SHORT REPORT ON THE MITTERBERG COPPER PROJECT

MÜHLBACH/PONGAU, SALZBURG
AUSTRIA

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for VVV Resources Limited

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About the author:

Dr. Reinhard Wagner studied geology and applied mineralogy at the University of Salzburg. Since 2008, Reinhard Wagner has been involved in the exploration of various deposits in Austria. He has extensive knowledge of deposits in Austria and has successfully worked on various exploration projects in Austria.

1. Summary

The Mitterberg copper project is located approximately 60 km S of Salzburg, Austria. It consists of 198 exploration licences, covering an area of approximately 90 km². The area has been target of historic copper mining.

The project comprises of three individual mining districts: the Northern district (Mitterberg district; including Mitterberg main lode), the Southern district ("Einöden", Brander/ Burgschweig/ Birkenstein lodes), and the Buchberg district (eastern continuation of Mitterberg main lode).

Mitterberg is considered as the largest copper deposit of the Eastern Alps. Copper mining at Mitterberg started in prehistoric times. Modern mining started again around 1830 and ceased in 1977 when the mine has been shut down as a consequence of low copper prices. According to estimations, more than 120,000 tons of copper metal have been extracted from the Mitterberg deposit in the past. In the 1970s, annual production rates of approximately 200,000 tons of ore with an average grade of 1.4% Cu have been reported.

The mineralisation is hosted by Paleozoic phyllites/schists. In the Southern mining district, three concordant ore horizons were target of mining activity. In the Northern district and in the Buchberg district, a ENE-WSW trening concordant vein (Mitterberg main lode) with a thickness of 0.2 to 4 m and a strike extension of more than 8 km (possibly 11 km), average dip 70°S, was the main target of mining. The economically mineable vertical depth of the deposit varied between 460 to 800 m, with an average of approximately 520 m. The ore vein is affected by staggered normal faults which cause a plunge of the ore body towards W (total plunge 11.5°).

The main ore mineral is chalcopyrite, which is associated with other sulphide minerals. Carbonates (ankerite/siderite) and quartz are main gangue minerals. In addition, a nickel mineralisation as well as a gold-uranium mineralisation have been reported from the Northern mining district, while cobalt bearing phases are present at the Southern mining district.

Numerous historic mines with an underground extension >40 km exist within the project area.

Average copper grades of approximately 1.4%, and average nickel grades of 0.04% have been reported. For the Northern mining district, a detailed mineral resource estimation from the last operation period reports 298,876 t proven reserves (Austrian category A), 457,083 t probable reserves/indicated resources (Austrian category B), 2,456,622 t inferred resources (Austrian category C). Furthermore, 3,125,000 t resources of category C2 "vermutet" and 4,250,000 t resources of category C2 "potentiell" have been reported. **It is emphasised that at the moment, there is no valid mineral resource for the copper content of the project as defined by the Australasian Joint Ore Reserve Committee (JORC Code) or any other acceptable standard. Thus, the mineral resource estimation should not in any way be relied upon.**

Based on the unconfirmed reserve/resource data given above, a Yardstick valuation of the Northern mining district of the Mitterberg copper project indicates a **total valuation between 4.11 million US$ for a low value scenario and 9.524 million US$ for a high value scenario. It is explicitly stated that the valuation is not in accordance with standards according to VALMIN code or any other acceptable standard, as insitu values are used and the project has not yet been evaluated by a feasibility study**. For the Southern mining district and Buchberg mining district, no data are available. Further exploration work is recommended to evaluate the project.

2. Location and Access

The project is located in Mühlbach am Hochkönig (and adjacent areas) in the north-western part of the district of Pongau, Salzburg, Austria, approximately 60 km south of the city of Salzburg (see Fig. 1). Several asphalted roads lead to the village of Mühlbach am Hochkönig (860 m above sea level, population approx. 1,500). The next largest town is Bischofshofen (population approx. 10,000), which is located in the Salzach Valley, about 10 km east of Mühlbach. Bischofshofen offers connections to the A10 motorway and railway. An international airport is located at the city of Salzburg.

Fig. 1: Location of Mitterberg copper project (base map from Wikipedia, modified)

The Mitterberg copper project comprises of three individual mining districts: The Northern district, also known as Mitterberg district (Mitterberg Main lode, northwest of Mühlbach), the Southern district (also known as "Einöden", Brander/ Burgschweig/ Birkenstein lodes, southeast of Mühlbach) and the Buchberg district (east of Bischofshofen/ Salzach river). From an economic point of view, the Northern mining district is considered as the most interesting mining district within the Mitterberg copper project.The historic mining area is situated between 550 m and 1,500 m a.s.l. Access to all mining districts is possible via asphalted roads; in addition, the area is also accessed by numerous forest roads. Electricity, water supplies as well as communication networks are well established.

According to the information obtained from SAGIS (official geographic information system provided by the government of Salzburg), the majority of the project area is not located within a national park. Several small protected biotopes are located within the project area. The northwesternmost part of the project area is partially overlapping with the European Nature Reserve "Kalkhochalpen" and a protected landscape. The historic mining area as well as the largest part of the potential target area is located outside the protected area and thus not affected by the protected area.

3. Exploration Licences

The Mitterberg copper project comprises 198 exploration licences, covering approximately 90 km². The licences are held in the name of Mr. Peter Schreiber (as local representative of the project owner). The western part of the project area is covered by 89 licences (159/17/S – 247/17/S, expiring end of 2026), while the eastern part of the project area is covered by 109 licences (37/18/S – 145/18/S, expiring end of 2027). The licence situation is shown in Figure 2.

Further 29 licences located within the Mitterberg copper project area held by a third party (Mr. Erhard Plosky) are secondary to the licences of Mr. Peter Schreiber.

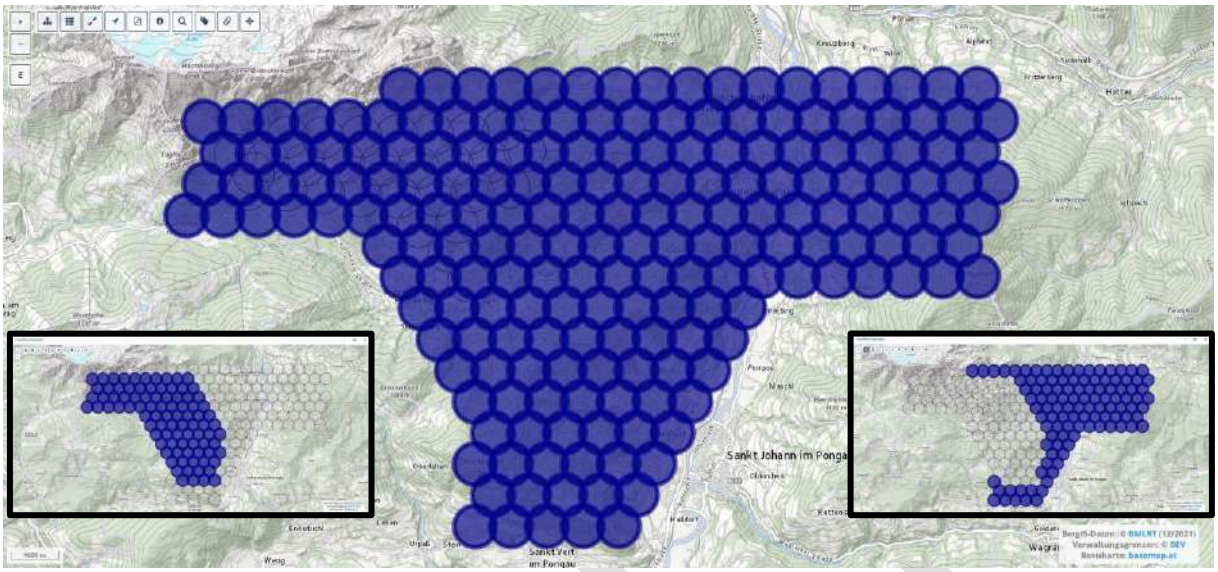

Fig. 2: Exploration licences of the Mitterberg copper project. Insert on the left side shows licences 159/17/S (MB/17/01) - 247/17/S (MB/17/89), expiring end of 2026; insert on the right side shows licenses 37/18/S (MB/18/01) - 145/18/S (MB/18/109), expiring end of 2027 (data source: BergIS)

4. History

(*after Günther et al. 1993*)

Historic copper mining in the Mitterberg area was started by the Illyrians nearly 3000 B.C. Copper mining ended around 750 B.C.; after this time, the deposit fell into oblivion for unknown reasons.
The deposit has been rediscovered by farmers in the 19th century when they found pieces of copper ore (chalcopyrite) from an outcropping ore vein during road construction work. Modern mining activity started again in 1843 in the Northern mining district close .
Due to a drop of the copper price in the 1970s, the Mitterberg copper mine suffered serious economic problems. Several studies were made to determine if there is a possibility to operate the mine economically, leading to different results. A statement by *Reuther* (1972) was quite positive, while another statement by *Fettweis* (1972) was negative.
In 1976, the managing board decided to close the mine. Closure activities are documented by the operational plan required for the decommissioning of the mine (*Kupferbergbau Mühlbach 1976*).

5. Geology

The copper deposit of Mühlbach/Hochkönig is located at the northern fringe of the so-called Grauwacken zone, which consists of metamorphic rocks of mainly Early Palaeozoic age. The Grauwacken zone forms the autochthonous basement of the Northern Calcareous Alps (which consist of sedimentary rocks, i.e. sandstones and carbonates, of Mesozoic age).

The mineralization is hosted within rocks of the Grauwacken zone. The youngest host rocks are of Permian age. Younger units of the Northern Calcareous Alps are not affected by the vein-type mineralization, although mineralizations of a different type were found within these rocks too.
(*Heißel 1959*)
The Mitterberg copper projects shows the following host rocks (*Paar 1993*):

- Lower Palaeozoic phyllites, sericite quartzites and metavolcanic rocks (diabase, green schist) and black phyllites ("grey series")
- Reddish/violet clayey shales, phyllites and quartzites with intercalations of graphitic clay shales of probably Late Carboniferous age ("violet series")
- green-gray clay shales and quartzites of Late Permian age (partially showing anhydrite and gypsum) ("green series")

6. Mineralisation

The Mitterberg deposit is considered as arguably the largest Cu concentration in the Eastern Alps.

Northern mining district

(after *Heißel 1959, Kupferbergbau Mitterberg Gesellschaft MBH. 1976, Paar 1993, Petrascheck 1978*)
The most important structure in the Northern mining district is the discordant main ore vein (carbonaceous quartz-copper lode). It is considered to be of hydrothermal origin, classified as syn-orogenic and of Cretaceous age. The ore vein is hosted within gently dipping Palaeozoic phyllites, sandstones, schists and quartzites of the so-called Northern Grauwacke zone. The main lode intersects rocks of the "grey series" and the "violet series". It tends to split up within the "violet series". A continuation into younger rocks of the "green series" was not observed.
The main ore vein of the Northern mining district trends approximately E-W (260°) and dips towards S with an angle of 45° - 80°, the average dip is 70° towards S. The extension of the major ore vein along strike is known for approximately 8 km, some authors mentions an extension of 11 km. Its thickness varies between 0.2 and 4 metres. In the 1960s, the economically mineable vertical depth of the deposit varied between 460 to 800 m (in average 520 m). Several smaller ore-bearing structures branch off the main ore vein, also further ore bearing structures parallel to the main ore vein were observed. Vein structures trending approximately N-S are interpreted as a younger generation of mineralisation and were partially of economic interest. The main ore vein is affected by staggered normal faults which cause a plunge of the ore body towards W caused by lithological features and staggered normal faults, leading to a total plunge of 11.5° towards W.

Southern mining district

In contrast to the Northern mining district, the mineralization in the southern mining district is concordant and comprises three main lodes/ore horizons: Burgschwaig lode, Birgstein lode and Brander lode. The mineralisation is considered to be of syngenetic origin.

Buchberg mining district

The mineralisation at the Buchberg mining district is considered as the eastern continuation of the main lode from the Northern mining district.

7. Mineralogy

(after Kupferbergbau Mitterberg Gesellschaft MBH. 1976, Paar 1993, Anderson & Maynard 2013)

The main ore mineral of the Mitterberg copper project is chalcopyrite. It was found as massive ore with a thickness of more than one meter within the ore vein, especially at deeper levels of the western part of the deposit. Both high and low temperature chalcopyrite have been reported. Another copper-bearing mineral is tetrahedrite, which is present at higher levels, but was never of economic significance. Some sections of the veins contained significant amounts of nickel-bearing minerals, mainly gersdorffite (NiAsS). For that reason, a processing technique for recovery of the nickel was developed during the last operational period.

Gangue minerals are ankerite and quartz, with an increase of the latter with depth.

According to *Anderson & Maynard (2013)*, the mineralisation can be divided into an older quartz group and a younger ankerite group. The majority of the copper mineralisation (including nickel and cobalt minerals) is connected to the ankerite group.

In the Northern mining district, the first chalcopyrite generation also includes pyrite and a Ni-rich mineralisation comprising gersdorffite, bravoite, ullmannite, maucherite, skutterudite, pentlandite, millerite and cobaltite; further arsenopyrite, quartz, and ankerite. For the Southern mining district, the oldest mineralisation contains pyrite and cobaltite.

After this As-S-rich mineralisation, a carbonaceous mineralisation (with siderite in the upper parts and ankerite at greater depths), followed by a quartz-rich mineralisation, has been formed. This mineralisation contains high-temperature chalcopyrite as well as altered minerals of the first generation.

Finally, a low temperature chalcopyrite mineralisation (including quartz, ankerite, and members of the tetrahedrite-tennantite series) has been deposited. It is interpreted as tectonically mobilised and re-deposited ore from the older mineralisation types.

Furthermore, younger cross lodes were formed, showing a hematite-magnetite paragenesis in the upper part of the deposit, and a arsenopyrite-sericite mineralisation at greater depths. For the Southern mining district and the Buchberg mining district, the younger cross lodes host a Ni-bearing pyrrhotite-pentlandite-paragenesis (with arsenopyrite, fahlore and other minerals).

A vertical zonation of the ore in the Northern mining district has been documented (from top to bottom: hematite zone, maucherite zone, low-grade zone, high-grade zone, millerite zone and zoned pyrite zone).

8. Ore Grades and Historic Production Figures

The average copper grade of the ore during the last period of operation was around 1.4%. About 7.14 tons of ore were mined per square meter of vertical ore vein, resulting in 103 kg Cu/m² ore vein *(Kupferbergbau Mitterberg Gesellschaft MBH. 1976)*. For the currently unmined parts of the deposit expect ore grades of approximately 1.4%. (*Reuther 1972*)

In the 1970s, the annual production of the mine was around 200,000 tons of ore at a grade of 1.4% Cu (see Fig. 3). The ore was processed close to the mine by a processing plant that produced a concentrate with a grade of 28.5% Cu. The recovery rate was 97.5% *(Reuter 1972).*

During the last mining period, also the production of nickel concentrates was considered. An average nickel grade of 0.04%-0.05% was estimated (*Reuther 1972*, *Kupferbergbau Mitterberg Gesellschaft MBH. 1976)*. The nickel content of the copper concentrates (27% Cu) was around 0.60%. The copper concentrates also contained small amounts of gold (0.25 g Au/t concentrate) and silver (25 g Ag/t concentrate). The tailings contained 0.03-0.05% Cu *(Kupferbergbau Mitterberg Gesellschaft MBH. 1976).* The recovery rate for copper was around 97.5% *(Reuter 1972).*

The copper ore was processed with a flotation plant. In the early 1970s, a new method called "Lurgi-Mitterberg"-method (LM-method) was developed. This method processed the copper ore, which was rich in chalcopyrite, by acid pressure leaching with sulphuric acid (*Günther et al. 1993*).

Until 1966, ca. 120,000 tons of Cu were mined at Mitterberg, whereas 17,000 tons of Cu were mined during prehistoric times. *(Kupferbergbau Mitterberg Gesellschaft MBH., 1976)*

9. Main adits

(after *Kupferbergbau Mitterberg Gesellschaft MBH. 1976 and Günther et al. 1993)*

Northern mining district

Numerous adits are located between elevation of ca. 1,500 m a.s.l. and 875 m a.s.l. The main adit is the Emil adit (length 2,850 m; its portal is located close to the town centre of Mühlbach at an altitude of 875 m. The main haulage way was at the level of the Emil adit (i.e. 7th level). There are several other adits at higher levels which had a connection to the surface, with the most important adits being Ruperti adit (1,268 m asl; length: 900 m, mainly for ventilation), West adit (1,134 m asl; length: 1,020 m, mainly for ventilation; inclination 1:4), and Elmau adit (1,280 m asl; length: 650 m, westernmost adit, designed for an annual production volume of 250,000 t of ore).

Around 1970, the total length of the accessible drives at Mitterberg was around 40 km.

The mine consists of 11 levels. The levels are consecutively numbered; with the uppermost level being the 1st level. The vertical distance between two levels is 120 m. The levels are connected to the main haulage way on the 7th level by several blind shafts.

The size of the cross-section of the main drives varied between 5 and 12 m². Exploration tunnels showed a cross-section of 4 m²; less important drives showed a cross-section of ca. 2.5 m².

Southern mining district

The Southern mining district ("Einöden") has been mined between 1952 and 1957 from the Arthur adit, which has been driven from the village of Mühlbach towards SE. During the last operation period, about 20 tons of ore have been mined per day, showing a copper grade of 1.4 – 1.8 % Cu.

Buchberg mining district

The Buchberg mining district has been mined between 1952 and 1959. Daily ore production was around 76-80 tons of ore. In total, 175,000 tons of ore (with an average Cu grade of 1.18%) have been produced.

10. Reserves and Resources

A very detailed resource estimation for the northern mining district was made in 1976 before the completion of mining activities; a brief summary is shown in Table 1. This resource estimation (based on the former standards of the Austrian mineral resource classification) is included in the operational plan required for the decommissioning of the mine (*Kupferbergbau Mitterberg GmbH 1976*). **It is It is explicitly emphasised that these figures are included in this report for historical information disclosure only, as they have not been prepared in accordance with currently recognised standards. At the moment, there is no valid mineral resource for the copper content of the project as defined by the Australasian Joint Ore Reserve Committee (JORC Code) or any other acceptable standard. Thus, the mineral resource estimation should not in any way be relied upon.**

Table 1: Summary of mineral resource estimation as of 1976 (*Kupferbergbau Mühlbach 1976*)

Reserve/resource category (Austrian classification, original data)	Comparable reserve/resource category according to international classification (*Horkel & Horkel* 2008)	Amount of ore [t]
A “sicher”	proven reserve	298,876
B “wahrscheinlich”	probable reserve/indicated resource	457,083
C1 “möglich”	inferred resource	2,456,622
C2 “vermutet”	(hypothetical/speculative)	3,125,000
C2 “potentiell”	(hypothetical/speculative)	4,250,000

It should be noted that the Austrian resource classification terms are not entirely equivalent to international classification categories, see *Horkel & Horkel* 2008.

The total reserves and resources of categories A (proven), B (probable/indicated) and C_1 (inferred) are 3,211,584 t of ore. The largest part of the reserves and resources are located in the western part of the deposit. From a geological and mineralogical point of view, the assumptions for this estimation seem to be reasonable.

The hypothetical and speculative resources (categories C_2 “vermutet” and “potentiell” according to former Austrian standards) are expected in the eastern and western continuation of the known mineralisation. These estimations are based on the assumption that there is a direct and continuous continuation of the main vein towards W respectively E, as some indications of mineralization and/or historic mining were interpreted as the continuation of the main vein. It is emphasised that these concepts have been subject of discussion and are doubted by several experts (e.g. *Heißl 1959*).

The actual amounts of proven and probable resources are likely to be higher, as hardly any exploration work has been carried out during the last period of operation (*Reuther 1972*).

Due to a lack of data, no reserves/resources are available for the Southern mining district and for the Buchberg mining district. Thus, the potential of these two mining districts yet has to be evaluated.

11. Potential and Valuation

Assuming an average grade of copper of 1.4% (average grade of copper during the last mining period; *Günther et al. 1993*; *Reuther 1972*) for the total proven/probable reserves and indicated/inferred resources of categories A, B and C_1, a total copper amount of ~45,000 t Cu can be calculated. Assuming a copper price of 9,500 USD/t, this would represent an in-ground value of approximately 427 Million USD, see Table 2.

To determine the order of magnitude of the project value as implied by market comparatives, Table 2 illustrates the value of the Mitterberg copper project by using the Yardstick methodology based on standard industry yardsticks.

It is explicitly stated that the valuation is not in accordance with standards according to VALMIN code or any other acceptable standard, as insitu values are used and the project has not yet been evaluated by a feasibility study.

Table 2: Value estimation for the Mitterberg copper project using the Yardstick methodology, based on standard industry yardsticks and assumptions from Table 1.

Resource category (Austrian classification)	Comparable resource category (int. classification)	Amount of ore [t]	Avg. Cu grade	Cu metal content (t)	In ground value, US$M (based on 9,500 USD Cu/t)	Low yardstick multiple	High yardstick multiple	Low value (US$M)	High value (US$M)
A "sicher"	proven reserve	298,876	1.4%	4,184	39.8	2%	5%	0.795	1.988
B "wahrscheinlich"	probable reserve/ indicated resource	457,083	1.4%	6,399	60.8	1%	2%	0.608	1.216
C1 "möglich"	inferred resource	2,456,622	1.4%	34,393	326.7	0.5%	1%	1.634	3.267
A+B+C1	**Proven/ probable reserves + indicated/ inferred resources**	**3,212,581**	**1.4%**	**44,976**	**427.3**			**3.037**	**6.471**
C2 "vermutet"	(hypothetical/ speculative)	3,125,000	1.4%	43,750	415.6	0.1%	0.3%	0.416	1.247
C2 "potentiell"	(hypothetical/ speculative)	4,250,000	1.0%	42,500	403.8	0.1%	0.3%	0.404	1.211
C2 total	**hypothetical/ speculative total (exploration target)**	**7,375,000**		**86,250**	**819.4**			**0.819**	**2.458**

Based on the assumptions in Table 2 using standard industry yardsticks, it can be expected that the market would value the proven/probable copper reserves and indicated/inferred copper resources at the Mitterberg copper project between 3.04 US$M and 6.47 US$M. If hypothetical/speculative C2 mineral resources (considered as exploration targets) are included in the valuation as well, the additional contribution to the market value is supposed to be between 0.82 US$M and 2.46 US$M.

The extraction of nickel as by-product has been discussed in the past as well. Thus, the nickel content (average grade 0.04% Ni) might also be taken into consideration for the valuation of the Mitterberg copper project. Details are shown in Table 3.

Table 3: Value estimation for Nickel reserves/resources of the Mitterberg copper project using the Yardstick methodology, based on standard industry yardsticks.

Reserve/ resource category (Austrian classification)	Comparable reserve/ resource category (international classification)	Amount of ore [t]	Avg. Ni grade	Ni metal content (t)	In ground value, US$M (based on 21,000 USD Ni/t)	Low yardstick multiple	High yardstick multiple	Low value (US$M)	High value (US$M)
A "sicher"	proven reserve	298,876	0.04%	120	2.5	2%	5%	0.050	0.126
B "wahrscheinlich"	probable/indicated reserve	457,083	0.04%	183	3.8	1%	2%	0.038	0.077
C1 "möglich"	inferred resource	2,456,622	0.04%	983	20.6	0.5%	1%	0.103	0.206
A+B+C1 total	**Proven/probable reserves + indicated/ inferred resources**	**3,212,581**		**1,285**	**27.0**			**0.192**	**0.409**
C2 "vermutet"	(hypothetical/ speculative)	3,125,000	0.04%	1,250	26.3	0.1%	0.3%	0.026	0.079
C2 "potentiell"	(hypothetical/ speculative)	4,250,000	0.04%	1,700	35.7	0.1%	0.3%	0.036	0.107
C2 total	**hypothetical/ speculative total (exploration target)**	**7,375,000**		**2,950**	**28.0**			**0.062**	**0.186**

Based on the assumptions in Table 3 using standard industry yardsticks, it can be expected that the market would value the nickel reserves and resources (incl. exploration targets) at the Mitterberg copper project between US$0.25M and US$0.59M. **Again it is explicitly stated that the valuation is not in accordance with standards according to VALMIN code or any other acceptable standard, as insitu values are used and the project has not yet been evaluated by a feasibility study.**

The total valuation of the Northern mining district of the Mitterberg copper project (evaluated by applying of Yardstick valuation methodology as described above) results in a **total valuation between 4.11 million US$ for a low value scenario** (3.037 US$M Cu reserves/resources categories A/B/C1 + 0.819 US$M Cu resources/exploration targets category C2 + 0.192 US$M Ni reserves/resources categories A/B/C1 + 0.062 US$M Ni resources/exploration targets category C2) and **9.524 million US$ for a high value scenario** (6.471 US$M Cu reserves/resources categories A/B/C1 + 2.458 US$M Cu resources/exploration targets category C2 + 0.409 US$M Ni reserves/resources categories A/B/C1 + 0.186 US$M Ni resources/exploration targets category C2). **It is explicitly stated that the valuation is not in accordance with standards according to VALMIN code or any other acceptable standard, as insitu values are used and the project has not yet been evaluated by a feasibility study.**

Due to a lack of reliable reserve/resource data, the Southern mining district and of the Buchberg mining district can currently not be taken into account for the valuation of the Mitterberg copper project.

12. Potential Issues and Risks

As for any exporation programme, the main risk is the inherent risk in mineral exploration, i.e. the exploration work might not intersect economic mineralisation or the mineralisation is not found to be continuous enough to allow for a compliant Mineral Resource to be stated.
Furthermore, the underground access situation and approval from land owners might be challenging. At the upper levels, the ore bodies were nearly completely mined so no significant reserves can be expected in this part of the deposit.
The area is dominated by agriculture and tourism. The local population might be critical concerning exploration/mining work. It is strongly recommended to contact the community and land owners before any further concepts of an exploration work takes place.
Although the gold-uranium-mineralization seems to be very interesting from a mineralogical point of view, the presence of uranium might be considered as an issue.
Nevertheless, the copper deposit at Mitterberg contains significant reserves and resources and has still the potential for further resources. It is one of the largest copper deposits of the alps so exploration might be rewarded, although big efforts will be required.

13. Recommendations for Future Work

A two phase exploration programme is recommended for the Mitterberg copper project.

The first phase includes a desktop study to review the voluminous information on historic mining and exploration data that are available at various government archives etc. in Austria. Furthermore, a field study, including detailed investigation of the structural geology, should be performed. For this phase, an experienced Austrian geologist will be required for the review of historic data (mostly in German) and translation. Furthermore, a senior geologist (preferably competent person) with experience in the re-evaluation of historic mining projects will be required. This is estimated to cost 190,000 US$ (see Table 4).

Table 4: Exploration budget for phase 1 – compilation and targets

Austrian geologist	60	days	@	1,000	US$/day	60,000	US$
Senior geologist	30	days	@	1,500	US$/day	45,000	US$
Room & board	90	days	@	100	US$/day	9,000	US$
Travel						20,000	US$
Permitting						16,000	US$
Contingency						30,000	US$
Report						10,000	US$
Total						**190,000**	**US$**

The second phase will consist of restoration of access to underground workings and first pass underground drilling in the order of 1,000 metres. Although a cost estimation for the underground drilling and particularly for restoration of underground access is challenging and accompanied by great uncertainties, a rough cost estimation is shown in Table 5, resulting in 380,000 US$.

Table 5: Exploration budget for phase 2 – restoration of underground access and drilling

Austrian geologist	30	days	@	1,000	US$/day	30,000	US$
Senior geologist	10	days	@	1,500	US$/day	15,000	US$
Room & board	40	days	@	100	US$/day	4,000	US$
Restoration of underground access						100,000	US$
Drill mob/demob						10,000	US$
Metreage (all in)	1,000	metres	@	150	US$/metre	150,000	US$
Analysis - core	100	samples	@	50	US$/sample	5,000	US$
Travel						10,000	US$
Sundries						16,000	US$
Contingency						30,000	US$
Report						10,000	US$
Total						**380,000**	**US$**

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