

Cobalt Project Acquisition Auroch increases its Renewable Focus

Highlights

- The Tisová underground mine has a long history, being mined intermittently since the end of the 12th century and more recently operated from 1959 to 1973 when it produced 560kt of ore containing 0.68% Cu
- Deposit style is volcanogenic massive sulphide (VMS) with copper being confined to specific horizons of chalcopyrite-rich ore within a much broader sequence of massive, semi-massive and disseminated sulphides
- Sampling of the broader sulphide envelope produced **significant grades of cobalt, copper and gold**
 - Grades of up to **0.68% Co** and **3.5% Cu** (with potential gold by-product between 0.2–3.7g/t Au) were returned from assay of recent grab samples
- Previous exploration and mining at Tisová focussed on the copper-rich VMS, and did not regularly sample for cobalt and, and hence these opportunities were not exploited nor evaluated
- Extensive underground development has been completed at Tisová which will be examined to determine the most efficient method to progress mine exploration and subsequent development.
- The **Tisová** project comprises a granted exploration licence which includes the historic Tisová mine and 3 exploration licence applications in the Czech Republic
- Deposit is open along strike and down-dip and through the deal Auroch has secured a significant ground holding which provides scope to prove up a substantial deposit
- Drilling to commence in 3rd Quarter 2017

Auroch Minerals Ltd is pleased to advise that it has entered into option agreements giving it the right to acquire 100% of the historic **Tisová copper mine** and 3 exploration licence applications (subject to approval by relevant authorities) in the Czech Republic.

Auroch CEO Dr Andrew Tunks commented: *The Tisová Project is a substantial unrecognised cobalt play in the heart of industrial Europe. The important point here is that the while copper orebodies are not wide, they occur within a much thicker zone of pyrite and pyrrhotite mineralisation (up to 60m), it is here, outside the copper zones, that our sampling indicates the presence of significant cobalt and gold that was not recognised during the mining phase.*

With true thickness of up to 60m of sulphide-rich mineralisation and the deposit open in all directions there is potential for a significant operation to be developed should the grades and continuity of the cobalt and gold mineralisation be proven by new exploration drilling.

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Sampling

Auroch has collected a suite of representative samples from the waste dumps at Tisová. Copper ores form lenses more than several hundred meters in length but only 2 to 5 m width within a much thicker stratabound envelope of sulphides which were regarded as waste by historic mining. These sulphides were systematically sampled on the old dumps. They represent a wide range of potential ore types in the broader sulphide halos with significant amounts of other metals such as cobalt and gold. Importantly the analytical data suggest that the best cobalt and gold grades are NOT associated with the narrow high-grade copper zones. The results are shown below in Table 1.

SAMPLE	sulphides	% sulphides	Au g/t	Co %	Cu %
TS001	Py > Po > Cpy	70	1.97	0.16	2.5
TS002	Py > Po > Cpy	70	1.01	0.14	1.95
TS003	Po vein >> Cpy	5	0.12	0.09	0.23
TS004	Py early, dissem	20	0.15	0.09	0.3
TS005	Py early, dissem	30	3.73	0.17	0.24
TS006	Py >> Cpy	30	0.69	0.27	0.15
TS007	Py + Cpy	10	0.21	0.04	3.56
TS008	Py	60	0.09	0.02	0.18
TS009	Cpy >> Py	10	0.52	0.02	3.6
TS010	Po > Py > Cpy	30	0.86	0.12	0.74
TS011	Po, Cpy	20	1.76	0.05	0.67
TS012	Py >> Cpy	70	2.14	0.29	2.25
TS013	Po > Py > Cpy	10	1.4	0.69	1.17
TS014	Py vein	5	0.02	0.07	0.23
TS015	Po >> Cpy	70	1.47	0.18	2.09
TS016	Cpy, Py vein	3	0.14	0.14	1.08
TS017	Py, Cpy vein	3	0.07	0.01	0.94
TS018	Py	10	2.22	0.3	0.82
		Average	1.03	0.16	1.26

Table 1 Assay results for 18 samples collected from the Helena Waste Dumps associated with Tisová Copper Mine. The samples were hand selected to examine various sulphide assemblages and veins. Coloured Bars plot elemental abundance as compared to rest of this sample suite.

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Figure 1. A. Massive sulphide sample collected from Tisová waste dump. Sulphides include; pyrite, pyrrhotite, chalcopyrite. B. Waste 1 at Tisová minesite

Mineralisation

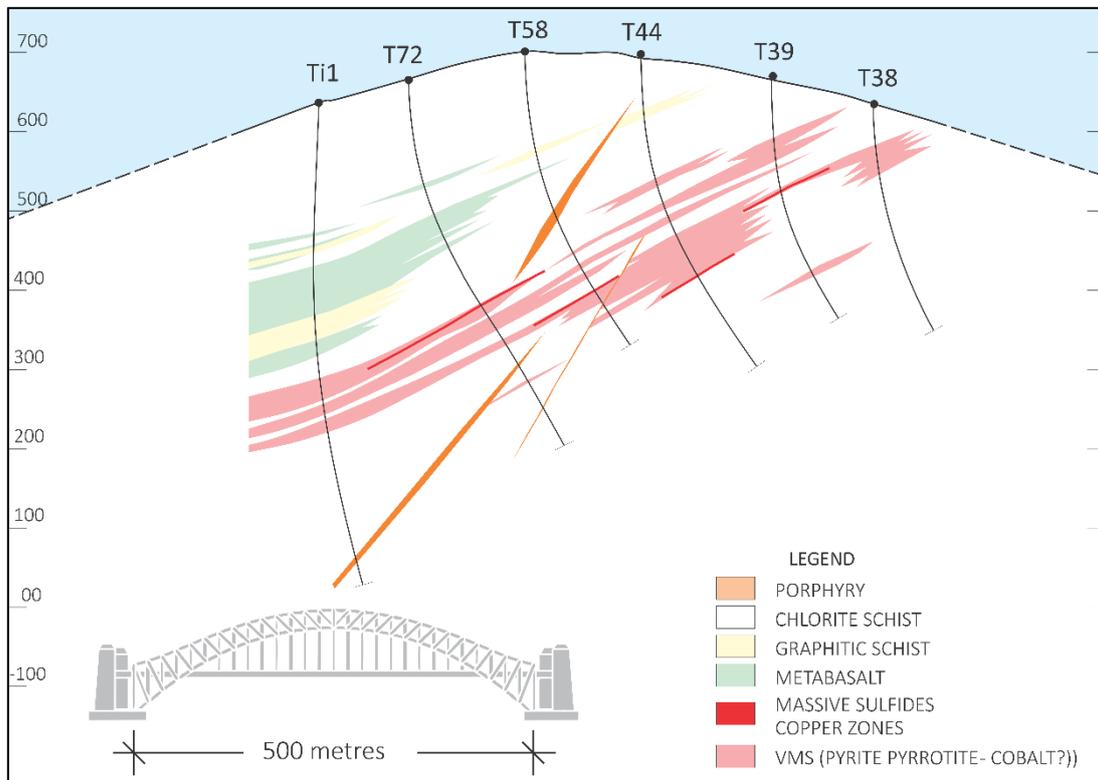
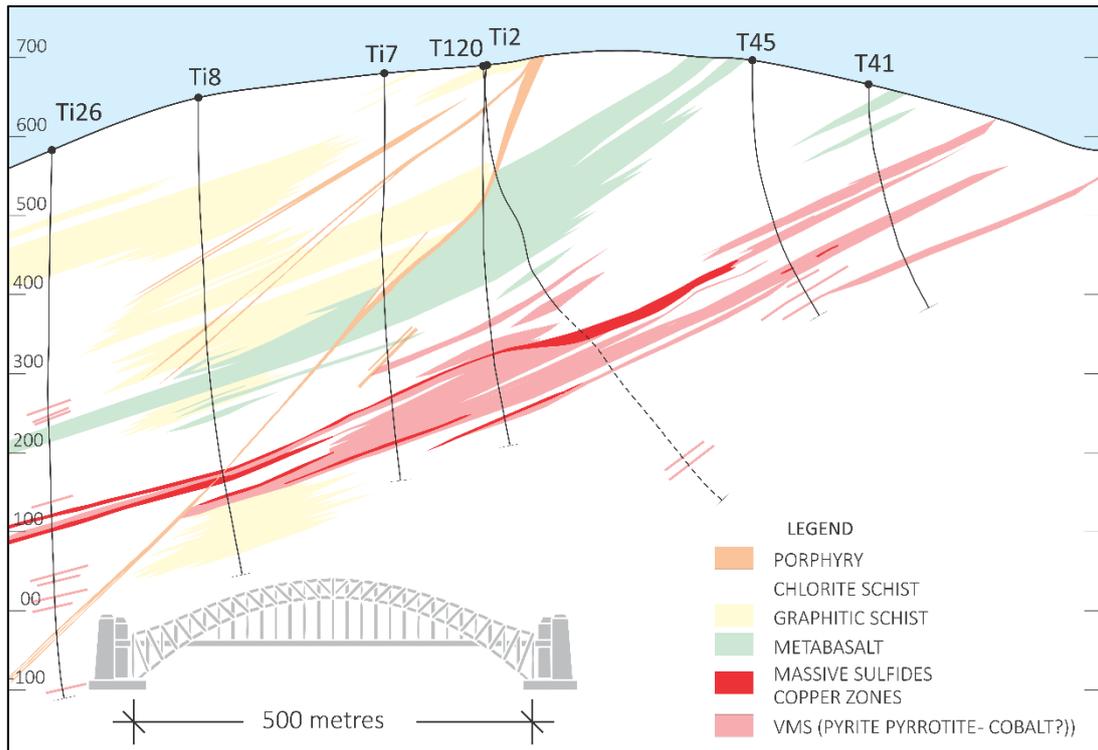
The Tisová orebody comprises a thick zone (up to 60m true thickness – see figures 2A & 2B) of semi-massive and disseminated sulphides dominantly comprising pyrrhotite and pyrite with lesser amounts of chalcopyrite, sphalerite, cobaltite, electrum, arsenopyrite, magnetite and bismuthinite. The deposit is interpreted to be a “Beshi” type **Volcanic Massive Sulphide** (VMS) based on the tectonic setting and the element distribution. (Oruzinsky and Kribek; 1981)

The VMS mineralisation comprises at least three stratabound horizons that strike NE and dip around 25 degrees to the north-west. Previous drilling has outlined a strike length of over 1,000m remaining open to the south west and down dip. Previous underground mining between 1953 and 1973 has removed the bulk of the known copper-rich mineralisation down to 200m below surface.

In the 1980s, the wider surroundings of the Tisová deposit were covered by early stage exploration (soil geochemistry, geophysics). A surface and underground drilling programme in the central and southern zone of the deposit was executed during the period of 1971-1989, producing reserves (non-JORC) down to 400 m below surface (level 9 of Helena shaft). A large portion of the underground mine development was completed; however, mining was not resumed due to the political system change in Eastern Europe. In 1990 and the mine was abandoned and allowed to flood. Historical figures confirm that 561,000 tonnes of copper ore at a grade of 0.68% was transported from Tisová to the Krasno processing facility where copper was extracted from a flotation circuit.



*Tisová Mine site circa 1965
The headframe has been removed but the Helena Shaft which was used for ore haulage is still open*



Figures 2 (A & B) - Cross-sectional view of the Tisová orebodies – Redrafted from figures presented in P. Kozubek 1984. The deep-red colour represents the chalcopyrite rich zones which were exploited by the previous mining. The pale-red zone represents the thicker pyrite & pyrrhotite sulphide zone where Auroch sampling has indicated the presence of previously unrecognised significant cobalt and gold mineralisation. Details of holes where geological logs are available is presented in Image of Sydney Harbour Bridge at same scale to show mapped size of sulphide orebody.

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Work Plan

Auroch has committed to carry out a thorough due diligence during the 9-months option period. Due diligence will involve drilling of 4 holes that will twin historical holes which intercepted thick zones of sulphide mineralisation.

These holes will be logged and the entire sulphide rich zones will be sampled for a multi-elemental analysis. Permitting for the exploration drilling program is expected within 8 weeks so drilling will likely commence by August-September 2017.

Tenements

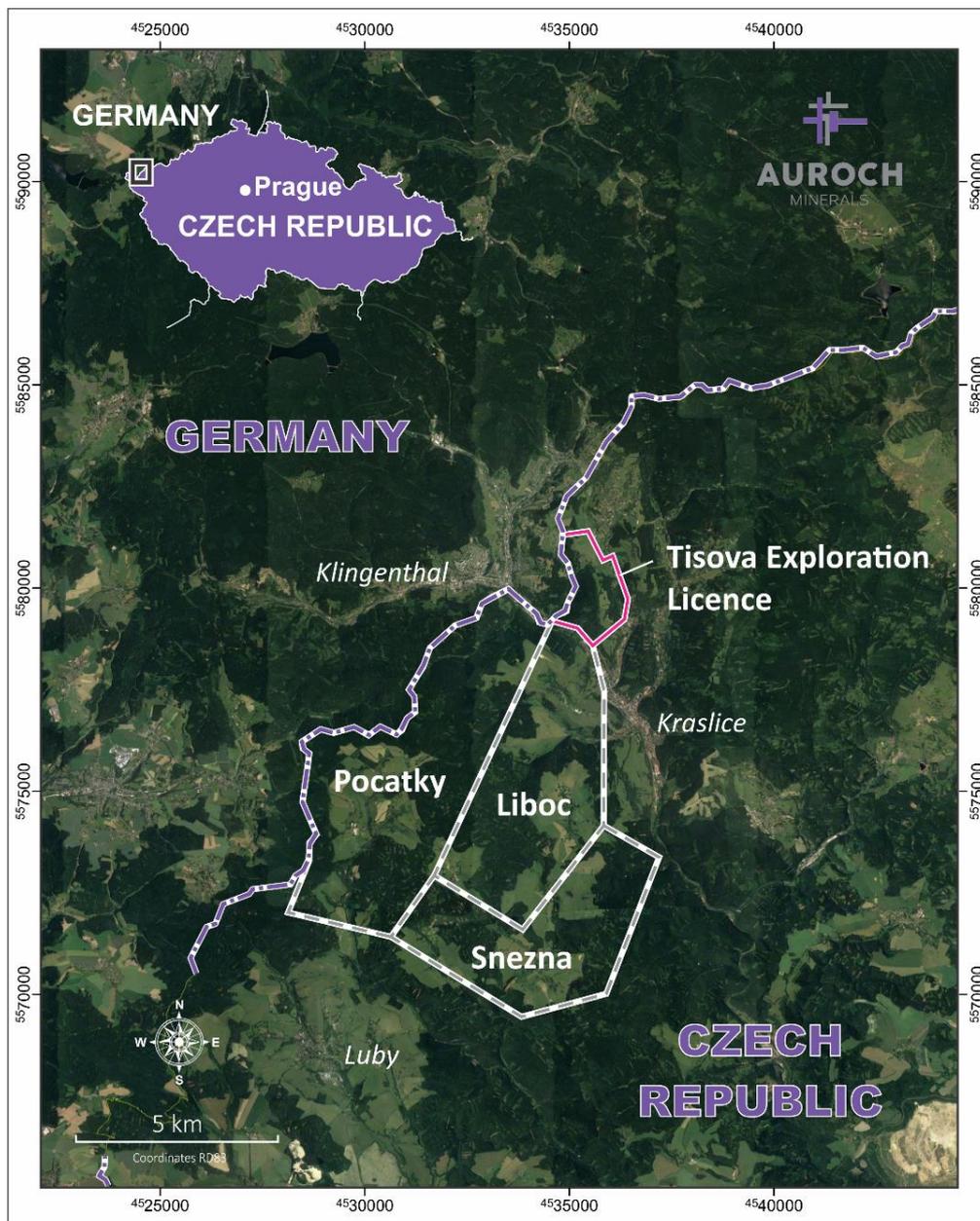


Figure 2 shows the plan of the Tisová area and the licences involved in the agreement.

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Commercial Terms

The material commercial terms of the option agreements for 100% of the project are summarised below:

- Option Period – 9 months (to be extended if Auroch is not able to complete its due diligence and work programme commitment within the initial 9-month period due to matters outside of Auroch’s control, including weather and permitting issues)
- On execution of the Options, Auroch is obliged to reimburse the vendors of the Czech permit and applications for approx. A\$75,000 in costs incurred by the vendors
- Work programme commitment
During the Option Period, Auroch will complete 4 holes (approx. 1,200m total) to confirm spatial distribution of Co and Cu (also Au Ag) on the Czech permits

Upon the exercise of the Options within the Option Period, the following payments will be made to the vendors of the Czech permit and applications:

- Cash payment of A\$75,000 on completion
- 4,375,000 fully paid ordinary shares to be issued on completion
- Deferred consideration of 5,000,000 addition fully paid ordinary shares to be issued (subject to shareholder approval) on:
 - a decision to mine on the project area;
 - a change of control of Auroch (unless Auroch elects to return the project to the vendors for nil consideration); or
 - a sale of the project.

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Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Dr. Andrew Tunks and represents an accurate representation of the available data. Dr. Tunks (Member Australian Institute Geoscientists) is the Company’s Chief Executive Officer and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Dr Tunks consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

JORC Code, 2012 Edition – Table 1 Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> ● Grab samples collected from waste dumps associated with Tisová mine by Geologist under contract to Auroch Minerals ● Samples were collected from zones suspected to be mineralised ● Samples were not collected on a grid.
<i>Drilling techniques</i>	<ul style="list-style-type: none"> ● No drilling has been completed by Auroch – Previous drilling campaigns were carried out during historical operation of the mine ● Four Historic Drilling Campaigns have been completed over the life of the deposit using standard diamond drilling surface and underground techniques and are detailed in the following reports <ol style="list-style-type: none"> 1. 1952-1954; Severočeský rudný průzkum, n.p. Tisová surface drillholes; T1-T121 (cca 150x150m), Veis et al. 1957 (GF FZ001378) 2. 1954-1958 Rudné doly Příbram no. Tisová –Central zone Surface diamond holes –Helena Shaft Dvořák 1958 (GF FZ002867) 3. 1967-1969; Geoinustria Praha, n.p. Tisová surface drillholes; Ti1-Ti26, up to 700 m deep, 11,018m in total Mayer et al. 1972 (GF P023558) 4. 1985-1989; Rudné doly Příbram n.p. Tisová – Central and Southern zone Helena shaft – level 4, 6, 8, 9; underground drillholes PT1-PT189, 14,298m in total. Kozubek a Mayer 1985 (GF P107957), Kozubek a Beran 1989 (GF P071230) ● A final report on the mine was detailed in <ol style="list-style-type: none"> 5. 1984 P. Sucek et al. Tisová Copper Mine –Final Report Rudné doly Příbram np.
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> ● No information is available for drill core recovery from the historic work
<i>Logging</i>	<ul style="list-style-type: none"> ● For samples taken by Auroch and discussed in this reports samples descriptions were noted in the field ● Historic drill holes we logged and sections compiled and detailed in the 4 reports mentioned above
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> ● For Auroch sampling grab samples were presented hole to lab where 100% of sample was crushed and pulverised sub samples were collected from pulps for various assay methods using standard ALS practices. ● There is no information on sub-sampling or sample preparation for the historic drilling

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<i>Criteria</i>	<i>Commentary</i>
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> • All assays for Auroch sampling completed by ALS Minerals - Romania • Standard methods including XRF for major elements, ICP-AES and ICP – MS and fire assay were used as appropriate • There is no information or QAQC work on historic sampling
<i>Verification of sampling & assaying</i>	<ul style="list-style-type: none"> • For Auroch sampling -No blanks or field duplicates were submitted - ALS runs internal QAQC protocols including, lab duplicates and standards were utilised • There is no information on QAQC for historic data
<i>Location of data points</i>	<ul style="list-style-type: none"> • Auroch grab sample data is not located as they are grab samples from Helena shaft waste dump • Historic Drilling was located by traditional surface and underground survey • Historic work has been completed on local grids however all data will be transformed in UTM WGS 84 Zone 33 North during digital capture of historic records
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> • Not relevant for sampling by Auroch • Previous historic drilling was completed on a variety of scales appropriate for the mining techniques and methods used in Czechoslovakia at the time of operation
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> • Auroch samples collected to test a variety of ore types there are NOT spatially significant and bear NO relationship to the true nature of the orebodies • Historic drilling was conducted at close to 90 degrees to geological structure, drilling information is backed up by extensive underground mapping (Figure 2)
<i>Sample security</i>	<ul style="list-style-type: none"> • Samples were collected by field geologist, numbered and bagged and delivered immediately to assay laboratory
<i>Audits or reviews</i>	<ul style="list-style-type: none"> • Not completed

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Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> • Tisová exploration rights held under Tisová license, No.77533/ENV/14, 2091/530/14; issued 28th May 2015, valid till 30.6.2020 • There are three Exploration Licence applications in the Czech Republic – See Figure 2. • There is no guarantee applications will be granted
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> • Tisová was an operating mine between 1959 to 1973 • Production was 561Kt of ore @ 0.68% Cu as detailed in 1984 P. Kozubek et al. Tisová Copper Mine –Final Report Rudné doly Příbram np. • See body of release: References report for all references • Over 100 drill-holes have been drilled in the area but all core has been destroyed • The Company is in the process of collating historic data • Reports of previous exploration are stored at the Geological Survey Czech Republic see references
<i>Geology</i>	<p>The deposit is formed by a number of concordant ore lenses within a sequence of phyllitic metasediments, with interbedded metabasic layers, between the Karlovy Vary and the Smrciny granite plutons. The metasediments are assigned to the Kraslice sequence of the upper part of the Raun Group of Saxothuringikum of Upper Cambrian age. Sulfide horizons containing the orebodies occurred in the lower part of the sequence above the quartzite horizon and below the metabasic rocks. The host rocks are characterized by chlorite-sericite and sericite-chlorite phyllites.</p> <p>Geology description from: 1981; V. Oruzinsky and B. Kribek; Extractable Organic Compounds associated with the Metamorphosed Stratiform Cu- Deposit of Tisova Czechoslovakia; Minerallium Deposita V16 p437-446</p>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> • No detailed drill hole information is presented other than on 2 type sections to show general ore-body geometry. • These sections have been simplified and redrafted from original mine plans and cross0sections presented in historic company reports referred to in the release • Of the drilling on the two sections shown Auroch presently has access to downhole logs for 5 of the holes and 26 holes in total. • A collar table and sulphide logged sulphide intersection is provided below • The logged data matches well with the original sections in which the geology was slightly simplified for reproduction in this release

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Available Drill Hole Information for cross-sections presented in report

Drill Hole	Easting (m)	Northing (m)	RL (m)	From (m)	To (m)	Downhole Thickness Of logged sulphides (m)
Ti1	874,303	994,010	638	371	381	10
				384	391	7
				395	417	22
Ti2	874,197	993,719	692	309	317	8
				325	336	11
				342	423	81
Ti7	874,310	993,655	680	369	378	9
				410	457	47
				465	484	19
Ti8	874,520	993,541	640	465	485	20
				497	510	13
Ti26	874,704	993,509	584	465	469	4
				476	486	10

Criteria	Commentary
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> No data has been aggregated
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> No mineralised intercepts are presented. However as can be seen from sections presented in the report surface drilling is close to optimal when intersecting the shallowly dipping ore bodies indicating intersection widths of sulphides are close to true width
<i>Diagrams</i>	<ul style="list-style-type: none"> See report
<i>Balanced reporting</i>	<ul style="list-style-type: none"> The author has made every attempt to
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> The Tisová Cu mine operated over a long period and was detailed in the final report. 1984 P. Kozubek et al. Tisová Copper Mine –Final Report Rudné doly Příbram np. However this report refers to the copper mining history and exploration and Tisová – other elements such as Cobalt and Gold were not regularly sampled for or documented
<i>Further work</i>	<ul style="list-style-type: none"> See report section –Further work

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References

The bulk of the information on historic Tisová exploration and production comes from five reports detailing over 20,000m of drilling and 20 years of mining operations accessed from the Czech Geological Survey.

Company Reports

1952-1954; Veis et al. 1957., Tisová surface drillholes; T1-T121 (cca 150x150m), Severočeský rudný průzkum, n.p. (GF FZ001378)

1954-1958 Dvořák 1958., Tisová –Central zone Surface diamond holes –Helena Shaft Rudné doly Příbram no (GF FZ002867)

1967-1969; Mayer et al. 1972., Tisová surface drillholes; Ti1-Ti26, up to 700 m deep, 11,018m in total Geoinustria Praha, n.p (GF P023558)

1985-1989; Kozubek & Beran 1989, Rudné doly Příbram n.p. Tisová – Central and Southern zone Helena shaft – level 4, 6, 8, 9; underground drillholes PT1-PT189, 14,298m in total. Kozubek a Mayer 1985 (GF P107957), (GF P071230)

A final report on the mining at Tisová was detailed in

1984; P. Kozubek, P. Sucek, P Trnka, M. Holub, Z. Stannum, Tisová Copper Mine – Final Report. Rudné doly Příbram np.

Scholarly Articles

1981; V. Oruzinsky and B. Kribek; Extractable Organic Compounds associated with the Metamorphosed Stratiform Cu- Deposit of Tisová Czechoslovakia; *Minerallium Deposita V16* p437-446

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