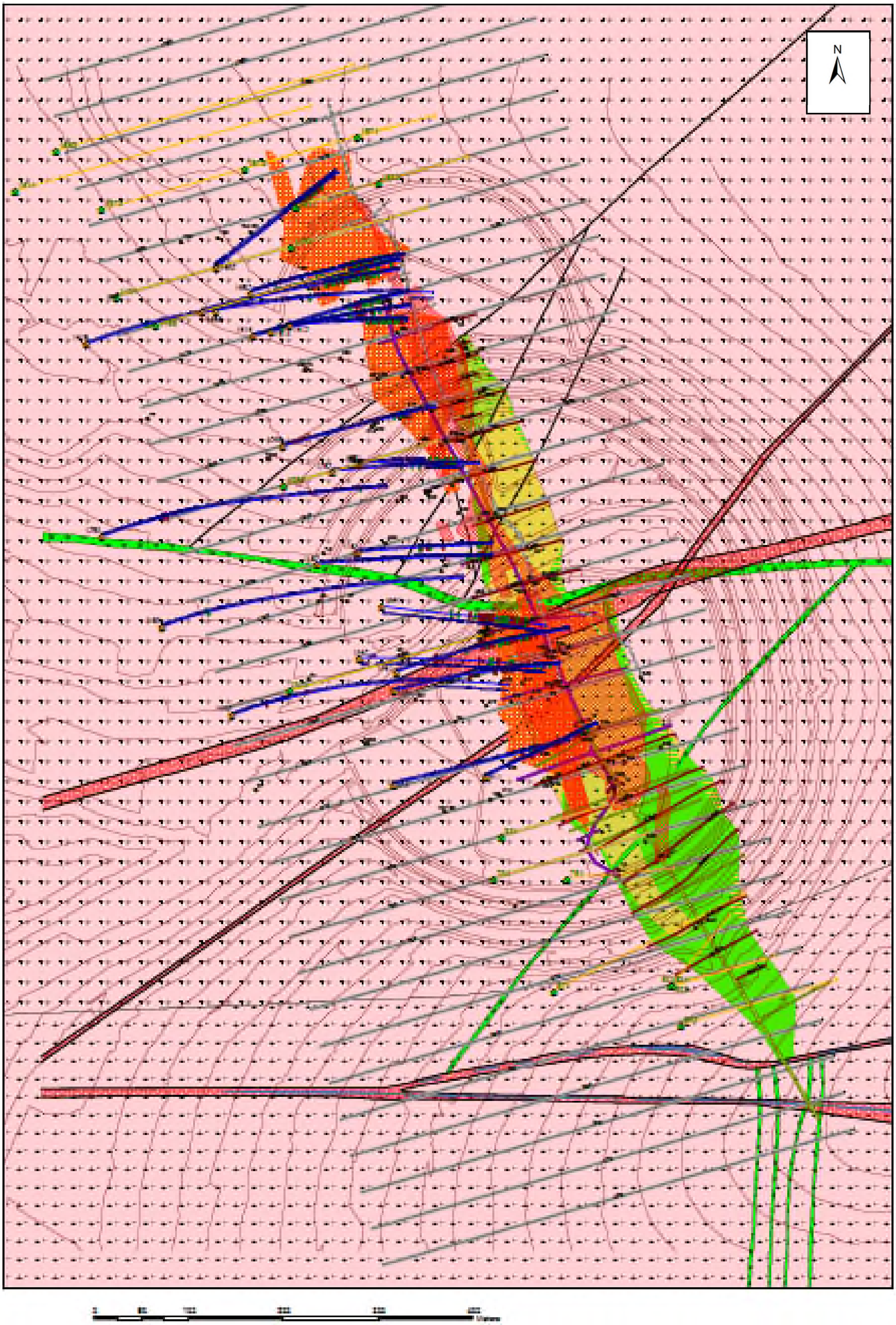


Figure 10.1: Plan showing the Location of 2010 Infill Drilling Program (Borehole traces in blue)

Legend for Figure 10.1	
	Projected Open-pit location for the end of 2011
	BHs collar (2011)
	BHs collar 2010
	Project 2011 BHs traces (projection)
	Drilling BHs 2010
	BHs trace
	Au grade of samples 0.5-1 g/t Au
	Au grade of samples >1 g/t Au
	Ore body (cross-section 660 horizon)
	Surface mining workings
	BH collars of previous works
	garnet biotite quartz matasomatity
	garnet quartz metasomatic seretsitovye
	garnet quartz sericite chlorite metasomatic
	garnet quartz sericite K-feldspathic metasomatic
	garnet quartz sericite metasomatic
	Tectonites
	Hydrothermally altered breccia explosive
	Gneissose granites
	Diorites
	Medium-grained porphyritic granodiorite

10.2 Grade Control Drilling In Pit

Buryatzoloto employs a Chief Mine Geologist, three geologists, four “technical geologists” and four samplers to control the overall grade from the open pit.

Grade control has been undertaken throughout the life of the open pit operation. Open hole percussion drilling is currently conducted with a Pantera drill rig drilling 102mm diameter holes on a grid of 8.0m between profiles and 4.0m along profiles. Each hole is drilled to 10.0m with two 5.0m composite samples taken weighing on average 15kg. These are coned and quartered to give samples of approximately 4.0kg which are sampled in the on-site laboratory and the average of the two taken to represent grade at that point in the bench.

The collar points and assays are plotted onto bench level plans and the outlines of ore, medium grade, off-balance and waste outlined. The in-pit grade control geologists (“Technical geologists”x2 on a 12hour day and night shift basis) then designate broken material to the appropriate stockpile after blasting (Figure 10.2) and dispatch trucks accordingly (all trucks for ore and waste are counted on leaving the pit on a shift basis). All ore dispatched directly to the mill is weighed on a weighbridge before being tipped into the hopper for the primary crusher. Volumetric surveys are undertaken for the in-pit benches, individual stockpiles and waste dumps on a regular basis in order that all broken muck can be accounted for.

Currently, the cut-off grades utilised to designate the various stockpiles are as follows:

- <0.5g/t Au – Waste (to dump);
- >0.5<1.0 – Low grade ore “off-balance” (to stockpile);
- >1.0<2.0 – Medium grade (to stockpile); and
- >2.0 – Ore directly to plant.

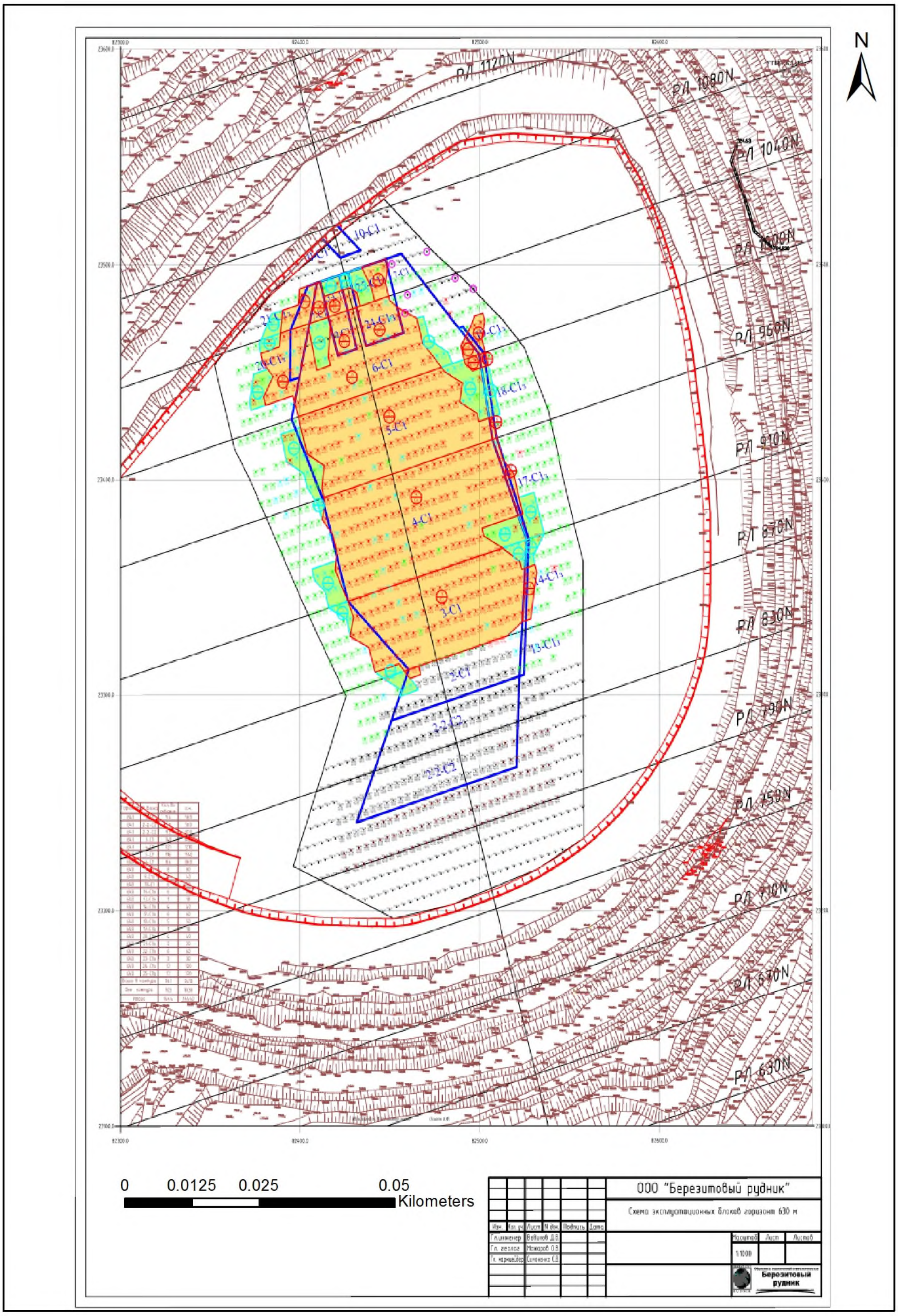


Figure 10.2: Example of Grade Control Flitch – 630-640m Bench
(Orange – ore; Green – "Off balance")

Check sampling has been undertaken of the dust collected in the filters of the Pantera drill rig to ensure that no grade bias is introduced into the grade estimation. A review of this comparison study suggests that no such bias exists.

A comparison study has also been conducted in 2010 to check the quality of the results of the grade control drilling program by twinning 11 holes with HQ diameter diamond drilling.

A total of 4 boreholes (NH 670-1-5) were twinned with grade control holes within the north orebody at the corners of an 8.0x4.0m rectangle, with a further hole (NH-670-3) drilled at the centre of the rectangle. Due to the high water content in two holes, comparison could not be made, but the remaining results are shown the Table 10.2 below.

Table 10.2: Comparison of Grade Control Results to Diamond Drilling – North Pit

Core Hole	Grade Au g/t	Grade Ag g/t	Grade Control Hole	Grade Au g/t	Grade Ag g/t	% Variance Au	% Variance Ag
NH-670-1	2.39	7.58	N660-201	2.84	10.88	84	70
NH-670-2	5.05	10.38	N660-202	4.60	11.35	110	91
NH-670-5	4.33	8.01	N660-234	4.21	8.37	103	96

A similar comparison study was done within the south orebody with four holes. The results are summarised in Table 10.3 below.

Table 10.3: Comparison of Grade Control Results to Diamond Drilling – South Pit

Core Hole	Grade Au g/t	Grade Ag g/t	Grade Control Hole	Grade Au g/t	Grade Ag g/t	% Variance Au	% Variance Ag
SH-680-6	0.43	3.29	339-S670	1.98	4.89	22	67
SH-680-7	2.07	9.86	340-S670	1.71	6.89	121	143
SH-680-8	0.33	2.98	305-S670	3.57	7.88	9	38
SH-680-9	0.15	0.34	306-S670	0.1	2.5	149	13

The results from this study indicate a reasonable correlation between the two methods in the north ore body, whilst the south ore body shows a much higher variability. The cause of such variability may be a function of the size of gold particles or random grade distribution in the south ore body.

As a result of grade control a number of intermediate (medium and low grade) stockpiles have been accumulated, these are located to the north(x2 medium grade; x1 low grade) and south (x3 medium grade; x2 low grade) of the current open pit. These stockpiles have recently been re-sampled by grab sampling of the surface material on 5.0x5.0m grid spacing. Samples have been sent to SGS Chita for analysis but no analysis has yet been received. Based on grade control sampling data, the stockpiles are understood to contain a total of approximately 1.3Mt at a grade of 1.77g/t Au.

11 SAMPLE PREPARATION, ASSAYING, SECURITY

11.1 Introduction

Detailed core logging was undertaken in 2010 in a fit for purpose built wooden building. It houses both a core logging facility with wooden benches for putting the core on and a diamond sawing room. The core is logged, labelled for sampling and photographed before removal to the next room for diamond saw cutting. Core is laid out in order and logged. Sample tags were placed in the boxes by the geologist for follow-up core cutting and sample preparation.

11.2 Core Logging

The core logging room benefits from having good lighting and heating, as well as appropriate core logging benches. Core is brought into the core logging facility where it is logged by the site geologists.

11.3 Diamond Saw Core Cutting

The core cutting facility is located next to the core logging room. The drill hole is tagged up for cutting by the geologist into sample intervals typically of 1.0m length, reducing to smaller intervals where lithology or mineralisation dictates, with a minimum interval length of 0.50m. Where the lithology is uniform, sample intervals are extended to a maximum of 1.50m.

The core is then cut into half, taking due cognisance of any structures in the cores (and cut perpendicular to them) and then is bagged up together with plastic labels (detailing hole number) into plastic bags.

11.4 Sample Preparation

The samples are crushed to 2mm in the mill laboratory and then sent to the accredited ALS laboratory for analysis located in Chita.

11.5 Core Storage Facility

An adjacent part of the building is utilised to house the cut core and sample reference material. The facility is well constructed and laid-out.

11.6 Quality Assurance/Quality Control (QA/QC)

HRG has provided the quality control data in the form of nine Excel spread sheets for internal, external control, standard and blank samples. The four laboratories used for assaying were listed below;

- Berezitovy Mine Laboratory, Russia;
- ALS, Chita, Russia;
- SGS, Chita, Russia; and
- NPGF Regis, Blagoveshchensk, Russia.

Six of the spread sheets provided by HRG contain data on internal controls. Berezitovy Mine Laboratory was used for internal controls.

Two spread sheets provided by HRG contain data on external controls. The results within one spread sheet are from ALS and SGS Laboratories in Chita, Russia. The other spread sheet of external controls is from Berezitovy Mine Laboratory and NPGF Regis Laboratory in Blagoveshchensk, Russia which is used as control Laboratory.

The remaining spread sheet provided by HRG contains data on standard, blank samples and internal control of ALS Laboratory.

11.6.1 Duplicate Samples

11.6.1.1 Internal Control Duplicate Samples (2010)

A total of 599 *sample pairs* duplicate results are provided from HRG for 2010 and these samples were analysed at Berezitovy Mine Laboratory. The results plot with poor 0.46 R^2 value in Figure 11.1 and therefore further analysis of the results has been undertaken. The data set has been analysed by different methods i.e. different cut off grades, filtration of detection limit which is <0.1g/t, however the result is still poor for 2011.

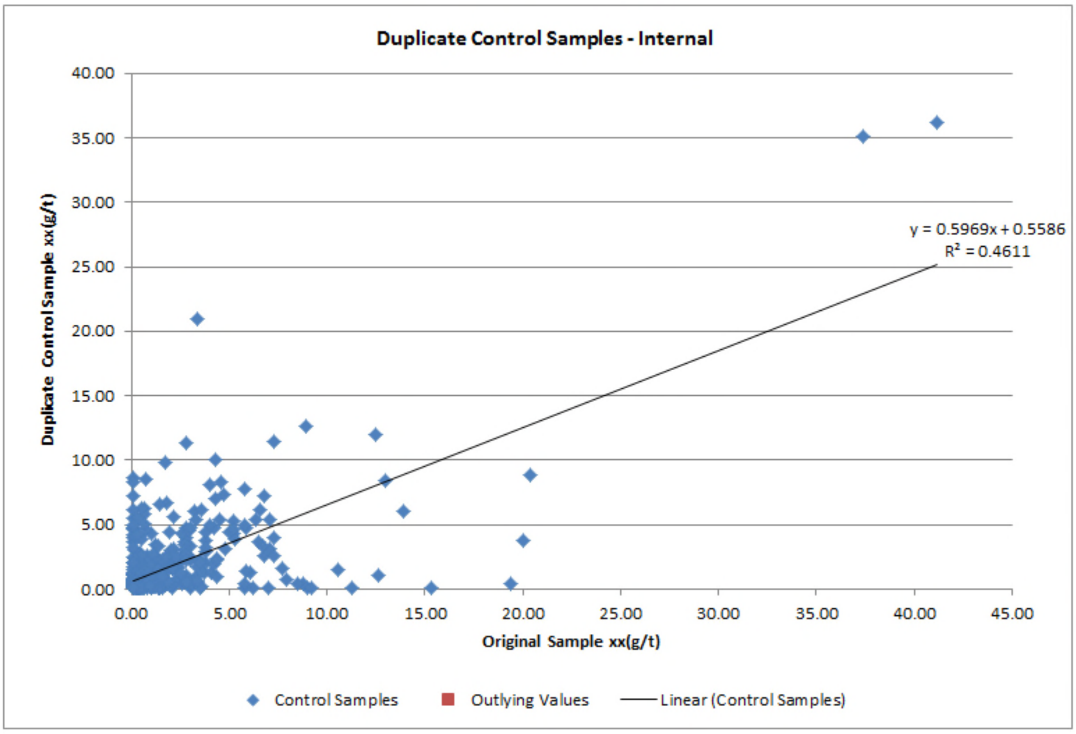


Figure 11.1: Scatter Plot of Duplicate Samples for Internal Control (2010)

11.6.1.2 Internal Duplicate Samples (2011)

There was no drilling in 2011 and therefore there is no internal duplicate sample for this year.

11.6.1.3 Internal Control Duplicate Samples (2012)

Berezitovy Mine laboratory was used for the assaying of the internal controls during 2012. 150 duplicate samples are provided from HRG for 2012. The data set has been analysed and resulted with poor correlation R^2 value of 0.1575 before filtration. The 18 sample pairs which sit outside of the acceptable limits are identified by red points. Even with further analysis and the application of filters to the dataset the correlation of the sample pairs is still poor with an R^2 value of 0.427 in Figure 11.2 below.

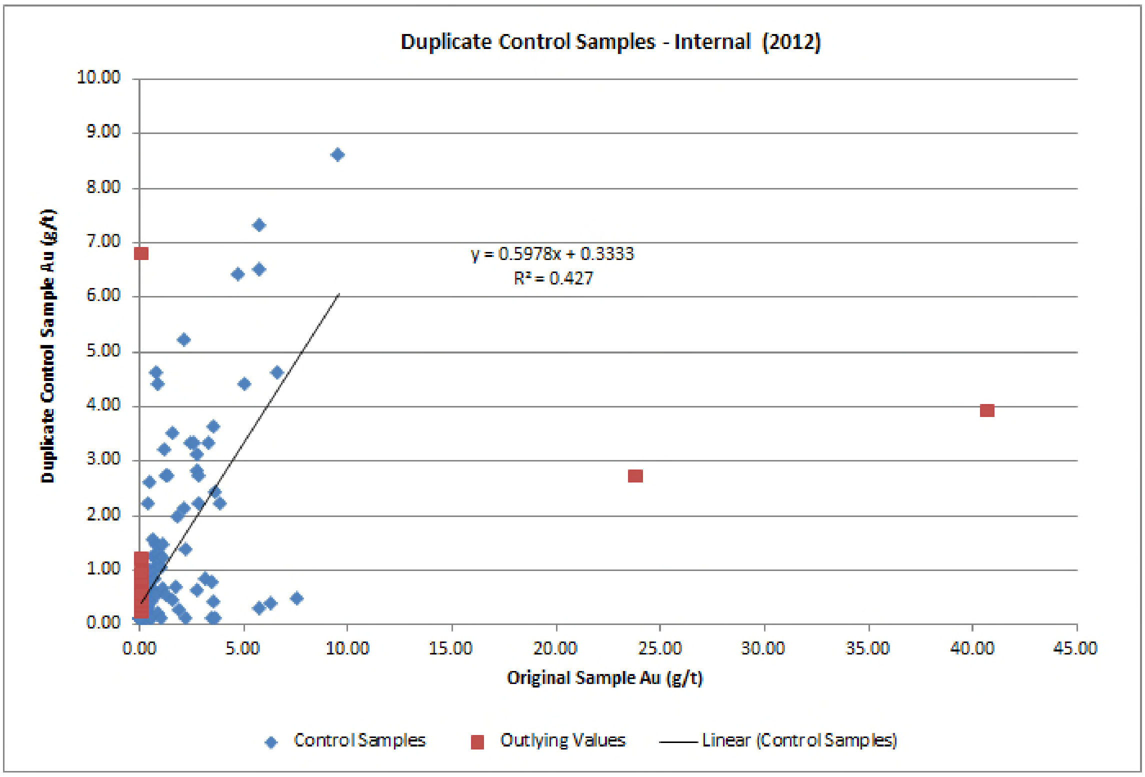


Figure 11.2: Scatter Plot of Duplicate Samples for Internal Control (2012)

11.6.2 Grade Control Samples

11.6.2.1 Grade Control Samples (2011)

A total of 91 *sample pairs* grade control results are provided from HRG for 2011 and these samples were analysed at Berezitovy Mine Laboratory. The results were provided in subdivisions based upon grade boundaries. It is evident from Figure 11.3 that these subdivisions plot in distinctive groups. Even though the correlation plots well, the data clearly shows that there are potential errors with in the dataset.

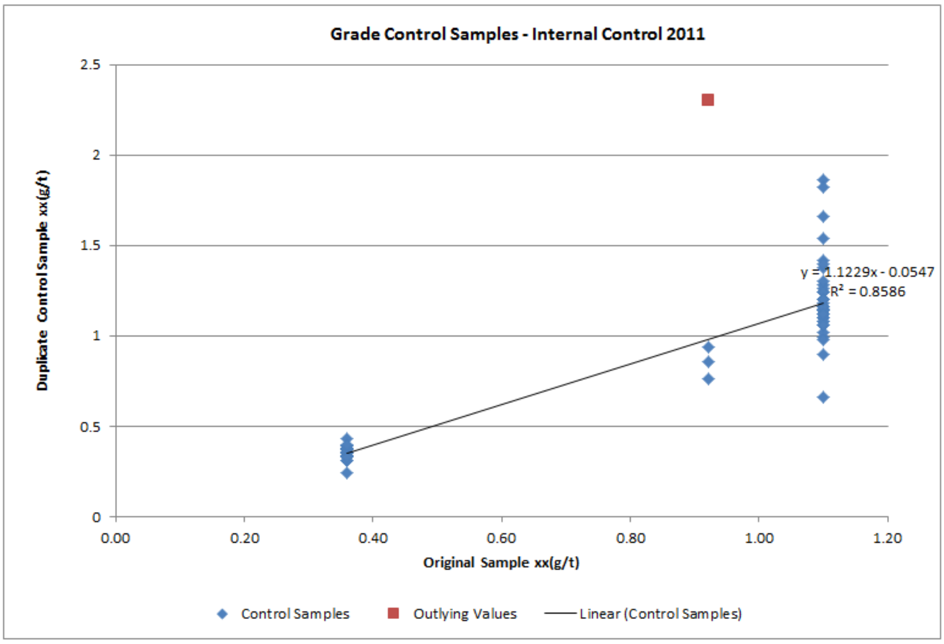


Figure 11.3: Scatter Plot of Grade Control Samples for 2011

11.6.2.2 Grade Control Samples (2012)

A total of 75 *sample pairs* grade control results are provided from HRG for 2012 and these samples were analysed at Berezitovy Mine Laboratory. The results were provided in subdivisions based upon grade boundaries. It is evident from Figure 11.4 that these subdivisions plot in distingitive groups. Even though the correlation plots well, the data clearly shows that there are potential errors with in the dataset.

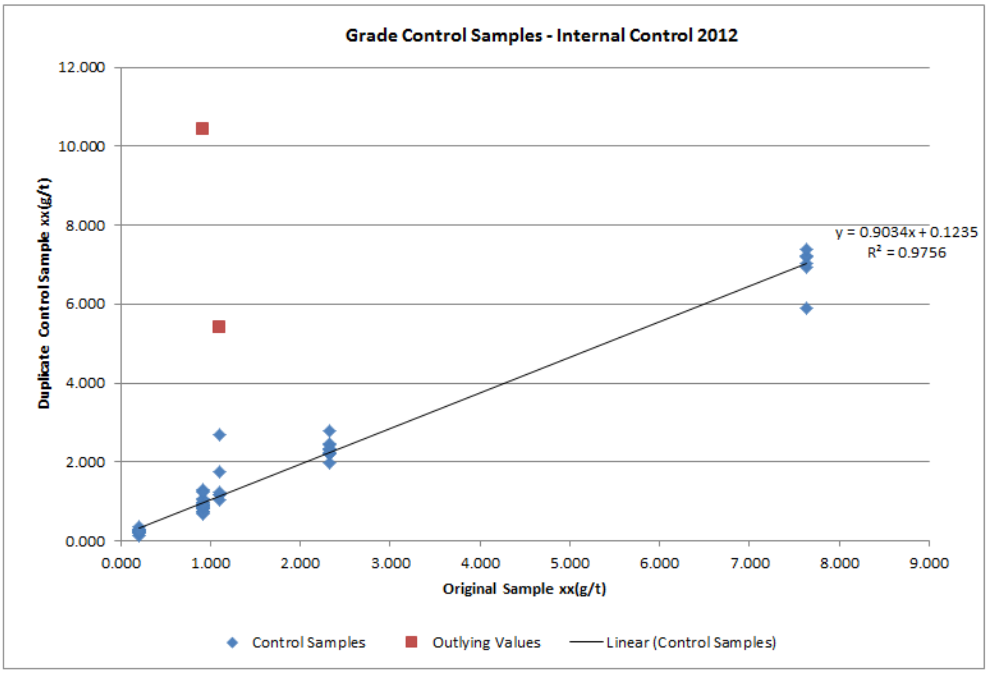


Figure 11.4: Scatter Plot of Grade Control Samples for 2012

11.6.3 External Control Samples

11.6.3.1 SGS and ALS Laboratories External Controls

External duplicate samples were analysed at a number of laboratories. The results from each laboratory have been reviewed individually.

SGS and ALS laboratories have been used for external controls. A total of 371 duplicate results are provided from ALS and SGS laboratories analysed between 2010 and 2011. The duplicate sample pairs plot with good correlation as displayed in the scatter plot in Figure 11.5 below.

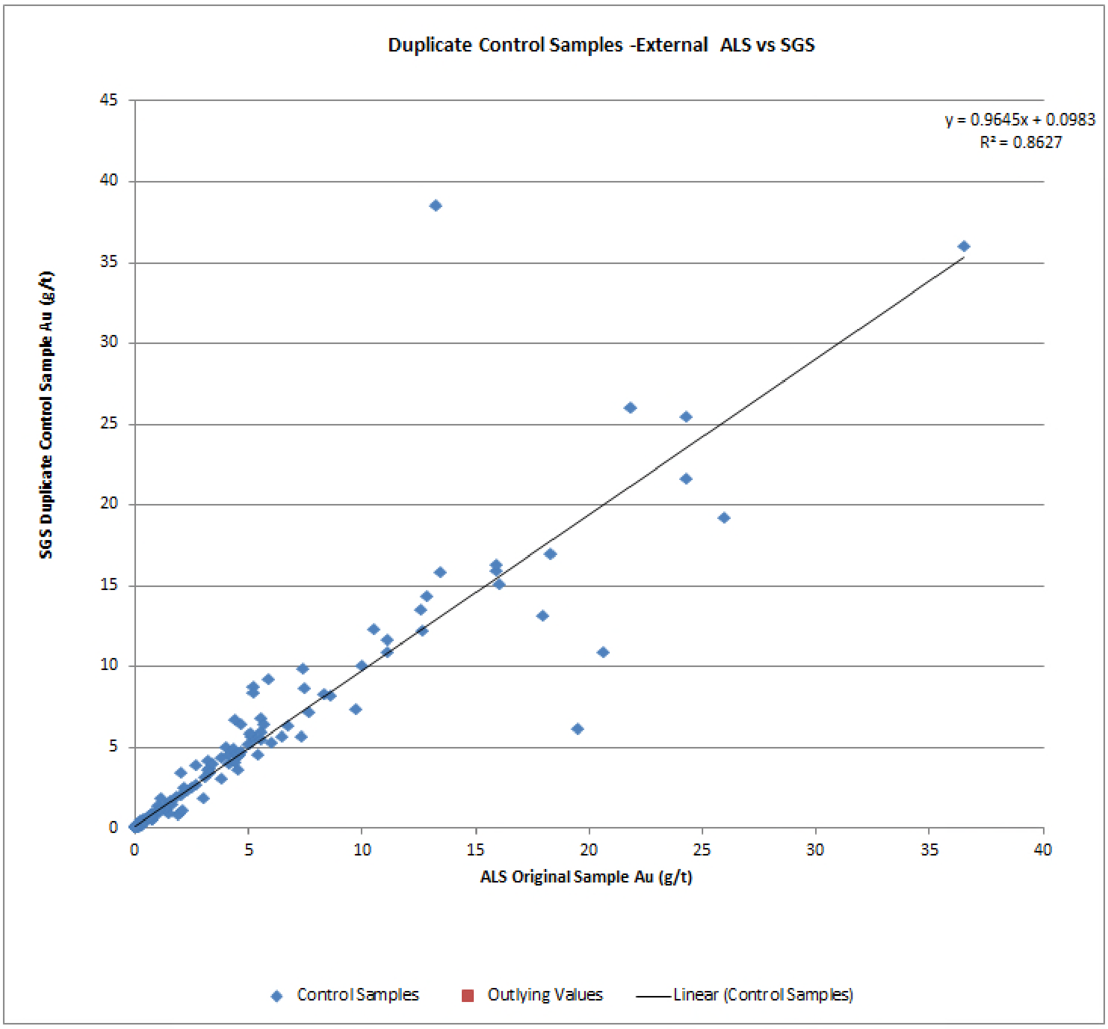


Figure 11.5: Scatter Plot of External Duplicate Samples from ALS vs SGS Laboratory (2010-2011)

11.6.3.2 NPGF Regis Laboratory External Controls

A total of 239 duplicate results are provided from NPGF Regis laboratories analysed since 1st June 2011. The data set plots with a poor correlation R^2 value of 0.3304. Four outlying values have been identified from the dataset (plotted as red points in Figure 11.6) these values have been filtered out of the dataset due to the significant difference in analysis result i.e 30g/t vs 1.1g/t Au. The remaining 235 duplicate sample pairs plot with moderate correlation as displayed in Figure 11.6.

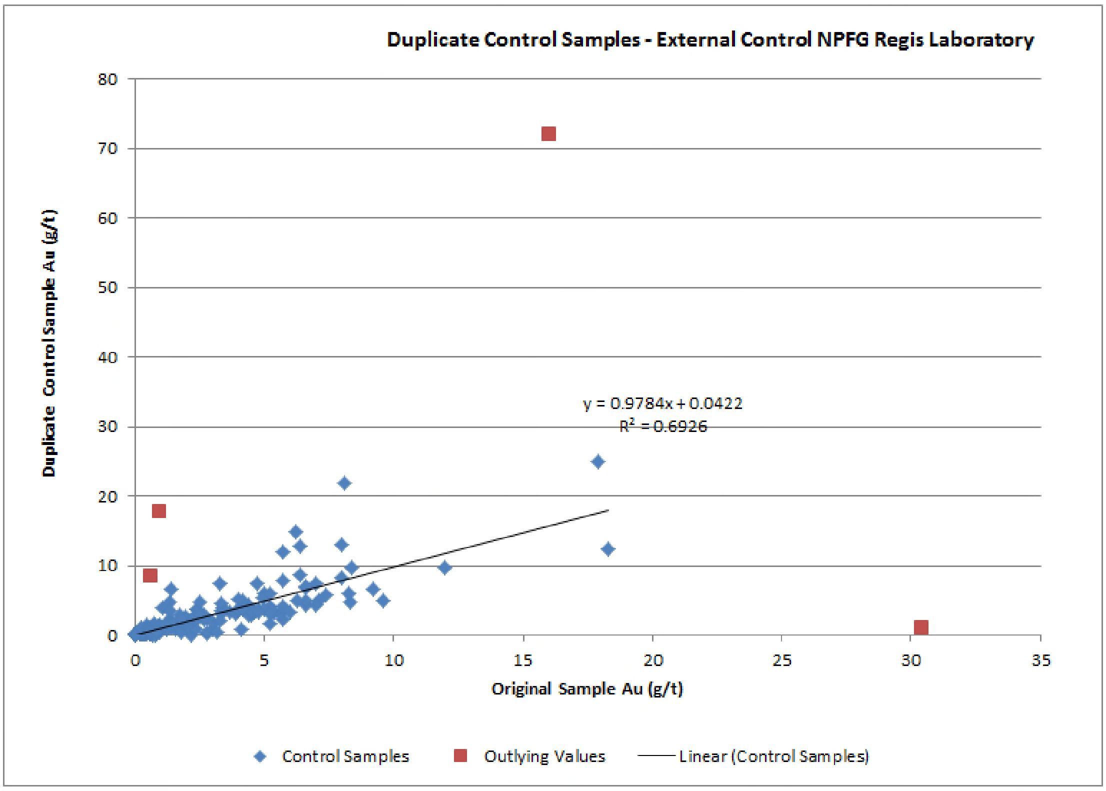


Figure 11.6: Scatter Plot of External Duplicate Samples from NPGF Regis Laboratory (2011)

11.6.3.3 ALS Laboratory Internal Controls

ALS laboratories were used as an external control laboratory. Within the data provided by HRG the internal QAQC test results from the ALS laboratory have been provided, a review of this data has been conducted as part of this QAQC review.

A total of 535 duplicate results are provided from ALS laboratory. The data set has been plotted with good correlation R^2 value of 0.8381. Two outlying values have been identified from the dataset (plotted as red points in Figure 11.7 these values have been filtered out of the dataset due to a big difference in the analysis result (19.5g/t vs 5.7g/t) .The remaining 533 duplicate sample pairs plot with very good correlation as displayed in Figure 11.7.

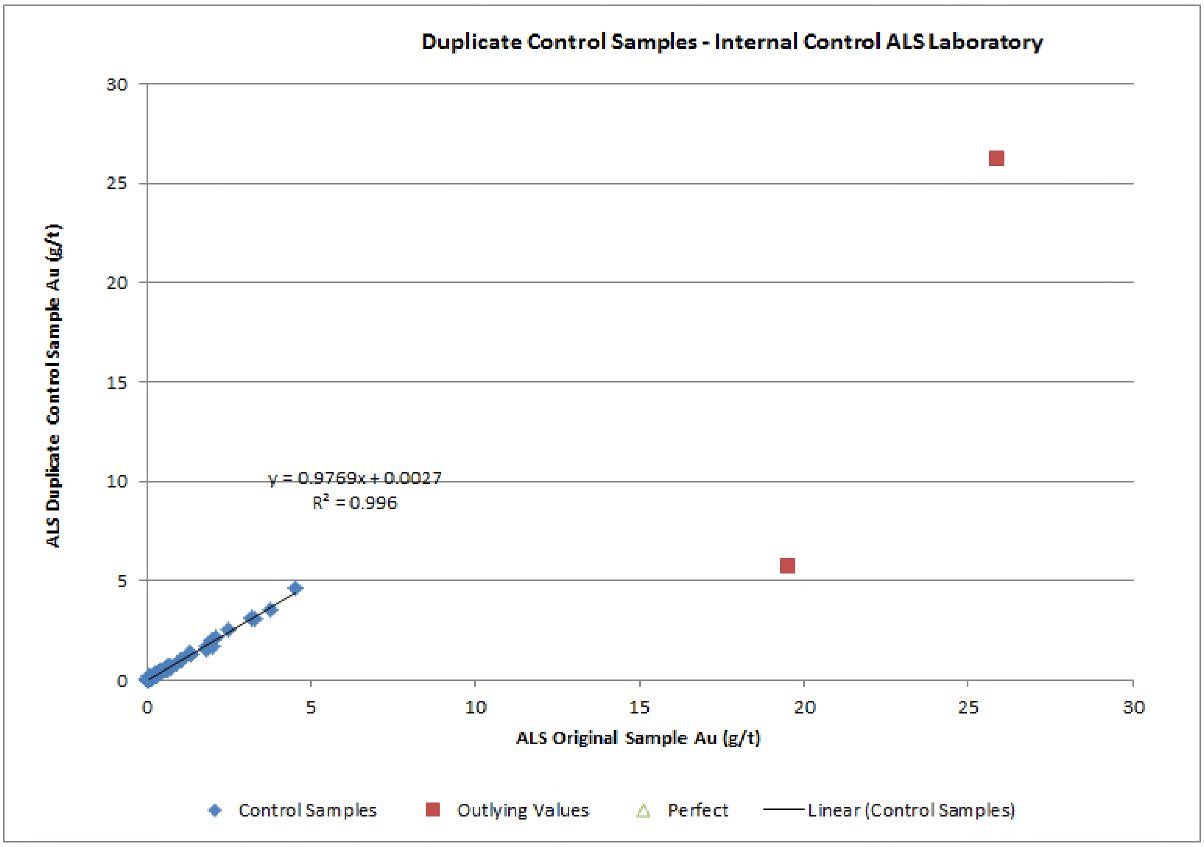


Figure 11.7: Scatter Plot of ALS Internal Control Duplicate Samples

11.6.4 Standard Samples

A total of 14 different Certified Reference Materials (standard) for Au were used in the batches of samples analysed at the ALS Laboratory. 1,126 standard samples were tested with a particular standard being used from 2-221 times. In order to review the assay data the standard samples have been divided into sub data sets referring to a particular standard. Table 11.1 below summarises the standards used.

Table 11.1: Standards Implemented		
Standard ID	**Target Grade (Au g/t)**	**Number of times tested**
G301-1	0.85	75
G302-5	1.65	182
G305-1	0.21	94
G300-2	0.06	88
G302-9	4.28	2
G996-4	0.51	4
OxE74	0.61	156
OxI67	1.817	5
RZSP-5-10	3.00	30
RZSP-6-10	5.80	26
ST18	9.60	16
ST289	1.26	221
ST345	0.555	211
ST421	0.435	16
Total		**1126**

Overall within all sub data sets the accuracy of all the standards is moderate, with the majority of standards having some results lying outside of two standard deviations of the average.

Two examples of the sub data sets are G300-2 and ST289 the scatter plot of these results can be seen in Figure 11.8 and Figure 11.9 below.

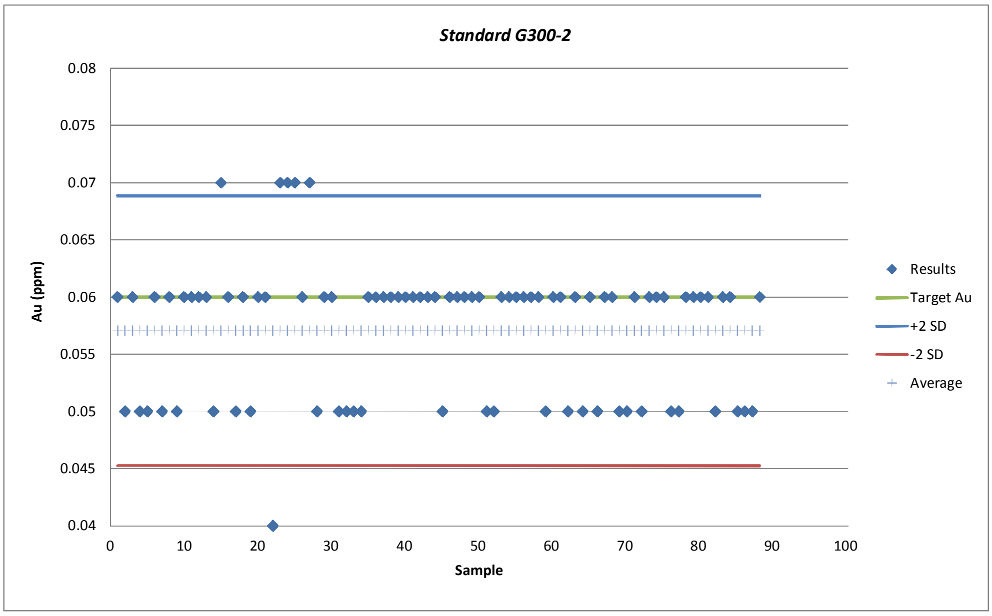


Figure 11.8: Standard G300-2

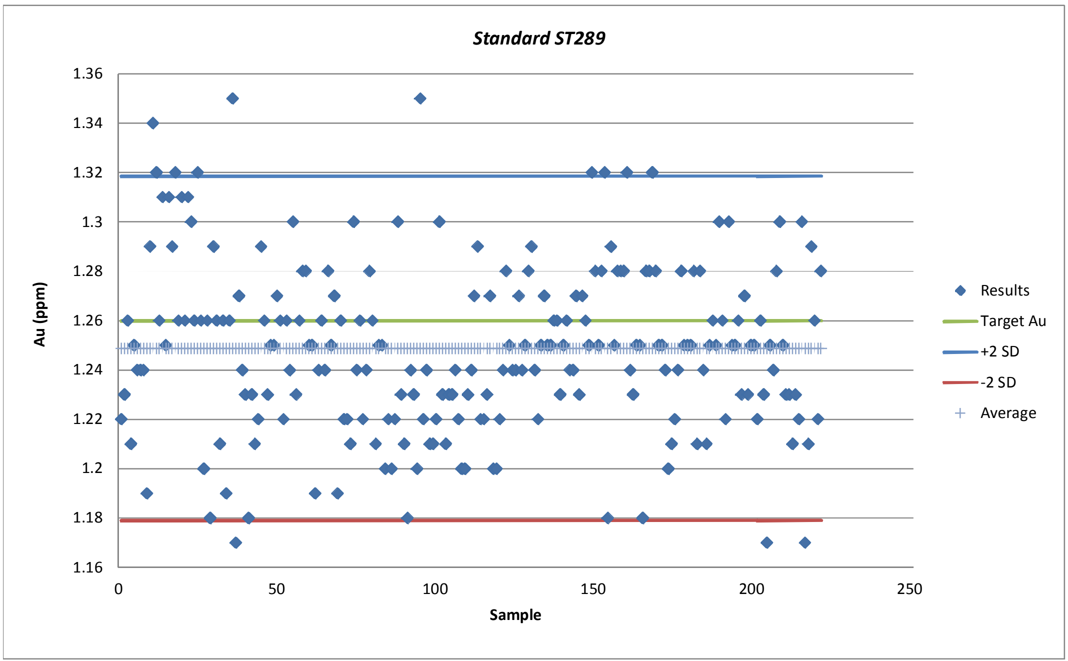


Figure 11.9: Standard ST289

For G300-2 (which has a total of 88 results) the precision varies with a proportion of samples reporting the target grade but also a number of samples reporting a grade of 0.05g/t Au which is below the target grade and average grade of the dataset. A second group of samples report a grade of 0.07g/t Au which is above +2 standard deviations and above the target grade. It may be the case that these results are from different sample batches however this distinction was not made within the dataset provided and therefore this possibility cannot be investigated further.

ST289 was used a total of 221 times. The precision is poor with only a small proportion of the tested standards reporting at the target grade. The accuracy is also poor with a number of samples reporting values outside of two standard deviations. The average grade (1.249g/t Au) is below the target grade of 1.26g/t Au.

These examples are typical of all the standard data provided.

11.6.5 Blank Samples

Data has been provided for a total of 295 blank samples. The samples performed well with only four samples returning values slightly elevated of the expected grade.

11.6.6 QAQC Summary

Overall a total of 1,525 (internal and external) duplicates were analysed, this represents 3% of the sample database provided by HRG for the Resource Estimation.

The WAI audit of the QA/QC data has identified a number of risks within the sample data. These risks are summarised in Table 11.2. It should be noted that Table 11.2 does not provide a quantitative risk assessment but gives an indication as to where WAI considers the risk lies within the sampling data.

A six-score classification has been employed where:

- 1-2 ('low' risk): Little or no perceived risk, or low uncertainty;
- 3-4 ('moderate' risk): Risk present which could lead to small material error in the resource model; and
- 5-6 ('high' risk): This feature could lead to material error in the resource model (high uncertainty).

Table 11.2: Risk Matrix: QA/QC Sample Auditing

QA/QC Sampling	Risk	Comments
Internal Controls 2010	6	Poor correlation between the sample pairs in the case of this QAQC sample set, there is a high risk introduced to the database used for resource estimation.
Internal Controls 2012	6	Poor correlation between the sample pairs in the case of this QAQC sample set, there is a high risk introduced to the database used for resource estimation.
External Controls ALS vs SGS	2	Minimum risk is introduced the database due to good performance of this QAQC sample set
External Controls NPGF Regis	4	Moderate risk is introduced the database due to poor performance of some samples within QAQC sample set
Grade Control 2011	6	There are evidently errors within the database provided and thus a high risk introduced to database.
Grade Control 2012	6	There are evidently errors within the database provided and thus a high risk introduced to database.
Standard Samples	4-5	Moderate risk is present due to lack of precision and accuracy within the standard tests
Blank Samples	2	Blank samples performed well and therefor there is minimal signs of contamination within the sample preparation and testing.
Overall Rating	**4-5**	**Moderate to High Risk**

The overall rating of risk falls in the *moderate-high risk* category based on the QA/QC audit, this is due to poor performance of internal and external control and also due to the quantity of QAQC data tested being slightly below recommended percentages.

A number of risks have been identified with the current assay procedures. The major risks identified (namely issues with the internal laboratory) have been eliminated by WAI by the removal from the database prior to the Mineral Resource Estimate of some of the grade control samples. Those grade control samples which hit the water table were removed from the database as it was noted that these samples showed assay values significantly higher than dry holes. WAI believes that QA/QC procedures for the external laboratories are sufficient to provide adequate confidence in the current Mineral Resource estimate. Based on production statistics from 2008 to present, it is evident that the geological model may well be underestimating grade of resource.

12 DATA VERIFICATION

WAI conducted site visits to the Berezitovy property during the period 17-19 October 2009 and have followed up this with an update review from 02-04 September 2011.

WAI has inspected the drilling and the core logging facilities and have found that they have been undertaken in a proficient manner, and reviewed the core logging procedures and protocols established for describing lithological types, structure, mineralisation and alteration and all of them have been found them all to be of a good standard.

Certain discrepancies exist within the production data supplied by the company, depending on which department the information was sourced. Section 17 of the report was based on data supplied directly by the processing plant management, but is not in complete agreement with figures supplied by the Finance Department.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 Ore Characteristics

13.1.1 Introduction

Berezitovy is a gold-polymetallic orebody with moderate levels of sulphide (5 to 10%), and comprises Oxide and Sulphide Ore. Of the known mineable reserves, the Primary (Sulphide) ore type is predominant, with the oxidised ore accounting for less than 7% of total reserves.

13.1.2 Oxidised Ore

In the oxidation zone, the sulphide minerals, with the exception of galena, are replaced with secondary minerals, with limonite predominating. The iron hydroxide levels reach 78.9% in the lower zones. In the partially oxidised ores, martite, marcasite and native copper are found.

13.1.3 Primary Ore

The Primary ores are magmatic units with medium to moderate potassium levels (up to 7.5%) and with elevated iron contents. There are also abnormally high levels of CaO (1.31 to 4.20%) and MgO (1.61 to 3.37%).

The following styles of mineralisation predominate:

- Gold-polymetallic;
- Gold-sphalerite;
- Gold-pyrrhotite-sphalerite; and
- Gold-pyrite.

The results of laboratory and pilot-scale metallurgical testing show that the gold (including ore from the oxidation zone) is amenable to cyanide leaching. The gold is also amenable to gravity separation. It is, however, more difficult to recover silver, zinc and lead minerals into a saleable concentrate.

The ore also contains low levels of elements which could be deleterious to conventional processing technologies (including Cu, Sb, Bi etc.) The exception is arsenic which varies between 0.03 and 0.29%, averaging at 0.08% As.

13.1.4 Chemical and Mineralogical Analysis

In 2003, a 3.5t bulk sample was collected using core from diamond drill holes in Adit No.5. The bulk sample was considered representative for the known reserves of the deposit and contained the following proportions of ore materials: gold-polymetallic – 69%; gold-sphalerite – 16%; and gold-pyrrhotite-sphalerite – 15%.

Analysis of the sample indicated an average grade of 3.1g/t Au, 20g/t Ag, 0.5%Pb and 0.9% Zn. Table 13.1 shows the chemical composition of the ore sample.

Table 13.1: Ore Chemical Composition

Element	Weight (%)	Element	Weight (%)
SiO_2	70.0	C	0.008
Al_2O_3	11.3	Mo	0.0015
TiO_2	0.5	Ni	0.002
CaO	0.42	Co	0.0006
MgO	0.83	Bi	0.0006
K_2O	7.05	V	0.004
Na_2O	0.54	Zr	0.01
MnO	0.19	Sn	0.0006
S_{tot}	3.14	Ga	0.002
$S_{(s)}$	3.14	Y	0.004
Fe_{tot}	5.0	Yb	0.0004
$Fe_{(s)}$	2.54	W	0.0005
Zn	0.9	Cr	0.01
Pb	0.5	P	0.05
Cu	0.03	Ba	0.015
Sb	0.002	Au (g/t)	3.1
As	0.08	Ag (g/t)	18.5

The ore is characterised by a high silica content (70.8%) of which 52% occurs as quartz. Zinc (0.9%) and lead (0.5%) are present as sulphide minerals. Silver does not occur as a separate mineral, but is associated with gold and galena.

The mineral composition of the sample is given in Table 13.2.

Table 13.2: Primary Ore Mineral Composition	
Mineral	**Weight (%)**
Quartz	52.0
Sericite	38.0
Chlorite	2.0
Biotite	Traces
Sulphides:	
- pyrite	3.0
- sphalerite	3.0
- lead galena	1.0
- pyrrhotite, marcasite, chalcopyrite, arsenopyrite	Traces
Magnetite	Traces
Garnet (spessartine)	1.0
Accessory minerals:	
- tourmaline, zircon, anatase, apatite	Traces
- native gold	Not found

Gold was found in both the free state and combined with ore and rock-forming minerals.

13.2 Metallurgical Testwork

13.2.1 Introduction

In January 2003 representative ore samples from the Berezitovy Deposit were delivered to Irgiredmet, a research center for gold mining industry in Russia, with the objectives of undertaking bench scale testing and developing a process (plant) design criteria. In the first stage, 15 samples were subjected to a programme of variability testing at Irgiredmet. The test programme concluded that the mineralogy of the economic minerals in each sample was similar and that the ore type could be described as being “gold-polymetallic”.

A smaller composite sample was also prepared and sent to SGS Lakefield Research, Ontario, Canada (“Lakefield”) where confirmatory metallurgical tests were started in August 2003. According to this mineralogical study;

- Gold occurs as free particles and is also associated with sulphides and silicate minerals. The gold grain sizes ranged from 1 micron (locked in pyrite) to 60 microns (liberated);

- Heavy liquid testwork showed that 66% of the gold was reported to the “sinks" fraction. Polished sections prepared from the “float” fractions showed that gold occurred as small inclusions in silicates; and
- The principle sulphide minerals were pyrite, galena, sphalerite and pyrrhotite, with minor amounts of chalcopyrite, arsenopyrite and marcasite. Sulphide minerals were fairly well liberated.

Lakefield conducted Abrasion Index, Rod Mill and Ball Mill Bond Work Index determinations with the following results:

- Abrasion Index (Ai) 0.2006;
- Rod Mill Work Index (RWi) 8.0kWh/t; and
- Ball Mill Work Index (BWi) 9.3kWh/t.

13.2.2 Pilot Testing

A 300t sample representing the whole site was tested at the “Baley” pilot processing plant in the Russian Federation in 2003. The following two process options were investigated:

- Gravity and flotation recovery – using gravity separation, flotation of gravity tailings, cyanidation of flotation concentrate, and selective flotation of lead and zinc from the cyanidation residue; and
- Gravity and cyanidation recovery for gold followed by selective flotation of lead and zinc minerals.

Standard procedures were used in analysis and testing of samples and the data from the “Baley” pilot plant testing indicated that the following maximum recoveries could be expected were gold - 88.4%; silver - 34.3%; zinc - 58.2%; and lead - 61.7%.

The optimum grinding size was found to be 90-95% passing 0.071mm. The optimum leaching conditions were found to be a NaCN concentration in solution of 0.05%; pulp density of up to 50%; and leach residence time of 24 hours, with cyanide consumption of 1.1kg per ton of ore.

14 MINERAL RESOURCE ESTIMATES

14.1 Introduction

The Mineral Resource and Mineral Reserve estimate presented in this Technical Report have been prepared in accordance with the guidelines of the JORC Code (2004), however for consistency the term Mineral Reserve has been used. It should be noted that for the purpose of this Technical Report the terms Mineral Reserve and Ore Reserve have the same meaning.

WAI was commissioned to prepare a Mineral Resource estimate in accordance with the guidelines of the JORC Code (2004) for the Berezitovy mine. The work completed during this project is summarised below.

14.2 Topography

The pit topography used in this study is based on a mine survey carried out on the 01 January 2012 and is shown in Figure 14.1.

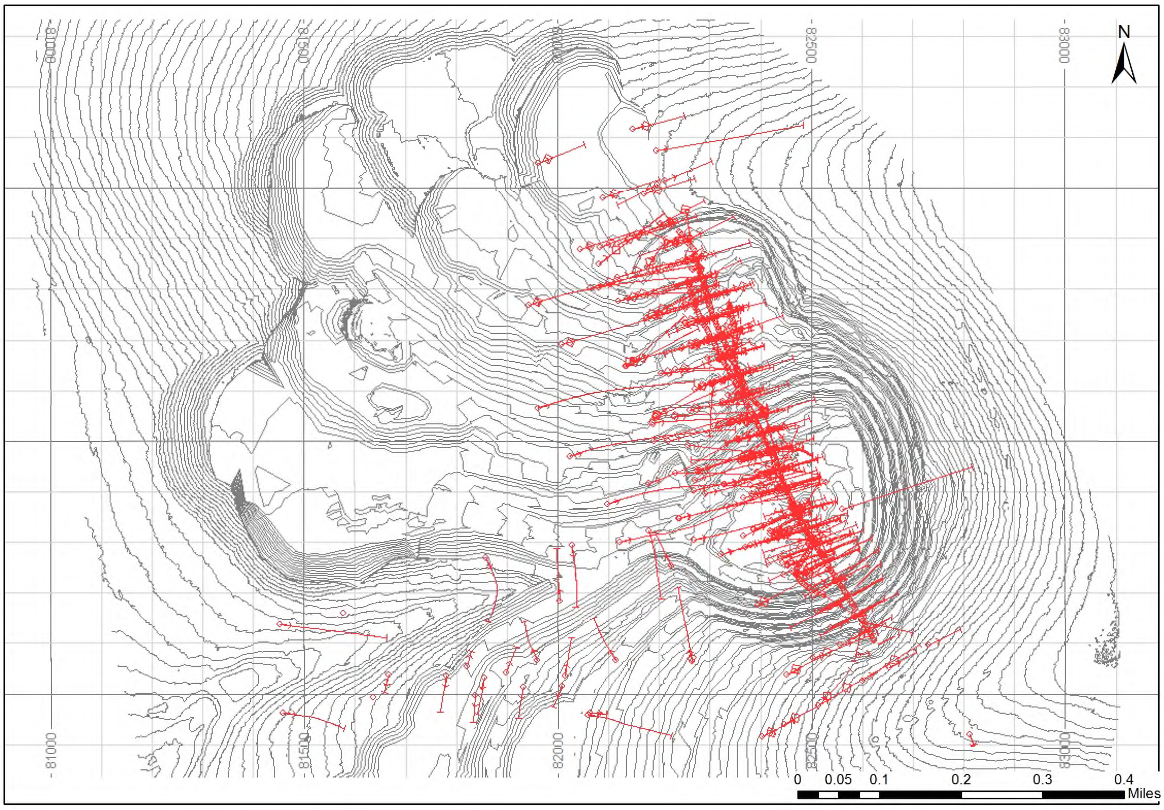


Figure 14.1: 5m Contour Plan of Berezitovy showing Drillhole Locations

14.3 Sample Database

The data collected includes diamond drillhole data, grade control data and underground channel sampling data. A summary of the sample database is shown in Table 14.1.

Table 14.1: Sample Data Summary

	No. of Holes/Lines	No. of Samples	Total Length (m)
Diamond Drillholes	245	16,224	48,901
Underground Channels/Trenches	570	5,927	8,788
Grade Control Drillholes	15,177	27,734	140,732

14.3.1 Diamond Drilling

The drillhole database contains information on Au grade, sample number, section, year, collar, survey and lithology information. Sampling has generally been carried out on a 1m sample interval. Ag grades are also present in the drillhole database however, the Ag grades are considered to be particularly low, therefore no further modelling with respect to Ag has been carried out. The drillhole database also contains lithological information with the drill core having been logged according to the main lithological coding system.

14.3.1 Drillhole Sections

Drilling has been based on a grid pattern with the diamond drillholes located generally on a 40m spacing orientated along the strike of the deposit at approximately 330 degrees. The deposit dips steeply to the southwest therefore surface diamond drillholes have generally been collared on the western side hangingwall and are inclined at angles generally between 50 and 75 degrees. All grids have been aligned at 177^{o}. Downhole surveys have been undertaken on approximately 10m intervals with little deviation.

14.3.2 Grade Control Drilling

Grade control drilling is carried out by RC drilling with vertical drillholes of around 10m in depth. A composite sample is taken at approximately every 5m. Grade control drilling is generally carried out on an 8m x 4m (along strike x across strike) drillhole spacing.

14.3.3 Underground Channel Sampling

Underground channel samples have been taken from three underground exploration levels spaced 80m vertically.

14.3.4 Surface Trenching

Surface trench samples have been taken in perpendicular lines across the mineralised zones and at approximately 15m intervals.

14.3.5 Database Verification

The database was verified by WAI and was considered to be generally of good working order. Grade control drillholes which encountered water were removed from the database as it was noted that the samples attained from these holes resulted in significantly elevated gold values compared to the dry grade control holes.

14.4 Mineralised Zone Interpretation

A cut-off grade of 0.3g/t Au was used for mineralised zone interpretation and is a natural cut-off used to define mineralised and non-mineralised material. A series of perimeters were constructed based on this cut-off grade. Near surface the zones projected above topography, to ensure proper selection of surface trench samples. The zone perimeters were then linked together to form three-dimensional wireframe models. Seven separate mineralised zones were identified and the wireframe model was coded by these zones. An isometric view of the mineralised zones is shown in Figure 14.2.

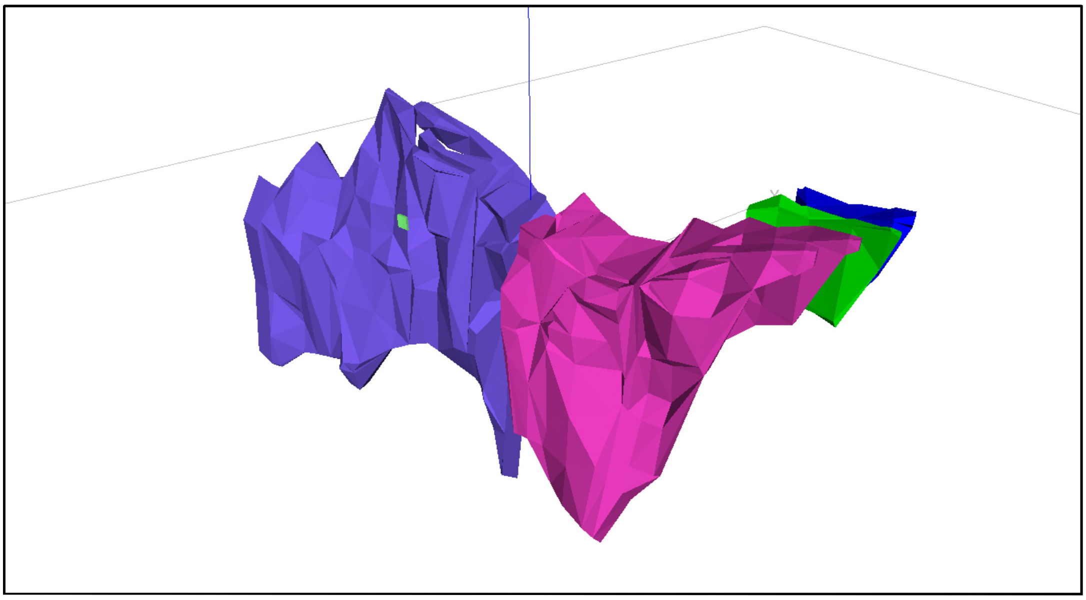


Figure 14.2: Isometric View of Berezitovy Mineralised Zones

14.5 Statistical Analysis

All samples contained within the mineralised zones were selected for further data processing. Statistical analysis was carried out on the mineralised samples to identify any potential bias that may be present within the data. Histogram and log probability plots showing Au grade for mineralised samples by sampling type (DH (diamond drillhole), CH (channel sample) and GC (Grade Control) were generated and are shown in Figure 14.3 and standard statistics are shown in Table 14.2. A distinct log normal distribution is shown. Generally, very similar populations are exhibited by the different sampling methods with the only exception being the higher grades (>4g/t) derived from the grade control sampling appear to understate the diamond drillhole and channel sample data.

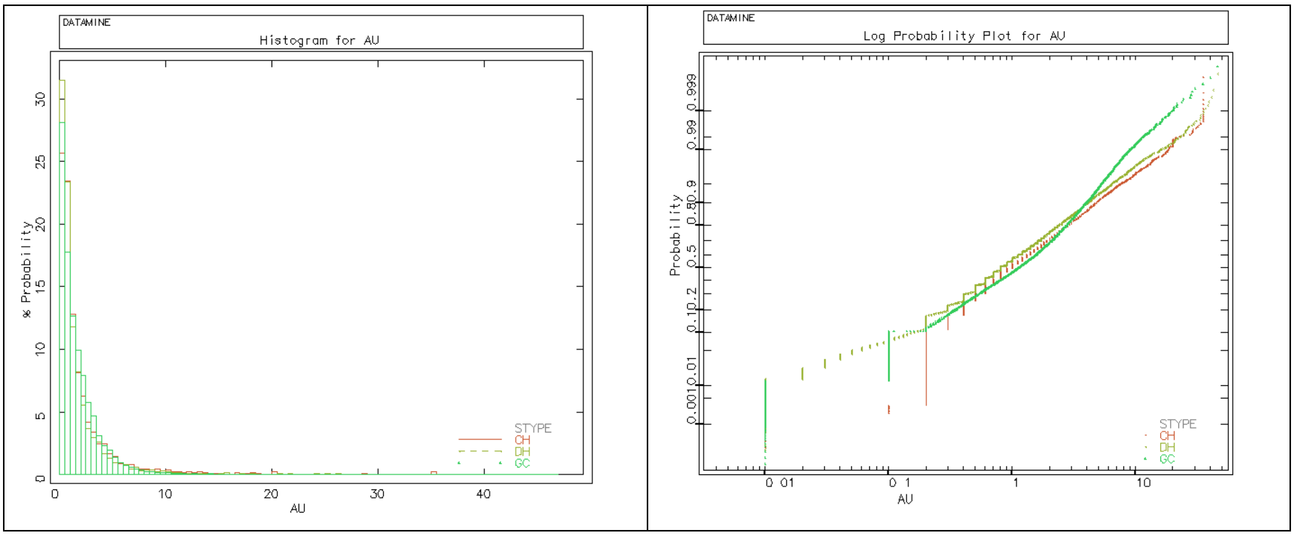


Figure 14.3: Standard Histogram and Log Probability Plots by Lithology

Table 14.2: Standard Statistical Analysis of Mineralised Samples by Sampling Type

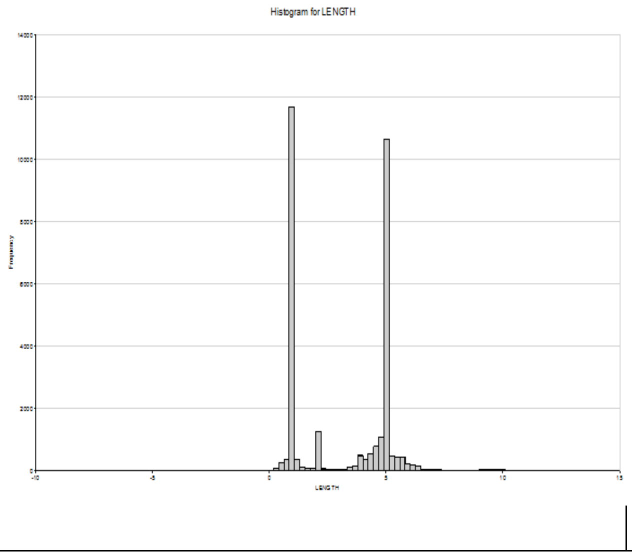
Sample Type	DH	CH	GC	Total
FIELD	AU	AU	AU	AU
NSAMPLES	6,376	5,237	16,778	28,391
MINIMUM	0.01	0.01	0.00	0.00
MAXIMUM	1,227.60	35.00	57.20	1,227.60
RANGE	1,227.60	34.99	57.20	1,227.60
MEAN	2.07	2.14	1.75	1.89
VARIANCE	251.37	12.26	4.41	61.35
STANDDEV	15.85	3.50	2.10	7.83
SKEWNESS	72.60	4.76	5.14	135.42
KURTOSIS	5,596.85	31.12	69.15	21,123.17

14.6 Removal of Outlier Grades

Top cutting was carried out to reduce the influence of any values that are outside of the general population. Top cutting was carried out using the log probability plots with separate top-cuts used for each different mineralised zone. Based on this, a top-cut of 19g/t Au was applied to zone 1, a top cut of 34g/t Au was applied to zone 2 and a top-cut of 6g/t Au was applied to zone 4. Overall the effect of the top-cut on the dataset has not resulted in any significant reduction in grade.

14.7 Compositing

A histogram displaying the variation in sample length for the mineralised samples is shown in Figure 14.4. The histogram plot exhibits two main population peaks. The first is at 1.0m and reflects the diamond drillhole and channel sample interval. The second is at 5.0m and reflects the predominant grade control sample interval. A 5m composite sample length was therefore chosen to give a consistent level of support to the samples. The 5m composite interval therefore corresponds to a production bench height.



FIELD	LENGTH
NRECORDS	31,175
NSAMPLES	31,175
NMISVALS	0
MINIMUM	0
MAXIMUM	121
RANGE	121
MEAN	3.3
VARIANCE	5.9
STANDDEV	2.4
SKEWNESS	7.7
KURTOSIS	284.1

Figure 14.4: The Variation in Sample Length for the Mineralised Samples

A summary of the composites is shown in Table 14.3 below.

Table 14.3: Summary of Composites By Zone

ZONE	1	2	3	4	5	6	7	Total
FIELD	AU	AU	AU	AU	AU	AU	AU	AU
NSAMPLES	3,739	15,645	3	335	542	2	1	20,267
MINIMUM	-	-	0.53	-	-	1.15	8.73	0.00
MAXIMUM	19.00	34.00	1.35	6.00	16.36	1.25	8.73	34.00
RANGE	19.00	34.00	0.83	6.00	16.36	0.10	-	34.00
MEAN	1.56	1.81	1.01	1.37	1.40	1.20	8.73	1.75
VARIANCE	3.51	4.22	0.12	1.75	3.98	0.00	-	4.06
STANDDEV	1.87	2.06	0.35	1.32	1.99	0.05	-	2.02
SKEWNESS	3.71	3.80	-0.54	1.68	3.64	-	-	3.78
KURTOSIS	22.29	31.69	-1.50	2.36	16.97	-2.00	-	30.14

14.8 Variography

Variography was undertaken:

- To estimate the presence of anisotropy in the deposit;
- To derive the spatial continuity of mineralisation along the principal main anisotropic orientations;
- To produce suitable variogram model parameters for use in geostatistical grade interpolation; and
- To assist in selection of suitable search parameters upon which to base the resource estimation.

Variography was performed using Datamine Studio v3 software. Absolute, as well as relative variograms, were generated, with the spherical scheme model being used for modelling purposes. Variography was carried out on the 5m composite data.

14.8.1 Variogram Parameters

Directional semi-variograms for the along strike, down dip and downhole directions were generated for Au using the 5m composite data. The nugget variances were modelled from average downhole variograms based on a 5m lag reflecting the downhole drillhole composite spacing. The fitted model variograms are illustrated in Figure 14.5.

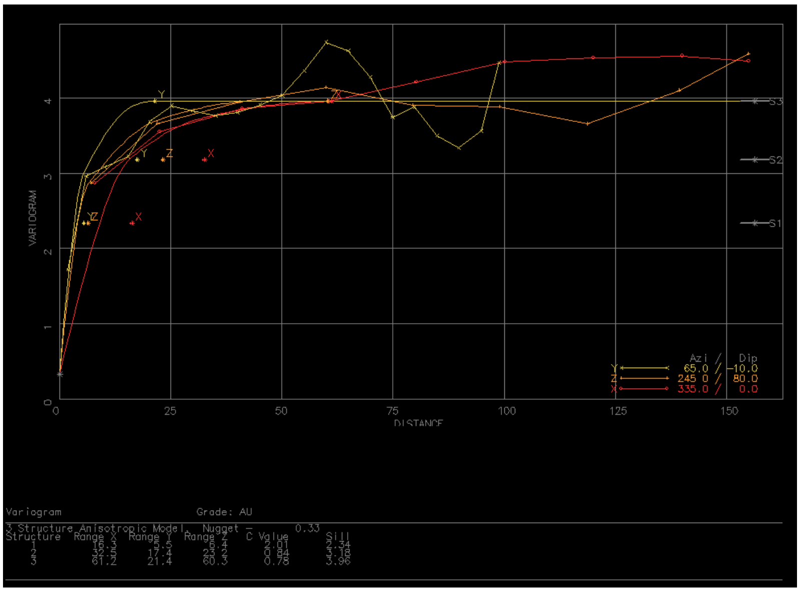


Figure 14.5: Modelled Semi Variogram for Berezitovy South Zone

14.8.2 Variography Interpretation

The principal direction of continuity was selected from the generated experimental semi-variograms and modelled with three-structure spherical models. The three orthogonal orientations represented the predominant along-strike, down-dip and cross-strike directions. The semi-variograms indicated ranges of approximately 60m in the along-strike direction (335°), 60m in the down-dip direction (245°) and 20m in the cross-strike direction. Overall the semi-variograms generated were considered to be well structured and interpretable

14.9 Block Model

A volumetric block model was set-up with a 10m x 10m x 5m block size with sub cells down to a minimum size of 5m x 5m x 2.5m as shown in Figure 14.7. Topographical data were used so that model blocks were generated up to the level of the original pre-mining topography, but with the mined-out parts separately coded.

14.10 Density

A global density value of 2.87/m^3 was used.

14.11 Grade Estimation

Gold grades were estimated within the mineralized zones using ordinary kriging. Alternative grades were also interpolated using inverse distance weighting and nearest neighbour estimations for validation purposes. Grade estimation was carried out on all composite drillhole data including diamond drillholes, grade control drillholes and underground channel samples. Grade estimation was carried out so as to honour the mineralised zone domains.

14.11.1 Kriging Plan

The OK estimation was run in a three pass kriging plan, the second and third passes using progressively larger search radii to enable the estimation of blocks unestimated on the previous pass. The search parameters were derived from the variographic analysis, with the first search distances corresponding to the distance at 2/3rds of the variogram sill value and the second search distance approximating up to the variogram ranges. Sample weighting during grade estimation was determined by variogram model parameters for the OK method. Block discretisation was set to 4 x 4 x 2 to estimate block grades. Directional control strings defining the local variation in the strike and dip of the deposit were used and were embedded in the block model as TRDIP and TRDIPDIR fields. These orientations were used during the grade estimation to orient the search ellipses independently for each block. A summary of the kriging plan is shown in Table 14.4.

Table 14.4: Summary of Kriging Plan

Search 1 (along strike x down dip x cross strike)	30m x 30m x 8m
Search 2 (along strike x down dip x cross strike)	60m x 60m x 16m
Search 3 (along strike x down dip x cross strike)	120m x 120m x 32m
Discretisation (x/y/z)	4/4/2
Min no. composites (search 1/2/3)	5/5/1
Max no. composites (search 1/2/3)	15/15/15
Max no. composites per hole	4/4/4

NB –
1) Directional anisotropy has been used during interpolation to orient the search ellipses and reflect local variation in strike and dip
2) Grade estimation has been carried out using composites only contained within an individual zone

14.12 Model Validation

Following grade estimation a statistical and visual assessment of the block model was undertaken to assess successful application of the estimation passes and to ensure that as far as the data allowed, all blocks within mineralisation domains were estimated and the model estimates performed as expected. The model validation methods carried out included:

- A visual assessment of grade;
- Global statistical grade validation; and
- SWATH plot (model grade profile) analysis.

14.12.1 Visual Assessment of Grade Estimation

A visual comparison of composite sample grade and block grade was conducted in cross section and in plan. Visually the model was generally considered to spatially reflect the composite grades.

14.12.2 Global Statistical Grade Validation

Statistical analysis of the block model was carried out for comparison against the composited drillhole data. This analysis provides a check on the reproduction of the mean grade of the composite data against the model over the global domain. Typically the mean grade of the block model should not be significantly greater than that of the samples from which it has been derived. The mean block model grade for each zone and its corresponding mean composite grade are shown in Table 14.5. Overall these global average grades compare relatively well.

Table 14.5: Comparison of Composites vs Block Model Average Grades by Zone					
Zone	Composites		Block Model		
	Number Composites	AU (Au g/t)	AU_OK (Au g/t)	AU_ID (Au g/t)	AU_NN (Au g/t)
1	3,739	1.56	1.07	1.07	1.09
2	15,645	1.81	1.71	1.71	1.66
3	3	1.01	0.99	1.00	0.96
4	335	1.37	1.19	1.22	1.20
5	542	1.40	1.34	1.33	1.23
6	2	1.20	1.20	1.20	1.19
7	1	8.73	8.73	8.73	8.73
TOTAL	**20,267**	**1.75**	**1.37**	**1.37**	**1.35**

NB –
1) No cut-off grade applied
2) AU_OK (ordinary kriging), AU_NN (nearest neighbour), AU_ID (inverse distance weighting squared)
3) Block model grades are for Measured, Indicated and Inferred resources

14.12.3 SWATH Analysis

SWATH plots have been generated from the model by averaging both the composites and blocks along northings, eastings and vertically. 20m slices have been used to average the block model and composite grades in northing and easting directions and 10m slices were used vertically. SWATH plots were generated for all block model estimation methods and for each estimated grade should exhibit a close relationship to the composite data upon which the estimation is based. Example SWATH analysis by northing and elevation are shown in Figure 14.6.

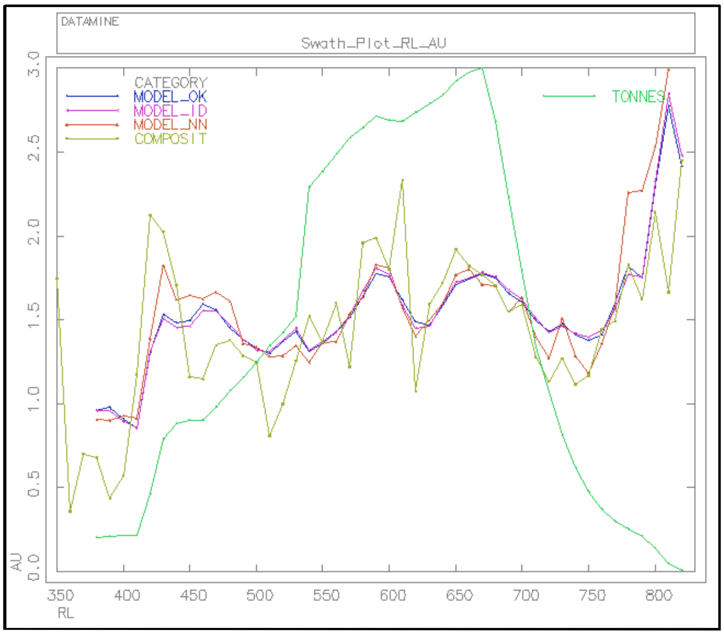


Figure 14.6: Example SWATH Analysis by Elevation

14.12.4 Validation Summary

Globally no indications of significant over or under estimation are apparent in the model nor were any obvious interpolation issues identified. From the perspective of conformance of the average model grade to the input data, WAI considers the model to be a satisfactory representation of the drillhole data used and an indication that the grade interpolation has performed as expected. In terms of conformance to the drillhole composite data WAI consider the OK interpolation method to most closely represent the drillhole data in both the cross validation and swath analysis plots. The resource estimate is therefore based upon the OK grade estimation.

As a general comment, the validations only determine whether the grade interpolation has performed as expected. Acceptable validation results do not necessarily mean the model is correct or derived from the right estimation approach. It only means the model is a reasonable representation of the data used and the estimation method applied.

14.13 Resource Classification

The resource classification for the Berezitovoye deposit is classified in accordance with the Australian Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves [JORC Code (2004)].

Criteria for defining resource categories were also derived from the geostatistical studies. Key drillhole spacings for the allocation of resources can be summarised as follows:

- ***Measured*** resources - at least 30m x 30m drilling grid;
- ***Indicated*** resources - at least 60m x 60m (along strike x down dip) drilling grid; and
- ***Inferred*** resources – within defined mineralised zone.

The resource classification at Berezitovy is shown in Figure 14.7.

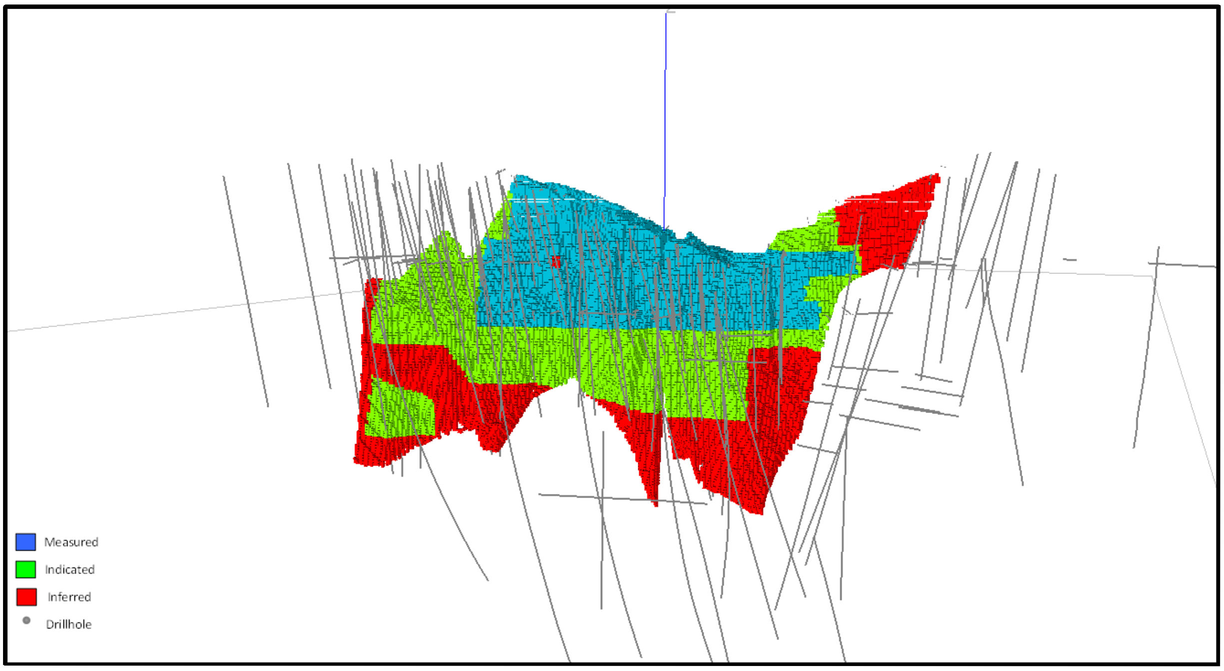


Figure 14.7: Long Sectional View Showing Resource Classification

14.14 Resource Evaluation

The resource classification for the Berezitovoye deposit is classified in accordance with the Australian Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves [JORC Code (2004)].

The final block model was used as the basis for resource evaluation. A summary of results of the evaluation of the in-situ resources are shown in Table 14.6 below, for three different cut-off grade levels: 0.3g/t, 0.5g/t and 0.7g/t Au.

Table 14.6: Berezitovy Resource Estimate (WAI, 01 January 2012) (in accordance with the guidelines of the JORC Code (2004)

Ore Type			Sulphide		
Cut Off Grade (g/t)			**0.3**	**0.5**	**0.7**
Measured	**Tonnes (kt)**		10,275	9,669	8,510
	Au (g/t)		1.66	1.74	1.89
	Metal	**kg**	17,046	16,791	16,094
		koz	548	540	517
Indicated	**Tonnes (kt)**		12,410	11,479	9,755
	Au (g/t)		1.38	1.45	1.60
	Metal	**kg**	17,066	16,685	15,644
		koz	549	536	503
Measured + Indicated	**Tonnes (kt)**		22,685	21,148	18,266
	Au (g/t)		1.50	1.58	1.74
	Metal	**kg**	34,112	33,476	31,738
		koz	1,097	1,076	1,020
Inferred	**Tonnes (kt)**		7,362	6,208	4,627
	Au (g/t)		1.11	1.24	1.45
	Metal	**kg**	8,150	7,679	6,729
		koz	262	247	216

NB –
1. Mineral Resources are not reserves until they have demonstrated economic viability based on a feasibility study or pre-feasibility study.
2. Mineral Resources are reported inclusive of any reserves.
3. Grade represents estimated contained metal in the ground and has not been adjusted for metallurgical recovery.

15 MINERAL RESERVE ESTIMATES

15.1 Introduction

The Mineral Resource and Mineral Reserve estimate presented in this Technical Report have been prepared in accordance with the guidelines of the JORC Code (2004), however for consistency the term Mineral Reserve has been used. It should be noted that for the purpose of this Technical Report the terms Mineral Reserve and Ore Reserve have the same meaning.

WAI has undertaken a pit optimisation using the *Mineral Resource* Block Model prepared by WAI and updated in January 2012**.** The model was depleted to contain only those *Mineral Resources*, which have not been extracted as of 01 January 2012. WAI used NPV Scheduler® software for the optimisation, applying conceptual financial and technical parameters, provided by HRG.

The NPV Scheduler® programme comprises three components, the ultimate pit shell generator, a push back generator and the optimising scheduler. The ultimate pit generator is the first stage of the optimisation process and utilises a Lerchs-Grossman algorithm to generate an economic open pit shell from the *Mineral Resource* block model based on the initial input parameters.

The objective of this study was to obtain an optimised pit shell containing economically viable *Mineral Resources*, which therefore will provide an estimate of *Mineral Reserves*. The estimate of *Mineral Reserves* will form a basis for the mining schedule.

Prior to importing into NPV Scheduler®, the *Mineral Resource* block model was expanded by adding waste cells. A density of 2.87t/m^3 was assumed for each new waste cell. Zero grade values for gold were also assigned to each waste cell.

15.1.1 Pit Optimisation Parameters

The metal price used for the pit optimisation was US$1,250/oz Au. The major Key Performance Indicators (KPI) such as mining and processing costs, and other parameters, considered during the optimisation, has been supplied by HRG as actual results of 2008 – July 2011 production. These figures are given in Table 15.1 below.

Table 15.1: Berezitovy Key Performance Indicators for 2008 to 07.2011

	Unit	2008	2009	2010	01.2011 – 07.2011****
Total mined	kt	no data	10,435	15,751	9,477
Ore mined	kt	833	1,342	1,839	1,037
Ore milled	kt	691	1,092	1,050	8,440
Average Au grade	g/t	2.5	2.8	2.22	817
Ore stripped	kt	no data	9,344	14,078	2.59
Gold recovered (2008 – dore, 2009 – 2011 – refined gold and silver)**	kg	1,365	2,715	2,221	1,932
Gold recovered (2008 – dore, 2009 and 1H 2010 – refined gold and silver)**	koz	43.9***	87.3	71,413	59.0
Recovery rate	%	89.4	87.3	89.22%	89.54
Full cash cost	US$/oz	no data	570	824	707
Normalised TCC	US$/oz	no data	544	713	585
Ore mining costs	US$/t	no data	1.61	1.55	1.83
Waste mining costs	US$/t	no data	1.61	1.55	21.76
Ore processing costs	US$/t	no data	11.96	16.4	13.14
General and administration costs	US$M	no data	1.96	5.51	1.2
CAPEX*	US$M	no data	11.87	23.13	-
Depreciation	US$M	no data	12.04	11.97	16.37

Notes
*including exploration and evaluation
** including silver production in 2009 – July 2011
*** includes 28.2koz produced during pre-production and commercial production

WAI has reviewed the results between 2008 and July and the technical data, obtained from HRG both during site visit and by request, together with HRG's production forecasts. The following technical and economical parameters are deemed to be best suited for the optimisation purposes (Table 15.2).

Table 15.2: WAI Pit Optimisation Parameters		
Parameter	Units	Value
Metal Price (Au)	US$/oz	1,250
Metal Price (Au)	US$/g	40.19
Selling Cost	US$/g	3.2
Production Rate	ktpa	2.0Mtpa
Discount Rate	%	10
Dilution	%	6
Mining Recovery Factor	%	97
Mining Cost (Ore and Waste)	US$/t	2.05
Processing Cost (per t of processed ore)	US$/t	15.00
Gold Recovery	%	89
Final Pitwall Angle	Degrees	55

One of the most crucial geotechnical parameters is the overall pit slope angle. The shallower the overall slope angle, the more waste that is included in the pit design. This has a great effect on the stripping ratio and hence economic viability. An overall pit slope angle of 55° was used for the optimisation (as supplied by HRG and observed by WAI at the site).

15.1.2 Pit Optimisation and WAI Mineral Reserve Estimation

The results of the WAI Base case optimisation as calculated by NPV Scheduler® are presented in Table 15.3. The Base case optimised pit shell 3D image is shown in Figure 15.1 below.

Stockpile reserves were assessed based on information on actual material balances as supplied by HRG. No provision for stockpile material mining dilution or mining losses has been made.

Only the *Measured and Indicated Mineral Resources* were utilised in the optimisation as only these categories of *Mineral Resources* are transferable to *Mineral Reserves*.

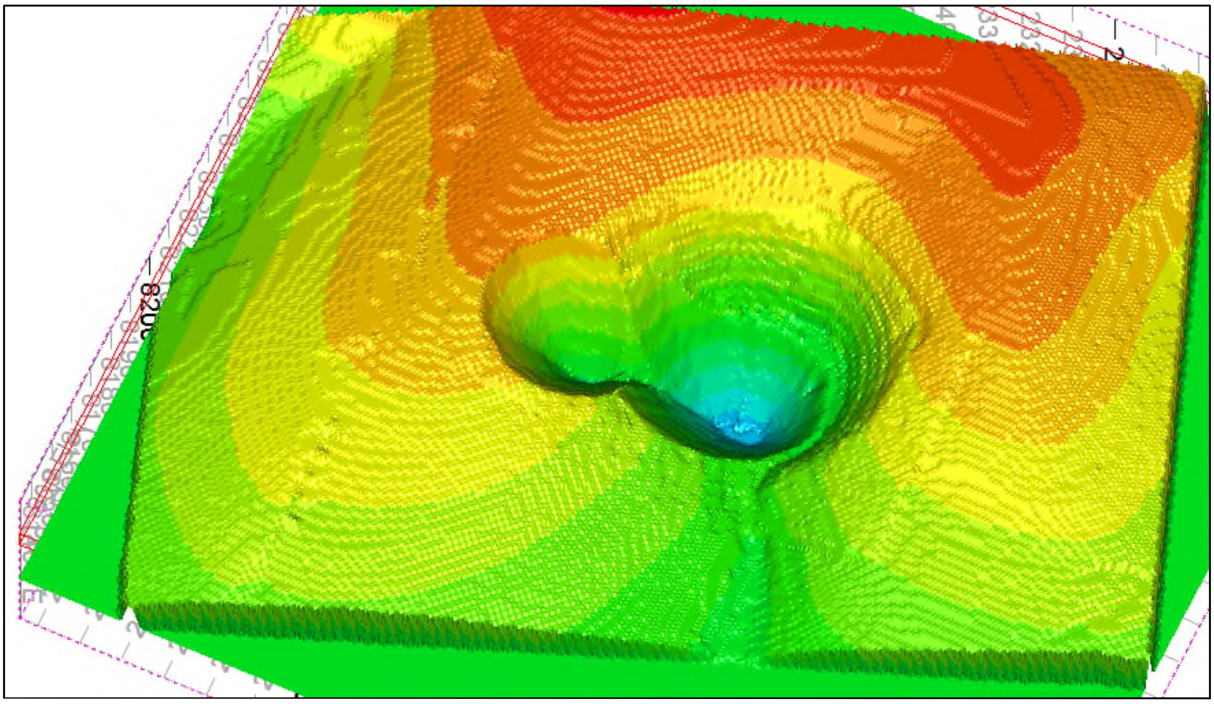


Figure 15.1: 3D View of WAI Optimised Pit

WAI estimated the Berezitovy open pit *Mineral Reserves* using the pit optimisation results. Detailed results of this estimation are given in Table 15.3.

Table 15.3: Berezitovy Open Pit Mineral Reserves as of 01 January 2012 (WAI) (in accordance with the guidelines of the JORC Code (2004))															
		Proven				Probable				Proven + Probable				Pit Summary	
Ore Type	COG	Ore (kt)	Au (g/t)	Au (kg)	Au (kOz)	Ore (kt)	Au (g/t)	Au (kg)	Au (kOz)	Ore (kt)	Au (g/t)	Au (kg)	Au (kOz)	Waste (kt)	Stripping Ratio (t/t)
Sulphide (In-situ)	0.50	9,102	1.71	15,531	499	5,332	1.91	10,189	328	14,433	1.78	25,721	827	38,656	2.68
Sulphide (Stockpiles)	0.50					3,917	1.08	4,245	136	3,917	1.08	4,245	136		
Total		***9,102***	***1.71***	***15,531***	***499***	***9,249***	***1.56***	***14,435***	***464***	***18,351***	***1.63***	***29,966***	***963***		

Note: Mining Factors of 6% Dilution and 97% Mining Recovery applied

*Waste is given inclusive of *Inferred* material

16 MINING METHODS

16.1 Current Mining Operations

The Berezitovy Gold Mine is a well-established open pit operation, with pre-production having commenced in 2006. Ore production from the mine in 2011 was 1.8Mtpa. The mill currently runs at an optimum throughput of 1.2-1.4Mtpa; however the operations are aiming to achieve a ramp-up in capacity to 2.0Mtpa by 2013. If successful, this will result in a projected average gold production of more than 100koz of gold per annum. Historic production statistics indicate that total cash costs for the first 7 months of 2011 were US$585/oz with an average total mine operating cost of US$1.83 per tonne of rock, equating to US$21.76 per tonne of ore mined.

16.1.1 Pit Design

There have been several amendments to the ultimate pit design since its initial approval in 2004. The initial safety berm width of 6m has been increased to 10m (15m at the +630m level); after operational practice ascertained that mechanical cleaning at the slope face could not be executed safely using the existing equipment (Komatsu D-355 bulldozer). The safety berm modification does not alter the pit layout plan or final slope wall angle.

The deposit is divided into two orebodies – Northern and Southern. The orebodies merge into one orebody, termed the Southern orebody, at the +600m level. As a result the Berezitovy production plan involves two pushbacks - Stage I Pit, and Stage II Pit.

The Stage I pushback encompasses extraction of the Southern orebody (from 2006-2012/13), with mining occurring between the +820 and +630m horizons and at two working faces. Subsequent to merging of the two mining faces at the +630m level, the Stage II pushback will begin with mining at one working face from the +630m horizon down to the designed pit limit.

The ultimate pit was designed with permanent haul roads with a gradient of 10%; however the haul roads are currently being redesigned to satisfy State requirements of an 8% grade for permanent roads; whilst also trying to maintain the planned production schedule without altering the ultimate pit limits. Potentially an 11% road gradient will be applied for the last five benches of mining, with the gradient of haul roads progressing from 8%-10%, from the top levels. Permanent roads will have a gradient of 8%. In addition, as the pit progresses to its final dimensions there will be a 50m, non-graded ramp every 600m.

16.1.2 Pit Layout

The location of the Berezitovy deposit in the slope of a mountain predetermines several logistical factors of the pit, including longer transport distances, as well as the availability of locations for waste dumps. Several low capacity waste dumps have been constructed on the outskirts of the pit to enable adequate waste storage as the pit progresses at different horizons. There are three main waste dumps, depicted in Figure 16.1 below.

In addition, there is a dry tailings dam facility, a crushed ore store and several stockpiles. The pit infrastructure also includes an industrial area incorporating a workshop, fuel charging area and portable cabins; an explosives storage facility; and temporary and permanent roads.

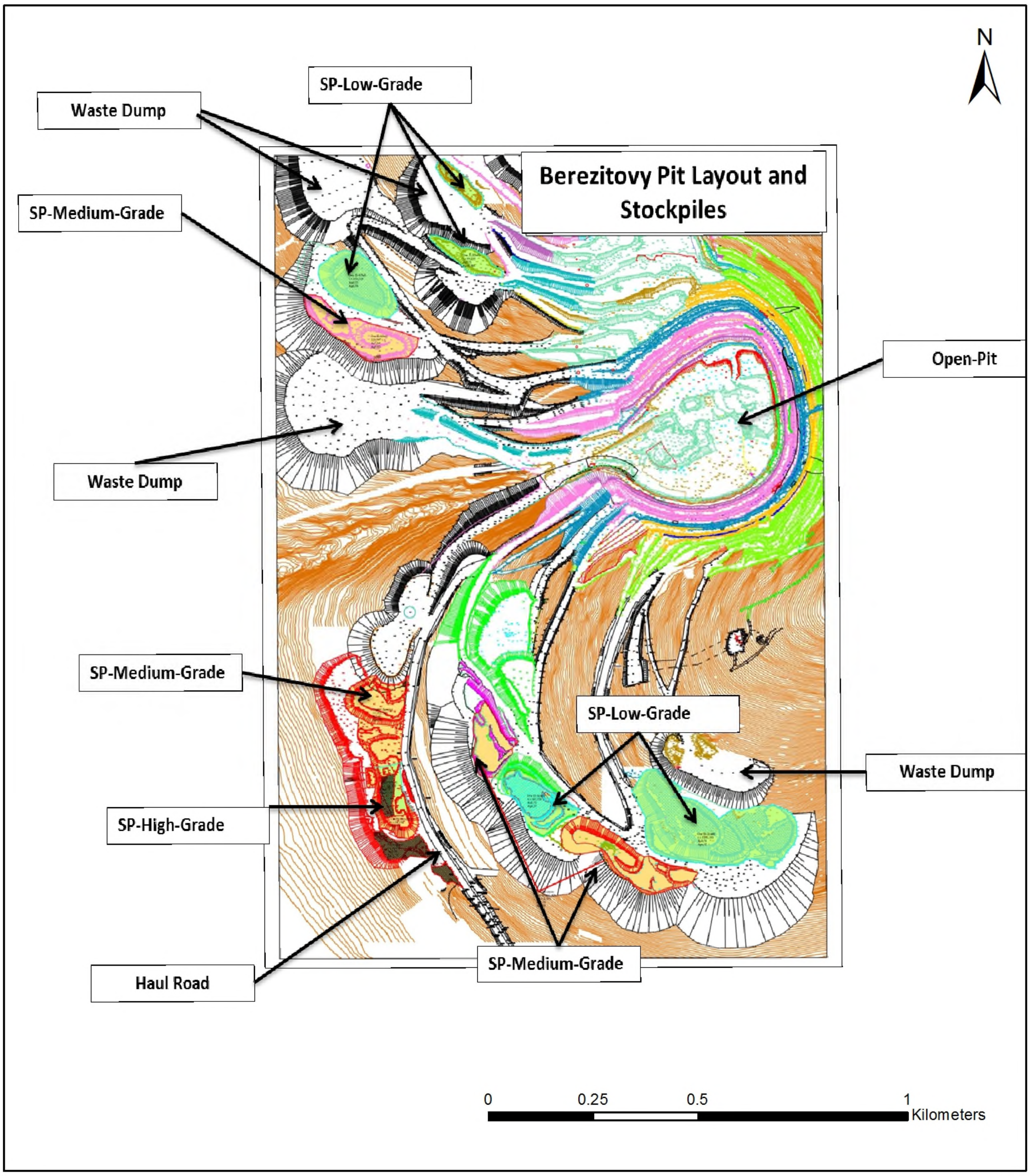


Figure 16.1: Open Pit Layout (SP= stockpile)

16.1.3 Ore Types and Stockpiles

There are three ore types at Berezitovy. High-grade ore is defined by gold grades of >2.0g/t Au and is sent straight to the mill after extraction. Medium-grade ore (balance ore) ranges between 1.0-2.0g/t Au, and low-grade ore (off-balance ore) between 0.5-1.0g/t Au. At 01 January 2012, 1,398kt of medium-grade ore (average grade 1.71g/t) is stockpiled at various locations at the pit outskirts, whilst 2,519kt of low-grade material (average grade 0.74g/t) is also stockpiled (Table 16.1).

Table 16.1: Berezitovy Ore Stockpile Balance					
Number of stockpile	Ore Stock Balance as of 01 January 2012				
	Ore kt	Average grade		Metal kg	
		Au	Ag	Au	Ag
Medium grade (Balance Ore)	1,398	1.71	9.72	2,394	13,589
Low grade (Off-Balance Ore)	2,519	0.74	6.63	1,860	16,703
Total Ore in Stockpiles	**3,917**	**1.09**	**7.73**	**4,254**	**30,292**

16.1.4 Rock Properties and Slope Stability

The rock mass comprises hard rock, with variations in hardness dependent on humidity and permafrost. As a result of the hardness of the rock mass, fragmentation (in both ore and waste) during drilling and blasting operations can be an issue. The heave factor varies from 1.20 to 1.55, at an average of 1.40.

A high final wall angle (75°), corresponding to a 55-61° overall pit slope angle, is implemented at Berezitovy. However, stability calculations according to State guidelines suggest a Russian stability margin factor of 1.56-1.95 for pit walls, which indicates a high stability and reliability. The calculations also indicated a 10-15% reduction in the stability margin factor of the walls in the case of water ingress, although this stability factor is still above the State recommended values.

In practice, the rocks are generally stable, and there have been no major slope failures. Pit displacement is monitored by a mine surveyor via monitoring points located in the pit walls. The ongoing results of the monitoring system indicate insignificant levels of pit displacement over the course of operations. Any stability issues that are experienced tend to be associated with rare occurrences of rock fall. To mitigate, trap nets are installed in sections of safety berms where rock fall is a risk, entrapping broken rock and preventing rock falls.

16.1.5 Mining Method

Berezitovy is mined using a conventional open pit mining system, mining top-down bench by bench and employing drill and blast of ore and waste rock combined with truck haulage to the surface. Both ore and waste is loaded using hydraulic excavators and electric shovels, with 45t and 55t diesel powered BELAZ and CAT off-highway trucks for transport of rock either directly to the primary crusher or to the waste and ore stockpiles. The 2011 overall strip ratio to date is 9.13.

16.1.5.1 Drill and Blast

Two types of drill rigs are used at the site for the purposes of drilling blast holes, specifically a Sandvik Pantera 1,500 and an Atlas Copco DM-45. The rigs operate with 127mm and 152mm (176) diameters respectively.

Standard drill and blast techniques are used at Berezitovy, with presplitting adopted to increase bench definition, control over break and reduce rock fracture. Efforts to maintain effective drilling and rock fragmentation by reducing the blasthole grid are necessary as a result of the hardness of the rock mass. Therefore, a grid of 4.5mx4.5m (Figure 16.2) is used for waste and, generally, a denser grid of 3.5mx3.5m is used for ore to achieve greater fragmentation. After blasting, approximately 3% of fragmentation is oversized. In addition, specific blast patterns, hole size and charge layouts are used for final wall delineation.

A Nonel initiation system is utilised. Explosives include the use of ANFO for dry blasts and an emulsion for wet blasts. Blasting parameters for 127mm holes are given in Table 16.2 below.

Table 16.2: Blasting Parameters for 127mm Holes		
Parameter	**Unit**	**Value**
Dimensions		
Bench Height	m	10
Blasthole Diameter	mm	127 (Pantera)
Blasthole Spacing	m	2.5
Distance between Rows	m	2.0
Toe Burden	m	2.5
Blasthole Subdrill	m	1.0
Depth of Blasthole	m	11
Blasthole Angle		Vertical
Stemming Length	m	3
Charge Length	m	8
Explosives		
Explosives Consumption	kg/m^3	1.5
ANFO:		
No. Holes Drilled	#	70
Explosives Charged per Hole	kg	108
Uncharged Interval	m	2.7
Charge Length	m	7.8
Emulsion		
No. Holes Drilled	#	15
Explosives Charged per Hole	kg	84
Uncharged Interval	m	3.1
Charge Length	m	7.4
Total Amount of Holes Drilled	#	85
Total Length of Drilling	m	935
Amount of Fragmented Rock per	m^3	4,675

Blasting is performed on alternate days, with a blast exclusion zone of 200m for excavators, and 700m for personnel and all other machinery.

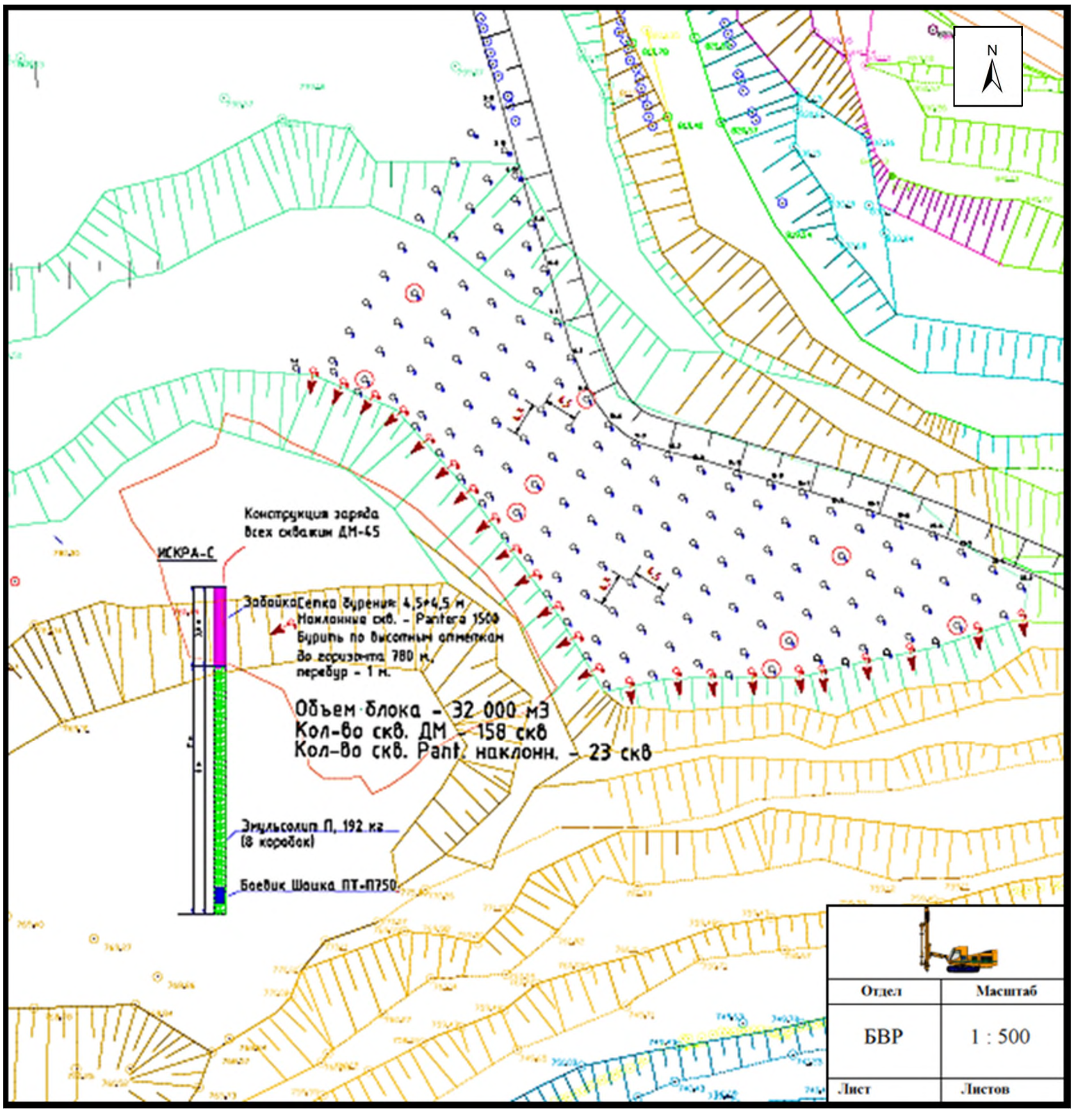


Figure 16.2: Drill and Blast Plan for Waste at the +780m Level (Scale 1:500)

16.1.5.2 Ore and Waste Extraction and Haulage

The extraction area is delineated by a geologist, based on the results of sampling (see Figure 16.3). Ribbons and pegs are used to mark up the locations and boundaries between ore, low-grade ore and waste.

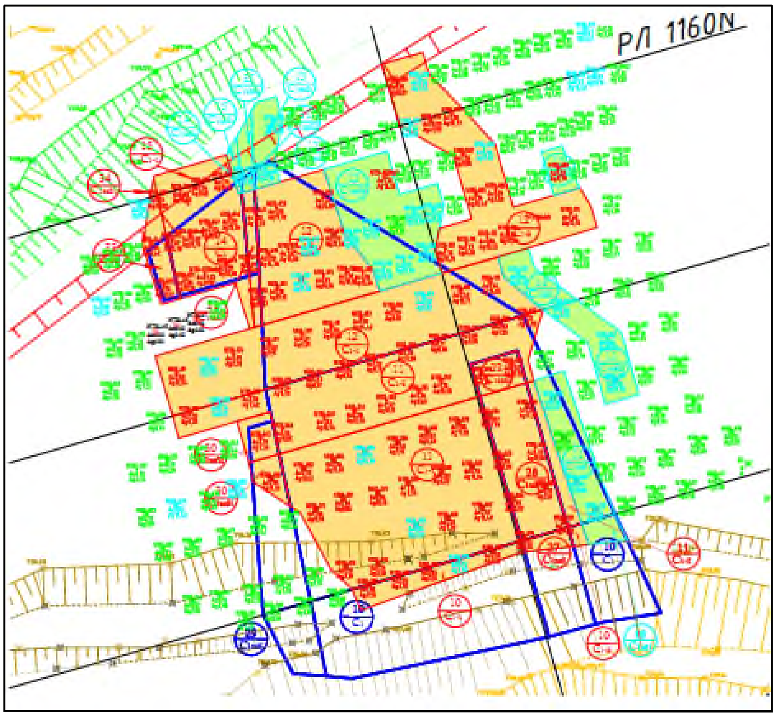


Figure 16.3: Typical Extraction Plan (Ore marked in yellow and Waste in green)

The blasted ore and waste is extracted using hydraulic excavators with bucket capacities ranging from 2.1m^3 up to 5.9m^3, and 5.23m^3 electric rope-shovels. Ore and waste is then loaded into off-highway haul trucks, either 55t Caterpillar trucks or 45t Belaz trucks.

The trucks are not equipped with on-board weighing systems. Therefore to track and calculate the tonnage of ore transported from the pit, a geologist is responsible for counting and recording the number of trucks dispatched from the bench fence. Run-of-mine ore (high grade at the time of visiting) is also weighed on pit exit at a weighbridge and the ore transported directly to the primary crusher for milling.

The number of trucks is again counted and recorded at the grizzly, and the cone of ore after crushing is volumetrically surveyed. In addition to this, the mining foreman also counts and records the number of ore trucks dispatched. This data is sent to the surveyors, and daily to the dispatcher. Medium and low grade ore is not sent to the weighbridge, but directly to stockpile. The stockpiles are routinely surveyed to calculate the volume.

Waste truck movements and tonnage estimation is less controlled, and monitored by the surveyors and miners in the pit.

16.1.6 Pit Dewatering

The expected maximum water inflow at Berezitovy is 36,161m^3/day (1,507m^3/h). In 2011, water pumps for dewatering of the pit were ordered. These were initially planned for purchase in 2012, but water inflow has exceeded the expected rate.

16.1.7 Mining Equipment and Maintenance

A list of the major mining equipment used at Berezitovy is summarised in Table 16.3. Berezitovy has reached the full equipment fleet required for production.

Table 16.3: List of Major Mining Equipment

Equipment	Manufacturer	Capacity	Utilisation Factor	No. of Units
Drill Rig:	Sandvik Pantera-1500 (Tamrock)	-	0.62	4
	Atlas Copco DM-45/HP	-	0.67	4
Electric Excavator	EKG-5A	5.2m^3	0.41	3
Hydraulic Excavator:	Komatsu PC 1250	5.7m^3	0.62	3
	Komatsu PC 400	2.1m^3	0.64	1
	Hitachi EX 1200	5.9m^3	0.64	1
	Cat 336D	2.6m^3	0.65	1
Front End Loader	Cat 990H	8.6m^3	0.69	1
Tractors and Dozers	Komatsu D355A	-	0.38	1
	CAT D9R	-	0.68	4
Haulage Truck:	BELAZ	45t	0.65	23
	CAT 773D	55t	0.66	4
Auxiliary Equipment:				
Wheel Loader	Komatsu WA-500	-	0.31	2
Dozer:	CAT D7R	-	0.59	1
	CATD6G	-	0.63	1
Grader	DZ-98E	-	0.66	1
	Volvo G946	-	0.66	1

The site is fully equipped for all maintenance and repair, with weekly, monthly and annual maintenance schedules in place for all equipment. Whilst Belaz trucks are repaired by Berezitovy staff, CAT repairs are made by a contractor.

Maintenance workshops consist of a garage for all types of trucks, welding, tyre repair workshop and storage for old tyres, and compressor facilities. There are several workshops for engine, gearbox, transmission, and cylinder repairs and an electric workshop. The spare parts storage is equipped with a computerised system.

16.1.8 Mine Personnel

Mining at Berezitovy is operated on two 12-hour shifts per day, throughout the year. The total number of personnel (all departments) is approximately 1,036. The mine works on a one month on, one month off roster. A summary of personnel directly associated with mining activities is summarised in Table 16.4.

Table 16.4: Berezitovy Mining Personnel Summary	
Position	**Number of Staff**
Management	**6**
Mine Director	1
Mine Chief Engineer	1
Chief Geologist	1
Chief Surveyor	1
Deputy Executive Director For Safety, Health, Civil Defence and Emergency	1
Technical Director	1
Geology Department	**12**
Manager of Geology	1
Principal Exploration Geologist	1
Exploration Geologist	2
Exploration Pit Staff	4
Open Pit Geologist	4
Surveying Department	**11**
Chief Surveyor	1
Deputy Chief Surveyor	1
Sector Surveyor	3
Surveyor	1
Mine Survey Staff	5
Open Pit	**386**
Open Pit Manager	1
Open Pit Deputy Manager	1
Mining Foreman	4
Blasting Team	24
Dozer Operators	36
Drill Rig Operators & Assistants (Pantera-1500 & DM 45)	48
CAT 908 Wheel Loader Operator	2
Labourers	8
Autograder Operator	4
Excavator Operators	51
Haulage Truck Operators	128
Auxiliary equipment and transport operators	79
Maintenance and Mechanical	**153**
Chief Mechanic	1
Mechanical Engineer	4
Repair Workshop Engineers	11
Repairman	61
Operators	32
Garage Mechanic	1
General and Administrative	43
Total	**568**

17 RECOVERY METHODS

17.1 Flowsheet Options

Based on testwork results, five potential options for processing Berezitovy ore were studied.

Option 1 - Cyanide leaching followed by selective flotation of zinc and lead from leach tailings.

Option 2 - Gravity separation and cyanide leaching followed by selective flotation of lead and zinc from leach tails.

Option 3 - Gravity separation followed by cyanide leaching of gravity tails with the gravity separation producing a coarse gold and a saleable gold-lead *middlings* concentrate. Zinc flotation of leach tails.

Option 4 - Gravity recovery of coarse gold, and the production of a lead-rich gravity *middlings* which would be processed in a separate cyanide circuit. Cyanide leaching of gravity tails followed by flotation of zinc from leach tailings.

Option 5 - Gravity recovery of gold and flotation of gravity tails to produce a bulk concentrate which is subjected to cyanide leaching. Recovery of lead and zinc from the leach tails using selective flotation.

It was concluded that the highest gold recovery would be provided by Option 2 (up to 90%). This processing option also included acceptable selective recoveries of lead and zinc (61.7% and 58.2% respectively) which could be processed by a pyrometallurgical plant.

Options 3 and 4 gave acceptable gold recoveries of between 87.0 and 87.3% but were rejected due to the potentially complicated flowsheet and because gold recoveries to doré product were low.

Option 1 was eventually preferred over Option 2 due to the simpler process sheet and the elimination of gravity gold concentrate refining, although Option 1 gave the lower gold recovery (86.5%). Also, testing at Lakefield indicated very little increase in recovery using gravity ahead of cyanidation.

17.2 Process Description

The plant was constructed between May 2006 and December 2007. Many of the major equipment items, including the jaw crusher, the SAG mill and the original ball mill, were sourced second hand and this impacted significantly on the operating efficiency of the plant.

In October 2009, the plant was treating ore at a rate of 1.1Mtpa. The tailings filtration capacity was being increased and an additional ball mill installed, which was planned to enable the processing rate to be increased to 1.5Mtpa in 2010 and 2.0Mtpa in 2011.

In September 2011, two new Russian disc filters and a new ball mill were fully operational and the plant was treating ore at a rate of approximately 1.4Mtpa.

A flowsheet for the plant is given in Figure 17.1.

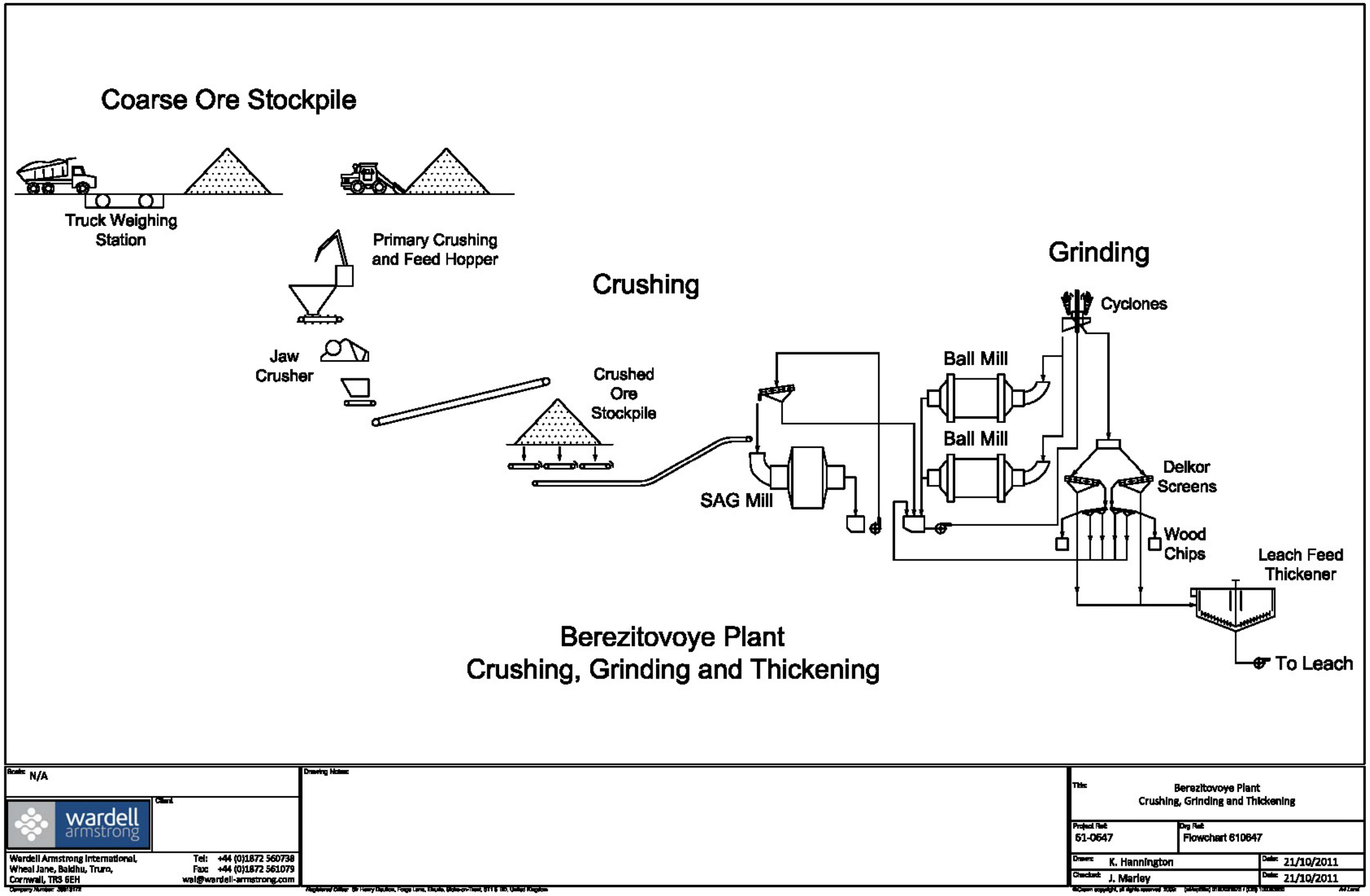


Figure 17.1: Flowsheet – Berezitovy Plant Crushing, Grinding and Thickening Circuit

17.2.1 Ore Stockpiles

Ore is removed from the pit and delivered to one of two stockpiles: on-balance/medium-grade ore stockpile containing 1,398,020t at an average grade of 1.71g/t Au; and a off-balance low-grade ore stockpile containing 2,519,140t at an average grade of 0.74g/t Au.

Ore is delivered to the main plant feed hopper using a Front End Loader. The hopper is fitted with a 1.1 x 0.8m grizzly and oversize material is broken using a hydraulic hammer drill. Ore is extracted from the hopper using an apron feeder and transferred to a jaw crusher, which reduces the material to less than 200mm. The crushing rate is variable depending on the ore being treated but typically averages 250tph. The crushing units are shut-down for maintenance work 6 days a month.

The primary crushed ore is then conveyed to a crushed ore stockpile, containing approximately 49,800t of ore at an average grade of 1.98g/t Au. The stockpile suffers from segregation of the coarser material, which tends to gravitate to the bottom of the stockpile. Ore is reclaimed from the crushed ore stockpile using three feeders.

The material is then conveyed to the grinding circuit.

17.2.2 Grinding

Ore is ground in a SAG mill – ball mill circuit to a size of 80% passing 74µm. The SAG mill is 6.7m x 2.4m and fitted with a fixed speed 1,800kW motor. Approximately 250tph of material is fed to the SAG mill, where it is ground at 75% solids. The SAG mill was originally fitted with a 12.5mm discharge grate, which restricted the mill throughput. The size of the grate has now been increased to 18mm. A major problem of the SAG mill is the production of approximately 20t of critical size material every day. Previously, this material was recycled back to the crushed ore stockpile. In late 2011, a KSD-600 crushing unit was installed within the grinding circuit to process this critical size material.

The 8.5 x 4.4m ball mill is powered by a 2,240kW motor. Previously, a number of problems with the ball mill meant that the optimum ball loading could not be reached and the target grind size was not being achieved, resulting in a reported recovery loss of 2%. Numerous repairs and a recommendation from Irgredmet to implement a 23% ball loading have rectified this problem.

The milling rates of this original circuit ranged from 185 to 220tph.

During the second half of 2010, a new 4.5 x 6m ball mill was installed in parallel with the existing circuit. In September 2011, it had increased milling rates to an average of 250tph. The various modifications made to the grinding circuit appear to have resolved the issue of under grinding the material, with 80-82% now passing 74µm.

The mills are out of operation for an average of 6 days a month for maintenance work, which accounts for a plant utilisation factor of 0.81.

The addition of cyanide to the grinding circuit causes problems with sampling, as the mill water contains solubilised gold, thus necessitating the analysis of both solid and liquid phases in order to obtain an accurate gold assay.

The cyclone overflows are screened using a combination of Delkor Screens to remove wood chips and vegetation.

In October 2009, a small centrifugal gold recovery unit (0.8m diameter) was installed within the grinding circuit for trial testing. A gravity table was also tested around the same period. Both pieces of equipment proved uneconomical and were subsequently removed from the circuit.

17.2.3 Leaching

The ground pulp, at roughly 24% solids, passes to a 24m diameter thickener. The thickener overflow is returned to the grinding circuit and the underflow, at 52-53% solids, is pumped to the leach tanks.

There are eight leach tanks, each with a capacity of 430m^3. The tanks are air sparged but the levels of dissolved oxygen are not determined. Cyanide is added to tanks 1 and 5 and the pH is maintained at 11.5.

Carbon adsorption takes place in six 330m^3 adsorption tanks. Previously, 28t of Malaysian carbon was used in the circuit. This has recently been substituted for new Thai carbon, the optimised loading of which into the column is still under review. An initial loading of 84t yielded unsatisfactory tailings grades. Approximately once a week, the carbon loading is reduced by between 5-6t to measure the effect on the grade of the tailings. If still deemed to be unsatisfactory, the carbon loading is reduced by a further 5-6t until an optimised loading level is reached. In September 2011, there were 54t of Thai carbon in the adsorption tanks.

The loaded carbon, typically assaying 1.5kg/t Au is screened and passes to desorption. Carbon reactivation is achieved partially in a kiln, and partially via an acid-wash process.

17.2.4 Desorption and Electrowinning

Gold is recovered from the carbon using a conventional desorption-electrowinning and smelting process.

There are three desorption circuits, one capable of processing 6m^3 of carbon, while the other two are capable of processing 4m^3 of carbon each. The units are of Chinese manufacture and are capable of stripping carbon down to 120ppm Au.

Electrowinning takes place in four 4m^3 electrowinning cells. There is one back-up cell should maintenance work be required on one of the four operating cells. The cathode sludge, which assayed 177kg/t Au, is smelted on site to produce doré.

The smelter is operated approximately twice weekly but this is dependant on the rate of material passing through the plant. There was originally only one furnace, but the delivery of a new Chinese furnace and the manufacture of another furnace on-site, both in 2010, have increased the current complement to three.

The smelter is involved in the monthly production of approximately 700kg of doré, typically assaying: 32-34% Au; 32-34% Ag; as well as quantities of Zn, Pb and Cu.

17.2.5 Filtration of Leach Tailings

The Berezitovy plant uses dry deposition for tailings disposal. There are currently two dry tailings dams, with a combined capacity of 3.3Mm^3. The leached tailings are pumped to a filter station which originally consisted of three disc filters of Chinese manufacture. Each filter has a 200m^2 filtration area. The filters proved to be unreliable due to poor construction materials and mechanical failure, and it was reported that nearly all working parts had to be replaced. The old Chinese filter cloth has recently been replaced with better quality Canadian filter cloth, allowing each filter to run at a rate of 60-80tph.

In October 2009, two additional disc filters of Russian manufacture were in the process of being installed. These are now fully operational, each with a 100m^2 filtration area and capable of processing 40-60tph. It is reported that Canadian filter cloth is due to replace the current filter cloth in the two Russian disc filters.

In the second half of 2010, modifications and repairs within the filtration plant have allowed for increased capacity of tailings filtration to cope with the current processing rate. However, even with the modifications made, the filtration station would be incapable of dealing with all of the plant tailings if the processing rate was increased to 2.0Mtpa as planned. Plans to modify existing, or install additional, filters to deal with increased production rates are still in preliminary stages.

The initial problems of filtering the leach tailings resulted in large quantities of the leach tails being sent directly to the wet tailings dam without prior filtering. In 2008, it was reported that some 60% of the plant tailings was sent to this dam, although this figure fell to 30% in 2009. The modified filtration station is operating such that no tailings have had to be sent direct to the wet tailings dam in 2010 or 2011. Any pulp that was pumped into the wet tailings dam was directed back to the filtration station once the modifications had been completed.

If the level of the wet tailings dam was to exceed its capacity of 500,000m^3, the excess would be diverted to an emergency tailings pond. However, this has not occurred at any point during the operating life of the plant thus far.

17.3 Process Control

The plant is controlled using a SCADA system supplied by Festo (German manufacture). The system monitors the SAG mill feed rate, together with cyclone feed and leach tank 1 pulp densities. The levels of pH and cyanide in the leach circuit are also monitored and controlled.

17.3.1 Plant Sampling

The Technical Control Department (OTK) is responsible for the sampling of the process plant. This is undertaken according to detailed procedures which state the sampling methodology and sampling interval for each processing stream. As well as chemical analysis, process streams may be tested for pH, particle size distribution (PSD), cyanide concentration and specific gravity.

The more important samples are described below:

- The Run of Mine ore is sampled manually directly from conveyor 2 (the conveyor transporting the crushed ore from the stockpile to the SAG mill) once every hour;
- There is a weightometer on the SAG mill feed, which is calibrated once per month by the instrumentation department using known weights and chains. Once yearly it is calibrated by the “Amur Centre for Standards Accreditation”;
- The sampling of the plant feed is complicated by the partial dissolution of the gold in the grinding process. Therefore the sample is filtered and both the solids and liquid phases are assayed for gold;
- Automatic samplers are installed on the first leach tank and also on the leach tailings pulp as it enters the filtration plant. Cuts are made every 20 minutes;
- The feed to the first adsorption column is sampled every 2 hours; and
- The stripped carbon is sampled after each desorption cycle, approximately every 12 hours. The pregnant solution, passing to the electrowinning circuit, is sampled every hour. Flow measurements around the desorption circuit are also made hourly.

17.4 Consumables

The 2011 data for the major plant consumables is given below in Table 17.1.

Table 17.1: Plant Consumables 2011	
Item	**Consumption (g/t of ore)**
Grinding Media	3,400
NaCN	800
Lime	3,890
Carbon	150
NaOH	150

The consumption of all items is up on previous years, most notably in the case of grinding media, which stands at 3,400g/t compared with just 2,030g/t in 2009. This can be attributed to the installation of a second ball mill in parallel with the original, which accounts for an additional 1.2kg of grinding balls per tonne of ore processed.

Carbon consumption is also higher than in 2009, up to 150g/t from 118g/t. This is due to the higher quantity of carbon entering the adsorption tanks.

The grinding media is sourced from Russia and the sodium cyanide from Korea. The carbon was previously obtained from a Malaysian supplier but is now sourced from Thailand. The rates of consumables are typical for a moderately hard, non-refractory ore.

17.5 Water Balance

A water and mass balance for the processing plant in progress, was detailed for the milling and thickening circuit but did not include tailings filtration. As such, water losses to tailings and internal recycling from the filtration station could not be accounted for here.

The process water requirement for the plant is approximately 21,000m^3 per day. Water flow to the filtration station is estimated at 5,200m^3 per day, although much of this will be recycled back to the plant. Internal recycling from the thickener provides 11,600m^3 per day. Additional recycled water is provided by two pumps installed at the liquid tailings dam, each capable of pumping 200m^3 of water per hour back to the process plant. Fresh water supply is provided from five boreholes. The mass and water balance was calculated based on an annual capacity for 2011 of 1.8Mtpa, significantly higher than the actual throughput of approximately 1.4Mtpa.

There are eight boreholes in total, numbered 1-8. Boreholes 1,3,6,7 and 8 are used as freshwater sources for the processing plant and typically provide 1,000-1,600m^3 per day. Borehole 4 is a potable source of freshwater for the accommodation village. Boreholes 2 and 5 are now closed as they are no longer deemed profitable.

17.6 Production Data

The annual production summary for the plant is given in Table 17.2.

Table 17.2: Berezitovy Gold Mine Operating and Financial Data (HRG, MD&A Results 2010-2011)

	2011	2010	2009	2008
Tonnes mined	1,757,839	1,500,000	1,341,000	833,000
Tonnes millled	1,391,243	1,050,000	1,092,000	691,000
Gold grade (g/t)	2.6	2.2	2.8	2.5
Recovery(%)	89.8	89.1	87.3	89.4
Gold production (oz)-100% (*)	104,294	66,651	87,448	15,692
High River share of production - 90.00%	104,200	65,984	86,574	15,535
Direct mining cost (US$/oz)	625	913	487	710
Cash operating cost (US$/oz)	601	918	505	734

*** Gold Production is comprised of refined gold and dore alloy**

Production commenced during the final month of 2007, in which approximately 60,000t of ore was processed at a low head grade of 1.87g/t Au. In the first full year of production (2008), a total of 691,000t of ore was treated at an average plant head grade of 2.5g/t Au. Production was increased to almost 1.1Mtpa in 2009 but this fell to 987,326t the following year, in 2010. This is attributable to the disruption to processing caused by the installation of a second ball mill in the grinding circuit in 2010, giving a plant utilisation factor of only 0.69 for that year.

17.7 Plant Expansion

Production data for 2011 showed a throughput of approximately 1.4Mtpa. Information provided by the mine management has shown a planned production rate of 1.8Mtpa for

2012, increasing to 2.0Mtpa by 2013 and continuing at this rate for the remainder of the mine's operating life.

A crushing unit has been installed within the grinding circuit to process the 20t of critical size material that is produced by the SAG mill daily.

The filtration station would either install additional filters or make modifications to the existing five filters to cope with the demand of the increased throughput, if the production capacity of the plant was to be increased to meet the target of 2.0Mtpa. It was reported that under no circumstances would the leach tails be pumped direct to the wet tailings dam, as happened previously in 2008 and 2009.

17.8 Assay Laboratory

The laboratory analyses samples from all stages of the production process including geology, mining production, processing and environmental. In 2008, the laboratory assayed over 13,000 samples. The majority of the exploration samples are only prepared in the laboratory and sent to an external laboratory for analysis.

17.8.1 Sample Preparation

In-house mine and geological samples are crushed to pass 2mm using a jaw crusher, before being split to produce a reference sample and a test sample, which are further crushed to 1mm before pulverising to 100% passing 74µm using a Tema mill.

17.8.2 Fire Assay

Fire assay is the main method of gold analysis. There are two furnaces, which are operated at 1,100°C, with each batch of samples taking one hour. One furnace is capable of holding 24 crucibles, while the other can take 12. The type of flux used depends on the material being assayed, but the normal components are sodium borate, silica, flour and lead oxide. Cupellation takes place in a separate furnace at 930°C, for 40 minutes. The fire assay is capable of analysing 120 samples per day.

The weights of sample used in analysis are 50g for ore samples, 100g for tailings, 1-3g for carbons and 0.25g for doré. Crucibles can be used up to 10 times, depending on the grade of sample analysed. The cupels are manufactures in house.

The limit of detection by fire assay is 0.2ppm Au by default, as set out by geological regulations. In reality, the limit of detection is more akin to 0.004ppm Au.

17.8.3 Other Analytical Methods

Atomic adsorption spectroscopy (AAS) is used for base metal analysis (predominantly lead and zinc in ore samples). It is also used for the analysis of exploration samples and for environmental analysis.

The laboratory also uses wet methods of analysis for sulphate, nitrate, nitrite, cyanide and thiocyanate.

17.8.4 QA/QC Procedures

The laboratory uses a range of Standard Reference standards supplied by Rocklabs, an internationally recognised company specialising in sample preparation equipment and reference material. The standard ore sample assays 1.65ppm Au (tolerance +/-0.08ppm Au) and the tailings sample assays 0.71ppm Au (tolerance +/- 0.03ppm Au).

A regular system of duplicate analysis is used and the allowable differences between the analyses are given in Table 17.3.

Table 17.3: Agreement between Duplicate Analyses

Assay (ppm Au)	Agreement (+/- ppm Au)
0.36	0.12
1.04	0.26
4.3	0.90
10.9	1.3
20.9	1.9

The sample batch is repeated if the agreement falls outside these limits.

17.9 Plant Personnel

There are a total of 114 personnel employed in the processing plant, operating on two 12-hour shifts. The shift rotation is one month on and one month off. There are a total of 15 engineers and one overall Processing Plant Manager.

Within the hydrometallurgical section of the plant, there are six engineers, subdivided into four foremen and two managers, and 28 workers. Of these 28 workers: fourteen are described as Gold Ore Concentration Operators; six are involved in the preparation of reagents; and eight work as Smelter Operators.

Five engineers work within the comminution section of the processing plant; three as foremen and two as managers. A further 34 other workers are employed in comminution: nineteen Crusher Operators; four Conveyor Operators; and eleven Mill Operators.

There are four engineers (two foremen and two managers) in charge of the filtration and tailings station. They are responsible for 24 workers within this section: eight Conveyor/Stacker Operators; three Recycled Water Pump Station Operators; and thirteen Filtration Operators.

Four operators are employed within the control room. The remaining eight staff members are described as Repair Operators and Caretakers.

17.10 Processing Operating Costs

The processing costs for the plant are given in Table 17.4 below.

Table 17.4: Plant Processing Costs

Year	Cost (US$/tonne)
2008	12.0
2009	12.0
2010	12.8
2011	15.9

The costs are typical for the treatment of a moderately hard gold ore.

18 PROJECT INFRASTRUCTURE

The Amur Oblast region has a large surplus of hydroelectric power and a highly reliable supply network. Power is provided to the site from the main substation at Skovorodino through construction of a 101km, 110kW power line. Backup power is provided at site to maintain essential power requirements in the event of a power failure.

Other facilities supporting the mining and processing operations are:

- Mine maintenance shop;
- Vehicle garage;
- Main warehouse with laydown area equipped with gantry crane;
- Fuel and lubricants storage and distribution facility;
- Main electrical substation;
- Rainwater collection ponds and treatment plant;
- Explosives magazines;
- Water reservoir and potable water wells located on the Oroghzan river;
- Sanitary landfill; and
- Septic system for sewage treatment.

A location plan showing the main elements of infrastructure is given in Figure 18.1 below.

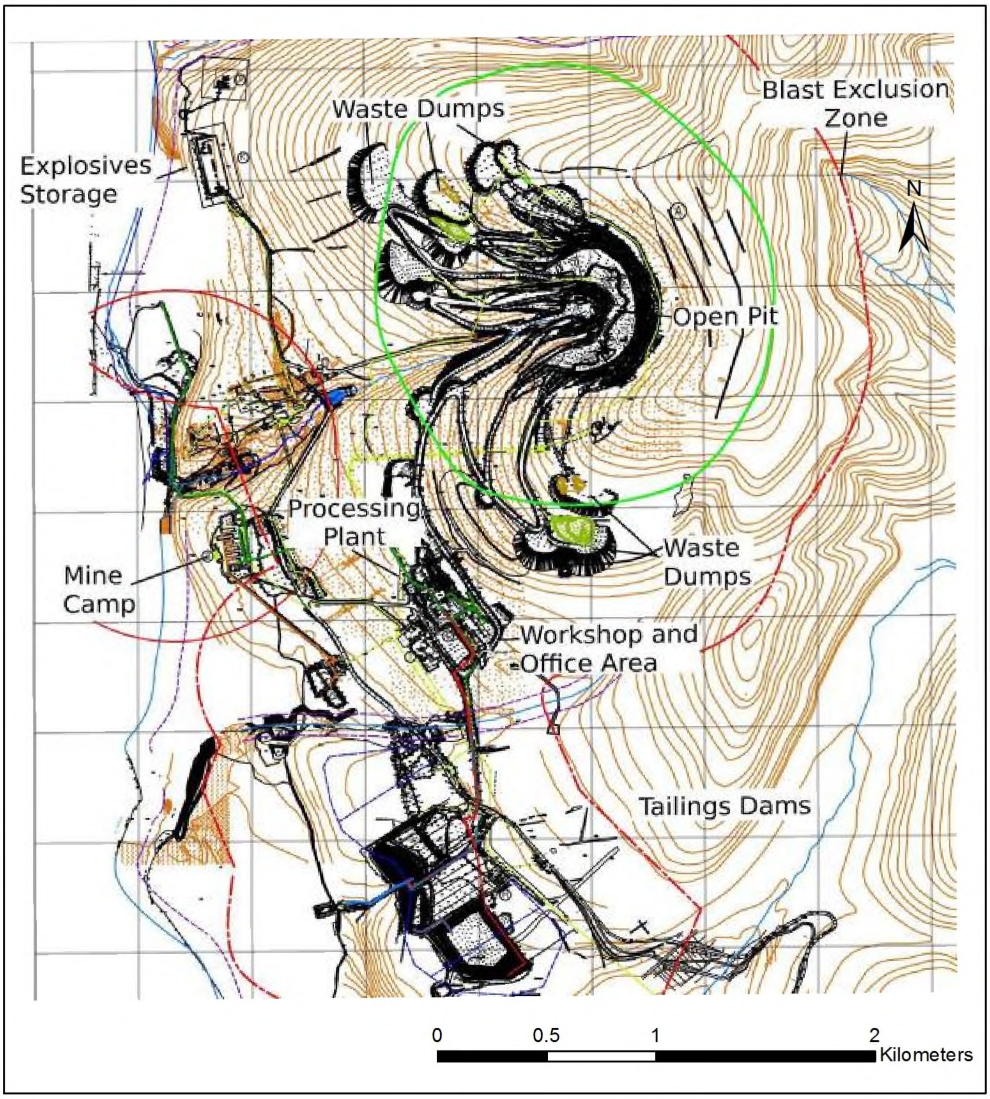


Figure 18.1: Plan showing the Location of the Main Elements of Infrastructure

All employees are housed on site in a purpose built port cabin camp. Accommodation is required for approximately 415 people and this is provided in four units holding 105 beds for non-staff employees and two 6 room units for staff employees. The camp area includes food storage, kitchens, catering and recreational facilities. The main mine dry is located in the camp area as well.

All freight for the site arrives at Urusha by rail or truck and is received at a transfer centre for trans-shipping to the mine. This centre also facilitates employees arriving and leaving the mine on shift rotation changes. This facility includes a railway siding and platform, supplies and food storage warehouses, reagents warehouses, lay-down yard with gantry crane and an administration/accommodation building.

The mine utilises satellite communication systems which provide telephone and internet services. On site telephone and computer networks are also installed. A satellite image of the site is shown in Figure 18.2 below.

Figure 18.2: Satellite Image of the Site Area

19 MARKET STUDIES AND CONTRACTS

19.1 Markets

Gold is a metal that is traded on world markets, with benchmarks 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, activities by HRG will not influence gold prices. The dorè alloy produced by HRG 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. Table 19.1 sets forth, for the years indicated, the high and low London PM fix for gold (in United States dollars):

Table 19.1: High and Low London PM Fix for Gold (in United States dollars)

Year	High	Low
2002	US$349.30	US$277.75
2003	US$416.23	US$319.90
2004	US$455.75	US$373.50
2005	US$536.50	US$411.10
2006	US$725.00	US$524.75
2007	US$841.75	US$608.30
2008	US$1,011.25	US$715.50
2009	US$1,227.50	US$801.50
2010	US$1,421.00	US$1,058.00
2011	US$1,895.00	US$1,319.00

The global credit crisis that began in the summer of 2008 had a profound impact on HRG. The ability of HRG to access financing was severely curtailed during a time when financing was required due to a depletion of working capital resulting from the delayed start-up of its two new gold mines. By the end of 2010, there were signs of global recovery, which made financial markets friendlier while the gold price continued to trend upwards.

Over the three year period of 2008 to 2010, world gold prices increased significantly. In 2010, world gold prices averaged approximately US$1,227 per ounce, compared to US$972 per ounce in 2009 and US$872 per ounce in 2008. This had a significantly favourable impact on revenue from production from HRG's four producing mines. In the second half of 2010, the Russian rouble depreciated significantly against major currencies. This improved the profitability of HRG's three Russian mines, which partially balanced the impact of inflation from local currencies.

19.2 Contracts

HRG advise that there are no contracts for mining, smelting, refining, transportation, handling or sales that are outside of normal or generally accepted practices within the mining industry. HRG have a policy of not hedging or forward selling any of their products unless required to do so by outside organizations.

20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

20.1 Environmental & Social Setting and Context

20.1.1 Water Resources

There are several surface water courses flowing within the project area. The main river in the area, which runs north-south along the western side of the site, is the River Haykta.

The result of the study undertaken by HRG into the groundwater reserves in the aquifer used by the site is due in 2012.

There are 6 boreholes in use at the site pumped from various depths to provide all the water needs of the site. One of these is designated as the potable water supply and pumps from a depth of 100m. The area is affected by permafrost down to a depth of 30m, however the constant movement of the water through the pumps prevents freezing and ensures a constant supply of water throughout the year.

The head-works for the boreholes are located in heated huts with the pipework above ground and insulated.

There are two storage tanks in place near the river for technical water, however if necessary, water can also be pumped directly from the boreholes to the processing plant. The technical water demand on site is 1000-1600m^3 per day.

Potable water demand on site is approximately 120-140m^3 per day. This is supplied from borehole No. 4, and pumped to a small treatment facility located near the accommodation buildings. Water is treated by graphite/carbon filters which are cleaned every 2 days. Once treated, potable water is stored in two 18m^3 storage tanks which are also regularly cleaned. Supply to the accommodation buildings is only drawn from one tank at a time with the second tank used as a reserve.

20.1.2 Communities and Livelihoods

The project is remotely situated. The nearest large town is Skorovodino, approximately 128 km south east of the site and the nearest settlement is Urusha, 50km south of the site. The staff work on a one month rotation and are transported to Skorovodino from where they can travel onwards to Blagoveshchensk or other locations.

20.1.3 Infrastructure & Communications

There is reasonable quality road access to the site and it is approximately a 3hr drive from the site to Skorovadino. The main road, providing access to Chita, amongst other places, has been recently resurfaced to a high standard. It is understood that the nearest major airport is at Blagoveshchensk.

20.2 Project Status, Activities, Effects, Releases & Controls

20.2.1 Project Description & Activities

Production at the open pit mine commenced in 2006, utilising conventional open pit mining systems. The site currently comprises of an open pit, processing plant and tailing management facility (TMF), mechanical workshops, office block, water treatment plant, solid waste landfill site, electricity substation, chemical store, fuel store, explosives store and staff accommodation buildings. It is anticipated that current production levels will be increased over the next two years.

20.2.2 Energy Consumption & Source

There is a main electricity supply to the site which provides sufficient power for the needs of the mine. There are no additional power generation facilities on site. Two transformers, of 10mW capacity, are installed at Berezitovy to provide for the power needs of all site operations. These transformers are designed to function at 70% capacity and were installed 5 years ago. The power demand on site is approximately 6–7 million kWh/month; therefore the available transformer capacity is almost double that of the site demand.

There is a transformer oil cleaning unit installed on site although no chemical analysis (for Polychlorinated Biphenyls [PCBs] predominantly) is undertaken. There is also an oil storage facility which holds 10t of transformer oil on site.

20.2.3 Mine Wastes – Rock

Waste rock is stored in heaps at various points around the site. Tipping practices on waste rock piles should be reviewed as International Best Practice requires trucks to tip away from the edge of the heaps and then a bulldozer to be used to push the rock over the edge, rather than the current practice of tipping over the edge of the dumps by the trucks. The strip ratio at the site is medium to low.

No geochemistry analysis of the waste rock was available however it is known that the main ore type is primary, or sulphide, therefore it can be expected that some level of sulphides will be found in the waste rock.

20.2.4 Mine Wastes – Tailings

Tailings at the site are sent to a semi-solid storage facility via a filtration circuit. All tailings from the site are managed in this way and the liquid tailings facility (previously referred to as the Emergency Tailings Facility) has not been used since the installation of 2 new Russian filters.

Tailings are piped from the processing plant to the filtration plant via over ground, insulated pipes. These pipes are easily visible for inspections. There is no contained drainage surrounding the pipework. The filtered tails are transported from the filtration plant to the appropriate area of the TMF by dedicated trucks. These are loaded by elevated conveyor directly from the filtration plant. From visual inspection it appeared that the remaining water in the tails gradually drained out of the material and pooled within a lower section of lined TMF.

The semi-solid TMF is a lined construction, with geotextile plastic underlain by geotextile fabric and sand. An extension area is currently under construction. A brief inspection was made of one area of the geotextile, and some tears were noted in the newly constructed areas. The capacity of the current TMF is 1.8Mm^3 and the extension capacity is 1.5Mm^3.

The extension of the TMF was being lined at the time of the visit. A small area was visited and appeared generally in good condition; however there was some damage to parts of the geotextile liner. WAI were assured that the contractors would re-visit the area and weld patches to cover the damage. It was evident that this had already occurred in other near-by areas.

The liquid TMF has not been used since the installation of additional filter capacity. It was stated that the water in the liquid TMF was only added to by precipitation and some surface run off from surrounding roads.

The Liquid TMF is also lined with geotextile and has a capacity of 500,000m^3. The 2009 report suggests that this lining was breached based on increased levels of sodium cyanide being recorded in down-gradient groundwater monitoring points. It is not known whether this is an on-going problem or whether remediation works have been undertaken.

In addition to the semi-solid and liquid TMFs, there is also an emergency tailings facility, beyond the semi-solid storage area, which has not been used since it's installation in 2008. If the level in the liquid tailings facility gets too high, tails would be pumped to the Emergency TMF, cleaned and discharged to a settlement pond, with natural drainage into the neighbouring swamp area.

20.2.5 Water Management & Effluents

Currently there is no dewatering from the open pit however groundwater influx into the pit. The site is awaiting delivery of a pump to enable removal of the water from the pit.

Water for use at the site is extracted from a series of groundwater boreholes. A study is currently underway into the size and lifespan of the aquifer, the results of which are expected in 2012. Prior to use as a domestic water source, the water passes through a carbon filtration system.

The site has a dedicated sewage treatment works for dealing with the sewage generated on site. This plant is a 3-stage filtration utilising antibacterial chemicals, bacteria and carbon to clean the effluent, which is then discharged to an unlined filtration pond. The maximum capacity of the plant is 3600m^3 however with 1000 – 1600m^3 effluent being generated each day at the site. The facilities have been upgraded in 2011. It was reported that the discharge permit is in place and is managed by the Environmental Manager in Blagoveshchensk.

20.2.6 Emissions to Air

According to the results from dust emissions from the secondary (post crushing) stockpile at the processing plant, during dry weather there is an issue with dust emissions from the conveyor between the crusher and the secondary stockpile and potentially from the primary stockpile.

Dust suppression on the haul roads is through use of bowsers.

20.2.7 Waste Management – General

Dry wastes such as plastics and office waste are disposed of in the solid waste landfill at the site. Food waste is fed to the pigs which are kept at the site.

Waste tyres and scrap metal are stored in an area below the mechanical workshop and collected for disposal by an appropriate contractor once a cost-effective quantity has been generated.

The Environmental Manager in Blagoveshchensk collates records of the tonnages produced on site and provides them to the relevant authorities as required.

20.2.8 Hazardous Materials Storage & Handling

20.2.8.1 Chemical Storage Area

The chemical storage area is secured by a barbed wire fence, locked gate and 24-hour security. The ground within the chemical storage area is compacted hard core, unlined and with no contained drainage system.

Trained workers are responsible for off-loading, via crane, the shipping container(s) from the vehicles. These containers are placed within the chemical storage compound until they are required at the plant. Containers are moved to the processing plant via a dedicated vehicle.

20.2.8.2 Cyanide

The sodium cyanide (NaCN) used at the site is sourced from Korea and transported by ship, rail and road to the site. The NaCN is stored in plastic bags, within wooden crates which are then stacked in shipping containers for transport. Once at site the crates remain in the shipping container until required at the processing plant. The entire shipping container is moved to the plant so no NaCN is transported across the site other than within the shipping containers.

A cyanide Emergency Response Drill was undertaken on 23rd August 2011 within the cyanide mixing area and showed what appeared to be appropriate PPE being worn and security and medical services in attendance at the incident.

Surface containment and runoff systems need to be put in place at the storage facility to ensure that environmental contamination does not occur.

20.2.8.3 Other Chemicals

Caustic soda is stored at the chemical storage facility, as well as activated carbon. These chemicals are also stored in shipping containers and only transported to the processing plant within these containers.

20.2.8.4 Hydrocarbons

Diesel is used to power the plant equipment on site. The nearest licenced fuel storage facility is located 100km from site, and the mine owns two tanker vehicles which visit the facility twice a day to collect fuel. The diesel consumption on site is reported to be approximately 30t per day.

There is an emergency fuel storage facility on site, with no impermeable surfacing or bunding, it is however locked, with a chainlink fence surrounding it. A new permanent storage facility is planned. This facility will be constructed by external contractors and comply to the appropriate legislation.

Oil storage at the site is on a wooden platform with a roof and wire mesh fencing. There was no impermeable surfacing in the area, and some drums were stacked outside on pallets.

20.2.9 General Housekeeping

The site is generally tidy and well maintained. The buildings are well maintained and waste storage areas are tidy and segregated.

20.2.10 Fire Safety

The site has two fire engines, stored in a garage adjacent to the accommodation buildings. The crews for these engines are volunteers from each shift who have received additional training.

Storage tanks for fire fighting water are at the accommodation building, along with a system of pipes and hoses which can be utilised quickly in an emergency.

Regular drills are carried out, and photographic evidence of a forest fire drill carried out on 24th August 2011.

20.2.11 Security

The remote location of the site limits the potential for trespass. The main entrance to the site has 24hour security patrols and everyone entering the site is subject to a security check and bags are x-rayed. Visitors are issued with a pass, to be signed by the Technical Director of the site before they leave. If this pass is not signed the individual will be unable to leave the site.

Security scanners were also in place at the electro winning and smelting plant, and a separate pass and passport check were required for entry.

Passes had to be obtained in order to visit the processing plant in general, the electro winning and smelting areas in particular and the explosives store.

20.3 Permitting

20.3.1 ESIA/OVOS

The OVOS for the site was approved in 2005 and the environmental monitoring programme for the operation has been approved by the relevant authorities and is valid until 2017. There is an annual environmental programme which is updated every year which will require a large update in 2012 as the national laws are changing to come into line with EU standards and adopting the Best Available Techniques (BAT) approach.

20.3.2 Environmental Permits and Licenses

Abstraction and discharge licences were in place for all necessary operations. These licences are managed by the Environmental Manager from the offices in Blagoveshchensk.

20.4 Environmental Management

20.4.1 Environmental Policy and Company Approach

The site-specific approach to environmental management stems from a number of individual processes and management plans from various departments across the site.

20.4.2 Environmental Management Staff & Resources

There is no permanent environmental staff on site, however the Environmental Manager from Blagoveshchensk visits on a monthly basis to discuss monitoring results and collect data for reporting purposes.

20.4.3 Systems and Work Procedures

There are emergency response procedures in place for fire and chemical spillage.

20.4.4 Environmental Monitoring, Compliance & Reporting

Monitoring on site is undertaken by an external contractor, and some samples are also taken by the government. All monitoring schemes are approved by local government prior to implementation and action plans are updated annually. The overall monitoring scheme has been approved through until 2017. There are a reasonable number and spread of monitoring points at important locations across the site.

There were no breaches in the quarterly air monitoring results in September 2011. Compliance with these limits is motivated by a monetary penalty set by the local authority. The CO_2 limits set for the site are lower than those in a standard SPZ. Water monitoring schemes are approved by the local authority and the water authority. A water emission permit has been issued for 2011 to 2016.

20.4.5 Emergency Preparedness & Response

Emergency response plans appear to be department-specific rather than incorporated into an overall environmental policy. Fuel and oil storage emergency plans are likely to be inadequate for the current storage facilities as these have no environmental safeguarding measures in place. The emergency plans for the new fuel storage facility for the site will require comprehensive new plans relating to the environmental protection measures incorporated into the development.

20.4.6 Training

All staff on site are provided with training by the H&S department as part of the induction process and this includes first aid training. Additional training for mine safety and rescue is delivered via toolbox talks every 6 months.

20.5 Social and Community Management

20.5.1 Interaction with Local Communities

Due to the isolated location of the site, there are limited opportunities for interaction with local communities.

20.5.2 Social Initiatives for Site Staff

Staffs live at the site for extended periods and have been provided a range of facilities for their leisure time. Sports facilities include a basketball court, a 5-a-side football pitch and a volleyball court. There is also a covered stage for concerts. There are inter-mine competitions for various sports, with trophies given to the winners.

The staff can also access a variety of river-side tracks for walking or running, and a number of staff have small boats or canoes for fishing on the river.

20.6 Health & Safety

20.6.1 Health & Safety Management Arrangements

HRG produces H&S policies which are implemented at all sites, by the on-site H&S team. Formal accident reporting procedures are in place.

Staffs are aware of H&S procedures and also national laws governing H&S. There is a corporate expectation that H&S is the most important aspect of any operations and work is not permitted to begin if it cannot be carried out safely. Staff are informed that national legislation (labour laws) mean that they can refuse to work if the situation is unsafe. The company has 10 fundamental safety and conduct rules. There is a formal disciplinary procedure which may result in dismissal, depending on the offence. In addition, breaching H&S policy was reported to result in immediate dismissal.

All staff are tested and searched for alcohol and drugs when they arrive on site at the beginning of a shift.

Currently the site employs in excess of 1000 people, with around 500 on site at any one time. PPE, consisting of boots, working clothes, gloves, a hat, facemasks, goggles and a hi-visibility jacket, is provided to all new staff and replaced as required. Industrial PPE forms are issued to each employee which allows him/her to obtain appropriate PPE from the stores at the required intervals.

20.6.2 Performance and Accident Records

The company target for 2011 is two-fold:

- No serious injury or accident takes place
- Reduce the injury rate by 15%

In September 2011, there was 1 accident, where a welder broke his arm while repairing a dump truck bucket. There have also been 11 minor injuries which had involved the medical station. Fourteen man-days were lost in the year to July 2011.

Following the injury to the welder, changes were made to the access procedures for maintenance staff.

Employees suffering from an occupational health complaint are sent to a specialist clinic for a detailed examination, and treatment until they are healthy.

Comprehensive H&S notice boards were seen on site, covering basic first aid, procedures and other important information.

20.7 Mine Closure & Rehabilitation

20.7.1 Mine Closure Plans

There is a closure plan in place for the site. This document includes, an action plan for closure, rehabilitation plan and a financial plan. The rehabilitation plan is on-going and timetabled by year through the life of the mine.

Costs have been estimated for rehabilitation and these have been included in the closure budget. The financial details are developed by the finance department and the Environmental Manager is tasked with ensuring that the plan complies with the appropriate legislation and requirements.

21 CAPITAL AND OPERATING COSTS

A summary of the capital and operating cost estimates, with major components is showed in Table 21.1 below. Details of capital and operating cost estimates are included in Section 22.

Table 21.1: Summary of Capital and Operating Cost Estimates									
Year	**TOTAL**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Gold Price US$/Oz		1250	1250	1250	1250	1250	1250	1250	1250
Ore production (diluted) kt	14,433	1,701	2,001	1,999	2,000	2,001	2,000	1,999	733
Ore Mining cost, US$/t	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05
Waste Mining cost, US$/t	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05
Processing cost, US$/t	14	14	14	14	14	14	14	14	14
G&A cash cost, US$/t	**8.6**	**8.6**	**8.6**	**8.6**	**8.6**	**8.6**	**8.6**	**8.6**	**8.6**
Operating Costs, kUS$	**310,899**	**35,807**	**43,333**	**43,569**	**43,679**	**43,681**	**42,916**	**43,934**	**13,979**
G&A, Sales, kUS$	**124,127**	**14,626**	**17,206**	**17,189**	**17,202**	**17,205**	**17,200**	**17,195**	**6,305**
CAPEX	**108,183**	**22,054**	**20,000**	**13,000**	**12,976**	**12,976**	**12,976**	**12,976**	**1,224**

22 ECONOMIC ANALYSIS

22.1 Introduction

The financial model is based on parameters given below. A life of mine production model of the Berezitovy gold deposit has been prepared in order to demonstrate the potential viability of the project and its robustness. This model was based on the Mineral Reserve figures described in Section 15, capital investment requirement estimates provided by HRG and audited by WAI with a view to similar projects, and other parameters. Input parameters were implemented into a life of mine model.

22.2 Historical Key Performance Indicators

Berezitovy Historical Key Performance Indicators for 2008 to 2011 are presented in the Table 22.1 below.

Table 22.1: Berezitovy Key Performance Indicators for 2008 to 2011

	Unit	2008	2009	2010	2011
Rock mined	kt	no data	10,435	15,751	18,415
Ore mined	kt	833	1,342	1,839	1,758
Ore milled	kt	691	1,092	1,050	1,391
Average Au grade	g/t	2.5	2.8	2.22	2.62
Ore stripped	kt	no data	9,344	14,078	16,657
Gold recovered (2008 – dore, 2009 – 2011 – refined gold and silver)	kg	1,365	2,715	2,221	3,331
Gold recovered (2008 – dore, 2009 and 1H 2010 – refined gold and silver)	koz	43.9	87.3	71.4	107.1
Recovery rate	%	89.4	87.3	89.22	89.82
Full cash cost	US$/oz	no data	570	824	633
Normalised TCC	US$/oz	no data	544	713	591
Ore mining costs	US$/t	no data	1.61	1.55	1.65
Waste mining costs	US$/t	no data	1.61	1.55	1.65
Ore processing costs	US$/t	no data	11.96	16.4	15.92
General and administration costs	US$M	no data	1.96	5.51	11.96
CAPEX	US$M	no data	11.87	23.13	17
Depreciation	US$M	no data	12.04	11.97	14.7

22.3 Life of Mine Schedule (LOM)

After optimised pit shells were generated, WAI designed a mining schedule for the Base Case.

The schedule targets 2.0Mtpa with an appropriate ramp-up of production during the first year. As the Berezitovy mine is already in production and the majority of stripping works have been performed, the LOM schedule targets to maintain a consistent total volume of ore (at a grade, equal to the average grade for the deposit) and waste extracted, providing the required planned annual ore tonnage as the result. The schedule excludes those Mineral Reserves currently in stockpiles.

Table 22.2 below describes mining schedule for the Base Case open pit shell designed by WAI.

Table 22.2: Berezitovy Deposit LOM Mining Schedule (WAI 01 January 2012)

Year		1	2	3	4	5	6	7	8	Total
Rock	**kt**	5,853	7,475	7,604	7,647	7,646	7,276	7,776	1,812	**53,089**
Waste	**kt**	4,152	5,474	5,605	5,647	5,645	5,276	5,777	1,079	**38,656**
Stripping Ratio	**t/t**	2.44	2.74	2.80	2.82	2.82	2.64	2.89	1.47	**2.68**
Total Ore	**kt**	**1,701**	**2,001**	**1,999**	**2,000**	**2,001**	**2,000**	**1,999**	**733**	**14,433**
Au Grade	**g/t**	**1.96**	**2.04**	**1.91**	**1.77**	**1.60**	**1.61**	**1.64**	**1.70**	**1.78**
Contained Metal	**kg**	**3,339**	**4,077**	**3,827**	**3,547**	**3,196**	**3,220**	**3,270**	**1,244**	**25,721**
	koz	**107**	**131**	**123**	**114**	**103**	**104**	**105**	**40**	**827**

Note: 6% dilution and 97% mining recovery applied

*Waste is given inclusive of *Inferred* material

22.4 Financial Model Assumptions and Input Data

The assumptions made in the WAI financial model for the Berezitovy gold project are based on:

- Au price of US$1250/oz;
- Mineral Reserves as of 01 January 2012, estimated by WAI in accordance with the guidelines of the JORC Code (2004);
- Mining Schedule, prepared by WAI. The Mining Schedule targeting a 2.0Mtpa ore mining rate;

- Long-term operating cost forecasts provided by HRG based on year 2010-2011 production results and considering analogous deposits in this part of Russia;
- Overall Au recovery indices obtained from actual annual results for 2010-2011;
- Annual discount factor of 11.2% (Base case);
- General and Administration costs estimated to be equal to 29% of main costs;
- Royalty of 6% of mined gold; and
- Overall tax at 20% of net income applied.

A summary of the Berezitovy life of mine model assumptions and input data is given in Table 22.3 below.

Table 22.3: Berezitovy Life Of Mine Model Assumptions and Input Data

Year	TOTAL	2012	2013	2014	2015	2016	2017	2018	2019
Gold Price, $/Oz		1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250
Ore production (diluted) kt	14,433	1,701	2,001	1,999	2,000	2,001	2,000	1,999	733
Waste mined, kt	38,655	4,152	5,474	5,605	5,647	5,645	5,276	5,777	1,079
Ore Mining cost, $/t	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05
Waste Mining cost, $/t	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05
Mining OPEX, k$	108,831	11,998	15,323	15,588	15,677	15,673	14,916	15,942	3,715
Au Grade g/t	1.78	1.96	2.04	1.91	1.77	1.60	1.61	1.64	1.70
Gold mined, kg	25,719	3,333	4,081	3,818	3,540	3,201	3,220	3,279	1,246
Recovery, %	89.0%	89.0%	89.0%	89.0%	89.0%	89.0%	89.0%	89.0%	89.0%
Gold recovered, kg	22,890	2,967	3,633	3,398	3,151	2,849	2,866	2,918	1,109
Gold recovered, Oz	735,924	95,379	116,789	109,235	101,303	91,590	92,137	93,828	35,662
Processing cost, $/Oz	277.23	249.63	239.84	256.16	276.42	305.79	303.89	298.33	287.81
Processing cost, $/t	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Proc and Mining Costs $/Oz	422.43	375.42	371.04	398.86	431.17	476.92	465.78	468.24	391.97
G&A cash cost, $/t	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
Depreciation (total) k$	166,412	15,722	26,804	27,011	22,264	20,632	17,993	17,993	17,993
Revenue, k$	**919,905**	**119,224**	**145,986**	**136,544**	**126,629**	**114,488**	**115,172**	**117,285**	**44,578**
Operating Costs, k$	**310,899**	**35,807**	**43,333**	**43,569**	**43,679**	**43,681**	**42,916**	**43,934**	**13,979**
G&A, Sales	**124,127**	**14,626**	**17,206**	**17,189**	**17,202**	**17,205**	**17,200**	**17,195**	**6,305**
Royalty, 6%	**55,194**	**7,153**	**8,759**	**8,193**	**7,598**	**6,869**	**6,910**	**7,037**	**2,675**
CAPEX, k$	**108,183**	**22,054**	**20,000**	**13,000**	**12,976**	**12,976**	**12,976**	**12,976**	**1,224**
Maintanance	96,128	15,000	15,000	13,000	12,976	12,976	12,976	12,976	1,224
Development	3,054	3,054							
Exploration and evaluation	9,000	4,000	5,000						

Note:Based on the Company forecast

22.5 Berezitovy Financial Model

The WAI financial model is presented in Table 22.4 below, with a summary of the key financial indices given in Table 22.5.

Table 22.4: Berezitovy Financial Model (All Figures are Given in US$ '000)

Year			2012	2013	2014	2015	2016	2017	2018	2019
Project Year	Unit	Total	1	2	3	4	5	6	7	8
Total Revenue	k$	919,905	119,224	145,986	136,544	126,629	114,488	115,172	117,285	44,578
Total Operating Costs	k$	310,899	35,807	43,333	43,569	43,679	43,681	42,916	43,934	13,979
Sales, General and Admin Costs	k$	179,321	21,779	25,965	25,382	24,799	24,074	24,110	24,232	8,980
Capital Expenditure	k$	108,183	22,054	20,000	13,000	12,976	12,976	12,976	12,976	1,224
Depreciation	k$	166,412	15,722	26,804	27,011	22,264	20,632	17,993	17,993	17,993
Working Capital										
Working Capital	k$	-	-	-	-	-	-	-	-	-
Change in Working Capital	k$	-	-	-	-	-	-	-	-	-
VAT	0%									
Total VAT (on CAPEX)	k$	-	-	-	-	-	-	-	-	-
VAT Rebate (on CAPEX)	k$	-	-	-	-	-	-	-	-	-
Change in VAT Account (on CAPEX)	k$	-	-	-	-	-	-	-	-	-
Cash Flow										
Revenue	k$	919,905	119,224	145,986	136,544	126,629	114,488	115,172	117,285	44,578
Cash Production Cost	k$	-310,899	-35,807	-43,333	-43,569	-43,679	-43,681	-42,916	-43,934	-13,979
Cash Gross Margin	k$	609,007	83,417	102,652	92,975	82,950	70,807	72,256	73,351	30,599
Depreciation	k$	-166,412	-15,722	-26,804	-27,011	-22,264	-20,632	-17,993	-17,993	-17,993
Gross Margin	k$	442,595	67,695	75,848	65,964	60,686	50,175	54,263	55,358	12,606
Sales, General and Admin Costs	k$	-179,321	-21,779	-25,965	-25,382	-24,799	-24,074	-24,110	-24,232	-8,980
EBIT	k$	263,273	45,916	49,883	40,582	35,886	26,101	30,153	31,126	3,626
Less Cash Taxes	**20%**	-52,655	-9,183	-9,977	-8,116	-7,177	-5,220	-6,031	-6,225	-725
NOPLAT	k$	210,619	36,733	39,906	32,466	28,709	20,881	24,122	24,901	2,901
Depreciation (Added back)	k$	166,412	15,722	26,804	27,011	22,264	20,632	17,993	17,993	17,993
Gross Cash Flow from Operations	k$	377,031	52,455	66,710	59,477	50,973	41,513	42,115	42,894	20,894
(Less) Change in VAT Account	k$	-	-	-	-	-	-	-	-	-
(Less) Change in Net Working Capital	k$	-	-	-	-	-	-	-	-	-
less Capital Investment	k$	-108,183	-22,054	-20,000	-13,000	-12,976	-12,976	-12,976	-12,976	-1,224
Operating Free Cash Flow	k$	268,848	30,400	46,710	46,477	37,997	28,537	29,139	29,918	19,670
Cumulative Operating Free Cash Flow	k$	268,848	30,400	77,110	123,587	161,584	190,121	219,260	249,178	268,848
Discount Factor	**11.2%**		0.90	0.81	0.73	0.65	0.59	0.53	0.48	0.43
Discounted Free Cash Flow	k$	178,602	27,338	37,775	33,800	24,850	16,783	15,412	14,230	8,413
Cumulative Discounted Free Cash Flow	k$	178,602	27,338	65,113	98,913	123,764	140,547	155,959	170,189	178,602

Table 22.5: Summary of Berezitovy Key Financial Indices	
NPV 5% (US$M)	221.4
NPV 11.2% (US$M)	178.6
NPV 15% (US$M)	158.5
NPV 20% (US$M)	137.1

A sensitivity analysis was performed on four key variables in the cash flow model: revenue (recovery/grade/price); operating cost; capital cost; and discount rate. This allows estimation of the robustness of the model should any of these variables change. Several cases were considered, where each of the variables changed from -20% to +20% of its nominal value. The results of the sensitivity analysis are shown in Table 22.6 and Figure 22.1 below.

Table 22.6: Berezitovy Sensitivity Analysis (US$M)

	-20%	-10%	0%	10%	20%
Recovery/grade/price	80.5	129.7	178.6	227.4	276.3
Operating Cost	211.0	194.8	178.6	162.4	146.2
Capital Cost	193.6	186.1	178.6	171.1	163.6
Discount Factor	192.4	185.3	178.6	172.3	166.3

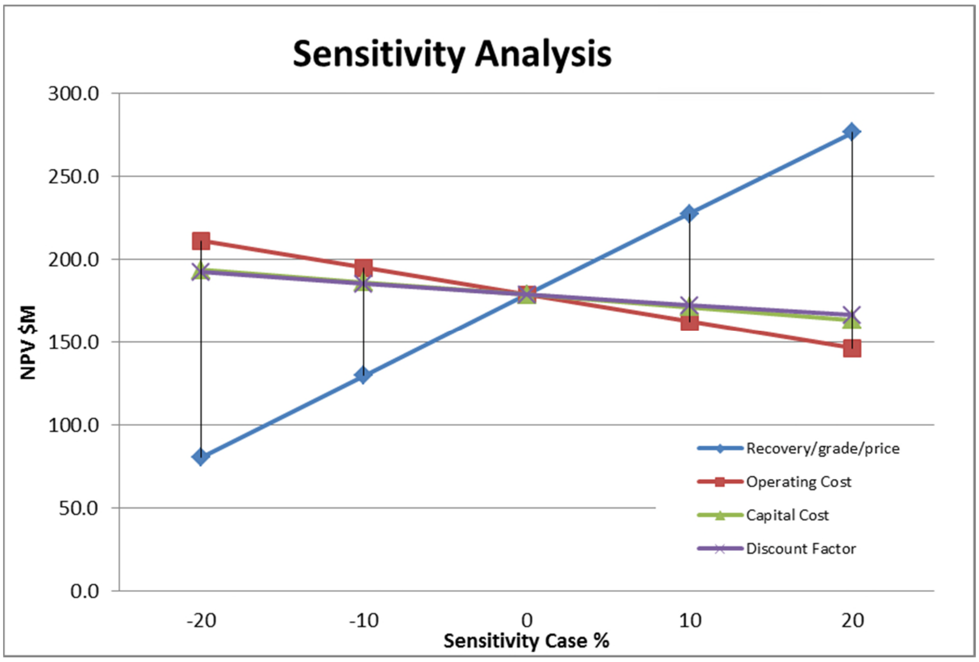


Figure 22.1: Berezitovy Sensitivity Analysis

As expected, the results from the sensitivity analysis show that the project is most sensitive to metal revenue (recovery/grade/price) price. However, the project is also relatively sensitive to operating costs and less sensitive to capital cost and discount factor.

23 ADJACENT PROPERTIES

A Mining Contract No.1813 from 09 October 2003 covers mining of Berezitovy deposit only, whilst the adjacent exploration areas such as Trubnaya, Yuzhnaya and Beregovaya are in the process of land allotment approval.

24 OTHER DATA AND INFORMATION

There is no further information deemed necessary to make this report understandable and transparent.

25 INTERPRETATION AND CONCLUSIONS

The Berezitovy ore zone is well known through extensive drilling and exploitation. The resulting geological knowledge from exploration programmes and mine production are the basis for the Berezitovy Project Mineral Resource and Mineral Reserve estimation as reported in this technical report. The geologic models for the emplacement of mineralisation appear robust and act as a good pointer for further potential mineralisation in the area. A summary of results of the evaluation of the in-situ Mineral Resources are shown in Table 25.1 below, for three different cut-off grade levels: 0.3g/t, 0.5g/t and 0.7g/t Au.

Table 25.1: Berezitovy Resource Estimate (WAI, 01 January 2012)
(in accordance with the guidelines of the JORC Code (2004))

Ore Type			Sulphide		
Cut Off Grade (g/t)			0.3	0.5	0.7
Measured	Tonnes (kt)		10,275	9,669	8,510
	Au (g/t)		1.66	1.74	1.89
	Metal	kg	17,046	16,791	16,094
		koz	548	540	517
Indicated	Tonnes (kt)		12,410	11,479	9,755
	Au (g/t)		1.38	1.45	1.60
	Metal	kg	17,066	16,685	15,644
		koz	549	536	503
Measured + Indicated	Tonnes (kt)		22,685	21,148	18,266
	Au (g/t)		1.50	1.58	1.74
	Metal	kg	34,112	33,476	31,738
		koz	1,097	1,076	1,020
Inferred	Tonnes (kt)		7,362	6,208	4,627
	Au (g/t)		1.11	1.24	1.45
	Metal	kg	8,150	7,679	6,729
		koz	262	247	216

NB –
1. Mineral Resources are not reserves until they have demonstrated economic viability based on a feasibility study or pre-feasibility study.
2. Mineral Resources are reported inclusive of any reserves.
3. Grade represents estimated contained metal in the ground and has not been adjusted for metallurgical recovery.

A 300t sample was tested at the "Baley" pilot processing plant in the Russian Federation. Standard procedures were used in analysis and testing of samples. Based on testwork results cyanide leaching followed by selective flotation of zinc and lead from leach tailings is chosen for the process method. Although this process gave the lower gold recovery (86.5%), it has a simple process sheet and the elimination of gravity gold concentrate refining.

The Berezitovy processing plant was constructed between May 2006 and December 2007, with many of the major equipment items sourced second hand, a fact that had implications for the early operating efficiency of the plant.

Recent additions and modifications to the plant, including a second ball mill running in parallel with the original and three new disc filters, have allowed the plant to improve its processing capacity and performance significantly.

Production data indicated an average processing rate of 115,000 tonnes per month across 2011, giving an annual capacity of approximately 1.4Mtpa for the year. Although an improvement on previous years, this was still well short of the planned throughput for 2011 of 1.8Mtpa.

It is planning to increase the plant production capacity to 2.0Mtpa by 2013. It is likely that significant modifications to the process flow sheet will have to be made if this target is to be reached.

The processing performance of the plant has gradually improved since its start-up in December 2007, with gold recovery increasing from 83.4% in 2007 to 89.4% in 2011. These recoveries are approaching, but still slightly short of, the target level of 90.1%

Initial problems with filtration capacity led to large quantities of tailings being pumped directly to the wet tailings dam with no prior filtering, some 60% in 2008 and 30% in 2009. This problem has been addressed with the recent installation of three additional disc filters resulting in no tailings material bypassing filtration in either 2010 or 2011. Tailings which were initially sent to the wet tailings dam have since been pumped back to the filtration station and processed accordingly.

In late 2011, a crushing unit was installed within the grinding circuit to deal with the 20 tonnes of critical size material produced by the SAG mill every day.

The Berezitovy Gold Mine is a well-established open pit operation, with pre-production having commenced in 2006. Ore production from the mine in 2011 was 1.8Mtpa. An annual processing capacity of approximately 1.4Mtpa was achieved in 2011, although this was well below the target 1.8Mtpa. The target is to achieve an annual throughput of 1.8Mtpa in 2012 and 2.0Mtpa in 2013. If successful, this will result in a projected average gold production of more than 100koz of gold per annum. Historic production statistics indicate that total cash costs for the first 7 months of 2011 were US$585/oz with an average total mine operating cost of US$1.83 per tonne of rock, equating to US$21.76 per tonne of ore mined.

The WAI life of mine model results in a positive NPV at various discount rates and at various gold prices at nominal input parameters. This shows that the reserves considered in the financial model are profitable for exploitation in the current economic environment.

The deposit consists of a large gold ore resource, with potential to increase, as the area is being intensively explored.

The fact that the key financial indices remain reasonably high given the conservative cost input parameters and recovery used in the models, show good economic potential for the project.

26 RECOMMENDATIONS

The mineralisation at Perevalniy is at an early stage of exploration however, initial trench and drill results look promising. However, further work is required in order make a full assessment of the styles, magnitude and tenor of any mineralisation present.

Core storage exceeds to overcapacity and a new building needs to be constructed as soon as possible.

The installation of gravity processing may result in a minor increase in recovery although the impact on the overall plant recovery will probably not be significant.

The method of head sample analysis requires review as a significant proportion of gold in the head sample is solubilised. The method of head sample filtration and solution analysis needs to be reviewed.

The economics of producing lead and zinc from the leach tailings should be reviewed through on-site laboratory flotation tests on samples of leach tailings. This is particularly the case in light of recent increases in base metal process.

The sample preparation method for geological and mine samples should be changed so that all of the material is crushed to pass 1mm. The sample preparation dust extraction facility also requires an overhaul.

The fuel and oil storage facilities on site should be the priority for the site and although the fuel tanks are not used on a daily basis, the storage of emergency fuel supplies in them is not in line with national legislation or international best practice. This is a major area of risk for the company, and while WAI is encouraged that a new facility is planned for construction, all efforts should be taken to ensure that the risk of contamination from the current facility is minimised.

The environmental monitoring appeared to be compliant with the licence requirements however not enough data was scrutinised to comment on international compliance.

Whilst the site appears to comply with national legislation in the majority of areas, with the exception of fuel and oil storage, there are several aspects which fall short of international best practice.

27 REFERENCES

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High River Gold Mines Ltd. Management's Discussion and analysis of Financial Position and Operational Results 2010 and 2011.

DATE AND SIGNATURES

The effective date of this Technical Report, entitled "The Berezitovy Project, Russia, NI 43 101 Technical Report" is July 2012.

	Date: 20 July 2012

CERTIFICATE OF AUTHOR

I, Mark Lyndhurst Owen, BSc, MSc, MCSM, CGeol, EurGeol, FGS do hereby certify that:

- I am a Technical Director of: Wardell Armstrong International Ltd Wheal Jane, Baldhu, Truro, TR3 6EH, United Kingdom;
- I graduated with a Bachelor Degree in Geology from Exeter University, Exeter, Devon, UK in 1980 and thereafter graduated with a Masters Degree in Mining Geology from Camborne School of Mines, Camborne, Cornwall UK in 1981;
- I am a Fellow and Chartered Geologist of the Geological Society of London and European Geologist;
- I have practised my profession as a Mining Geologist for the past 30 years in areas of gold and base metals evaluation in a number of countries around the world;
- I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that I am a “qualified person” for the purposes of NI 43-101;
- I am responsible for all of the items, “The Berezitovy Project, Russia, NI 43-101 Technical Report” dated 20th July 2012;
- I visited the properties discussed in the 2012 Report during October 2009 and September 2011 for a period of 6 days;
- As of the date of this certificate and to the best of my knowledge, information and belief, the 2012 Report contains all scientific and technical information that is required to be disclosed to make the 2012 Report not misleading;
- I am independent of High River Gold Ltd as described in section 2.2 of NI 43-101; and
- I have read the instrument NI-43-101 and the 2012 Report has been prepared in compliance with NI 43-101.

Date: 20 July 2012

Name **M L Owen BSc, MSc, MCSM, CGeol, FGS, EurGeol**