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Review and Preliminary Valuation of Baitimir Project Located within the Naimanjal License Territory NE Kazakhstan

July 2013

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Frontier Mining Ltd

Review and Preliminary Valuation of Baitimir Project Located within the Naimanjal License Territory NE Kazakhstan

July 2013

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SUMMARY

Introduction

Wardell Armstrong International (WAI) was commissioned by Frontier Mining Ltd. (FML) to prepare a (none JORC compliant) desktop report.

This is to include a preliminary financial evaluation, (based on data provided by the client via emails 25 December 2012) of the Baitimir project. The project is located within the Naimanjal license, and is comprised of the Baitimir, Yubileiny and Beschoku copper deposits NE Kazakhstan.

This report documents the geological block preliminary modelling and mineral resource as at October 2012.

The Naimanjal project is located in the northeast of Kazakhstan, approximately 150km west of Semey (formerly Semipalatinsk), this contains 3 areas of interest; Baitimir a potential copper porphyry deposit with associated gold and molybdenum, and Beschoku and Yubileiny both copper/gold prospects. These are located along a 25km trend including both VMS and porphyry type deposits. Metallurgical tests on these copper prospects, confirm that the oxide copper ore is amenable to extraction using low cost SX/EW technology.

Beschoku is an established gold-copper discovery located at the northern end of a 25km copper-gold trend and has been under investigation by FML since 2002, when two trenches were excavated and five drillholes completed (434.2m). A second phase in 2006 completed more drillholes (1,743.8m) and 1,099 diamond core samples were analysed. Beschoku is considered to be a high grade gold-copper breccia pipe complex with a variably developed oxide zone, in the same structural corridor as Yubileiny.

Historical resource estimates 620kt of contained copper (1.0% Cu) within a VMS deposit and a further 1.86Mt of contained copper (1.0% Cu) within a porphyry deposit. A 2010 estimate by FML equates to an oxide reserve of 200kt at 2.9g/t Au, 0.5% Cu, and 4.3g/t Ag, and a further sulphide reserve of 550kt at similar grades.

Yubileiny was first discovered and mined in the late 19th Century following the discovery of oxide copper, and at the height of production produced 1,000t of copper per year (1870's) at grades of 5 to 10% Cu. Yubileiny is a structurally controlled copper target with the potential for polymetallic (silver-lead-copper) mineralisation at depth. Much of the primary copper mineralisation occurs as pyrite-chalcopyrite filled fractures whose distribution is part controlled by autobreccia units at the top of rhyolitic flows. In 1947 Yubileiny was estimated to contain 150kt of copper but the 2010 resource estimate by FML is 6.8Mt (oxide + sulphide) at 0.6% Cu (40,800t of contained copper).

FML drilled over 8,000m on the Baitimir deposit in 2010, bringing the total drilling to date at the deposit to 19,811.4m. The 2011 drilling program was planned for some 2,500m, more than 5,000 assay samples were collected, and analysed by an independent laboratory. The Company planned to produce a scoping study at Baitimir in the first half of 2011 followed by a resource estimate in accordance with the guidelines of the JORC Code (2004).

FML is confident that Baitimir has the potential to be a substantial copper asset containing more than 500,000t of copper at economic grades. The Company's proposed strategy at this stage is to continue exploration and technical work necessary to advance the project, with the goal of constructing a large flotation plant with a contemplated launch date of 2015. FML will also examine the potential to use the other deposits within the Naimanjal licence area as satellite feeders to Baitimir.

Disclaimer

WAI has reviewed data provided by the Company on the assets, and has drawn its own conclusions therefrom. WAI has not carried out any independent exploration work, drilled any holes, nor carried out any sampling and assaying. WAI has no reason to suspect the efficacy of the data provided.

Project Location, Accessibility and Climate

The Baitimir property is located in the NE Kazakhstan, approximately 600km east of Astana and lies approximately 80km SE of the main town of Kurchator.

Access to Kurchator is fairly straightforward, and mostly on tarred roads from Semey heading south-westwards for almost 100km, towards Snamenka, before travelling northwest for some 15km to the Shaghan River. The final 50km southwards, parallel to the Shaghan River, are along graded roads to Koskuduk. Travel around the Naimanjal licence area is via dirt tracks of varying quality (Figure 1.2).

The relief of the region is relatively gentle with absolute elevations from around 200m in the north rising gently to 500m southwards, with the terrain comprising grasslands with minor crop cultivation.

The climate is sharply continental, arid, with a range of average annual temperatures from 2.7°C to 0.7°C, and a minimum temperature in January-February of -39°C and maximum during July of 40°C. The thickness of snow cover (November-March) reaches 30-40cm, with an average annual amount of precipitation of between 200-270mm.

Property Description

The Naimanjal licence which covers an area of 435km^2 area consists of 3 projects:

1. Baitimir is a development stage copper porphyry project with associated gold and molybdenum; mineralisation lies within a 3km-wide zone. Initial estimates suggest some 800,000t of contained Copper;
2. Beschoku is an established copper gold prospect located at the northern end of a 25km copper-gold trend; and
3. Yubileiny is a copper project, positioned south east of Beschoku along the same trend; drilling suggests high-grade copper mineralisation.

Both deposits (2 and 3) are in favourable proximity to planned infrastructure and plant development at Baitimir.

Property Ownership

FML currently owns two licences in Kazakhstan including the Naimanjal exploration and mining licence, held by "Frontier Mining Ltd Kazakhstan LLP", and 100% of US Megatech BVI, which holds the Benkala licence. FML Kazakhstan LLP is a wholly owned subsidiary of FML.

According to information provided by FML, FML Kazakhstan works in the licensed territory pursuant to a Licence Series AI # 1166 DD dated 16 August 1999, and the exploration contract was signed 04 March 1999 (ACP State registration No. 229).

The original area contract territory was 8,108.8km^2; however in 2006 this was reduced to what is now referred to as the Naimanjal licence.

FML maintains an administrative office in Almaty, the former capital city of Kazakhstan and the main business centre in the southeast. The Company also has an office in Semey, close to the Naimanjal operations, which is the base for all exploration and development personnel with additional administrative support.

History

There has been a history of artisanal mining throughout the region

More recently, FML mined the Naimanjal gold prospect in the same area, which comprises an area of about 170km^2, encompassing a near surface oxide gold-silver mine with six satellite deposit extensions (Baritovy, Naiman, Ergozy, Toksanbay, Jal and Jantilak). In 2008 this mine produced 772oz of gold and 8,522oz of silver, as part of the pilot production licence (subsequently extended), and in 2009 produced 2,620oz of gold and 13,644oz of silver.

However, in the third quarter 2010 the project was mothballed, upon completion of leaching of ore stacked in 2009.

FML has continued to ensure that the Naimanjal licence remains in good standing, while it focuses on higher priority projects, the mining equipment was transferred to the projects at

Koskuduk and Beschoku (as per the press announcement on the 14 December 2009). This project is outside of the scope of this desktop review and therefore is not included further.

The State certified the oxide gold resource estimate for Naimanjal at 2.5Mt with a mean grade of 2.1g/t Au for a contained gold content of some 160koz, and the majority of which has been classed by the State Committee as C_1 and the remainder as C_2. This estimate includes all the resources outlined, not just those which may fall within a potentially economic pit.

Geology and Mineralisation

The geology of North-Central Kazakhstan comprises a series of accretionary terrains, located between the Tien Shan and Ural mountains. On-going subduction processes have produced large volumes of magmatic fluids and metamorphism throughout the region. The mineral deposits of Kazakhstan are related in space and time to various lithologies. Gold-rich volcanogenic massive sulphide (VMS) deposits are associated with Ordovician submarine volcanic rocks.

Porphyry gold-copper deposits are associated with altered Ordovician, sub-volcanic dioritic intrusives. Epithermal gold deposits commonly associated with quartz veins and quartz-sulphide stockworks are hosted in Ordovician, Devonian and Permian intrusives of diorite to granite composition. Porphyry copper-gold-molybdenum deposits are associated with syenitic and granitic intrusives of Devonian, Carboniferous and Permian age. Lead-zinc mineralisation is associated with Silurian-Devonian siltstone and carbonate beds. Coal deposits are related to Carboniferous marine and deltaic sedimentary rocks.

Exploration and Drilling

Baitimir Deposit

The Baitimir deposit was explored in two stages, which are briefly described below.

The first stage covers 2004 -2006, when FML Kazakhstan completed the following package of exploration work including:

- Geological mapping at 1:10000 scale;
- Soil geochemical survey over a 11.5km² square and on a 200x40m grid;
- Detailed geochemical survey over a 1.4km² square and on a 50x20m grid;
- Geomagnetic exploration over a 13.8km² square and on a 100x10m grid; and
- Electrical resistivity exploration over a 13.8km² square and on a 400x25m grid.

After analysing the received data, it was determined that the most perspective zone for copper-porphyry type ore-bodies (size of 5.2km²), was Central Baitimir.

In 2005-2006, 13 drill holes totalling 1,782.0m were drilled and 4 trenches (1065m³) were excavated. All the drill holes were vertical with the exception of 2 drill holes drilled at 60°.

The second stage covers 2010-2012. Exploration work continued on the deposit with a further 1,700m of trenches excavated, and additional geochemical anomalies of copper were identified and further drilling completed. In 2010-2012, 78 additional drillholes totalling 18,029.4m (inclined 60-75°) were completed. In all, 91 drill holes totalling 19,811.4m were drilled in the deposit.

Estimation work on the sulphide ore deposit was performed on 100x100m and 100x200m grids, to a depth of 150-300m, and in the central part of the deposit, up to 300-550m, corresponding to C_2-P_1 category.

Oxidised ore extends to a depth of 40-80m and has been drilled on a grid of 100x50m and 200x50m and trenches excavated on a 100m spacing. Resources have been classified to a C_1 and C_2- category.

The strike extent of the deposit at this stage of study is about 1,700m. Further exploration on the flanks is required and will be continued through 2012-2014.

Beschoku

Beschoku is an established gold-copper discovery located at the northern end of a 25km copper-gold trend.

At Beschoku gold was intercepted by a single drill hole in the 1950's. FML believes that the geology and geochemistry indicate several high grade breccias in the immediate area, and results to date have identified two large mineralised systems; a copper/gold VMS deposit including oxide mineralisation and a copper/molybdenum porphyry deposit.

Historical resource estimates suggest a P_1 resource for Beschoku of 620kt of contained copper with 1.0% Cu for the VMS type deposit, and 1.86Mt of contained copper with 1.0% Cu grade at the porphyry copper.

Yubileiny

Yubileiny was first discovered and mined in the late 19th Century following the discovery of oxide copper, and at the height of production the mine produced 1,000t of copper per year (1870's) at grades of 5 to 10% Cu.

Yubileiny is located SE of Beschoku along the 25km trend of copper-gold occurrences. Excellent correlation with historic mine workings and recent drilling suggest high-grade copper mineralisation.

Resource estimates for Yubileiny suggest a C_2 resource of 30kt of contained copper with an assumed grade of 1.0% and a P_1 resource of 80kt of contained copper with an assumed grade of 1.0% Cu to the north of the C_2 area.

Mineral Resource & Mineral Reserves

Baitimir

The deposit resources were estimated using "Micromine" geological software. The cu wireframes were generated on three cut-off grades: 0.1; 0.15 and 0.2% Cu. The results of this preliminary estimation at a 0.15% Cu cut-off grade are given in the table below.

The deposit resources were estimated using "Micromine" software. The wireframes of ore bodies were constructed on the basis of three Cu cut-off grades (COG) 0.1; 0.15 and 0.2% Cu.

The results of this preliminary estimation at a COG of 0.15% Cu are given in the table below.

WAI Comment: *It should be noted that they are not estimated in accordance with the guidelines of the JORC Code (2004).*

Preliminary Resource Estimation – Oxide + Sulphide - Baitimir (FML October 2012) (0.15% Cu COG to the depth of 350m)				
Element of Calculation	**Unit of meas.**	**Reserves (C_1-C_2)**		
		Secondary Ores	**Primary Ores**	**Total**
Ore Reserves:	thous.t	10,633	38,349	48,982
Copper	thous.t	47.4	160.54	207.94
Molybdenum	t	1360.22	7211.96	8572.18
Gold	kg	2069.6	7823.05	9892.65
Silver	t	18.76	85.95	104.7
Average Content:				
Copper		0.45	0.42	0.43
Molybdenum	%	0.013	0.019	0.018
Gold	%	0.19	0.20	0.20
Silver	g/t	1.77	2.24	2.13

The mineral resource estimate of oxidised ores (to a depth of 350m) at Baitimir at various cut-off grades are presented in the table below.

Preliminary Resource Estimation – Oxide Only- Baitimir (FML October 2012)			
Various cut-off, %	**Ore, t**	**Copper, %**	**Reserves of Copper, t**
0.1	17,557,944	0.33	57,063
0.15	10,633,097	0.45	47,413
0.20	6,818,176	0.61	41,591

In addition to the known copper ore bodies, it is reported that there are separate ore bodies of gold ranging from 0.3 – 12.5 g/t Au. The reported thickness of these ore bodies reaches 8m, with an average grade of 2.6 g/t Au. The gold mineralisation appears from section, to extend at depth below the known copper mineralisation.

However these ore bodies have not been fully studied, and as such they remain an exploration target, and are not included in the project viability assessment.

Yubileiny

A summary of the resource estimate for the Yubileiny deposit is presented in the table below.

Resource Summary for Yubileiny (FML 2010)					
Block	**Area (m^2)**	**Average Thickness (m)**	**Tonnes[1]**	**Grade (% Cu)**	**Contained Copper (t)**
1	18,700	50	2,524,500	0.67	16,914
2	7,990	50	1,078,650	0.49	5,285
3	40,000	30	3,240,000	0.65	21,060
Total			**6,843,150**	**0.63**	**43,260**

[1] Tonnes based on a SG of 2.7t/m^3

These results are close to the results of manual calculation of the reserves. This estimation of the deposit resources is not compliant to an international recognised standard.

Mining

There has been a history of artisanal mining throughout the region.

The Naimanjal gold project comprises an area of about 170km^2 encompassing a near surface oxide gold-silver mine with six satellite deposit extensions (Baritovy, Naiman, Ergozy, Toksanbay, Jal and Jantilak). In 2008 this mine produced 772oz of gold and 8,522oz of silver, as part of the pilot production licence (subsequently extended), and in 2009 produced 2,620oz of gold and 13,644oz of silver.

However, in the third quarter 2010 the project was mothballed, upon completion of the leaching of ore stacked in 2009, and Frontier has continued to ensure that the Naimanjal licence remains in good standing while it focuses on higher priority projects, the mining equipment was transferred to the projects at Koskuduk and Beschoku (as per the press announcement on the 14th December 2009).

No recent mining has taken place at Baitimir, Beschoku or Yubileiny.

It is understood that initially, all mining within the Baitimir copper projects will be by open pit drill/blast and truck and shovel operations.

Environmental Studies

No environmental studies have been reviewed.

Economic Analysis

A preliminary economic assessment has been performed in order to estimate the viability of mineable resources from both oxide and sulphide ore open pit mining operation and processing for the production of copper cathode (from oxide production) and copper concentrate (from sulphide production).

The financial model was prepared on a basis of equity (40%) any debt financing (60%).

The results of this modelling are given in the table below.

DCF Model Results (Before Funding and Debt Service)			
NPV @ Discount Rate	8%	MUS$	67
NPV (Base Case) @ Discount Rate	10%	MUS$	52.70
NPV @ Discount Rate	15%	MUS$	30
NPV @ Discount Rate	20%	MUS$	17
IRR		%	40%

1 INTRODUCTION

1.1 Purpose of the Technical Report

Wardell Armstrong International (WAI) was commissioned by Frontier Mining Ltd. (FML) to prepare a (none JORC compliant) desktop report.

This is to include a preliminary financial evaluation, (based on data provided by the client via emails 25 December 2012) of the Baitimir project. The project is located within the Naimanjal license, and is comprised of the Baitimir, Yubileiny and Beschoku copper deposits NE Kazakhstan.

FML propose a conceptual model for the development of the Baitimir, Beschoku and Yubileiny deposits together as a single cluster of deposits with Baitimir being the central project.

FML considers that the oxide ore will be leached, with the flotation of the deeper sulphide ore. Although mineralisation extends to 600m depth, the resource projected to 300m depth is estimated to contain 90 to 100Mt with 0.5Mt of contained copper, 24t of gold and 16kt of molybdenum. Increasing the projected depth to 600m equates to 1Mt of contained copper, 43.7t of gold and 29t of molybdenum. This could also be supplemented with copper oxide 'ore' from Yubileiny.

As part of this project WAI have been requested by FML to provide a preliminary independent verification of the viability of the Naimanjal (Baitimir, Yubileiny and Beschoku) copper project as at 17 January 2013.

WAI have not completed the normal verifications of the data upon which this viability test is based, such as adequate:

- QA/QAC checks,
- Inspection of the core
- Inspections of the sampling procedures
- Inspection of the lab

- Field checks; etc

Consequently, it is not possible to release this report as a JORC compliant report, and as such this report is to be used as the basis for funding requests to the company's bankers and is not to be used for statutory reports or the basis of any JORC complaint reports.

1.2 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 Frontier Mining Ltd either now or in the future;
- Any vested interests in any concessions held by Frontier Mining Ltd;
- Any rights to subscribe to any interests in any of the concessions held by Frontier Mining Ltd, either now or in the future;
- Any vested interests in either any concessions held by Frontier Mining Ltd or any adjacent concessions; and
- Any right to subscribe to any interests or concessions adjacent to those held by Frontier Mining 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.

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

1.3 Personal Inspections of the Baitimir Copper Project

There have been no recent site visits by WAI to this property.

1.4 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 "$" are to United States Dollars (US$).

1.5 Reliance on other Experts

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

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

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

For the purposes of this report, WAI has relied on ownership information provided by FML. WAI has no reason to suspect the efficacy of the data provided. WAI has not researched property title or mineral rights for the Baitimir 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.

2 BACKGROUND

2.1 Location, Accessibility and Climate

The Baitimir property is located in the NE Kazakhstan, approximately 600km east of Astana and lies approximately 80km SE of the main town of Kurchator (Figure 2.1).

Figure 2.1: Location of Frontier License Areas in Kazakhstan

Access to Kurchator is fairly straightforward, and mostly on tarred roads from Semey heading south-westwards for almost 100km, towards Snamenka, before travelling northwest for some 15km to the Shaghan River. The final 50km southwards, parallel to the Shaghan River, are along graded roads to Koskuduk. Travel around the Naimanjal licence area is via dirt tracks of varying quality.

The relief of the region is relatively gentle with absolute elevations from around 200m in the north rising gently to 500m southwards, with the terrain comprising grasslands with minor crop cultivation.

The climate is sharply continental, arid, with a range of average annual temperatures from 2.7°C to 0.7°C, and a minimum temperature in January-February of -39°C and maximum during July of 40°C. The thickness of snow cover (November-March) reaches 30-40cm, with an average annual amount of precipitation of between 200-270mm.

2.2 Licence

The Naimanjal licence includes the Northwest, Central and Southeast zones. The area of interest relating to this report, is solely the central zone, comprising the Baitimir, Beschoku and Yubileiny prospects, henceforth called the Baitimir project.,

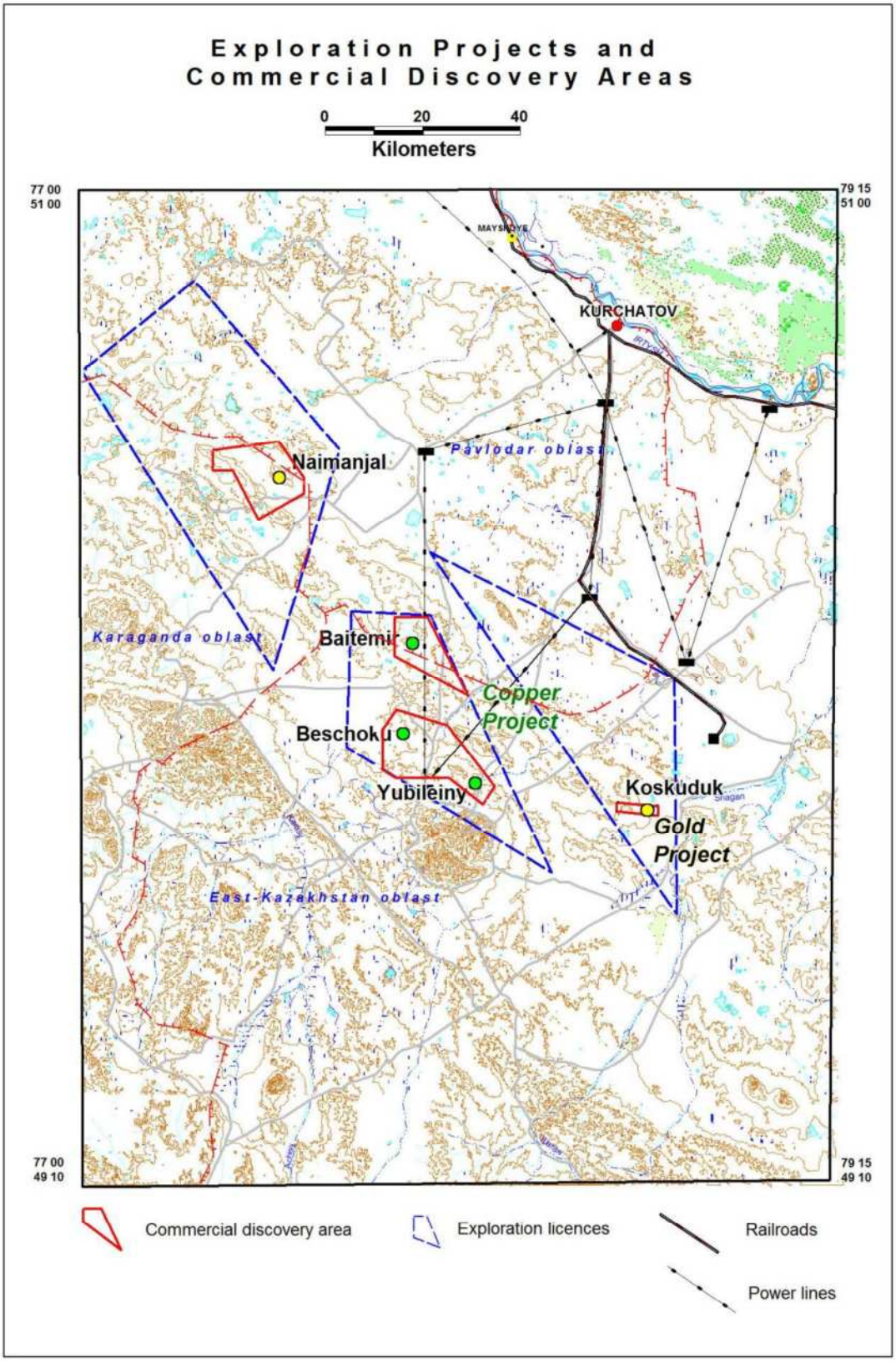

Figure 2.2: Location Map of the Naimanjal Licence

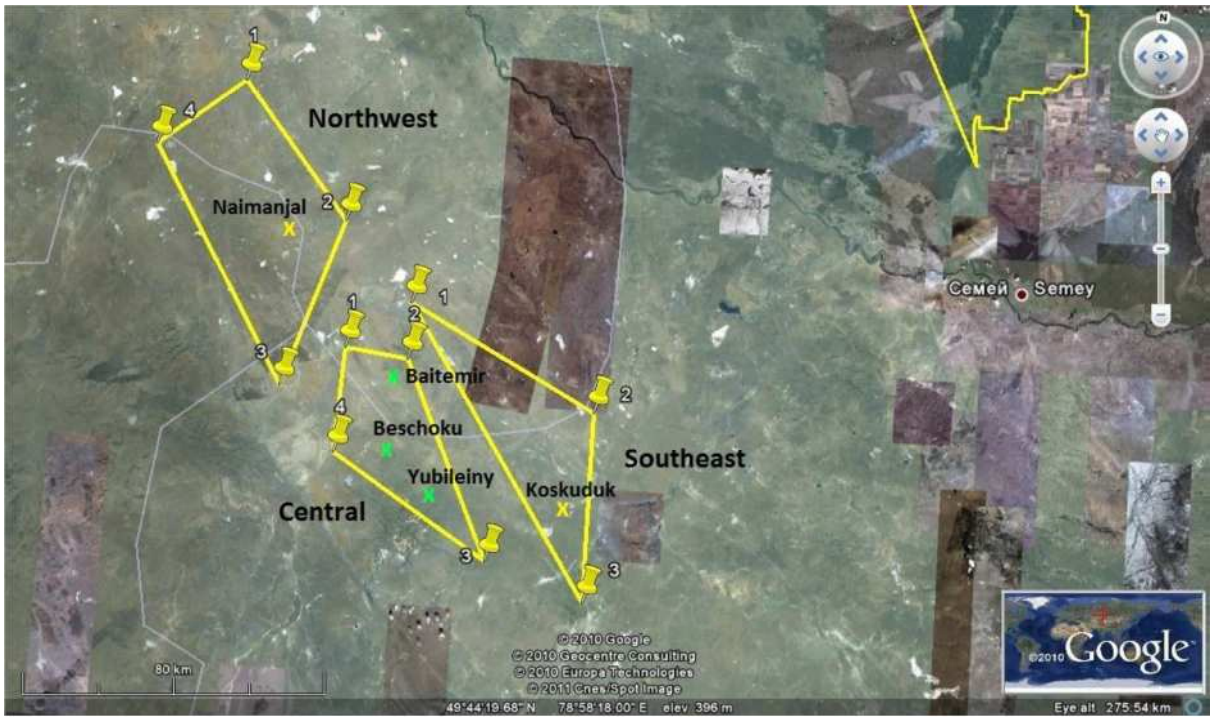

Figure 2.3: Location Map of the Naimanjal Project Area

Table 2.1: Coordinates of Naimanjal Licence		
Point	**Co-ordinates**	
	Northing	**Easting**
Northwest		
1	50°50’00”	77°19’00”
2	50°31’00”	77°44’00”
3	50°07’00”	77°32’00”
4	50°40’00”	77°00’00”
Central		
1	50°13’00”	77°46’00”
2	50°12’00”	78°00’00”
3	49°44’00”	78°20’00”
4	49°58’00”	77°45’00”
Southeast		
1	50°20’00”	78°00’00”
2	50°06’00”	78°42’00”
3	49°39’00”	78°42’00”

2.3 History

There has been a history of artisanal mining throughout the region.

More recently, FML mined the Naimanjal gold complex, which comprises an area of about 170km^2 encompassing a near surface oxide gold-silver mine with six satellite deposit extensions (Baritovy, Naiman, Ergozy, Toksanbay, Jal and Jantilak). In 2008 the mine produced 772oz of gold and 8,522oz of silver, as part of the pilot production licence (subsequently extended), and in 2009 produced 2,620oz of gold and 13,644oz of silver.

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FML has continued to ensure that the Naimanjal licence remains in good standing, while it focuses on higher priority projects, the mining equipment was transferred to the projects at Koskuduk and Beschoku (as per the press announcement on the 14th December 2009). This project is outside of the scope of this desktop review and therefore is not included further.

The State certified oxide resource estimate for the Naimanjal gold prospect is 2.5Mt at a grade of 2.1g/t Au for a contained gold content of some 160koz, and the majority has been classed by the State Committee as C_1 and the remainder as C_2. This estimate includes all the resources outlined not just those which may fall within a potentially economic pit.

A mineral resource estimate was completed in 2008 by Behre Dolbear, in accordance with the guidelines of the JORC Code (2004), and the Measured, Indicated, and Inferred resource at the Naimanjal mine (using a cut-off grade of 0.3g/t on a gold equivalent basis) totals 11.8Mt with an average grade of 0.67g/t Au, and 18.46g/t Ag, to contain 253koz of gold and 7Moz of silver.

3 GEOLOGICAL SETTING AND MINERALISATION

3.1 Regional Geology

The geology of North-Central Kazakhstan comprises a series of accretionary terrains, located between the Tien Shan and Ural mountains. On-going subduction processes have produced large volumes of magmatic fluids and metamorphism throughout the region. The mineral deposits of Kazakhstan are related in space and time to various lithologies. Gold-rich volcanogenic massive sulphide (VMS) deposits are associated with Ordovician submarine volcanic rocks. Porphyry gold-copper deposits are associated with altered Ordovician, sub-volcanic dioritic intrusives. Epithermal gold deposits commonly associated with quartz veins and quartz-sulphide stockworks are hosted in Ordovician, Devonian and Permian intrusives of diorite to granite composition. Porphyry copper-gold-molybdenum deposits are associated with syenitic and granitic intrusives of Devonian, Carboniferous and Permian age. Lead-zinc mineralisation is associated with Silurian-Devonian siltstone and carbonate beds. Coal deposits are related to Carboniferous marine and deltaic sedimentary rocks.

The three licence areas are located within a major northwest trending, deep-seated structural system dominated by the Palaeozoic Chingiz volcanic terrain, a 200km wide zone which strikes 900km southeast-northwest and consists primarily of Ordovician subaqueous basalts, volcaniclastic turbidites, conglomerates, and cherts. The Ordovian lithological units are underlain by a metamorphosed Pre-Cambrian basement composed of schists, garnet amphibolites, and ophiolites. The Chingiz terrain is interpreted as a primary volcanic arc. It is complicated by syn- and post-subduction folds and faults and hosts a belt of Ordovician gold-bearing volcanogenic massive sulphide deposits including those already identified by FML and commented on in this report.

The Naimanjal District also includes the Baitimir copper prospect located approximately 40km south-east of Naimanjal. Copper-gold mineralisation is hosted both in intrusive and volcanic rocks. The state regional mapping programme outlined the Malikapinsky area as the most prospective area for discovery of large scale copper mineralisation. Within this zone there are a number of copper occurrences, the most notable of which is the 10km² Baitimir prospect located proximal to the contact with the Kizilshokinski granitoid and to the north of Beschoku.

The varied geology of the region is conducive to many types of mineral deposit, and there are numerous recorded occurrences of quartz lode-gold mineralisation, metasomatic gold associated with polymetallic mineralisation, porphyry copper-molybdenum mineralisation, volcanogenic massive sulphide lead-zinc-copper-precious metal mineralisation, and greissen-type tin-tungsten mineralisation.

A geological map and deposit model setting for the Baitimir, Beschoku and Yubileiny prospects are illustrated in Figure 3.1 and Figure 3.2 below.

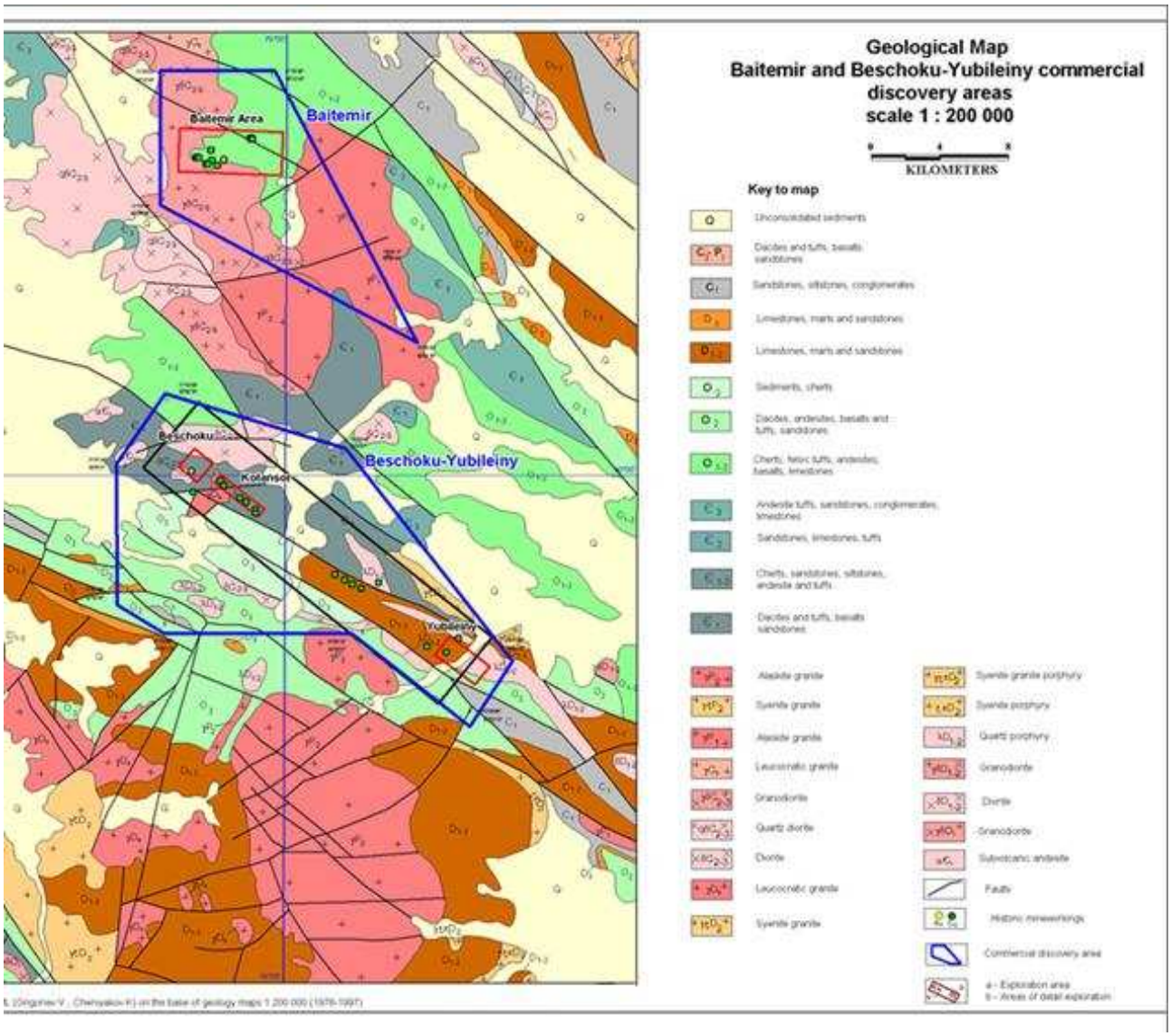


Figure 3.1: Geological Map of Baitimir and Beschoku-Yubileiny Area

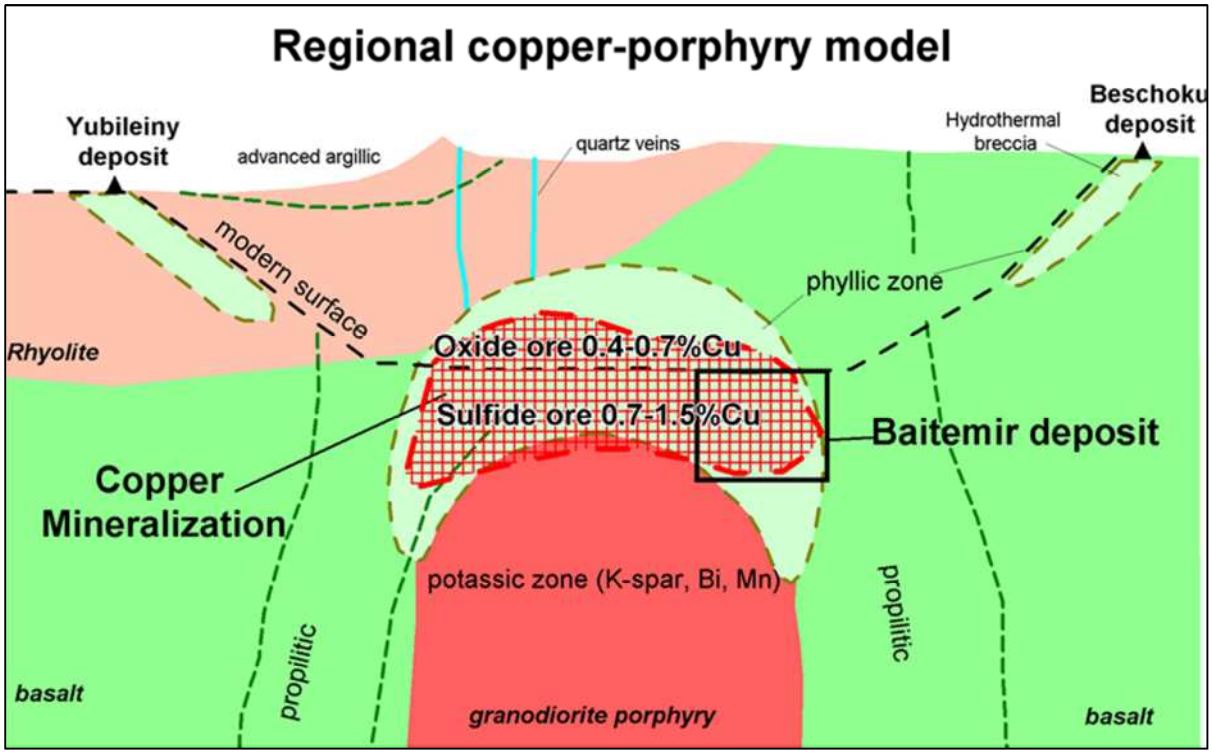


Figure 3.2: Regional Copper-Porphyry Deposit Model

Currently, it is thought that the Naimanjal deposits are located on the north-eastern flank of an ancient volcanic island arc system of oceanic crust comprising Ordovician subaqueous basalts, volcanoclastic turbidites, conglomerates, and cherts which are underlain by a metamorphosed mafic basement composed of schists, garnet amphibolites, and ophiolites. This system is approximately 200km wide and has a strike length of almost 900km in a southeast – northwest direction.

The regional structure is considered to have been influenced by two major tectonic events. The first was an Early Paleozoic compression that generated a narrow antiformal structure referred to as the Naimanjal anticline. This event is marked by northwest trending, left lateral, strike slip faults and associated isoclinal folds. In the deposit, the isoclinal folds display both shallow and steeply dipping limbs. The second tectonic event is a Late Permian – Triassic extension (post subduction) which was accompanied by local alkaline magmatism. This extensional phase is expressed as east – west and northeast striking faults that crosscut and displace the main northwest striking structural trend.

The mineralisation at Naimanjal is considered to have occurred in two phases, followed by substantial supergene modification. The first phase comprised the emplacement of

syngenetic volcanogenic massive sulphide mineralisation while the second comprised epigenetic hydrothermal mineralisation thought to be related to Permian-Triassic tectonism. The hydrothermal processes are considered to have both remobilised gold from the massive sulphides and introduced additional gold within the hydrothermal fluids, as evidenced by the discordant nature of the resulting deposits relative to the older and regionally dominating northwest structural trend.

The supergene modification of the mineralisation began in the Eocene, when the climate of the area changed from humid tropical to arid and comprised the development of both saprolite and oxidation which liberated the gold from the host sulphides.

3.2 Project Geology

3.2.1 Baitimir

Baitimir is an exploration stage copper prospect with associated gold and molybdenum mineralisation. Geology indicates that mineralisation is hosted within a 3km-wide contact zone, and preliminary FML resource estimates include 210Mt of ore at 0.40% Cu, or 840kt of contained copper, with approximately 30% contained in oxide ore, expected to be amenable to SX/EW technology.

The Baitimir orebodies present, are related to the contact between the granite and granodiorite intrusive rocks of Carboniferous age with volcanic-basic sediments of Silurian-Ordovician age.

The deposit is hosted within volcanogenic-sedimentary rocks of early-Paleozoic (O1-2) age andesite and andesite basalt, jasperiod and metamorphic slates. Bodies and dykes of gabbro-diabase are noted inside the walls and tuffs. Quartz diorite, granite-diorite, and granites of Middle Upper Carboniferous age, which form part of a large multiphase intrusive are developed in the southern part of the deposit.

As proposed by FML geologists, there are three stages of ore formation and accompanying wall rock alterations within the deposit, which are as follows:

The first stage is associated with Cambrian Ordovician rift processes and consists of a pyrite ore formation hosted within a siliceous-basalt-andesite layers spread out over the north part of deposit (drill holes 57, 46, 69). The pyrite ore formation is accompanied by ore silication, and silicification contains background gold grades typically 0.1- 0.5g Au/t gold.

The second stage is associated with intrusive diorite-granite volcanic sediments of carboniferous age, and is represented by magnetite contact mineralisation and propylitic alteration of intrusive formations and volcanic sedimentary layers and gabbro diabase dykes which accompany them. This stage of ore formation hosts relatively weak mineralisation of copper-porphyry type and associated Molybdenum.

The last stage of ore formation comprises contact mineralisation associated with tectonic crushing zones. These tectonic host bear quartz sericite alteration associated with vein type pyrite-chalcopyrite mineralization. Relatively enriched ore is found in these tectonic zones with propylitic alteration and pyrite zones.

Mineralisation at Baitimir is hosted in altered volcanic and clastic rocks that trend to the NW. The mineralisation has been outlined by a series of shallow pits and trenches returning elevated gold and copper values over an 8km long zone. The host rocks are predominantly volcanogenic and clastic and the gold appears to occur in a series of quartz veins within a zone some 1km wide and extending for 7km along strike. The trend of the mineralisation is parallel to the regional north-westerly structural fabric. A geology map of the Baitimir prospect area is shown in Figure 3.3 and in more detail in Figure 3.4 below.

The main mineralised zone is estimated to extend 1,500 to 1,700m along strike and over a width of 300 to 400m.

Drilling to date has outlined four separate mineralised zones occurring at and within the granite-basalt contact. Contact alteration includes epidote, black mica, chlorite and quartz with sericite/carbonate.

Primary ‘ore’ minerals include pyrite, chalcopyrite, and molybdenum with secondary malachite and chalcocite. Higher gold and molybdenum mineralisation appear to gravitate towards the granite contacts. Visual observations of core samples also suggest that intensity of mineralisation increases with depth.

The mineralised zones are linear, striking east-west and dipping steeply (80 – 85°) to the south and are controlled by the granite/basalt contact. Trenching and inclined drilling (to the north) suggests that the true thickness of mineralised zones varies from 10.0 to 80.0m, Trench #2, to more than 100.0m in drillhole №29.

The depth of oxide mineralisation is approximately 50m, and at a depth of 50.0 to 60.0m secondary mineralisation, in the form of malachite and to a lesser extent, azurite, is observed which is also considered to represent secondary enrichment. Sulphide mineralisation comprises bornite, chalcocite and covellite.

The deposit resembles a linear-porphyry setting, as shown in the regional copper porphyry model in Figure 3.2, and a deeper setting to that of the Beschoku and Yubileiny deposits. FML also considers that the deeper (>500m depth) horizons may contain increased mineralisation, which has yet to be investigated.

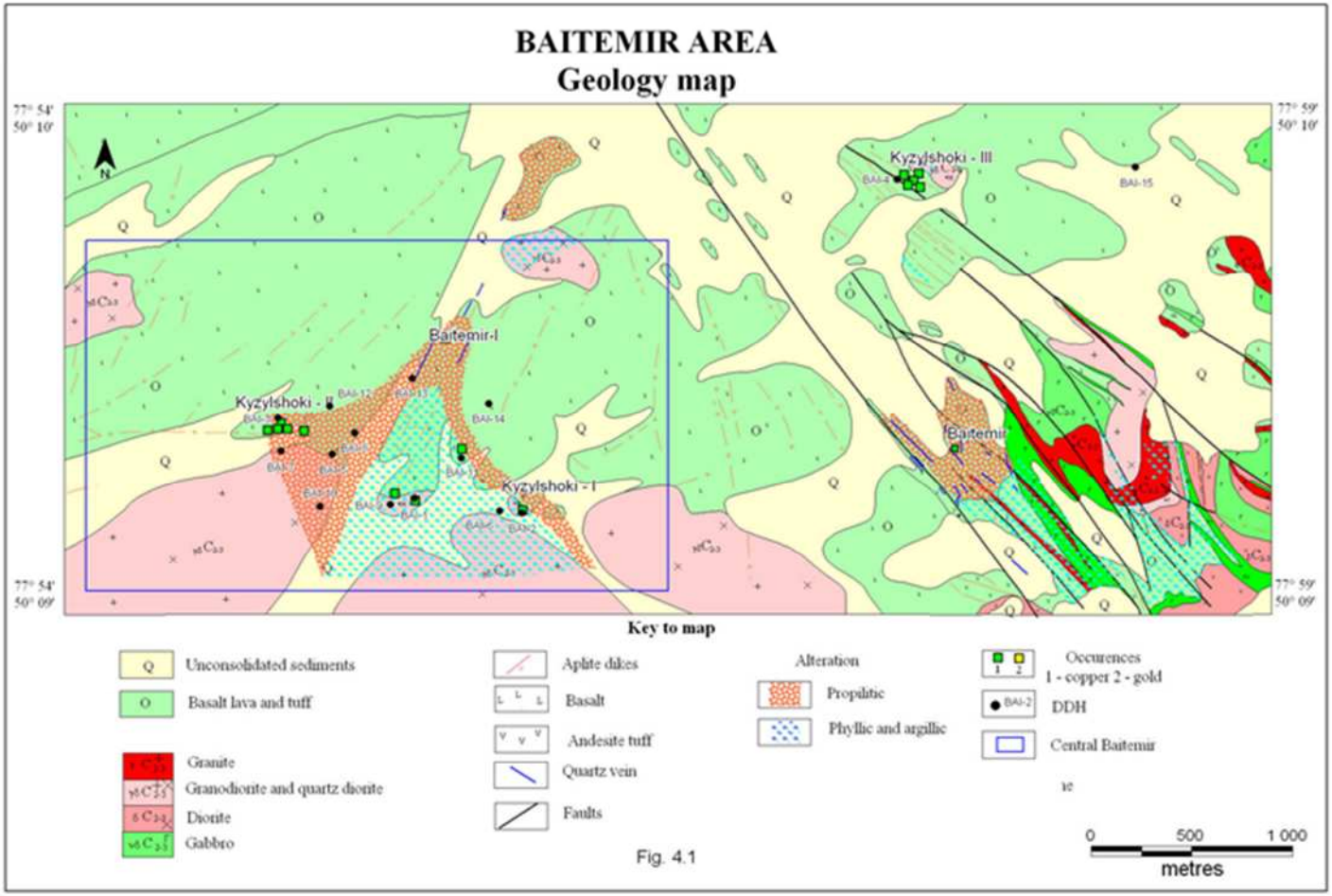


Figure 3.3: Geology of Baitimir Prospect Area

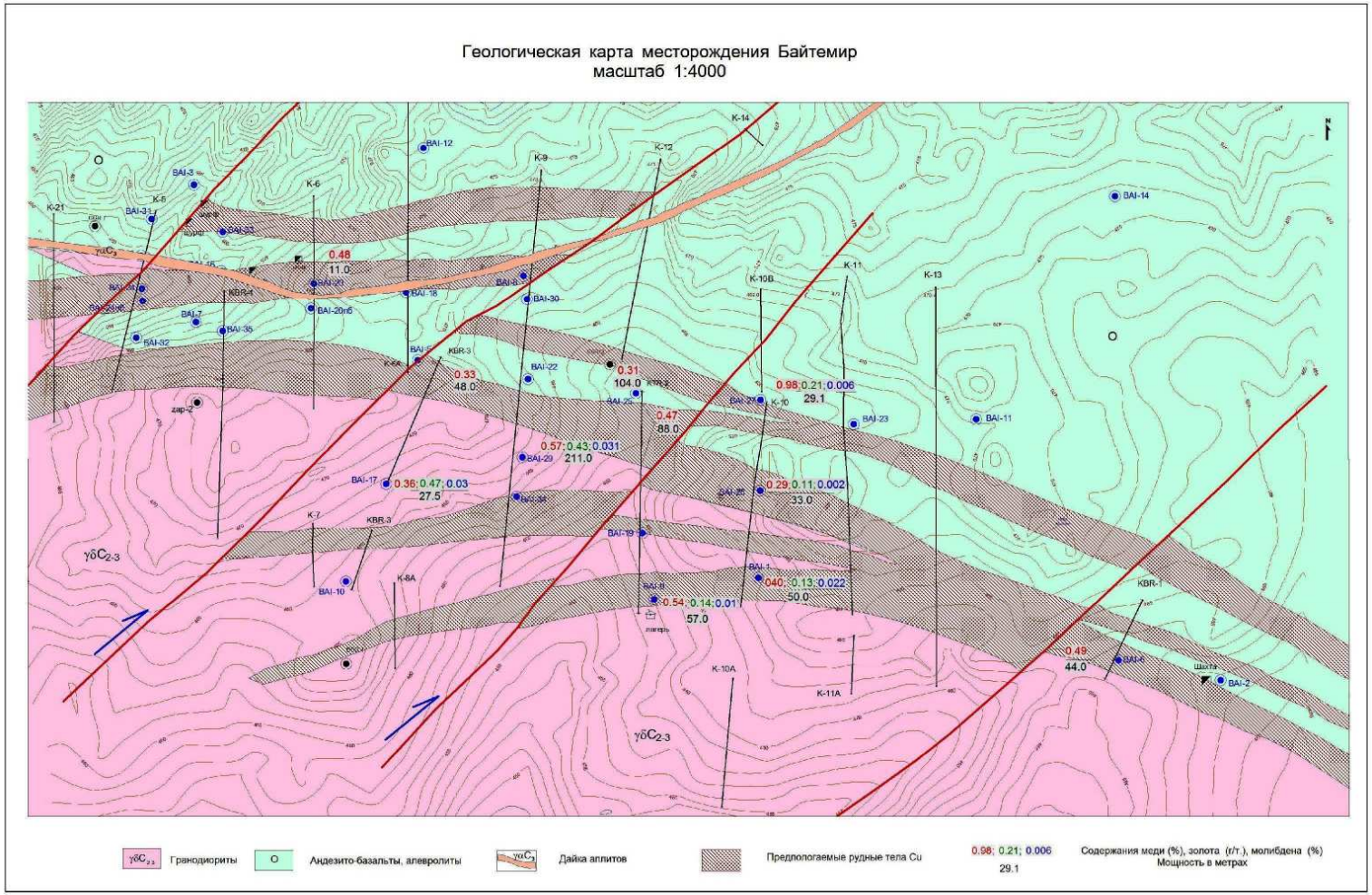


Figure 3.4: Detailed Geology Map of Baitimir Prospect showing Drill Hole Collars and Trench Lines

3.2.2 Beschoku & Yubileiny

Beschoku, is located at the intersection of NW and EW lineaments, and Yubileiny, some 25km to the SE of Beschoku. The Yubileiny copper deposit is located some 30km to the south of Baitimir and is considered as an additional resource for the overall Baitimir project.

In both cases the mineralisation appears to be developed in Ordovician basalts and Devonian felsic volcanic rocks, with copper oxides consisting of azurite and malachite abundant in surface outcrops and trenches.

Beschoku is located at the intersection of two major lineaments outlined by geophysical techniques and between two major intrusive bodies. The majority of the Beschoku area is underlain by Ordovician basaltic lavas and tuffs similar to those at Naimanjal. There are also small isolated shale outcrops intercalated with the basalt. The regional strike is to the NW; however an EW trending shear zone has been identified in many outcrops and pits. There is also a small gabbroic intrusion in the centre of the anomalous area.

A geochemical soil survey on a 1,000 × 200m grid was carried out at Beschoku in July 2002. Grab samples were also taken from individual outcrops and old pits where alteration and mineralisation was recorded. A total of 278 rock samples were collected. On the basis of this survey, FML identified the most prospective area of anomalous copper, gold and arsenic which covered an area of 15.0km².

The predominant style of alteration noted is silicification, which is often accompanied by sericitisation, and intense chloritisation. Copper mineralisation is always associated with linear shear zones.

An analysis of the geochemical data shows that copper, gold, molybdenum and, to a lesser extent, arsenic, form linear anomalies trending north-west and associated with shear zones. The correlation of quartz veins with surface Cu-Au mineralisation of significant width may be considered as indications of VMS type mineralisation.

At Yubileiny the copper mineralisation is hosted by felsite units located within a NW-trending shear zone which dips steeply to the southwest. Copper mineralisation is in felsite that intrudes or overlies basaltic sequences which is a characteristic of some copper rich

VMS deposits. Copper mineralisation at the surface is typically oxidised, and comprises of malachite and azurite. At depth, chalcopyrite becomes prevalent.

The width of the mineralised zone varies from 100 to 200m, and the total mineralised area covers some 3.5km². Total copper values in outcrops and pits vary from 0.5% to 1.0% Cu, and, in places, up to 30% Cu, and can be assumed to be related to a zone of secondary copper enrichment. Gold values vary from 0.1g/t to 1.4g/t Au.

A geological map of the Beschoku and Yubileiny prospect area is shown in Figure 3.5 below, which shows the dominant NW-SE lineation of the area.

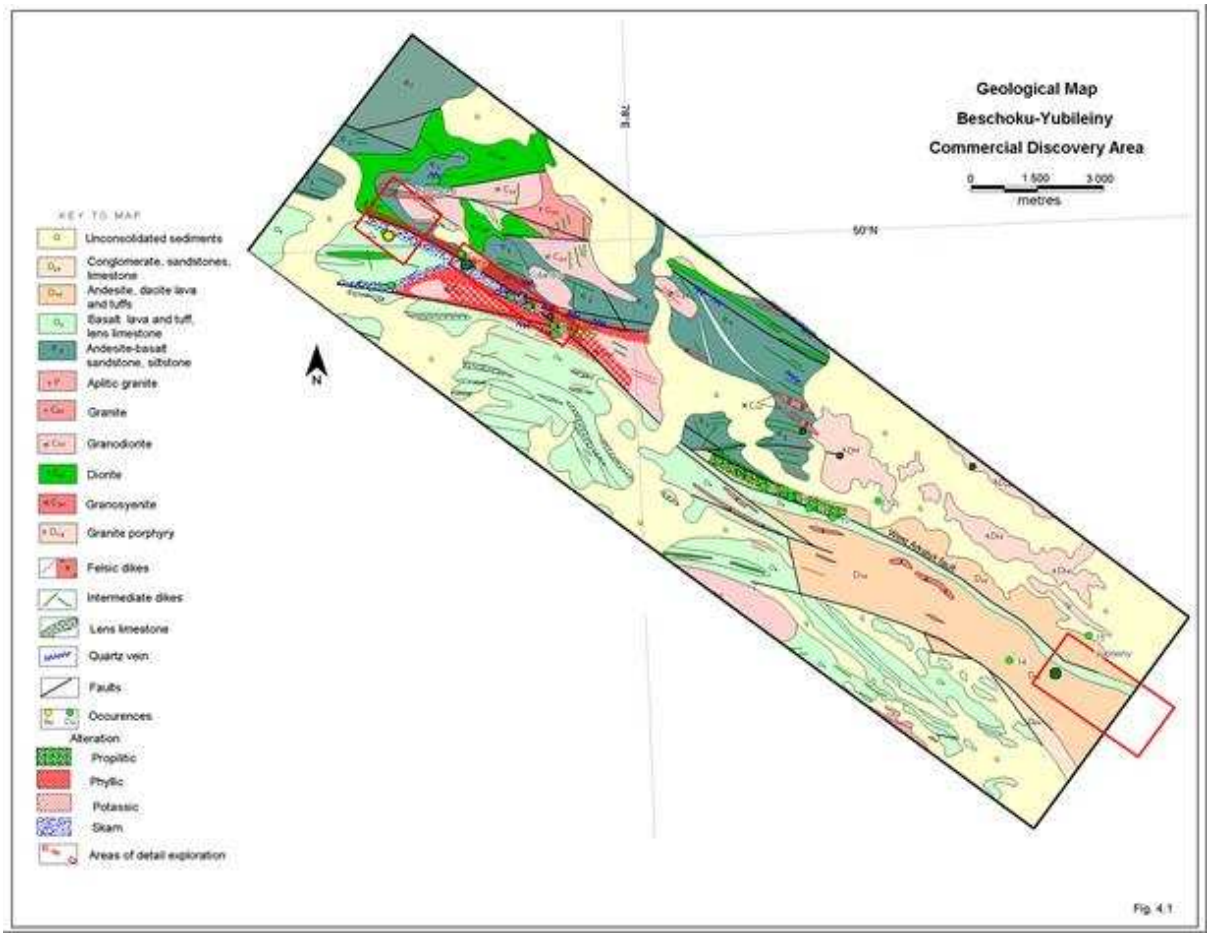


Figure 3.5: Geology of the Beschoku and Yubileiny Prospect Area

4 EXPLORATION

4.1 Baitimir

As detailed in the FML reserves and resources report dated October 2012, the Baitimir deposit was explored in two stages.

The first stage covers 2004 -2006. FML Kazakhstan completed the following package of exploration work including:

- Geological mapping at 1:10,000 scale;
- Soil geochemical survey over a 11.5km² square and on a 200x40m grid;
- Detailed geochemical survey over a 1.4km² square and on a 50x20m grid;
- Geomagnetic exploration over a 13.8km² square and on a100x10m grid; and
- Electrical resistivity exploration over a 13.8km² square and on a 400x25m grid.

As a result of received data analysis it was determined that the most prospective zone for copper-porphyry type ore-bodies (size of 5.2km²), was Central Baitimir.

In 2005-2006, 13 drill holes totalling 1,782.0m were drilled, and 4 trenches (1065m³) were excavated. All the drill holes are vertical with the exception of 2 drill holes drilled at 60° degree.

The second stage covers 2010-2012. Exploration work continued in the deposit, with a further 1,700m of trenches excavated, additional geochemical anomalies of copper identified earlier and further drilling completed. In 2010-2012, 78 additional drillholes totalling 18,029.4m (inclined 60-75°) were completed. In all 91 drill holes totalling 19,811.4m have been drilled on the deposit, see Figure 4.1 and Figure 4.2 below.

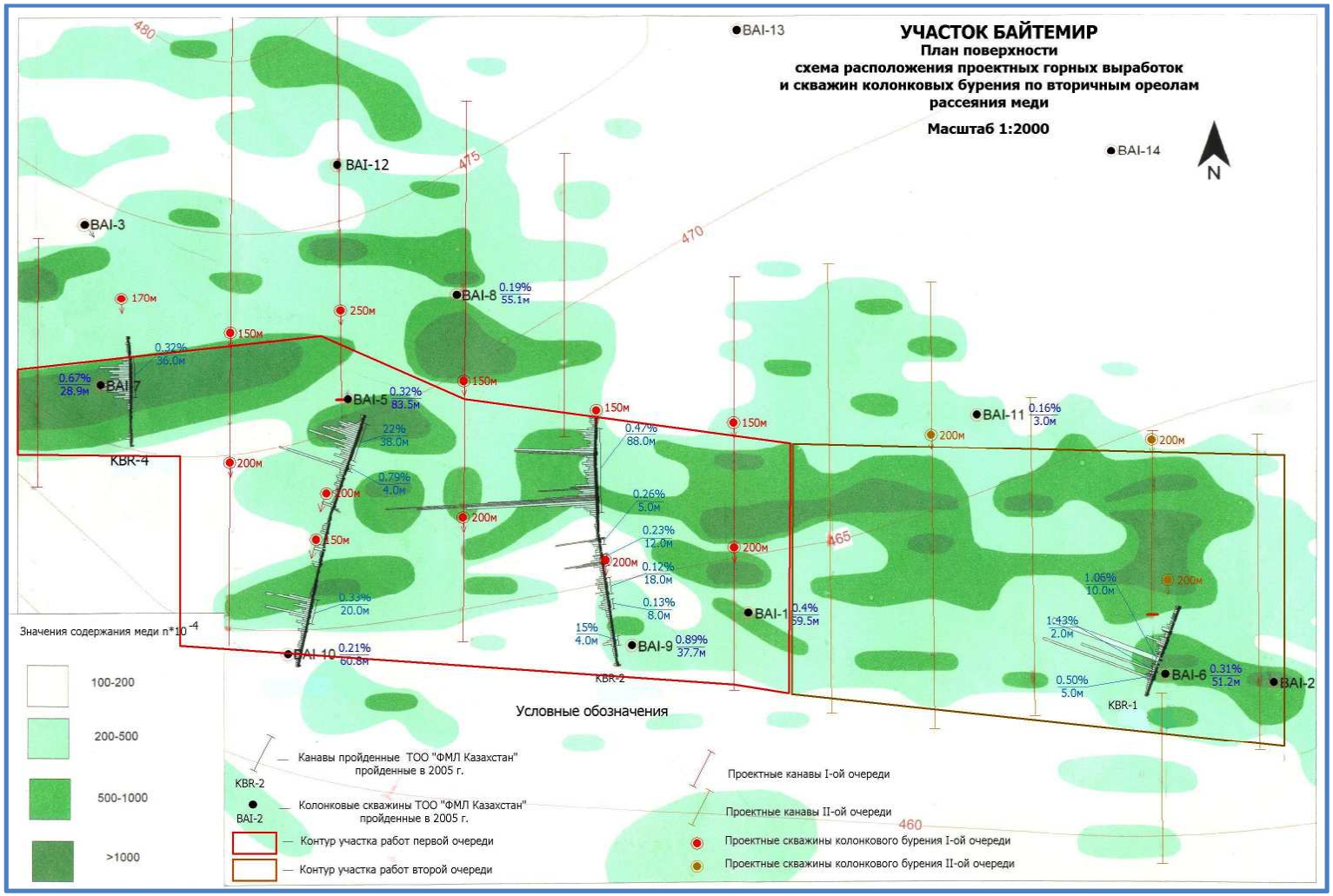


Figure 4.1: Schematic Plan of Exploration at Baitimir (Cu surface geochemistry in ppm)

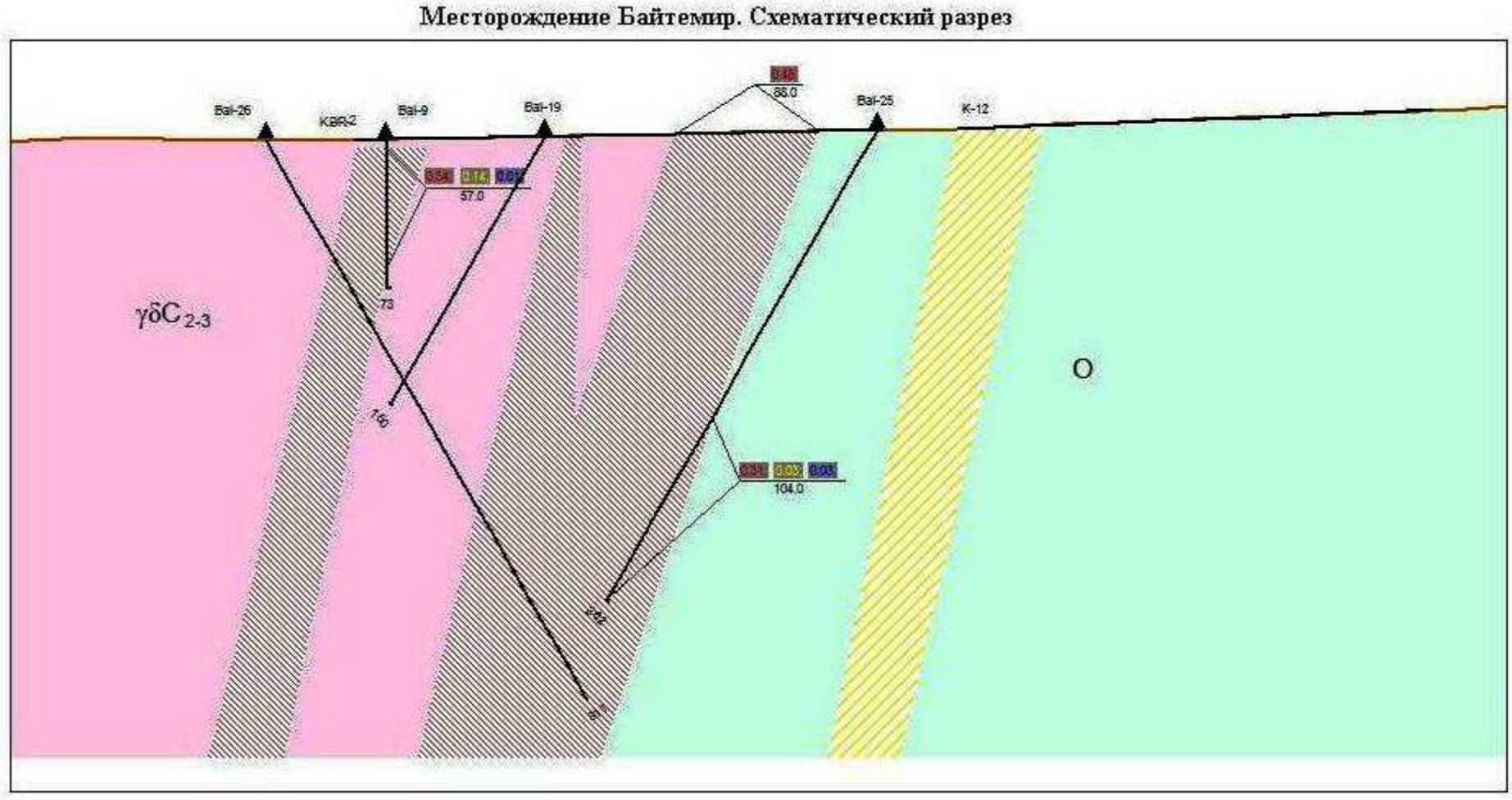


Figure 4.2: Schematic Cross-section through the Baitimir Prospect

Drill analysis (copper and gold), from the 2006 campaign, on a 100 x 100m and 100 x 200m grid, was conducted at the Koskuduk laboratory. All core preparation was also conducted at Koskuduk. Of the 1,418 samples analysed at Koskuduk, 618 (including samples from drillhole №29) duplicates were sent to Alex Stewart Assayers (Kyrgyzstan) for check analysis. The results were in agreement and no significant bias or error was found.

Drilling samples for the 2010 campaign were also prepared and analysed at Alex Stewart Assayers (Kyrgyzstan).

Photo 4.1 shows quartz-sulphide veinlets in granodiorite with Cu-oxide mineralisation in drillhole BAI-9 at 27.5m (Central Baitimir) grading 0.73g/t Au and 1.4% Cu. Photo 4.2, drillhole BAI-9 at 57.0m, again shows quartz-sulphide veins and veinlets with chalcopyrite, pyrite and bornite with secondary chalcocite and covellite.

Photo 4.1: Drillhole BAI-9 at 27.5m

Photo 4.2: Drillhole BAI-9 at 57.0m

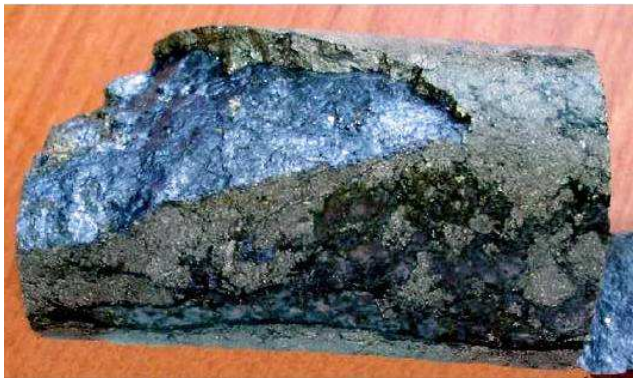


Photo 4.3: Drillhole BAI-1 at 117.0m

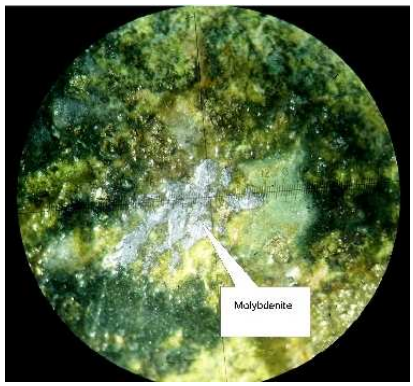


Photo 4.4: Drillhole BAI-5 at 58.5m

Photo 4.3 shows disseminated pyrite and chalcopyrite with molybdenite veinlets grading 0.6g/t Au, 1.5% Cu and 0.34% Mo. Photo 4.4 shows molybdenite mineralisation at a depth of 58.5m in drillhole BAI-5.

In March 2012, FML disclosed an infill drilling update press release, the results of which are presented below. All reported intercepts are “down the hole” or along horizontal surface (trenches) and do not necessarily represent true widths. Important intersections include:

- Hole BAI-27 which shows 26.1m interval with average content of 0.77% Cu;
- Hole BAI-9 which shows 42.7m interval with average content of 0.83% Cu; including 11.80m interval with average content of 2.02% Cu;
- Hole BAI-34 which shows 60m interval with average content of 0.62% Cu;
- Hole BAI-29 which shows 211m interval with average content of 0.61% Cu; including 27.00m interval with average content of 1.30% Cu;
- Hole BAI-49 which shows 62.6m interval with average content of 0.63% Cu;
- Hole BAI-20пб which shows 113m interval with average content of 0.39% Cu;
- Hole BAI-25 which shows 63m interval with average content of 0.34% Cu;
- Trench K11 which shows 88m interval with average content of 0.59% Cu;
- Trench KBR-2 which shows 72m interval with average content of 0.68% Cu;
- Trench K-9 which shows 124m interval with average content of 0.53% Cu; and
- Trench KBR-1 which shows 54m interval with average content of 0.28% Cu

Assay data from some of the most significant trench and drill intersections are presented in Table 4.1 below.

Table 4.1: Significant Trench and Drill Intersections at Baitimir (as at March 2012)						
Trench & Borehole ID	**Intersection (m)**		**Mineralised intersection (m)**	**Cu %**	**Mo %**	**Au ppm**
	From	**To**				
Trench ID						
KBR-1	18.00	72.00	54.00	0.28	0.002	0.17
KBR-2	103.00	244.00	141.00	0.43	0.005	0.08
Include:						
KBR-2	*156.00*	*228.00*	*72.00*	*0.68*	*0.007*	*0.10*
KBR-3	50.00	70.00	20.00	0.33	0.003	0.26
KBR-3	206.00	254.00	48.00	0.33	0.011	0.08
Average weighted grade KBR-3				*0.33*	*0.009*	*0.13*
K -5	16.00	71.00	55.00	0.32	-	-
K -5	173.00	213.00	40.00	0.40	-	-
Average weighted grade K-5				*0.36*	-	-
K -9	72.00	106.00	34.00	0.74	-	-
K -9	274.00	364.00	90.00	0.46	-	-
Average weighted grade K-9			*124.00*	*0.53*	-	-
K -10	199.00	232.00	33.00	0.35	-	-
K-11	99.00	187.00	88.00	0.59	-	-
Borehole ID						
BAI - 5	0.20	33.60	33.40	0.41	0.005	0.02
BAI - 5	42.60	93.60	51.00	0.27	0.002	0.06
Average weighted grade BAI - 5			*84.40*	*0.32*	*0.003*	*0.04*
BAI - 7	18.40	30.30	11.90	1.40	0.023	0.50
BAI - 9	6.50	37.40	30.90	0.37	0.006	0.22
BAI - 9	50.20	62.00	11.80	2.02	0.045	0.10
Average weighted grade BAI - 9			*42.70*	*0.83*	*0.016*	*0.19*
BAI - 20пб	73.00	141.60	68.60	0.36	0.042	0.18
BAI - 20пб	191.50	221.50	30.00	0.41	0.022	0.17
BAI - 20пб	256.20	270.60	14.40	0.46	0.027	0.12
Average weighted grade BAI - 20пб			*113.00*	*0.39*	*0.034*	*0.17*
BAI - 21	100.80	118.60	17.80	0.66	0.007	0.08
BAI - 25	194.00	257.00	63.00	0.34	0.072	0.07
BAI - 27	60.00	86.10	26.10	0.77	0.006	0.22
BAI - 29	140.60	351.70	211.10	0.61	0.031	0.45
Include:						
BAI - 29	186.00	213.00	27.00	1.30	0.046	1.26
BAI - 29	251.10	329.00	77.90	0.78	0.052	0.29
Average weighted grade BAI - 29			*104.90*	*0.91*	*0.051*	*0.54*
BAI - 30	0.50	39.00	38.50	0.41	0.001	-
BAI - 33	97.80	153.60	55.80	0.40	0.014	0.05
BAI - 34	34.00	94.00	60.00	0.63	0.059	0.39
BAI - 35	6.50	21.50	15.00	0.71	0.006	0.12
BAI - 35	100.30	110.50	10.20	0.48	0.035	0.15
Average weighted grade BAI - 35			*25.20*	*0.62*	*0.017*	*0.13*
BAI - 49	25.50	80.50	55.00	0.65	0.033	0.22
BAI - 49	344.00	352.00	7.60	0.47	0.043	0.10

Average weighted grade BAI - 49			*62.60*	*0.63*	*0.034*	*0.21*
BAI - 54	155.00	250.00	95.00	0.32	0.005	0.15
Include:						
BAI - 54	155.00	173.90	18.90	0.43	0.009	0.17
BAI - 54	239.00	250.00	11.00	0.65	0.011	0.24
Average weighted grade BAI - 54			*29.90*	*0.51*	*0.010*	*0.20*
BAI - 61	46.50	59.00	12.50	0.54	0.021	0.39
BAI - 61	241.00	245.00	4.00	0.46	0.005	0.12
BAI - 61	271.20	285.90	14.70	0.58	0.026	0.09
Average weighted grade BAI -61			*31.20*	*0.55*	*0.021*	*0.21*

An isometric 3D view of the drill hole intercepts through the Baitimir deposit is illustrated in Figure 4.3 below, together with a plan view showing the location of drillholes and trenches shown in Figure 4.4 below. Cross sections showing drill holes, wireframes envelopes and outline of the historic pits at Baitimir are illustrated in Figure 4.5 and Figure 4.6 below

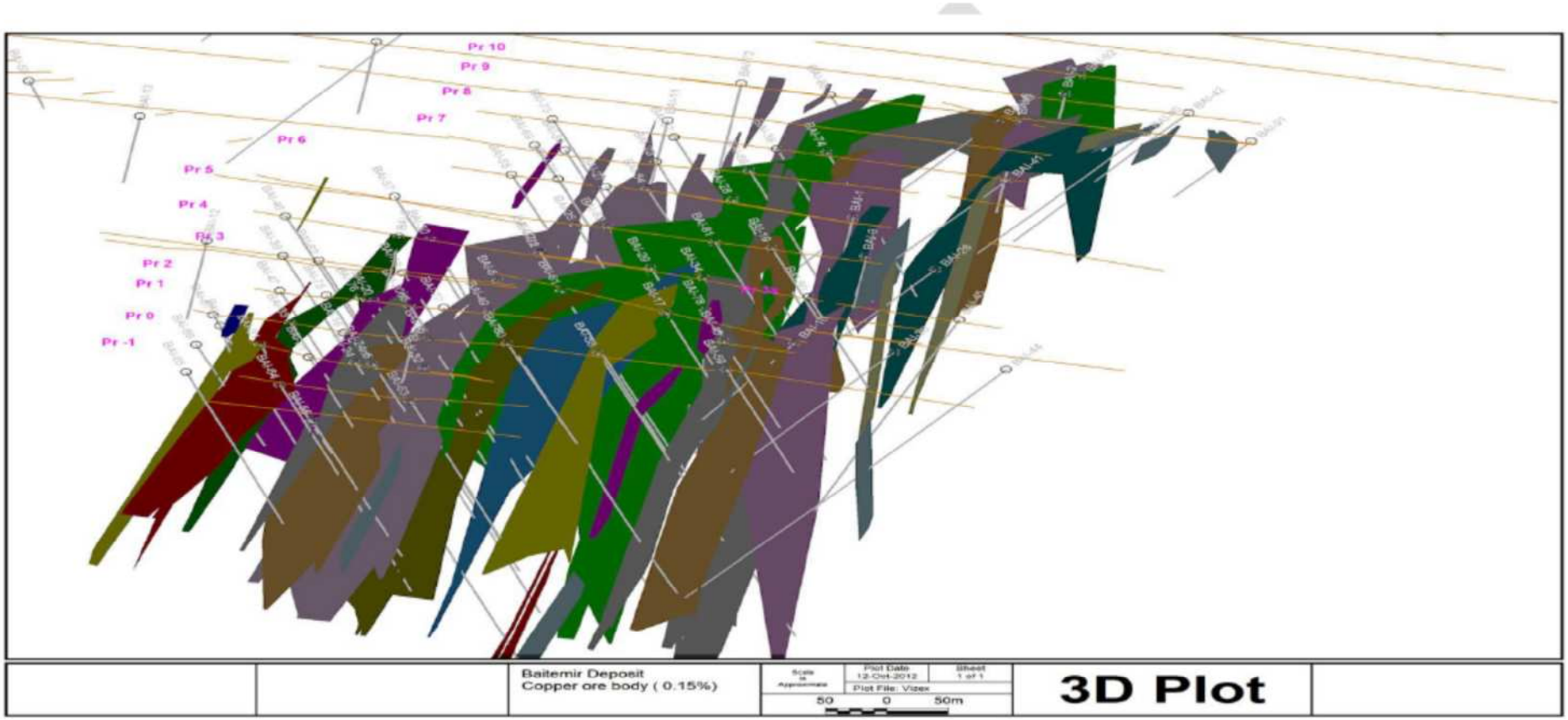


Figure 4.3: Isometric View of Drill Hole Intercepts and Wireframe Envelopes

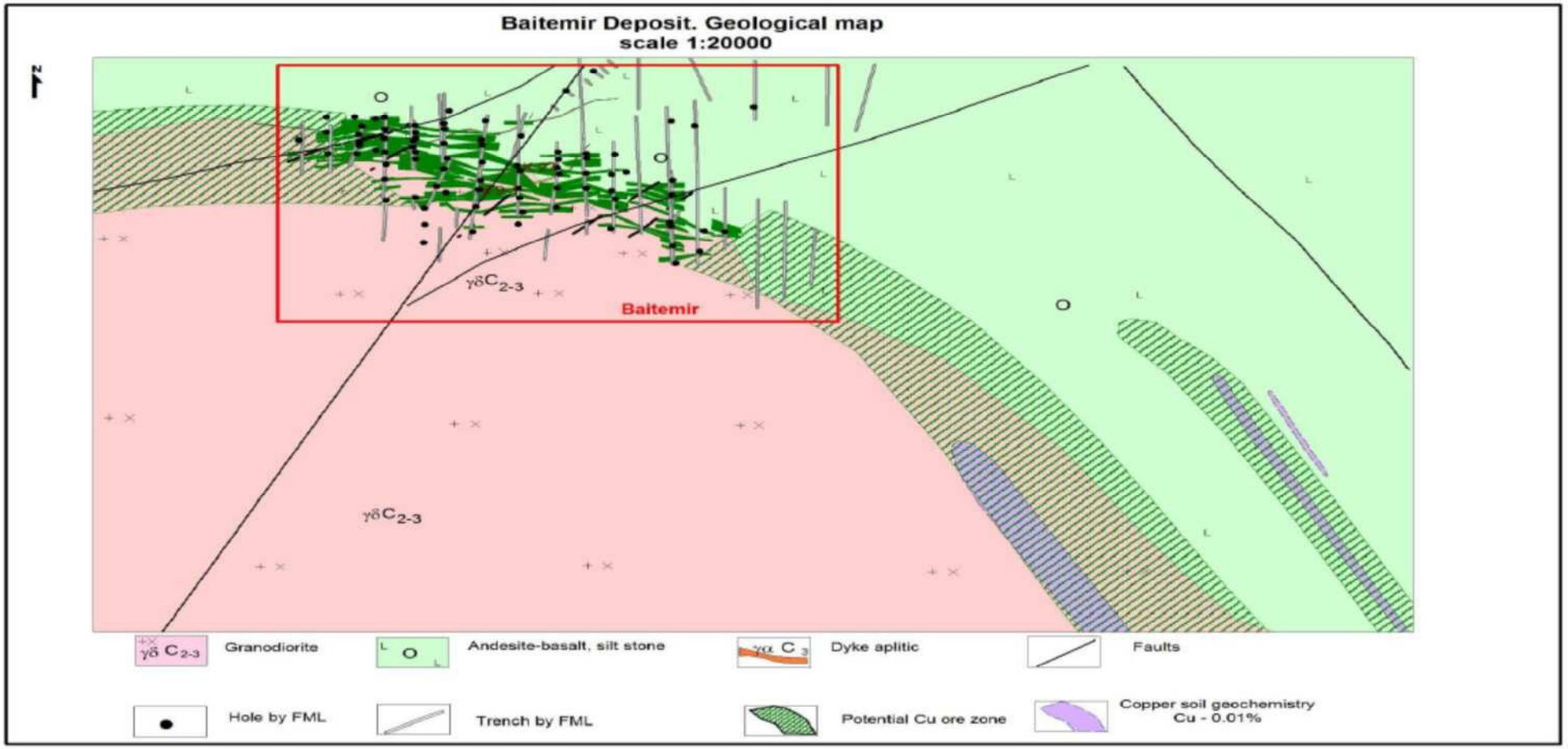


Figure 4.4: Plan View of Drill Hole Locations and Wireframe Envelopes

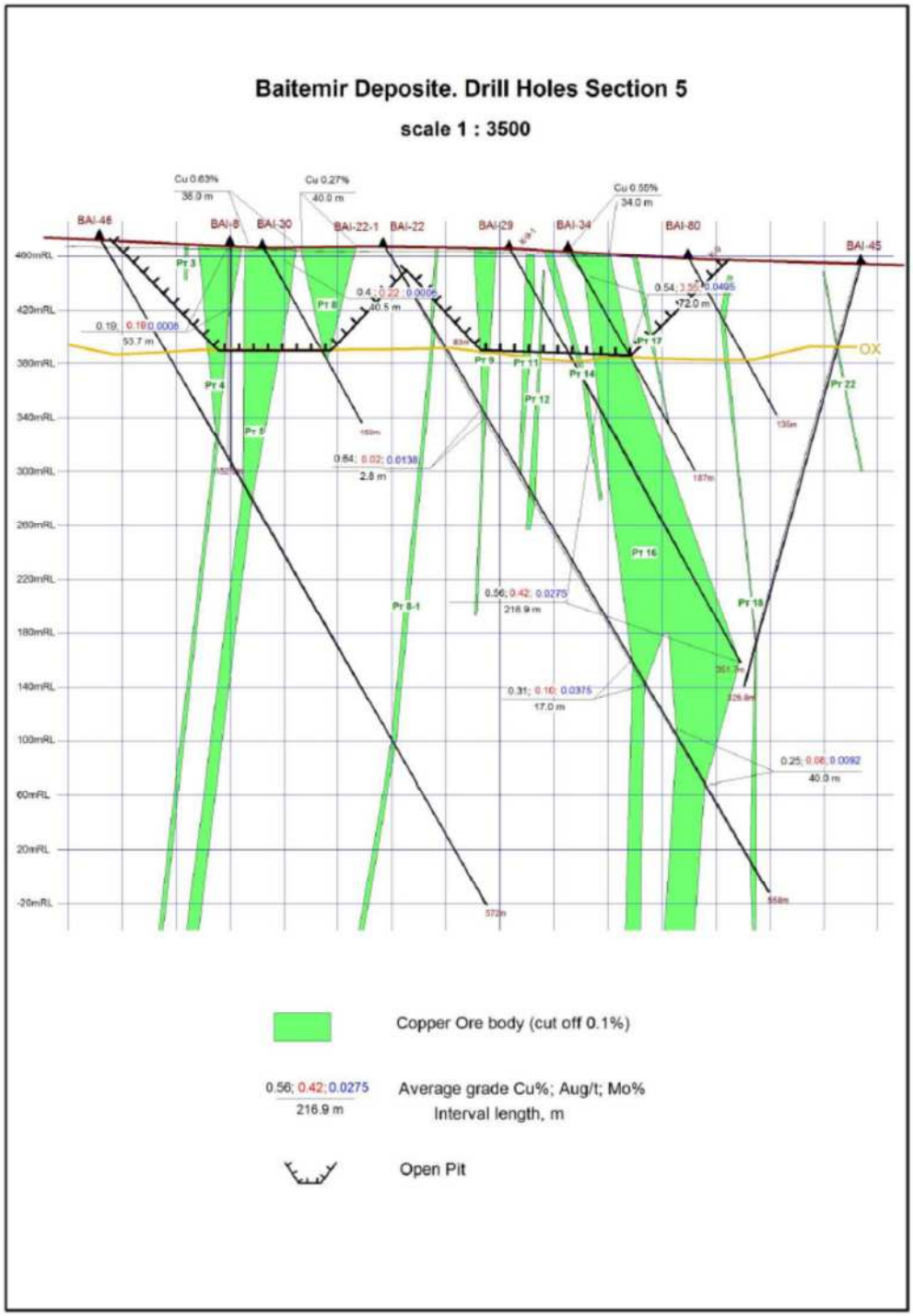


Figure 4.5: Section View of Drill Hole Intercepts and Wireframe Envelopes Section - 5

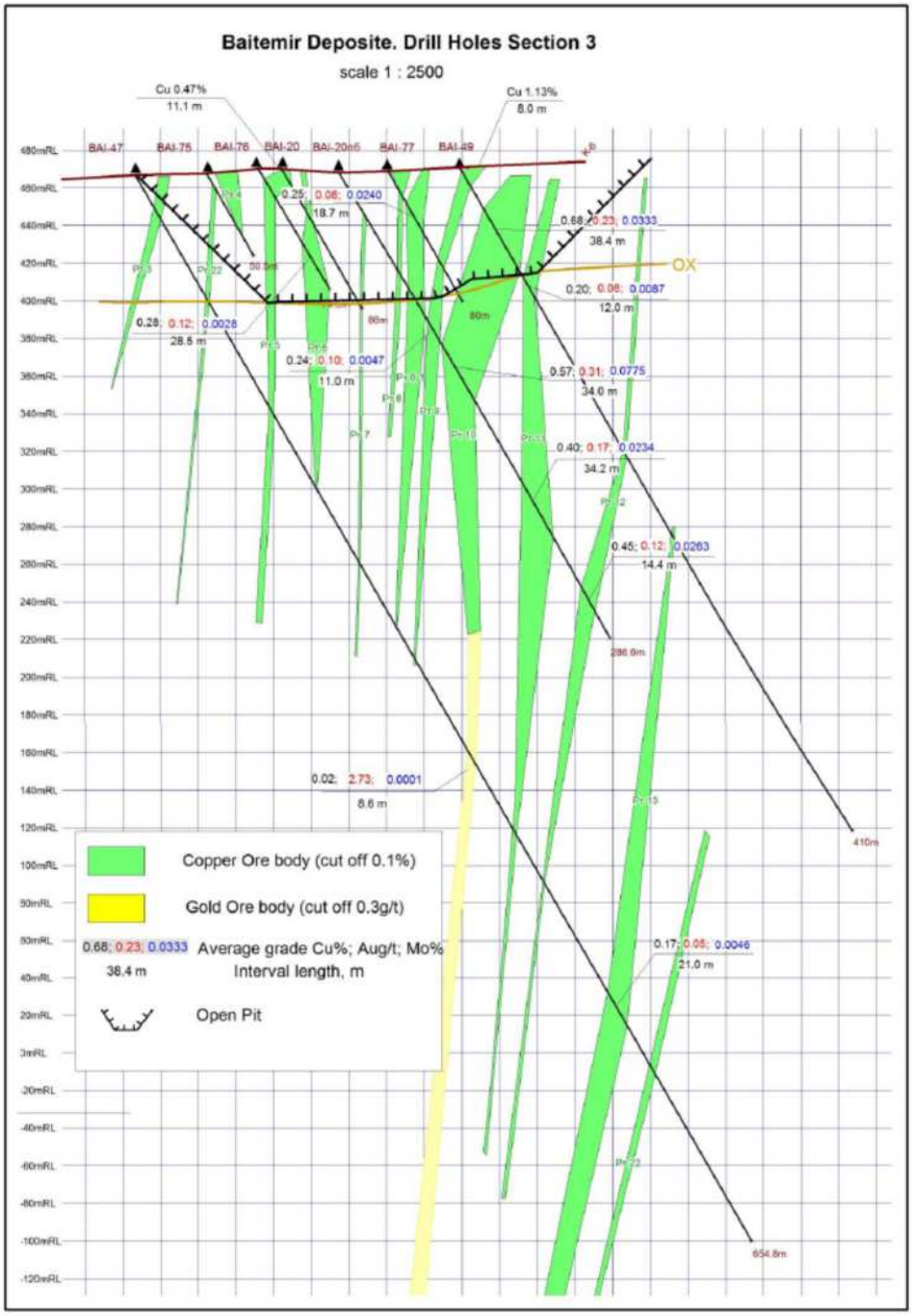


Figure 4.6: Section View of Drill Hole Intercepts and Wireframe Envelopes Section - 3

A TMI geophysics survey has been conducted covering the Baitimir area. The results of the survey in relation to the drill results is illustrated in Figure 4.7. A plan view of Chargeability geophysics with geochemistry, drill hole intercepts and wireframe envelopes is shown in Figure 4.8.

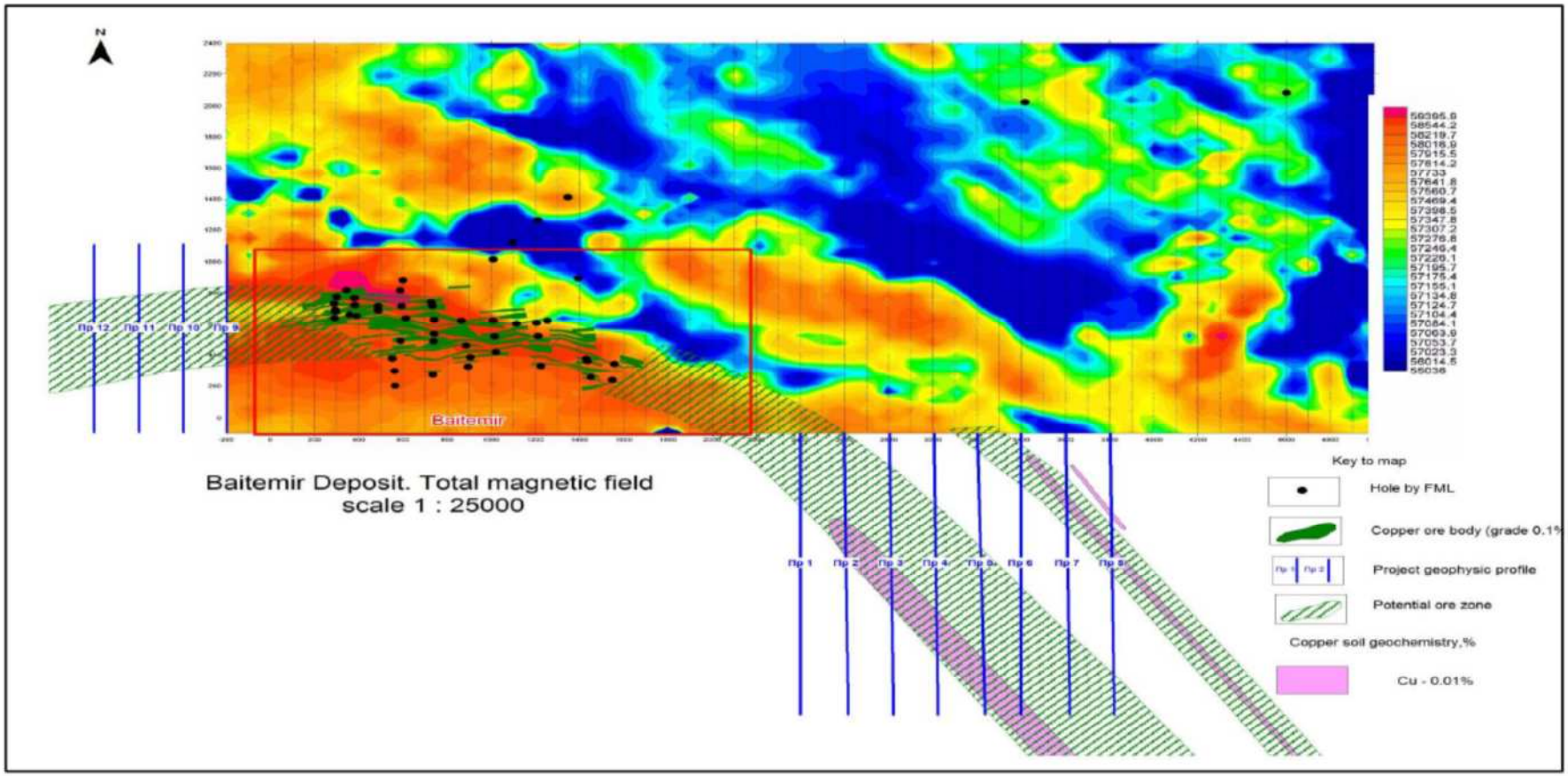


Figure 4.7: Plan View of TMI Geophysics with Drill Hole Intercepts and Wireframe Envelopes from 3D Modelling

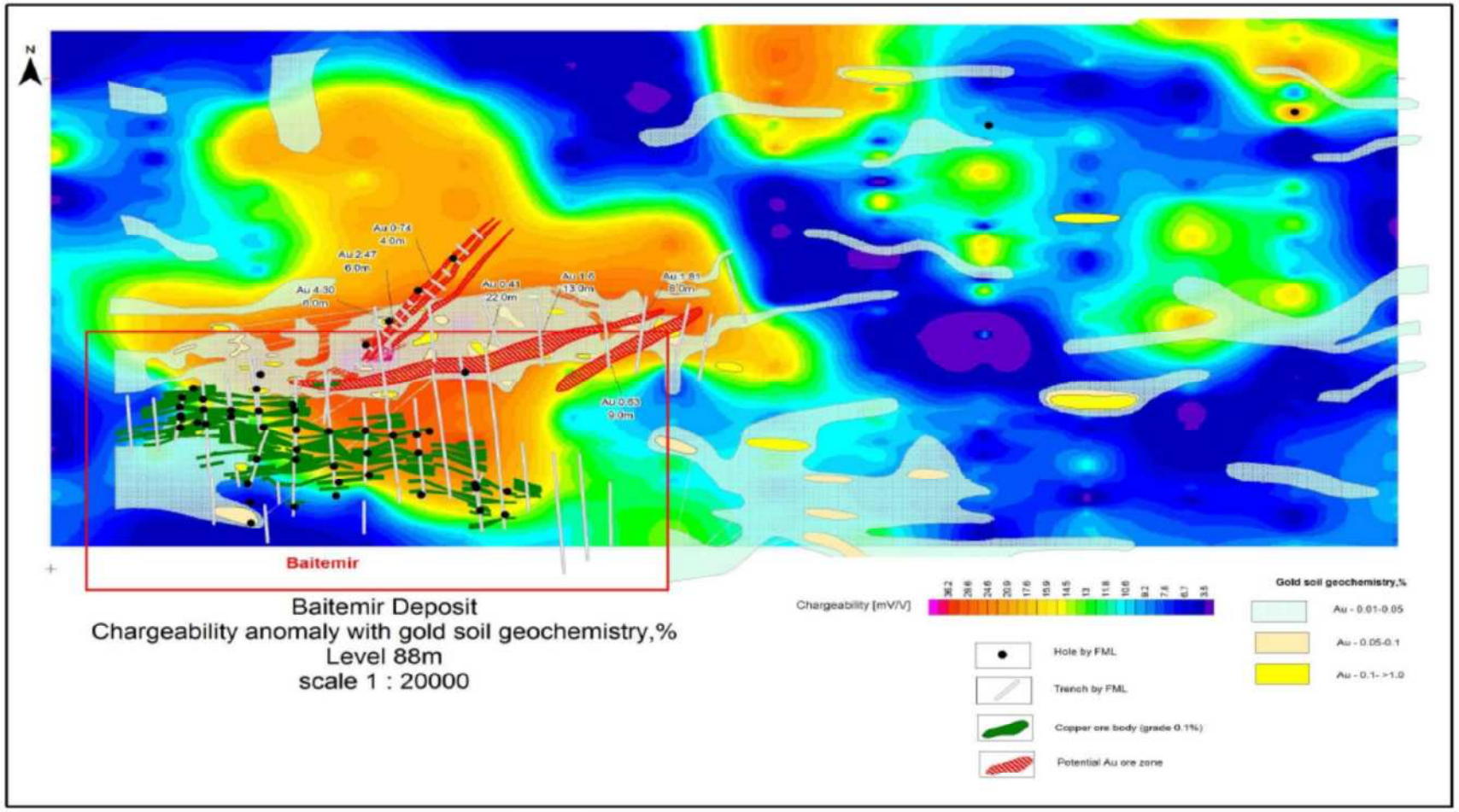


Figure 4.8: Plan View of Chargeability Geophysics with Geochemistry, Drill Hole Intercepts and Wireframe Envelopes

4.2 Beschoku

Beschoku is a smaller, hydrothermal breccia, high grade gold/copper deposit located approximately 60km south-east of Naimanjal. At Beschoku gold was intercepted by a single drill hole in the 1950's.

FML believes that the geology and geochemistry are indicative of several more high grade breccias in the immediate area, and results to date have identified two large mineralised systems; a copper/gold VMS deposit including oxide mineralisation and a copper/molybdenum porphyry deposit.

Historical resource estimates suggest a P_1 resource for Beschoku of 620kt of contained copper with 1.0% Cu grade for the VMS type deposit, and 1.86Mt of contained copper with 1.0% Cu grade for the porphyry copper.

During 2010 FML completed a drilling programme to optimise the reserve, plan mining operations, gather material for metallurgical testing, and to complete all necessary documentation for submission to the Kazakh authorities.

The initial results to date have been positive, but with the focus on larger, and higher priority targets, the launch of operations at Beschoku and Yubileiny will depend on availability of funds and qualified operating personnel.

The Beschoku deposit is located in the northwest of the Beschoku and Yubileiny area and exploration by FML has included a topographic survey, geological mapping and geophysical investigation as well as intrusive investigation with sampling and analysis.

A geochemical soil survey in July 2002 on a 1,000 × 200m grid was carried out by FML at the Beschoku area of historical copper mining. On the basis of this survey, FML identified the most prospective area covering 15.0km^2 of anomalous copper, gold and arsenic.

During the first phase (2002-2005) two trenches were excavated, and five drill holes (434.2m) were completed at a distance of 50m apart. A second phase in 2006, with a view to further investigate previous gold mineralisation, involved 15 drill holes to depths of

between 65.3m and 155.5m for a total of 1,743.8m. The drilling, was conducted on a 50m x 25m spacing, and a total of 1,099 core samples were taken.

In November 2009 a technical-geological evaluation of the oxides at the deposit was completed for open pit exploitation at different gold COG (0.3g/t, 0.5g/t and 0.8g/t), producing an optimum open pit depth of approximately 30m (385m horizon). In estimating the resource, the specific gravity applied was based on previous technical reports (resource evaluation) with a figure of 2.6tm^3, and as approved by GKZ Protocol No. 895-09-a of 14 December 2009.

In 2010 additional exploration was conducted by FML in order to transfer the resources from C_2 to C_1 category, by closing the network spacing to 25m by 25m with the completion of nine additional diamond drill holes for 1,098.8m and 732 core samples and eight trenches with 483 samples. A summary of the exploratory investigation is presented in Table 4.2 and illustrated in Figure 4.9 and Figure 4.10 below.

In total, 29 drill holes totalling 3,281.80m were completed.

Field testwork defined the specific gravity for oxide and primary ore of 2.75t/m^3 and 2.7t/m^3 respectively.

Table 4.2: Summary of FML Exploration at Beschoku (2002 – 2010)

	2002 - 2006	2009 - 2010	Total
Trenches	823m^3	846m^3	1,669m^3
Channel Samples	67	483	550
Diamond Drilling	2,183.0	1,098.8	3,281.8
Core Samples	1,099	732	1,831

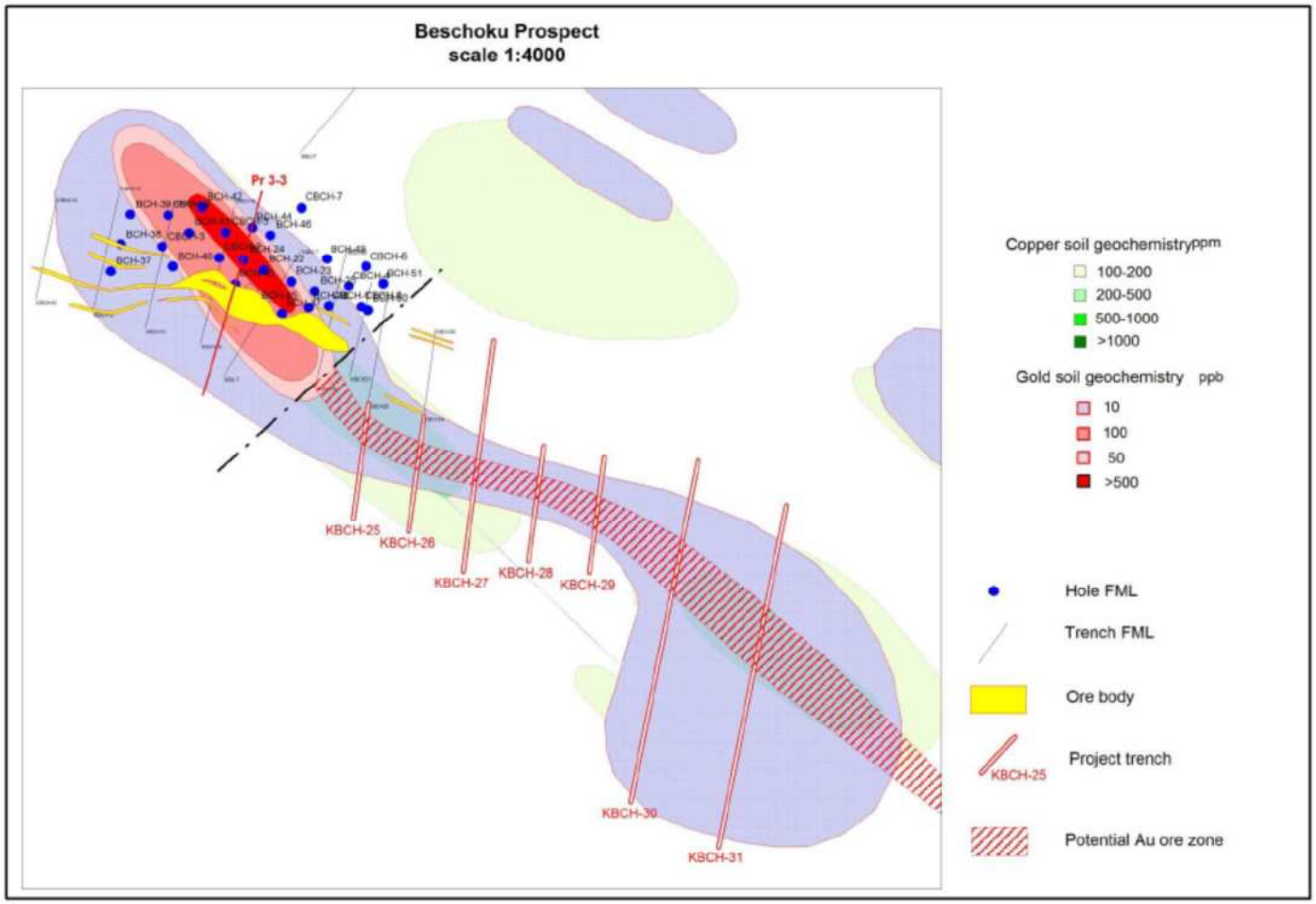


Figure 4.9: Plan showing Location of Drillholes - Trenches and Geochemistry at Beschoku

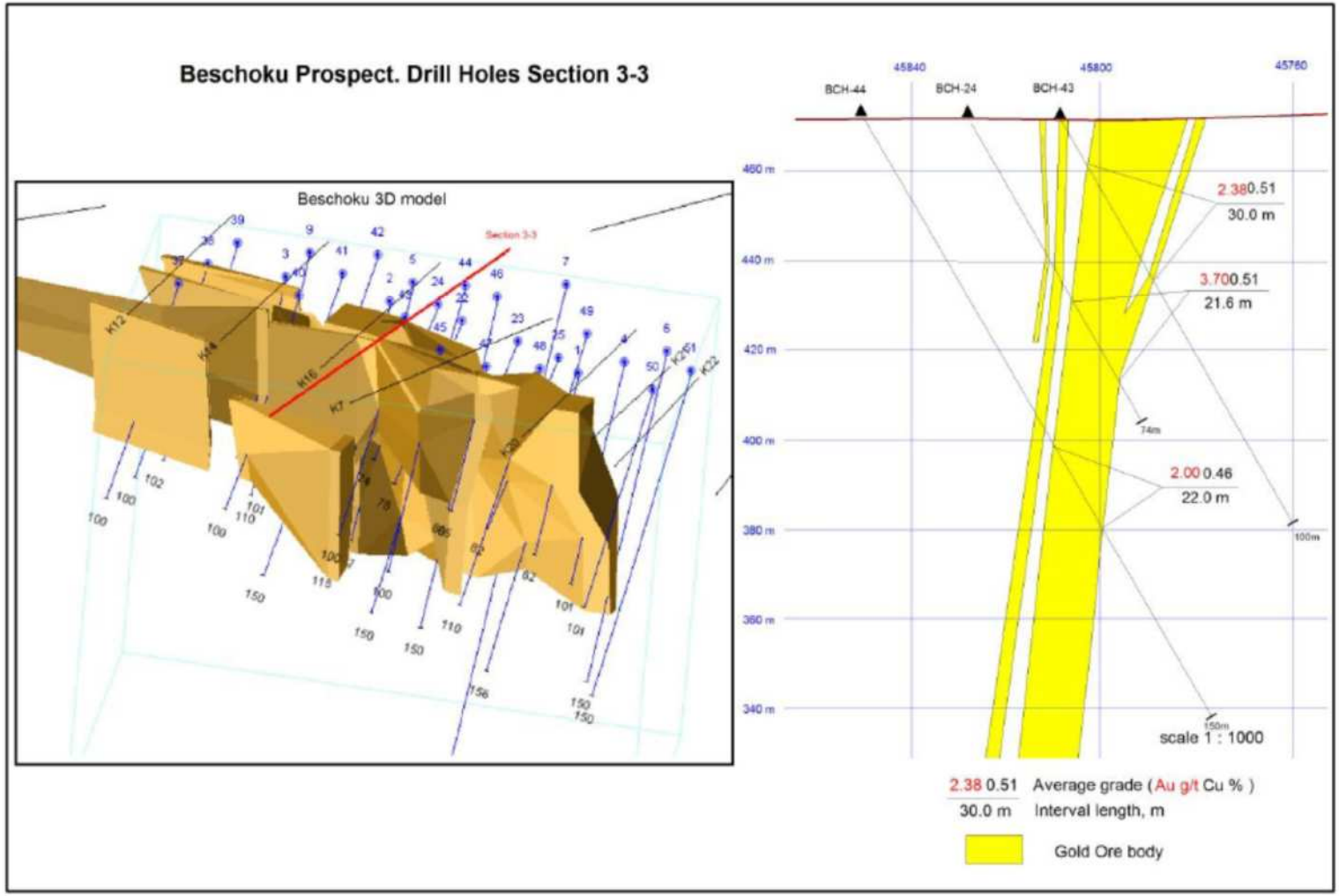


Figure 4.10: Typical Cross Section and 3D Image of the Oxides at Beschoku

4.3 Yubileiny

The Yubileiny deposit is located in the south-eastern part of the Beschoku and Yubileiny area, and was discovered in the late 19th Century through test pits and small open pit excavations into oxidised copper mineralisation grading 5 to 10% Cu.

In 1947 the estimated copper resource, to a depth of 100m, was reported to be 150kt of contained copper, and this prompted further work during the period between 1948 and 1951. During this phase, 3 exploration shafts, 308m of shallow exploration pits and 1,000m^3 of trenches were excavated followed by 914m of drilling distributed in eight diamond core drill holes.

In 2004–2005, FML conducted detailed geological prospecting work including soil geochemical sampling, geophysical surveys and preliminary drilling.

In 2006 further drilling was carried out and 12 holes were drilled for 1,296.5m along six profiles. A summary of the FML exploration to date is presented in Table 4.3 below.

Table 4.3: Summary of FML Exploration at Yubileiny

	2004 - 2005	2006	Total
Trenching and Drilling	2,667.1m	1,296.5m	3,963.6m
Testing	1,333 samples	648 samples	1,981 samples

Following the results of the 2006 drilling programme, an outline of the mineralised zone was determined to be 600m along strike, and up to 100m in width. The depth of oxidation ranges from 25 to 50m, with an average of 27.5m. Trenching has outlined the scale of surface mineralisation, to be assessed, but to date this has been limited with only 1,200m being completed on 6 sections.

FML have reported a total of 3,963.6 m of core drilling completed.

The Yubileiny drillhole locations are shown in Figure 4.11 and Figure 4.12 while a long-section showing the mineralisation types (oxide, mixed and sulphide), together with drillhole intersections (copper), is presented in Figure 4.13. In addition a cross-section through 'Section 300', looking west, is presented in Figure 4.14 that shows the drillhole copper mineralisation.

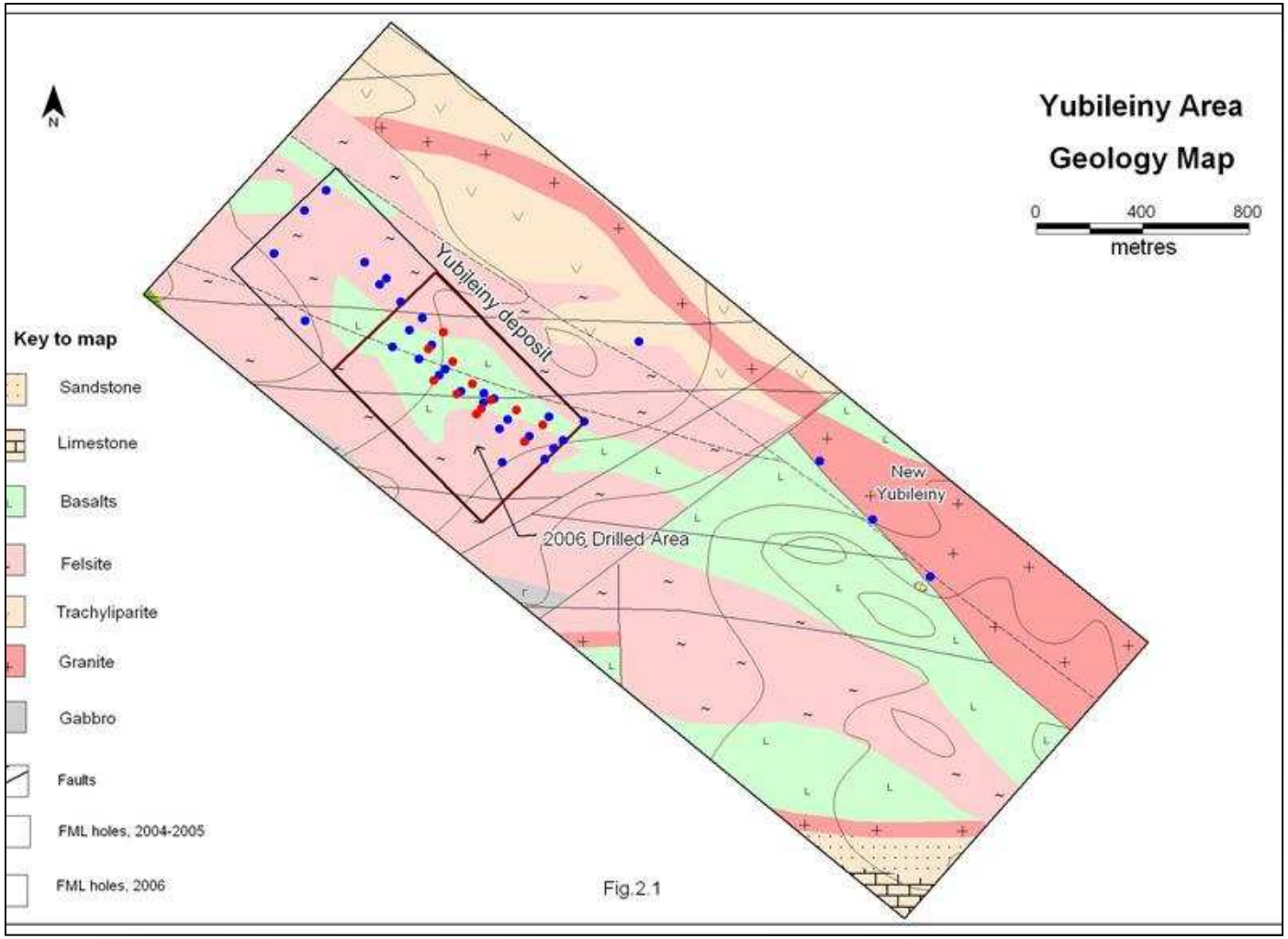


Figure 4.11: Plan showing the Local Geology and Location of Drill Holes

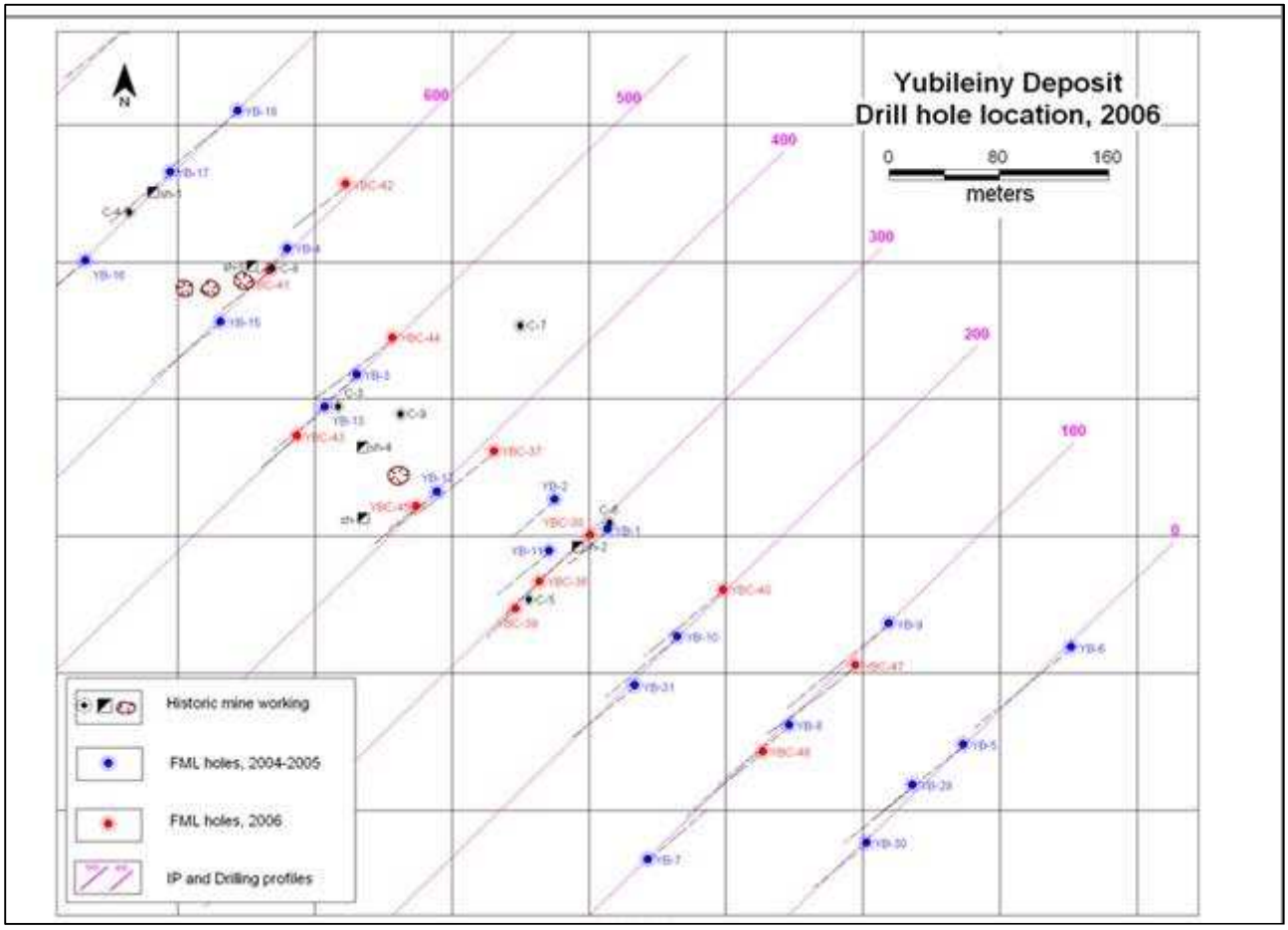


Figure 4.12: Drillhole Location Plan (FML)

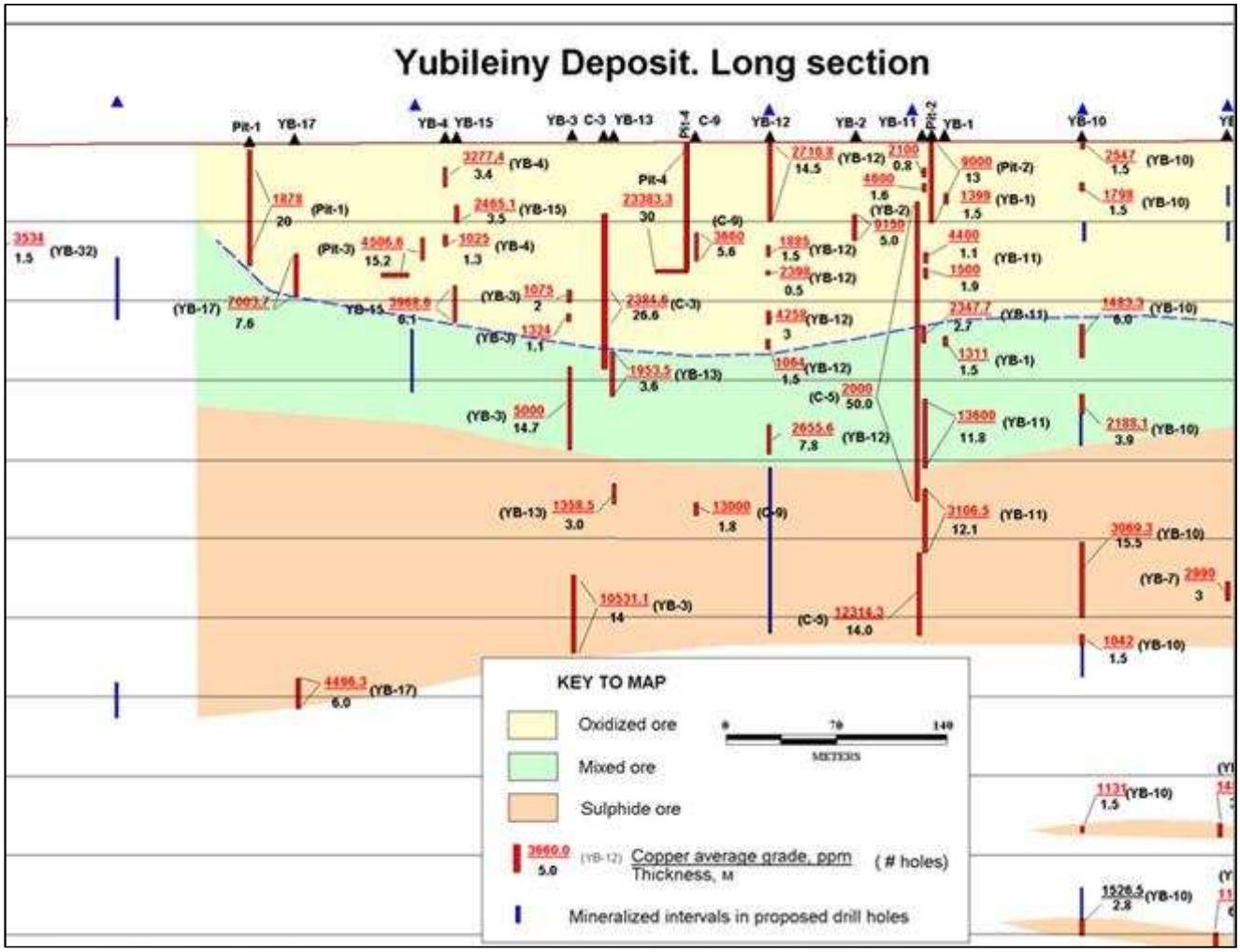


Figure 4.13: Long-section through Yubileiny Prospect

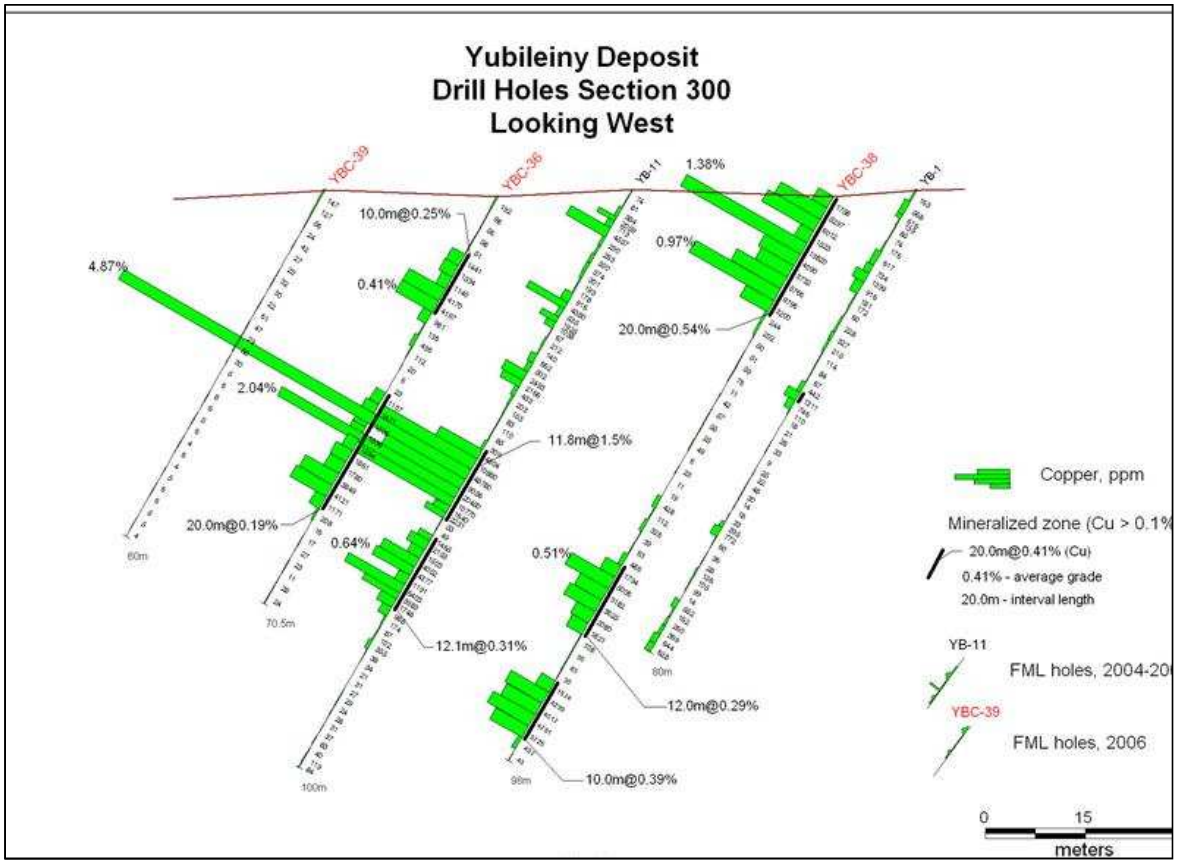


Figure 4.14: Cross-section showing Drillhole Mineralisation (Section 300)

Based on this analysis, Yubileiny is considered to represent a small independent deposit that may provide an additional source of oxide ore a potential operation at Baitimir.

5 MINERAL RESOURCE ESTIMATES

5.1 Baitimir Prospect

FML has estimated mineral resources for Baitimir which were reported in October 2012. The estimation was performed on the basis of work carried out on a 100x100m and 100x200m grid spacing, to a depth of up to 300-550m, which corresponds to C_2-P_1 category under GKZ - Republic of Kazakhstan (GKZ-RK).

Oxidised ore extends to a depth of 40-80m and has been explored on a drill hole grid spacing of 100x50m and 200x50m and by trenches on a spacing of 100m. Exploration of oxidised ore allows estimation of the deposit resources to a category of C_1-C_2 category (GKZ-RK).

The deposit extends over a strike length of approximately 1700m.

The deposit resources were estimated using “Micromine” software. The wireframes of ore bodies were constructed on the basis of three Cu cut-off grades (COG) 0.1; 0.15 and 0.2% Cu.

The results of this preliminary estimation at a COG of 0.15% Cu are given in Table 5.1 below.

> ***WAI Comment:*** *It should be noted that they are not estimated in accordance with the guidelines of the JORC Code (2004).*

Table 5.1: Preliminary Resource Estimation – Oxide + Sulphide - Baitimir (FML October 2012) (0.15% Cu COG to the depth of 350m)				
Element of Calculation	**Unit of meas.**	**Reserves (C_1-C_2)**		
		Secondary Ores	**Primary Ores**	**Total**
Ore Reserves:	thous.t	10,633	38,349	48,982
Copper	thous.t	47.4	160.54	207.94
Molybdenum	t	1360.22	7211.96	8572.18
Gold	kg	2069.6	7823.05	9892.65
Silver	t	18.76	85.95	104.7
Average Content:				
Copper		0.45	0.42	0.43
Molybdenum	%	0.013	0.019	0.018
Gold	%	0.19	0.20	0.20
Silver	g/t	1.77	2.24	2.13

The mineral resource estimate of oxidised ores (to a depth of 350m) at Baitimir at various cut-off grades are presented in Table 5.2 below.

Table 5.2: Preliminary Resource Estimation – Oxide Only- Baitimir (FML October 2012)			
Various cut-off, %	**Ore, t**	**Copper, %**	**Reserves of Copper, t**
0.1	17,557,944	0.33	57,063
0.15	10,633,097	0.45	47,413
0.20	6,818,176	0.61	41,591

In addition to the known copper ore bodies, there are separate ore bodies of gold with the grade of gold ranging from 0.3 – 12.5 g/t Au. The reported thickness of ore bodies reaches 8m, with an average grade of gold of 2.6 g/t Au. The gold mineralisation appears from section to extend at depth below the known copper mineralisation.

However these ore bodies have not been fully studied, and as such they remain an exploration target and are not included in the project viability assessment.

5.2 Beschoku Prospect

A preliminary summary of mineral resource estimates for Beschoku are presented in Table 5.3 below. These have not been approved by GKZ-RK nor are they in compliance with the guidelines of the JORC Code (2004).

Table 5.3: Resource Summary for the Beschoku (FML 2010)						
0.7g/t Au COG	**Reserve at 2009 to 100m depth**			**Reserve estimated 2010 (not approved)**		
Oxide	**121,750t**			**202,889t**		
Gold	3.65g/t	444.0kg	14.3koz	2.91	591.15kg	19.0koz
Copper	0.75%	907.0t		0.51	1,017t	
Silver	2.80g/t	341.0kg	10.9koz	4.37g/t	888.0kg	28.5koz
Primary	**184,157t**			**555,505t**		
Gold	6.03g/t	1,111.1kg	35.7koz	2.94g/t	1,631.15kg	52.4koz
Copper	0.70%	1,284.0t		0.54%	3,003.0t	
Silver	4.28g/t	787.0kg	25.3koz	4.32g/t	2,404.0kg	77.3koz
Total	**305,907t**			**758,394t**		
Gold	5.08g/t	1,555.1kg	50.0koz	2.93g/t	2,222.3kg	71.4koz
Copper	0.77%	2,191.0t		0.53%	4,020.0t	
Silver	3.67g/t	1,128.0kg	36.3koz	4.34g/t	3,292.0kg	105.8koz

A more recent estimate has been estimated by FML in 2011, this is given in Table 5.4 below.

Table 5.4: Resource Summary for the Beschoku (FML 2011)			
0.7g/t Au COG	**Reserve Estimated 2011**		
Oxide	226,284.84t		
Gold	2.19	495.95kg	15.94koz
Copper	0.46	1,041t	
Silver	4.37g/t	790.0kg	25.4koz
Primary	**636,987.34t**		
Gold	2.3g/t	1463.91kg	47.09koz
Copper	0.44%	2776.7t	
Silver	4.02g/t	2560.97kg	82.34koz
Total	**863,272t**		
Gold	2.27g/t	1,959.9kg	63.01koz
Copper	0.44%	3,518.0t	
Silver	3.88g/t	3,351.0kg	107.74koz

These have not been approved by GKZ-RK nor are they in compliance with the guidelines of the JORC Code (2004).

5.3 Yubileiny Prospect

A summary of the resource estimate for the Yubileiny deposit is presented in Table 5.5 below.

Table 5.5: Resource Summary for Yubileiny (FML 2010)					
Block	**Area (m^2)**	**Average Thickness (m)**	**Tonnes[1]**	**Grade (% Cu)**	**Contained Copper (t)**
1	18,700	50	2,524,500	0.67	16,914
2	7,990	50	1,078,650	0.49	5,285
3	40,000	30	3,240,000	0.65	21,060
Total			**6,843,150**	**0.63**	**43,260**

[1] Tonnes based on a SG of 2.7t/m^3

A revised reserve figure was presented in the FML October 2012 report, as is seen in Table 5.6 below

Table 5.6: Resource Summary for Yubileiny (FML OCT 2012)			
	Tonnage (t)	**Grade & Cu**	**Contained Cu Metal Tonnes**
Oxide Ore	4,474,000	0.38	17,001
Sulphide Ore	3,770,000	0.42	15,834
Total	8,244,000	0.40	32,835

6 MINING

6.1 Baitimir Prospect

An indicative open pit optimisation of Baitimir prospect has been conducted by FML using a COG of 0.15% Cu for oxide ore and 0.17% for sulphide ore.

FML proposes to mine Baitimir in 2 stages. The first stage will consist of mining all of the oxide ore and process via heap leaching over a 7 year period. The second stage covers further mining of the sulphide ore over a period of 10 years. The total foreseen operation life is 17 years.

FML also considers, that there may be an opportunity to mine oxide (chalcocite ore) and sulphide ore through a single flotation plant in order to increase the amount of ore in the pit and the project value, since during heap leaching of the oxide ore, gold, molybdenum, silver and magnetite are **not** recovered. Although as an option this case has not considered here.

6.1.1 Oxide Ore

The optimisation parameters for the Baitimir oxide open pit based on the current oxide ore reserves (C1+C2) at a cut –off grade of 0.15% copper are given in Table 6.1 below.

Table 6.1: Optimisation Parameters for the Baitimir Oxide Open Pit for Ore Reserves (C_1+C_2) (at a cut-off-grade of 0.15% Cu)

Item	Value
Overall Slope Angle (Degrees)	45°
Surface Elevation (m)	450-484
Surface Width (m)	430
Surface Length (m)	1,500
Waste (m^3)	12,754,852
Ore(Mt)	10,718,363
Strip ratio(m^3/t)	1.19
Copper grade (%)	0.45
Copper, t	47,850
Recovery, %	68

Note 1: From Frontier internal report: **Indicative open pit optimization of Baitimir deposit**

WAI Comment:

- ***WAI considers the overall slope angle (45°) to potentially be too aggressive, and would need to see accompanying Geotechnical data to ascertain if this is reasonable. This obviously can have a negative impact on the stripping ratio and overall viability of the project***

- ***The SX-EW recoveries of 68% is comparable with the recoveries as used in the Kounrad deposit owned by Central Asia metals LTD, who also operate in Kazakhstan, and is therefore considered reasonable***

- ***WAI considers further work is required to provide a JORC complaint estimation of the Block model, as the Au, Ag and Mo grades have such an impact on the overall viability of the project***

FML considers that the project viability may be improved by the inclusion of oxide ores from the Yubileiny prospect.

A basic optimisation of the oxide resources at Yubileiny (C1+C2) based on a cut-off-grade of 0.10% Cu is given in Table 6.2 below.

Table 6.2: Optimisation Parameters for the Yubileiny Oxide Open Pit for Ore Reserves (C_1+C_2) (at a cut-off-grade of 0.10% Cu)

Item	Value
Waste (m^3)	3,658,690
Ore(Mt)	1,177,368
Strip ratio(m^3/t)	3.1
Copper grade (%)	0.38
Copper, t	4,474.0
Recovery, %	70

Note 1: From Frontier internal report: **Indicative open pit optimization of Baitimir deposit**

WAI Comment: The overall slope angle (45°?) and hence how the stripping ratio parameter of 3.1:1 has been established, has not been provided, and as such, this represents a risk to the viability of this reserve.

The overall recovery of 70% is higher than the recovery of 68% used for Baitimir, it is assumed by WAI that the appropriate metallurgical testwork on representative samples of ore from this prospect have been conducted to establish this value. It remains a risk that recovery may be similar to Baitimir at 68%, and hence an adverse effect on project viability?

6.1.2 Sulphide Ore

FML considers that the sulphide ore can be mined down to a depth of 150-300m by an open-pit method.

The sulphide ore feed is planned to be mined from both Baitimir, together with Beschoku deposit ore, which has *high*-grade gold ore that will be a good support for Baitimir project.

WAI Comment: WAI would not consider 0.28g/t Au to be high grade.

The sulphide ore of the deposits will be mined within 10 years with annual production rate of 1.2Mtpa. The annual copper production rate will be 4,944t, gold – 394.0kg, silver – 1,519kg, molybdenum – 101.0t, and high-purity magnetite – 32,799t.

The sulphide ore pit optimisation parameters for Baitimir are shown in Table 6.3 below.

Table 6.3: Baitimir Pit Optimisation Parameters for Sulphide Ore Reserves (C_1+C_2) (at a Cut-off-grade of 0.17% Cu)	
Item	**Value**
Overall Slope angle (Degrees)	48
Surface Elevation (m)	450-484
Surface Width (m)	640,0
Surface Length (m)	1050
Waste (m^3)	37,078,509
Ore(Mt)	11,532,575
Strip ratio(m^3/t)	2.97
Copper grade (%)	0.45
Gold (g/t)	0.28
Silver(g/t)	1.58
Molybdenum (%)	0.022
Magnetite (%)	3.0
Copper, T	51,897
Gold, kg	3,229
Silver, kg	18,221
Molybdenum, t	2,768
Magnetite, t	34,5977
Recovery, %: Copper Gold Silver Molybdenum Magnetite	 92.7 70.0 70.0 38.0 99.0

Note 1: From Frontier internal report: **Indicative open pit optimization of Baitimir deposit**

WAI Comment: WAI considers the overall slope angle (48°) to potentially be too aggressive and would need to see accompanying geotechnical data to ascertain if this is reasonable. This obviously can have a negative impact on the stripping ratio and overall viability of the project

WAI considers the overall recoveries of Au Ag and Mo to be high, and WAI assumes that the appropriate metallurgical testwork on representative samples of ore from this prospect have been conducted to establish this value? It remains a risk that recovery may be similar to Baitimir at 68% and hence an adverse effect on project viability.

WAI considers the overall recoveries of Cu be high, and WAI assumes that the appropriate metallurgical testwork on representative samples of ore from this

prospect have been conducted to establish this value? It remains a risk and hence an adverse effect on project viability.

The sulphide ore pit optimisation parameters for Beshoku are shown in Table 6.4 below.

Table 6.4: Beshoku Pit Optimization Parameters for Sulphide Ore Reserves (C1+C2) (at a Cut-off-grade of 0.5g/t Au)

Item	Value
Waste (m^3)	2,436,499
Ore(Mt)	863,272
Strip ratio(m^3/t)	2.8
Copper grade (%)	0.44
Gold (g/t)	2.27
Silver(g/t)	3.88
Copper, t	3798
Gold, kg	1961
Silver, kg	3349
Recovery, % Copper Gold Silver	 **92,67** **94,63** **92,67**

Note 1: From Frontier internal report: **Indicative open pit optimization of Baitimir deposit**

WAI Comment: WAI considers the overall recoveries of Au Ag and Mo to be high, and optimistic; hence, WAI assumes that the appropriate metallurgical testwork on representative samples of ore from this prospect have been conducted to establish this value.

WAI considers the overall recoveries of Cu be high, and WAI assumes that the appropriate metallurgical testwork on representative samples of ore from this prospect have been conducted to establish this value? It remains a risk and hence an adverse effect on project viability.

7 MINERAL PROCESSING AND METALLURGICAL TESTING

7.1 Baitimir Prospect

As reported in the FML October 2012 report, the expected copper extraction from oxidised ores at Baitimir is understood to be of the order of 70-75% according to the results of 115 test samples analysed.

> ***WAI Comment: Whilst the overall recoveries of Cu are considered reasonable, WAI assumes that the appropriate metallurgical testwork on representative samples of ore from this prospect have been conducted to establish this value? It remains a risk and hence an adverse effect on project viability.***

7.2 Beschoku Prospect

A study on the leaching characteristics of oxidised copper mineralisation at Beschoku was initiated in 2004 by "VNIITSVETMET". From initial testwork using crushed ore at -40, -20 and -10mm, it was revealed that the -40mm was unsuitable and the optimum recovery results of -40mm +20mm, leached over a period of 70 – 100 days, did not exceed 45 - 52%.

The smaller fraction size produced a 10 – 15% increase in copper recovery. The -20mm sample resulted in a recovery of 75 - 80%, while the -10mm sample resulted in a recovery of 85 - 90%. After 25 days a recovery of 75% was achieved for the -10mm sample compared to 60 days for the -20mm sample to achieve the same recovery.

In addition to the copper, the recovery of gold from oxide ore was also tested on samples grading 0.5 to 0.7g/t Au and 4.5 – 6.0g/t Ag. Based on this preliminary testwork using cyanidation in bottle roll agitators the -7.1mm sample resulted in a recovery of 62.7 to 70.2%, compared to the -0.074mm sample that produced a recovery of 83.7 to and 84.3%. Further research using leach gold columns showed that reducing the size of the ore from -20mm to -10mm leads to an increased gold recovery into solution of 20 - 25%. The -20mm sample, leached over 45 days, had a gold recovery of 42 - 45%, whilst the -10mm sample had a gold recovery of 67 - 70% over the same period.

7.3 Yubileiny Prospect

The study on leaching of oxidised copper ores at Yubileiny began in 2004 in the document "Study on processing of oxidised copper ore deposits of Yubileiny and Beschoku method of heap leaching", conducted by "VNIITSVETMET".

This research demonstrated that a crushed ore size of -40mm is sufficient to achieve satisfactory cyanide leaching performance. Leach testwork on the -40 +20mm samples Yu-1 and Yu-2 resulted in recoveries of **55.7 and 75.2%** respectively, indicating a reasonable extraction of copper into solution. When the duration of leaching is increased to 70 - 100 days, recovery of sample Yu-1 is 67 - 72%, and for Yu-2 is **73 - 80%.**

This work broadly defined the constraints of the mineralisation, its three-dimensional outline, and morphology of mineralised zones, and established lithology-structural characteristics of the deposit.

8 FINANCIAL ANALYSIS

8.1 Summary of FML Oxide Project: Provided by FML

A financial model for the oxide project has been provided by FML. The input parameters to this model are provided in Table 8.1 below.

The economic assessment model assumes the following:

- Capital expenses of US$34M;
- Operational expenses are based on the existing facility at the Benkala deposit; and
- Copper price of US$7,000.

Table 8.1: Project Financial Model for Processing of Oxide Ore at Baitimir Deposit

Indicators	Units	Total Project Capacity	Annual Capacity
Ore geological reserves	t	10,633,297	
Average copper content in geological reserves,	% Cu	0.45	
Copper content in geological reserves	t	47,850	
Mining losses	%	4	
Dilution	%	5	
Commercial ore tonnage	t	10,718,363	1,531,195
Average copper content in commercial ore	%	0.428	
Copper content in commercial ore	t	45,821	6,546
Waste	m^3	12,754,852	1,822,122
Stripping ratio	m^3/t	1.19	
Metal extraction, % - copper	%	68	
Copper in concentrate	t	31,158	4,451
Price per ton of copper	US$	7,000	
	Per ton of ore	**Total for Project**	**Per Year**
Revenue, copper		218,107,976	31,158,282
Revenue, total	US$20.35	218 107 976	31,158,282
Expense			
Mining expenses, waste	US$1.80	6 002 283	3 279 819
Mining expenses, ore	US$0.60	6 431 018	918 717
Total mining cost	**US$2.40**	**12 433 302**	**4 198 536**
Crushing	US$1,28	13 752 363	1 964 623
Heap Leaching	US$3,77	40 426 286	5 775 184
SX	US$0,49	5 246 619	749 517

Table 8.1: Project Financial Model for Processing of Oxide Ore at Baitimir Deposit			
Indicators	**Units**	**Total Project Capacity**	**Annual Capacity**
EW	US$1,05	11 267 752	1 609 679
Overheads	US$0,50	5 359 182	765 597
Selling costs	US$0,51	5 466 365	780 909
Total operation expenses	**US$10,01**	**93 951 868**	**15 844 046**
MET copper, 5,7%	US$1,71	18 282 580	2 611 797
Total expenses	**US$11,71**	**112 234 448**	**18 455 843**
Total income	**US$8,64**	**105 873 528**	**12 702 440**
Corporate income tax (CIT), 20%	US$0,99	10 560 551	1 508 650
Net income	**US$7,65**	**95 312 976**	**11 193 789**
CAPEX - construction		**34 000 000**	
CAPEX - maintannace		2 380 000	340 000
Loans	4	34 000 000	4 857 143
Interest	5%	3 400 000	485 714
VAT refund		2 619 360	374 194
Cash Flow	**US$**	**58 152 336**	**5 885 127**
NPV (10%)	**21 498 866**		
IRR	**16%**		
EBITDA	**49%**		

Note 1: From Frontier internal report: **Indicative open pit optimization of Baitimir deposit**

8.2 Summary of FML Sulphide Project

The economical assessment model assumes:

- Baitimir Capex (flotation plant construction) – US$100M;
- Beschoku Capex (construction of 20.0km road and ore transportation expenses) – US$1,75M;
- Opex targeted the existing facility; and
- Copper price – US$7000/t.

Based on the FML financial analysis (the input parameters for which are given in Table 8.2 below), the project is viable, with an NPV at 10.0% discount of **US$81.5M** with an IRR of 27%.

The possibility to improve the project is ensured by involvement of gold ores from the Baitimir gold deposit and flanks of this deposit.

WAI Comment: This is potential upside that remains to be proved.

Table 8.2: Project For Processing Of Sulphide Ore Of Baitimir And Beschoku Deposit

Indicators	Units	Total project capacity	Baitimir	Beschoku	Annual capacity
Ore geological reserves, tons	tonne	12 395 847	11 532 575	863 272	
Average copper content in geological reserves, %	%	0,449	0,45	0,44	
Average gold content in geological reserves, g/t	g/t	0,419	0,280	2,272	
Average silver content in geological reserves, g/t	g/t	1,740	1,580	3,880	
Average Molybdenum content in geological reserves, g/t	%	0,022	0,0240		
Average magnetite content in geological reserves, g/t	%	2,791	3,0000		
Copper content in geological reserves	tonne	55 695	51 897	3 798	
Gold content in geological reserves	kg	5 190	3 229	1 961	
Silver content in geological reserves	kg	21 571	18 221	3 349	
Molybdenum content in geological reserves	tonne	2 768	2 768	-	
Magnetite content in geological reserves	tonne	345 977	345 977	-	
Mining losses	**%**	**4**	**4**	**4**	
Dilution	**%**	**5**	**5**	**5**	
Commercial ore, tons	tonne	**12 495 014**	**11 624 836**	**870 178**	**1 249 501**
Average copper content in commercial ore	%	0,427	0,428	0,418	
Average gold content in in commercial ore	g/t	0,39779	0,26600	2,15840	
Average silver content in in commercial ore	g/t	1,65317	1,50100	3,68600	
Average Molybdenum content in in commercial ore	%	0,02121	0,02280	-	
Average magnetite content in in commercial ore	%	2,65152	2,85000	-	
Copper content in commercial ore	tonne	**53 334**	**49 696**	**3 637**	**5 333**
Gold content in commercial ore	kg	**4 970**	**3 092**	**1 878**	**497**
Silver content in commercial ore	kg	**20 656**	**17 449**	**3 207**	**2 066**
Molybdenum content in commercial ore	tonne	**2 650**	**2 650**	**-**	**265**
Magnetite content in commercial ore	tonne	**331 308**	**331 308**	**-**	**33 131**
Waste, m3	**м3**	**37 078 509**	**34 642 010**	**2 436 499**	**3 707 851**
Stripping ratio	м3/т	2,97	3	3	
Metal extraction, % - copper	%	93%	93	93	
Metal extraction, % - gold	%	79%	70	95	
Metal extraction, % - silver	%	74%	70	93	
Metal extraction, % - Molybdenum	%	38%	38		
Metal extraction, % - magnetite	%	99%	99		
Copper in concentrate	tonne	**49 439**	**46 068**	**3 371**	**4 944**
Gold in concentrate	kg	**3 940**	**2 165**	**1 775**	**394**
Silver in concentrate	kg	**15 187**	**12 214**	**2 972**	**1 519**
Molybdenum in concentrate	tonne	**1 007**	**1 007**	**-**	**101**
Magnetite in concentrate	tonne	**327 995**	**327 995**	**-**	**32 799**
Price for 1 ton of copper	USD	7 000	7 000	7 000	
Treatment charge	USD	50	50	50	
Refining charge	USD	132,28	132,28	132,28	
Price for 1 ton of copper in concentrate	**USD**	**6 817,72**	**6 817,72**	**6 817,72**	
Price for 1 gram of gold in concentrate	USD	49	49	49	
Price for 1 gram of silver in concentrate	USD	0,9	0,9	0,9	
Price for 1 ton of Molybdenum in concentrate	USD	18 000	18 000	18 000	
Price for 1 ton of magnetite in concentrate	USD	200	200	200	
	per 1 ton of ore	**Total for project**	**Baitimir**	**Beschoku**	**Per year**
Revenue, copper	$26,98	337 061 928	314 081 244	22 980 685	33 706 193
Revenue, gold	$15,32	191 483 992	105 196 857	86 287 134	19 148 399
Revenue, silver	$1,09	13 667 925	10 992 793	2 675 132	1 366 793
Revenue, Molybdenum	$1,45	18 129 164	18 129 164	-	1 812 916
Revenue, magnetite	$5,25	65 598 947	65 598 947	-	6 559 895
Revenue, total	**$50,10**	**625 941 956**	**513 999 005**	**111 942 951**	**62 594 196**
Expense		-			
Mining expenses, waste	$8,16	101 965 900	95 265 528	6 700 372	3 748 746
Mining expenses, ore	$1,35	16 859 322	14 012 079	2 847 244	1 685 932

Table 8.2: Project For Processing Of Sulphide Ore Of Baitimir And Beschoku Deposit

Indicators	Units	Total project capacity	Baitimir	Beschoku	Annual capacity
Total mining cost	**$9,51**	**118 825 222**	**109 277 606**	**9 547 616**	**5 434 679**
Production expenses	$8,93	111 562 623	103 793 175	7 769 448	11 156 262
Overheads	$0,65	8 121 759	7 556 143	565 616	812 176
Selling costs	$0,70	8 746 510	8 137 385	609 125	874 651
Total operation expenses	**$19,79**	**247 256 114**	**230 036 695**	**17 219 419**	**24 725 611**
MET copper, 5,7%	$1,70	21 280 073	19 828 773	1 451 301	2 128 007
MET gold, 5%	$0,97	12 078 069	7 514 061	4 564 008	1 207 807
MET silver, 5%	$0,07	929 536	785 200	144 336	92 954
MET Molybdenum, 7%	$0,27	3 339 583	3 339 583	-	333 958
MET magnetite, 2,8%	$0,15	1 855 324	1 855 324	-	185 532
Total expenses	**$22,95**	**286 738 699**	**263 359 635**	**23 379 064**	**28 673 870**
Total income	**$27,15**	**339 203 258**	**250 639 371**	**88 563 887**	**33 920 326**
Corporate income tax (CIT), 20%	$3,43	42 911 902	-	-	4 291 190
Net income	**$23,71**	**296 291 356**	**250 639 371**	**88 563 887**	**29 629 136**
CAPEX - construction		**101 750 000**	**100 000 000**	**1 750 000**	
CAPEX - maintenance		10 175 000	-		1 017 500
Loans	4	101 750 000	100 000 000	1 750 000	10 175 000
Interest	5%	12 718 750	12 718 750	-	1 271 875
VAT refund		7 912 080	7 912 080	-	
Cash Flow		**179 559 686**	**145 832 701**	**86 813 887**	**17 164 761**
NPV (10%)	**81 447 873**				
IRR	**27%**				
EBITDA	**54%**				

Note 1: From Frontier internal report: **Indicative open pit optimization of Baitimir deposit**

8.3 WAI Financial Model Assumptions and Input Data

A preliminary economic assessment has been performed in order to estimate the viability of mineable resources from both oxide and sulphide ore open pit mining operation and processing for the production of copper cathode (from oxide production) and copper concentrate (from sulphide production).

The summary of assumptions made in the WAI conceptual financial model is given below.

8.3.1 Expected Metal Prices

In the economic analysis WAI has used the following metal price forecast. The summary of this forecast is given in Table 8.3 below.

Table 8.3: Metal's Price Forecast										
Metal	**Units**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021-2031**
Cu	**$/t**	8,416	8,822	8,735	8,649	8,087	7,536	6,757	6,213	6,000
Au	**$/oz**	50.43	50.17	49.92	49.66	45.43	43.45	42.81	41.80	41.80
Ag	**$/g**	0.89	0.79	0.79	0.78	0.78	0.67	0.53	0.52	0.51
Mo	**$/t**	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000
Fe mag	**$/t**	200	200	200	200	200	200	200	200	200

8.3.2 Mining Production Schedule

Oxide ore production starts from the second half of 2015 and lasts for 7 years, followed by 10 years of sulphide operations. No ramp-up or stockpiling has been assumed for the production schedule.

The summary of the mining schedule is given in Table 8.4.

Table 8.4: Life of Mine Schedule

Year			2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Project Year	**Unit**	**TOTAL**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
Summary																				
Waste Mined	t	49,833,361	-	1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851
Total Ore Mined (Diluted)	t	23,213,377	-	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501
Metals Mined		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cu Mined	t	99,155	-	6,546	6,546	6,546	6,546	6,546	6,546	6,546	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333
Au Mined	kg	4,970	-	-	-	-	-	-	-	-	497	497	497	497	497	497	497	497	497	497
Ag Mined	kg	20,656.35	-	-	-	-	-	-	-	-	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64
Mo Mined	t	2,650	-	-	-	-	-	-	-	-	265	265	265	265	265	265	265	265	265	265
FE mag Mined	t	331,308	-	-	-	-	-	-	-	-	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78
Mining																				
Oxide Ore																				
Waste Mined	m^3	12,754,852		1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	-	-	-							
Total Ore Mined (Diluted)	t	10,718,363		1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	-	-								
Metals Mined																				
Cu Grade	%	0.43	-	0.43	0.43	0.43	0.43	0.43	0.43	0.43	-	-								
Cu Mined	t	45,821	-	6,546	6,546	6,546	6,546	6,546	6,546	6,546	-	-	-	-	-	-	-	-	-	-
Sulphide Ore																				
Waste Mined	m^3	37,078,509									3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851
Total Ore Mined (Diluted)	t	12,495,014									1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501
Metals Mined																				
Cu Grade	%	0.43	-	-	-	-	-	-	-	-	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Cu Mined	t	53,334	-	-	-	-	-	-	-	-	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333
Au Grade	g/t	0.398	-								0.3978	0.3978	0.3978	0.3978	0.3978	0.3978	0.3978	0.3978	0.3978	0.3978
Au Mined	kg	4,970.40	-	-	-	-	-	-	-	-	497.04	497.04	497.04	497.04	497.04	497.04	497.04	497.04	497.04	497.04
Ag Grade	g/t	1.653									1.6532	1.6532	1.6532	1.6532	1.6532	1.6532	1.6532	1.6532	1.6532	1.6532
Ag Mined	kg	20,656.35	-	-	-	-	-	-	-	-	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64
Mo Grade	%	0.0212	-	-	-	-	-	-	-	-	0.0212	0.0212	0.0212	0.0212	0.0212	0.0212	0.0212	0.0212	0.0212	0.0212
Mo Mined	t	2,650.46	-	-	-	-	-	-	-	-	265.05	265.05	265.05	265.05	265.05	265.05	265.05	265.05	265.05	265.05
FE mag Grade	%	2.6515	-	-	-	-	-	-	-	-	2.6515	2.6515	2.6515	2.6515	2.6515	2.6515	2.6515	2.6515	2.6515	2.6515
FE mag Mined	t	331,307.81	-	-	-	-	-	-	-	-	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78

8.3.3 Capital and Operating Expenditures

Operating costs and Capital Expenditures provided by the Client were reviewed by WAI and included in the financial assessment.

Operating costs includes mine and process plant operations, overheads and selling cost, and excludes royalties, refining and treatment charges, which are considered as post-mine costs for the purpose of this evaluation.

The average Cash Operating Cost over the life of mine is estimated to be US$10.01 per ton of oxide ore processed and US$19.79 per ton of sulphide ore.

8.3.4 Working Capital

A working capital was built into the analysis. A delay between production and cash revenue receipts of 2 months has been assumed to simulate the estimated timeframe of the sales process.

8.3.5 Depreciation

The straight-line depreciation method was applied to depreciate all the assets in the financial model using the 7 and 10-year depreciation categories. No salvage value has been included in the cash flow analysis.

A summary of the key input parameters is given in Table 8.5 and Table 8.6. The detailed table is presented in Appendix F.1.1.

Table 8.5: Summary of Project Key Input Parameters (Oxide Operation)		
Oxide Ore		
Waste Mined	m^3	12,754,852
Waste Mining Cost per t of ore	US$/t	1.80
Total Waste Mining Cost	US$'000	19,293
Total Ore Mined (Diluted)	T	10,718,363
Metals Mined		
Cu Mined	T	45,821.00
Ore Mining Cost	US$/t	0.60
Total Ore Mining Cost	US$'000	6,431
Ore Processed	T	10,718,363
Ore Processing Cost	US$/t	6.60
Total Ore Processing Cost	US$'000	70,693
Crushing	US$/t	1.28
Heap Leaching	US$/t	3.77
SX	US$/t	0.49
EW	US$/t	1.05
Overheads	US$/t	0.50
Total Overheads	US$'000	5,359
Selling costs	US$/t	0.51
Total Selling costs	US$'000	5,466
Total OPEX	US$'000	107,243
Total OPEX per t of ore	US$/t	10.01
Metals Recovered		
Cu Price	US$/t	7,280
Cu Recovery	%	0.68
Cu Recovered	t	31,158
Cu Revenue	US$'000	231,360
Cu Royalty	US$'000	19,393

Table 8.6: Summary of Project Key Input Parameters (Sulphide Operation)		
Sulphide Ore		
Waste Mined	m^3	37,078,509
Waste Mining Cost per t of ore	US$/t	8.16
Total Waste Mining Cost	US$'000	101,959.31
Total Ore Mined (Diluted)	t	12,495,014
Metals Mined		
Cu Mined	t	53,334
Au Mined	kg	4,970
Ag Mined	kg	20,656.35
Mo Mined	t	2,650
FE mag Mined	t	331,308
Ore Mining Cost	US$/t	1.35
Total Ore Mining Cost	US$'000	16,868
Ore Processed	t	12,495,014
Ore Processing Cost	US$/t	8.93
Total Ore Processing Cost	US$'000	111,563
Overheads	US$/t	0.65
Total Overheads	US$'000	8,122
Selling costs	US$/t	0.70
Total Selling costs	US$'000	8,747
Total OPEX	US$'000	247,258
Total OPEX per t of ore	US$/t	19.79
Metals Recovered		
Cu in concentrate Price (incl. pos-mine charges)	US$/t	7,098
Cu in concentrate	t	49,439
Cu Revenue	US$'000	287,623
Cu Royalty	US$'000	17,685.94
Au in concentrate Price	US$/g	44.86
Au in concentrate	kg	3,940
Au Revenue	US$'000	164,676
Au Royalty	US$'000	10,387.13
Ag in concentrate Price	US$/g	0.64
Ag in concentrate	kg	15,186.58
Ag Revenue	US$'000	7,812
Ag Royalty	US$'000	531.29
Mo in concentrate Price	US$/t	18,000
Mo in concentrate	t	1,007.18
Mo Revenue	US$'000	18,129
Mo Royalty	US$'000	3,339.58
FE mag in concentrate Price	US$/t	200.00
FE mag in concentrate	t	327,995
FE mag Revenue	US$'000	65,598.95
FE mag Royalty	US$'000	1,855

8.3.6 Net Smelting Return (NSR) From Sulphide Ore Operations

Annual Net Smelting Return (NSR) was determined from the Cu concentrate commercial value, taking into account estimated metal prices applied to annual tonnage of payable metal, considering treatment and refinery charges (post-mine costs).

A treatment charge of US$50/t of Cu and a refinery charge of US$132.28/t were used in the model. However, no costs for concentrates and metals transportation or sales contract discount have been included in this valuation; smelting recovery was taken as 100%, as no data have been provided by the Client.

> ***WAI Comment:*** *It is of WAI opinion that both Mo and Cu concentrates shall be produced, with Mo recovery higher than 38%.*
>
> *It is strongly recommended to undertake a further testwork studies in order to estimate the exact metals recoveries in concentrate, grade of each component in Co and Mo concentrates and smelting recoveries.*
>
> *It should also be noted that concentrate transportation and sales contract discount shall be considered for NSR estimation, as these costs have a significant impact on the overall financial result.*

The total NSR from sulphide operations results in US$552.84M. The proportionate NSR structure presented in Figure 8.1 demonstrates that both Cu and Au metals have a significant impact on the total value of concentrate. WAI considers with robust resource and reserve tonnage and grades for Au, Ag, Mo and Fe mag, these impose a significant risk to the project viability. WAI has run the model with exclusion of these metals and a summary of results is given in the Table 8.7 below.

Table 8.7: DCF Model Results (Before Funding and Debt Service) Based on Cu Production Only			
NPV @ Discount Rate	8%	MUS$	-14
NPV (Base Case) @ Discount Rate	**10%**	**MUS$**	**-11.59**
NPV @ Discount Rate	15%	MUS$	-7
NPV @ Discount Rate	20%	MUS$	-5
IRR		%	N/A
Payback period of capital		Years	Never
Max Cash Exposure		MUS$	35

The details of NSR calculation are given in the Appendix F.1.2.

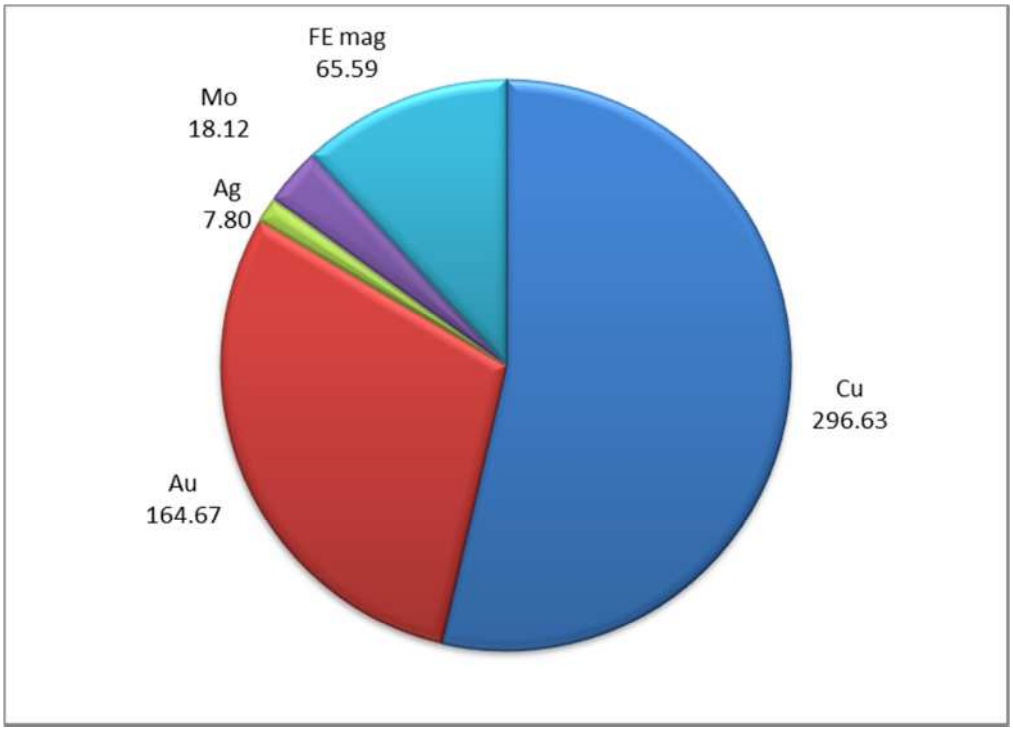


Figure 8.1: Net Smelter Return from Concentrate (USD' 000)

8.3.7 Taxation Regime and Royalty

In accordance with the State legislation of the Kazakhstan Republic the rate of Corporate Income Tax payable on taxable profit is 20% and VAT is 12%.

The current Kazakhstan Regulations stipulates the following royalty rates to be paid on the basis of mined metal tonnage:

- Cu of 5.7%;
- Au and Ag of 5.0%;
- Mo of 7.0%; and
- Fe mag of 2.8%.

8.4 Discounted Cash Flow Model

A post tax cash flow forecast model for the project has been constructed based on the FML mining schedule for mineable resources. Mining and processing data, capital and operating cost estimates have been included in this preliminary economic assessment to enable the calculation of an Internal Rate of Return (IRR) and Net Present Value (NPV) based on the indicative production and cash flow forecasts.

All revenue and costs estimates are expressed in US$. No inflation assumption has been incorporated.

The financial model was prepared on a basis of equity (40%) any debt financing (60%). The parameters used for financing are given in Table 8.8 below with the details given in Appendix F.1.4.

Table 8.8: Financial Instruments		
Investments, US$'000		**135,750**
Retained Earnings from previous periods	0%	
Debt, US$'000	60%	81,450
Equity, US$'000	40%	54,300
Debt Financing		
Interest Rate	10.00%	
Number of Repayment Years	5.00	
Start Repayment From Year	2.00	
Up Front Fee (% Total Debt)	1.00%	
Commitment Fee (Annual % Unused Loan)	1.00%	
Cost of Debt	8.00%	
Equity		
Cost of Equity	5.00%	
WACC	6.80%	

A summary of the DCF model is shown in below. The detailed Discounted Cash Flow model is presented in Appendix F1.3.

Table 8.9: Summary of the DCF Model			
Inflation		%	
Total Revenue		US$ 000	775,199
Total Operating Costs		US$ 000	354,501
Total Royalty		US$ 000	53,193
Capital Expenditure		US$ 000	148,305
Depreciation		US$ 000	145,253
Gross Revenue		US$ 000	775,199
Less Royalty		US$ 000	-53,193
Less OPEX		US$ 000	-354,501
Operating Profit		US$ 000	367,506
Less Depreciation		US$ 000	-145,253
Taxable Income (CF before Tax)		US$ 000	222,253
Less Corporate Income Tax Paid Before Funding)	20%	US$ 000	-45,695
Net Income		US$ 000	176,558
Depreciation (Added back)		US$ 000	145,253
Less Change in Working Capital		US$ 000	
Less Capital Expenditures		US$ 000	-148,305
Vat Refund	12%	US$ 000	10,678
Net Cash Flow		US$ 000	188,304
Cumulative Net Cash Flow		US$ 000	188,304
Discount Factor	10%		
Discounted Cash Flow		US$ 000	52,696
Cumulative Discounted Free Cash Flow		US$ 000	52,696
NPV @ Discount Rate	**8%**	**MUS$**	**67**
NPV (Base Case) @ Discount Rate	**10%**	**MUS$**	**52.70**
NPV @ Discount Rate	**15%**	**MUS$**	**30**
NPV @ Discount Rate	**20%**	**MUS$**	**17**
IRR		**%**	**40%**
Payback period of capital		**Years**	**2.73**
Max Cash Exposure		**MUS$**	**34**
CF After Funding and Debt Service			
Total Costs Associated with Financing		US$ 000	-1,385
Interest		US$ 000	-36,653
Corporate Income Tax Paid After Funding		US$ 000	-52,264
Debt Funding		US$ 000	
Equity Funding		US$ 000	
Cash Flow (After Funding and Debt Service)		US$ 000	197,999
Cumulative Cash Flow (After Funding and Debt Service)		US$ 000	197,999
NPV @ Discount Rate	8%	MUS$	91
NPV (Base Case) @ Discount Rate	10%	MUS$	77.68
NPV @ Discount Rate	15%	MUS$	56
NPV @ Discount Rate	20%	MUS$	43
IRR		%	N/A
Payback period of capital		Years	0.00
Max Cash Exposure		MUS$	0

The cumulative cash flow is presented in Figure 8.2.

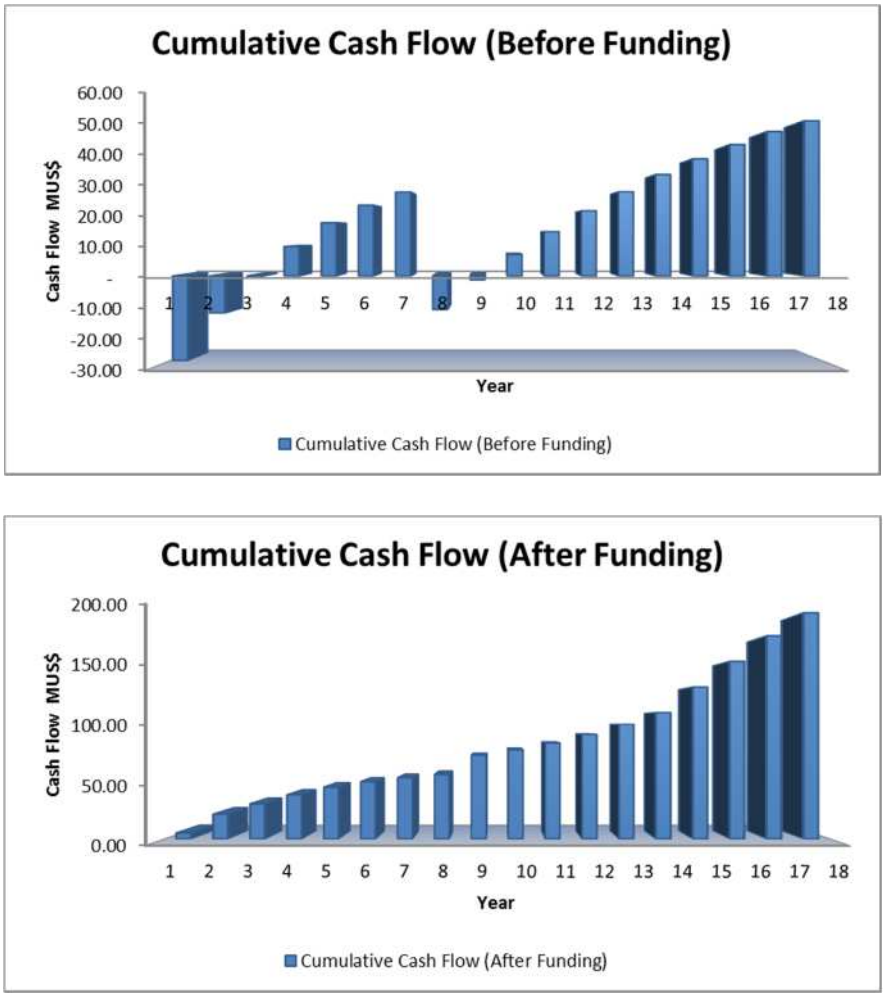
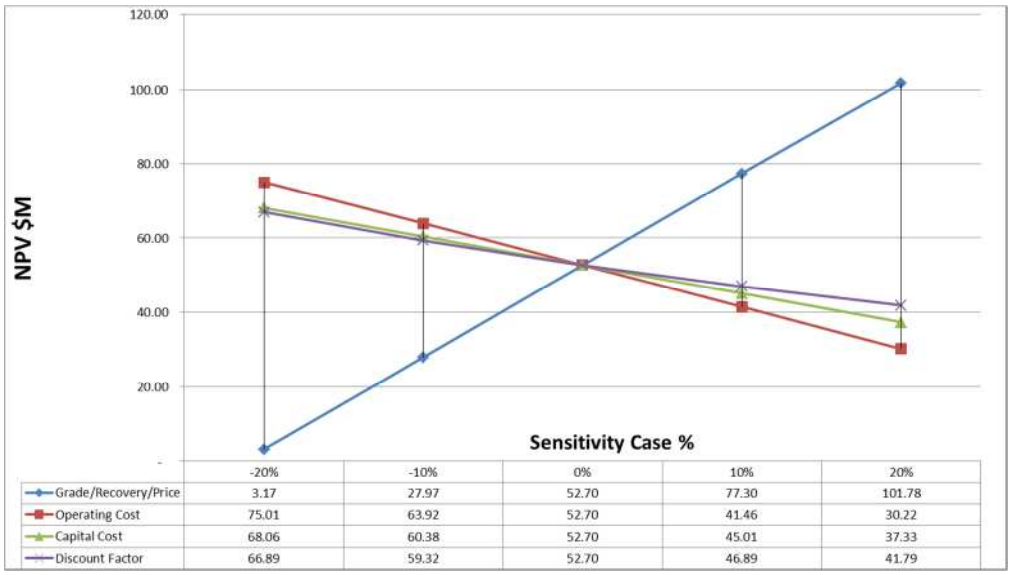


Figure 8.2: Cumulative Cash Flow

8.5 Financial Sensitivity Analysis

A sensitivity analysis was performed on four key parameters within the financial model to assess the impact of changes upon Net Present Value of the project. These parameters are as follows: ore grade/metal recovery/price; operating cost; capital cost; and discount rate.

Several cases were considered, where each of the parameters has been varied independently of the others from -20% to +20% of their nominal value. The results of the sensitivity analysis are presented in Figure 8.3 below.



	-20%	-10%	0%	10%	20%
Grade/Recovery/Price	3.17	27.97	52.70	77.30	101.78
Operating Cost	75.01	63.92	52.70	41.46	30.22
Capital Cost	68.06	60.38	52.70	45.01	37.33
Discount Factor	66.89	59.32	52.70	46.89	41.79

Figure 8.3: Sensitivity Analysis

As expected, results from the sensitivity analysis demonstrate that the project is most sensitive to changes in ore grade/metal recovery/price (revenue factors), followed by operating and capital costs, and less sensitive to discount rate changes.

9 CONCLUSION

FML have identified the following risks:

- Only oxidised reserves have passed pit optimization;
- Residual heap leach ores at Baitimir contain gold and molybdenum, however are not amenable to further processing;
- Little technical testwork has been performed on the deposits;
- FML estimates the reserves of Baitimir deposit flanks about 1.0Mt of copper and 20.0t of gold (gold Baitimir deposit). Also FML still hopes to find 4.0t of gold in Beschoku deposit flanks thus to get the total deposit reserves up to 6.0t.

WAI Comment: Given the comments above, a full BFS/more metallurgical work would need to be completed to ascertain the overall viability of the project

Table 9.1: Summary Table of Geological Reserves for the Licence (FML 21.10.2012)								
Deposit	**Gold**		**Silver**		**Copper**		**Molybdenumum**	
	Grade (g/t)	**Content (t)**	**Grade (g/t)**	**Content (t)**	**Grade (%)**	**Content (thous.t)**	**Grade (%)**	**Content (thous.t)**
Benkala								
Oxide					0.53	198.9		
Sulphide	0.07	31.2185	0.069	30,85	0.42	1865.454	0.0034	14.8075
Total	**0.07**	**31.2185**	**0.069**	**30,85**	**0.43**	**2064.354**	**0.0034**	**14.8075**
South Benkala								
Oxide					0.40	94.50		
Suplhide					0.34	515.10	0.008	14.8075
Total					**0.35**	**609.60**	**0.008**	**14.8075**
Baitimir								
Oxide	0.19	2.0696	1.77	18.76	0.45	47.7	0.013	1.36022
Sulphide	0.20	7.8231	2.24	85.95	0.42	160.54	0.019	7.21196
Total	**0.20**	**9.8927**	**2.24**	**104.71**	**0.43**	**207.94**	**0.019**	**8.57218**
Beschoku								
Oxide	2.19	0.496	4.37	0.79	0.46	1.041		
Sulphide	2.30	1.463	4.02	2.56	0.44	2.7767		
Total	**2.27**	**1.959**	**4.1**	**3.35**	**0.45**	**3.8177**		
Naimanjal								
Oxide	1.36	2.24	28.6	47.06				
Sulphide	1.69	8.70						
Total	**1.62**	**10.94**	**28.6**	**47.06**				
Baritovoe								
Oxide	3.6	0.38	36.70	3.87				
Sulphide	2.19	0.21	3.0	0.63				
Total	**3.10**	**0.59**	**31.99**	**4.49**				
Koskuduk								
Oxide								
Sulphide	1.72	1.32						
Total	**1.72**	**1.32**						
Yubileiny								
Oxide					0.38	4.474		
Sulphide					0.42	11.526		
Total					**0.41**	**16.0**		
ALL	**0.49**	**55.92**	**9.29**	**200.06**	**0.41**	**2901.7**	**0.01**	**35.88**

10 REFERENCES

1. FML report: OCT 2012
   a. Frontier Mining's reserves and resources: October 2012
2. WAI report : FEB 2011:
   a. Frontier mining LIMITED: BAITIMIR & KOSKUDUK (NAIMANJAL AREA) DUE DILIGENCE
3. FRONTIER MINING LTD: Press release
   a. Infill Drilling Update - Baitimir

APPENDIX F

Financial

Frontier M
Valuation. Baitemir in Kazakhstan
Appendix F1

Mining Schedule

Inputs																			
Year			2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Project Year	Unit	TOTAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Summary																				
Rock Mined	t	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waste Mined	t	49,833,361	-	1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851
Total Ore Mined (Diluted)	t	23,213,377	-	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501
Metals Mined		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cu Mined	t	99,155	-	6,546	6,546	6,546	6,546	6,546	6,546	6,546	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333
Au Mined	kg	4,970	-	-	-	-	-	-	-	-	497	497	497	497	497	497	497	497	497	497
Ag Mined	kg	20,656.35	-	-	-	-	-	-	-	-	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64
Mo Mined	t	2,650	-	-	-	-	-	-	-	-	265	265	265	265	265	265	265	265	265	265
FE mag Mined	t	331,308	-	-	-	-	-	-	-	-	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78
Mining																				
Oxide Ore																				
Rock Mined	t	-																		
Waste Mined	m3	12,754,852		1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	-	-	-							
Total Ore Mined (Diluted)	t	10,718,363		1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	-	-								
Metals Mined																				
Cu Grade	%	0.43	-	0.43	0.43	0.43	0.43	0.43	0.43	0.43	-	-								
Cu Mined	t	45,821	-	6,546	6,546	6,546	6,546	6,546	6,546	6,546	-	-	-	-	-	-	-	-	-	-
Sulphide Ore																				
Rock Mined	t	-																		
Waste Mined	m3	37,078,509									3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851
Total Ore Mined (Diluted)	t	12,495,014									1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501
Metals Mined																				
Cu Grade	%	0.43	-	-	-	-	-	-	-	-	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Cu Mined	t	53,334	-	-	-	-	-	-	-	-	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333
Au Grade	g/t	0.0398	-								0.3978	0.3978	0.3978	0.3978	0.3978	0.3978	0.3978	0.3978	0.3978	0.3978
Au Mined	kg	4,970.40	-	-	-	-	-	-	-	-	497.04	497.04	497.04	497.04	497.04	497.04	497.04	497.04	497.04	497.04
Ag Grade	g/t	0.1653	-								1.6532	1.6532	1.6532	1.6532	1.6532	1.6532	1.6532	1.6532	1.6532	1.6532
Ag Mined	kg	20,656.35	-	-	-	-	-	-	-	-	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64	2,065.64
Mo Grade	%	0.0212	-	-	-	-	-	-	-	-	0.0212	0.0212	0.0212	0.0212	0.0212	0.0212	0.0212	0.0212	0.0212	0.0212
Mo Mined	t	2,650.46	-	-	-	-	-	-	-	-	265.05	265.05	265.05	265.05	265.05	265.05	265.05	265.05	265.05	265.05
FE mag Grade	%	2.6515	-	-	-	-	-	-	-	-	2.6515	2.6515	2.6515	2.6515	2.6515	2.6515	2.6515	2.6515	2.6515	2.6515
FE mag Mined	t	331,307.81	-	-	-	-	-	-	-	-	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78	33,130.78

Frontier M
Valuation. Baitemir in Kazakhstan
Appendix F2

Capex

Inputs

Year				2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Project Year	GROUP	%	TOTAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
TOTAL CAPEX (k$)			148,305	34,000	340	340	340	340	340	340	102,090	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018
Total Equipment by Group	D1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	D2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	D3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	D4		46,555	34,000	340	340	340	340	340	340	340	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018
	D5		101,750	-	-	-	-	-	-	-	101,750	-	-	-	-	-	-	-	-	-	-
	D6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	D7		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	D8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	D9		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	D10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Equipment Costs			148,305	34,000	340	340	340	340	340	340	102,090	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018
Construction	cons		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contingencies	cont		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exploration costs	Exp		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EPCM	epcm		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capex																					
Oxide Ore Production	D4		34,000	34,000																	
Sustaining Capex	D4		2,380	-	340	340	340	340	340	340	340	-	-	-	-	-	-	-	-	-	-
Construction	cons	0%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contingencies	cont	0%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphide Ore Production	D5		101,750								101,750										
Sustaining Capex	D4		10,175	-	-	-	-	-	-	-	-	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018
Geological Exploration costs, US$ 000																					
Geological exploration	D3		-																		
Construction	cons	0%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contingencies	cont	0%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sustaining Capex	sc																				
Working Capital, US$ 000																					
Working Capital	wc		59,083.52	-	2,553	2,553	2,553	2,553	2,553	2,553	2,553	4,121	4,121	4,121	4,121	4,121	4,121	4,121	4,121	4,121	4,121
EPCM, US$ 000																					
EPCM	epcm																				

Frontier M
Valuation. Baitemir in Kazakhstan
Appendix F1.1

Inputs

Year			2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Project Year	Unit	TOTAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
CAPEX Total	US$ 000	148,305	34,000	340	340	340	340	340	340	102,090	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018
Depreciation (total)	US$ 000	145,253	4,857	4,906	4,954	5,003	5,051	5,100	5,149	10,515	10,612	10,709	10,805	10,902	10,999	11,096	11,193	11,193	11,193	1,018
Revenue	US$ 000	340,128	-	38,881	38,496	35,997	33,544	30,077	27,657	26,707	54,384	54,384	54,384	54,384	54,384	54,384	54,384	54,384	54,384	54,384
Total Royalty	US$ 000	53,193	-	3,259	3,227	3,017	2,812	2,521	2,318	2,239	3,380	3,380	3,380	3,380	3,380	3,380	3,380	3,380	3,380	3,380
Operating Costs	US$ 000	354,501	-	15,320	15,320	15,320	15,320	15,320	15,320	15,320	24,726	24,726	24,726	24,726	24,726	24,726	24,726	24,726	24,726	24,726

Summary of KPI

Oxide Ore																				
Waste Mined	m3	12,754,852	-	1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	1,822,122	-	-	-	-	-	-	-	-	-	-
Waste Mining Cost per t of ore	$/t	1.80	-	1.80	1.80	1.80	1.80	1.80	1.80	1.80	-	-	-	-	-	-	-	-	-	-
Total Waste Mining Cost	k$	19,293	-	2,756	2,756	2,756	2,756	2,756	2,756	2,756	-	-	-	-	-	-	-	-	-	-
Total Ore Mined (Diluted)	t	10,718,363	-	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	-	-	-	-	-	-	-	-	-	-
Metals Mined																				
Cu Mined	t	45,821.00	-	6,545.86	6,545.86	6,545.86	6,545.86	6,545.86	6,545.86	6,545.86	-	-	-	-	-	-	-	-	-	-
Ore Mining Cost	$/t	0.60	-	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-	-	-	-	-	-	-	-	-	-
Total Ore Mining Cost	k$	6,431	-	919	919	919	919	919	919	919	-	-	-	-	-	-	-	-	-	-
Ore Processed	t	10,718,363	-	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	1,531,195	-	-	-	-	-	-	-	-	-	-
Ore Processing Cost	$/t	6.60	-	6.60	6.60	6.60	6.60	6.60	6.60	6.60	-	-	-	-	-	-	-	-	-	-
Total Ore Processing Cost	k$	70,693	-	10,099	10,099	10,099	10,099	10,099	10,099	10,099	-	-	-	-	-	-	-	-	-	-
Crushing	$/t	1.28																		
Heap Leaching	$/t	3.77																		
SX	$/t	0.49																		
EW	$/t	1.05																		
Overheads	$/t	0.50	-	0.50	0.50	0.50	0.50	0.50	0.50	0.50	-	-	-	-	-	-	-	-	-	-
Total Overheads	k$	5,359	-	766	766	766	766	766	766	766	-	-	-	-	-	-	-	-	-	-
Selling costs	$/t	0.51	-	0.51	0.51	0.51	0.51	0.51	0.51	0.51	-	-	-	-	-	-	-	-	-	-
Total Selling costs	k$	5,466	-	781	781	781	781	781	781	781	-	-	-	-	-	-	-	-	-	-
Total OPEX	k$	107,243	-	15,320	15,320	15,320	15,320	15,320	15,320	15,320	-	-	-	-	-	-	-	-	-	-
Total OPEX per t of ore	$/t	10.01																		
Metals Recovered																				
Cu Price	$/t	7,280	8,822	8,735	8,649	8,087	7,536	6,757	6,213	6,000	-	-	-	-	-	-	-	-	-	-
Cu Recovery	%	0.68	-	0.68	0.68	0.68	0.68	0.68	0.68	0.68	-	-	-	-	-	-	-	-	-	-
Cu Recovered	t	31,158	-	4,451	4,451	4,451	4,451	4,451	4,451	4,451	-	-	-	-	-	-	-	-	-	-
Cu Revenue	k$	231,360	-	38,881	38,496	35,997	33,544	30,077	27,657	26,707	-	-	-	-	-	-	-	-	-	-
Cu Royalty	k$	19,393	-	3,259	3,227	3,017	2,812	2,521	2,318	2,239	-	-	-	-	-	-	-	-	-	-
Sulphide Ore																				
Waste Mined	m3	37,078,509	-	-	-	-	-	-	-	-	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851	3,707,851
Waste Mining Cost per t of ore	$/t	8.16	-	-	-	-	-	-	-	-	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16
Total Waste Mining Cost	k$	101,959.31	-	-	-	-	-	-	-	-	10,195.9	10,195.9	10,195.9	10,195.9	10,195.9	10,195.9	10,195.9	10,195.9	10,195.9	10,195.9
Total Ore Mined (Diluted)	t	12,495,014	-	-	-	-	-	-	-	-	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501
Metals Mined																				
Cu Mined	t	53,334	-	-	-	-	-	-	-	-	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333
Au Mined	kg	4,970	-	-	-	-	-	-	-	-	497	497	497	497	497	497	497	497	497	497
Ag Mined	kg	20,656.35	-	-	-	-	-	-	-	-	2,066	2,066	2,066	2,066	2,066	2,066	2,066	2,066	2,066	2,066
Mo Mined	t	2,650	-	-	-	-	-	-	-	-	265	265	265	265	265	265	265	265	265	265
FE mag Mined	t	331,308	-	-	-	-	-	-	-	-	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131
Ore Mining Cost	$/t	1.35	-	-	-	-	-	-	-	-	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35
Total Ore Mining Cost	k$	16,868	-	-	-	-	-	-	-	-	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687
Ore Processed	t	12,495,014	-	-	-	-	-	-	-	-	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501	1,249,501
Ore Processing Cost	$/t	8.93	-	-	-	-	-	-	-	-	8.93	8.93	8.93	8.93	8.93	8.93	8.93	8.93	8.93	8.93
Total Ore Processing Cost	k$	111,563	-	-	-	-	-	-	-	-	11,156	11,156	11,156	11,156	11,156	11,156	11,156	11,156	11,156	11,156
Overheads	$/t	0.65	-	-	-	-	-	-	-	-	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Total Overheads	k$	8,122	-	-	-	-	-	-	-	-	812	812	812	812	812	812	812	812	812	812
Selling costs	$/t	0.70	-	-	-	-	-	-	-	-	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Total Selling costs	k$	8,747	-	-	-	-	-	-	-	-	875	875	875	875	875	875	875	875	875	875
Total OPEX	k$	247,258	-	-	-	-	-	-	-	-	24,726	24,726	24,726	24,726	24,726	24,726	24,726	24,726	24,726	24,726
Total OPEX per t of ore	$/t	19.79																		
Metals Recovered																				
Cu in concentrate Price	$/t	7,098	8,640	8,553	8,466	7,905	7,354	6,575	6,031	5,818	5,818	5,818	5,818	5,818	5,818	5,818	5,818	5,818	5,818	5,818
Cu in concentrate	t	49,439	-	-	-	-	-	-	-	-	4,944	4,944	4,944	4,944	4,944	4,944	4,944	4,944	4,944	4,944
Cu Revenue	k$	287,623	-	-	-	-	-	-	-	-	28,762	28,762	28,762	28,762	28,762	28,762	28,762	28,762	28,762	28,762
Cu Royalty	k$	17,685.94	-	-	-	-	-	-	-	-	1,769	1,769	1,769	1,769	1,769	1,769	1,769	1,769	1,769	1,769
Au in concentrate Price	$/g	44.86	50.17	49.92	49.66	45.43	43.45	42.81	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80
Au in concentrate	kg	3,940	-	-	-	-	-	-	-	-	394	394	394	394	394	394	394	394	394	394
Au Revenue	k$	164,676	-	-	-	-	-	-	-	-	16,467.61	16,467.61	16,467.61	16,467.61	16,467.61	16,467.61	16,467.61	16,467.61	16,467.61	16,467.61
Au Royalty	k$	10,387.13	-	-	-	-	-	-	-	-	1,038.71	1,038.71	1,038.71	1,038.71	1,038.71	1,038.71	1,038.71	1,038.71	1,038.71	1,038.71
Ag in concentrate Price	$/g	0.64	0.79	0.79	0.78	0.78	0.67	0.53	0.52	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
Ag in concentrate	kg	15,186.58	-	-	-	-	-	-	-	-	1,518.66	1,518.66	1,518.66	1,518.66	1,518.66	1,518.66	1,518.66	1,518.66	1,518.66	1,518.66
Ag Revenue	k$	7,812	-	-	-	-	-	-	-	-	781.22	781.22	781.22	781.22	781.22	781.22	781.22	781.22	781.22	781.22
Ag Royalty	k$	531.29	-	-	-	-	-	-	-	-	53.13	53.13	53.13	53.13	53.13	53.13	53.13	53.13	53.13	53.13
Mo in concentrate Price	$/t	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000
Mo in concentrate	t	1,007.18	-	-	-	-	-	-	-	-	100.72	100.72	100.72	100.72	100.72	100.72	100.72	100.72	100.72	100.72
Mo Revenue	k$	18,129	-	-	-	-	-	-	-	-	1,813	1,813	1,813	1,813	1,813	1,813	1,813	1,813	1,813	1,813
Mo Royalty	k$	3,339.58	-	-	-	-	-	-	-	-	333.96	333.96	333.96	333.96	333.96	333.96	333.96	333.96	333.96	333.96
FE mag in concentrate Price	$/t	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00
FE mag in concentrate	t	327,995	-	-	-	-	-	-	-	-	32,799.47	32,799.47	32,799.47	32,799.47	32,799.47	32,799.47	32,799.47	32,799.47	32,799.47	32,799.47
FE mag Revenue	k$	65,598.95	-	-	-	-	-	-	-	-	6,560	6,560	6,560	6,560	6,560	6,560	6,560	6,560	6,560	6,560
FE mag Royalty	k$	1,855	-	-	-	-	-	-	-	-	186	186	186	186	186	186	186	186	186	186

Frontier M
Valuation. Baitemir in Kazakhstan
Appendix F1.2

NSR

Year			2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Project Year	Unit	TOTAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Total Net Smelter Return (NSR) from Sulphide Ore Production	**US$M**	**552.84**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**55**	**55**	**55**	**55**	**55**	**55**	**55**	**55**	**55**	**55**
Sulphide Ore treatment																				
Cu Mined	t	53,334	-	-	-	-	-	-	-	-	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333	5,333
grade	%	0.43	-	-	-	-	-	-	-	-	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Au Mined	kg	4,970	-	-	-	-	-	-	-	-	497	497	497	497	497	497	497	497	497	497
grade	g/t	0.04	-	-	-	-	-	-	-	-	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Ag Mined	kg	20,656	-	-	-	-	-	-	-	-	2,066	2,066	2,066	2,066	2,066	2,066	2,066	2,066	2,066	2,066
grade	g/t	0.17	-	-	-	-	-	-	-	-	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65
Mo Mined	t	2,650	-	-	-	-	-	-	-	-	265	265	265	265	265	265	265	265	265	265
grade	%	0.02	-	-	-	-	-	-	-	-	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
FE mag Mined	t	331,308	-	-	-	-	-	-	-	-	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131
grade	%	2.65	-	-	-	-	-	-	-	-	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65
Concentrate Production																				
Cu Recovery	%	93%	92.70%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%
Au Recovery	%	79%	79.27%	79%	79%	79%	79%	79%	79%	79%	79%	79%	79%	79%	79%	79%	79%	79%	79%	79%
Ag Recovery	%	74%	73.52%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
Mo Recovery	%	38%	38.00%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%
Fe mag Recovery	%	99%	99.00%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
Metal Content in Zinc Concentrate																				
Cu	t	49,439	-	-	-	-	-	-	-	-	4,944	4,944	4,944	4,944	4,944	4,944	4,944	4,944	4,944	4,944
Au	kg	3,940	-	-	-	-	-	-	-	-	394	394	394	394	394	394	394	394	394	394
Ag	kg	15,187	-	-	-	-	-	-	-	-	1,519	1,519	1,519	1,519	1,519	1,519	1,519	1,519	1,519	1,519
Mo	t	1,007	-	-	-	-	-	-	-	-	101	101	101	101	101	101	101	101	101	101
FE mag	t	327,995	-	-	-	-	-	-	-	-	32,799	32,799	32,799	32,799	32,799	32,799	32,799	32,799	32,799	32,799
Total Metal in Concentrate																				
Cu	t	49,439	-	-	-	-	-	-	-	-	4,944	4,944	4,944	4,944	4,944	4,944	4,944	4,944	4,944	4,944
Au	kg	3,940	-	-	-	-	-	-	-	-	394	394	394	394	394	394	394	394	394	394
Ag	kg	15,187	-	-	-	-	-	-	-	-	1,519	1,519	1,519	1,519	1,519	1,519	1,519	1,519	1,519	1,519
Mo	t	1,007	-	-	-	-	-	-	-	-	101	101	101	101	101	101	101	101	101	101
FE mag	t	327,995	-	-	-	-	-	-	-	-	32,799	32,799	32,799	32,799	32,799	32,799	32,799	32,799	32,799	32,799
Product after smelter plant	Smelting Recovery																			
Cu	100.00%	t	49,439	-	-	-	-	-	-	-	4,944	4,944	4,944	4,944	4,944	4,944	4,944	4,944	4,944	4,944
Au	100.00%	kg	3,940	-	-	-	-	-	-	-	394	394	394	394	394	394	394	394	394	394
Ag	100.00%	kg	15,187	-	-	-	-	-	-	-	1,519	1,519	1,519	1,519	1,519	1,519	1,519	1,519	1,519	1,519
Mo	100.00%	t	1,007	-	-	-	-	-	-	-	101	101	101	101	101	101	101	101	101	101
FE mag	100.00%	t	327,995	-	-	-	-	-	-	-	32,799	32,799	32,799	32,799	32,799	32,799	32,799	32,799	32,799	32,799
Treatment Charge	50 $/t Cu	US$ 000	**2,471.95**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**247.20**	**247.20**	**247.20**	**247.20**	**247.20**	**247.20**	**247.20**	**247.20**	**247.20**	**247.20**
Refinery Cost	132.28 $/t Cu	US$ 000	**6,539.67**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**653.97**	**653.97**	**653.97**	**653.97**	**653.97**	**653.97**	**653.97**	**653.97**	**653.97**	**653.97**
Sales contract discount			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shipment to Customer Cost			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metal Price																				
Cu		$/t	7,280	8,822	8,735	8,649	8,087	7,536	6,757	6,213	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Au in concentrate		$/g	44.86	50.17	49.92	49.66	45.43	43.45	42.81	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80
Ag in concentrate		$/g	0.64	0.79	0.79	0.78	0.78	0.67	0.53	0.52	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
Mo in concentrate		$/t	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000
FE mag in concentrate		$/t	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Commercial Value of the Concentrate		US$M	**552.84**	-	-	-	-	-	-	-	-	55.28	55.28	55.28	55.28	55.28	55.28	55.28	55.28	55.28	55.28
Cu		US$M	296.63	-	-	-	-	-	-	-	-	29.66	30	30	30	30	30	30	30	30	30
Au		US$M	164.67	-	-	-	-	-	-	-	-	16.47	16	16	16	16	16	16	16	16	16
Ag		US$M	7.80	-	-	-	-	-	-	-	-	0.78	1	1	1	1	1	1	1	1	1
Mo		US$M	18.12	-	-	-	-	-	-	-	-	1.81	2	2	2	2	2	2	2	2	2
FE mag		US$M	65.59	-	-	-	-	-	-	-	-	6.56	7	7	7	7	7	7	7	7	7

Frontier M
Valuation. Baitemir in Kazakhstan
Appendix F1.3

Cash Flow Model

Year				2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Project Year		Unit	**Total**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Inflation		%																			
Total Revenue	1	US$ 000	775,199	0	38,881	38,496	35,997	33,544	30,077	27,657	26,707	54,384	54,384	54,384	54,384	54,384	54,384	54,384	54,384	54,384	54,384
Total Operating Costs	1	US$ 000	354,501	0	15,320	15,320	15,320	15,320	15,320	15,320	15,320	24,726	24,726	24,726	24,726	24,726	24,726	24,726	24,726	24,726	24,726
Total Royalty		US$ 000	53,193	0	3,259	3,227	3,017	2,812	2,521	2,318	2,239	3,380	3,380	3,380	3,380	3,380	3,380	3,380	3,380	3,380	3,380
Capital Expenditure	1	US$ 000	148,305	34,000	340	340	340	340	340	340	102,090	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018	1,018
Depreciation		US$ 000	145,253	4,857	4,906	4,954	5,003	5,051	5,100	5,149	10,515	10,612	10,709	10,805	10,902	10,999	11,096	11,193	11,193	11,193	1,018
Gross Revenue		US$ 000	775,199	0	38,881	38,496	35,997	33,544	30,077	27,657	26,707	54,384	54,384	54,384	54,384	54,384	54,384	54,384	54,384	54,384	54,384
Less Royalty		US$ 000	-53,193	0	-3,259	-3,227	-3,017	-2,812	-2,521	-2,318	-2,239	-3,380	-3,380	-3,380	-3,380	-3,380	-3,380	-3,380	-3,380	-3,380	-3,380
Less OPEX		US$ 000	-354,501	0	-15,320	-15,320	-15,320	-15,320	-15,320	-15,320	-15,320	-24,726	-24,726	-24,726	-24,726	-24,726	-24,726	-24,726	-24,726	-24,726	-24,726
Operating Profit		US$ 000	367,506	0	20,302	19,949	17,659	15,412	12,236	10,019	9,148	26,278	26,278	26,278	26,278	26,278	26,278	26,278	26,278	26,278	26,278
Less Depreciation		US$ 000	-145,253	-4,857	-4,906	-4,954	-5,003	-5,051	-5,100	-5,149	-10,515	-10,612	-10,709	-10,805	-10,902	-10,999	-11,096	-11,193	-11,193	-11,193	-1,018
Taxable Income (CF before Tax)		US$ 000	222,253	-4,857	15,396	14,995	12,656	10,360	7,136	4,870	-1,367	15,666	15,570	15,473	15,376	15,279	15,182	15,086	15,086	15,086	25,261
Less Corporate Income Tax Paid Before Funding)	20%	US$ 000	-45,695	0	-3,079	-2,999	-2,531	-2,072	-1,427	-974	0	-3,133	-3,114	-3,095	-3,075	-3,056	-3,036	-3,017	-3,017	-3,017	-5,052
Net Income		US$ 000	176,558	-4,857	12,317	11,996	10,125	8,288	5,709	3,896	-1,367	12,533	12,456	12,378	12,301	12,223	12,146	12,069	12,069	12,069	20,209
Depreciation (Added back)		US$ 000	145,253	4,857	4,906	4,954	5,003	5,051	5,100	5,149	10,515	10,612	10,709	10,805	10,902	10,999	11,096	11,193	11,193	11,193	1,018
Less Change in Working Capital		US$ 000		0	2,553	0	0	0	0	0	0	1,568	0	0	0	0	0	0	0	0	0
Less Capital Expenditures		US$ 000	-148,305	-34,000	-340	-340	-340	-340	-340	-340	-102,090	-1,018	-1,018	-1,018	-1,018	-1,018	-1,018	-1,018	-1,018	-1,018	-1,018
Vat Refund	12%	US$ 000	10,678	2,448	24	24	24	24	24	24	7,350	73	73	73	73	73	73	73	73	73	73
Net Cash Flow		US$ 000	188,304	-31,552	19,461	16,635	14,812	13,024	10,493	8,729	-85,591	23,768	22,220	22,239	22,259	22,278	22,297	22,317	22,317	22,317	20,282
Cumulative Net Cash Flow		US$ 000	188,304	-31,552	-12,091	4,543	19,355	32,380	42,873	51,602	-33,990	-10,222	11,998	34,238	56,497	78,775	101,072	123,389	145,706	168,022	188,304
Discount Factor	10%			0.91	0.83	0.75	0.68	0.62	0.56	0.51	0.47	0.42	0.39	0.35	0.32	0.29	0.26	0.24	0.22	0.20	0.18
Discounted Cash Flow		US$ 000	52,696	-28,684	16,083	12,498	10,117	8,087	5,923	4,479	-39,929	10,080	8,567	7,795	7,092	6,453	5,872	5,342	4,857	4,415	3,648
Cumulative Discounted Free Cash Flow		US$ 000	52,696	-28,684	-12,601	-103	10,014	18,101	24,024	28,504	-11,425	-1,345	7,221	15,016	22,109	28,562	34,433	39,776	44,633	49,048	52,696

NPV @ Discount Rate	8%	MUS$	67																		
NPV (Base Case) @ Discount Rate	**10%**	**MUS$**	**52.70**																		
NPV @ Discount Rate	15%	MUS$	30																		
NPV @ Discount Rate	20%	MUS$	17																		
IRR		%	40%																		
Payback period of capital		Years	2.73	0.00	0.00	2.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Cash Exposure		MUS$	34																		

CF After Funding and Debt Service																					
Total Costs Associated with Financing		US$ 000	-1,385	-1,385	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest		US$ 000	-36,653	-2,444	-2,444	-2,199	-1,710	-1,222	-733	-244	-5,702	-5,702	-5,131	-3,991	-2,851	-1,710	-570	0	0	0	0
Corporate Income Tax Paid After Funding		US$ 000	-52,264	0	-3,568	-3,439	-2,873	-2,316	-1,574	-1,023	-867	-4,274	-4,140	-3,893	-3,645	-3,398	-3,151	-3,017	-3,017	-3,017	-5,052
Debt Funding		US$ 000		24,435	0	-4,887	-4,887	-4,887	-4,887	-4,887	57,015	0	-11,403	-11,403	-11,403	-11,403	-11,403	0	0	0	0
Equity Funding		US$ 000		16,290	0	0	0	0	0	0	38,010	0	0	0	0	0	0	0	0	0	0
Cash Flow (After Funding and Debt Service)		US$ 000	197,999	5,345	16,528	9,109	7,873	6,671	4,726	3,549	2,865	16,926	4,659	6,047	7,435	8,823	10,210	22,317	22,317	22,317	20,282
Cumulative Cash Flow (After Funding and Debt Service)		US$ 000	197,999	5,345	21,873	30,982	38,855	45,526	50,252	53,801	56,666	73,592	78,252	84,299	91,734	100,556	110,766	133,083	155,400	177,717	197,999

NPV @ Discount Rate	8%	MUS$	91																		
NPV (Base Case) @ Discount Rate	**10%**	**MUS$**	**77.68**																		
NPV @ Discount Rate	15%	MUS$	56																		
NPV @ Discount Rate	20%	MUS$	43																		
IRR		%	N/A																		
Payback period of capital		Years	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Cash Exposure		MUS$	0																		

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