

SKIVIK HOLDING CO. LTD.  
301 Fairway Drive  
North Vancouver, B.C. V7G 1L4

Telephone: 604-315-9207

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**ASSESSMENT REPORT**

describing

**SOIL GEOCHEMICAL SAMPLING**

at the

**WHITE RIVER EAST PROPERTY**

WHITE 309-335 YD87709-YD87735

NTS 115K/01

Latitude 62°5'N; Longitude 140°19'W

located in the

Whitehorse Mining District  
Yukon Territory

prepared by

Skivik Holding Co. Ltd

for

**TARSIS RESOURCES LTD.**

by

W.A. Wengzynowski P.Eng.  
June 2012

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## **INTRODUCTION**

The White River East property covers an extension of the White River property geological package hosting a significant gold-copper-silver prospect located in southwestern Yukon. It is owned 100% by Tarsis Resources Ltd.

This report describes a multiphase program that was conducted intermittently between June 1st and October 5th, 2011. Work consisted of ridge and spur soil sampling followed by focused detail grid soil sampling. The author participated in and supervised portions of this work and his Statement of Qualifications appear in Appendix I.

## **PROPERTY LOCATION, CLAIM DATA AND ACCESS**

The White River East property consists of 27 contiguous mineral claims located on NTS map sheet 115K/01 at latitude 62°5' north and longitude 140°19' west (Figure 1). The property covers an area of approximately 21 ha and the claims are registered with the Whitehorse Mining Recorder in the name of Tarsis. Specifics concerning claim registration are tabulated below, while the locations of individual claims are shown on Figure 2.

<u>Claim Name</u>	<u>Grant Number</u>	<u>Expiry Date</u>
WHITE 309-335	YD87709-YD87735	January 28, 2017

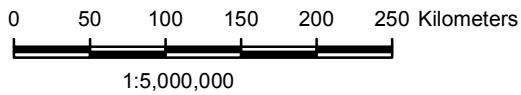
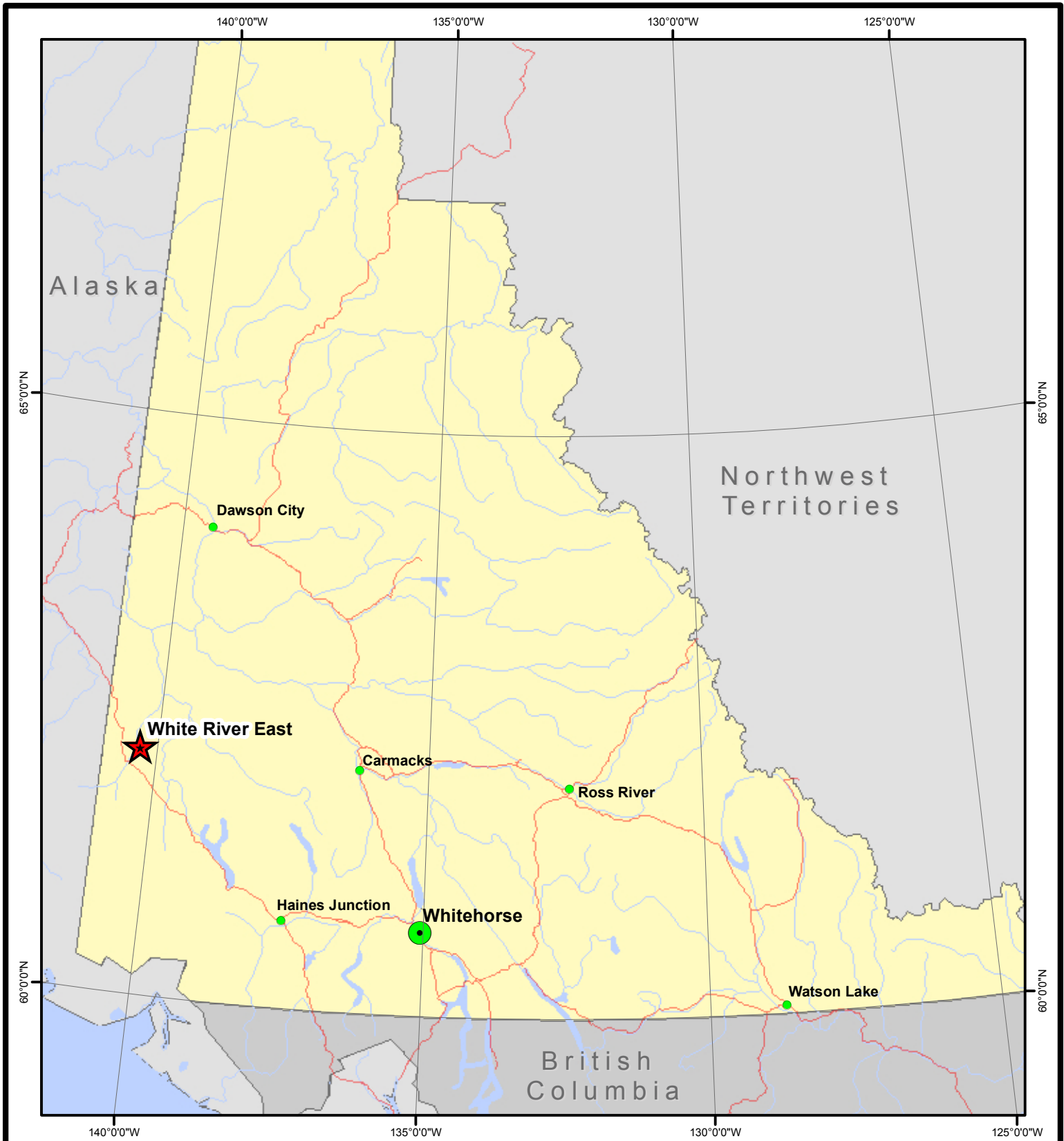
The White River East property is located 20 km northeast of the White River Lodge at Mile 1129 on the Alaska Highway. In 2011, work was performed with daily setouts and pickups by a contract helicopter operated by Canadian Helicopters from a temporary base at the lodge.

## **HISTORY AND PREVIOUS WORK**

The White River property does not cover any known Minfile occurrences. The only record of previously reported work on the property is from the Geological Survey of Canada (GSC) regional stream sediment sampling program that was conducted in 1986. Seven stream sediment samples were collected from creeks draining the current White River property. These samples returned peak values of 9 ppb gold, 132 ppm arsenic, 0.1 ppm silver and 101 ppm copper (Friske *et al.*, 1986).

In 2009, the GSC and Yukon Geological Survey (YGS) flew helicopter-borne magnetic and radiometric geophysical surveys over a large area in western Yukon. This survey included the area now covered by the White River property.

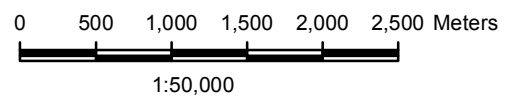
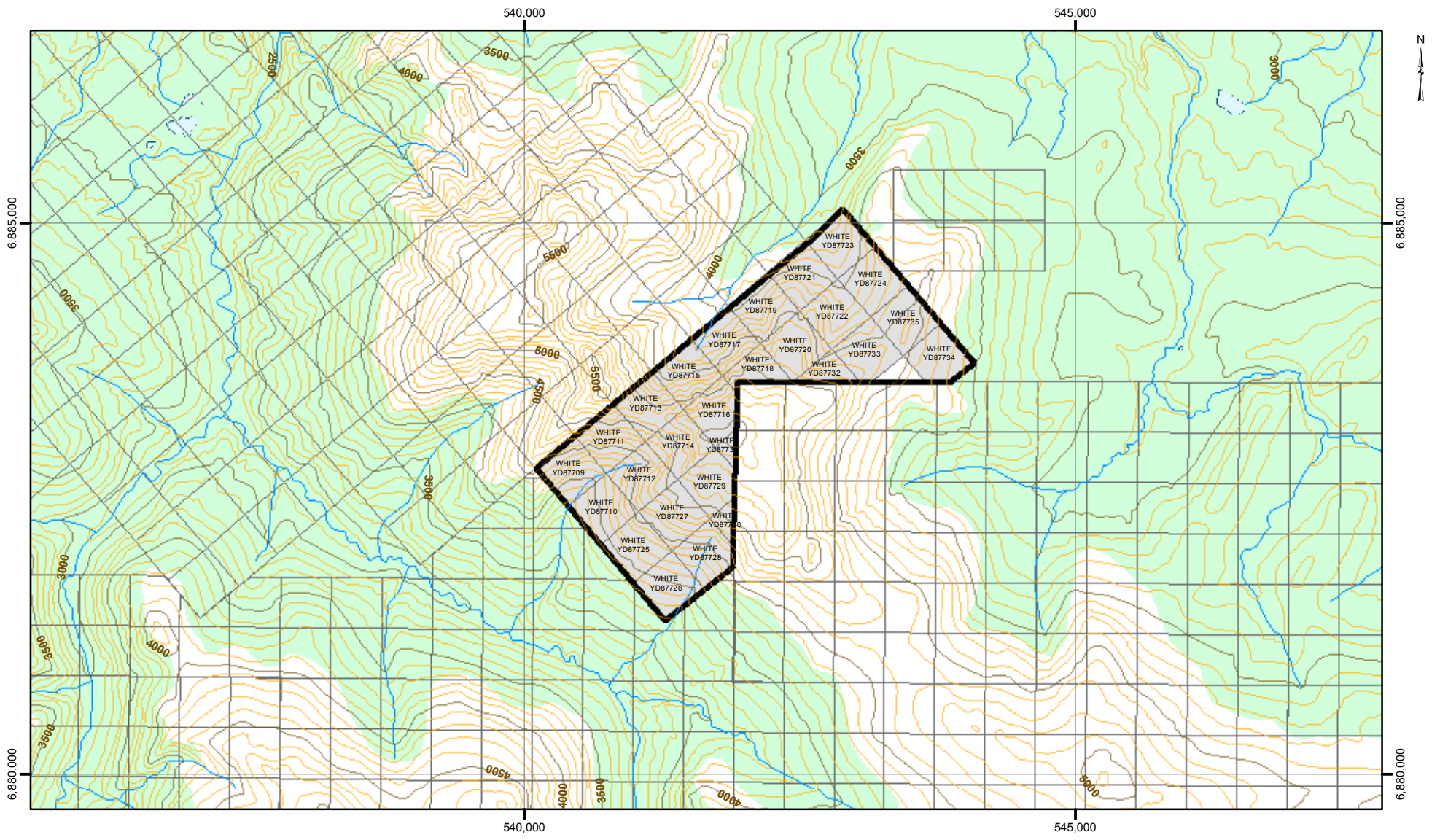
Tarsis staked the White 1-48 claims in June 2010 and staked the White 49-168 claims in August 2010 following positive results from Phase one and two work. Additional claims (169-308) were staked in January 2011 and the last staking (309-335) conducted by Tarsis in the area was done in August 2011.



**Map Notes:**  
 1. Topographic data: © Department of Natural Resources Canada. All rights reserved

Path: D:\Projects\Tarsis\_Resources\White\_River\MXD\Property\_Location\_Map.mxd

<b>Project Name</b> White River East		<b>White River East Property Location</b>	
<b>Datum:</b> GCS North American 1983			
<b>Projection:</b> Yukon Albers		<b>Approved By:</b>	<b>Version</b> A
<b>Drawn By:</b> SMART MAP	<b>Date</b>	March, 2012	<b>Fig No</b> 1



**Map Notes:**  
 1. Mapsheet: 115K01  
 2. Topographic data: © Department of Natural Resources Canada. All rights reserved

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<b>TARSIS</b> Resources		<b>White River '9 Ugh Claim Locations</b>			
Project Name <b>White River</b>				Datum: <b>GCS North American 1983</b>	
Projection: <b>NAD 1983 UTM Zone 7N</b>				Date: <b>April, 2012</b>	
Drawn By: <b>SMART MAP</b>	Date: <b>April, 2012</b>	Approved By:	Version <b>A</b>	Fig No <b>2</b>	

## GEOMORPHOLOGY AND CLIMATE

The White River property lies immediately south of the White River on the Kluane Plateau in the northern part of the Ruby Range. The property is about 12 km northeast of the Shakwak Valley. Koidern Mountain lies in the southwestern part of the property and elevations range from 650 m near the White River to 1650 m atop Koidern Mountain (Figure 2).



View from the claims looking north towards the White River.

The area has been affected by at least three separate glacial events. The first glacial episode occurred in Pleistocene to early Pliocene (ca. 3 Ma) and only affected peaks over 1500 m. The second event occurred in Middle Pleistocene (ca. 200 ka) and affected topography over 900 m. The third episode occurred in the Cordilleran (ca. 22 ka) and affected low-lying areas (Duk-Rodkin, 1999).

Volcanic ash is a significant component of the soil profile in the region. It is estimated between 1450 and 1750 years ago an eruption occurred roughly 65 km southwest of the property and scattered volcanic ash in two large fans (720 km east and 400 km north, respectively) by prevailing winds. The exact thickness of the ash layer varies throughout the region, but near the White River property it is documented up to 60 cm thick in valleys. The ash layers are often cemented by permafrost and insulated by a thick, widespread moss layer, which can hinder conventional soil geochemical techniques. Interestingly however, soil sampling in the alpine and mid elevation regions of the White River East property have not documented any significant accumulations of the volcanic ash.

Vegetation at the White River East property consists of stunted black spruce, willow and birch with thick moss in valley bottoms and on lower slopes. Higher elevations are characterized by steep (about 30°) slopes with grass and moss cover. Outcrops occur on most ridge crests, north-facing cirques, spurs and along actively eroding creek cuts.

The climate in the White River area is typical of northern continental regions with long, cold winters, truncated fall and spring seasons and short, mild summers. Although summers are

relatively mild, arctic cold fronts often cover the area and snowfall can occur in any month. The property is mostly snow free from late May to late September.

### **TECTONIC SETTING AND GEOLOGY**

The project area is situated near the edge of the Denali Fault, a regional scale dextral strike slip structural system separating Intermontane Belt assemblages to the northeast from Insular Belt terranes to the southwest (Figure 3). The Intermontane Belt northeast of the Denali Fault in the vicinity of the claim block is largely comprised of Yukon-Tanana Terrane (YTT) and sequences of the Windy-McKinley Terrane herein correlative to the Slide Mountain Terrane and referenced as WM/SMT. Structurally the area is well defined by a conjugate series of large scale northwesterly and northeasterly trending normal faults (Figure 4) that are documented to displace earlier opposing thrust sequences.

Stratigraphic assemblages are intruded by the mid-Cretaceous Nisling Range Batholith that comprises: biotite-hornblende granodiorite; hornblende-quartz diorite and hornblende diorite; and leucocratic, biotite-hornblende granodiorite. Later Tertiary (53 – 56 Ma) quartz-eye rhyolite porphyry dykes have also been documented in the region.

The following lithological unit descriptions are based on a compilation done by Gordey and Makepeace (2003) combine with the recent mapping done by Murphy (2006-2008).

The Yukon-Tanana Terrane (YTT) and Windy-McKinley/Slide Mountain Terranes (WM/SMT) represent continental arc and back-arc basin sequences that developed along the ancient Pacific margin of North America during late Devonian through Permian (Murphy *et al.*, 2006). Pericratonic rocks of the YTT and oceanic rocks of the WM/SMT Terrane in the White River property area are characterized by variably deformed and metamorphosed, lower greenschist to amphibolite facies metasedimentary and metavolcanic rocks and affiliated metaplutonic suites.

Prior to Late Triassic, the YTT experienced regional shortening and uplift. This terrane was imbricated with Mid-Paleozoic WM/SMT after Late Triassic, and the resultant structural stack was subsequently thrust onto the North American continental margin before Mid-Cretaceous (Murphy *et al.*, 2006).

In the White River East property area (Figure 5), geology consists of a thrust intercalated package of YTT (Snowcap Assemblage), overlain by WM/SMT carbonaceous schist and quartzite of the White River formation (Upper Devonian-Upper Permian) and gabbro, chert and basalt of the Wellesley Lake formation Permian Harzburgite Peak - Eikland Mountain Ophiolite Complex. Both terrane sequences have been intruded by the ca. 100 - 103 Ma Nisling Range Batholith and latest stage ca. 53 - 56 Ma quartz-eye rhyolite dykes.

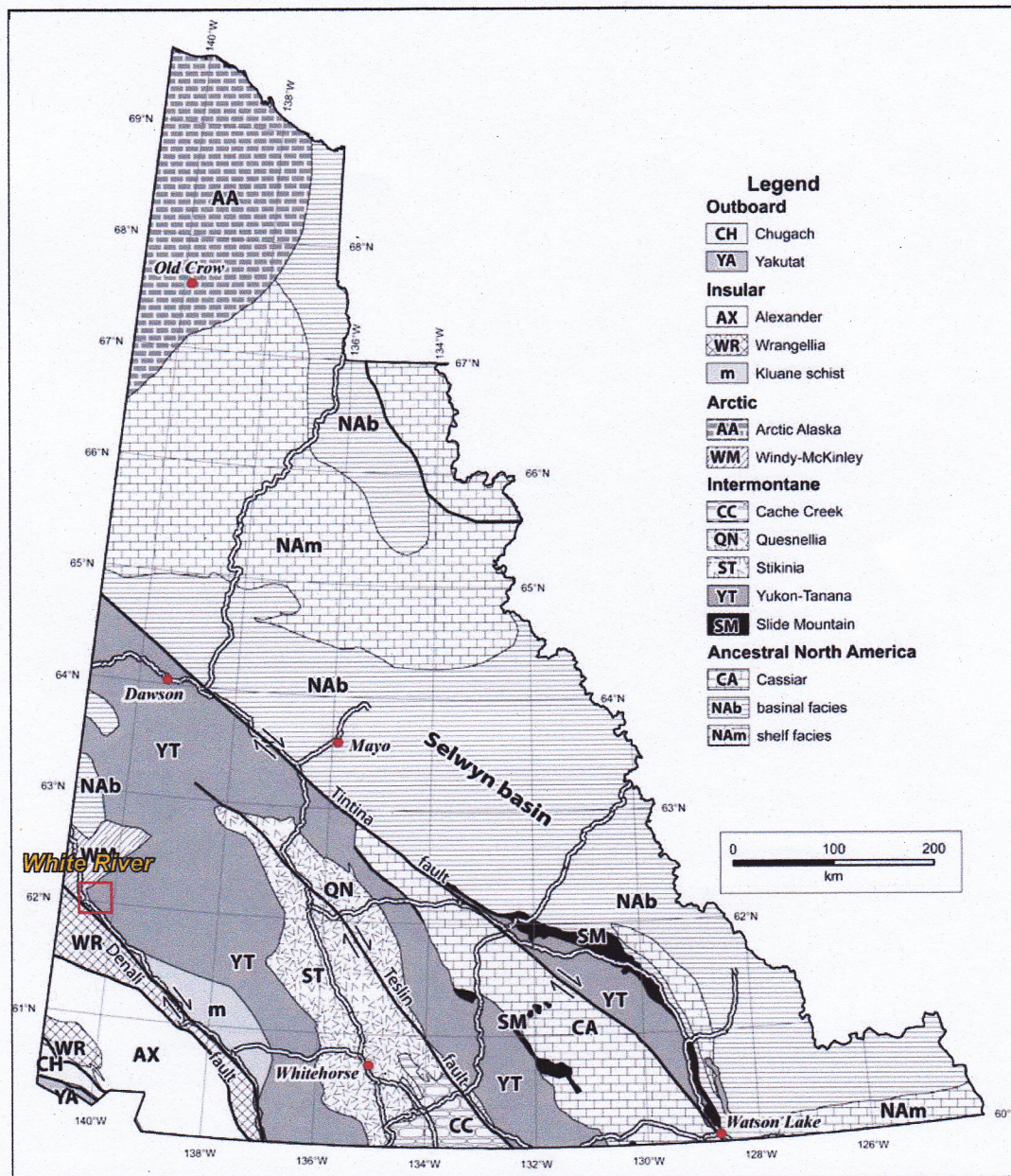
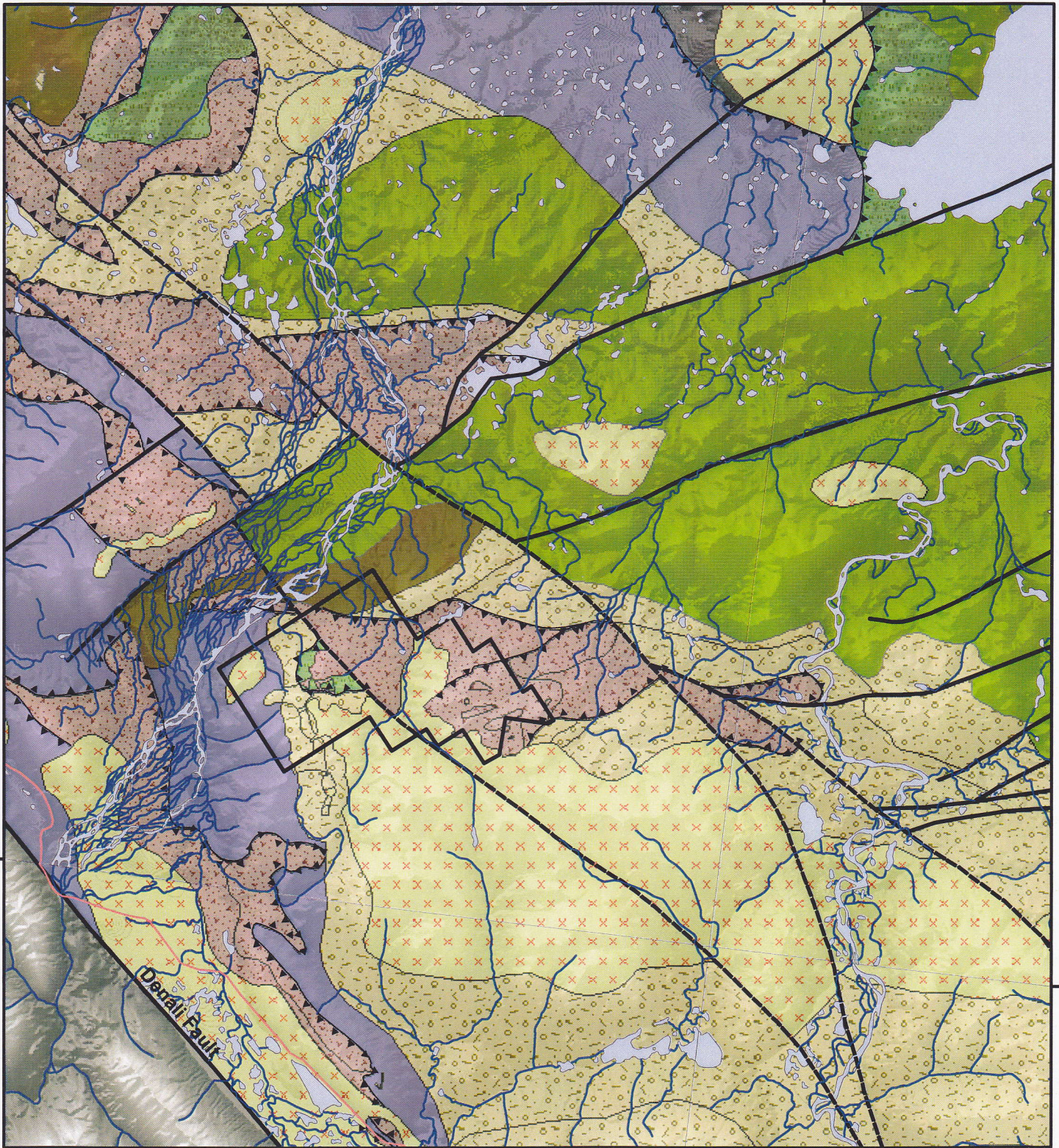


Figure 3. Terrane map of Yukon illustrating location of Tarsis Resources, White River Property (image courtesy of Yukon Geological Survey).

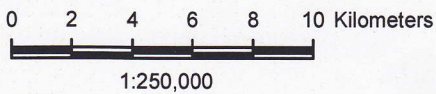
140°0'0"W



62°0'0"N

62°0'0"N

140°0'0"W



### Legend

- ▲▲ Thrust Fault
- Strike-slip Fault
- Normal Fault
- Claim Block
- Igneous Rocks
- ×××× Intrusives
- Metamorphics
- Metasediments
- Sedimentary-Volcanics
- Sediments
- Volcanics

Path: D:\Projects\Tarsis\_Resources\White\_River\MXD\White\_River\_Tectonic\_Setting.mxd



Project Name <b>White River</b>		<b>White River Property Tectonic Setting</b>		
Datum: GCS North American 1983				
Projection: Yukon Albers		Approved By:	Version <b>A</b>	Fig No <b>4</b>
Drawn By: SM RT MAP	Date April, 2012			

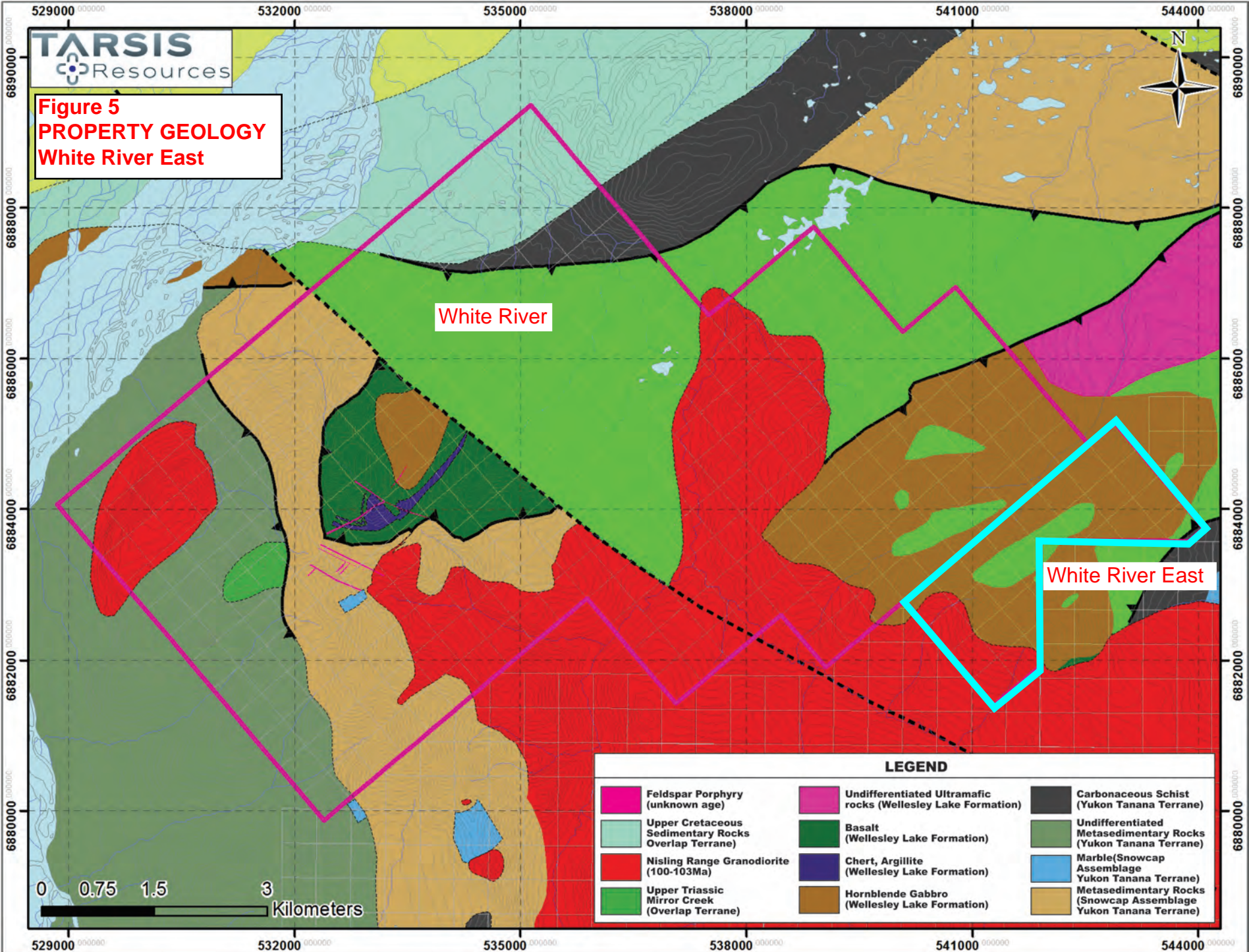


Figure 5

## **SOIL GEOCHEMISTRY**

In 2011, a total of 585 soil samples were taken both along the ridge system transecting the White River East area and from two localized grids centred on anomalous results from the ridge and spur sampling. Sample locations are shown on Figure 6.

Soil samples were collected at 50 m spacings along the ridge and spurs as well as the grids. Sample locations were recorded using hand-held GPS units. Sample sites are marked by aluminum tags inscribed with the sample numbers and affixed to 0.5 m wooden lath that were driven into the ground. A hand held soil auger was used to collect material from as deep in the soil profile as ground conditions allowed, which was typically about 30 to 60 cm depth. Samples were placed into individually pre-numbered Kraft paper bags. The soil samples were sent to ALS Chemex, where they were dried, screened to -180 microns, digested in aqua regia solution in a graphite heating block. After cooling the resulting solution is diluted with de-ionized water, mixed and analysed by inductively coupled plasma-atomic spectrometry for 51 elements (ME-MS41). An additional 50 g charge of the homogenized pulp was further analysed for trace level gold by fire assay fusion and atomic absorption spectroscopy finish (Au-AA23).

Certificates of Analysis for both target areas are contained in Appendix II.

Thresholds used for defining soil anomalies are shown in Table I below.

**Table I – Soil Sample Thresholds**

<b>Element</b>	<b>Background</b>	<b>Weak</b>	<b>Moderate</b>	<b>Strong</b>
Gold (ppb)	0 ≥ 10	10 ≥ 40	40 ≥ 100	≥ 100
Arsenic (ppm)	0 ≥ 25	25 ≥ 50	50 ≥ 100	≥ 100
Copper (ppm)	0 ≥ 25	25 ≥ 50	50 ≥ 100	≥ 100

Results for gold, arsenic and copper from the grid soil sampling across White River East are shown on Figures 7 through 9, respectively. Anomalous gold and arsenic in soil response is strongly coincident within both grids and forms an intermittent northeasterly trend roughly 1800 m long spanning both grids. Copper in soil response is also elevated across both grids but is somewhat more dispersed.

No follow-up prospecting has been conducted in the vicinity of the grid soil results.

## **DISCUSSION AND CONCLUSIONS**

The immediately adjacent White River property represents a significant new structurally hosted gold-copper-silver discovery in western Yukon in an area where very little historical exploration has been documented. Grid soil geochemical sampling in the western part of the property has identified three distinct areas of anomalous response characterized by elevated combinations of arsenic, gold and copper with intermittent accessory antimony, bismuth and silver. The surface expression of each geochemical target area is large enough to represent a significant stand-alone mineralized system.

The structural architecture across the property is defined by a series of brittle east and northerly trending structural corridors believed to be largely contemporaneous and vertically extensive affecting both the underlying YTT and overlying WM/SMT assemblages. Secondary northeasterly trending structures are believed to be younger and are interpreted to be associated with the youngest intrusive activity represented by the emplacement of the felsic porphyry dykes.

Two distinct styles of mineralization are recognized on the property but this is largely a function of the host rock lithology and associated rheology. The first style is gold-copper-silver mineralization observed primarily within multi-oriented structural corridors within the upper levels of the property underlain by WM/SMT. These mafic assemblages may be inherently enriched in copper which has been redistributed and concentrated within later structural pathways introducing primary gold enriched fluids into the system. The timing of the gold focused fluid event is interpreted to be associated with the 100 – 103 ma Nisling Range intrusion while a second event is believed to have occurred with the later intrusion of the 53 – 56 ma porphyry dykes and may have resulted in grade enhancement within existing mineralized structures.

The second style of mineralization is primarily gold with only minor copper and silver occurring within the underlying YTT assemblage rocks. This mineralization appears to be texturally destructive replacement of the host rocks likely in close proximity to a major structure.

The elemental signature of the gold mineralization at the White River property is suggestive of a high-level reduced intrusion-related gold system. The presence of significant copper and silver content is possibly explained by inherent concentrations within the overlying mafic dominated stratigraphy through which the primary gold-bearing fluids passed. This observation is further supported by preliminary elemental correlation data compiled for the 2010 rock samples which show several key associations. The first being an isolated population for gold mineralization with a significant bismuth correlation and the second showing a mixed copper-silver correlation. Preliminary unpublished thin section and scanning electron microprobe data for a number of samples collected in 2011 confirm this observation and further suggest three different temporal fluid phases contributing to the mineralizing system at White River.

Given the proximity of the White River East property to the White River property and the similar geological/structural setting, further exploration is definitely warranted and should be focused on expanding the current soil geochemical grids and prospecting for source mineralization.

Respectfully submitted,

SKIVIK HOLDING CO. LTD.

William A. Wengzynowski, BaSc. Geological Engineering, P.Eng.

## REFERENCES

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- Duk-Rodkin, A.  
1999 Glacial limits map of Yukon Territory. Geological Survey of Canada Geoscience Map 1999-2.
- Friske, P.W.B., Hornbrook, E.H.W., Lynch, J.J., McCurdy, M.W., Gross, H., Galletta, A.C. and Durham, C.C.  
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- Murphy, D.C., Mortensen, J.K., Piercey, S.J., Orchard, M.J. and Gehrels, G.E.  
2006 Mid-Paleozoic to early Mesozoic tectonostratigraphic evolution of Yukon Tanana and Slide Mountain terranes and affiliated overlap assemblages, Finlayson Lake massive sulphide district, southeastern Yukon, in Colpron, M. and Nelson, J.L., eds., Paleozoic Evolution and Metallogeny of Pericratonic Terranes at the Ancient Pacific Margin of North America, Canadian and Alaskan Cordillera: Geological Association of Canada, Special Paper 45, p. 75-105.
- Murphy, D.C.  
2010 Unpublished Yukon Geological Survey map of 115K/01.
- Murphy, D.C.  
2010 Personal communication regarding the White River property.

**APPENDIX I**  
**STATEMENT OF QUALIFICATIONS**

## **STATEMENT OF QUALIFICATIONS**

I, William A. Wengzynowski, geological engineer, with business address in Vancouver, British Columbia and residential address at 301 Fairway Drive, North Vancouver, British Columbia, V7G 1L4 do hereby certify that:

1. I am President of Skivik Holding Co. Ltd.
2. I graduated from the University of British Columbia in 1993 with a B.A.Sc in Geological Engineering, Option 1, mineral and fuel exploration.
3. I registered as a Professional Engineer in the Province of British Columbia on December 12, 1998 (Licence Number 24119).
4. From 1983 to present, I have been actively engaged in mineral exploration in the Yukon Territory, Northwest Territories, northern British Columbia and Mexico.
5. I have personally participated in and supervised the fieldwork reported herein.

William A. Wengzynowski, B.A.Sc., P. Eng.

QW29334

Statement of Expenditures  
WHITE 1 - 335 Mineral Claims  
December 7, 2012

Labour

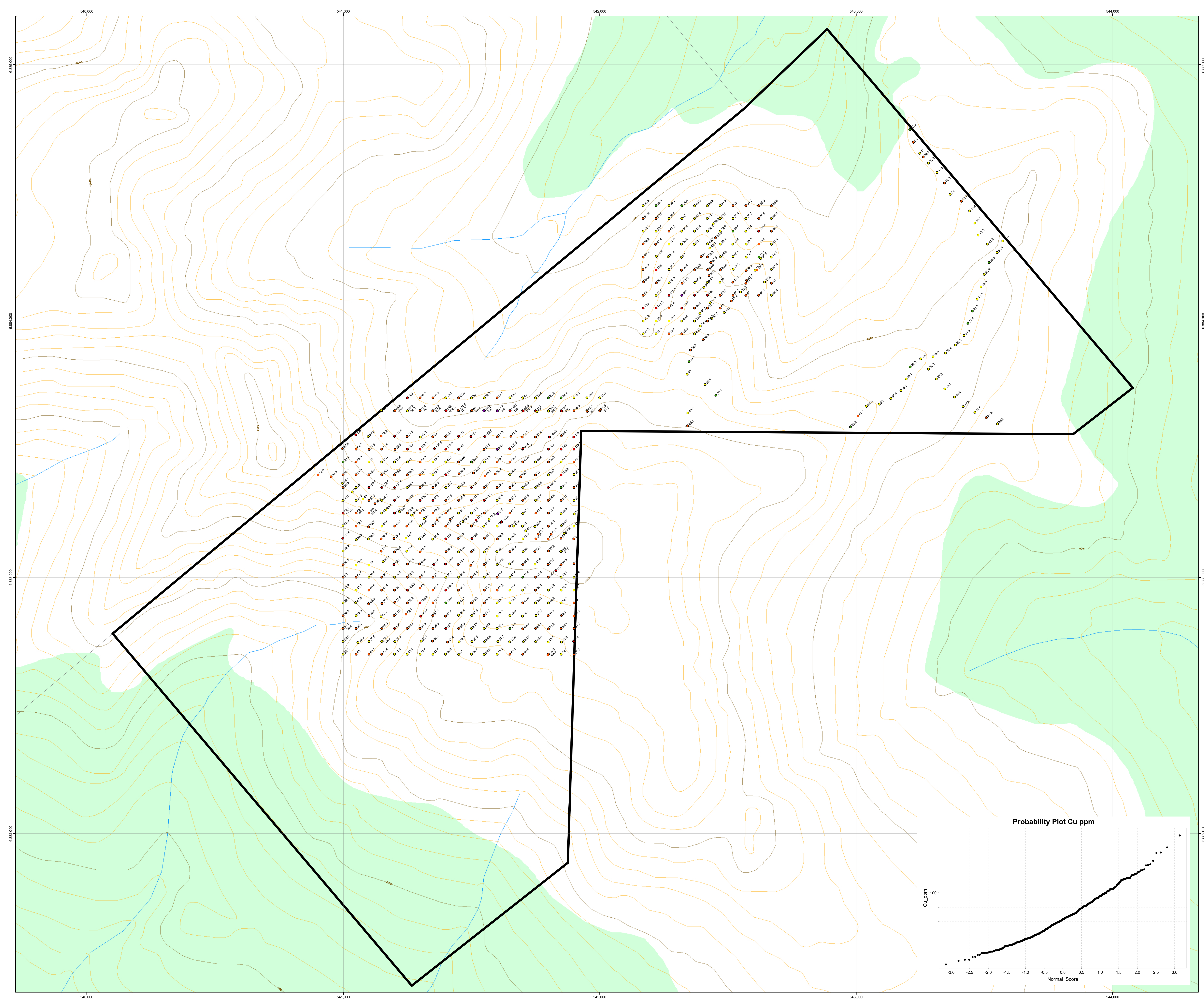
Expense

Top Rank Diamond Drilling	\$155,221.84
Capital Helicopters	\$70,859.25
Als Chemex Laboratories	<u>\$10,079.41</u>
	236,160.50
Total	<u>\$236,160.50</u>



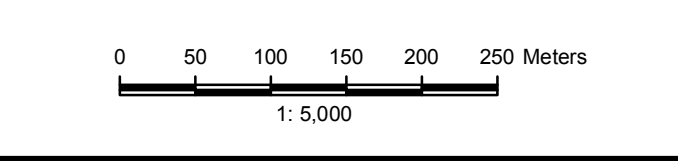
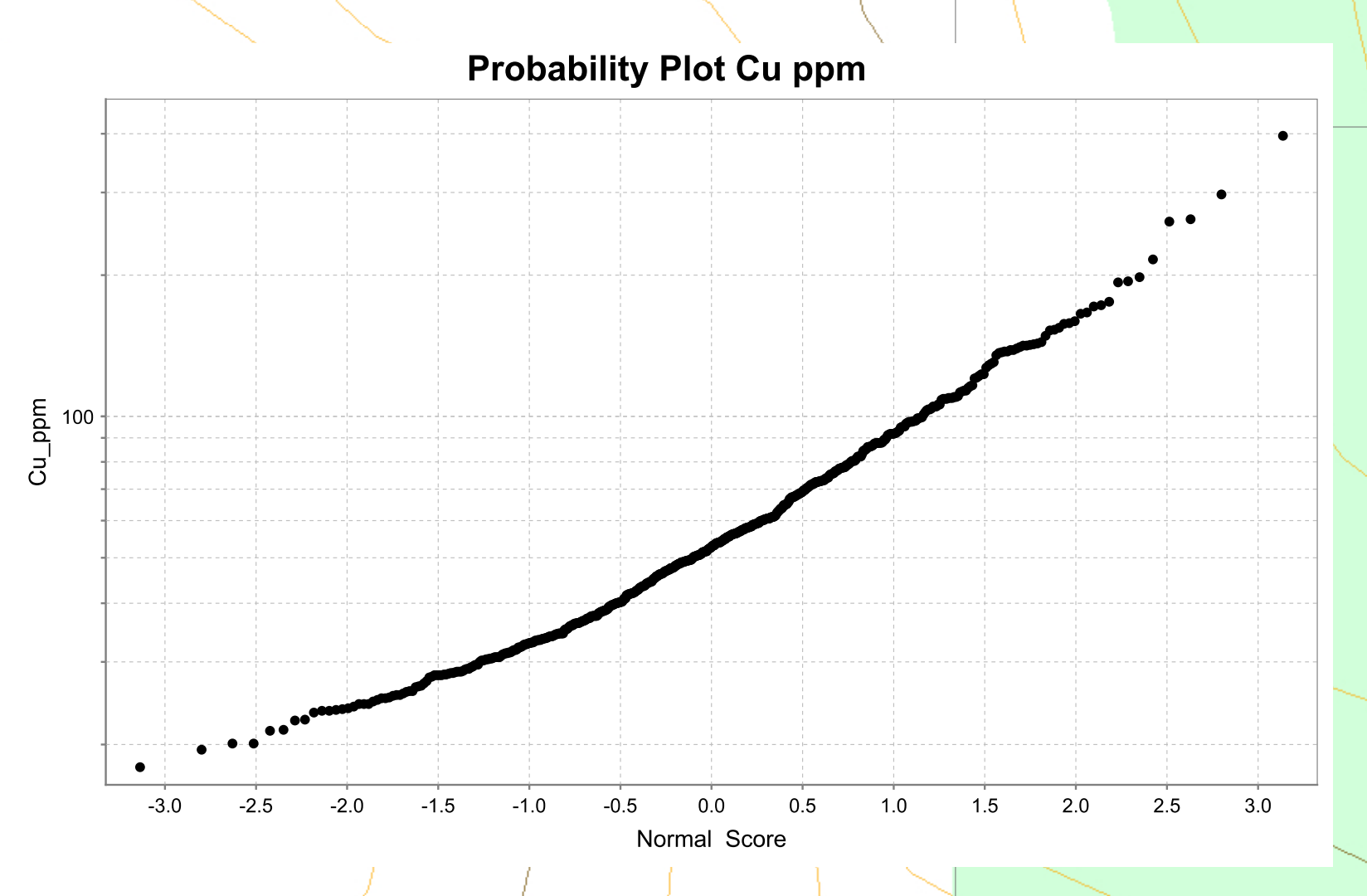
**APPENDIX II**  
**CERTIFICATES OF ANALYSIS**

See Data Files for Secured Assay Certificates



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- <10
  - 10 - 25
  - 25 - 50
  - 50 - 100
  - 100 - 200
  - > 200
  - Index Contour (500 Feet)
  - Intermediate Contour (100 Feet)
  - Drainage
  - Forest Cover
  - Lakes
  - Dry Rivers
  - Wetlands

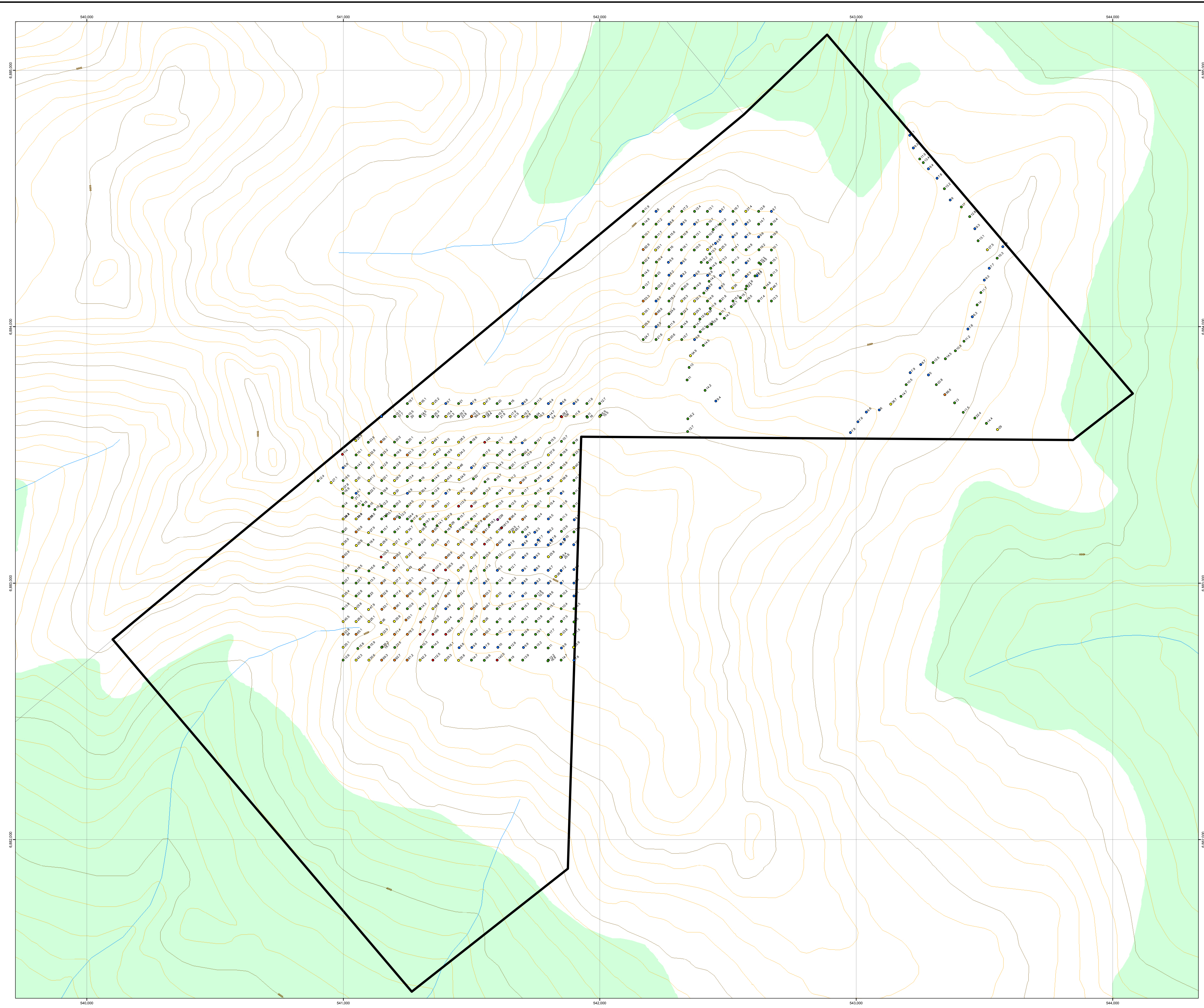
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 Interquartile Range: 38.9  
 Number of samples below LDL: 0  
 Analytical Method: Aqua regia, ICP-AES



**TARSIS Resources**

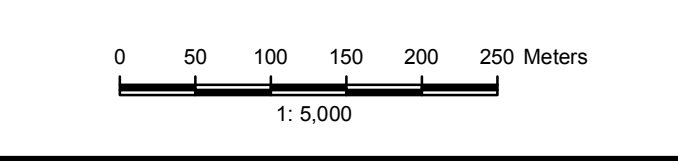
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System	North American 1983	Cu (ppm) Values
Property	NAD 1983 UTM Zone 7N	
Drawn By	SAF/STP/MLP	Sheet No. 9
Date	April, 2012	

Map Notes:  
 1. Maxwell, 1982  
 2. Topographic data © Department of Natural Resources Canada. All rights reserved.  
 File: D:\Projects\Tarsis\_Resources\White\_River\2011\_Assessment\_Report\_Plan\White\_River\_SAF\_Cu\_Concentration\_Location\_map.mxd



- Legend**
- <10
  - 11 - 25
  - 26 - 50
  - 51 - 100
  - 101 - 200
  - > 200
  - Index Contour (500 Feet)
  - Intermediate Contour (100 Feet)
  - Drainage
  - Forest Cover
  - Lakes
  - Dry Rivers
  - Wetlands

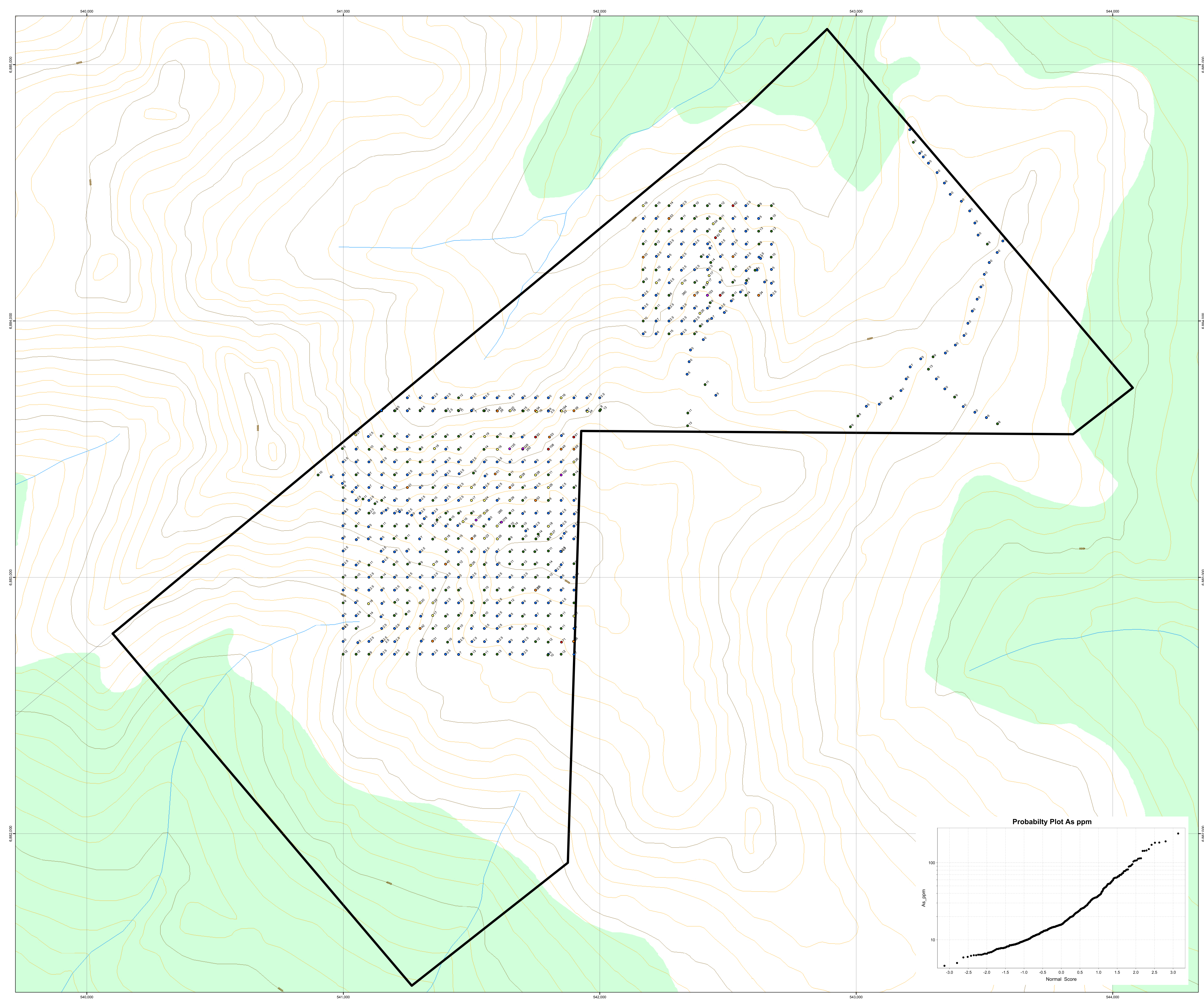
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 Number of samples below LDL: 0  
 Analytical Method: Aqua regia, ICP-AES



**TARSIS Resources**

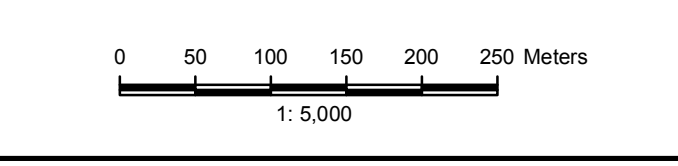
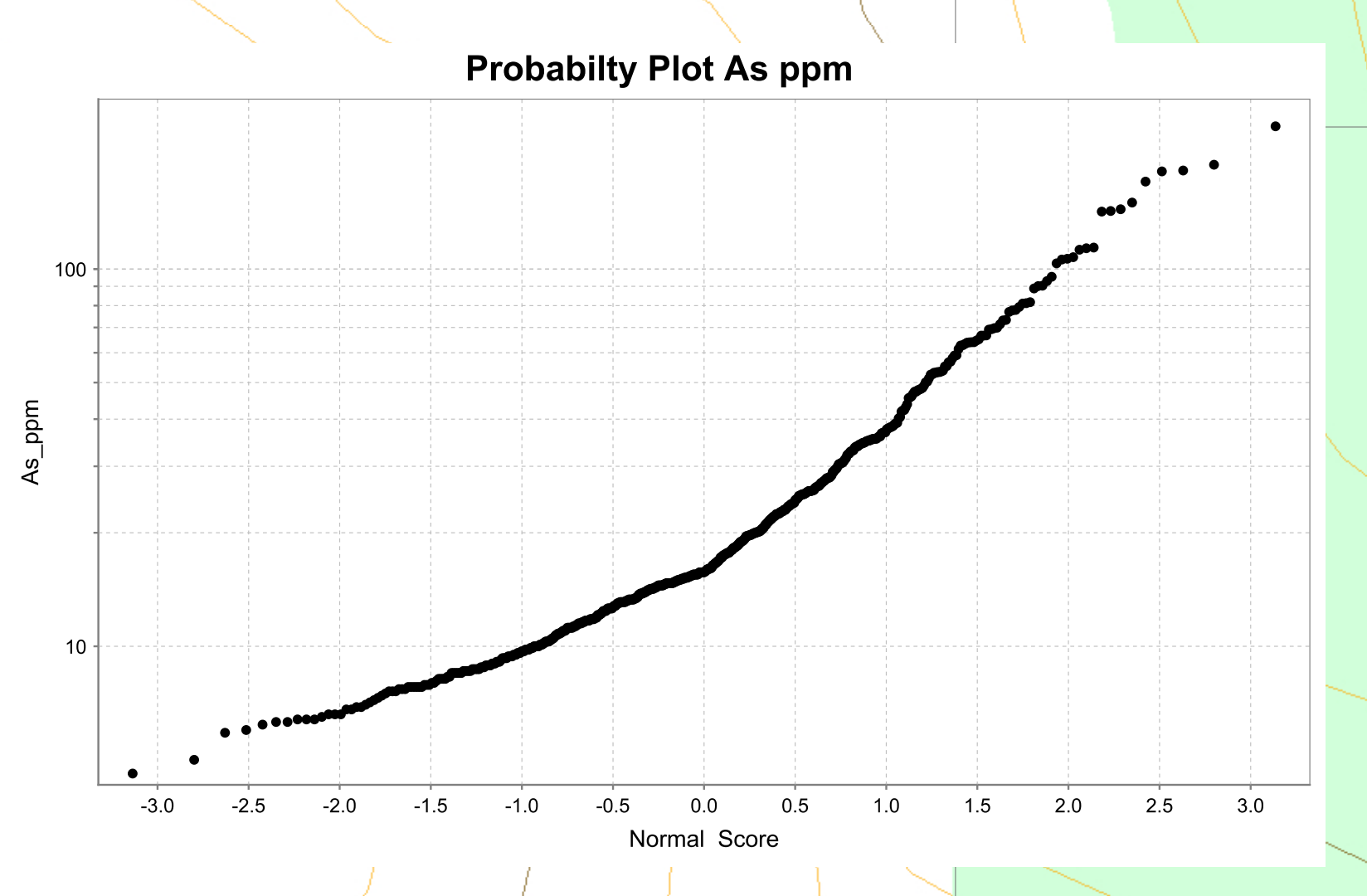
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System	North American 1983	As (ppm) Values
Projection	NAD 1983 UTM Zone 7N	
Drawn By	SAF/STY/PLAN	Approved By
Date	April, 2012	Version
		Page No.
		8

Map Notes:  
 1. Mapsheet: 1186/01  
 2. Topographic data: © Department of Natural Resources Canada. All rights reserved.  
 File: D:\Projects\Tarsis\_Resources\White\_River\ASD2011\_Assessment\_Report\_PWD\White\_River\_SSI\_Ar\_CrossSectionary\_Location.mxd



- Legend**
- <7.50
  - 7.51 - 15.00
  - 15.01 - 30.00
  - 30.01 - 60.00
  - 60.01 - 120.00
  - 120.01 - 278.00
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  - Intermediate Contour (100 Feet)
  - Drainage
  - Forest Cover
  - Lakes
  - Dry Rivers
  - Wetlands

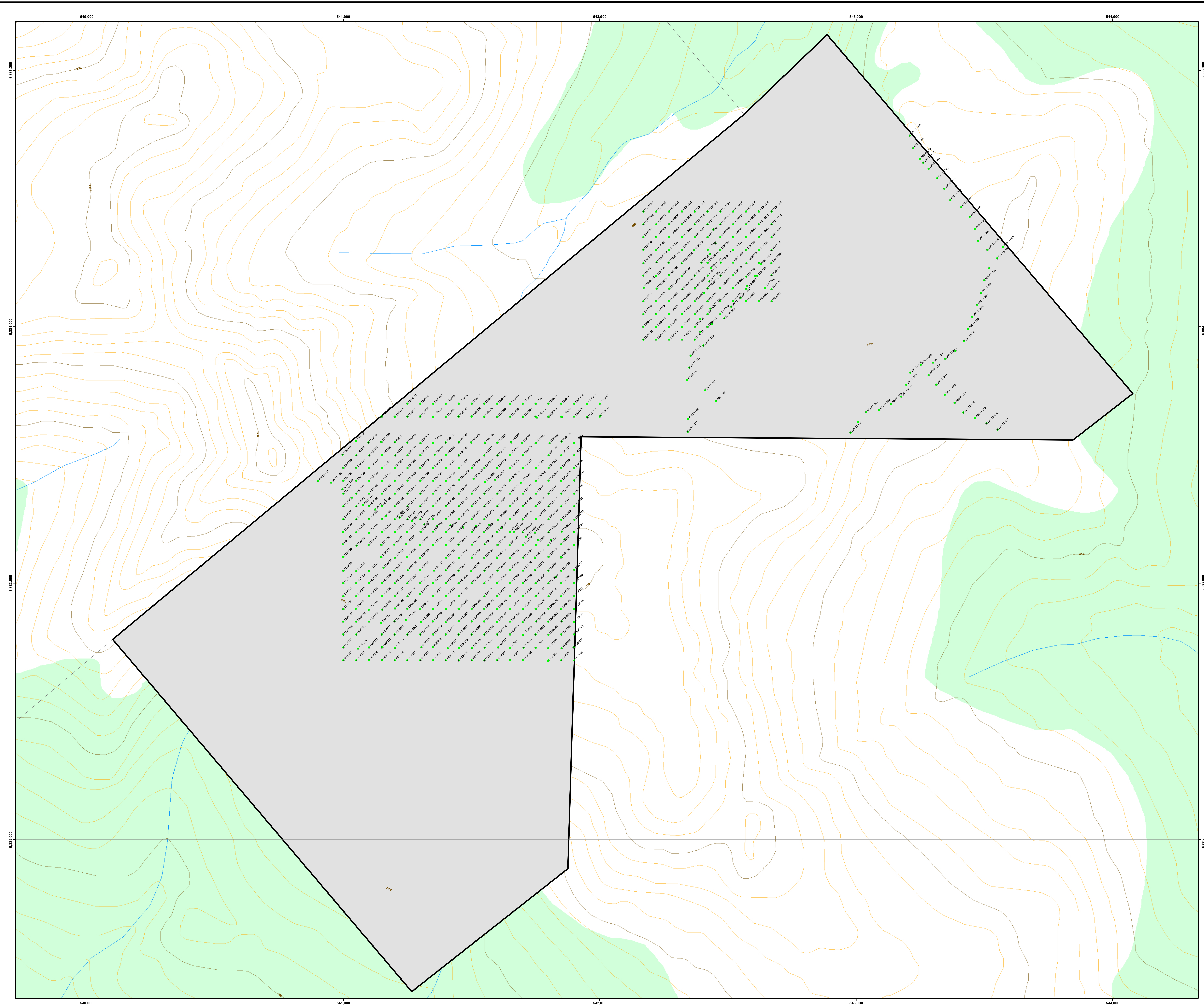
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 Number of samples below LDL: 39  
 Analytical Method: Aqua regia, ICP-AES



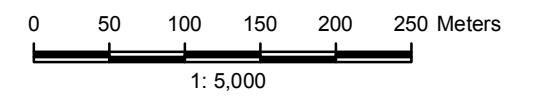
**TARSIS Resources**

Project Name <b>White River</b>	Project Title <b>2011 White River Grid Au (ppb) Values</b>
Scale North American 1983	Drawn By SAR/STP/MLP
Projection NAD 1983 UTM Zone 7N	Date April, 2012
Drawn By SAR/STP/MLP	Page No. 7

Map Notes:  
 1. Mapsheet: 1186/01  
 2. Topographic data: © Department of Natural Resources Canada. All rights reserved.  
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- Legend**
- Sample Site
  - Grouping**
  - Grouping 1
  - Grouping 2
  - Index Contour (500 Feet)
  - Intermediate Contour (100 Feet)
  - Drainage
  - Forest Cover
  - Lakes
  - Dry Rivers
  - Wetlands



**TARSIS Resources**

Project Name <b>White River</b>		2011 Soil Sampling Sites
Datum North American 1983		
Property NAD 1983 UTM Zone 7N		Scale A
Drawn By SAR/STP/MLP	Date May, 2012	Page No. 6

Map Data:  
1. Map data © Department of Natural Resources Canada. All rights reserved.  
2. Topographic data © Department of Natural Resources Canada. All rights reserved.

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