

## White Cliff Secures Multiple High Grade Copper Projects in Canada

White Cliff Minerals Limited (**White Cliff** or the **Company**) is pleased to announce it has secured 61 highly prospective mineral claims covering an area of  $\pm 80,500\text{ha}$  ( $>805\text{km}^2$ ) within the province of Nunavut, Canada.

- The license area includes multiple historic high grade copper projects in the Coppermine River area ("Coppermine"), in Nunavut, Canada.
- The Coppermine licence area totals **805km<sup>2</sup>** and is host to **numerous extraordinarily high-grade copper lodes located along the same structural trend**, primarily consisting of chalcocite, bornite, chalcopyrite and native copper.
- Utilising modern high-resolution magnetics, extensive rock chip results, trench and drill results the **outcropping structure of mineralisation can be traced over 100km+ in total strike length**.
- Exploration has validated dozens of highly prospective occurrences of copper and silver mineralisation; some high-grade copper rock chip results (See Table 2) include:
  - **30.24% Cu, 34g/t Ag** at Halo Prospect
  - **30.25% Cu, 43g/t Ag** at Halo Prospect
  - **35.54% Cu, 17g/t Ag** at Cu-Tar Prospect
  - **21.18% Cu, 9g/t Ag** at Cu-Tar Prospect
  - **30.7% Cu, >200g/t Ag** at Don Prospect
  - **>40% Cu, 115g/t Ag** at Don Prospect (above Cu detection range)
  - **>40% Cu, 107g/t Ag** at Don Prospect (above Cu detection range)
  - **12.1% Cu, 3g/t Ag** at Moose Lake Prospect
  - **12.1% Cu, 17g/t Ag** at Far Prospect
- Coppermine contains numerous historical non JORC or NI 43-101 and 'blue sky' mineral estimates that will be a priority for the Company.
- Licences cover many deep seated structures associated with the fluids responsible for enrichment of the "red bed" mineralisation seen throughout Nunavut as well as the fracture fill and structurally controlled high-grade copper occurrences in the local area.
- The Company will engage with the local Kugluktuk Community as well as other regional and national regulatory stakeholders to raise awareness regarding the significance of these projects.
- Move to secure Canadian based technical manager advancing.
- Company maintains current cash and liquid securities balance of  $\pm\text{AU}\$3.8\text{m}$

## Highlights

Commenting on the transaction, White Cliff Chairman, Roderick McIlree (FAusIMM) said:

*"This project is exceptional, just like all great discoveries it has a deep history that in this case can be traced back to the early 1700's. Managing to secure, at **very little cost, 100% tenure with no royalty** over a such a massive, mineralised trend analogous in scale, geology and evolution to the entire Mt Isa & Keweenaw Peninsula copper provinces is a remarkable result for shareholders.*

*Importantly for short term value creation the high-grade structurally controlled copper mineralisation within the Coppermine Formation appears to have significant lateral extent and we will be analysing a significant database of historical results with regular news likely to follow.*

***Numerous and repeatable, high-grade results can be traced along local and regional shear zones that extend in total along more than 100km's along our ground.** Identifying the detailed dimensions of these high-grade mineralised occurrences will be the short-term focus. **I believe the scale of these mineralised trends will be proven to be significant over time.** Utilising existing recent high-resolution magnetics and extensive rock chip, trench, and drill results, in several instances the strike of outcropping high grade mineralised material can be traced at surface for very long distances.*

*Added to this structurally controlled potential, a second geological model for the emplacement of **very large-scale large tonnage sedimentary hosted "red bed" copper mineralisation** exists that is related to rifting / vulcanism and subsequent metal emplacement.*

*With the recently announced planned closure of Mt Isa the timing could not be better for the identification and development of similar sized, high grade, copper province.*

*This is a remarkable opportunity for White Cliff, the potential to create significant shareholder value is obvious. Planning for site-based activities is underway as well as interrogation, verification and publication of a historical datasets means we will be updating shareholders on this project regularly.*

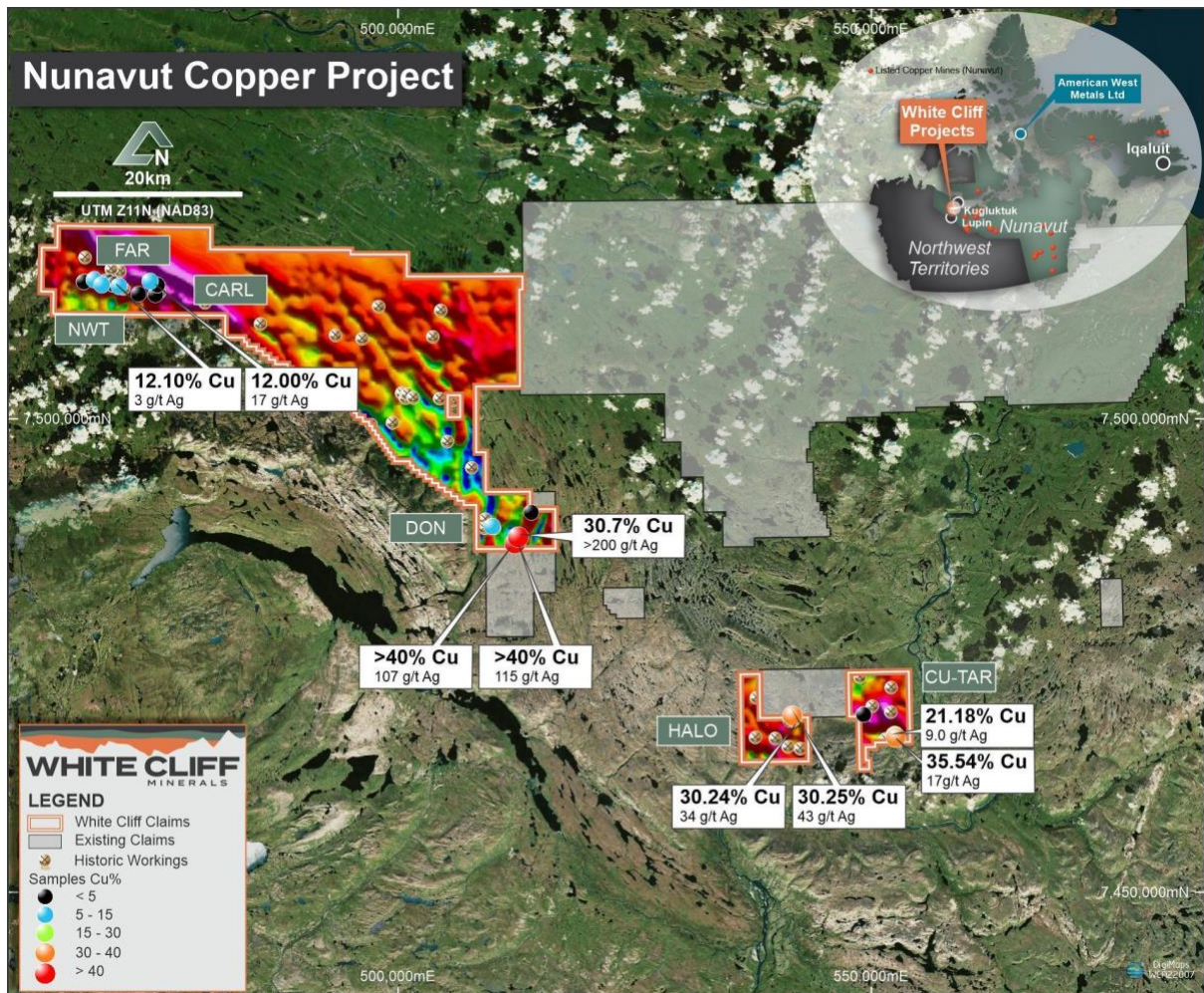
*We also hope to update shareholders on **several additional complimentary projects** we have also secured at very low cost within the coming weeks."*

## About The Project

The Coppermine River Project covers 805km<sup>2</sup> of flood basalts, including multiple, highly prospective mineral showings/outcrops (**Figure 1 & Table 2**). Most of these copper occurrences are structurally controlled along steeply dipping fault fissures and fault-breccia zones in the basalts. Mineralisation occurs mainly as massive bornite-chalcocite occurrences with lesser chalcopyrite and associated calcite, hematite, native copper and chlorite.

The geology of the Coppermine District is characterised by an easterly-trending copper-bearing belt of Meso-Proterozoic continental flood basalts and associated marine sedimentary rocks of Neo-Proterozoic age. This belt extends 80 kilometres south from Kugluktuk, on the Coronation Gulf, and 174 kilometres west to 64 kilometres east of Coppermine River. The district is best known for the 'Coppermine River Group' basalts which feature extremely high-grade copper showings of >45% Cu within the volcanic pile. The Company will initially base its logistical hub in Kugluktuk, a town of approximately 1,500 people, around 30km to the north of the project area. Kugluktuk is accessible by both plane and ship.

In consideration for initially identifying and then lodging the Coppermine applications, the Company has agreed to issue a Canadian based technical consultant (who is not a related party to the Company) with 19,540,791 fully paid ordinary shares and CAD\$25,000 cash.



**Figure 1:** Project location map, outline of project tenure with 2013 processed magnetics and rock chip samples.

## Initial Exploration and Study Activities

The Company proposes to undertake the following exploration and study activities this will be based on successful exploration methodologies adopted for similar sedimentary and volcanic copper deposits both locally and at similar provinces:

- Field crews will be mobilised in due course for orientation / reconnaissance and planning for future work.
- Acquisition of all high resolution satellite hosted products, ariel photography and multispectral and electromagnetic data.
- Assessment of modern airborne geophysical techniques for targeting, particularly electromagnetic surveys, such as MobileMT
- Diamond drilling to test the extensional potential of high grade structurally controlled and stratiform copper mineralisation.

## Mineral Claim Details

Details of the mineral claims which cover the Coppermine River Area are set out in **Table 2**.

The mineral claims are applications. Work programs require a land use permit, for which an application is in progress.

*This announcement has been authorised for release by the Board of White Cliff Minerals Limited.*



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**Competent Persons Statement**

The Information in this report that relates to exploration results, mineral resources or ore reserves is based on information compiled by Mr. Allan Younger, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr. Younger is an employee of the company. Mr. Younger has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves' (the JORC Code). Mr. Younger consents to the inclusion of this information in the form and context in which it appears in this report.

## Geological Setting of The Coppermine Project

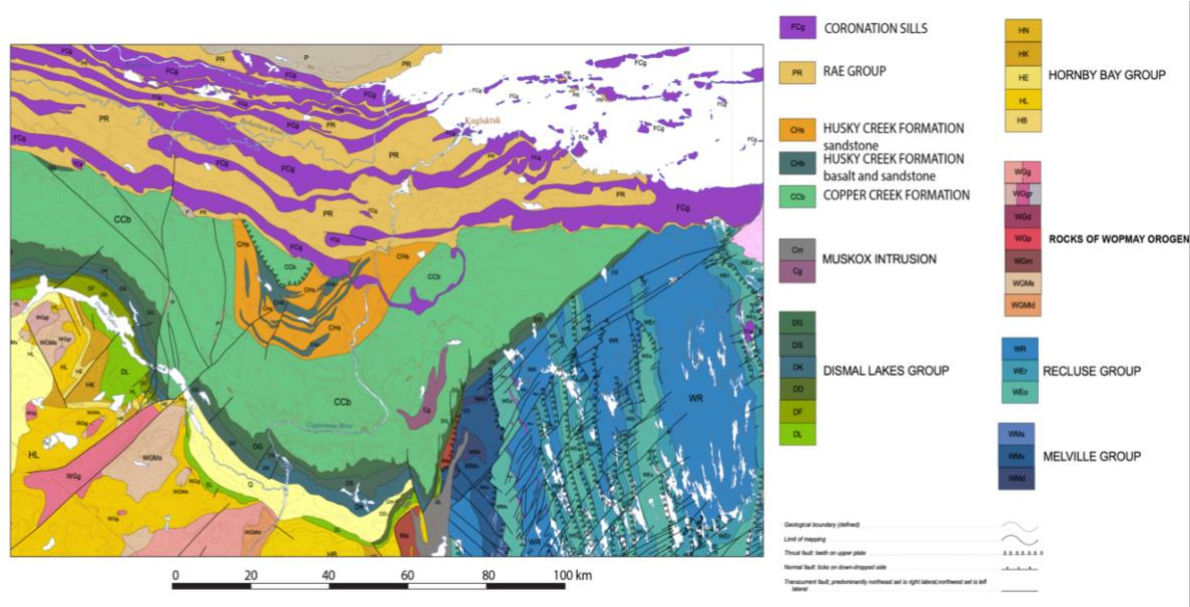


Figure 2: Geological map of the Coppermine Homocline after Hildebrand, 2010

Flood basalts of the Coppermine River Group occur over a strike distance of 700km and up to 4,700m in thickness with an estimated volume of  $\pm 650,000$  cubic kilometres, **comparable with the largest flood basalt regimes in the world, including those of the West Greenland flood basalts, Keweenaw Peninsula in the US, the Siberian flood basalts of Russia, Columbia River, and the Deccan Traps.**

The Coppermine River Group (**Figure 2**) is composed of two formations. The basal Copper Creek Formation is 2,000 - 3,500m thick and composed of over 100 different flood basalt flows that exhibit massive bases grading to amygdaloidal flow top texture. The individual flows range in thickness from 3m to 90m, averaging between 8 and 23 meters. The lower flows display submarine genesis with typical pillow lava texture. The upper sequence was emergent and subaerial, displaying A'a' and ropey textured tops with increased iron oxidation and vesiculation with columnar jointing.

Basalts in the Coppermine River Group contain fine crystals of plagioclase and augite, with a concentration of strongly altered olivine and orthopyroxene phenocrysts lower in the package, and plagioclase concentrations increasing in the upper stratigraphy. The basalts are tholeiitic and exhibit a notable decrease in magnesium up section, which suggests a well differentiated source (Baragar 1996). Chromium, silica and potassium also decrease up section. Native copper is restricted to the upper third of the formation.

The Husky Creek Formation, the upper formation in the Coppermine River Group, is approximately 1,200m thick and includes extensive 'red bed' (oxidized, iron rich) sandstones with minor intercalated basalt flows. A decrease in plagioclase and Fe Ti oxides illustrate that the Husky Creek erupted from a less evolved magma.

Unconformably overlying the Coppermine River Group are Late Proterozoic sediments of the Rae Group. Crosscutting this sequence are Coronation Group gabbroic and mafic sills, ranging in thickness from 45 to 120 meters, and form resistive caps on south facing escarpments. Heaman et al. (1992) dated the Coronation Sills at  $723 \pm 4$  Ma, coincident with the Franklin Igneous Event, which created numerous sills and intrusive magmatism within northern Canada, and formed in response to continental extension above an upwelling mantle plume.

Extensive deep seated structural rifts can be traced for long distances within the licence area. These sutures are of particular interest; much of the identified surficial mineralisation occurs near these large fissure / fault zones. Three of these regional sutures the Long Lake, Dixon, and Teshierpi fault systems (listed from west to east) and associated structures have a major correlation with most mineral showings in the area. The potential for large scale high grade occurrences of copper is significant.

## Coppermine River Genesis

Copper mineralisation at the Coppermine River Project formed in an extensional tectonic setting, where basement fluids utilised structural conduits to transport and deposit copper and silver metals such as chalcocite, bornite, and chalcopyrite. This is further evidenced by the lack of evidence for magmatism; little to no plutonic lithotypes are discovered adjacent to the copper mineralisation in the Coppermine River Group.

The dominant presence of chalcocite, bornite, and native copper ore mineral assemblages of  $\text{Cu} \gg \text{S} > \text{Fe} > \text{O}$  at the Coppermine River Project indicates that the fluids were stabilised at very low levels of oxygen (Taylor, 2011), in a low intermediate sulphidation system, exhibiting characteristics of fluids that involved  $\text{H}_2\text{S}$ , likely from a meteoric source (Einaudi, 1994). The fluids also formed in high pH conditions without the presence of much iron, lacking in development of pyrite and chalcopyrite (Haynes and Bloom, 2008). Together, this information suggests that the copper mineralisation formed over a significant period synchronous with basin extension coupled and continued basalt formation indicating the potential for copper mineralisation to great depths.

Haynes and Bloom (2008) conducted lab experimentation under various temperatures, pressure, and chemical environments to determine the sequence of mineral precipitation from mixed copper concentrate ore fluid. Their research indicates that in basic conditions of pH greater than 6.0, native silver and native copper will precipitate before chalcocite, followed by bornite, galena, and sphalerite. Pyrite and chalcopyrite will not form in these conditions without an appreciable presence of iron and oxygen. Additionally, Haynes and Bloom (2008) discovered that cobalt, lead, and zinc only precipitate at pressures greater than 10 bars. Thus copper metallogenic domains without the former precipitate at lower pressures 3.7m/bar pressure = geostatic pressure gradient of the earth. Therefore, copper minerals at the Coppermine River Project likely formed at very low pressures possibly within 40 meters from the earth's surface from hot brine of approximately 200-300 degrees Celsius (Taylor, 2011).

Together, the presence of the low intermediate sulphidation mineral assemblages, basic and reduced fluids, low pressures, and lack of zinc, lead, and cobalt indicate that the ore minerals formed when copper bearing magmatic fluids reacted with a meteoric source of water within the groundwater table in anoxic atmospheric conditions during the Proterozoic (Johnston 2009, Haynes and Bloom, 2008), and was potentially enriched through supergene processes (Taylor, 2011).

The Coppermine River Project shares many similarities with the copper districts at the Keweenaw and Mt Isa Orogen. Minor differences provide for significant benefit at Coppermine, however, the prevalence of native copper at Keweenaw indicates the Keweenaw formed at a lower acidity than either Coppermine or Mt Isa. The presence of galena and sphalerite at Mt. Isa indicates that copper mineralisation within the Mt Isa Orogen initially formed at greater depths.

## Coppermine River Mineralisation

E.D. Kindle and the Geological Survey of Canada produced a detailed and comprehensive review of the Coppermine River area in Bulletin #214 during the year of 1972. This Bulletin has been extensively referred to in this release and almost encapsulates all previous work on the project area, as limited exploration occurred for the proceeding 50 years.

A second report by R.I Thorpe and the Geological Survey of Canada, Geological Exploration in the Coppermine River Area, North West territories 1966-1968, and published in 1970, has been extensively referred to.

The following mineralisation types and styles (**Figure 3**) can be seen at the Coppermine River Project.

Mineralisation in the Coppermine River area comprises chalcocite, native copper and bornite, and minor chalcopyrite and pyrite. Copper mineralisation occurs within several distinct and recognisable types:

- Cavity Fillings
  - Fault Breccia Lodes

Forming the more important copper occurrences in the area, breccias occur within and adjacent to the major fault systems and indicate an important conduit for fluid pathways. Breccia cement is often quartz and carbonate gangue for angular fragments of wall rock and other material. Chalcocite is the most dominant copper mineral in the breccias, and the breccias comprise the majority of non JORC or NI-43 101 historical copper estimates targeted in the mid 1900's, such as at DOT 47, June and Halo.

- Veins

Most gangue material in veins is formed by quartz and calcite. The veins are often short, narrow, and lenticular. Massive sulphides present within the veins are often chalcocite and bornite with minor chalcopyrite.

Larger mineralised veins are exposed in the area. The central part of the high grade Lloyd vein can be traced for >1,000m. The vein is open to the northeast where it is covered by glacial drift. Parallel high grade veins and structures are also present (Kindle, 1972).

- Replacement Copper Lodes
  - Basalt flow tops

Chalcocite is a common constituent of amygdaloids within basalt flow tops. This type of mineral system is underexplored but has significant potential.

- Sandstone beds impregnated/replaced by chalcocite adjacent to a fault or fissure system

Rae Group sandstones, near the mouth of the Coppermine River and not on White Cliff tenure, exhibit up to 15m of disseminated chalcocite replacement on each side adjacent to a prominent fault, and continues to the northeast before being lost under glacial drift.

- Chert beds replaced by chalcocite

An area of frost boils exposes chalcocite replaced chert blocks over an unknown distance, covered by glacial drift.

- Syngenetic Lodes
  - Disseminations of copper sulphides in sedimentary rocks



Numerous locations occur throughout the area where native copper or copper sulphides are found disseminated within isolated stratigraphic units. Several beds of sandstone are reported at the contact between the overlying Rae Group and underlying Coppermine River Group contain copper sulphides. They are collectively referred to as the 'Escape Rapids' type.

- Disseminations of copper sulphides in basalt flows

Native copper is almost always found in a minor amount within most of the basalt flows in the area.

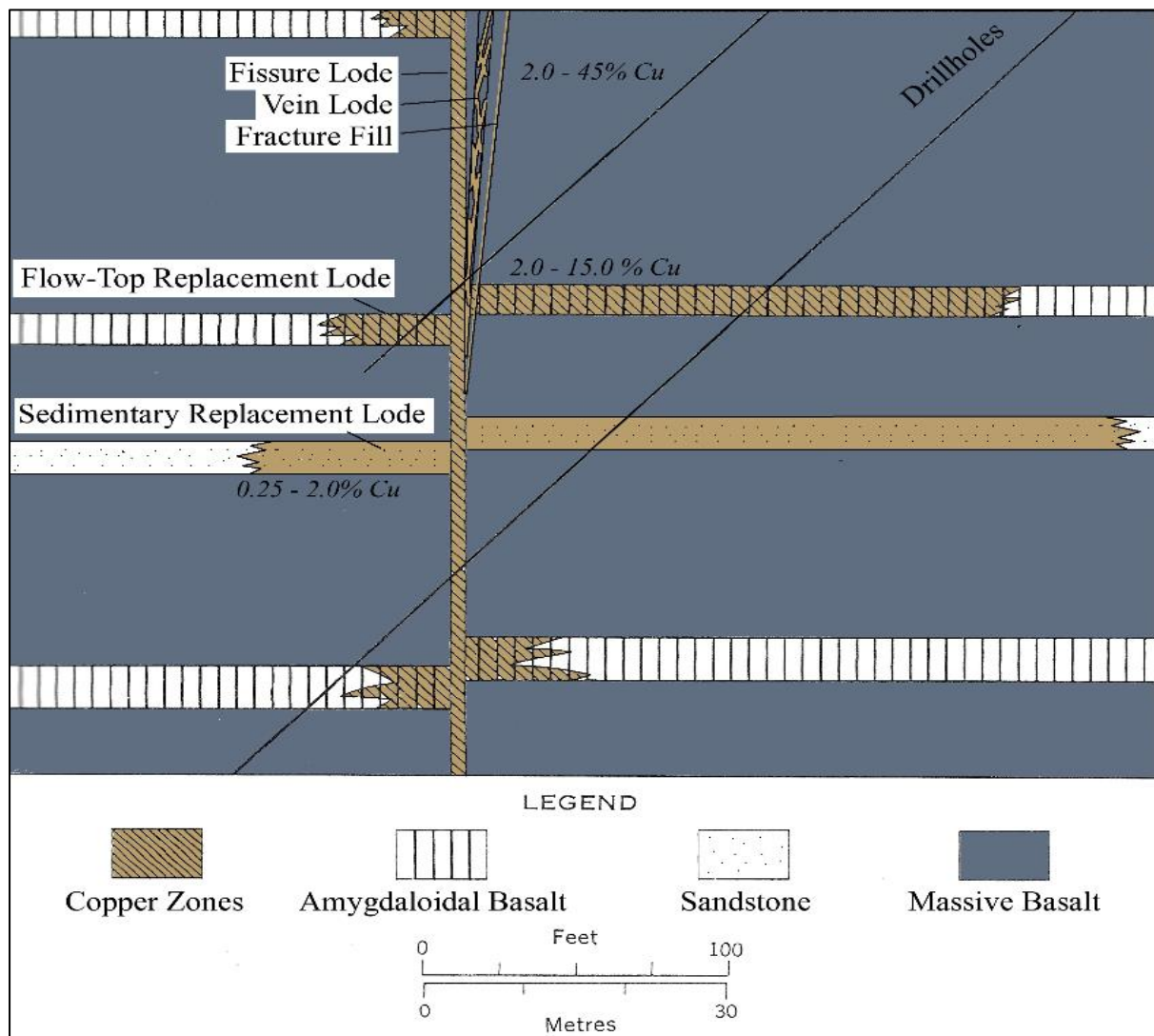
- Disseminations of chalcocite in dykes

Several diorite and gabbroic dykes range from 10 to 20 m wide and contain disseminated chalcocite.

- Secondary

- Supergene native copper plates and nuggets

Historically, the area was 'mined' by the Copper Inuit (first named by an English Expedition) who persistently explored the region for supergene enriched native copper occurring as flakes, blebs, plates, and large masses up to several pounds.



**Figure 3:** Conceptual cross-section through a copper-bearing fissure zone within a Coppermine River basalt flow, showing favourable mineral horizons and conceptual grades within mineralised and amygdaloidal flow-top breccias, sub-vertical ore lodes, veins, and other ore pods (Kindle, 1972).



## Exploration History

Tools, weapons and idols, made from native copper from the Coppermine area, have been worked and traded by the local Inuit going back centuries amongst the circumpolar communities. The area first came to the attention of European and English explorers in the 17<sup>th</sup> century.

Prospector Samuel Hearne first reached the Coppermine River in 1771 and reported finding a four pound (~2kg) copper nugget at surface (Hearne, 1792).

The Coppermine River area was first staked in 1929 and continued slowly until 1966 when, due to the discovery of several high grade surface deposits of copper. By late 1967 over 40,000 claims were lodged by more than 70 different companies, setting off the largest staking rush in Canada's history to that date (E.D. Kindle, 1972). In his report, Kindle locates and gives a brief description of over 80 high grade copper outcrops throughout the Company's current licenses and surrounding area.

By 1970 exploration activity decreased, due to the instability of copper prices, difficult access, and later, an oil embargo that dramatically increased exploration expenses. The largest copper deposit in the area is called Area 47 or the DOT 47 Lode in a vertical, tabular body 1,500 feet long and 35 feet wide along one of the faults of the Teshierpi fault zone (Kindle, 1972).

Mapping and exploration in the area were conducted over several campaigns by regional workers and individual companies until 1970, when the area was mapped in detail by W.A. Barager and J.A. Donaldson. During this time, Barager conducted a litho-geochemical study of the Coppermine River basalts. E.D. Kindle followed this work and produced the first major collaboration of mineralisation, geology, and geologic history in 1972. Following this, Ross and Kerans (1989) mapped Middle Proterozoic sediments of the Hornby Bay and Dismal Lake Groups to the south and west of the region.

Exploration and development persisted sporadically between 1990 - 2010, when companies started to utilise geophysics at the Area 47 and Muskox Intrusion to the southeast of the project area, the latter of which witnessed drilling for several years.

Mineral claims in the region continued to lapse because of depressed economic conditions, until most of the Coppermine area was free and available for staking.

The White Cliff acquisition is of new mineral claims to the west and contiguous to a current operator, Tundra Copper Corp. White Cliff plans to validate historical rock chip assays and validate historical drilling, with the aim of converting historical mineral estimates to JORC 2012.

## Historical Copper Mineral Estimates

**The Coppermine River Project contains numerous historical non JORC or NI 43-101 and 'blue sky' mineral estimates that will be a priority for drill and conversion into JORC classifications.**

Initial focus will be on Cu-Tar, Halo, and Far/NWT prospects due to existing outcropping pre JORC mineral estimates however the Company is confident that further areas will be identified that should host high grade copper and silver mineralisation for additional JORC Mineral Resource Estimates (MRE) in due course.

**Table 1:** Mineral Claims and current Status

Claim Number	Claim Status	Issue Date	Anniversary Date	Area (Ha)
103104	ACTIVE	26/9/2023	26/9/2025	1248.736
103105	ACTIVE	26/9/2023	26/9/2025	1248.736
103106	ACTIVE	26/9/2023	26/9/2025	1218.548
103107	ACTIVE	26/9/2023	26/9/2025	1016.261
103108	ACTIVE	26/9/2023	26/9/2025	1407.249
103113	ACTIVE	26/9/2023	26/9/2025	1386.27
103116	ACTIVE	26/9/2023	26/9/2025	1382.607
103109	ACTIVE	26/9/2023	26/9/2025	1407.249
103110	ACTIVE	26/9/2023	26/9/2025	1405.635
103114	ACTIVE	26/9/2023	26/9/2025	1383.831
103117	ACTIVE	26/9/2023	26/9/2025	1382.607
103118	ACTIVE	26/9/2023	26/9/2025	1381.374
103119	ACTIVE	26/9/2023	26/9/2025	1381.374
103120	ACTIVE	26/9/2023	26/9/2025	1381.131
103124	ACTIVE	26/9/2023	26/9/2025	1299.788
103125	ACTIVE	26/9/2023	26/9/2025	1085.238
103127	ACTIVE	26/9/2023	26/9/2025	770.15
103111	ACTIVE	26/9/2023	26/9/2025	1116.344
103112	ACTIVE	26/9/2023	26/9/2025	1395.43
103115	ACTIVE	26/9/2023	26/9/2025	1383.831
103121	ACTIVE	26/9/2023	26/9/2025	1428.044
103126	ACTIVE	26/9/2023	26/9/2025	805.322
103122	ACTIVE	26/9/2023	26/9/2025	1371.198
103123	ACTIVE	26/9/2023	26/9/2025	1173.604
103488	ACTIVE	1/11/2023	1/11/2025	1381.135
103491	ACTIVE	1/11/2023	1/11/2025	1381.131

Claim Number	Claim Status	Issue Date	Anniversary Date	Area (Ha)
103507	ACTIVE	1/11/2023	1/11/2025	1482.864
103503	ACTIVE	1/11/2023	1/11/2025	1417.786
103510	ACTIVE	1/11/2023	1/11/2025	845.9
103512	ACTIVE	1/11/2023	1/11/2025	1539.36
103513	ACTIVE	1/11/2023	1/11/2025	1386.63
103516	ACTIVE	1/11/2023	1/11/2025	1545.447
103508	ACTIVE	1/11/2023	1/11/2025	1384.2
103509	ACTIVE	1/11/2023	1/11/2025	769
103511	ACTIVE	1/11/2023	1/11/2025	1385.424
103514	ACTIVE	1/11/2023	1/11/2025	1387.854
103515	ACTIVE	1/11/2023	1/11/2025	1466.345
103485	ACTIVE	1/11/2023	1/11/2025	1381.14
103486	ACTIVE	1/11/2023	1/11/2025	1381.14
103492	ACTIVE	1/11/2023	1/11/2025	1381.122
103493	ACTIVE	1/11/2023	1/11/2025	1381.122
103494	ACTIVE	1/11/2023	1/11/2025	1382.976
103495	ACTIVE	1/11/2023	1/11/2025	1382.976
103497	ACTIVE	1/11/2023	1/11/2025	1382.976
103498	ACTIVE	1/11/2023	1/11/2025	1382.976
103499	ACTIVE	1/11/2023	1/11/2025	1490.638
103500	ACTIVE	1/11/2023	1/11/2025	1384.434
103502	ACTIVE	1/11/2023	1/11/2025	1455.913
103517	ACTIVE	1/11/2023	1/11/2025	1376.962
103519	ACTIVE	1/11/2023	1/11/2025	1062.295
103520	ACTIVE	1/11/2023	1/11/2025	842.901
103484	ACTIVE	1/11/2023	1/11/2025	1381.132



Claim Number	Claim Status	Issue Date	Anniversary Date	Area (Ha)
103487	ACTIVE	1/11/2023	1/11/2025	1381.14
103489	ACTIVE	1/11/2023	1/11/2025	1381.131
103490	ACTIVE	1/11/2023	1/11/2025	1381.131
103496	ACTIVE	1/11/2023	1/11/2025	1382.976
103501	ACTIVE	1/11/2023	1/11/2025	1455.913
103504	ACTIVE	1/11/2023	1/11/2025	1461.1
103505	ACTIVE	1/11/2023	1/11/2025	1310.06
103506	ACTIVE	1/11/2023	1/11/2025	1325.448
103518	ACTIVE	1/11/2023	1/11/2025	1541.159
				80504.394

**Table 2:** Rock chip assays.

Prospect	Sample ID	UTM East	UTM North	Cu %	Ag g/t
HALO	Q007905	541646	7468531	<b>30.24</b>	<b>34</b>
HALO	Q007906	541647	7468631	<b>30.25</b>	<b>43</b>
HALO	Q224581	541436	7468245	1.7	4.8
HALO	Q224582	541437	7468243	3.2	1.5
CU-TAR	Q007907	552573	7466349	<b>35.54</b>	<b>17</b>
CU-TAR	Q007908	552468	7466565	<b>21.18</b>	<b>9</b>
NWT	Q224627	466799	7514465	2.6	6
NWT	Q224628	467909	7514728	0.7	3
NWT	Q224652	467873	7514699	9.1	18
CARL	Q224636	474567	7514136	2.3	<1
FAR EXTENSION	Q224638	473793	7514526	8.8	<1
DON	Q224641	512736	7487537	8.3	23
DON	Q224642	512680	7487505	<b>30.7</b>	<b>&gt;200</b>
DON	Q224643	512572	7487073	<b>15.5</b>	<b>34</b>
DON	Q224644	512330	7486856	<b>&gt;40</b>	<b>107</b>
DON	Q224656	512659	7487493	7.8	104
DON	Q224657	512333	7486857	<b>&gt;40</b>	<b>115</b>
DOT 900	Q224645	509922	7488636	6.4	7
FAR	Q224646	470489	7514036	<b>12.0</b>	<b>17</b>
FAR	Q224653	468679	7514160	<b>12.1</b>	<b>3</b>
FAR	Q224647	469929	7514227	3.8	23
FAR	Q224648	469904	7514206	2.0	5
FAR	Q224649	469412	7514430	2.7	3
KILAUEA	Q224651	469107	7514496	4.5	2

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Kaizen Discovery presentations:

YKF, Geoscience, Coppermine Presentation, November 2015

Technical Overview of the Kaizen Coppermine Project – Nunavut, March, 2015



## APPENDIX 1.

The following Tables are provided to ensure compliance with the JORC Code (2012 Edition) requirements for the reporting of Exploration Results at Coppermine River

### Section 1: Sampling Techniques and Data

(Criteria in this section applies to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<i>Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</i>	Rock chip sampling of outcrop/showings.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Rock chip sampling of outcrop/showings.
	<i>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.</i>	Rock chip sampling across the lithologies, in a channel fashion, to obtain representative material was completed, with sample size of 1-4 kg.
Drilling techniques	<i>Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic etc.) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is orientated and if so, by what method, etc.).</i>	No drilling being reported.
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	No drilling being reported.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	No drilling being reported.
	<i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i>	No drilling being reported.
Logging	<i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and</i>	Sample type and landform/regolith settings were recorded, and geo-tagged photos of samples and settings taken.

Criteria	JORC Code explanation	Commentary
	<i>metallurgical studies.</i>	No drilling being reported.
	<i>The total length and percentage of the relevant intersections logged.</i>	
<b>Sub-sampling techniques and sample preparation</b>	<i>If core, whether cut or sawn and whether quarter, half or all cores taken.</i>	No sub sampling undertaken.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i>	
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	No sub sampling undertaken.
	<i>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second- half sampling.</i>	No sub sampling undertaken.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	Rock chip, sample size of 1-4 kilograms is appropriate and representative of the grain size and mineralisation style of the deposit.
<b>Quality of assay data and laboratory tests</b>	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	Rock chip samples have been submitted to ALS Laboratories Vancouver for analysis by 4 Acid digest with ME-ICP61a  Elements were Ag, Al, As, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sr, Th, Ti, U, V, W, Zn
	<i>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i>	Over grade was done as Ag-OG62 and Cu-VOL61.  Some samples tested above upper limit detection threshold and therefore do not have a quantifiable result.
	<i>Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.</i>	
<b>Verification of sampling and assaying</b>	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Not known.
	<i>The use of twinned holes.</i>	Not known.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Not known.
	<i>Discuss any adjustment to assay data.</i>	Not known.
	<i>Accuracy and quality of surveys used to locate</i>	All locations determined by handheld GPS using

Criteria	JORC Code explanation	Commentary
Location of data points	<i>drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i>	zone 11, NAD83(CSRS98); EPSG:2153.
	<i>Specification of the grid system used.</i>	
	<i>Quality and adequacy of topographic control.</i>	
Data spacing and distribution	<i>Data spacing for reporting of Exploration Results.</i>	Data is spaced on outcrop of copper mineral showings/outcrops.
	<i>Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i>	Rock chip assays being reported are from outcrops and taken along geological structures, and not suitable for an MRE.
	<i>Whether sample compositing has been applied.</i>	No sample compositing.
Orientation of data in relation to geological structure	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	No drilling is being reported.
	<i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i>	No drilling is being reported.
Sample security	<i>The measures taken to ensure sample security.</i>	Not known
Audits or reviews	<i>The results of any audits or reviews of sampling techniques and data.</i>	Not Known

## Section 2: Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i>	<p>The Coppermine River Project is made up of 61 Mineral Claims.</p> <p>24 Active mineral claims issued on 26/9/2023 to Eric Sondergaard (on trust for White Cliff Minerals Limited), with an anniversary date of 26/9/2025.</p> <p>37 Active mineral claims issued on 1/11/2023 to Eric Sondergaard (on trust for White Cliff Minerals Limited), with an anniversary date of 1/11/2025.</p> <p>Field activities require a land use permit from the Nunavut Government.</p>



Criteria	JORC Code explanation	Commentary
	<i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i>	The mineral claims are in good standing to their anniversary dates.
<b>Exploration done by other parties</b>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	<p>Previous exploration in the Coppermine areas is listed under Exploration History in the release and mainly consists of sampling of outcrops/showings and limited drilling within the sediment hosted mineralisation and volcanic hosted mineralisation found in the area.</p> <p>Tundra Copper Corp started the process of validation of historical rock chip assays and had planned to validate historical drilling and historical resources to NI43101, but this work was held up by land use planning by the Nunavut government and covid era restrictions.</p> <p>Tundra in 2013 reprocessed magnetics and sourced regional gravity data. This work was carried out by geophysical group HPX (High Power Exploration)</p>
<b>Geology</b>	<i>Deposit type, geological setting and style of mineralisation.</i>	The area is prospective for primary Copper and silver mineralisation associated with structural rifting, faulting and shear zones, within the Coppermine River Group, and called volcanic hosted copper mineralisation. This has led to secondary mineralisation within sediments of the Rae Group that sits unconformably above the Coppermine River Group
<b>Drill hole Information</b>	<p><i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i></p> <p><i>easting and northing of the drill hole collar</i></p> <p><i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></p> <p><i>dip and azimuth of the hole</i></p> <p><i>down hole length and interception depth</i></p> <p><i>hole length.</i></p> <p><i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i></p>	No drilling is being reported
<b>Data aggregation methods</b>	<i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.</i>	No data aggregation.

Criteria	JORC Code explanation	Commentary
	<i>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i>	No data aggregation.
	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	No metal equivalent values are being used.
<b>Relationship between mineralisation widths and intercept lengths</b>	<i>These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').</i>	No mineralisation widths are being reported.
<b>Diagrams</b>	<i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i>	Location maps of projects within the release with relevant exploration information contained.
<b>Balanced reporting</b>	<i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.</i>	The reporting of exploration results is considered balanced by the competent person.
<b>Other substantive exploration data</b>	<i>Other exploration data, if meaningful, should be reported including geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	Exploration history is contained within the release
<b>Further work</b>	<p><i>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></p> <p><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></p>	<p>Full technical review which includes site trips are planned.</p> <ul style="list-style-type: none"> <li>Field crews to be mobilised to projects for reconnaissance work and assessment for future work.</li> <li>Acquisition of high resolution and detailed satellite photography which includes multispectral data.</li> <li>Assessment of additional geophysical techniques for targeting, particularly electromagnetic surveys. Mobile MT</li> <li>2000m of diamond drilling to test extensive strike of potential stratiform copper mineralization</li> <li>Rationalisation or reduction/increase of tenure to be considered once first stages of exploration have been undertaken.</li> </ul>