2010 Report on the
Airborne Geophysical Survey
Of the Java Property, Yukon Territory

JAVA 85 – 92 (YB97821 – YB97828)

Whitehorse Mining District

NTS Sheet: 105E/07

Latitude: 61^{o} 25'N

Longitude: 134^{o} 54'W

Date: June 6, 2010

By: Dennis Ouellette, B.Sc., P.Geol.
#34 1870 Glastonbury Blvd
Edmonton, Alberta T5T 6P9

Executive Summary

The Java property consists of eight quartz mining claims (Java 85 – 92) located 70 kilometers east-northeast of Whitehorse, Yukon Territory, Canada. Access is by helicopter from Whitehorse. The property was originally staked in 1997 for its copper gold porphyry potential. Exploration on the property lead to the discovery of a high-grade copper-zinc-silver-gold-bismuth skarn occurrence.

The Java claims are underlain by Middle Jurassic monzonite, syenite and granite sills that intrude Upper Triassic Lewis River Group limestone and Lower to Middle Jurassic Laberge Group clastic sedimentary rocks.

Work to date has been focused on the skarn occurrence. It consists of massive to semi-massive chalcopyrite in silicified and brecciated trachyte near an intrusive contact with limestone. Closer to the limestone contact , the mineralization consists of massive to semi-massive magnetite with sphalerite. Rock samples collected in 1997 returned up to 18,031 ppm copper, 7.1% zinc, 31.8 ppm silver, 1,639 ppb gold and 1,513 ppm bismuth. The extent of the skarn mineralization is not known.

The original exploration in the area resulted in the discovery of copper and molybdenum mineralization in granite. This showing has not yet been located.

On September 5, 2009, 62.6 line kilometres of radiometric and magnetic data were flown at 100 meter spacing. The survey revealed a strong magnetic onomaly centered on the Skarn occurrence. The anomaly measures 500 metres by 300 meters. Magnetics also clearly show the western contact of the intrusive units with the sedimentary rocks. The survey also revealed a strong Th/K ration low over the area of the skarn.

A program consisting of grid establishment, soil and rock sampling and a ground based magnetic survey is recommended to define the dimensions of the skarn mineralization and to determine the copper – molybdenum – gold porphyry potential of the property. Diamond drilling of targets established by the grid work would follow if results warrants.

INTRODUCTION

This report was prepared by the author for the purpose of satisfying the assessment requirements as outlined in the Yukon Quartz Mining Act. The report provides the data acquired from flying a 62.6 line-kilometre, multi-parameter airborne geophysical survey over the Java property and makes conclusions and recommendations based on this data.

LOCATION AND ACCESS

The JAVA property is located about 70 kilometres north-northeast of Whitehorse (Figure 1). It is situated 5 km north of Miller Creek between the north end of Lake Laberge and the Teslin River to the east. The geographic coordinates of a point approximately in the centre of the property are 61°25’N and 134°54’W within NTS 105E/07.

The Livingstone Creek winter tote trail passes 25 kilometres to the south of the property.

MINERAL CLAIMS AND STATUS

The JAVA property consists of eight contiguous unsurveyed two-post claims covering approximately 167 hectares. The claims fall within the jurisdiction of the Whitehorse Mining District. The claims are 100% owned by Dennis Ouellette.

Table 1: Java Property Mineral Claim Data

Claim Name	Grant Number	Recording Date	Expiry date
Java 85	YB97821	July 4, 1997	July 4,2010
Java 86	YB97822	July 4, 1997	July 4,2010
Java 87	YB97823	July 4, 1997	July 4, 2010
Java 88	YB97824	July 4, 1997	July 4, 2010
Java 89	YB97825	July 4, 1997	July 4, 2010
Java 90	YB97826	July 4, 1997	July 4, 2010
Java 91	YB97827	July 4, 1997	July 4, 2010
Java 92	YB97828	July 4, 1997	July 4, 2010

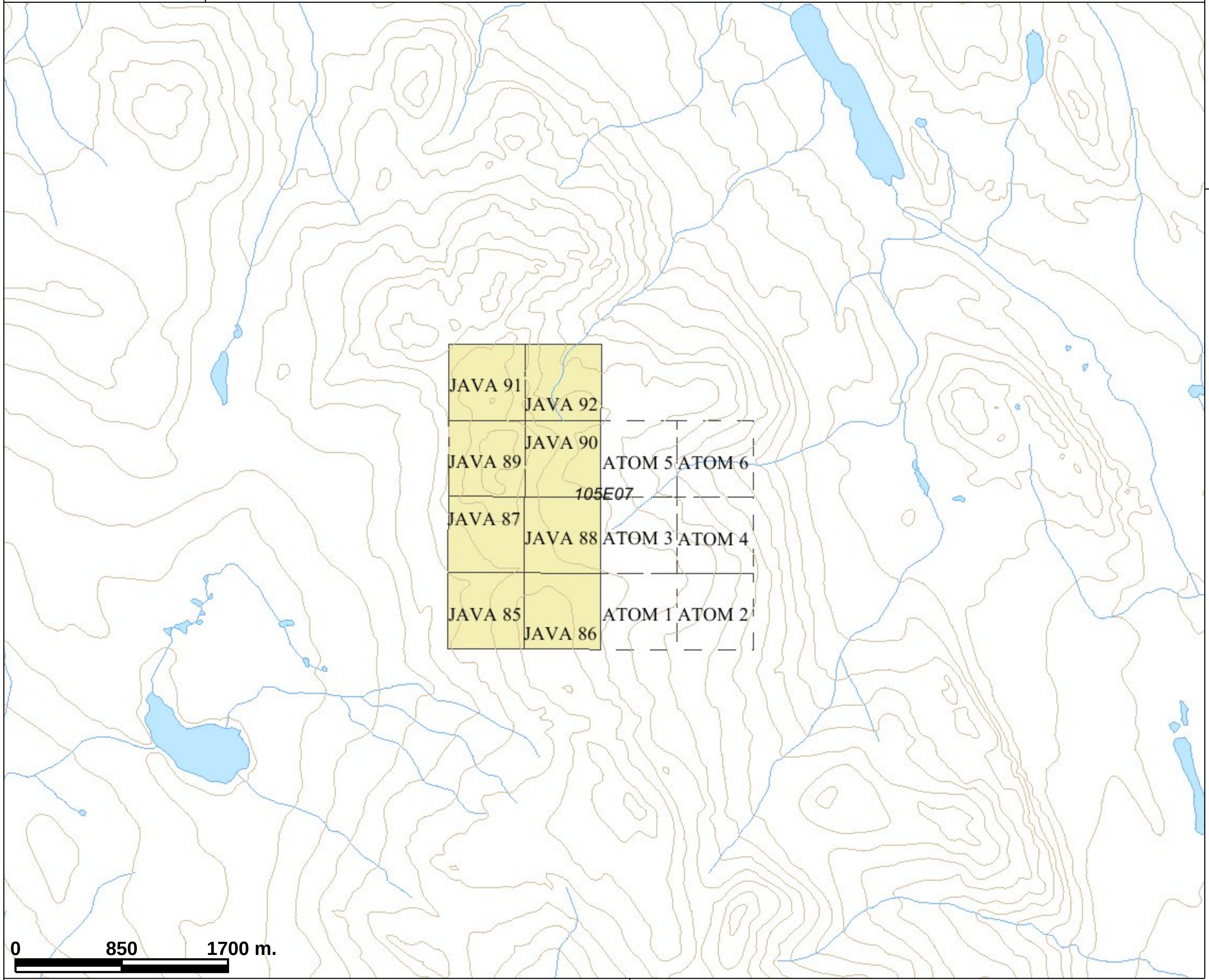
PROPERTY HISTORY

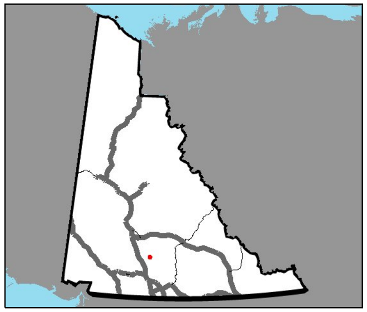
There are no records of mineral exploration in the area prior to 1971 when United keno Hill Mines Ltd, in a joint venture with Falconbridge and Canadian Superior, carried out a regional helicopter supported stream sediment sampling program which led to the discovery of the copper-molybdenum mineralization on Windy Mountain located 12 kilometers to the south of the Java property.

In 1975 the D.C. Syndicate (Dome and Cominco) explored for copper in the area north of Whitehorse and east of lake Laberge. Chalcopyrite and molybdenite mineralization in the monzonite north of Miller Creek was noted and subsequent work done on the BOND Claims included geological mapping and soil sampling. The BOND claims were allowed to lapse due to poor results from the soil program. Mineralization on the BOND claims, as described in the Yukon Minfile 105E 027 (Deklerk, 2002), consists

Java 85-92 Claims

Yukon Energy, Mines and Resources





Legend

Yukon Border - Surveyed

National Road Network - All Roads

- Expressway / Highway
- Arterial
- Collector
- Ramp
- Resource / Recreation
- Local / Street
- Local / Strata
- Local / Unknown
- Alley or Service Lane
- Service Lane
- Winter

Waterbodies (50k)

- Dry river bed
- Navigable canal
- Sand
- Water disturbance
- Waterbody
- Waterbody

Places (All)

- City
- Town
- Municipality
- Village
- Community
- Settlement
- Native Settle
- Hamlet
- Historic Site

Quartz Claims2

- Active
- Expired

N

Scale: 1:48,120

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Notes: Located on mapsheet 105E/07

of molybdenite and chalcopyrite in a weak fracture system cutting granodiorite and andesitic volcanic rocks.

The Windy Mountain area was staked in 1996 by A. Doherty and B. Sauer and optioned to Camdan Exploration, a private company. Candan carried out additional claim staking and completed a preliminary soil and rock sampling program. A ground magnetic survey was also carried out in 1996. The property was optioned to Placer Dome in 1997. The company carried out an extensive program of gridding, rock and soil geochemistry, petrographics, ground and airborne geophysics, hand trenching and mapping in that same year. Placer Dome dropped the option and eventually the claims reverted back to Doherty and Sauer. In 2001 Saturn Minerals optioned the property and carried out limited exploration in 2001 and 2003.

Camdan Exploration Inc. staked the Java group of claims in 1997 based on the encouraging results from the early exploration on the Mars property. Line cutting, mapping, prospectiong and soil sampling were conducted in 1997 and a minor propection program was carried out in 2000. The majority of the claims were allowed to lapse while the remaining Java 85-92 were transferred to the author.

CLIMATE, PHYSIOLOGY AND VEGETATION

The climate in the area of the Java property is semi-arid with warm summers and cold winters moderated by coastal influences. Total precipitation averages 30 centimetres annually with moderate snow coverage during the winter months. The property is generally free of snow from mid-may to late September.

The property is situated within a physiographic region known as the Lewes Plateau, an area of moderate to rugged topographical relief. The most prominent topographical feature in the region is a northwest trending ridge informally known as Windy Mountain located 12 kilometres south of the Java property. Miller Creek separates the Windy Mountain area from the Java property. Elevation on the property ranges from 792 metres to 1130 metres ASL.

The property is below tree line and outcrop averages less than 1%. Little to no till coverage exists on the upper portions of the property. Surficial geology of the Laberge area was mapped by Klassen and Morison (1987). The Laberge map sheet was completely covered 24,000 years ago by the McConnel ice sheet which advanced northwest through the map area. On the java property, till cover is boulder with a sandy matrix up to 10 meters thick. The till forms a discontinuous cover over the bedrock terrain and is associated with colluviums and bedrock fragments. Soil development in the area is poor with little B horizon development due to the semi-arid climate.

Vegetation on the property is thick for the most part. Pine and willow are on southern and eastern exposures and black spruce with alder on the northern and western exposures.

REGIONAL GEOLOGY

Bostock and Lees (1938) first mapped the regional geology of the Lake Laberge area followed by Templeman-kluit in 1984. The tectonic setting of the area is summerized in McMillan *et.al*. 1995. The geology of the Teslin Crossing Pluton and a description of mineralization on the Mars alkali copper-gold porphyry prospect on Windy Mountain is given in Hart (1996) and McClaren (2003).

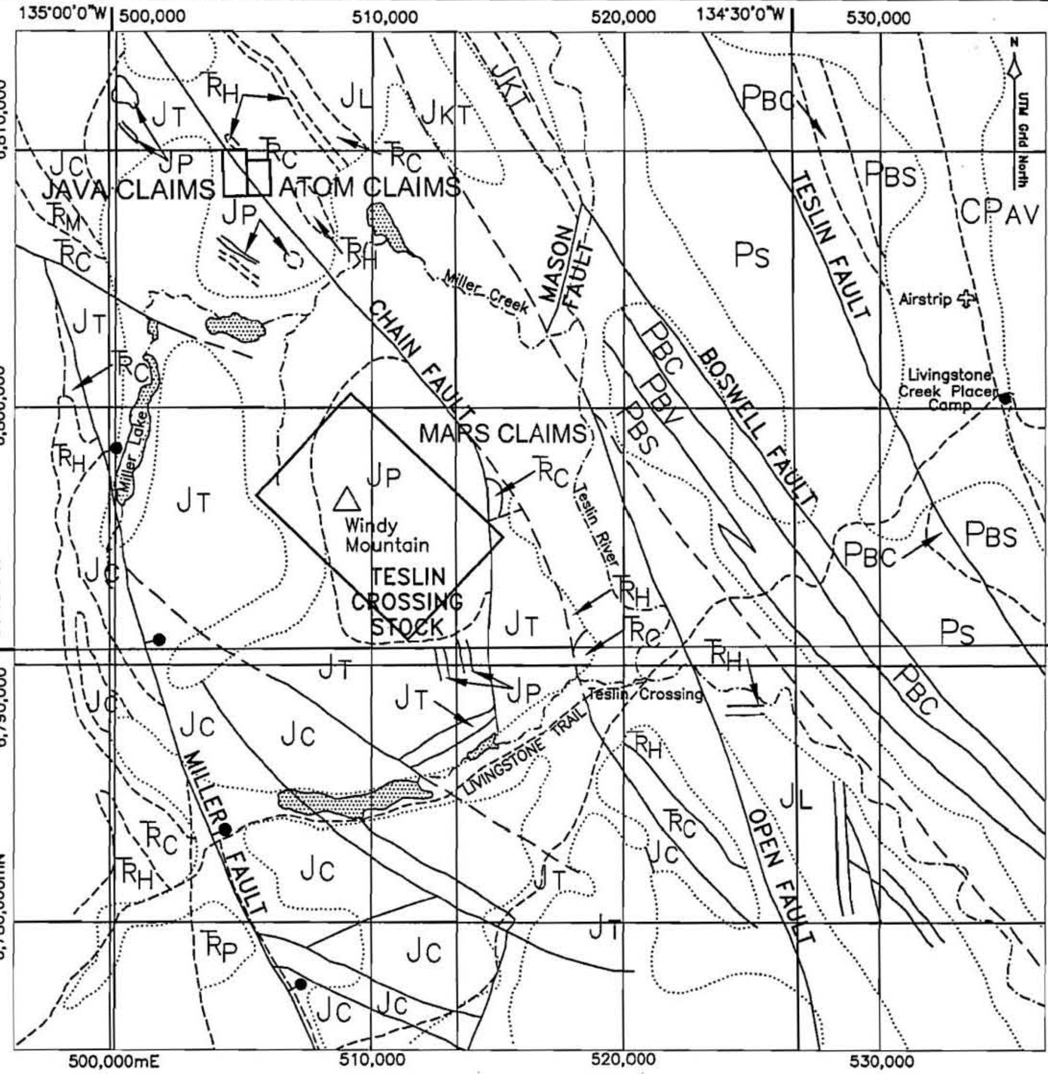
The java property is situated in northern Stikinia Terrane (Stikinia) which accreted to the western margin of ancestral North America during the middle Jurassic (Figure 3). Stikinia Terrane at this latitude consists of Upper Triassic Lewes River calc-alkalic island arc rocks and related sedimentary rocks (Table 2). Lewes River and Laberge Group rocks accumulated in a flat lying marginal basin known as the Whitehorse Trough. Stikine Terrane is bounded on the east by Yukon Tanana Terrane along the Teslin Fault and to the west by the Coast Plutonic Complex.

Table 2: Table of Units

Period	Epoch	Unit	Map Symbol	Lithology
Cretaceous		Tantalus Formation	J_{KT}	Chert pebble conglomerate
Jurassic	Middle	Teslin Crossing Formation	J_{P}	Monzonite, syenite, Granite
	Middle to Lower	Laberge Group	J_{L}	Undifferentiated Shale, greywacke and conglomerate
		Tanglefoot Formation	J_{T}	Arkose
		Conglomerate Formation	J_{C}	Conglomerate
Triassic	Upper to Lower Triassic	Lewes River Group		
		Casca Member	T_{RC}	Shale, greywacke, limestone
		Hancock Member	T_{RH}	Limestone
		Provos Formation	T_{RP}	Volcanic breccia
Carboniferous and/or Permian		Anvil Allochthonous Assemblage	CP_{AV}	Amphibolite
Pennsylvanian	Lower to Middle	Semenof Formation	P_{S}	Basalt
		Boswell Formation	P_{BS}	Phyllite, greywacke, chert and chert conglomerate
			P_{BC}	Limestone
			P_{BV}	Basalt

The java property is at the northern end of a 35 kilometre long northwest trending belt that contains numerous small stocks, sills and dyke that were intruded into Lewes River and Laberge Group rocks during the mid-Jurassic North American accretion event. The Teslin Crossing pluton, a composite intrusion of intermediate, alkali compositionis 7 kilometres southeast of the Java property and is host to the Mars alkali copper-gold molybdenum porphyry.

Faulting, lithologic attitudes, and other regional trends are generally northwest, with some younger northeast structures. The northwest trending Teslin Fault, located 20 kilometers east of the Java



LEGEND

UPPER JURASSIC AND/OR CRETACEOUS
Tantalus Formation
JKT Chert–pebble conglomerate

MIDDLE JURASSIC
Teslin Crossing Stock
JP Leucocratic manzonite, syenite and granite

LOWER TO MIDDLE JURASSIC
Laberge Group
JL Undifferentiated shale, greywacke and conglomerate
JT Tanglefoot Formation
Arkose
JC Conglomerate Formation
Conglomerate

UPPER TRIASSIC TO JURASSIC
Lewes River Group
TRC Casca Member
Shale, greywacke and limestone
TRH Hancock Member
Limestone
TRP Provos Formation
Volcanic breccia

CARBONIFEROUS AND/OR PERMIAN
Anvil Allochthonous Assemblage
CPAV Amphibolite

LOWER AND MIDDLE PENNSYLVANIAN
Semenof Formation
PS Basalt
Boswell Formation
PBS Phyllite, greywacke, chert and chert conglomerate
PBC Limestone
PBV Basalt

* Map and legend modified from Templeman–Kluit (1984)

Limit of outcrop
Geological boundary
Fault, approximate, assumed
Normal fault (circle on downthrown side)
Winter tote trail

0 2500 5000 7500 10000
METRES

TIGERSTAR GEOSCIENCE

JAVA PROPERTY
Regional Geology

SCALE: 1 : 250 000	FILE: 154B_2.dwg	DATE: April 24/2004
NTS: 105 E	DRAWN:	FIGURE: 3

property, is the largest structure in the area. The Chain Fault cuts the east side of the Java property. Numerous smaller northwest trending faults cut Lewes River Group and Laberge Group west of the Java property.

PROPERTY GEOLOGY

Geology on the Java property is shown in Figure 4. Property scale mapping of the Java property and surrounding area is limited due to the lack of outcrop. A series of Mid-Jurassic monzonite, syenite and granitic sills intrude Upper Triassic limestone and intrusive-rich clastic Lower to Middle Jurassic Laberge Group sedimentary rocks. The intrusive rocks are thought to be related to the neighbouring Teslin Crossing Pluton seven kilometres south.

Descriptions of the rock units noted on the Java property are as follows:

Lewes River Group (Upper Triassic)

Hancock Member

Massive,resistant, white weathering, coarsely crystalline limestone and thick bedded limestone is exposed intermittently along a north-northwest trending ridge on the java property.

Laberge Group (Early to Middle Jurassic)

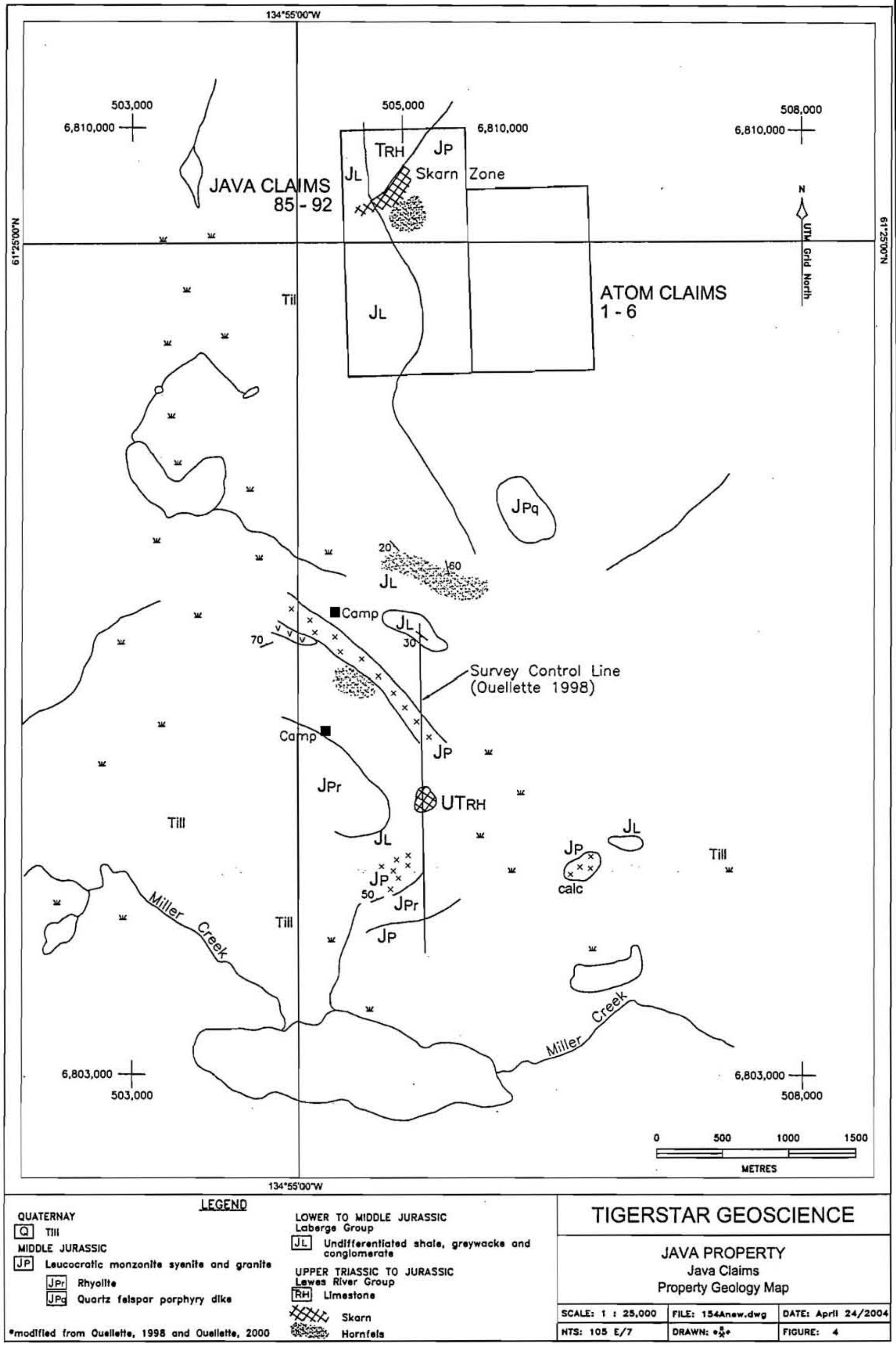
Coarse grained arkosic and feldspathic sandstone and granite pebble conglomerate of the Laberge Group are on the west side of the Java property. The arkosic rocks contain abundant crystal fragments of feldspar with quartz. These rocks are silicified to hornfelsed and form the broad north-northwest trending ridge which defines the boundary between the intrusive stock and the sedimentary rocks. The arkosic sedimentary rocks are pyritic where hornfelsed and are cut by limonite coated fractures.

Intrusive Rocks (Middle Jurassic)

In the Java property area Jurassic monzonite and syenite stocks and sills intrude older limestone and sedimentary rocks. Trachyitic border phases to the intrusive rocks and tractyitic flows were noted. The andesitic volcanic rocks originally reported by the D.C. syndicate were probably mafic rich and trachyitic phases within the sills. The extent of the intrusive rock on the property is suggested to be far greater than has been previously mapped.

MINERALIZATION

Skarn mineralization (“Skarn Zone”) consisting of massive chalcopyrite and sphalerite with variable silver, gold, and bismuth has been identified in the northern part of the Java property. The Skarn Zone is poorly exposed. The skarn was discovered by recognition of small (1 square meter) “kill zones” in dense bush on the eastern slope of the north trending ridge on the property. Mineralized trachyte chips were also noted in debris from a ground squirrel burrow. Massive to near massive chalcopyrite was subsequently exposed during hand trenching in silicified and brecciated trachyte near a limestone contact. Cross cutting (<0.5cm) pyrite veins are flat lying and dip gently to the west. Closer to the limestone contact the mineralization consists of massive to semi-massive magnetite with sphalerite. Rock chip samples collected in 1997 returned values up to 18,031 ppm copper, 7.1% zinc, 31.8 ppm


134°55'00"W
503,000
6,810,000
505,000
6,810,000
508,000
6,810,000
TRH
JP
JL
Skarn Zone
JAVA CLAIMS
85 - 92
N
UTM Grid North
61°25'00"N
61°25'00"N
ATOM CLAIMS
1 - 6
Till
JL
JPq
20
60
JL
Camp
JL
70
30
Survey Control Line
(Ouellette 1998)
Camp
JP
JPr
UTRH
Till
JL
JL
JP
Till
JP
calc
50
JPr
Till
JP
Miller Creek
Miller Creek
6,803,000
503,000
6,803,000
508,000
0
500
1000
1500
METRES
134°55'00"W
LEGEND
QUATERNAY
Q Till
MIDDLE JURASSIC
JP Leucocratic monzonite syenite and granite
JPr Rhyolite
JPq Quartz felspar porphyry dike
LOWER TO MIDDLE JURASSIC
Laberge Group
JL Undifferentiated shale, greywacke and conglomerate
UPPER TRIASSIC TO JURASSIC
Lewes River Group
RH Limestone
Skarn
Hornfels
*modified from Ouellette, 1998 and Ouellette, 2000
TIGERSTAR GEOSCIENCE
JAVA PROPERTY
Java Claims
Property Geology Map
SCALE: 1 : 25,000
FILE: 154Anew.dwg
DATE: April 24/2004
NTS: 105 E/7
DRAWN:
FIGURE: 4

silver,

1639 ppb gold and 1513 ppm bismuth (Figure 5). The extent of the skarn mineralization is not known.

EXPLORATION

The 2009 program consisted of a 62.6 line kilometre magnetic and radiometric airborne survey as described in Appendix 'A'.

INTERPRETATION AND CONCLUSIONS

The Java property is a copper-zinc-silver-gold-bismuth skarn prospect. The property is underlain by Triassic limestone and Jurassic sedimentary rocks intruded by Jurassic syenite and monzonite. The geological setting is consistent with known mineralized skarn deposits.

The geophysical airborne was survey flown on September 5th, 2009. Radiometric and magnetic data were collected over the entire property. Specifications of the survey are included in Appendix 'A' of this report.

The magnetic data reveals the extent of the intrusion underlying the majority of the Java property. The intrusive rocks are likely to be far more extensive than has been previously mapped. The broad eastern boundary and strong, narrow western boundary are consistent with an intrusive stock plunging steeply to the east. This is consistent with the Windy Mountain stock located to the south (Mars occurrence). The western boundary forms a particularly strong north-south arc expressing the contact with the sedimentary package. The skarn occurrence forms a distinct circular anomaly at the north western end of the magnetic anomaly defining the boundary of the Java stock. The Chain Fault occurs to the west of the intrusive unit. Its relationship to the intrusion and the mineralization is not known.

A coincident Th/K ratio low along the eastern edge of the magnetic anomaly could represent potassium alteration within the intrusive body at the contact where the skarn mineralization has occurred. The Th/K ratio low continues southward along the length of the contact zone east of the magnetic anomaly suggesting that potassic alteration occurs along the entire eastern contact. This may be reflecting alteration caused by the Chain Fault.

RECOMMENDATIONS

A soil and rock sampling program along the eastern contact zone is recommended to determine the existence of further skarn bodies in this location. The original Minfile (105E 027 BACON) occurrence has yet to be located on the property. The occurrence is described as being molybdenum and chalcopyrite on dry fractures within the intrusive.

Carbonate rocks are mapped along the northern contact of the stock as well. This area should be prospected and sampled.

A ground magnetic and IP survey should be conducted over the main skarn occurrence to determine its size potential.

Appendix ‘A’

Airborne Geophysical Survey Report
Java Property

Prepared for: Northern Tiger Resources

November 30, 2009

Precision GeoSurveys Inc.
520-355 Burrard Street, Vancouver, Canada V6C 2G8
www.precisiongeosurveys.com

Table of Contents

1.0 Introduction:

This report outlines the survey operations and data processing actions taken during the airborne geophysical survey flown over the Java Property. The airborne geophysical survey was flown by Precision GeoSurveys Inc. for Northern Tiger Resources. The geophysical survey, carried out on September 5, 2009, saw the acquisition of gamma ray spectrometer data and magnetic data.

Figure 1: Survey block outlined in red and survey lines in black

The Java property (Figure 1), located 20 km north-east of Lake Laberge, is approximately 77 km north of Whitehorse, YT (Figure 2). The survey area itself is approximately 2.7 km by 2.2 km. A total of 62.6 line kilometers of radiometric and magnetic data were flown for this survey, this total includes tie lines and survey lines. The survey lines were flown at 100 meter spacing's at a $90^o/270^o$ heading; the tie lines were flown at 1 km spacing's at a heading of $0^o/180^o$.

Figure 2: Java survey area location relative to Whitehorse, YT.

2.0 Geophysical Data:

Geophysical data are collected in a variety of ways and are used to aid in the exploration and determination of geology, mineral deposits, oil and gas deposits, contaminated land sites and UXO detection.

For the purposes of this survey, airborne gamma ray spectrometer and magnetic data were collected to serve in the exploration of the Java property and potentially enhance its value.

2.1 Magnetic Data:

Magnetic surveying is probably the most common airborne survey type to be conducted for both mineral and hydrocarbon exploration. The type of survey specifications, instrumentation, and interpretation procedures, depend on the objectives of the survey. Typically magnetic surveys are performed for:

1. Geological Mapping to aid in mapping lithology, structure and alteration in both hard rock environments and for mapping basement lithology, structure and alteration in sedimentary basins or for regional tectonic studies.
2. Depth to Basement mapping for exploration in sedimentary basins or mineralization associated with the basement surface.

2.2 Radiometric Data:

Radiometric surveys detect and map natural radioactive emanations, called gamma rays, from rocks and soils. All detectable gamma radiation from earth materials come from the natural decay products of three primary elements, uranium, thorium, and potassium. The purpose of radiometric surveys is to determine either the absolute or relative amounts of U, Th., and K in surface rocks and soils.

3.0 Survey Operations:

Precision GeoSurveys flew the Java property using a Bell 206 BIII Jet Ranger (Figure 3). The survey lines were flown at a nominal line spacing of one hundred (100) meters and the tie lines were flown at 1 km spacing for both the spectrometer and magnetometer as they were acquired simultaneously. The average survey elevation was 42.8 meters vertically above ground. The experience of the pilot helped to ensure that the data quality objectives were met and that the safety of the flight crew was never compromised given the potential risks involved in airborne surveying.

Figure 3: Bell 206 Jet Ranger equipped with mag stinger for magnetic data acquisition.

The base of operations for this survey was the Carmacks, YT located approximately 170 km north-west of Whitehorse, YT and 106 km north-west of the Java property. The Precision crew consisted of a total of three members:

Spring Harrison – Pilot
Paula Vera – Co-pilot/operator
Chris Brown – On-site geophysicist

The first day of survey took place on September 5, 2009. The survey was completed without any interference from the weather or equipment issues.

4.0 Equipment:

For this survey a magnetometer, spectrometer and a data acquisition system were required to carry out the survey and collect quality, high resolution data.

4.1 AGIS:

The Airborne Geophysical Information System, AGIS, (Figure 4), is the main computer used in data recording, data synchronizing, displaying real-time data for the operator to QC, pilot navigation and pilot display information.

Figure 4: AGIS installed in the Bell 206.

The AGIS was manufactured by Pico Envirotec; therefore the system uses standardized Pico software and external sources are connected to the system via RS-232 serial communication cables. The AGIS data format is easily converted into Geosoft or ASCII file formats by a supplied conversion program called PEIView. Additional Pico software allows for post survey quality control procedures.

4.2 Spectrometer:

The IRIS, or Integrated Radiometric Information System is a fully integrated, gamma radiation detection system containing two downward facing NaI detecting crystals for a total volume of 8.4 litres (figure 5). Real time data acquisition, navigation and communication tasks are integrated into a single unit that is installed in the rear of the aircraft as indicated below. Information such as total count, counts of various elements (K, U, Th, etc.), temperature, barometric pressure, atmospheric humidity and survey altitude can all be monitored on the AGIS screen for immediate QC. All the radiometric data are recorded at 1 Hz.

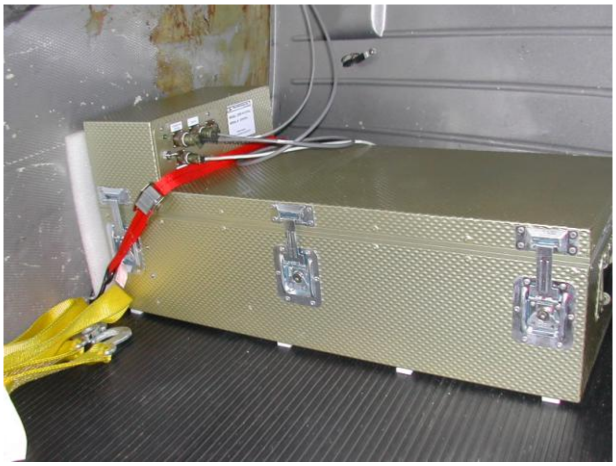


Figure 5: IRIS strapped into the cargo box of the helicopter.

4.3 Magnetometer:

The magnetometer used by Precision GeoSurveys is a Scintrex cesium vapor CS-3 magnetometer. The system was housed in a front mounted “stinger” (Figure 6). The CS-3 is a high sensitivity/low noise magnetometer with automatic hemisphere switching and a wide voltage range, the static noise rating for the unit is +/- 0.01 nT. On the AGIS screen the operator can view the raw magnetic response, the magnetic fourth difference and the survey altitude for immediate QC of the magnetic data. The magnetic data are recorded at 10 Hz. A magnetic compensator is also used to remove noise created by the movement of the helicopter as it pitches, rolls and yaws within the Earth’s geomagnetic field.

Figure 6: View of the mag stinger.

5.0 Data Processing:

After all the data are collected after a survey flight several procedures are undertaken to ensure that the data meet a high standard of quality. All data were processed using Pico Envirotec software and Geosoft Oasis Montaj geophysical processing software.

5.1 Magnetic Processing:

During aeromagnetic surveying noise is introduced to the magnetic data by the aircraft itself, movement in the aircraft (roll, pitch and yaw) and the permanent magnetization of the aircraft parts (engine and other ferric objects) are large contributing factors to this noise. To remove this noise a process called magnetic compensation is implemented. The magnetic compensation process starts with a test flight at the beginning of the survey where the aircraft flies in the four orthogonal headings required for the survey ($50^{o}/230^{o}$ and $140^{o}/320^{o}$ in the case of this survey) at an elevation where there is no ground effect in the magnetic data. In each heading roll, pitch and yaw maneuvers are performed by the pilot, these maneuvers provide the data that is required to calculate the necessary parameters for compensating the magnetic data. A computer program called PEIComp is used to create a model for each survey to remove the noise induced by aircraft movement; this model is applied to each survey flight so the data can be further processed.

A magnetic base station is set up before every flight to ensure that diurnal activity is recorded during the survey flights. Precision GeoSurveys uses a Geometrics 858 base station and sampled at 0.1Hz. Base station readings were reviewed at regular intervals to insure that no data were collected during periods with high diurnal activity (greater then 5 nT per minute). The base station was installed at a magnetically noise-free area, away from metallic items such as steel objects, vehicles, or power lines. The magnetic variations recorded from the stationary base station are removed from the magnetic data recorded in flight to ensure that the anomalies seen are real and not due to solar activity.

Some filtering of the magnetic data is also required. A Non Linear filter was used for spike removal. The 1D Non-Linear Filter is ideal for removing very short wavelength, but high amplitude features from data. It is often thought of as a noise spike-rejection filter, but it can also be effective for removing short wavelength geological features, such as signals from surficial features. The 1D Non-Linear Filter is used to locate and remove data that are recognized as noise. The algorithm is 'non- linear' because it looks at each data point and decides if that datum is noise or a valid signal. If the point is noise, it is simply removed and replaced by an estimate based on surrounding data points. Parts of the data that are not considered noise are not modified. The combination of a Non-Linear filter for noise removal and a low pass trend enhancement filter resulted in level data as indicated in the results section of this report. The low pass filters simply smoothes out the magnetic profile to remove isolated noise.

A lag correction was applied to the total magnetic field data to compensate for the lag in the recording system as the magnetometer sensor flies 6.45 m ahead of the GPS antenna.

Following a lag correction of 1.7 seconds, a low-pass filter equivalent to 1 second was then applied to the lag corrected data.

5.2 Radiometric Processing:

Radiometric data are processed by windowing the full spectrum to create channels for U, K, Th and total count. The data are then lightly filtered and corrected for survey altitude at standard temperature and pressure. Background radioactive contributions from the aircraft, cosmic radiation and atmospheric radon must also be removed. Finally the data are corrected by removing spectral overlap; this is done using the striping ratios that have been calculated for the spectrometer by prior calibration, this breaks the corrected elemental values down to the apparent radioelement concentrations.

5.3 Final Data Format

X – Easting in NAD83, UTM zone 8N
Y – Northing in NAD83, UTM zone 8N
utctime – UTCtime
basemag – diurnal data
mag – total magnetic field
lalt – laser altimeter readings
tc_cor – corrected total count
eK – percent potassium
eU – equivalent uranium
eTh – equivalent thorium

The file format will be provided in two (2) formats, the first will be a .GDB file for use in Geosoft Oasis Montaj, the second format will be a .XYZ file, this is text file. Two separate files will be provided for each format, one for the magnetic and one for the radiometrics.

Appendix A
Maps

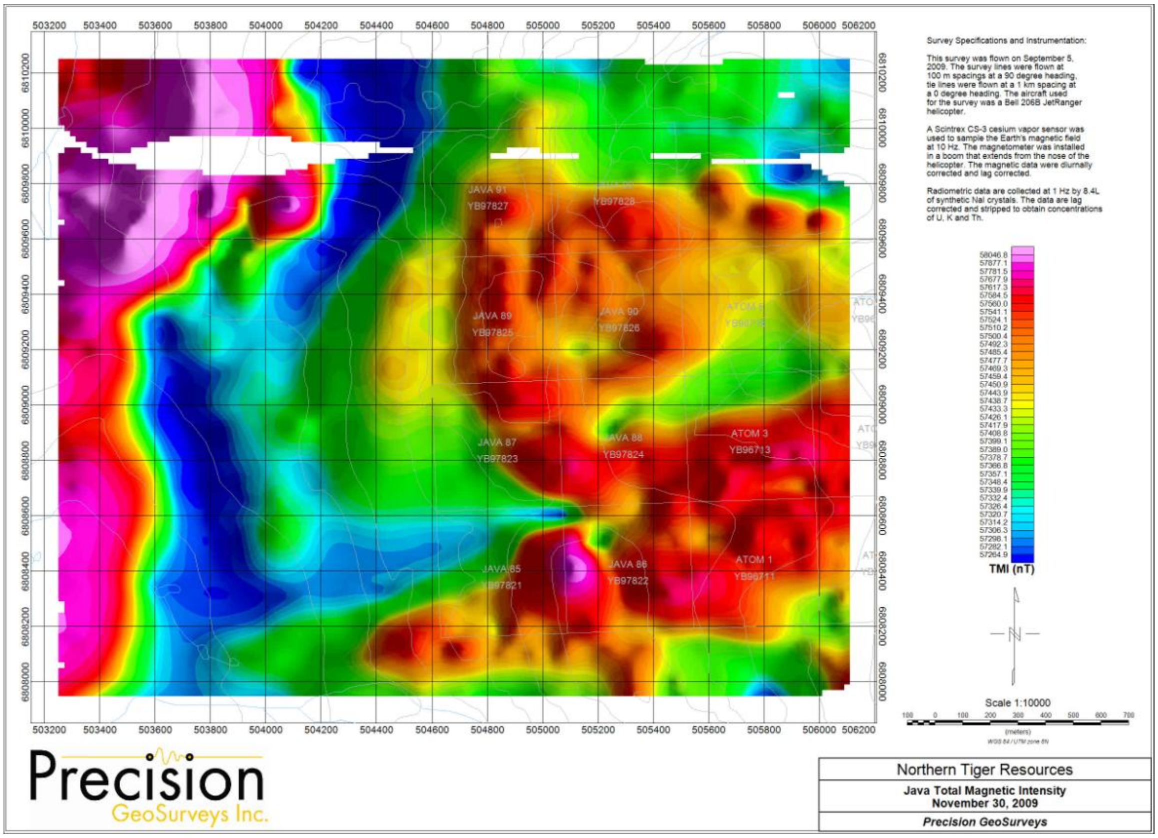


Figure 1: Java total magnetic intensity.

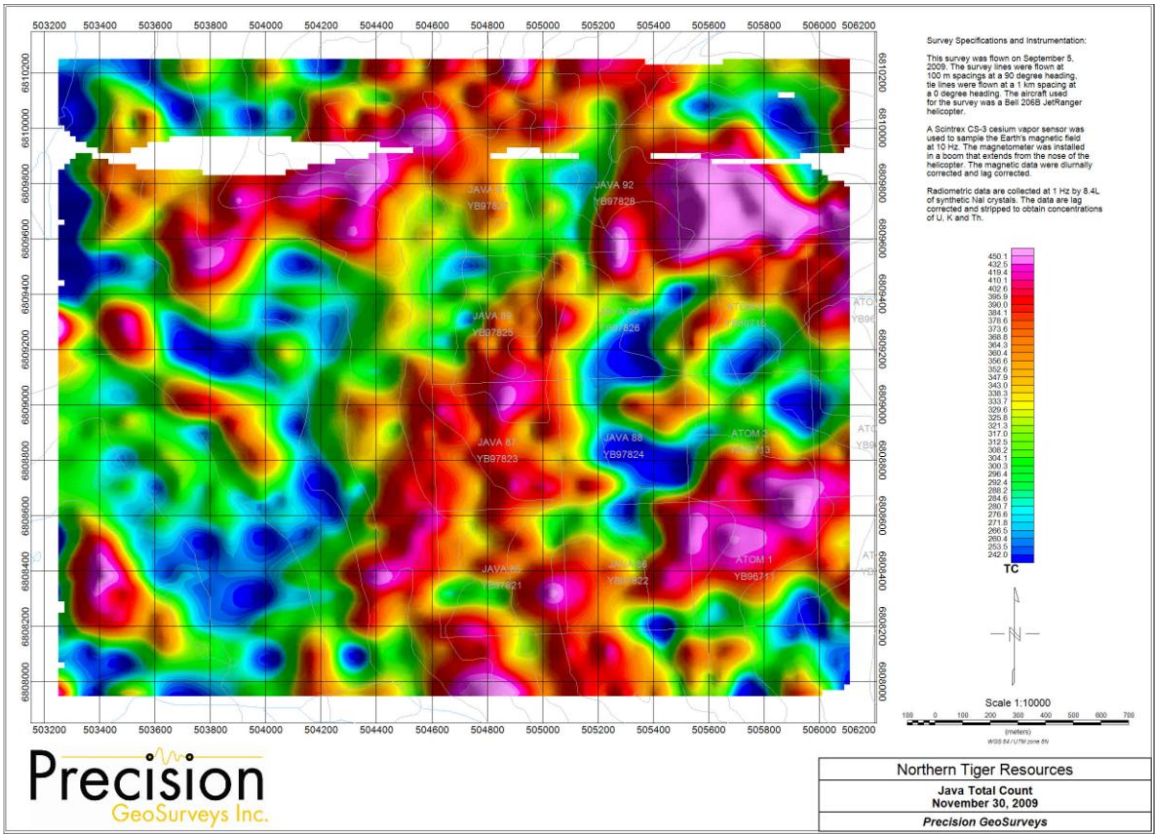


Figure 2: Java total count.

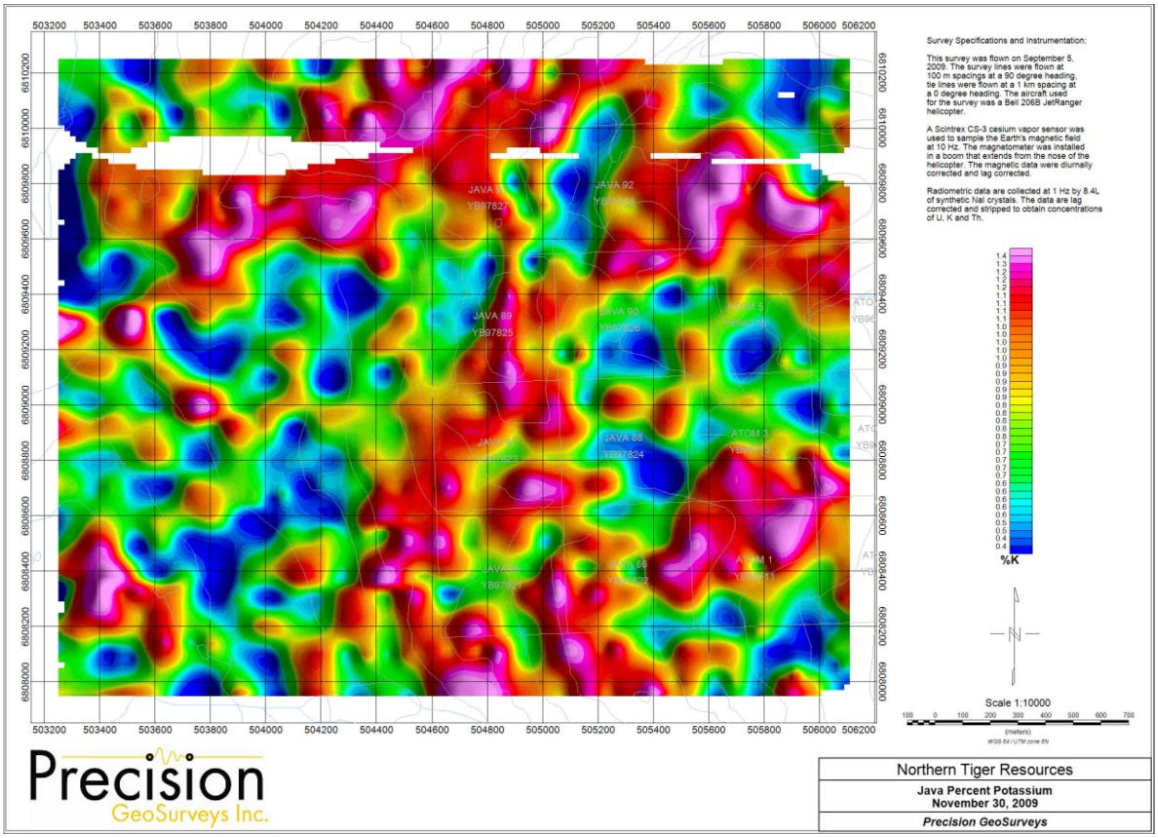


Figure 3: Java percent potassium

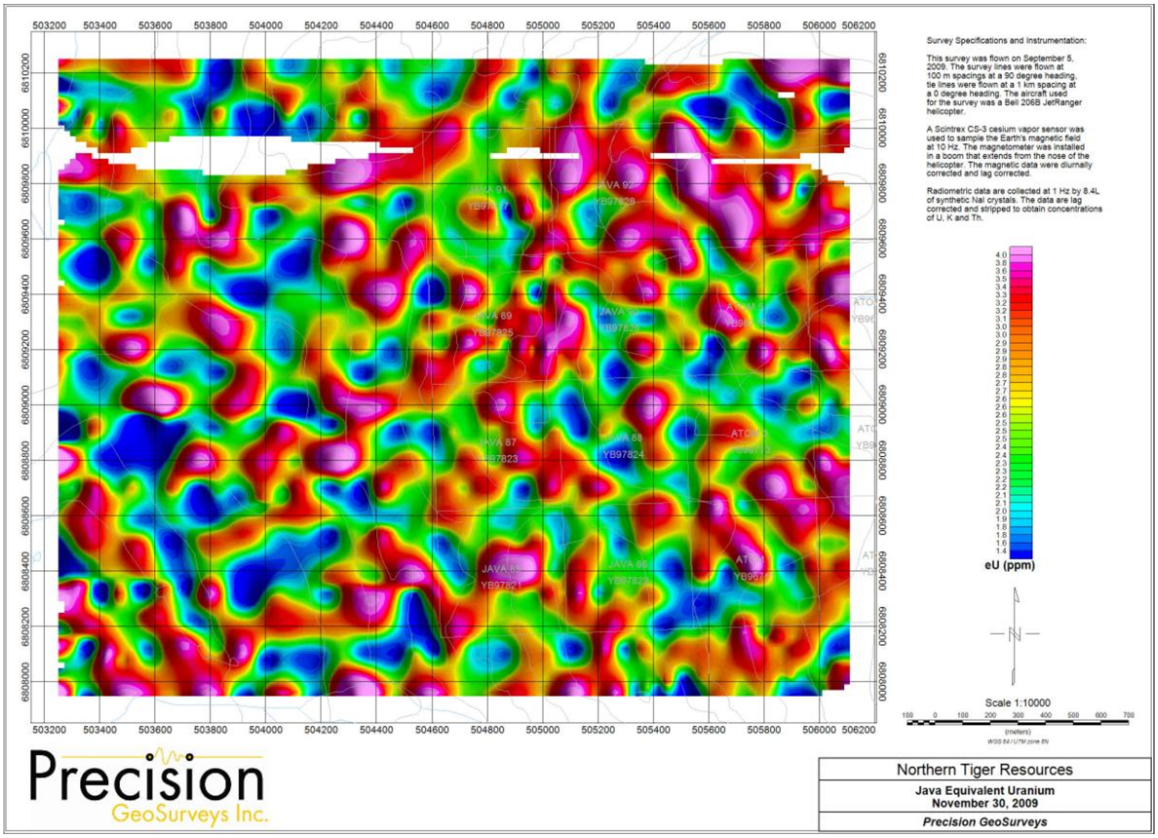


Figure 4: Java equivalent uranium

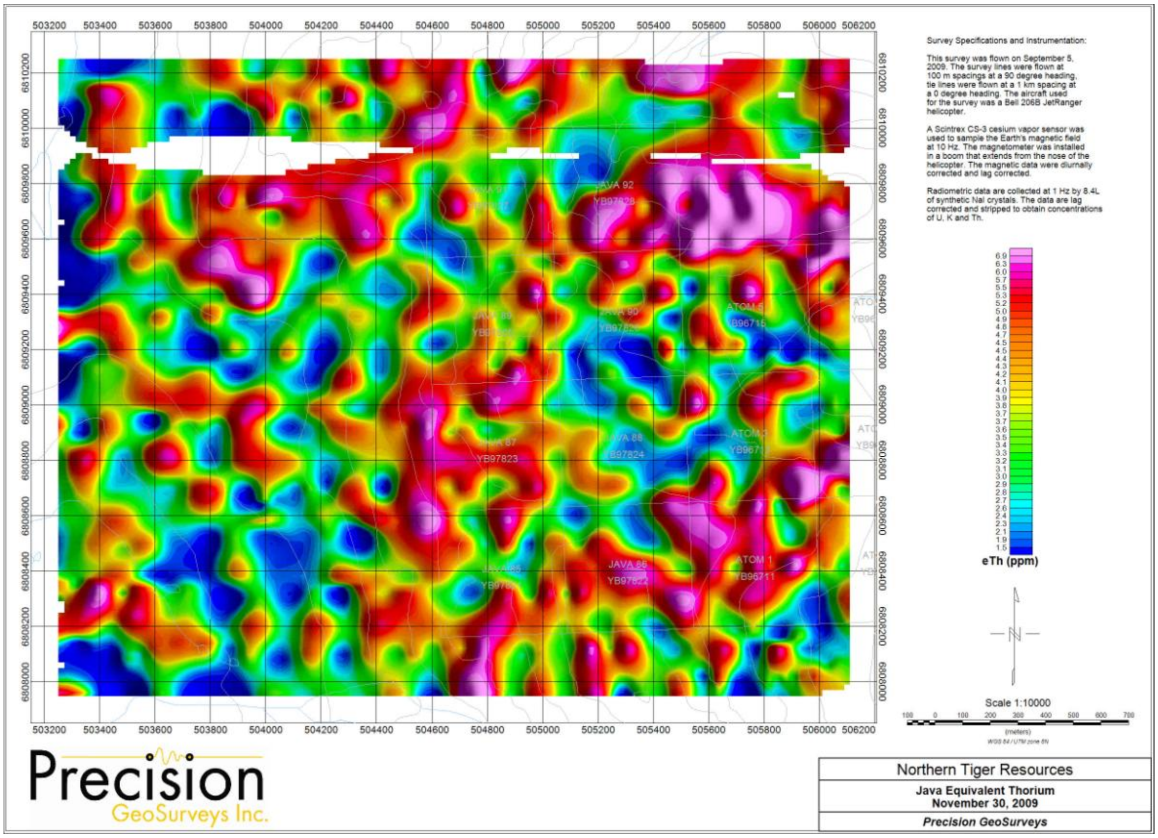


Figure 5: Java equivalent thorium

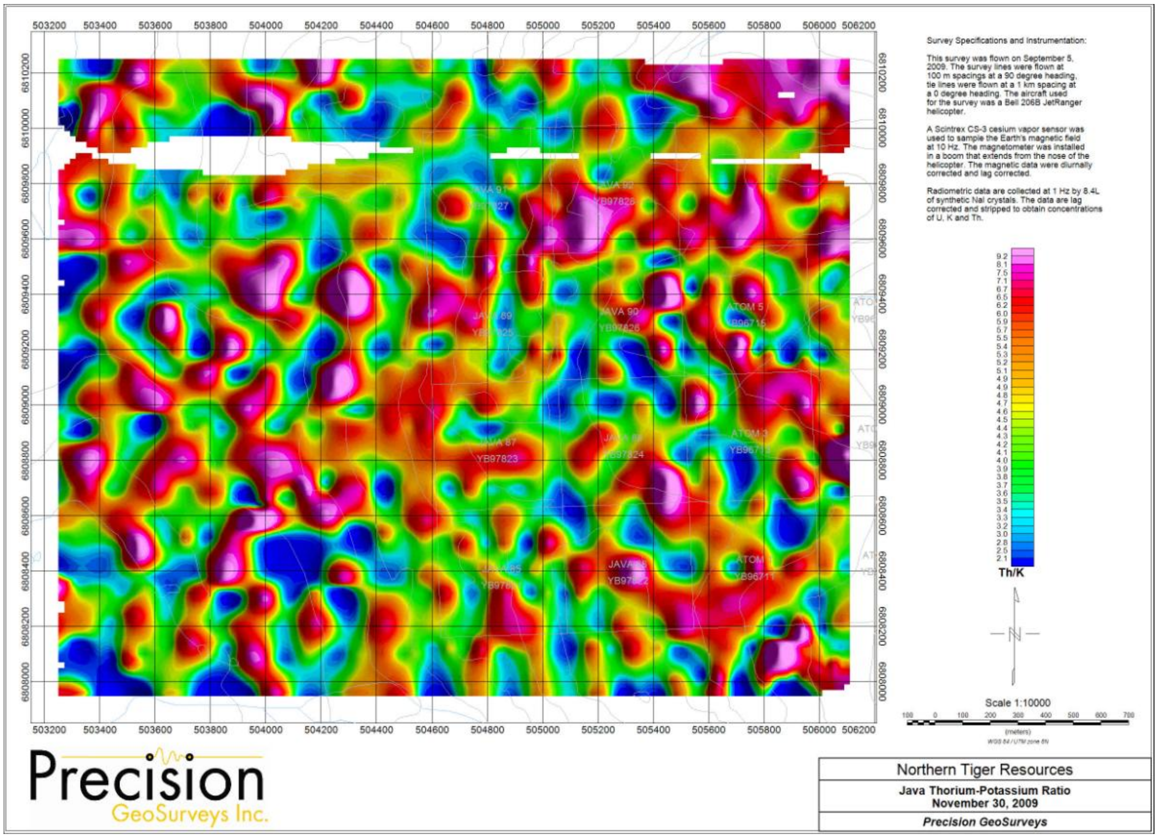


Figure 6: Java Th/K Ratio