

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
1016 - 510 West Hastings Street  
Vancouver, B.C. V6B1L8

Telephone: 604-688-2568

Fax: 604-688-2578

**ASSESSMENT REPORT**

describing

**GEOCHEMICAL SAMPLING AND GEOPHYSICAL SURVEYS**

at the

**BBB PROPERTY**

BBB 1-96	YD56331-YD56426
97-152	YD58527-YD58582
153-172	YD62853-YD62872
173-255	YD113413-YD113495

NTS 115I/03 and 04

Latitude 62°11'N; Longitude 137°31'W

located in the

Whitehorse Mining District  
Yukon Territory

prepared by

Archer, Cathro & Associates (1981) Limited

for

**WOLVERINE MINERALS CORP.**  
and  
**STRATEGIC METALS LTD.**

by

C.J. Chung, B.Sc., GIT

March 2011

## **CONTENTS**

INTRODUCTION	1
PROPERTY LOCATION, CLAIM DATA AND ACCESS	1
HISTORY AND PREVIOUS WORK	1
GEOMORPHOLOGY AND CLIMATE	3
REGIONAL GEOLOGY	3
PROPERTY GEOLOGY	4
REGIONAL MINERALIZATION	4
SOIL AND STREAM SEDIMENT GEOCHEMISTRY	5
GEOPHYSICS	6
DISCUSSION AND CONCLUSIONS	6
REFERENCES	8

## **APPENDICES**

I	STATEMENT OF QUALIFICATIONS
II	SAMPLING AND ANALYTICAL PROCEDURES
III	CERTIFICATES OF ANALYSIS
IV	AIRBORNE GEOPHYSICAL SURVEY AND INTERPREATION DATA

## **FIGURES**

<u>No.</u>	<u>Description</u>	<u>Follows Page</u>
1	Property Location	1
2	Claim Locations	1
3	Tectonic Setting	3
4	Regional Geology	3
5	Soil & Silt Sample Locations	6
6	Gold Geochemistry	6
7	Arsenic Geochemistry	6
8	Copper Geochemistry	6
9	Lead Geochemistry	6
10	Zinc Geochemistry	6
11	Total Magnetism Survey & Gold Geochemistry	6
12	Total Count Radiometrics & Gold Geochemistry	6

## **TABLES**

I	Lithological Units	4
II	Klaza property diamond drilling highlights	5

## INTRODUCTION

The BBB property was staked to cover creeks that yielded strongly anomalous gold values from historical stream sediment sampling. The property lies within the Dawson Range Gold Belt of western Yukon. Wolverine Minerals Corp. can earn a 100% interest in the property subject to an option agreement with Strategic Metals Ltd.

This report describes an exploration program that was conducted in summer 2010 by Archer, Cathro & Associates (1981) Limited on behalf of Strategic Metals, under the supervision of H. Smith, B.Sc., P.Geo. Initial work was performed on two days between July 12 and 15, and comprised geochemical sampling. Geophysical surveys were conducted later in the season between August 18 and 21. The author directed the program, and her Statement of Qualifications appears in Appendix I.

## PROPERTY LOCATION, CLAIM DATA AND ACCESS

The BBB property consists of 255 contiguous mineral claims, which are located on NTS map sheets 115I/03 and 04, and are centred at latitude 62°11' north and longitude 137°31' west (Figure 1). The property covers an area of approximately 5164 ha (51.64 sq km). The claims are registered with the Whitehorse Mining Recorder in the name of Archer, Cathro, which holds them in trust for Strategic Metals. 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>
BBB 1-96	YD56331-YD56424	April 15, 2011
97-152	YD58527-YD58582	May 17, 2011
153-172	YD62853-YD62872	October 1, 2011
172-255	YD113413-YD113495	December 6, 2011

\* Expiry dates do not include 2010 work that has not yet been filed for assessment credit.

In 2010, access to the property involved daily set outs and pick ups with a Bell 206B helicopter owned and operated by Capital Helicopters (1995) Inc. of Whitehorse, from a temporary base at the Klaza property located near the former Mount Nansen Mine. The Klaza property lies about 13 km to the southeast of the BBB property and 70 km by road west of the community of Carmacks.

## HISTORY AND PREVIOUS WORK

In 1969, Archer, Cathro performed regional exploration in the Dawson Range district for the Dawson Range Joint Venture. During that program, 18 stream sediment samples were collected from what is now the BBB property. Those samples returned up to 10 ppm copper, up to 51 ppm lead and nil molybdenum (Cathro and Culbert, 1969).

In 1974, Archer, Cathro again conducted regional exploration in the Dawson Range district for the Klotassin Joint Venture (KJV). KJV was made up of Newconex Canadian Exploration Ltd., Marietta Resources International Ltd., and Molybdenum Corporation of America. Work

**WOLVERINE MINERALS CORP.  
STRATEGIC METALS LTD.**

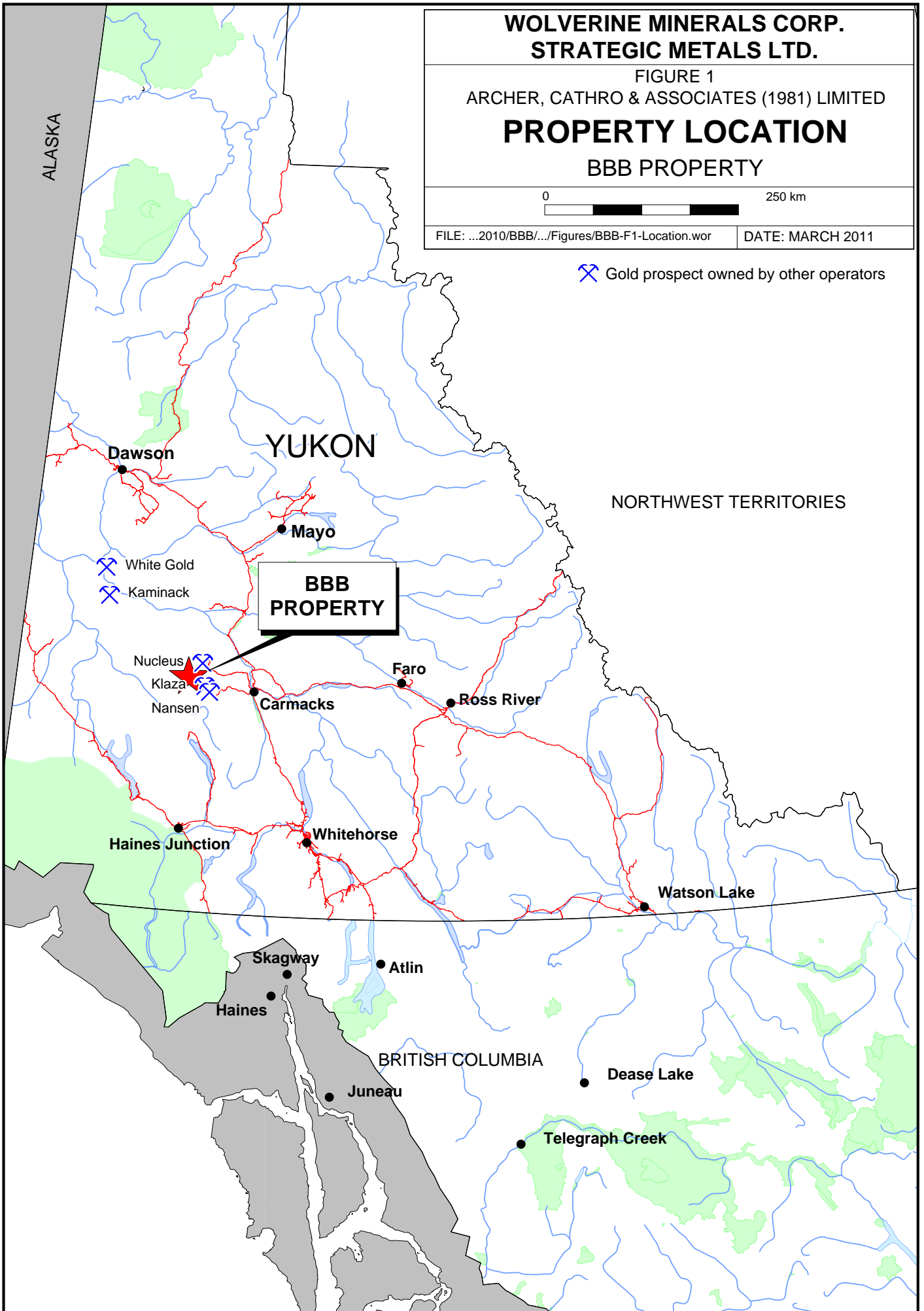
FIGURE 1  
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

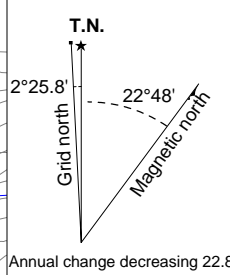
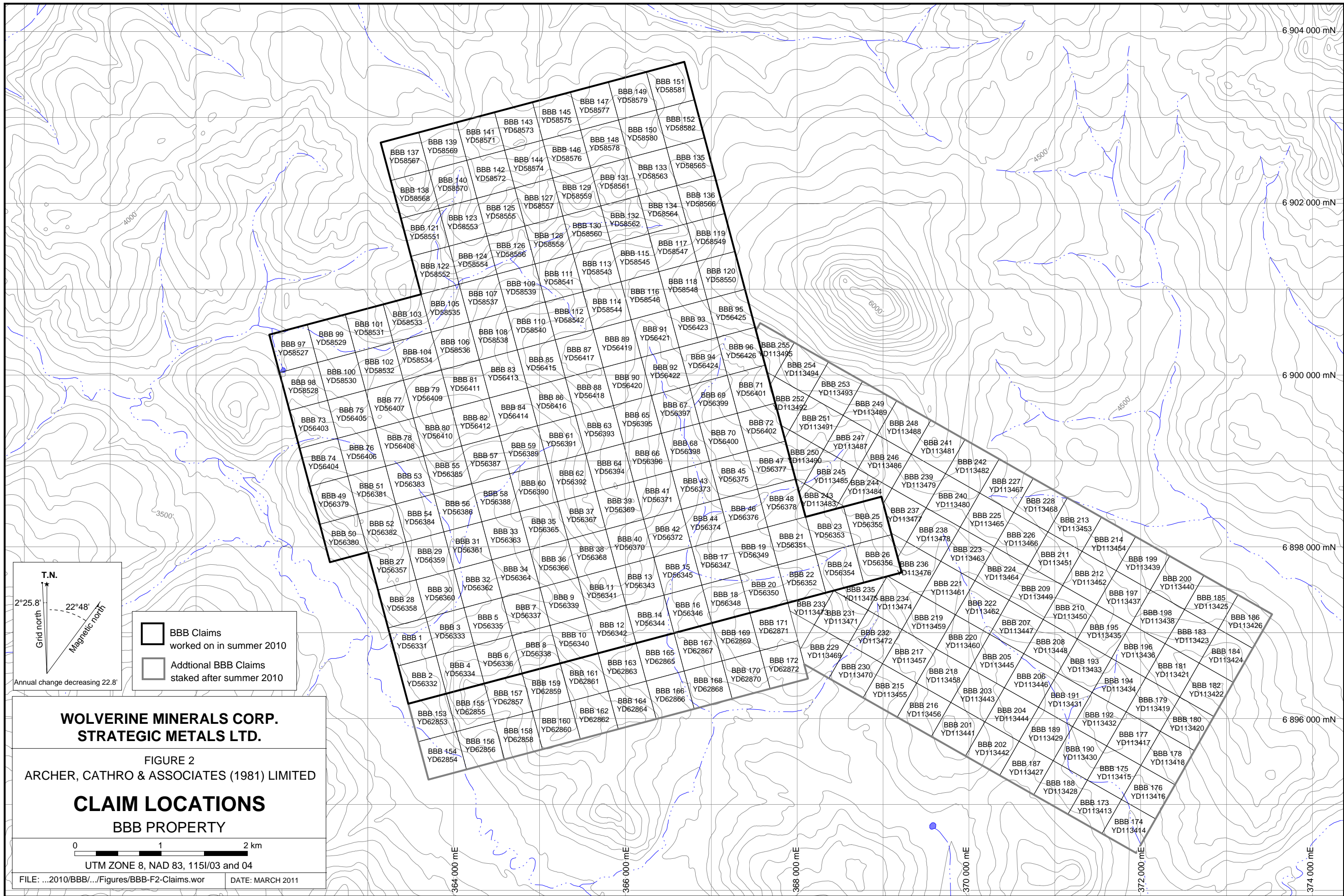
**PROPERTY LOCATION  
BBB PROPERTY**



FILE: ...2010/BBB/.../Figures/BBB-F1-Location.wor DATE: MARCH 2011

Gold prospect owned by other operators





- BBB Claims worked on in summer 2010
- Additional BBB Claims staked after summer 2010

**WOLVERINE MINERALS CORP.  
STRATEGIC METALS LTD.**

FIGURE 2  
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

**CLAIM LOCATIONS  
BBB PROPERTY**

0 1 2 km  
UTM ZONE 8, NAD 83, 1151/03 and 04

performed included 1:50,000 scale reconnaissance-style prospecting, mapping and geochemical sampling (Cathro, 1974). This work was conducted dominantly to the north of the current BBB property area and no samples were collected within the property boundaries.

In 1975, Archer, Cathro continued its exploration on behalf of KJV. Forty-four soil samples and three stream sediment samples were collected within the current BBB property boundary. These samples were analyzed for copper, molybdenum, lead and zinc. The samples returned weakly to moderately anomalous values for copper (up to 114 ppm), lead (up to 48 ppm) and zinc (up to 155 ppm). Molybdenum returned background values (Cathro, 1976).

In 1980, Archer, Cathro did work in the Dawson Range as part of the NAT Joint Venture (NAT JV), which comprised Chevron Canada Limited and Armco Mineral Exploration Ltd. Part of the NAT JV program involved reanalyses of over 5000 previously collected geochemical sample splits for gold, silver, arsenic and lead. Twenty-one soil samples and 37 stream sediment samples were reanalyzed from the BBB property. Three stream sediment samples from one drainage returned between 110 to 150 ppb gold while samples from two other nearby drainages yielded 500 ppb and 100 ppb gold (Archer and Onasick, 1980).

In 1985, the Geological Survey of Canada (GSC) conducted a low-density stream sediment and water sampling survey on NTS map sheet 115I (Friske et al., 1985). Five samples were taken from two creeks draining the area of the BBB property. These samples returned only background values.

In 1986, the Toast claims were staked by Freegold Venture (Chevron Minerals Limited) to cover the source area of a gold-in-silt anomaly discovered by the GSC. The Toast claims lies in the southeastern part of the current BBB property. A small work project was performed, but no results were reported (Main, 1987).

In 1987, the Toast claims were optioned to Big Creek Joint Venture (BCJV), which comprised Big Creek Resources Ltd. and Rexford Minerals Ltd. A mapping, prospecting and geochemical sampling program was performed by Archer, Cathro on behalf of BCJV. Twenty-five stream sediment samples were collected; the best of which returned 55 ppb gold. Thirty-seven soils samples were also collected at 100 m spacing; two samples of those yielded 25 ppb and 20 ppb gold. The program was unable to reproduce the anomaly discovered by the GSC, and no further work was recommended (Main, 1987).

In 1987, E. Curley, a prospector, staked the Jam claims to cover a stream sediment gold anomaly and carried out a prospecting program. These claims covered an area on the southeastern edge of the current BBB property. Sampling at approximately 90 m spacing failed to identify a source the anomaly (Curley, 1987).

In 1989, E. Curley reportedly discovered mineralized float on the Jam claims, just off the current BBB property boundary (Curley, 1989).

Strategic Metals staked the initial BBB claims in March 2010 and optioned them to Wolverine Minerals in September 2010. More claims were added later in fall to link the BBB claims to the

adjacent Klaza property and to cover the possible source area of the mineralized float E. Curley reported on the Jam claims.

### **GEOMORPHOLOGY AND CLIMATE**

The BBB property is situated in the southern part of the Dawson Range and is drained by creeks that flow into the Klaza River, which is part of the Yukon River watershed. The property was glaciated during Pliocene to early Pleistocene (Duk-Rodkin, 1999). Ice movement in this area arced from southeast to southwest following the same orientation as the Klaza River.

The property covers a system of ridges at the headwaters of several creeks draining southwest into the Klaza River. Elevation ranges from approximately 1000 m at the Klaza River valley to 1460 m on the flank of Tritop Peak on the eastern boundary. Outcrop is mostly limited to ridge tops and creek gullies.

Treeline in the area is at approximately 1400 m above sea level. Lower elevations are characterized by buckbrush, moss and spruce forests. Moderate elevations are vegetated with scattered spruce and poplar trees with an understory of buckbrush and grass. Higher elevations comprise a mat of moss and grass with rare low shrubs.

The climate in the BBB 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.

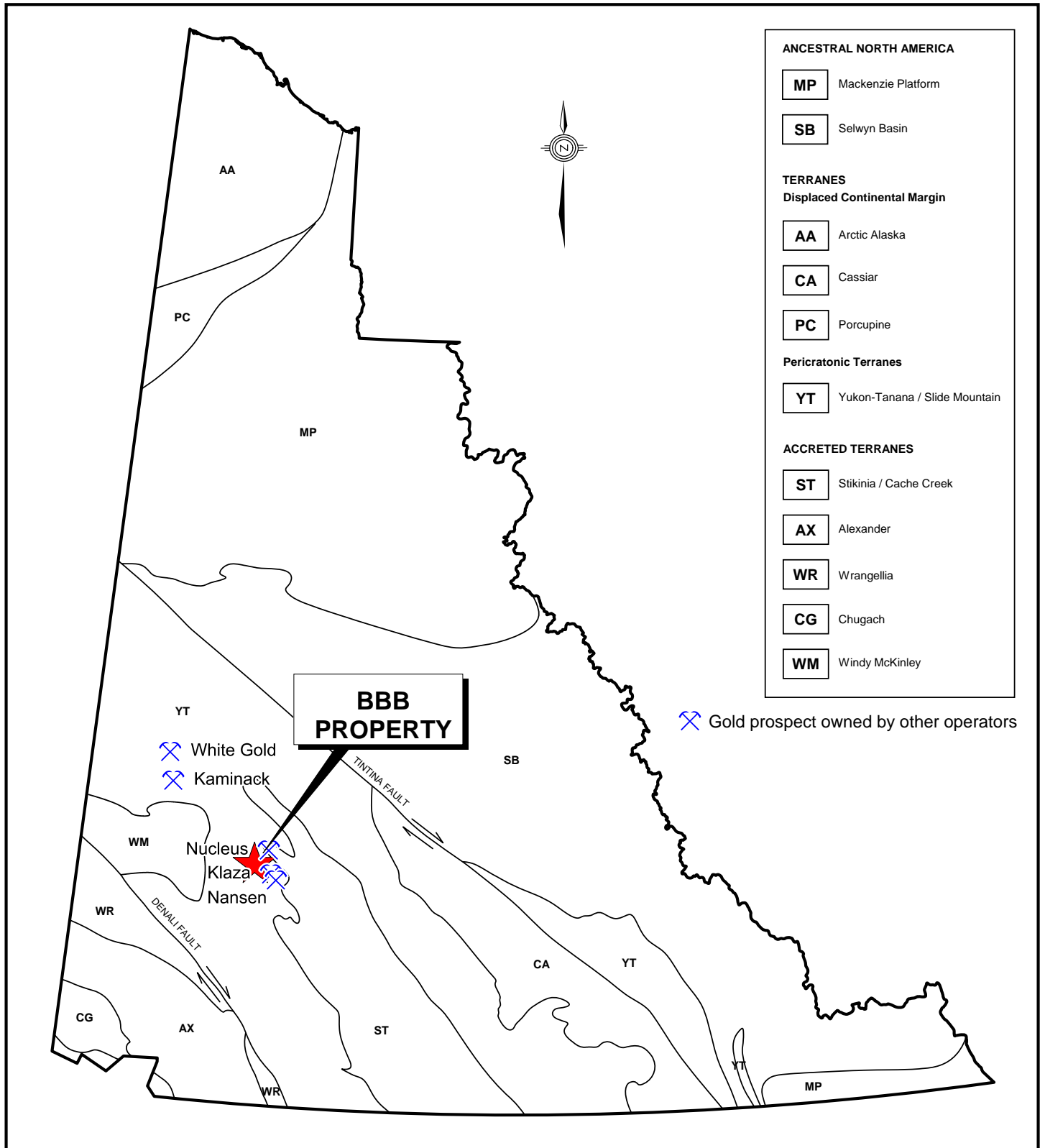
### **REGIONAL GEOLOGY**

The BBB property is located within the Yukon-Tanana Terrane (YTT) as shown on Figure 3. The YTT represents a continental arc that developed along the ancient Pacific margin of North America from late Devonian to Permian.

In 1975, KJV performed 1:50,000 scale geological mapping of Regional Area 'C', which includes a portion of the BBB property (Cathro, 1976). In 1984, the Geological Survey of Canada published a geological map of the Carmacks area (NTS map sheet 115I) at 1:250,000 scale (Tempelman-Kluit, 1984). In 1987, Carlson published 1:30,000 scale geological maps of the Mount Nansen (115I/03) and Stoddart Creek (115I/06) areas. Gordey and Makepeace (2003) later completed a Yukon-wide geological compilation, which updated the lithological unit names in the BBB area.

Figure 4 illustrates geology as compiled by Gordey and Makepeace (2003). The main lithological units are described in the Table I.





**WOLVERINE MINERALS CORP.  
STRATEGIC METALS LTD.**

FIGURE 3  
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

**TECTONIC SETTING**  
BBB PROPERTY

0 200 km

FILE: ...2010/BBB/.../Figures/BBB-F3-Tectonics.wor | DATE: MARCH 2011

**WOLVERINE MINERALS CORP.  
STRATEGIC METALS LTD.**



FIGURE 4  
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

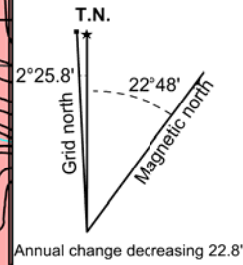
**REGIONAL GEOLOGY**  
BBB PROPERTY

0 2 4 km

UTM ZONE 8, NAD 83, 115I/03 and 04

FILE: ...2010/BBB/.../Figures/BBB-F4-Geology.wor DATE: MARCH 2011

-  BBB Claims worked on in summer 2010
-  Additional BBB Claims staked after summer 2010



**LATE CRETACEOUS TO TERTIARY**

**LKfP** Prospector Mountain Suite  
Grey, fine to coarse grained quartz-feldspar porphyry dykes

**MIDDLE CRETACEOUS**

**mKN** Mount Nansen Group  
massive aphyric or feldspar-phyric andesite to dacite flows, breccia and tuff; massive, heterolithic, quartz- and feldspar-phyric, felsic lapilli tuff; flow-banded quartz-phyric rhyolite and quartz-feldspar porphyry plugs, dykes, sills and breccia

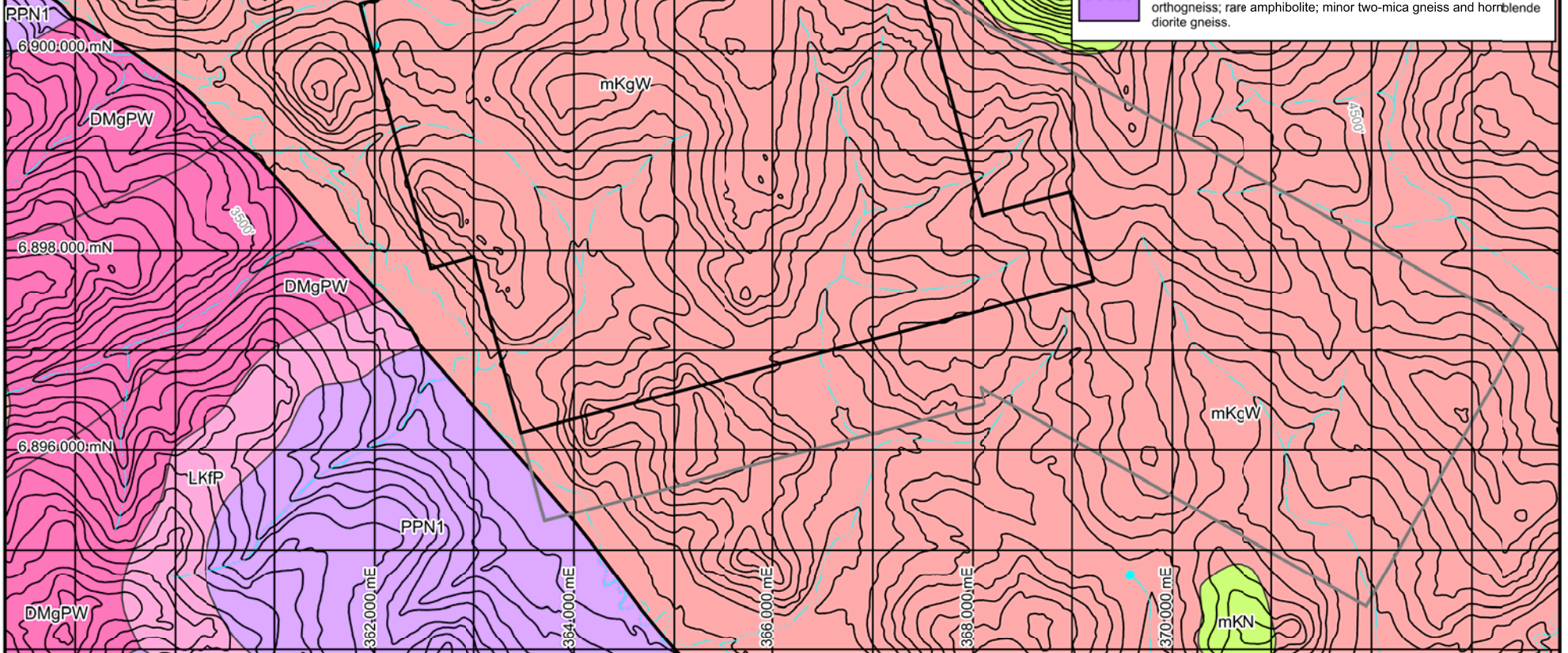
**mKgW** Whitehorse Suite  
g. biotite-hornblende granodiorite, hornblende quartz diorite and hornblende diorite; leucocratic, biotite hornblende granodiorite locally with sparse grey and pink potassium feldspar phenocrysts.

**LATE DEVONIAN TO MISSISSIPPIAN**

**DMgPW** Pelly Gneiss Suite (Southwest)  
g. foliated medium grained, homogeneous granite gneiss to biotite or hornblende granodiorite gneiss; massive to strongly foliated dioritic to granodioritic gneiss; includes interfoliated amphibolite, quartz-mica schist and phyllite.

**PROTEROZOIC AND PALEOZOIC**

**PPN1** Nisling  
Dark grey to brown, biotite-muscovite-quartz-feldspar schist, quartzite and micaceous quartzite, garnetiferous; felsic chlorite-biotite orthogneiss; rare amphibolite; minor two-mica gneiss and hornblende diorite gneiss.



**Table I – Lithological Units (after Gordey and Makepeace, 2003)**

<b>Unit Name</b>	<b>Age</b>	<b>Map Name</b>	<b>Description</b>
Prospector Mountain Suite	Late Cretaceous to Tertiary	LKfP	Grey, fine to coarse grained, quartz-feldspar porphyry dykes.
Mount Nansen Group	Mid-Cretaceous	mKN	Massive aphyric or feldspar-phyric andesite to dacite flows, breccia and tuff; massive, heterolithic, quartz- and feldspar-phyric, felsic lapilli tuff; flow-banded quartz-phyric rhyolite and quartz-feldspar porphyry plugs, dykes, sills, and breccia.
Whitehorse Suite	Mid-Cretaceous	mKgW	Grey, medium to coarse grained, generally equigranular granitic rocks of intermediate composition. (Biotite-hornblende granodiorite, hornblende-quartz diorite and hornblende diorite; leucocratic, biotite-hornblende granodiorite, locally with sparse grey and pink potassium feldspar phenocrysts.)
Pelly Gneiss Suite – Southwest	Late Devonian to Mississippian	DMgPW	Foliated medium grained, homogeneous granite gneiss to biotite or hornblende granodiorite gneiss. Massive to strongly foliated dioritic to granodioritic gneiss; includes interfoliated amphibolite, quartz-mica schist and phyllite.
Nisling Assemblage	Late Proterozoic and Paleozoic	PPN1	Dark grey to brown, biotite-muscovite-quartz-feldspar schist, quartzite and micaceous quartzite, garnetiferous; felsic chlorite-biotite orthogneiss; rare amphibolite; minor two-mica gneiss and hornblende diorite gneiss.

### **PROPERTY GEOLOGY**

No detailed geological mapping has been done on the BBB property. Based on published data discussed in the previous section, all exposures on the property are assigned the Whitehorse Suite. Two small (less than 1.5 km across) areas immediately east of the property are mapped as Mount Nansen Group andesite to dacite flows and porphyry plugs, dykes and sills.

A large fault was inferred by KJV to coincide with the Klaza River to the southwest of the property. The age and sense of motion of this fault are not known.

There is no mineralization known on the property.

### **REGIONAL MINERALIZATION**

There are numerous mineral deposits in the Dawson Range that are associated with late stage quartz-feldspar porphyry dykes. One example of this style of mineralization occurs at the nearby Klaza Property, where those dykes intrude Whitehorse Suite granodiorite.

At Klaza, soil geochemistry and excavator trenching have lead to the discovery of a series of northwest (300°) trending gold-silver veins. Highlighted intervals from trenching include: 1.34 g/t gold and 10.5 g/t silver over 48.76 m; 1.01 g/t gold and 15.5 g/t silver over 78.03 m; 35.1 g/t

gold and 72.5 g/t silver over 1.03 m; and 6.50 g/t gold and 9.8 g/t silver over 4.30 m (Turner, 2010).

In 2010, drilling was performed to test the sub-surface extension of vein mineralization identified in excavator trenches. The drilling successfully intersected zones of vein, breccia and porphyry style mineralization associated with a series of narrow, discontinuous quartz-feldspar porphyry dykes. The age of these dykes is not known; however, based on crosscutting relationships they are younger than the granodiorite. Drill results from the recent drilling are shown in Table II below (Turner, 2010).

**Table II – Klaza property diamond drilling highlights**

Hole ID	From (m)	To (m)	Interval (m)	Gold (g/t)	Silver (g/t)
KL-10-03	62.08	112.36	50.28	1.10	23.5
Including	62.08	64.75	2.67	2.41	130.1
Including	86.93	106.68	19.75	2.29	36.1
Including	86.93	89.55	2.62	13.05	143
KL-10-05	20.41	48.90	28.49	0.77	14.8
Including	20.41	24.38	3.97	4.57	51.6
KL-10-05	79.20	81.16	1.96	1.47	95.1
KL-10-06	21.64	25.00	3.36	32.52	34.3
KL-10-07	128.00	164.50	36.50	3.23	117.7
Including	134.00	149.30	15.30	7.20	260.0
Including	138.50	139.50	1.00	39.3	709
Including	146.77	149.30	2.53	24.7	1087.0

### **SOIL AND STREAM SEDIMENT GEOCHEMISTRY**

Previous geochemical sampling on the BBB property focused mainly on stream sediments, most of which were taken from streams in the western part of the property. Sample spacing was broadly spaced, with minimum separation of about 200 m between sample sites. In general, copper and lead values were background to weakly anomalous compared to regional backgrounds while molybdenum and zinc values were all at background levels. Three samples along one creek in the northwestern part of the property returned strongly anomalous gold values (between 110 to 150 ppb), while two other samples along drainages to the south returned 500 ppb and 100 ppb gold. The smallest and most anomalous of these creeks also yielded two samples with 50 ppm and 65 ppm arsenic.

A total of 131 geochemical samples were collected in summer 2010. Of these, 59 are soil samples while 72 are stream sediment samples. Soil samples were taken at 50 m spacing, using hand held soil augers on along a ridge top and along a contour line. Stream sediment samples were taken from four unnamed creeks and their associated tributaries in the western part of the property.

Sample locations and results for gold, arsenic, copper, lead, and zinc are shown on Figures 5 to 10. Sampling and Analytical Procedures for 2010 samples are provided in Appendix II, while Certificates of Analysis are given in Appendix III.

The contour soil samples returned background to moderately anomalous values for gold (up to 22 ppb) and copper (up to 88 ppm). Values were low for all other metals.

The stream sediment samples were taken along four main drainages in the western portion of the property. They yielded background to moderately anomalous values for gold (up to 43 ppb), arsenic (up to 84 ppm), copper (up to 158 ppm) and zinc (up to 192 ppm). Lead values are background to weakly anomalous (up to 16 ppm).

No prospecting has been done to follow up the anomalous results.

### **GEOPHYSICS**

In August 2010, a 144 line km helicopter-borne magnetic and radiometric survey was completed by New-Sense Geophysics Ltd. over an area in the northwestern part of the property. Condor Consulting, Inc. was commissioned to assess the data and provide a 3D model of the magnetics. Appendix IV contains reports by New-Sense, which describe equipment and procedures that were used during the surveys, and Condor Consulting which relate to the interpreted results.

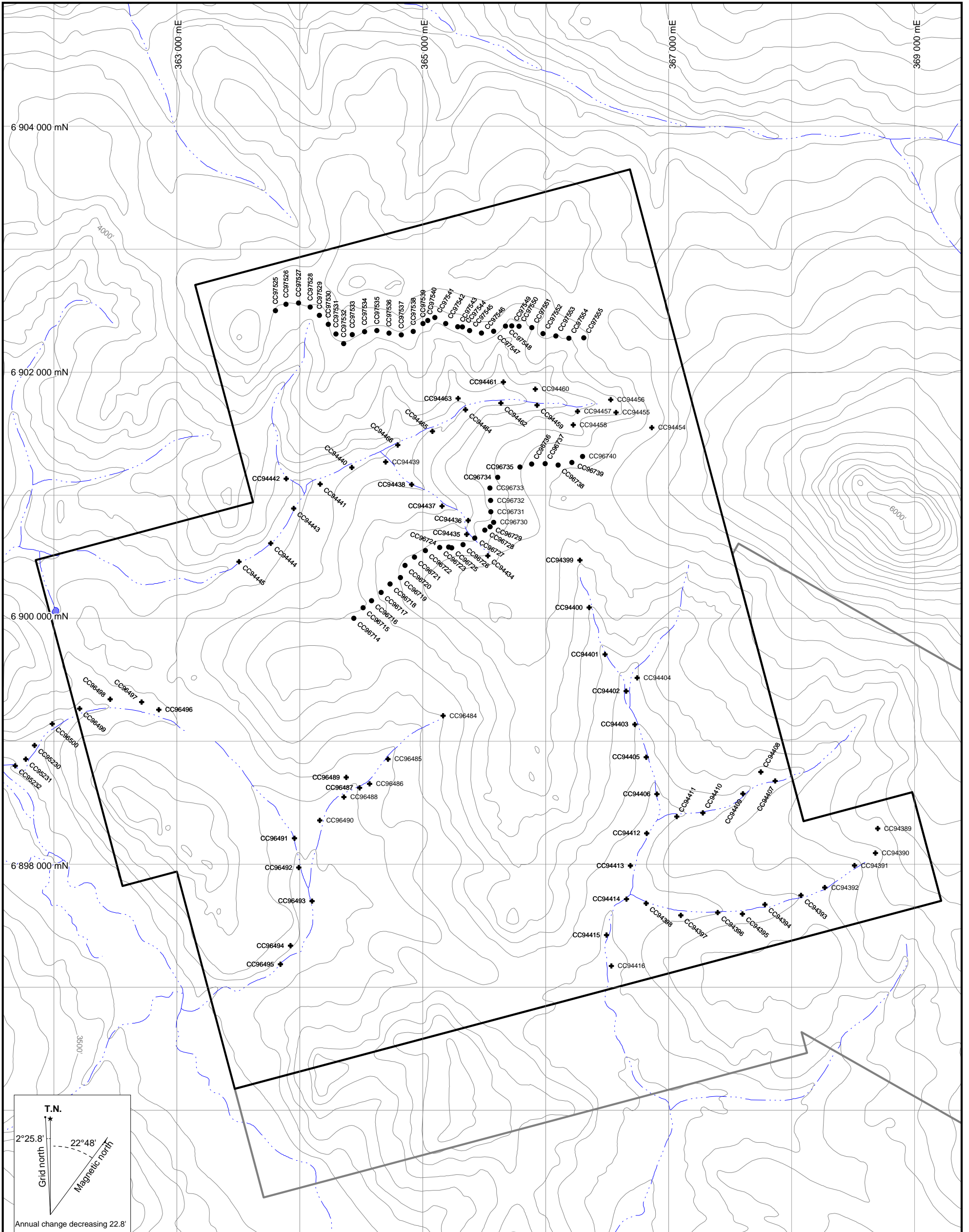
The range of the magnetic response across the survey area is low, approximately 300 nT. Several distinct magnetic highs are noted as shown in Figure 11. Two of these anomalies are elongated and are approximately 1 km in length, with the northern one trending east-west and the southern one trending northwest. Another magnetic high in the centre of the survey area is about 500 m by 500 m in size. The highest gold values appear to be associated with magnetic lows that separate the magnetic highs in the northern portion of the survey area.

Several areas with elevated radiometrics were identified within the survey area (Figure 12). The largest anomaly is an elongated body trending east-west along the upper portion of the survey area. A second poorly defined anomaly to the south appears to trend northwesterly, while a third radiometric high located in the centre of the survey area is about 400 m in diameter. These radiometric highs approximately coincide with the magnetic highs.

### **DISCUSSION AND CONCLUSIONS**

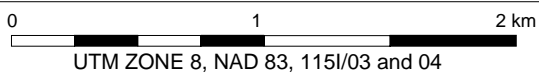
Preliminary soil geochemistry performed by Strategic Metals at the BBB property in summer 2010 generally confirmed encouraging historical results. As such, an additional 103 claims were staked to expand the property and to cover the possible source area of gold-rich float to the east. The property is considered to be highly prospective given the strength of the geochemical results and its proximity to the Klaza property.

Geophysical surveys identified weak magnetic highs that approximately coincide with areas of elevated radiometric response. These zones are separated by strong magnetic lows, which are



**WOLVERINE MINERALS CORP.  
STRATEGIC METALS LTD.**

FIGURE 5  
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**SOIL & SILT SAMPLE LOCATIONS**  
BBB PROPERTY

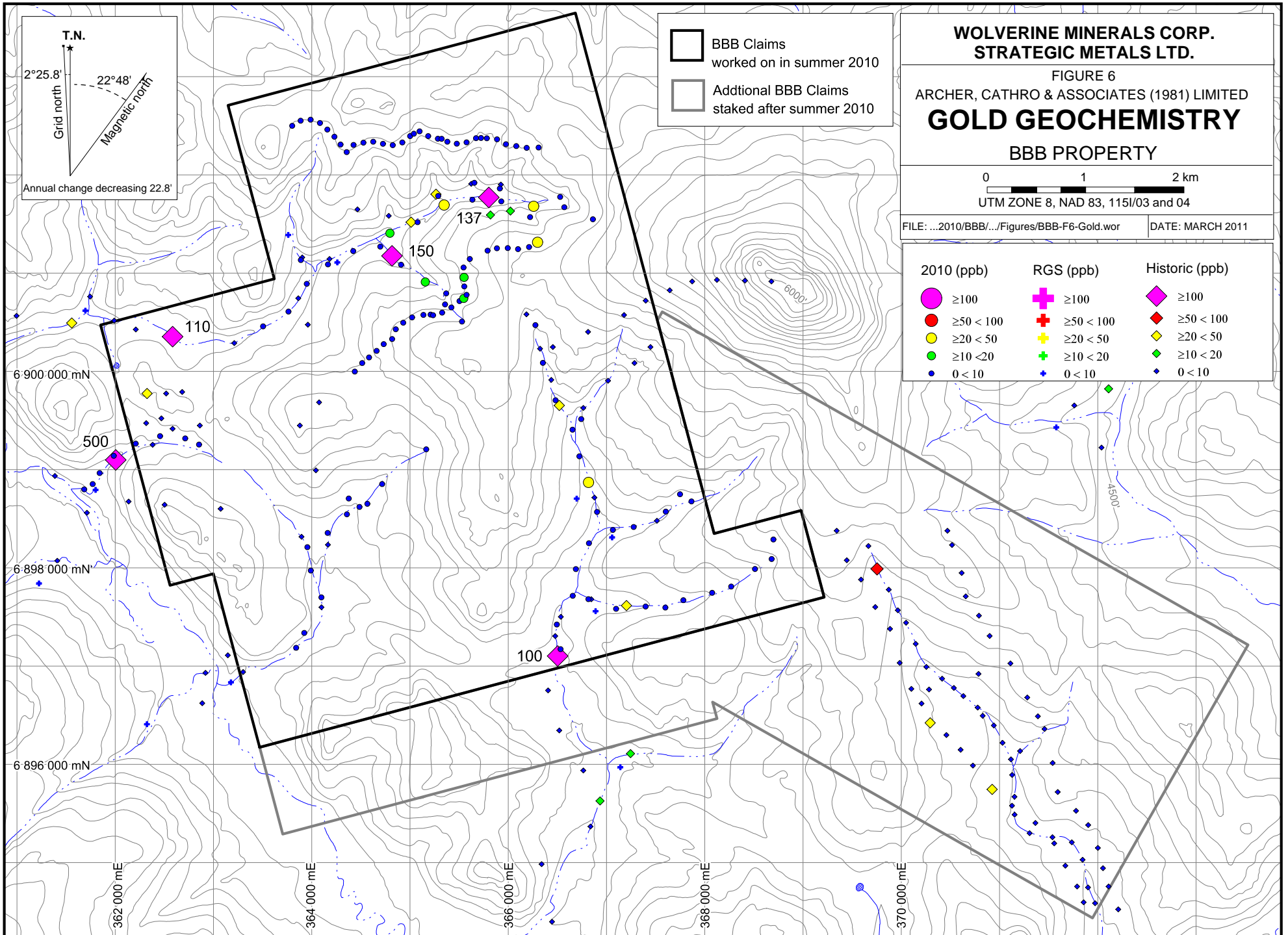


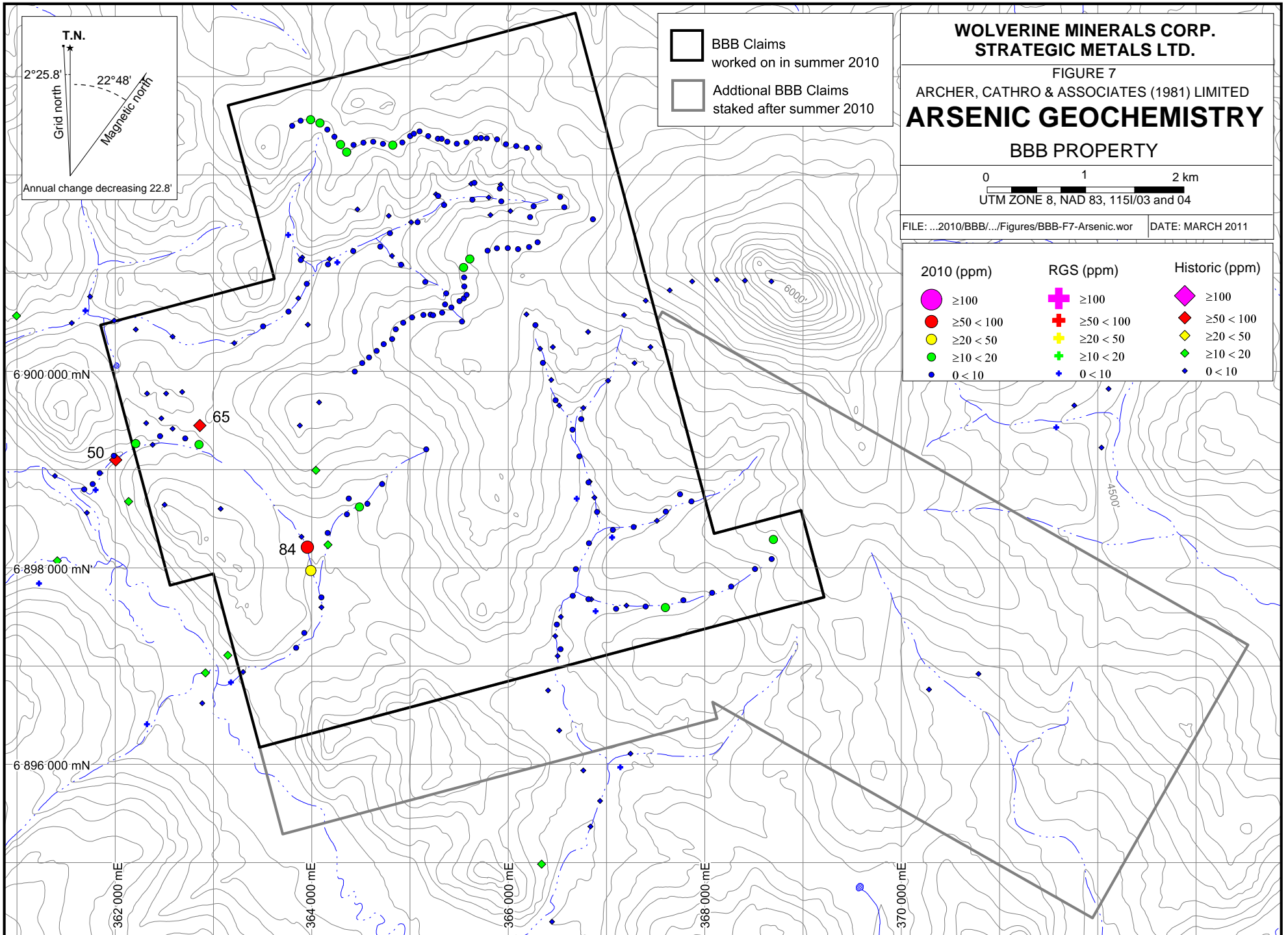
UTM ZONE 8, NAD 83, 1151/03 and 04

FILE: ...2010/BBB/.../Figures/BBB-F5-Samples.wor

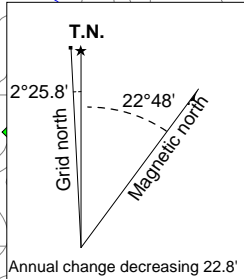
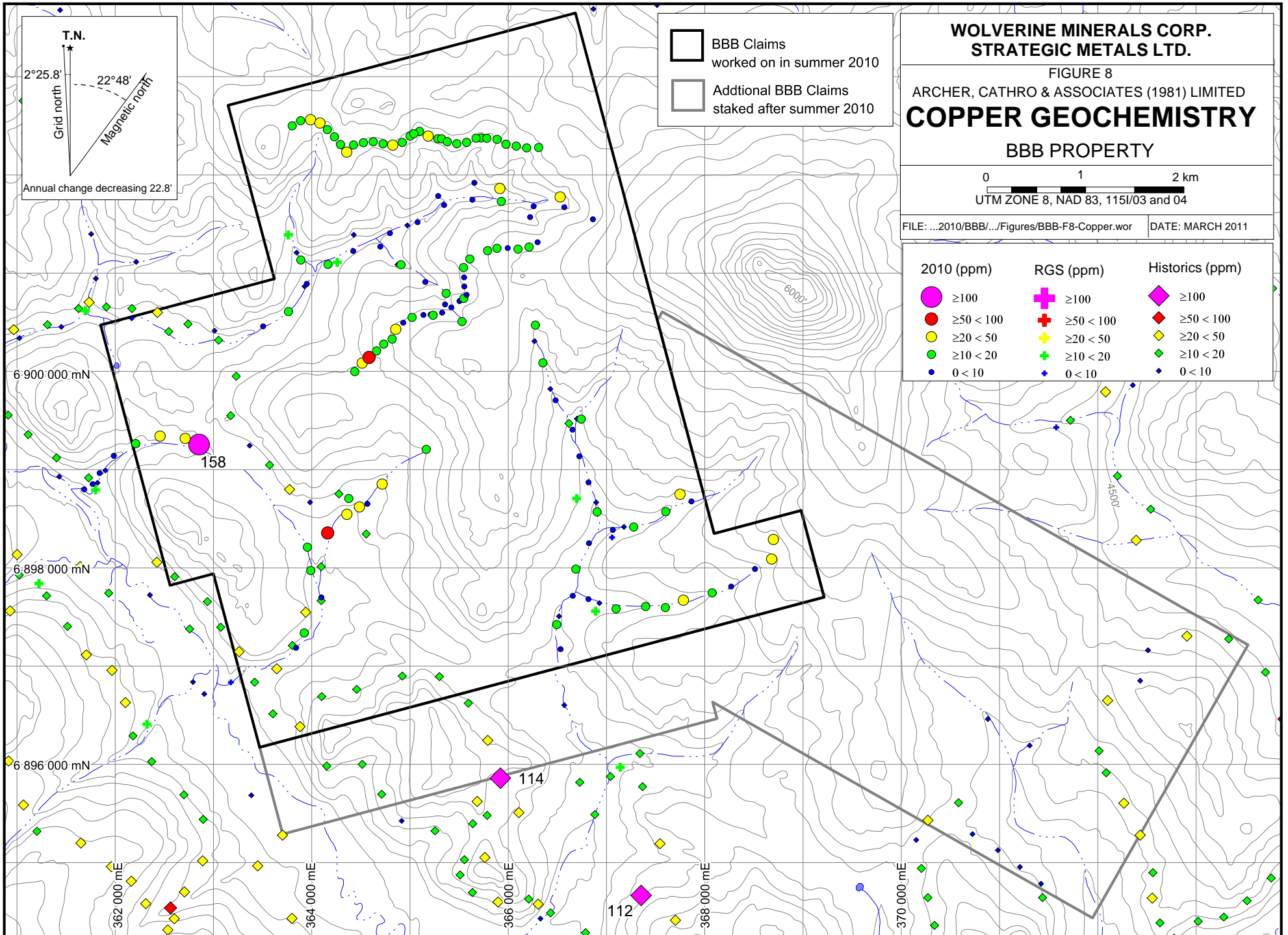
DATE: MARCH 2011

- 2010 Soil sample
- + 2010 Stream sediment sample
- ▭ BBB Claims worked on in summer 2010
- ▭ Additional BBB Claims staked after summer 2010









BBB Claims worked on in summer 2010  
 Additional BBB Claims staked after summer 2010

**WOLVERINE MINERALS CORP.  
STRATEGIC METALS LTD.**

FIGURE 8  
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**COPPER GEOCHEMISTRY**  
BBB PROPERTY

0 1 2 km  
UTM ZONE 8, NAD 83, 115I/03 and 04

FILE: ...2010/BBB/.../Figures/BBB-F8-Copper.wor      DATE: MARCH 2011

2010 (ppm)	RGS (ppm)	Historics (ppm)
<span style="color: magenta;">●</span> ≥100	<span style="color: magenta;">+</span> ≥100	<span style="color: magenta;">◆</span> ≥100
<span style="color: red;">●</span> ≥50 < 100	<span style="color: red;">+</span> ≥50 < 100	<span style="color: red;">◆</span> ≥50 < 100
<span style="color: yellow;">●</span> ≥20 < 50	<span style="color: yellow;">+</span> ≥20 < 50	<span style="color: yellow;">◆</span> ≥20 < 50
<span style="color: green;">●</span> ≥10 < 20	<span style="color: green;">+</span> ≥10 < 20	<span style="color: green;">◆</span> ≥10 < 20
<span style="color: blue;">●</span> 0 < 10	<span style="color: blue;">+</span> 0 < 10	<span style="color: blue;">◆</span> 0 < 10

6 900 000 mN

6 898 000 mN

6 896 000 mN

362 000 mE

364 000 mE

366 000 mE

368 000 mE

370 000 mE

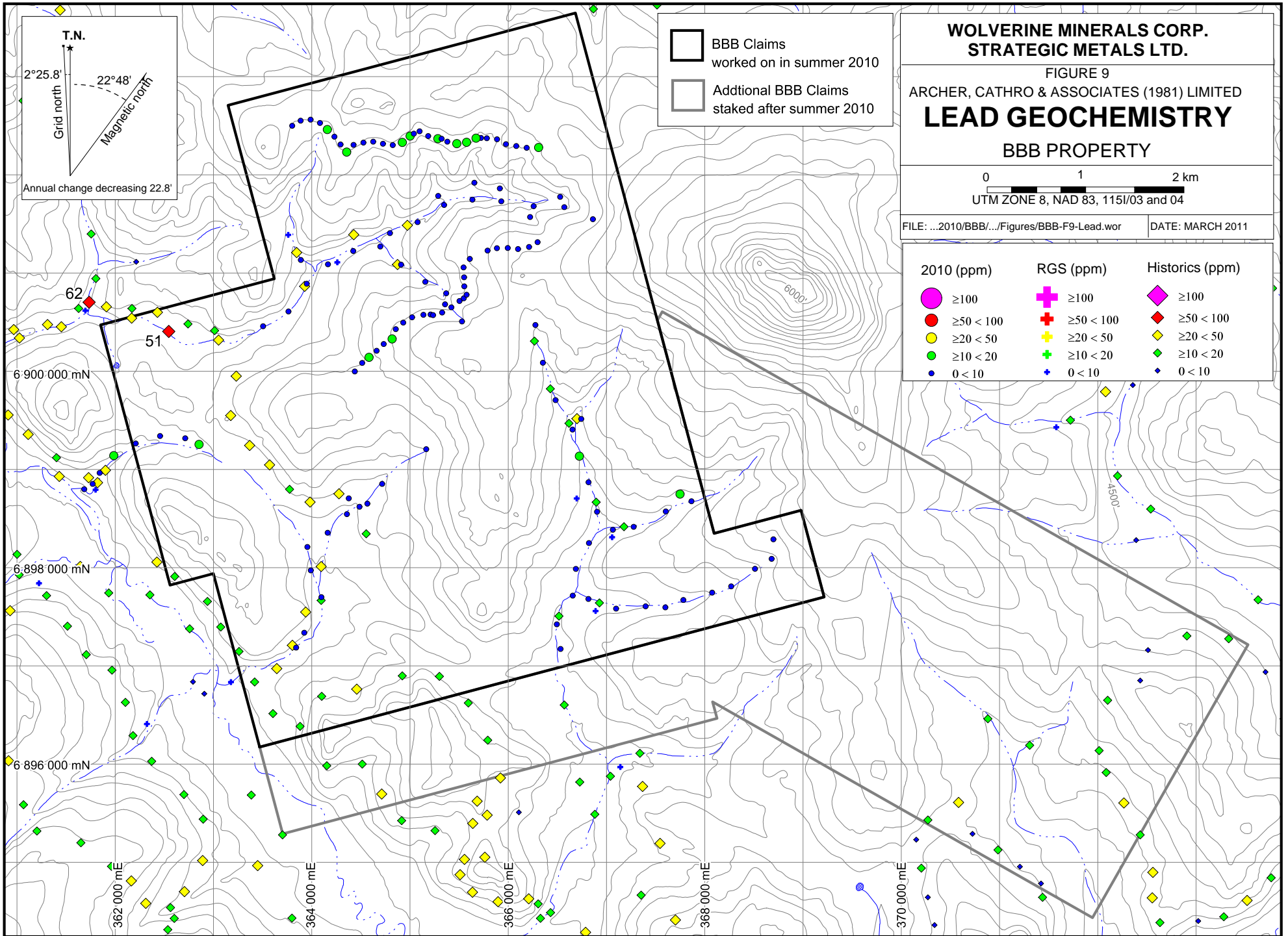
158

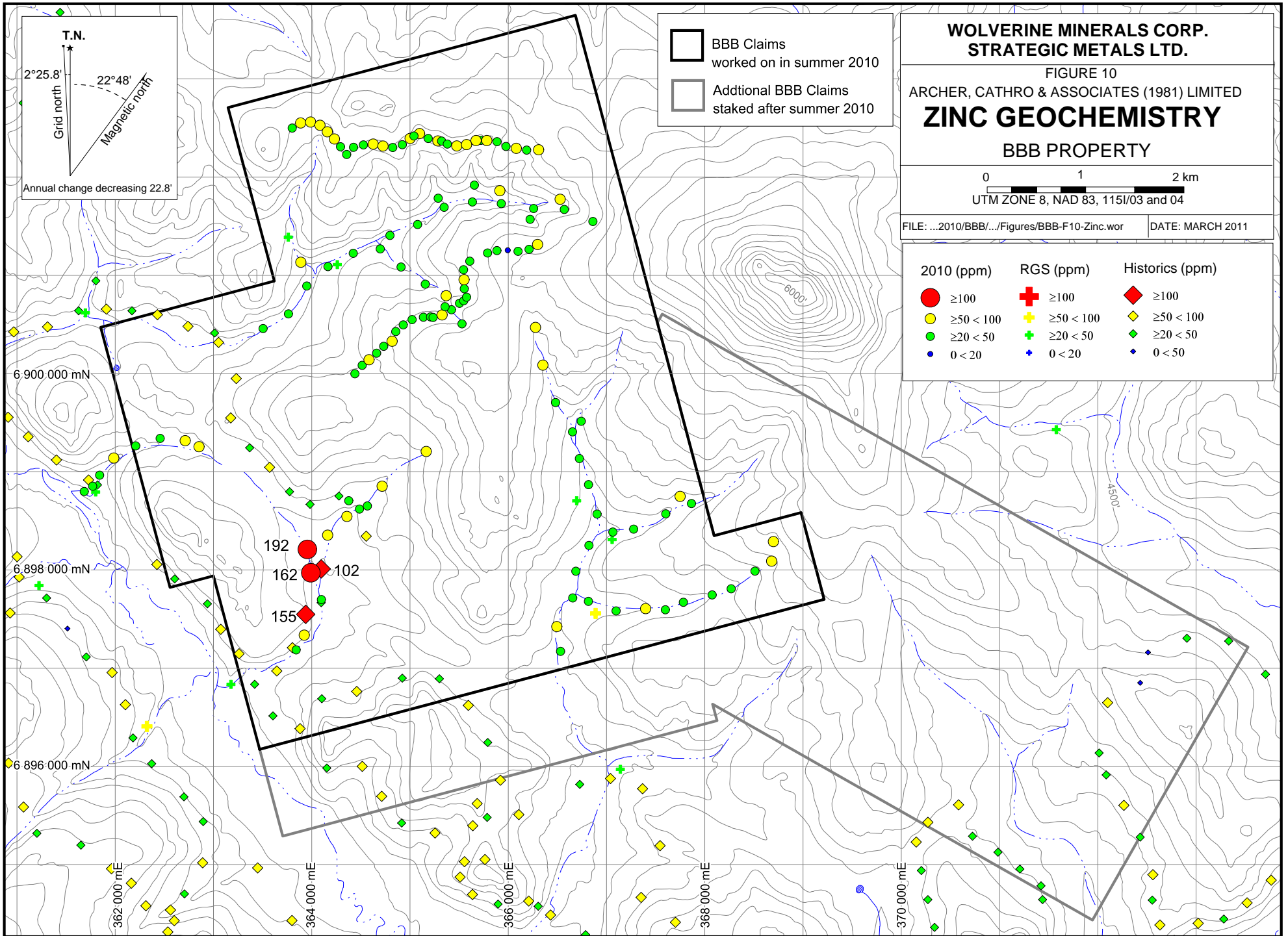
114

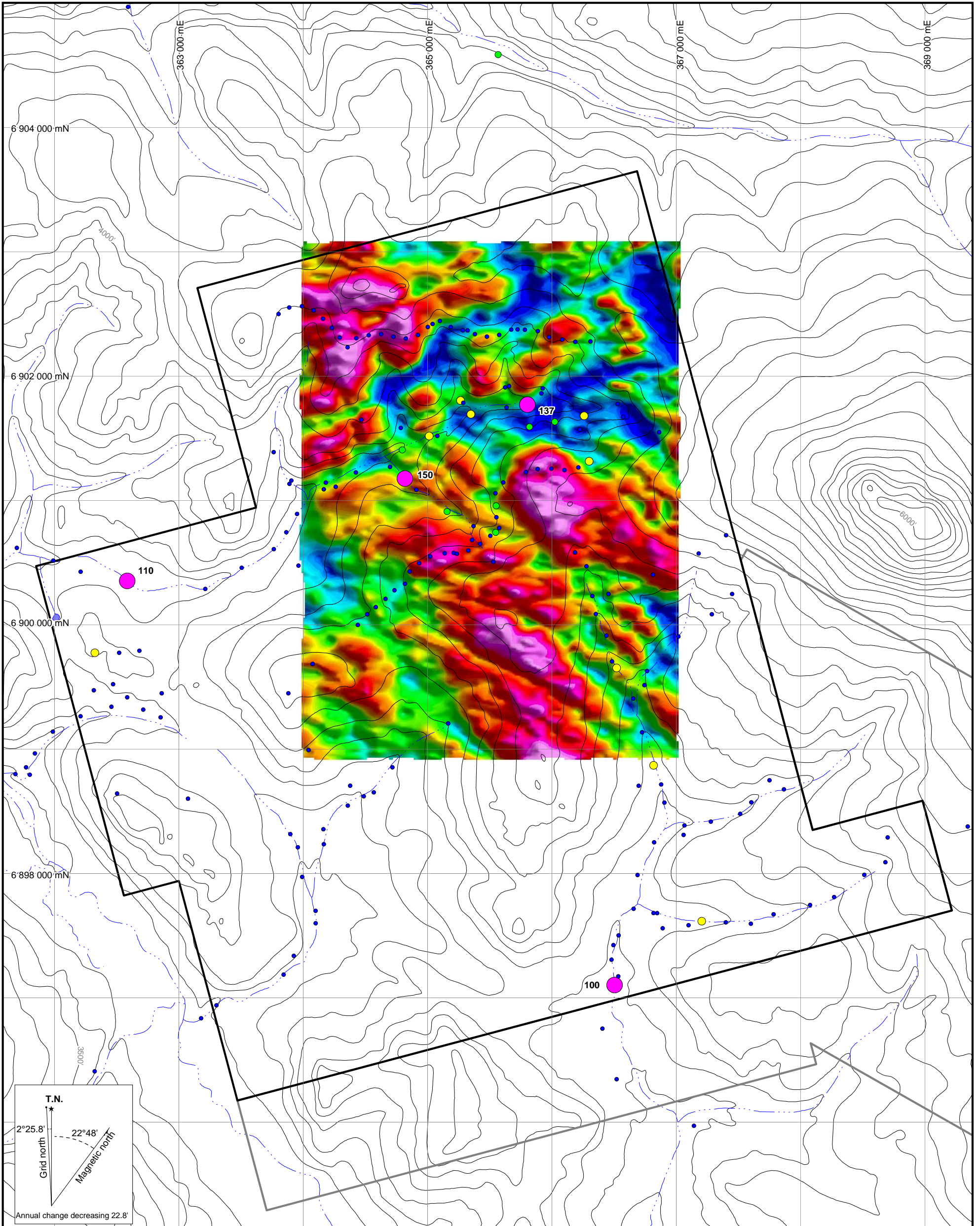
112

6000'

4500'







**WOLVERINE MINERALS CORP.  
STRATEGIC METALS LTD.**

FIGURE 11  
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

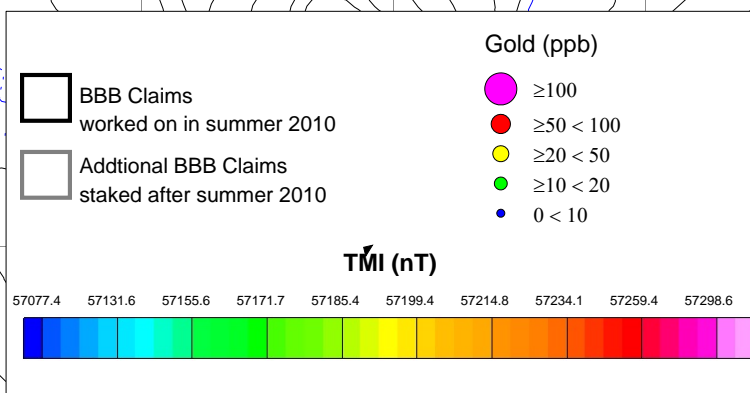
**TOTAL MAGNETICS SURVEY &  
GOLD GEOCHEMISTRY**

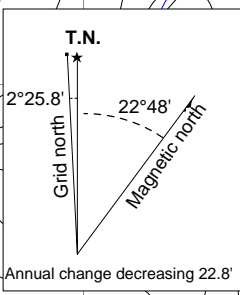
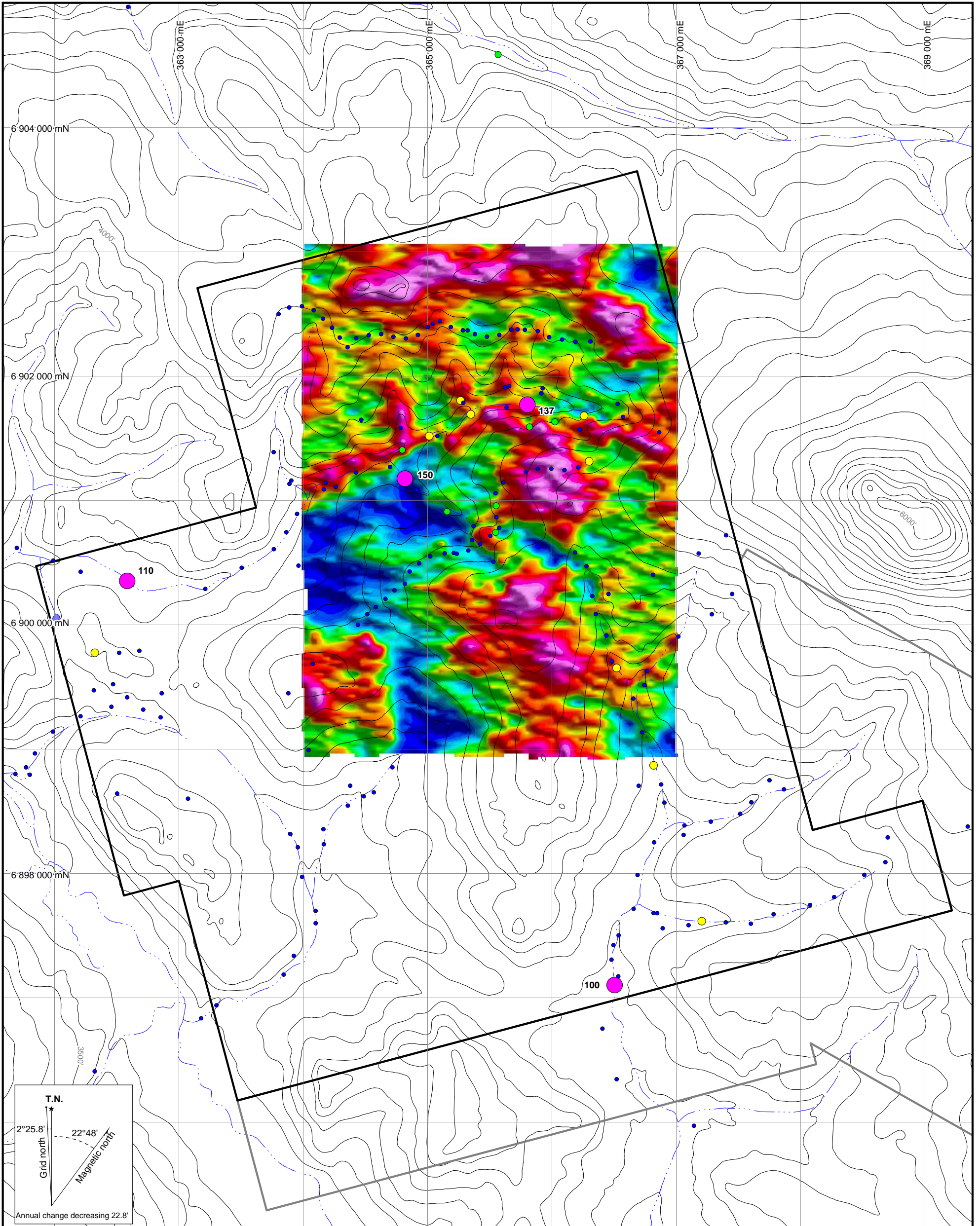
BBB PROPERTY

0 1 2 km

UTM ZONE 8, NAD 83, 1151/03 and 04

FILE: ...2010/BBB/.../Figures/BBB-F11-TotalMag.wor DATE: MARCH 2011





**Gold (ppb)**

- ≥100
- ≥50 < 100
- ≥20 < 50
- ≥10 < 20
- 0 < 10

**TC (counts/sec)**

392.6 547.2 616.7 657.1 685.1 706.7 726.1 746.0 768.0 792.5 822.5 869.1 945.3

- BBB Claims worked on in summer 2010
- Additional BBB Claims staked after summer 2010

interpreted to be northwest trending structures that are connected by minor northeast trending cross-structures. Anomalous gold values are clustered within the magnetic lows.

Future work is warranted on the BBB property and should include mapping, prospecting and geochemical sampling. A closely spaced, deep auger grid soil sampling program is recommended in the areas worked in 2010 while contour soil sampling and systematic stream sediment sampling are suggested for the newly added claims. Mapping should focus on determining if quartz-feldspar porphyry dykes, sills and breccias are present on the property. Prospecting should concentrate on areas of anomalous geochemistry and should search for evidence of quartz veining, brecciation and sulphide mineralization or its oxidized equivalents.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

Crystal J. Chung, B.Sc., GIT.

## REFERENCES

- Archer, A. R. and Onasick, E.P.  
 1980 NAT Joint Venture Final Report. Internal report prepared by Archer, Cathro & Associates Ltd. for Chevron Canada Limited and Armco Mineral Exploration Ltd.
- Cathro, R.J. and Culbert, R.E.  
 1969 Summary report on the 1969 field program. Dawson Range Joint Venture Project, Yukon Territory.
- Cathro, R.J.  
 1974 Regional Exploration in the Dawson Range District, Yukon for Klotassin Joint Venture. Internal report prepared by Archer, Cathro & Associates Ltd.  
 1976 1975 Regional Exploration in the Dawson Range District, Yukon for Klotassin Joint Venture. Internal report prepared by Archer, Cathro & Associates Ltd.
- Carlson, G.G.  
 1987 Geology of Mount Nansen (115I/3) and Stoddart Creek (115I/06) Map Areas, Dawson Range, central Yukon; Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 1987-2
- Curley, E.  
 1987 Prospecting and Exploration Report on the Jam Claims; Assessment Report #092515.  
 1989 A Report on the Jam Claims; Assessment Report #092800.
- 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.  
 1985 Regional stream sediment and water geochemical reconnaissance data (115I); Geological Survey of Canada, Open File 1220.
- Gordey, S.P. and Makepeace, A.J. (compilers)  
 2003 Yukon digital geology, version 2.0, Geological Survey of Canada, Open File 1749 and Yukon Geological Survey, Open File 2003-9 (D).
- Main, C.A.  
 1987 Geological and Geochemical Program on the Toast Property; Assessment Report #091973

Templeman-Kluit, D.J.

1984 Reconnaissance Geology of Lake Laverge (105E) and Carmacks (115I), Yukon Territory. Geological Survey of Canada Open File 1101.

Turner, M.

2010 News Release for Rockhaven Resources Ltd. August 4, 2010 and November 1, 2010. [www.rockhavenresources.com](http://www.rockhavenresources.com)



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

## STATEMENT OF QUALIFICATIONS

I, Crystal J. Chung, geologist, with business addresses in Vancouver, British Columbia and Whitehorse, Yukon Territory and residential address in Burnaby, British Columbia do hereby certify that:

1. I graduated from the University of British Columbia in 2005 with a B.Sc. majoring in Earth and Ocean Sciences (Geology).
2. From 2004 to present, I have been actively engaged in mineral exploration in British Columbia, Alaska and the Yukon Territory.
3. I am a Geoscientist in Training (GIT) with the Association of Professional Engineers and Geoscientists of British Columbia (Member Number 138321).
4. I have personally reviewed and interpreted all data resulting from this work.

Crystal J. Chung, B.Sc., GIT

**APPENDIX II**  
**SAMPLING AND ANALYTICAL PROCEDURES**

## **2010 Soil Geochemical Samples**

All 2010 soil 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. Soil samples were collected from 10 to 30 cm deep holes dug by hand-held auger. They 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, dissolved in aqua regia solution and then analyzed for 35 elements using the inductively coupled plasma with atomic emission spectroscopy technique (ME-ICP41). An additional 50 g charge was further analysed for gold by fire assay with inductively coupled plasma-atomic emissions spectroscopy finish (Au-AA24).

## **2010 Stream Sediment Geochemical Samples**

Stream sediment geochemical samples were only collected from the main unnamed creek that drains the property area. Sample locations were recorded using handheld GPS units and were marked with orange flagging tape labelled with the sample number. Stream sediment samples were collected by hand and 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, dissolved in aqua regia solution and then analyzed for 35 elements using the inductively coupled plasma with atomic emission spectroscopy technique (ME-ICP41). An additional 50 g charge was further analysed for gold by fire assay with inductively coupled plasma-atomic emissions spectroscopy finish (Au-AA24).

**APPENDIX III**  
**CERTIFICATES OF ANALYSIS**



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: STRATEGIC METALS LTD.  
 C/O ARCHER, CATHRO & ASSOCIATES (1981)  
 LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

Page: 1  
 Finalized Date: 2-AUG-2010  
 Account: MTT

**CERTIFICATE VA10098128**


Project: KLOTASSIN  
 P.O. No.: BBB  
 This report is for 135 Soil samples submitted to our lab in Vancouver, BC, Canada on 21-JUL-2010.  
 The following have access to data associated with this certificate:  
 JOAN MARIACHER                      BILL WENGZYNOWSKI

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
EXTRA-01	Extra Sample received in Shipment
SCR-41	Screen to -180um and save both

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
Au-ICP21	Au 30g FA ICP-AES Finish	ICP-AES
ME-ICP41	35 Element Aqua Regia ICP-AES	ICP-AES

To: STRATEGIC METALS LTD.  
 ATTN: JOAN MARIACHER  
 C/O ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:   
 Colin Ramshaw, Vancouver Laboratory Manager



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: STRATEGIC METALS LTD.  
 C/O ARCHER, CATHRO & ASSOCIATES (1981)  
 LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

Page: 2 - A  
 Total # Pages: 5 (A - C)  
 Finalized Date: 2-AUG-2010  
 Account: MTT

Project: KLOTASSIN

**CERTIFICATE OF ANALYSIS VA10098128**

Sample Description	Method Analyte Units LOR	WEI-21	Au-ICP21	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Recvd Wt. kg	Au ppm	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
		0.02	0.001	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1	1	0.01
CC94389		0.40	<0.001	<0.2	1.84	14	<10	380	0.5	3	0.45	<0.5	9	22	35	3.48
CC94390		0.34	0.001	<0.2	1.50	5	<10	340	0.5	<2	0.62	<0.5	7	15	20	3.08
CC94391		0.30	<0.001	<0.2	0.69	8	<10	190	<0.5	<2	0.37	<0.5	5	11	9	1.97
CC94392		0.26	0.001	<0.2	0.56	4	<10	140	<0.5	2	0.38	<0.5	4	9	6	1.88
CC94393		0.26	<0.001	<0.2	0.38	8	<10	230	<0.5	2	0.50	<0.5	7	5	11	3.18
CC94394		0.18	0.002	0.3	1.94	8	<10	430	0.7	3	0.63	<0.5	7	19	42	3.06
CC94395		0.18	<0.001	<0.2	0.74	11	<10	220	<0.5	<2	0.50	<0.5	5	12	16	3.50
CC94396		0.24	<0.001	<0.2	0.85	3	<10	160	<0.5	2	0.62	<0.5	5	15	18	1.38
CC94397		0.32	0.001	<0.2	0.67	2	<10	120	<0.5	2	0.49	<0.5	4	11	10	1.19
CC94398		0.30	<0.001	<0.2	0.59	2	<10	100	<0.5	<2	0.40	<0.5	4	11	8	1.03
CC94399		0.26	0.007	0.4	1.83	5	<10	240	<0.5	<2	0.60	<0.5	7	25	16	2.44
CC94400		0.46	<0.001	<0.2	1.56	3	<10	250	<0.5	<2	0.63	<0.5	10	15	12	2.91
CC94401		0.40	0.007	<0.2	0.89	2	<10	180	<0.5	<2	0.49	<0.5	6	10	7	2.19
CC94402		0.46	0.005	<0.2	0.65	<2	<10	140	<0.5	<2	0.39	<0.5	5	7	4	1.59
CC94403		0.48	<0.001	<0.2	0.89	5	<10	280	<0.5	<2	0.39	<0.5	10	10	8	2.96
CC94404		0.46	0.001	<0.2	1.12	3	<10	220	<0.5	<2	0.51	<0.5	6	13	10	1.89
CC94405		0.62	0.024	<0.2	0.65	5	<10	110	<0.5	<2	0.40	<0.5	3	11	5	1.42
CC94406		0.38	<0.001	<0.2	0.89	5	<10	220	<0.5	<2	0.50	<0.5	6	9	13	2.02
CC94407		0.24	<0.001	<0.2	1.07	4	<10	340	<0.5	<2	0.53	<0.5	7	13	9	1.99
CC94408		0.28	<0.001	<0.2	1.25	6	<10	390	0.5	<2	0.38	<0.5	9	17	21	2.94
CC94409		0.26	<0.001	<0.2	0.94	5	<10	300	<0.5	<2	0.50	<0.5	7	11	15	2.14
CC94410		0.22	0.004	<0.2	1.19	4	<10	330	<0.5	<2	0.58	<0.5	7	15	11	2.25
CC94411		0.26	<0.001	<0.2	0.84	5	<10	180	<0.5	<2	0.48	<0.5	5	15	9	1.41
CC94412		0.40	<0.001	<0.2	0.81	5	<10	150	<0.5	<2	0.40	<0.5	5	15	9	1.56
CC94413		0.34	<0.001	<0.2	1.02	7	<10	220	<0.5	<2	0.49	<0.5	7	17	12	2.05
CC94414		0.36	<0.001	<0.2	0.50	3	<10	110	<0.5	<2	0.38	<0.5	4	11	5	1.25
CC94415		0.16	0.001	<0.2	1.15	8	<10	290	<0.5	<2	0.64	<0.5	8	17	19	2.37
CC94416		0.24	0.007	<0.2	0.77	4	<10	260	<0.5	<2	0.56	<0.5	8	16	9	2.52
CC94417		Not Recvd														
CC94418		Not Recvd														
CC94419		Not Recvd														
CC94420		Not Recvd														
CC94434		0.22	<0.001	0.2	0.86	3	<10	220	<0.5	<2	0.37	<0.5	5	9	12	1.39
CC94435		0.16	<0.001	<0.2	0.63	4	<10	100	<0.5	<2	0.18	<0.5	3	9	7	1.17
CC94436		0.14	<0.001	<0.2	1.33	5	<10	290	<0.5	<2	0.59	<0.5	5	21	14	1.98
CC94437		0.20	0.015	<0.2	0.51	2	<10	100	<0.5	<2	0.30	<0.5	2	9	3	0.87
CC94438		0.30	<0.001	<0.2	1.15	3	<10	170	<0.5	<2	0.40	<0.5	5	18	12	1.36
CC94439		0.24	<0.001	<0.2	0.61	6	<10	90	<0.5	<2	0.34	<0.5	4	14	7	1.26
CC94440		0.26	<0.001	<0.2	0.66	3	<10	100	<0.5	<2	0.34	<0.5	4	10	4	1.26
CC94441		0.22	<0.001	<0.2	1.08	6	<10	190	<0.5	<2	0.53	<0.5	5	14	10	1.71



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: STRATEGIC METALS LTD.  
 C/O ARCHER, CATHRO & ASSOCIATES (1981)  
 LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

Page: 2 - B  
 Total # Pages: 5 (A - C)  
 Finalized Date: 2-AUG-2010  
 Account: MTT

Project: KLOTASSIN

**CERTIFICATE OF ANALYSIS VA10098128**

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr
		ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm
		10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1
CC94389		10	<1	0.23	20	0.65	475	<1	0.02	11	590	8	<0.01	<2	8	29
CC94390		10	<1	0.21	60	0.62	338	<1	0.01	6	810	7	0.01	<2	9	24
CC94391		<10	<1	0.05	10	0.22	313	<1	0.01	5	560	4	0.02	<2	2	18
CC94392		<10	<1	0.03	10	0.18	231	<1	0.01	4	750	4	<0.01	<2	2	17
CC94393		<10	<1	0.05	10	0.13	721	<1	0.02	3	900	4	0.01	<2	1	20
CC94394		10	<1	0.17	130	0.67	793	1	0.02	10	800	9	0.03	<2	12	48
CC94395		<10	<1	0.07	10	0.29	338	1	0.01	6	700	5	0.03	<2	3	33
CC94396		<10	<1	0.06	10	0.37	180	<1	0.02	8	820	6	0.06	<2	4	37
CC94397		<10	<1	0.05	10	0.29	177	<1	0.01	6	870	4	0.02	<2	2	26
CC94398		<10	<1	0.04	10	0.24	152	<1	0.01	7	660	4	0.02	<2	2	23
CC94399		10	<1	0.13	10	0.53	274	<1	0.02	13	840	9	0.05	<2	4	48
CC94400		10	<1	0.16	20	0.67	404	<1	0.02	7	820	9	0.02	<2	5	28
CC94401		<10	<1	0.10	20	0.36	443	<1	0.01	4	910	6	0.01	<2	3	21
CC94402		<10	<1	0.07	20	0.29	304	<1	0.01	3	780	4	<0.01	<2	2	16
CC94403		<10	<1	0.16	20	0.41	750	1	0.01	5	710	10	<0.01	<2	5	23
CC94404		10	<1	0.08	20	0.38	230	1	0.02	7	780	7	0.02	<2	4	33
CC94405		<10	<1	0.05	20	0.24	160	<1	0.01	4	970	4	<0.01	<2	2	17
CC94406		<10	<1	0.10	20	0.35	587	1	0.02	5	730	6	0.01	2	4	34
CC94407		<10	<1	0.09	20	0.36	1165	<1	0.02	7	840	5	0.02	<2	3	39
CC94408		10	<1	0.16	30	0.43	418	1	0.01	9	370	15	0.01	2	7	19
CC94409		<10	<1	0.13	20	0.38	524	<1	0.02	6	740	7	0.01	<2	6	36
CC94410		<10	<1	0.10	20	0.41	379	1	0.02	8	700	6	0.03	<2	4	47
CC94411		<10	<1	0.07	10	0.34	167	<1	0.02	8	720	4	0.02	<2	3	33
CC94412		<10	<1	0.08	10	0.32	202	<1	0.01	7	720	5	<0.01	<2	3	24
CC94413		<10	<1	0.10	20	0.42	385	<1	0.02	9	810	6	0.01	<2	4	31
CC94414		<10	<1	0.04	20	0.20	275	<1	0.01	5	780	3	0.01	<2	2	19
CC94415		<10	<1	0.12	20	0.47	804	2	0.02	9	760	8	0.04	2	5	51
CC94416		<10	<1	0.07	20	0.30	1135	1	0.01	8	880	5	0.02	<2	3	42
CC94417																
CC94418																
CC94419																
CC94420																
CC94434		<10	1	0.05	20	0.19	337	<1	0.03	4	630	4	0.03	<2	3	24
CC94435		<10	<1	0.04	10	0.16	107	<1	0.01	5	310	4	<0.01	<2	1	11
CC94436		<10	<1	0.08	30	0.39	290	<1	0.02	10	790	7	0.06	<2	5	36
CC94437		<10	<1	0.04	10	0.20	100	<1	0.01	5	600	2	<0.01	<2	1	13
CC94438		<10	<1	0.09	20	0.37	202	<1	0.02	8	650	6	0.03	<2	4	22
CC94439		<10	<1	0.07	10	0.25	167	<1	0.01	8	740	4	<0.01	<2	2	16
CC94440		<10	<1	0.05	10	0.26	168	<1	0.01	4	670	3	<0.01	<2	2	19
CC94441		<10	<1	0.08	20	0.38	234	1	0.02	7	760	5	0.02	<2	4	32





ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: STRATEGIC METALS LTD.  
 C/O ARCHER, CATHRO & ASSOCIATES (1981)  
 LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

Page: 2 - C  
 Total # Pages: 5 (A - C)  
 Finalized Date: 2-AUG-2010  
 Account: MTT

Project: KLOTASSIN

**CERTIFICATE OF ANALYSIS VA10098128**

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Th	Ti	Tl	U	V	W	Zn
		ppm	%	ppm	ppm	ppm	ppm	ppm
		20	0.01	10	10	1	10	2
CC94389		<20	0.12	<10	<10	76	<10	52
CC94390		<20	0.14	<10	<10	74	<10	62
CC94391		<20	0.05	<10	<10	26	<10	31
CC94392		<20	0.04	<10	<10	24	<10	27
CC94393		<20	0.09	<10	<10	47	<10	30
CC94394		<20	0.09	<10	<10	62	<10	46
CC94395		<20	0.06	<10	<10	38	<10	36
CC94396		<20	0.07	<10	10	36	<10	50
CC94397		<20	0.05	<10	<10	27	<10	37
CC94398		<20	0.04	<10	<10	23	<10	31
CC94399		<20	0.10	<10	10	65	<10	64
CC94400		<20	0.15	<10	<10	71	<10	68
CC94401		<20	0.11	<10	<10	57	<10	41
CC94402		<20	0.07	<10	<10	40	<10	29
CC94403		<20	0.11	<10	<10	62	<10	45
CC94404		<20	0.07	<10	10	43	<10	46
CC94405		<20	0.07	<10	<10	39	<10	28
CC94406		<20	0.08	<10	<10	46	<10	39
CC94407		<20	0.09	<10	<10	43	<10	44
CC94408		<20	0.09	<10	<10	64	<10	52
CC94409		<20	0.07	<10	<10	44	<10	45
CC94410		<20	0.09	<10	<10	42	<10	48
CC94411		<20	0.07	<10	<10	34	<10	38
CC94412		<20	0.06	<10	<10	37	<10	36
CC94413		<20	0.09	<10	<10	48	<10	45
CC94414		<20	0.05	<10	<10	26	<10	25
CC94415		<20	0.09	<10	<10	49	<10	60
CC94416		<20	0.07	<10	<10	56	10	43
CC94417								
CC94418								
CC94419								
CC94420								
CC94434		<20	0.04	<10	<10	35	<10	31
CC94435		<20	0.05	<10	<10	29	<10	27
CC94436		<20	0.08	<10	<10	45	<10	51
CC94437		<20	0.04	<10	<10	20	<10	23
CC94438		<20	0.08	<10	<10	38	<10	47
CC94439		<20	0.05	<10	<10	26	<10	25
CC94440		<20	0.05	<10	<10	29	<10	27
CC94441		<20	0.07	<10	<10	41	<10	44



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: STRATEGIC METALS LTD.  
 C/O ARCHER, CATHRO & ASSOCIATES (1981)  
 LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

Page: 3 - A  
 Total # Pages: 5 (A - C)  
 Finalized Date: 2-AUG-2010  
 Account: MTT

Project: KLOTASSIN

**CERTIFICATE OF ANALYSIS VA10098128**

Sample Description	Method Analyte Units LOR	WEI-21	Au-ICP21	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Recvd Wt. kg	Au ppm	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
		0.02	0.001	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1	1	0.01
CC94442		0.26	<0.001	0.2	1.97	4	<10	230	0.5	<2	0.87	<0.5	7	16	19	2.08
CC94443		0.20	0.001	0.4	0.75	3	<10	130	<0.5	<2	0.36	<0.5	4	9	5	1.34
CC94444		0.28	<0.001	0.3	1.01	3	<10	180	<0.5	<2	0.47	<0.5	6	17	14	1.74
CC94445		0.22	<0.001	<0.2	0.62	<2	<10	110	<0.5	<2	0.39	<0.5	4	12	4	1.52
CC94454		0.26	<0.001	<0.2	1.01	2	<10	150	<0.5	<2	0.27	<0.5	5	12	9	1.47
CC94455		0.28	<0.001	0.2	1.19	2	<10	190	<0.5	<2	0.44	<0.5	6	12	9	2.00
CC94456		0.22	0.001	<0.2	1.86	5	<10	300	0.7	<2	0.97	<0.5	9	18	22	2.66
CC94457		0.32	0.029	0.2	0.61	2	<10	80	<0.5	<2	0.42	<0.5	4	12	5	1.24
CC94458		0.22	0.005	<0.2	0.91	4	<10	150	<0.5	<2	0.43	<0.5	5	10	8	1.65
CC94459		0.24	<0.001	<0.2	1.05	2	<10	170	<0.5	<2	0.40	<0.5	4	12	11	1.52
CC94460		0.26	0.004	0.2	1.52	5	<10	190	<0.5	<2	0.63	<0.5	6	15	29	2.01
CC94461		0.28	0.002	<0.2	1.30	5	<10	210	<0.5	<2	0.50	<0.5	6	11	9	2.05
CC94462		0.34	<0.001	<0.2	0.78	5	<10	110	<0.5	<2	0.37	<0.5	3	9	3	1.26
CC94463		0.30	<0.001	<0.2	1.10	5	<10	210	<0.5	<2	0.48	<0.5	6	10	7	1.90
CC94464		0.32	0.043	<0.2	0.84	3	<10	130	<0.5	<2	0.48	<0.5	4	12	5	2.02
CC94465		0.22	<0.001	<0.2	1.17	2	<10	210	<0.5	<2	0.57	<0.5	5	11	8	1.87
CC94466		0.30	0.013	<0.2	0.83	2	<10	140	<0.5	<2	0.44	<0.5	4	10	5	1.54
CC96714		0.32	<0.001	<0.2	1.35	6	<10	250	<0.5	<2	0.45	<0.5	6	20	13	2.67
CC96715		0.40	<0.001	<0.2	1.32	6	<10	310	<0.5	<2	0.41	<0.5	5	17	23	1.81
CC96716		0.44	0.002	<0.2	0.92	9	<10	290	0.6	5	0.32	<0.5	7	8	88	3.52
CC96717		0.40	<0.001	<0.2	1.07	8	<10	140	<0.5	<2	0.15	<0.5	5	16	12	1.94
CC96718		0.24	<0.001	<0.2	1.11	4	<10	450	<0.5	<2	0.52	<0.5	14	13	16	2.14
CC96719		0.32	<0.001	<0.2	1.18	8	<10	450	0.9	<2	0.48	<0.5	8	14	13	3.47
CC96720		0.38	0.002	0.2	1.71	8	<10	370	0.8	<2	0.54	<0.5	8	19	32	2.97
CC96721		0.40	0.001	<0.2	1.28	7	<10	170	<0.5	<2	0.29	<0.5	7	18	9	2.18
CC96722		0.24	0.002	<0.2	1.58	3	<10	260	<0.5	2	0.45	<0.5	5	19	15	2.27
CC96723		0.32	0.001	<0.2	0.92	7	<10	140	<0.5	<2	0.25	<0.5	4	15	9	1.55
CC96724		0.38	<0.001	<0.2	0.60	2	<10	130	<0.5	<2	0.27	<0.5	3	9	6	1.60
CC96725		0.38	<0.001	0.2	1.00	4	<10	570	<0.5	<2	0.51	<0.5	6	13	13	2.33
CC96726		0.40	<0.001	<0.2	1.20	7	<10	340	<0.5	<2	0.56	<0.5	6	13	9	2.24
CC96727		0.38	0.007	<0.2	1.05	7	<10	110	<0.5	<2	0.15	<0.5	4	16	6	1.89
CC96728		0.30	<0.001	0.2	0.87	6	<10	130	<0.5	<2	0.20	<0.5	3	11	8	1.35
CC96729		0.34	0.013	0.2	0.96	7	<10	190	<0.5	<2	0.46	<0.5	4	14	14	1.60
CC96730		0.38	0.008	<0.2	1.27	8	<10	180	<0.5	<2	0.37	<0.5	7	17	7	4.25
CC96731		0.40	0.008	<0.2	1.61	6	<10	220	<0.5	<2	0.46	<0.5	6	20	8	2.91
CC96732		0.28	0.010	<0.2	1.77	4	<10	260	<0.5	<2	0.48	<0.5	7	19	9	3.13
CC96733		0.36	0.001	<0.2	1.33	10	<10	120	<0.5	<2	0.22	<0.5	6	18	10	2.53
CC96734		0.40	0.001	<0.2	1.82	12	<10	100	<0.5	<2	0.16	<0.5	6	27	12	3.29
CC96735		0.40	<0.001	<0.2	1.24	6	<10	140	<0.5	<2	0.30	<0.5	4	11	10	1.35
CC96736		0.42	<0.001	<0.2	1.23	7	<10	170	<0.5	<2	0.28	<0.5	5	16	12	2.08



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: STRATEGIC METALS LTD.  
 C/O ARCHER, CATHRO & ASSOCIATES (1981)  
 LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

Page: 3 - B  
 Total # Pages: 5 (A - C)  
 Finalized Date: 2-AUG-2010  
 Account: MTT

Project: KLOTASSIN

**CERTIFICATE OF ANALYSIS VA10098128**

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr
		ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm
		10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1
CC94442		<10	<1	0.12	40	0.49	237	<1	0.02	8	780	8	0.07	<2	6	40
CC94443		10	<1	0.06	10	0.30	190	<1	0.01	5	600	4	<0.01	<2	2	19
CC94444		<10	<1	0.08	20	0.37	227	1	0.02	8	740	6	0.02	2	4	26
CC94445		<10	<1	0.05	20	0.24	217	<1	0.01	4	770	2	<0.01	<2	2	19
CC94454		<10	<1	0.05	10	0.26	230	<1	0.02	6	600	5	0.02	<2	2	20
CC94455		<10	<1	0.08	20	0.37	262	<1	0.01	6	710	4	0.01	<2	3	36
CC94456		<10	<1	0.14	50	0.56	683	<1	0.02	9	920	9	0.04	<2	7	41
CC94457		<10	<1	0.04	20	0.21	129	<1	0.01	5	1220	3	<0.01	<2	2	14
CC94458		<10	<1	0.06	20	0.31	258	<1	0.01	5	600	4	0.02	<2	3	21
CC94459		<10	<1	0.06	20	0.29	134	1	0.02	7	540	4	0.02	2	2	26
CC94460		<10	<1	0.08	30	0.49	351	1	0.02	22	790	9	0.05	<2	4	37
CC94461		<10	<1	0.10	20	0.50	375	<1	0.02	6	590	2	0.06	2	5	29
CC94462		<10	<1	0.05	20	0.26	180	<1	0.01	4	640	<2	0.08	<2	2	24
CC94463		<10	<1	0.10	20	0.42	343	<1	0.02	4	670	<2	0.06	<2	5	26
CC94464		<10	<1	0.07	20	0.30	174	<1	0.02	3	830	<2	0.06	<2	3	28
CC94465		<10	<1	0.09	20	0.42	328	<1	0.02	4	700	<2	0.06	<2	5	38
CC94466		<10	<1	0.06	20	0.29	212	<1	0.01	3	730	<2	0.03	<2	3	26
CC96714		10	<1	0.15	10	0.53	328	<1	0.02	7	670	4	0.03	2	5	25
CC96715		<10	<1	0.15	20	0.49	235	<1	0.01	7	390	2	0.02	<2	5	23
CC96716		<10	1	0.19	20	0.37	590	1	<0.01	1	580	15	<0.01	11	7	17
CC96717		<10	<1	0.07	10	0.28	218	<1	0.01	7	230	2	<0.01	<2	3	12
CC96718		<10	<1	0.08	10	0.25	965	<1	0.02	4	640	5	0.05	<2	3	35
CC96719		<10	<1	0.12	20	0.44	632	<1	0.01	5	660	13	0.07	2	6	26
CC96720		<10	<1	0.14	30	0.46	641	<1	0.02	10	580	6	0.04	<2	8	34
CC96721		<10	<1	0.08	10	0.42	321	<1	0.01	8	210	3	0.02	<2	4	20
CC96722		<10	<1	0.11	20	0.52	205	<1	0.01	8	510	6	0.03	2	6	27
CC96723		<10	<1	0.05	10	0.27	132	<1	0.01	6	520	<2	0.02	<2	2	17
CC96724		<10	<1	0.04	10	0.20	163	<1	<0.01	4	530	<2	0.01	<2	2	15
CC96725		<10	1	0.07	10	0.35	745	<1	0.02	5	600	7	0.03	<2	3	36
CC96726		<10	<1	0.10	10	0.41	439	<1	0.01	4	720	4	0.04	<2	4	35
CC96727		<10	<1	0.04	10	0.26	185	<1	<0.01	5	360	2	<0.01	<2	2	12
CC96728		<10	<1	0.04	10	0.20	146	<1	0.01	3	490	<2	0.03	<2	2	16
CC96729		<10	<1	0.06	30	0.28	249	<1	0.01	6	610	<2	0.03	<2	3	26
CC96730		<10	1	0.12	20	0.46	313	<1	0.01	4	680	<2	0.01	<2	3	20
CC96731		10	<1	0.23	20	0.67	345	<1	0.01	5	760	<2	0.01	<2	4	25
CC96732		10	<1	0.26	20	0.71	325	<1	0.01	6	810	5	<0.01	<2	5	24
CC96733		10	1	0.07	10	0.36	189	<1	0.01	7	390	<2	0.01	<2	3	16
CC96734		10	<1	0.08	10	0.43	208	<1	<0.01	11	320	6	0.01	<2	3	15
CC96735		<10	<1	0.07	10	0.20	168	<1	0.02	3	430	<2	0.03	<2	2	22
CC96736		<10	<1	0.06	10	0.38	249	<1	0.01	7	400	<2	0.01	<2	3	19



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: STRATEGIC METALS LTD.  
 C/O ARCHER, CATHRO & ASSOCIATES (1981)  
 LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

Page: 3 - C  
 Total # Pages: 5 (A - C)  
 Finalized Date: 2-AUG-2010  
 Account: MTT

Project: KLOTASSIN

**CERTIFICATE OF ANALYSIS VA10098128**

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Th	Ti	Tl	U	V	W	Zn
		ppm	%	ppm	ppm	ppm	ppm	ppm
		20	0.01	10	10	1	10	2
CC94442		<20	0.07	<10	10	41	<10	63
CC94443		<20	0.06	<10	<10	29	<10	32
CC94444		<20	0.08	<10	10	45	<10	46
CC94445		<20	0.06	<10	<10	41	<10	28
CC94454		<20	0.07	<10	<10	39	<10	34
CC94455		<20	0.10	<10	<10	52	<10	44
CC94456		<20	0.05	<10	<10	56	<10	50
CC94457		<20	0.07	<10	<10	34	<10	22
CC94458		<20	0.07	<10	<10	40	<10	40
CC94459		<20	0.07	<10	30	37	<10	33
CC94460		<20	0.07	<10	<10	44	<10	56
CC94461		<20	0.07	<10	<10	43	<10	39
CC94462		<20	0.05	<10	<10	29	<10	27
CC94463		<20	0.05	<10	<10	40	<10	34
CC94464		<20	0.07	<10	10	58	<10	32
CC94465		<20	0.06	<10	<10	41	<10	39
CC94466		<20	0.05	<10	<10	37	<10	30
CC96714		<20	0.12	<10	<10	59	<10	49
CC96715		<20	0.09	<10	<10	44	<10	44
CC96716		20	0.07	<10	<10	54	<10	64
CC96717		<20	0.05	<10	<10	41	<10	33
CC96718		<20	0.04	<10	<10	39	<10	40
CC96719		<20	0.08	<10	<10	59	<10	59
CC96720		<20	0.04	<10	<10	51	<10	47
CC96721		<20	0.06	<10	<10	45	<10	41
CC96722		<20	0.06	<10	<10	51	<10	44
CC96723		<20	0.05	<10	<10	35	<10	26
CC96724		<20	0.05	<10	<10	23	<10	31
CC96725		<20	0.06	<10	<10	47	<10	48
CC96726		<20	0.07	<10	<10	44	<10	54
CC96727		<20	0.06	<10	<10	46	<10	28
CC96728		<20	0.04	<10	<10	32	<10	23
CC96729		<20	0.05	<10	<10	35	<10	34
CC96730		<20	0.14	<10	<10	72	<10	35
CC96731		<20	0.20	<10	<10	73	<10	47
CC96732		<20	0.20	<10	<10	83	<10	52
CC96733		<20	0.10	<10	<10	65	<10	36
CC96734		<20	0.12	<10	<10	75	<10	40
CC96735		<20	0.05	<10	<10	33	<10	22
CC96736		<20	0.08	<10	<10	50	<10	31



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: STRATEGIC METALS LTD.  
 C/O ARCHER, CATHRO & ASSOCIATES (1981)  
 LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

Page: 4 - A  
 Total # Pages: 5 (A - C)  
 Finalized Date: 2-AUG-2010  
 Account: MTT

Project: KLOTASSIN

**CERTIFICATE OF ANALYSIS VA10098128**

Sample Description	Method Analyte Units LOR	WEI-21	Au-ICP21	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Recvd Wt. kg	Au ppm	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
		0.02	0.001	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1	1	0.01
CC96737		0.42	<0.001	<0.2	0.96	<2	<10	120	<0.5	<2	0.14	<0.5	2	8	9	0.82
CC96738		0.32	0.002	<0.2	1.58	7	<10	150	<0.5	<2	0.28	<0.5	7	21	11	2.50
CC96739		0.26	<0.001	<0.2	1.92	9	<10	170	<0.5	<2	0.23	<0.5	7	25	11	3.03
CC96740		0.44	0.022	<0.2	1.78	7	<10	270	<0.5	<2	0.48	<0.5	9	19	7	3.09
CC97525		0.26	<0.001	<0.2	3.08	8	<10	260	0.6	<2	0.78	<0.5	9	17	13	2.78
CC97526		0.32	<0.001	<0.2	3.48	7	<10	290	0.6	<2	0.79	<0.5	12	15	10	3.99
CC97527		0.34	<0.001	<0.2	2.43	10	<10	230	0.5	<2	0.27	<0.5	11	27	22	3.14
CC97528		0.28	0.002	<0.2	2.39	10	<10	210	0.5	<2	0.27	<0.5	10	26	22	2.88
CC97529		0.36	<0.001	<0.2	2.88	6	<10	280	0.6	<2	0.54	<0.5	12	16	13	3.74
CC97530		0.42	<0.001	<0.2	3.06	8	<10	260	0.5	<2	0.80	<0.5	12	17	17	3.27
CC97531		0.40	<0.001	<0.2	3.13	10	<10	140	0.5	<2	0.65	<0.5	10	19	17	2.85
CC97532		0.32	<0.001	<0.2	3.22	10	<10	230	0.6	<2	0.56	<0.5	10	24	23	3.29
CC97533		0.48	0.001	<0.2	1.54	9	<10	150	<0.5	<2	0.36	<0.5	8	21	17	2.23
CC97534		0.34	<0.001	<0.2	1.37	7	<10	140	<0.5	<2	0.37	<0.5	8	18	10	2.39
CC97535		0.32	<0.001	<0.2	1.98	6	<10	290	0.5	<2	0.72	<0.5	10	17	15	2.91
CC97536		0.32	<0.001	<0.2	2.53	9	<10	270	0.5	<2	0.28	<0.5	10	24	17	3.54
CC97537		0.42	0.001	<0.2	2.29	12	<10	200	<0.5	<2	0.23	<0.5	10	27	20	2.99
CC97538		0.44	<0.001	0.2	1.55	8	<10	180	<0.5	<2	0.28	<0.5	7	20	16	2.59
CC97539		0.44	0.001	<0.2	2.39	9	<10	210	<0.5	<2	0.32	<0.5	13	24	12	3.33
CC97540		0.36	<0.001	<0.2	1.23	5	<10	230	<0.5	<2	0.36	<0.5	7	10	10	1.85
CC97541		0.38	<0.001	0.2	2.11	7	<10	270	0.6	<2	0.66	<0.5	9	24	19	2.95
CC97542		0.30	0.001	<0.2	2.11	7	<10	240	0.5	<2	0.59	<0.5	8	19	22	2.79
CC97543		0.40	0.002	<0.2	1.71	8	<10	260	0.6	<2	0.54	<0.5	8	20	17	2.65
CC97544		0.34	<0.001	<0.2	1.10	4	<10	290	<0.5	<2	0.59	<0.5	7	10	15	2.08
CC97545		0.36	<0.001	0.2	1.54	3	<10	390	0.6	<2	0.65	<0.5	4	8	18	1.38
CC97546		0.28	<0.001	<0.2	1.80	6	<10	260	0.5	<2	0.27	<0.5	9	21	16	3.17
CC97547		0.38	<0.001	<0.2	2.53	8	<10	280	0.6	<2	0.30	<0.5	13	20	11	4.04
CC97548		0.40	<0.001	<0.2	3.38	9	<10	260	0.7	<2	0.69	<0.5	14	17	13	4.07
CC97549		0.34	0.002	<0.2	1.40	5	<10	260	0.5	<2	0.65	<0.5	7	13	14	2.28
CC97550		0.38	<0.001	<0.2	0.82	5	<10	310	0.8	<2	0.39	<0.5	12	16	17	1.85
CC97551		0.36	<0.001	<0.2	1.70	6	<10	220	<0.5	<2	0.40	<0.5	8	17	13	2.71
CC97552		0.32	<0.001	<0.2	1.57	8	<10	150	<0.5	<2	0.23	<0.5	7	18	13	2.37
CC97553		0.36	<0.001	<0.2	1.62	5	<10	170	<0.5	<2	0.27	<0.5	9	21	17	2.56
CC97554		0.34	<0.001	<0.2	1.38	5	<10	190	<0.5	<2	0.45	<0.5	7	12	14	2.31
CC97555		0.36	<0.001	<0.2	2.09	8	<10	280	0.7	<2	0.64	<0.5	10	16	14	3.18
CC95230		0.40	<0.001	<0.2	0.46	3	<10	70	<0.5	<2	0.25	<0.5	3	9	5	0.99
CC95231		0.36	<0.001	<0.2	0.52	5	<10	90	<0.5	<2	0.29	<0.5	4	12	5	1.30
CC95232		0.38	<0.001	<0.2	0.44	6	<10	80	<0.5	<2	0.24	<0.5	4	13	6	1.03
CC96484		0.38	<0.001	<0.2	1.21	6	<10	310	<0.5	<2	0.55	<0.5	7	17	18	2.38
CC96485		0.46	0.001	<0.2	1.21	8	<10	370	<0.5	<2	0.60	<0.5	8	18	21	2.60



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: STRATEGIC METALS LTD.  
 C/O ARCHER, CATHRO & ASSOCIATES (1981)  
 LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

Page: 4 - B  
 Total # Pages: 5 (A - C)  
 Finalized Date: 2-AUG-2010  
 Account: MTT

Project: KLOTASSIN

**CERTIFICATE OF ANALYSIS VA10098128**

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr
		ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm
		10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1
CC96737		<10	<1	0.06	10	0.15	57	<1	0.03	2	310	<2	0.03	<2	1	15
CC96738		<10	<1	0.09	10	0.45	275	<1	0.01	9	550	<2	0.01	2	3	19
CC96739		10	<1	0.09	10	0.43	265	<1	0.01	11	320	3	0.01	<2	4	19
CC96740		10	<1	0.20	10	0.76	434	<1	0.01	5	680	2	0.01	2	5	25
CC97525		10	<1	0.12	20	0.65	487	<1	0.01	10	490	8	0.01	<2	5	70
CC97526		10	<1	0.19	20	1.02	681	<1	0.02	6	650	3	0.01	<2	8	65
CC97527		10	<1	0.12	10	0.68	429	<1	0.01	23	330	8	<0.01	<2	6	20
CC97528		10	<1	0.12	10	0.63	398	<1	0.01	19	320	8	<0.01	<2	4	19
CC97529		10	1	0.19	20	0.92	724	<1	0.01	10	470	11	<0.01	<2	8	29
CC97530		10	1	0.15	10	0.67	519	<1	0.02	13	520	8	<0.01	<2	5	54
CC97531		10	1	0.11	10	0.58	392	<1	0.02	13	580	8	<0.01	<2	4	56
CC97532		10	<1	0.14	10	0.64	363	1	0.02	16	380	10	<0.01	<2	5	44
CC97533		<10	<1	0.08	10	0.48	295	<1	0.01	15	660	6	<0.01	<2	4	20
CC97534		10	<1	0.10	10	0.54	390	<1	0.01	11	370	6	<0.01	<2	4	20
CC97535		10	<1	0.18	20	0.64	586	<1	0.02	10	580	8	0.02	<2	6	36
CC97536		10	<1	0.17	10	0.75	380	1	0.01	15	310	8	<0.01	<2	6	19
CC97537		10	<1	0.11	10	0.54	310	1	0.01	17	350	8	<0.01	<2	4	21
CC97538		<10	1	0.07	20	0.33	191	1	0.01	9	370	12	0.01	<2	3	18
CC97539		10	<1	0.19	10	0.76	810	<1	0.01	15	440	10	<0.01	<2	5	22
CC97540		<10	<1	0.11	30	0.36	286	<1	0.01	5	500	6	0.01	<2	4	18
CC97541		10	<1	0.12	40	0.65	509	<1	0.02	13	740	8	0.02	<2	6	35
CC97542		10	1	0.13	20	0.41	430	<1	0.02	11	870	8	0.03	<2	5	37
CC97543		<10	<1	0.13	30	0.54	425	<1	0.02	11	570	10	0.02	<2	8	29
CC97544		<10	1	0.08	10	0.35	332	<1	0.02	5	660	6	0.02	2	5	32
CC97545		<10	<1	0.09	60	0.18	294	<1	0.02	6	620	3	0.03	<2	8	38
CC97546		10	<1	0.15	10	0.59	490	1	0.01	10	250	10	<0.01	2	5	21
CC97547		10	<1	0.18	10	1.07	782	<1	0.01	12	360	12	<0.01	<2	8	23
CC97548		10	1	0.15	10	1.19	837	<1	0.02	11	690	11	0.01	2	9	42
CC97549		<10	<1	0.11	30	0.50	354	<1	0.01	7	640	6	0.03	<2	6	34
CC97550		<10	<1	0.11	20	0.36	310	<1	<0.01	8	350	7	<0.01	<2	4	18
CC97551		<10	<1	0.16	10	0.58	409	<1	0.01	9	650	8	0.01	<2	4	22
CC97552		<10	<1	0.10	10	0.44	301	<1	0.01	12	390	7	<0.01	<2	3	14
CC97553		10	<1	0.13	10	0.51	585	<1	0.01	11	320	8	<0.01	<2	3	22
CC97554		<10	<1	0.08	30	0.36	418	<1	0.02	6	730	5	0.02	<2	4	26
CC97555		10	<1	0.15	20	0.82	589	<1	0.01	8	760	10	0.01	<2	11	26
CC95230		<10	<1	0.05	10	0.20	128	<1	0.01	6	420	2	<0.01	<2	2	12
CC95231		<10	<1	0.05	10	0.22	133	<1	0.01	7	550	3	<0.01	<2	2	14
CC95232		<10	<1	0.04	10	0.18	128	<1	0.01	7	460	2	<0.01	<2	1	12
CC96484		<10	<1	0.15	30	0.51	311	<1	0.02	9	640	6	0.03	2	5	27
CC96485		<10	<1	0.11	10	0.34	631	<1	0.02	9	700	6	0.07	<2	3	35



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: STRATEGIC METALS LTD.  
 C/O ARCHER, CATHRO & ASSOCIATES (1981)  
 LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

Page: 4 - C  
 Total # Pages: 5 (A - C)  
 Finalized Date: 2-AUG-2010  
 Account: MTT

Project: KLOTASSIN

**CERTIFICATE OF ANALYSIS VA10098128**

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Th	Ti	Tl	U	V	W	Zn
		ppm	%	ppm	ppm	ppm	ppm	ppm
		20	0.01	10	10	1	10	2
CC96737		<20	0.04	<10	<10	21	<10	15
CC96738		<20	0.10	<10	<10	57	<10	37
CC96739		<20	0.11	<10	<10	66	<10	39
CC96740		<20	0.19	<10	<10	85	<10	52
CC97525		<20	0.12	<10	<10	62	<10	46
CC97526		<20	0.19	<10	<10	99	<10	61
CC97527		<20	0.12	<10	<10	67	<10	57
CC97528		<20	0.13	<10	<10	63	<10	52
CC97529		<20	0.16	<10	<10	83	<10	62
CC97530		<20	0.17	<10	<10	71	<10	53
CC97531		<20	0.15	<10	<10	64	<10	44
CC97532		<20	0.16	<10	<10	73	<10	49
CC97533		<20	0.08	<10	<10	49	<10	40
CC97534		<20	0.10	<10	<10	53	<10	46
CC97535		<20	0.11	<10	<10	66	<10	55
CC97536		<20	0.18	<10	<10	85	<10	58
CC97537		<20	0.14	<10	<10	67	<10	48
CC97538		<20	0.13	<10	<10	75	<10	35
CC97539		<20	0.16	<10	<10	74	<10	67
CC97540		<20	0.09	<10	<10	48	<10	35
CC97541		<20	0.11	<10	<10	67	<10	55
CC97542		<20	0.07	<10	<10	66	<10	49
CC97543		<20	0.07	<10	<10	58	<10	50
CC97544		<20	0.04	<10	<10	44	<10	39
CC97545		<20	0.01	<10	<10	27	<10	27
CC97546		<20	0.09	<10	<10	66	<10	58
CC97547		<20	0.10	<10	<10	86	<10	70
CC97548		20	0.23	<10	<10	100	<10	69
CC97549		<20	0.05	<10	<10	48	<10	45
CC97550		<20	0.07	<10	<10	64	<10	57
CC97551		<20	0.15	<10	<10	67	<10	46
CC97552		<20	0.10	<10	<10	54	<10	39
CC97553		<20	0.14	<10	<10	67	<10	56
CC97554		<20	0.10	<10	<10	63	<10	41
CC97555		<20	0.06	<10	<10	71	<10	63
CC95230		<20	0.03	<10	<10	20	<10	23
CC95231		<20	0.04	<10	<10	30	<10	25
CC95232		<20	0.04	<10	<10	23	<10	22
CC96484		<20	0.12	<10	<10	55	<10	57
CC96485		<20	0.08	<10	<10	51	<10	70



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: STRATEGIC METALS LTD.  
 C/O ARCHER, CATHRO & ASSOCIATES (1981)  
 LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

Page: 5 - A  
 Total # Pages: 5 (A - C)  
 Finalized Date: 2-AUG-2010  
 Account: MTT

Project: KLOTASSIN

**CERTIFICATE OF ANALYSIS VA10098128**

Sample Description	Method Analyte Units LOR	WEI-21	Au-ICP21	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Recvd Wt. kg	Au ppm	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
		0.02	0.001	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1	1	0.01
CC96486		0.44	<0.001	<0.2	0.39	3	<10	90	<0.5	<2	0.27	<0.5	3	7	4	0.93
CC96487		0.38	0.001	<0.2	0.92	10	<10	330	<0.5	<2	0.64	<0.5	7	15	23	2.34
CC96488		0.30	<0.001	0.2	0.88	7	<10	270	<0.5	<2	0.62	<0.5	7	15	20	1.97
CC96489		0.20	0.001	<0.2	0.64	4	<10	160	<0.5	<2	0.35	<0.5	4	11	10	1.68
CC96490		0.34	<0.001	0.4	1.51	3	<10	430	0.5	<2	0.54	<0.5	7	12	56	3.24
CC96491		0.26	0.008	<0.2	1.01	84	<10	750	<0.5	2	0.93	1.3	13	3	16	25.9
CC96492		0.24	0.002	<0.2	0.84	28	<10	870	<0.5	<2	1.08	1.4	36	2	14	21.6
CC96493		0.38	<0.001	<0.2	0.44	<2	<10	70	<0.5	<2	0.34	<0.5	4	8	3	0.74
CC96494		0.26	<0.001	<0.2	2.33	7	<10	340	0.5	<2	0.35	<0.5	12	22	19	4.18
CC96495		0.14	<0.001	<0.2	0.55	<2	<10	110	<0.5	<2	0.31	<0.5	3	10	7	0.96
CC96496		0.18	0.001	0.3	3.03	15	<10	430	0.5	25	0.42	0.5	17	19	158	5.80
CC96497		0.44	<0.001	0.5	2.64	8	<10	300	<0.5	2	0.26	<0.5	11	33	28	3.46
CC96498		0.28	<0.001	0.3	1.27	7	<10	220	<0.5	<2	0.79	<0.5	7	22	24	2.18
CC96499		0.38	0.002	<0.2	2.03	12	<10	170	<0.5	<2	0.18	<0.5	9	21	13	2.86
CC96500		0.34	<0.001	<0.2	1.71	3	<10	420	1.0	<2	0.45	<0.5	14	12	8	4.90





ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: STRATEGIC METALS LTD.  
 C/O ARCHER, CATHRO & ASSOCIATES (1981)  
 LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

Page: 5 - B  
 Total # Pages: 5 (A - C)  
 Finalized Date: 2-AUG-2010  
 Account: MTT

Project: KLOTASSIN

**CERTIFICATE OF ANALYSIS VA10098128**

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm
		10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1
CC96486		<10	<1	0.04	10	0.15	144	<1	0.01	3	560	<2	<0.01	<2	1	12
CC96487		<10	<1	0.10	20	0.32	461	3	0.02	8	700	6	0.05	<2	3	40
CC96488		<10	<1	0.11	20	0.35	430	3	0.02	11	800	9	0.06	<2	3	36
CC96489		<10	<1	0.07	10	0.21	346	1	0.01	6	620	7	0.02	<2	2	17
CC96490		10	<1	0.40	30	0.68	388	2	0.03	5	850	6	0.05	<2	12	27
CC96491		<10	1	0.02	10	0.04	1470	2	0.03	7	400	2	0.16	<2	1	68
CC96492		<10	<1	0.02	10	0.05	5440	2	0.02	9	480	<2	0.15	<2	1	78
CC96493		<10	<1	0.04	10	0.18	112	1	0.01	5	690	3	0.01	<2	1	14
CC96494		10	1	0.27	20	0.73	623	<1	0.03	12	540	9	0.02	<2	8	27
CC96495		<10	1	0.05	10	0.20	163	1	0.01	4	500	3	0.03	<2	2	16
CC96496		10	<1	0.70	20	1.29	924	3	0.02	11	530	16	0.02	<2	8	27
CC96497		10	<1	0.15	10	0.70	373	2	0.02	19	260	8	0.01	<2	4	21
CC96498		10	<1	0.14	20	0.46	214	1	0.02	10	670	5	0.04	<2	4	40
CC96499		10	<1	0.11	10	0.51	285	1	0.01	12	280	6	0.02	<2	3	14
CC96500		10	1	0.37	40	0.58	656	1	0.01	5	340	11	0.01	<2	20	23



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: STRATEGIC METALS LTD.  
 C/O ARCHER, CATHRO & ASSOCIATES (1981)  
 LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

Page: 5 - C  
 Total # Pages: 5 (A - C)  
 Finalized Date: 2-AUG-2010  
 Account: MTT

Project: KLOTASSIN

**CERTIFICATE OF ANALYSIS VA10098128**

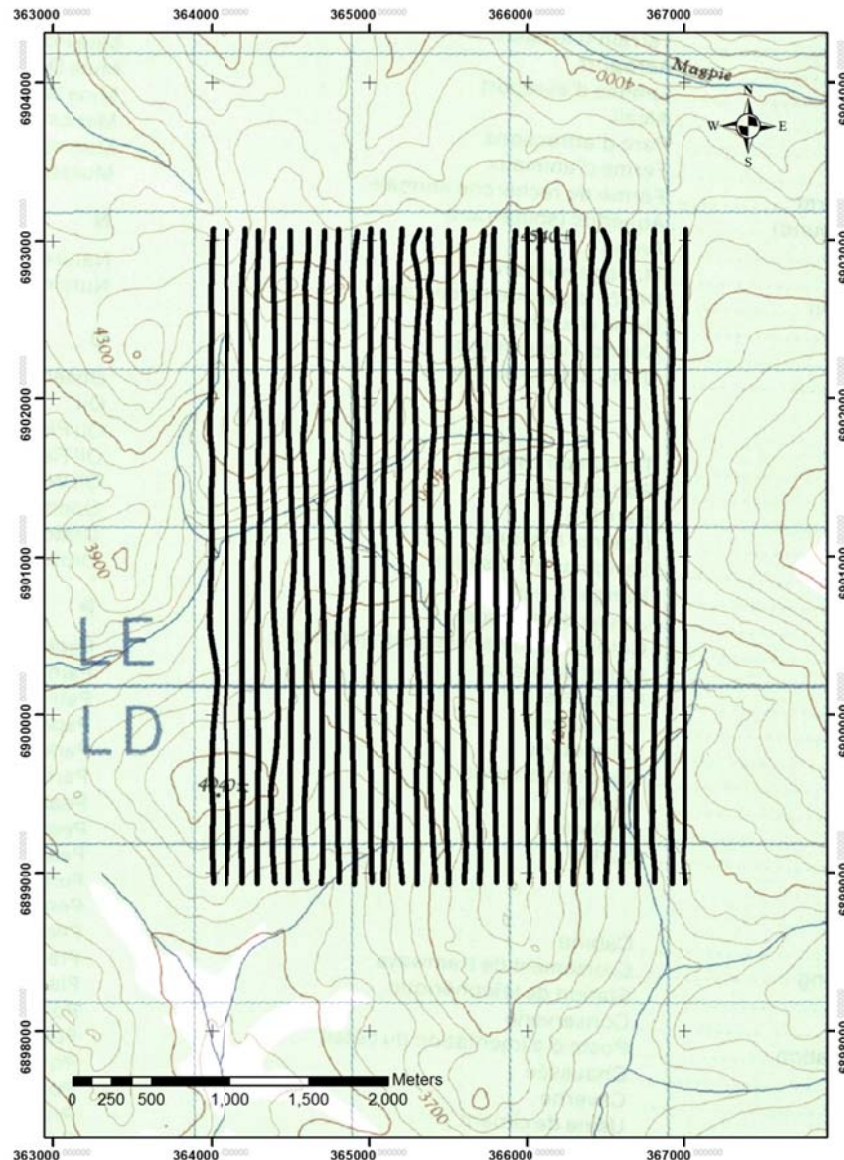
Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Th	Ti	Tl	U	V	W	Zn
		ppm	%	ppm	ppm	ppm	ppm	ppm
		20	0.01	10	10	1	10	2
CC96486		<20	0.04	<10	<10	20	<10	23
CC96487		<20	0.07	<10	<10	45	<10	48
CC96488		<20	0.07	<10	<10	41	<10	55
CC96489		<20	0.05	<10	<10	36	<10	30
CC96490		20	0.20	<10	<10	67	<10	84
CC96491		<20	0.01	<10	<10	74	<10	192
CC96492		<20	0.01	<10	<10	63	<10	162
CC96493		<20	0.03	<10	<10	14	<10	21
CC96494		<20	0.15	<10	<10	86	<10	78
CC96495		<20	0.05	<10	<10	22	<10	29
CC96496		30	0.32	<10	<10	136	10	98
CC96497		<20	0.15	<10	<10	83	<10	67
CC96498		<20	0.08	<10	<10	52	<10	40
CC96499		<20	0.12	<10	<10	64	<10	45
CC96500		20	0.15	<10	<10	105	<10	77

**APPENDIX IV**

**AIRBORNE GEOPHYSICAL SURVEY AND INTERPREATION DATA**

## Assessment of Airborne Magnetics and Radiometrics Surveys at the BBB Prospect

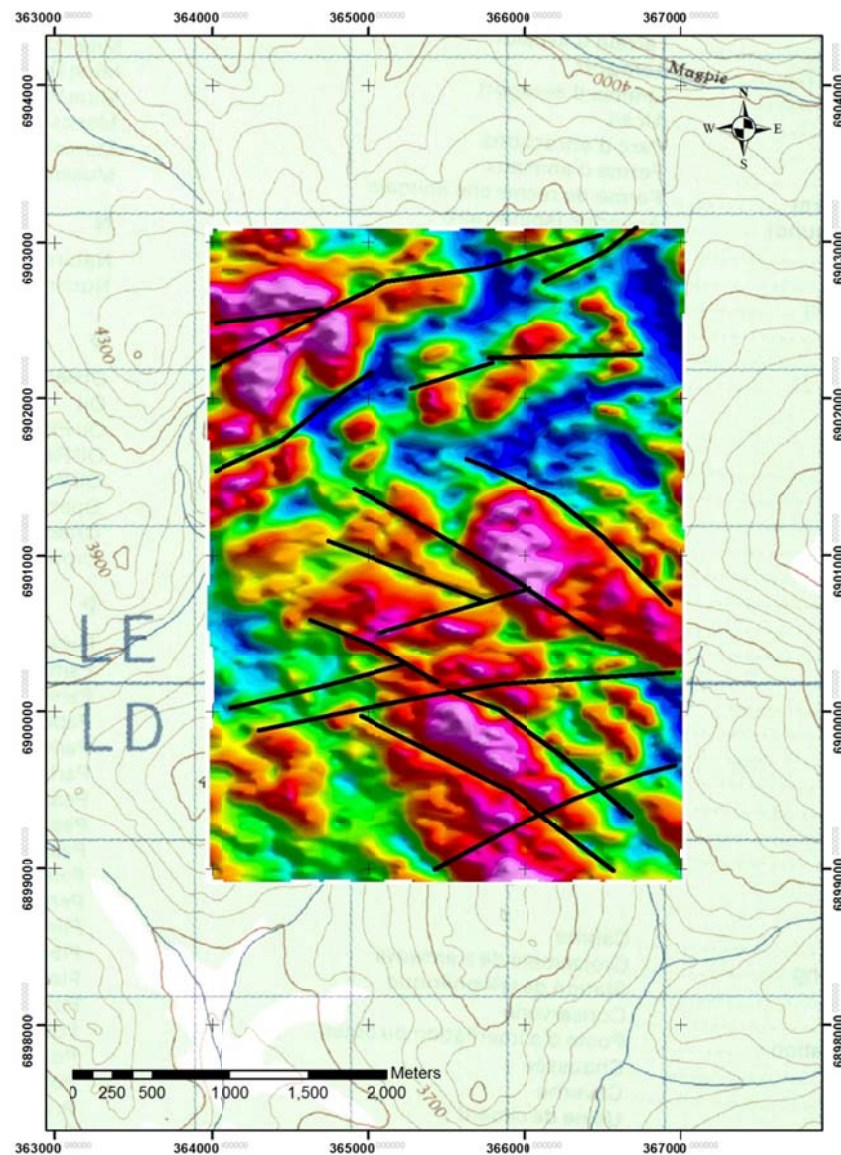
A 144 line km helicopter magnetic and radiometric survey has been completed over the BBB prospect (Klotassin project) by New-Sense Geophysics Ltd. (New-Sense) for Strategic Metals Ltd. (Strategic Metals). BBB is reported to be a grassroots stockwork (White Gold Type) prospect located approximately 200 km north-west of Whitehorse in the Yukon Territory. Condor Consulting, Inc. (Condor) has been commissioned to assess the data sets and provide a 3D model of the magnetics. Refer to New-Sense's logistic report (HMR100816) for any additional survey details. Figure 1 shows the location of the survey area and flight path.



**Figure 1:** BBB airborne magnetics and radiometrics survey flight path.

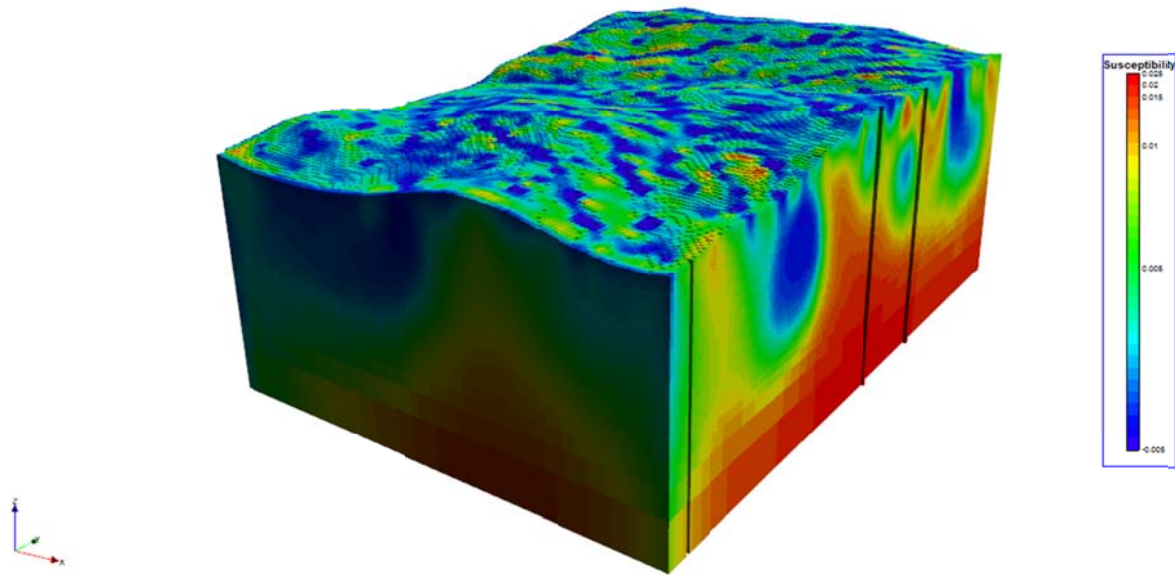
The range of the magnetic response across the survey area is approximately 300 nT. The results show several distinct zones of elevated magnetism and interpreted structural breaks that are shown in Figure 2.

The interpreted lineaments were derived from the total magnetic intensity image and associated filter products (1<sup>st</sup> and 2<sup>nd</sup> vertical derivative, tilt derivative, total gradient, upward continuation).



**Figure 1:** BBB total magnetic intensity image and interpreted structural lineaments.

The University of British Columbia (UBC) 3D magnetic inversion program MAD3D (version 4.0) was used to produce a model of the magnetics data. MAG3D is a program library for carrying out forward modeling and inversion of surface, airborne, and/or borehole magnetic data in the presence of a three dimensional Earth. Data are assumed to be the anomalous magnetic response to buried susceptible material, not including Earth's ambient field. The model is specified using a mesh of rectangular cells, each with a constant value of susceptibility, and topography is included. The magnetic response can be calculated anywhere within the model volume, including above the topography, simulating ground or airborne surveys, and inside the ground simulating borehole surveys. Figure 3 displays the 3D inversion results of the magnetics data at BBB.



**Figure 3:** BBB 3D magnetic model.

The radiometrics data appears to be responding closely to topography. The higher responses appear associated with the topographic highs and drainage features while the lows correspond to the flatter lying covered valleys.

The following products can be found and downloaded from the Condor ftp site (<ftp://ftp.condorconsult.com> , user id: [archer@condorconsult.com](mailto:archer@condorconsult.com) , password: skywalker19):

- Summary report of the assessment
- Registered images of the airborne magnetics and radiometrics (NAD83, Zone 8N)
- 3D magnetic model and associated sections
- ArcGIS formatted .shp file of the interpreted lineaments derived from the magnetics

It is recommended that the results of the airborne magnetics and radiometrics data be compared with any available geologic and geochemical information in order to help advance the exploration program at BBB.

Respectfully submitted;

Mark Goldie

Condor Consulting, Inc.

November 5, 2010

**References:**

Li, Y. and Oldenburg, D. W., 1996, 3-D Inversion of Magnetic Data: *Geophysics*, 61, no. 02, 394-408.

Yakovenko, A., Logistics Report for the High Resolution Helicopter Magnetic and Gamma-ray Spectrometric Airborne Geophysical Survey flown over Klotassin Project Properties: BBB, CCC and DDD Blocks, YT, Canada from Carmacks, Yukon carried out on behalf of Strategic Metals Ltd. by New-Sense geophysics Limited, Project # HMR100816, October 2010.

**Logistics  
Report**

For the

**High Resolution Helicopter Magnetic and  
Gamma-ray Spectrometric Airborne Geophysical Survey**

Flown over

**KLOTASSIN Project Properties: BBB, CCC and DDD Blocks, YT, Canada**

From

**Carmacks, Yukon**

Carried out on behalf of

**STRATEGIC METALS LTD.**

By

**New-Sense Geophysics Limited**



Toronto, Canada  
October 12<sup>th</sup>, 2010  
(HMR100816-report)



# TABLE OF CONTENTS

<b>AMENDMENT RECORD</b> .....	<b>4</b>
<b>1. INTRODUCTION</b> .....	<b>5</b>
<b>2. SURVEY LOCATION</b> .....	<b>6</b>
<b>3. PERSONNEL</b> .....	<b>8</b>
3.1 FIELD OPERATIONS .....	8
3.2 OFFICE DATA PROCESSING AND OFFSITE QA/QC.....	8
3.3 PROJECT MANAGEMENT.....	8
<b>4. SURVEY PARAMETERS</b> .....	<b>9</b>
<b>5. AIRCRAFT AND EQUIPMENT</b> .....	<b>10</b>
5.1 AIRCRAFT .....	10
5.2 AIRBORNE GEOPHYSICAL SYSTEM .....	10
5.2.1 <i>Magnetometer</i> .....	10
5.2.2 <i>Magnetic Compensation</i> .....	10
5.2.3 <i>GPS Navigation</i> .....	11
5.2.4 <i>Altimeter</i> .....	11
5.2.5 <i>Geophysical Flight Control System</i> .....	11
5.2.6 <i>Spectrometer</i> .....	11
5.2.7 <i>iDAS Digital Recording</i> .....	12
5.2.8 <i>Pressure and Temperature</i> .....	12
5.2.9 <i>Spectrometer Digital Recording</i> .....	12
5.3 GROUND MONITORING SYSTEM.....	12
5.3.1 <i>Base Station Magnetometer</i> .....	12
5.3.2 <i>Recording</i> .....	12
5.4 FIELD COMPILATION SYSTEM .....	13
<b>6. PRE-SURVEY SPECTROMETER CALIBRATIONS</b> .....	<b>14</b>
6.1 ENERGY WINDOWS.....	14
6.2 CALIBRATION PAD TEST .....	15
6.3 COSMIC FLIGHT TEST .....	15
6.3.1 <i>Setup and Measurement Procedure</i> .....	15
6.3.2 <i>Results from Cosmic Flight Test</i> .....	16
6.4 ALTITUDE ATTENUATION TEST .....	16
6.4.1 <i>Results from Altitude Attenuation Test</i> .....	16
6.5 RADON TEST STRIPS.....	17
6.6 RADIOELEMENT GROUND CONCENTRATIONS AND SYSTEM SENSITIVITIES .....	17
<b>7. OPERATIONS AND PROCEDURES</b> .....	<b>19</b>
7.1 FLIGHT PLANNING AND FLIGHT PATH .....	19
7.2 BASE STATION .....	19
7.3 AIRBORNE MAGNETOMETERS.....	19
7.4 THORIUM RESOLUTION TESTS.....	19
7.5 DATA COMPILATION .....	20
7.5.1 <i>Flight Path Corrections</i> .....	20
7.5.2 <i>Digital Terrain Model (DTM)</i> .....	21
7.5.3 <i>Magnetic Corrections</i> .....	21
7.5.3.1 <i>Diurnal Corrections</i> .....	21
7.5.3.2 <i>Lag Corrections</i> .....	22
7.5.3.3 <i>Heading Corrections</i> .....	23
7.5.3.4 <i>IGRF Corrections</i> .....	23
7.5.3.5 <i>Leveling Corrections</i> .....	24
7.5.4 <i>Vertical Derivative</i> .....	25

7.5.5	Gridding .....	25
7.5.6	Radiometric Data Corrections.....	25
7.5.6.1	Live Time Corrections .....	25
7.5.6.2	Pre-filtering.....	26
7.5.6.3	Aircraft and Cosmic Background.....	26
7.5.6.4	Radon Correction.....	26
7.5.6.5	Compton Stripping.....	26
7.5.6.6	Equivalent Height at STP.....	27
7.5.6.7	Attenuation Corrections .....	28
7.5.6.8	Leveling of Attenuation Corrected Data .....	28
7.5.6.9	Conversion to Apparent Radioelemnt Concentrations.....	29
7.5.6.10	Air Absorption Dose Rate .....	30
7.5.6.11	Gridding .....	31
7.5.6.12	Ternary MAP.....	31
<b>9.</b>	<b>SUMMARY .....</b>	<b>34</b>
<b>APPENDIX A:</b>	<b>BACKGROUND AND COSMIC TESTS CHARTS .....</b>	<b>35</b>
<b>APPENDIX B:</b>	<b>FOM RESULTS .....</b>	<b>40</b>
<b>APPENDIX C:</b>	<b>DATABASE DESCRIPTIONS .....</b>	<b>44</b>
<b>APPENDIX D:</b>	<b>RSX-5 SPECTROMETER (SN 5503): DAILY RESOLUTION TESTS RESULTS .....</b>	<b>47</b>
<b>APPENDIX E:</b>	<b>IMAGES OF FINAL MAPS .....</b>	<b>49</b>
<b>APPENDIX F:</b>	<b>MICROLEVELLING DESCRIPTION .....</b>	<b>73</b>

**AMENDMENT RECORD**

<b>Rev</b>	<b>Date</b>	<b>Description</b>	<b>Report Section</b>	<b>Prepared by</b>

**DOCUMENT RECORD**

<b>Document Identification</b>	HMR100816-report
<b>Document Custodian</b>	Field Operations Manager
<b>Relates To</b>	Final Deliverables
<b>Original Date Issued</b>	October 12 <sup>th</sup> , 2010

## 1. INTRODUCTION

A high sensitivity helicopter magnetic and gamma-ray spectrometric airborne survey was carried out for Strategic Metals Ltd. (Client) over three (3) project areas: BBB, CCC and DDD collectively known as Klotassin properties, located approximately 80 km west of Carmacks, Yukon, Canada.

New-Sense Geophysics (NSG) flew the survey under the terms of an agreement with Client dated August 16<sup>th</sup>, 2010.

The survey was flown between August 18<sup>th</sup> and August 21<sup>st</sup>, 2010. A total of 832 line kilometers of field magnetic and radiometric data was flown, collected, processed and plotted. These lines were flown in three (3) separate blocks listed below:

BBB Property	- 144 km
CCC Property	- 360 km
DDD Property	- 328 km

Geophysical equipment was comprised of 1 high-sensitivity Cesium-3 magnetometer mounted in a fixed stinger assemble and a 1024-channel spectrometer with four downward looking crystals (total 16 liters) and one upward looking crystal (total 4 liters). Airborne ancillary equipment included digital recorders, fluxgate magnetometer, radar altimeter and global positioning system (GPS) receiver, which provided accurate real-time navigation and subsequent flight path recovery. Surface equipment included a magnetic base station with GPS time synchronization and a PC-based field workstation, which was used to check the data quality and completeness on a daily basis.

The technical objective of the survey was to provide high-resolution total field magnetic and radiometric maps suitable for anomaly delineation, detailed structural evaluation, and identification of lithologic trends. Fully corrected magnetic and radiometric maps were prepared by New-Sense Geophysics Limited, in their Toronto office, after the completion of survey activities.

This report describes the acquisition, processing, and presentation of data for the Strategic Metals Ltd. Klotassin airborne survey over BBB, CCC, and DDD blocks, Yukon, Canada.

**2. SURVEY LOCATION**

Datum: NAD83

Projection: Universal Transverse Mercator Zone 8N

Local Datum Transform: North America (all Canada and USA subunits)

**Table 2.1: BBB Property Coordinates**

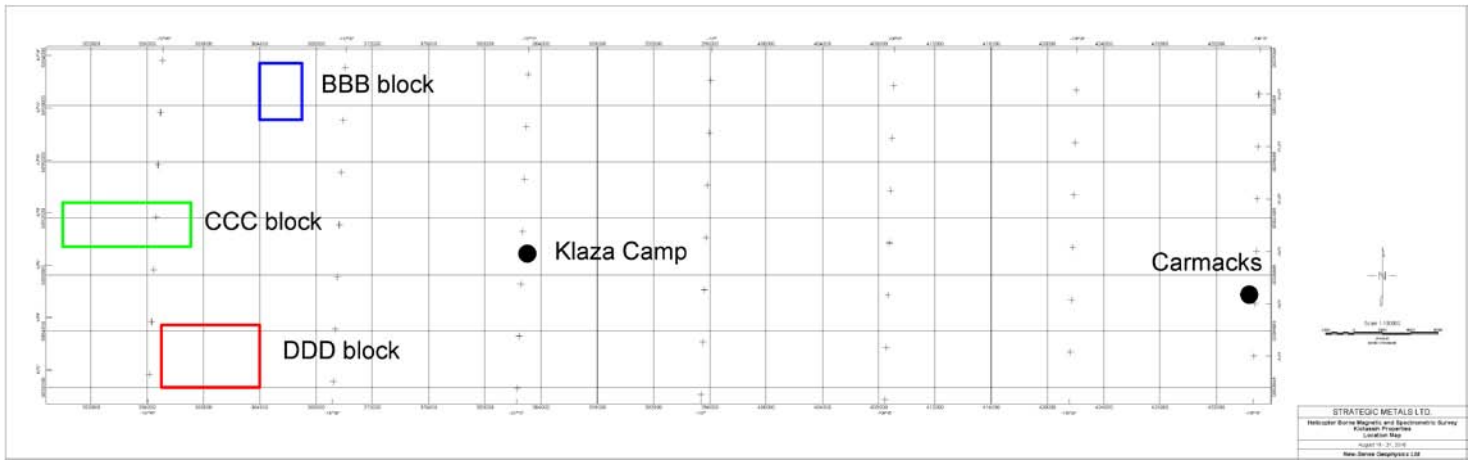
UTM Zone 8N			
NAD83_X	NAD83_Y	WGS84_X	WGS84_Y
364000	6903000	364000	6903000
367000	6903000	367000	6903000
367000	6899000	367000	6899000
364000	6899000	364000	6899000
364000	6903000	364000	6903000

**Table 2.2: CCC Property Coordinates**

UTM Zone 8N			
NAD83_X	NAD83_Y	WGS84_X	WGS84_Y
350000	6893111	350000	6893111
359093	6893111	359093	6893111
359093	6890000	359093	6890000
350000	6890000	350000	6890000
350000	6893111	350000	6893111

**Table 2.3: DDD Property Coordinates**

UTM Zone 8N			
NAD83_X	NAD83_Y	WGS84_X	WGS84_Y
357000	6884427	357000	6884427
364000	6884427	364000	6884427
364000	6880000	364000	6880000
357000	6880000	357000	6880000
357000	6884427	357000	6884427



**Figure 2.1** Location map depicting the outlines of the three (3) Klotassin properties: BBB (blue), CCC (green) and DDD (red). The coordinate system is NAD83, North America (all Canada and USA subunits), Zone 8N.

### **3. PERSONNEL**

#### **3.1 FIELD OPERATIONS**

New-Sense Geophysics Ltd., Geophysicist:	Chris Evans
Fireweed Helicopters, Pilot:	Brent Vansickle

#### **3.2 OFFICE DATA PROCESSING AND OFFSITE QA/QC**

QA/QC (NSG):	Andrei Yakovenko
Data Processing and Grids (NSG):	Andrei Yakovenko Sean Plener Chris Evans
Maps (NSG):	Andrei Yakovenko Sean Plener
Logistics Report (NSG):	Andrei Yakovenko Sean Plener

#### **3.3 PROJECT MANAGEMENT**

New-Sense Geophysics Ltd.:	Andrei Yakovenko
Strategic Metals Ltd.:	W. Douglas Eaton

#### 4. SURVEY PARAMETERS

Airborne Digital Record: Line Number  
 Flight Number  
 Radar Altimeter  
 Total Field Magnetics  
 Live Time  
 Thorium counts  
 Potassium counts  
 Uranium counts  
 Upward looking Uranium counts  
 Cosmic counts  
 Down Spectrum  
 Total Counts  
 Time (System and GPS)  
 Raw Global Positioning System (GPS) data  
 Magnetic compensation parameters (fluxgate mag.)

Base Station Record: Ambient Total Field Magnetics  
 Raw Global Positioning System (GPS) data  
 Time (System and GPS)

**Table 4.1 Survey Parameters**

<b>Specifications</b>	<b>BBB</b>	<b>CCC</b>	<b>DDD</b>
Traverse Line Spacing (m)	100	100	100
Control Line Spacing (m)	1000	1000	1000
Nominal Terrain Clearance (m)	35	35	35
Actual Terrain Clearance (avrg. m)	36	35	36
Navigation	GPS	GPS	GPS
Traverse Line Direction (deg.)	0, 180	90, 270	0, 180
Control Line Direction (deg.)	90, 270	0, 180	90, 270
Magnetic Data Measurement Interval (sec.)	0.1	0.1	0.1
Radiometric Data Measurement Interval (sec.)	1	1	1
Ground Speed (avrg. km/h)	112.0	113.6	108.2
Magnetic Measurement Interval (avrg. m/0.1sec.)	3.1	3.2	3.0
Radiometric Measurement Interval (avrg. /1.0sec.)	31.0	32.0	30.0



## **5. AIRCRAFT AND EQUIPMENT**

### **5.1 AIRCRAFT**

The aircraft used was a Bell 206B3 helicopter (C-FFWH) equipped with a Cesium magnetometer mounted in a fixed stinger assembly and RS-500 airborne spectrometer mounted in the storage compartment. The aviation company providing the aircraft service was Fireweed Helicopters based in Whitehorse, Yukon, Canada.

### **5.2 AIRBORNE GEOPHYSICAL SYSTEM**

#### **5.2.1 MAGNETOMETER**

One Scintrex CS-3 optically pumped Cesium split beam sensor was mounted in a fixed stinger assembly. The magnetometer's Larmor frequency output was processed by a KMAG-4 magnetometer counter, which provides a resolution of 0.15 ppm (in a magnetic field of 50,000 nT, resolution equivalent to 0.0075 nT). The raw magnetic data was recorded at 50 Hz, anti-aliased with 51 point COSINE filter and resampled at 10 Hz .

#### **5.2.2 MAGNETIC COMPENSATION**

The proximity of the aircraft to the magnetic sensor creates a measurable anomalous response as a result of the aircraft's movement. The orientation of the aircraft with respect to the sensor and the motion of the aircraft through the earth's magnetic field are contributing factors to the strength of this response. A special calibration flight, Figure of Merit (i.e., FOM), was flown to record the information necessary to compensate for these effects.

The FOM maneuvers consist of a series of calibration lines flown at high altitude to gain information in each of the required line directions. During this procedure, pitch, roll and yaw maneuvers are performed on the aircraft (typical angle ranges are 10° pitch, 10° roll, and 10° yaw). Each variation is conducted three times in succession (first pitch, then roll, then yaw), providing a complete picture of the aircraft's effects at designated headings in all orientations.

A three-axis Bartington fluxgate magnetometer (recorded at 50 Hz) was used to measure the orientation and rates of change of the magnetic field of the aircraft, away from localized terrestrial magnetic anomalies. The QC Tools digital compensation algorithm was then applied to generate a correction factor to compensate for permanent, induced, and eddy current magnetic responses generated by the aircraft's movements.

### **5.2.3 GPS NAVIGATION**

A U-BLOX RCB-LJ sixteen channel GPS receiver, which is an integral component of the iNAV V3 computer system, was used to run the flight control system and provide precise positioning of the aircraft.

### **5.2.4 ALTIMETER**

A TRA 3500 radar altimeter was mounted inside the stinger. This instrument operates with a linear performance over the range of 0 to 2,500 feet and records the terrain clearance of the sensors. The raw radar altimeter data was recorded at 50 Hz, anti-aliased with a 21 point COSINE filter and re-sampled at 10 Hz.

### **5.2.5 GEOPHYSICAL FLIGHT CONTROL SYSTEM**

New-Sense's iNAV V3 geophysical flight control system monitored and recorded magnetometer, spectrometer, altimeter, and GPS equipment performance. Input from the various sensors was monitored every 0.005 seconds for the precise coordination of geophysical and positional measurements. The input was recorded fifty times per second (one time per second in the case of GPS and radiometric data).

GPS positional coordinates and terrain clearance were presented to the pilot by means of a panel mounted indicator display. The magnetometer response, forth difference, altimeter profile and profiles of the radiometric windows were also available on the touch screen display, for real-time monitoring of equipment performance.

### **5.2.6 SPECTROMETER**

The RS-500 Airborne Spectrometer with RSX-5 detector pack, manufactured by Radiation Solutions Inc. (RSI), was used for the survey. The RS-500 spectrometer has a multi-peak gain stabilization algorithm and is capable of recording 1024 channels with accuracy of 0.1 to 10 counts/second.

The RS-500 is connected to a crystal pack comprising four downward looking crystals (16 liters total) and one upward looking crystal (4 liters total). The downward crystals record the radiometric spectrum from 410 KeV to 2810 KeV over 1024 discrete energy windows, as well as from a cosmic ray channel that detects photons with energy levels above 3.0 MeV. From these 1024 channels, the standard Total Count, Potassium, Uranium and Thorium channels are extracted. The upward crystal is used to measure and correct for atmospheric Radon interference. The shock-protected Sodium Iodide (Thallium) crystal package is unheated and automatically stabilizes with respect to the multiple peaks. The RS-500 provides raw data that has been automatically corrected for gain, base level, ADC offset, and dead time.

### **5.2.7 IDAS DIGITAL RECORDING**

The output of the CS-3 magnetometer, fluxgate magnetometer, altimeter, temperature, pressure, GPS coordinates, and time (system and GPS), were recorded digitally on a Compact Flash drive at a sample rate of fifty times per second (one time per second for GPS) by the iNAV V3 system.

### **5.2.8 PRESSURE AND TEMPERATURE**

A Honeywell Precision Pressure Transducer, model PPT0020AWN2VA-A, was used to record the ambient pressure and temperature during the survey. The device was mounted in the helicopter stinger. The pressure and temperature outputs units were mbar and degrees Celsius respectively.

### **5.2.9 SPECTROMETER DIGITAL RECORDING**

The output of the RS-500 spectrometer, GPS coordinates and time (UTC) were recorded digitally on an internal RS-500 flash drive at a sample rate of 1 Hz. After each flight the data were copied and synchronized using UTC clock with the iDAS digital records.

## **5.3 GROUND MONITORING SYSTEM**

### **5.3.1 BASE STATION MAGNETOMETER**

A Scintrex CS-3 optically pumped cesium split beam sensor was used at the base of operations within the airport boundaries, in an area of low magnetic gradient and low/free from cultural electric & magnetic noise sources. The sensitivity and absolute accuracy of the ground magnetometer is +/- 0.01 nT. Data was recorded continuously at least every one second throughout all survey operations in digital form on a TC-10 data acquisition system. Both the ground and airborne magnetic readings were synchronized based on the GPS clock.

### **5.3.2 RECORDING**

The output of the magnetic and GPS monitors was recorded digitally on a dedicated TC-10 computer. A visual record of the last three hours was graphically maintained on the computer screen to provide an up to date appraisal of magnetic activity. At the conclusion of each production flight raw GPS and magnetic data were transferred to the main field compilation computer.

#### **5.4 FIELD COMPILATION SYSTEM**

A field laptop computer was used for field data processing and presentation. The raw data was imported to Geosoft Oasis montaj for QA/QC and processing purposes. After the data was checked for quality control, the database with uncompensated magnetic readings was exported to QC Tools software package for magnetic compensation and base station data merging purposes. The compensated database was then imported back to Oasis for the subsequent and final processing.

## 6. PRE-SURVEY SPECTROMETER CALIBRATIONS

Pre-survey calibrations and testing of the RS-500 (SN 5503) airborne gamma-ray spectrometry system were carried out on August 15<sup>th</sup>, 2010 (from Braeburn lodge, YT) and August 20<sup>th</sup>, 2010 (from Carmacks, YT). For these calibrations and tests, the survey aircraft (registration C-FFWH) was mobilized in survey configuration. The installed equipment and configurations were selected to conform to contract technical specifications.

Calibration of the spectrometer system is a vital process to airborne gamma-ray spectrometry. The calibration of the spectrometer system involved three tests:

- **Calibration Pad** measurements, which are used to determine the “spectral overlap” (Compton scattering) coefficients. The calibration test was performed within a 12 month period before the survey by the manufacturer (Radiation Solutions Inc.), at its headquarters location in Mississauga, Ontario.
- **Cosmic Flight Test**, which is used to determine the aircraft background values and cosmic coefficients was conducted on August 15<sup>th</sup>, 2010.
- **Height Attenuation Test**, which determined the altitude attenuation was conducted on August 20<sup>th</sup>, 2010.

### 6.1 ENERGY WINDOWS

The airborne radiometric technique requires measurement of count rates for specific energy regions or windows in the natural gamma-ray spectrum. The standard energy regions (in accordance with the International Atomic Energy Agency (IAEA) 323), and their corresponding channel limits are:

**Table 6.1 Downward spectrometer energy windows**

Designation	Energy Limit (keV)		Channel Limit (inclusive)	
	Lower	Upper	Unit Values	
			Lower	Upper
Total Count (TC)	410	2810	137	937
K	1370	1570	457	523
U	1660	1860	553	620
Th	2410	2810	803	937
U (upward)	1660	1860	553	620
Cosmic	3200	infinity		

## 6.2 CALIBRATION PAD TEST

The Compton stripping coefficients as provided by RSI are listed below:

**Table 6.2 Compton Stripping coefficients**

Stripping Ratios	Spectrometer (SN 5503)	“normal” values
Th into U ( $\alpha = a_{23}/a_{33}$ )	0.284	0.250
Th into K ( $\beta = a_{13}/a_{33}$ )	0.432	0.400
U into K ( $\gamma = a_{12}/a_{22}$ )	0.771	0.810
U into Th ( $a = a_{32}/a_{22}$ )	0.039	0.060
K into Th ( $b = a_{31}/a_{11}$ )	-0.001	0
K into U ( $g = a_{21}/a_{11}$ )	0.001	0.003

## 6.3 COSMIC FLIGHT TEST

In each of the spectral windows, the radiation increases exponentially with height due to radiation of cosmic origin. As well, the aircraft itself contributes a constant background to the count rate. By completing a series of flights within the same region, over a range of altitudes, these background contributions can be determined.

### 6.3.1 SETUP AND MEASUREMENT PROCEDURE

1. A resolution check was completed at the aircraft base using a Thorium source prior to the cosmic test to insure the sensitivity and accuracy of the spectrometer.
2. Once the aircraft reached the desired altitude (first at ~8000 feet), survey data were recorded for approximately ten minutes.
3. Step 2 was then repeated at the following remaining altitudes: 9,000, 10,000, 11,000 and 12,000 feet above sea level.

**Table 6.3 Cosmic Test data from August 15<sup>th</sup>, 2010**

Altitude (ft)	Cosmic Test Flight Data (average counts)					
	Cosmic	UU	K	U	Th	TC
7848	176	3	20	12	11	265
8914	203	3	23	13	13	338
9943	238	4	25	15	15	338
11117	381	4	27	17	19	383
12109	328	5	30	19	21	420

### 6.3.2 RESULTS FROM COSMIC FLIGHT TEST

At each altitude, the raw data for the five windows of interest (Th, K, U, TC, and U upward) were evaluated for quality. The mean values were then extracted and plotted against the cosmic background window (see Appendix A). The result is a linear trend, where the slope and intercept represent the cosmic stripping ratio and the aircraft background respectively. The results from the graphs are summarized below.

**Table 6.4 Cosmic and Aircraft Background coefficients**

<b>Cosmic Flight Test Result From August 15th, 2010</b>		
<b>Element</b>	<b>Cosmic</b>	<b>Aircraft Background</b>
K	0.0621	9.7817
U	0.0471	3.6567
Th	0.0646	0
TC	1.023	90.165
UU	0.0132	0.5736

### 6.4 ALTITUDE ATTENUATION TEST

The height attenuation of the spectrometer systems was calculated by flying a series of passes across a line over flat ground with uniform radioelement ground concentration. The test range was flown by acquiring data on a series of seven passes over a set path, at the following altitudes: 100, 150, 200, 250, 300, 400, 600, 800 and 1000 feet above ground.

#### 6.4.1 RESULTS FROM ALTITUDE ATTENUATION TEST

The airborne data from the altitude attenuation test was checked for quality, edited and divided into lines, where each line represents a pass. The radiometric windows were then corrected for background (aircraft and cosmic) and stripped of Compton contributions. After averaging the data for each line, the four windows of interest (K, U, Th, and Total Count) were plotted against the altimeter in order to obtain the height attenuation. The results were obtained using an exponential regression, where the slope represents the attenuation coefficient and the 'y' intercept represents the counts at 0 feet (see Tables 6.7 and 6.8 and Appendix A).

**Table 6.5 Height Attenuation coefficients from August 20<sup>th</sup>, 2010**

<b>Element</b>	<b>Altitude attenuation coefficients</b>
K	-0.0088
U	-0.0046
Th	-0.0068
TC	-0.0067

## 6.5 RADON TEST STRIPS

On all survey flights, at least one radon normalization hover test was flown before or after data collection.

The test consisted of the helicopter flying a designated test area over relatively flat and dry terrain at nominal survey altitude near Klaza camp. The pilot was guided by the iDAS navigation system for approximately 5 minutes to allow for adequate statistics to be collected.

Since no noticeable radon fluctuations were observed, no radon corrections were applied to the data set.

## 6.6 RADIOELEMENT GROUND CONCENTRATIONS AND SYSTEM SENSITIVITIES

The radiometric ground concentrations were measured using a calibrated portable spectrometer (RSI-125) during the same time as the airborne altitude attenuation flights took place (i.e., August 20<sup>th</sup>, 2010). The sensor was positioned one meter above the soil and away from the operators' body in the vicinity of altitude attenuation test strip. Twenty 300-second measurements were taken over the length of the calibration range.

The resulting mean radiometric equivalent ground concentrations for the calibration range on August 20<sup>th</sup>, 2010 were as follows:

**Table 6.6 Ground Concentrations from August 20<sup>th</sup>, 2010**

Radio Element	Ground Concentration	
Potassium	1.71	%
Equivalent Uranium	2.21	<i>ppm</i>
Equivalent Thorium	10.31	<i>ppm</i>
Total	62.3	<i>nGy/h</i>

Using these ground concentrations and the altitude attenuation calibration flight data, the System Sensitivities were obtained:

$$S = N/C$$

**Where:**

- *S* is the sensitivity for each window
- *N* is the striped count rate in the window at the survey altitude (i.e, 35m)
- *C* is the respective ground radioelement concentration.

With the following results:



**Table 6.7 Sensitivities @35m from August 20<sup>th</sup>, 2010**

	<b>Sensitivities @ 35m</b>
<b>K</b>	55.00 <i>cps</i> / (%)
<b>U</b>	4.01 <i>cps</i> / ( <i>ppm</i> )
<b>Th</b>	2.35 <i>cps</i> / ( <i>ppm</i> )
<b>TC</b>	14.81 <i>cps</i> / ( <i>nGy/h</i> )

Note: Determining of radioelement ground concentrations and system sensitivities were not part of the signed agreement. Such data are made available to the client as a courtesy.

## **7. OPERATIONS AND PROCEDURES**

### **7.1 FLIGHT PLANNING AND FLIGHT PATH**

The block outline coordinates (section 2.0) were used to generate pre-calculated navigation files. The navigation files were used to plan flights at the designated traverse line spacing of 100 meters and control lines of 1000 meters.

Preliminary flight path maps and magnetic maps were plotted and updated, to monitor coverage of the survey area.

### **7.2 BASE STATION**

Magnetic base station was established in magnetically quiet area in the vicinity of Klaza camp at Latitude: 62.119366; Longitude: -137.242554.

The base station readings were monitored to ensure that the diurnal variation were within the peak-to-peak envelope of 20 nT from a long chord distance equivalent to a period of two minutes.

### **7.3 AIRBORNE MAGNETOMETERS**

An FOM test of the performance of the CS-3 and fluxgate magnetometers was performed in order to monitor the ability of the system to remove the effects of aircraft motion on the magnetic measurement.

The FOM maneuvers consisted of a series of calibration lines flown at high altitude (10,000+ ft above sea level) to gain information in each of the required line directions. During this procedure, pitch, roll and yaw maneuvers were performed on the aircraft.

The following ranges were used:

Pitch: 10-15°

Roll: 10-15°

Yaw: 10-15°

See Appendix B for the FOM results as flown on August 17<sup>th</sup> 2010 and were used to compensate the magnetic data.

### **7.4 THORIUM RESOLUTION TESTS**

In order to monitor the resolution of the crystal pack, a daily a resolution test of the spectrometer was performed in RadAssist (RSX-5 spectrometer interface program) using ~2000 thorium background counts per crystal.

The results from the resolution tests were always found to be within the contract specifications (see Appendix D for the daily test results).

## 7.5 DATA COMPILATION

Data recorded by the airborne and base station systems was transferred to the field compilation system. As each flight was completed, the following compilation operations were carried out:

### 7.5.1 FLIGHT PATH CORRECTIONS

The navigational correction process yields a flight path expressed in WGS84, World and transformed to correspond to NAD83 UTM ZONE 8N North America.

**Coordinate System**

X,Y channels: **UTM\_X\_NAD83,UTM\_Y\_NAD83**

Coordinate system:  Projected (x,y)  Geographic (long, lat)  
 Unknown

Length units: metre

Transformation: none

Orientation: none

Datum: NAD83

Ellipsoid:	GRS 1980
Major axis radius:	6378137
Inverse Flattening:	298.25722
Prime Meridian:	0

Local datum transform: [NAD83] (4m) North America - all Canada and USA subur

None applied

\*Projection method: UTM zone 8N

Type:	Transverse Mercator
Latitude of natural origin:	0
Longitude of natural origin:	-135
Scale factor at natural origin:	0.9996
False easting:	500000
False northing:	0

New

OK Cancel

All 1.0 Hz GPS records were linearly interpolated and resampled at 10 Hz (0.1 sec) intervals.

## 7.5.2 DIGITAL TERRAIN MODEL (DTM)

The DTM data were produced by first adjusting the GPS sensor height to that of the radar altimeter height (lowering GPS height by 2.1m). Next the radar altimeter channel (in meters) was subtracted from the GPS height data producing a raw DTM channel.

Due to changing satellite positions (constellation configuration) and varying atmospheric conditions, the receiver may measure slightly varying GPS heights line-to-line. In addition, due to rugged topography, the radar altimeter measures inaccurately when the helicopter is pitched forward position (example: approach a steep hill), as the radar beam would be directed away or down the slope. Because of these inherent errors, the raw DTM channel required leveling.

It was decided to apply a microlevelling technique to the raw DTM data developed by Paterson, Grant & Watson Limited and available through Geosoft Oasis montaj as miclev.GX extension (see Appendix F for full description of the procedure).

The following key microlevelling parameters were used:

**Table 7.1 DTM microlevelling parameters per block**

<b>Block Name</b>	<b>Line Spacing (m)</b>	<b>Line Direction (deg.)</b>	<b>Grid Cell Size (m)</b>	<b>Decorrugation Cutoff (m)</b>	<b>Amplitude Limit (m)</b>	<b>Amplitude Limit Mode</b>	<b>Naudy Filter Limit</b>
BBB	100	0	10	400	10.0	clip	0
CCC	100	90	10	400	5.0	clip	0
DDD	100	0	10	400	8.8	clip	500

The final DTM data were stored under DTM channel name.

## 7.5.3 MAGNETIC CORRECTIONS

First the 50 Hz aeromagnetic data from Cesium 3 and fluxgate magnetometers were filtered with a 51 cosine anti-aliasing algorithm and re-sampled at 10 Hz. Then the magnetic data from the Cesium 3 magnetometer was compensated for permanent, induced, and eddy current magnetic noise generated by the aircraft using data from the fluxgate magnetometer. The compensated magnetic data were then stored in the MAG\_COMP channel.

### 7.5.3.1 DIURNAL CORRECTIONS

The compensated magnetic data were adjusted to account for diurnal variations. When the magnetic variations recorded at the base station recognized to be caused by man-made sources, (such as equipment, vehicles passing by the sensor), they were removed and gaps interpolated.

Diurnal variations recorded by the base station were filtered with a 101-point low pass filter. The filtered data was then subtracted directly from the aeromagnetic measurements to provide a first order diurnal correction.

After base station removal, the total magnetic field values become very small. To bring the total magnetic measurements back to ‘normal’ values, project averages from the base station readings were added back to the magnetic data.

**Table 7.2 Base Station project averages per block**

<b>Block Name</b>	<b>Average Readings (nT)</b>
BBB	57259.10
CCC	57266.94
DDD	57272.74

The resulting base station corrected data were stored in the MAG\_DIURNAL\_CORR channel.

### 7.5.3.2 LAG CORRECTIONS

There are two potential types of Lag offsets when collecting airborne data: time lag and distance lag.

NSG insures that there is no time lag in the data acquisition system by recording unique markers every 1-second based on the GPS time stamp (associated with the EXACT change in GPS positioning). This information is used to realign (if necessary) the individual data records.

The distance lag is determined by dividing the distance from the GPS antenna to the sensor head by the averaged sample rate distance.

**Table 7.3 Lag corrections**

<b>Block Name</b>	<b>Horizontal Distance From GPS Antenna to Sensor Head (m)</b>	<b>Average Sample Interval (m)</b>	<b>Lag Applied to Magnetic Data (records)</b>
BBB	9.2	3.1	-3
CCC	9.2	3.2	-3
DDD	9.2	3.0	-3

The lag corrections were applied to the MAG\_DIURNAL\_CORR channel and stored in the MAG\_LAG\_CORR channel.

### 7.5.3.3 HEADING CORRECTIONS

Optically pumped magnetic sensors have an inherent heading error, typically 1 to 2 nT peak-to-peak, as the sensor is rotated through 360 degrees. On flight line directions of the opposite heading, the affect is reasonably predictable.

Heading test flight was flown at magnetically quite area at 10,000+ ft above sea level altitude on August 17<sup>h</sup>, 2010 with the following results:

**Table 7.4 Heading Test flight results: August 17<sup>th</sup>, 2010**

Direction (deg.)	Mean on line (nT)	Mean in direction (nT)	Mean on heading (nT)	Error (nT)
0	57141.00	57143.34	57139.66	-3.67
0	57145.67			
180	57134.13	57135.99		3.67
180	57137.85			
90	57123.43	57123.46	57124.25	0.79
90	57123.48			
270	57125.15	57125.04		-0.79
270	57124.92			

The following heading corrections tables were constructed and applied to the data set:

```

/ Geosoft Heading Correction Table
/= Direction:real:i
/= Correction:real
/ Direction Correction
0 -3.67
90 0.79
180 3.67
270 -0.79
360 -3.67

```

The heading corrected magnetic data were stored in MAG\_HEADING\_CORR channel.

### 7.5.3.4 IGRF CORRECTIONS

The total field strength of the International Geomagnetic Reference Field (IGRF, 2010 model) was calculated for every data point, based on the spot values of Latitude, Longitude and altitude. This IGRF was removed from the measured survey data on a point-by-point basis from the lag corrected channel.

After IGRF correction the total magnetic field values become negative. To bring the total magnetic measurements back to ‘normal’ values an average of IGRF values based on the whole project were added back to the magnetic data.

**Table 7.5 IGRF averages per block**

<b>Block Name</b>	<b>Average Readings (nT)</b>
BBB	57265.57
CCC	57224.80
DDD	57221.70

The IGRF corrections were applied to the MAG\_HEADING\_CORR channel and stored in the MAG\_IGRF\_CORR channel.

### 7.5.3.5 LEVELING CORRECTIONS

After the data were corrected for IGRF, a survey traverse/control line intercepts array/matrix (i.e., Simple Leveling) was created for determining differences in magnetic field at the intersection points. Somewhat rugged terrain of the survey blocks, which resulted in some line-to-line difference in altitude, and relatively strong magnetic anomalies made magnetic signal at some Traverse/Control line intersection points quite different. As a result, some of those intersection points needed to be manually adjusted in order to reduce line-to-line magnetic differences.

The resulting simple leveled magnetic data were stored in MAG\_SIMPLE\_LVL channel.

Further, it was decided to apply microlevelling techniques to the conventionally leveled magnetic data for CCC and DDD blocks only (see Appendix F for full description of the procedure).

The following key microlevelling parameters were used:

**Table 7.6 Total Magnetic Intensity (TMI) microlevelling parameters**

<b>Block Name</b>	<b>Line Spacing (m)</b>	<b>Line Direction (deg.)</b>	<b>Grid Cell Size (m)</b>	<b>Decorrugation Cutoff (m)</b>	<b>Amplitude Limit (nT)</b>	<b>Amplitude Limit Mode</b>	<b>Naudy Filter Limit</b>
BBB	NA	NA	NA	NA	NA	NA	NA
CCC	100	90	10	400	3.9	clip	100
DDD	100	0	10	400	26.7	clip	100

The resulting microleveled channels for CCC and DDD blocks were stored in MAG\_MICLEV channel.

The final Total Magnetic Intensity (TMI) data were stored in TMI\_FINAL channel. Note, for the CCC and DDD blocks, TMI\_FINAL is copied directly from MAG\_MICLEV channel; for the BBB block, TMI\_FINAL is copied directly from MAG\_SIMPLE\_LVL channel.

#### **7.5.4 VERTICAL DERIVATIVE**

A 1-st Order Vertical Derivative (VDV) data were calculated using 2D FFT2 algorithm based on final TMI grids. The resulting VDV grids were then sampled back to the database.

The VDV data were stored under VDV channel.

#### **7.5.5 GRIDDING**

All the magnetic (TMI & VDV) and DTM grids were produced from the corresponding TMI\_FINAL, VDV and DTM channels.

The data were gridded using a bi-directional line gridding method with a grid cell size of 15 meters, Akima interpolation method for across and down line spline and trend angles perpendicular to those of traverse line directions.

#### **7.5.6 RADIOMETRIC DATA CORRECTIONS**

##### **7.5.6.1 LIVE TIME CORRECTIONS**

The spectrometer uses the notion of “live time” to express the relative period of time the instrument was able to register new pulses per sample interval.

The live time correction is applied to the total count, potassium, uranium, thorium and upward uranium channels.

The formula used to apply the correction is as follows:

$$C_{LT} = C_{raw} \times \left( \frac{1000}{LT} \right)$$

**Where:**

- $C_{LT}$  is the live time corrected channel



- $C_{raw}$  is the raw channel
- $LT$  is the Live Time channel

### 7.5.6.2 PRE-FILTERING

The cosmic channel data were processed with a 15-point low pass filter to remove spikes.

The radar altimeter channel while recorded at 50Hz was filtered with 21-point COSINE filter and then sampled to 1Hz.

### 7.5.6.3 AIRCRAFT AND COSMIC BACKGROUND

Aircraft background and cosmic stripping corrections (see section 6.3.2) were applied to the live corrected total count, potassium, uranium, thorium and upward uranium channels using the following formula:

$$C_{ac} = C_{LT} - (ac + bc \times cof)$$

**Where:**

- $C_{ac}$  is the background and cosmic corrected channel
- $C_{LT}$  is the live time corrected channel
- $ac$  is the aircraft background for this channel
- $bc$  is the cosmic stripping coefficient for this channel
- $cof$  is the filtered cosmic channel

All negative counts after this correction step were replaced with zeroes.

### 7.5.6.4 RADON CORRECTION

No Radon corrections were applied to the data.

### 7.5.6.5 COMPTON STRIPPING

Following the background and cosmic corrections the potassium, uranium and thorium were corrected for spectral overlap (see section 6.2). First the stripping ratios  $\alpha$ ,  $\beta$ , and  $\chi$  were modified according to altitude. Then an adjustment factor based on the reversed stripping ratio (a), uranium into thorium, was calculated.

$$\begin{aligned}\alpha h &= \alpha + hef \times 0.00049 \\ \beta h &= \beta + hef \times 0.00065 \\ \chi h &= \chi + hef \times 0.00069\end{aligned}$$

**Where:**

- $\alpha, \beta, \chi$  are the Compton stripping coefficients
- $\alpha h, \beta h, \chi h$  are the height corrected Compton stripping coefficients
- $hef$  is the height above ground in meters

The stripping corrections are then carried out using the following formulas:

$$ar = \frac{1}{1 - a\alpha h}$$

$$Th_c = (Th_{bc} - aU_{rc}) \times ar$$

$$U_c = (U_{rc} - Th_{bc}\alpha h) \times ar$$

$$K_c = K_{bc} - \beta h Th_c - \chi h U_c$$

**Where:**

- $U_c, Th_c,$  and  $K_c$  are corrected Uranium, Thorium and Potassium
- $\alpha h, \beta h, \chi h$  are the height corrected Compton stripping coefficients
- $U_{bc}, Th_{bc},$  and  $K_{bc}$  are background and cosmic corrected Uranium, Thorium and Potassium
- $ar$  is the backscatter correction
- $a$  is the reverse stripping ratio U into Th

All negative counts after this correction step were replaced with zeroes.

#### 7.5.6.6 EQUIVALENT HEIGHT AT STP

The following formula was used to calculate Equivalent Height at STP:

$$H_e = H \times \left( \frac{273.15}{T + 273.15} \right) \times \left( \frac{P}{1013.25} \right)$$

**Where:**

- $H$  is the observed height

- $H_e$  is the equivalent height at STP
- $T$  is the temperature in degrees Celsius
- $P$  is the barometric pressure in mbar.

### 7.5.6.7 ATTENUATION CORRECTIONS

The Total Count, Potassium, Uranium and Thorium data were then corrected to a nominal survey altitude of 35m (see section 6.4.1) using the following equation:

$$C_a = C \times e^{-\mu(h_0 - h_e)}$$

**Where:**

- $C_a$  is the output altitude corrected channel
- $C$  is the input channel
- $\mu$  is the attenuation correction for that channel
- $h_e$  is the STP height
- $h_0$  is the nominal survey altitude

The altitude attenuation corrected data were then stored in U\_CORR, Th\_CORR, K\_CORR and TC\_CORR channels.

### 7.5.6.8 LEVELING OF ATTENUATION CORRECTED DATA

Microleveling techniques were applied to specific altitude attenuation corrected elements (i.e., some or all of K, Th, U and Total Count) on all of the survey blocks with the exception of CCC.

The following key microlevelling parameters were used (see Appendix F for full description of the procedure).

**Table 7.7 Uranium microlevelling parameters**

Block Name	Line Spacing (m)	Line Direction (deg.)	Grid Cell Size (m)	Decorrugation Cutoff (m)	Amplitude Limit (nT)	Amplitude Limit Mode	Naudy Filter Limit
BBB	100	0	20	400	3	clip	100
CCC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DDD	100	0	20	400	N/A	N/A	N/A

**Table 7.8 Thorium microlevelling parameters**

Block Name	Line Spacing (m)	Line Direction (deg.)	Grid Cell Size (m)	Decorrugation Cutoff (m)	Amplitude Limit (nT)	Amplitude Limit Mode	Naudy Filter Limit
BBB	100	0	20	400	3.2	clip	100
CCC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DDD	100	0	20	400	N/A	N/A	N/A

**Table 7.9 Potassium microlevelling parameters**

Block Name	Line Spacing (m)	Line Direction (deg.)	Grid Cell Size (m)	Decorrugation Cutoff (m)	Amplitude Limit (nT)	Amplitude Limit Mode	Naudy Filter Limit
BBB	100	0	20	400	3.7	clip	100
CCC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DDD	100	0	20	400	4.3	clip	100

**Table 7.10 Total Count microlevelling parameters**

Block Name	Line Spacing (m)	Line Direction (deg.)	Grid Cell Size (m)	Decorrugation Cutoff (m)	Amplitude Limit (nT)	Amplitude Limit Mode	Naudy Filter Limit
BBB	100	0	20	400	25.4	clip	0
CCC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DDD	100	0	20	400	68.0	clip	0

The resulting microleveled altitude attenuation corrected line data were then stored in the final U\_FINAL\_CORR, Th\_FINAL\_CORR, K\_FINAL\_CORR and TC\_FINAL\_CORR channels. Note, in the instances where no microlevelling was applied, the data in the final channels were copied directly from U\_CORR, Th\_CORR, K\_CORR and TC\_CORR.

#### **7.5.6.9 CONVERSION TO APPARENT RADIOELEMENT CONCENTRATIONS**

The next step is to convert the corrected potassium (K\_FINAL\_CORR channel), uranium (U\_FINAL\_CORR channel) and thorium (Th\_FINAL\_CORR channel) to apparent radioelement concentrations (see section 6.6) using the following formula:

$$eE = C_{cor} / s$$

**Where:**

- $eE$  is the element concentration  $K_{\%}$  and equivalent element concentration of  $U_{ppm}$  &  $Th_{ppm}$
- $s$  is the experimentally determined sensitivity
- $C_{cor}$  is the fully corrected channel

The resulting apparent concentration data were stored in K\_Percent, eU and eTh channels.

Note: Determining of apparent radioelement concentrations were not part of the signed agreement. Such data are made available to the client as a courtesy.

**7.5.6.10 AIR ABSORPTION DOSE RATE**

Finally the natural air absorption dose rate was determined using the following formula:

$$E = 13.078 \times K_{\%} + 5.675 \times eU_{ppm} + 2.494 \times eTh_{ppm}$$

**Where:**

- $E$  is the air absorption rate ( $nGy/h$ )
- $K_{\%}$  is the concentration of potassium (%)
- $eU_{ppm}$  is the equivalent concentration of potassium (ppm)
- $eTh_{ppm}$  is the equivalent concentration of potassium (ppm)

The resulting natural air absorption rate data were stored in E channel.

Note: Determining of the absorption rate was not part of the signed agreement. Such data are made available to the client as a courtesy.

A detailed description of how most of the procedures, formulae and constants were determined could be found in:

I.A.E.A. *Report, Airborne Gamma Ray Spectrometer Surveying*, Technical Report Series No. 323, 1991.

and

I.A.E.A *Guidelines for Radioelement Mapping Using Gamma Ray Spectrometry Data*, Technical Document No. 1363, 2003.

#### **7.5.6.11 GRIDDING**

All the radiometric grids are in counts/sec units and were produced from U\_FINAL\_CORR, Th\_FINAL\_CORR, K\_FINAL\_CORR and TC\_FINAL\_CORR channels.

The data were gridded using a bi-directional line gridding method with a grid cell size of 25 meters, Akima interpolation method for across and down line spline and trend angles perpendicular to those of traverse line directions.

#### **7.5.6.12 TERNARY MAP**

The radioelement ternary map was produced by creating individual grids for each of the three radioelements (potassium, thorium and uranium), then assigning a specific colour to each. Cyan represents thorium, yellow uranium, and magenta potassium. The relative concentrations of the radioelements are represented by the blends of the three colours.

## 8. MAP PRODUCTS AND DIGITAL DATA DELIVERABLES

The following is the list of items delivered to **STRATEGIC METALS Ltd.**

### **Hard Copy Maps for BBB, CCC and DDD Blocks @ 1:20,000 scale (x2):**

- Maps of Total Magnetic Intensity
- Maps of 1st order Vertical Derivative
- Maps of Digital Terrain Model
- Maps of Ternary Image (Th, U and K)
- Maps of Potassium counts
- Maps of Thorium counts
- Maps of Uranium counts
- Maps of Total Count

### **Hard Copy Logistics Report (x2):**

### **Digital Copy (DVD) Maps for BBB, CCC and DDD Blocks @ 1:20,000 scale (x2):**

- Maps of Total Magnetic Intensity
- Maps of 1st order Vertical Derivative
- Maps of Digital Terrain Model
- Maps of Potassium counts
- Maps of Thorium counts
- Maps of Uranium counts
- Maps of Total Count
- Ternary Map of Th, U and K

### **Digital Copy Grids (DVD) for BBB, CCC and DDD Blocks (x2):**

- Grids of Total Magnetic Intensity (nT)
- Grids of 1st order Vertical Derivative (nT/m)
- Grids of Digital Terrain Model (m above MSL)
- Grids of Potassium (counts/sec)
- Grids of Thorium (counts/sec)
- Grids of Uranium (counts/sec)
- Grids of Total Count (counts/sec)

### **Digital Copy (DVD) Databases for BBB, CCC and DDD Blocks (x2):**

- Magnetism data databases: MAGNETIC\_ *blockname* \_BK.gdb (See Appendix C for details)
- Radiometric data database: RADIOMETRIC\_ *blockname* \_BK.gdb (See Appendix C for details)

**Digital Copy (DVD) Logistics Report (x2):**

**Digital Copy (DVD) Weekly and Line Report (x2):**



## 9. SUMMARY

This report describes the logistics of the survey, equipment used, field procedures, data acquisition and presentation of results.

The various maps included with this report display the magnetic and radiometric properties of the survey area. It is recommended that the survey results be reviewed in detail, in conjunction with all available geophysical, geological and geochemical information.

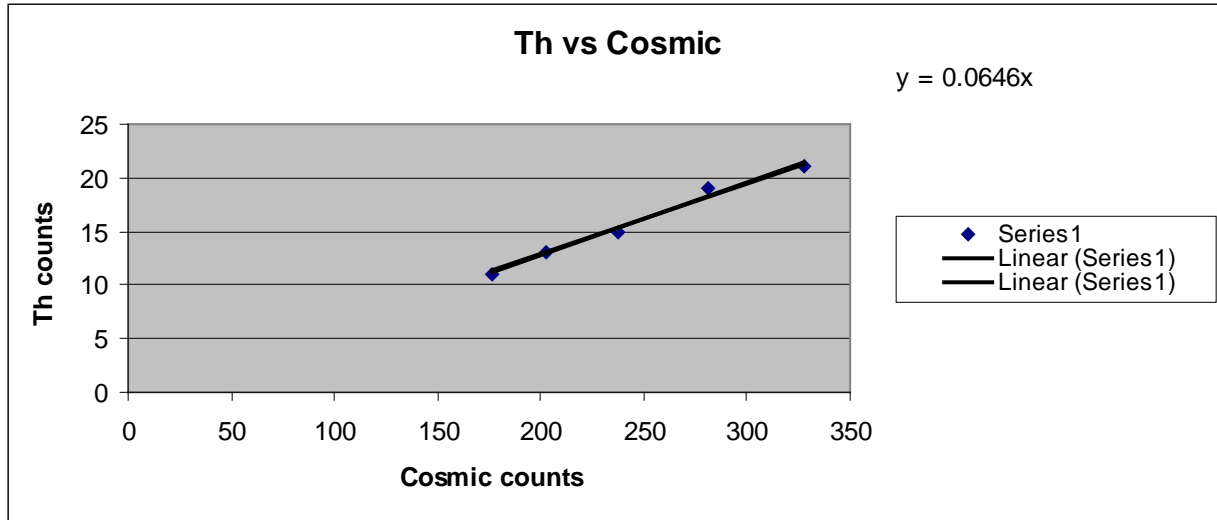
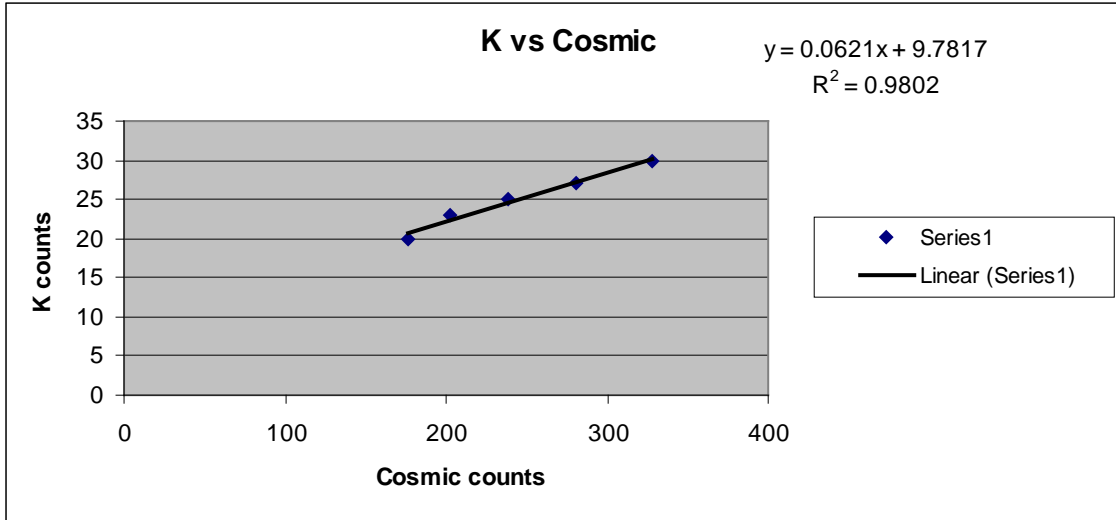
Further processing of the data may enhance subtle features that can be of importance for exploration purposes.

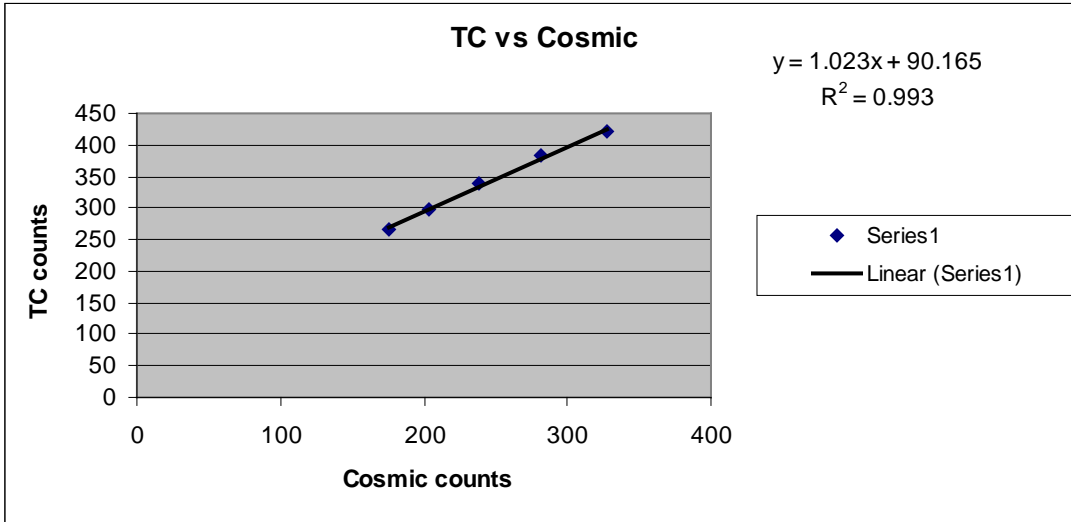
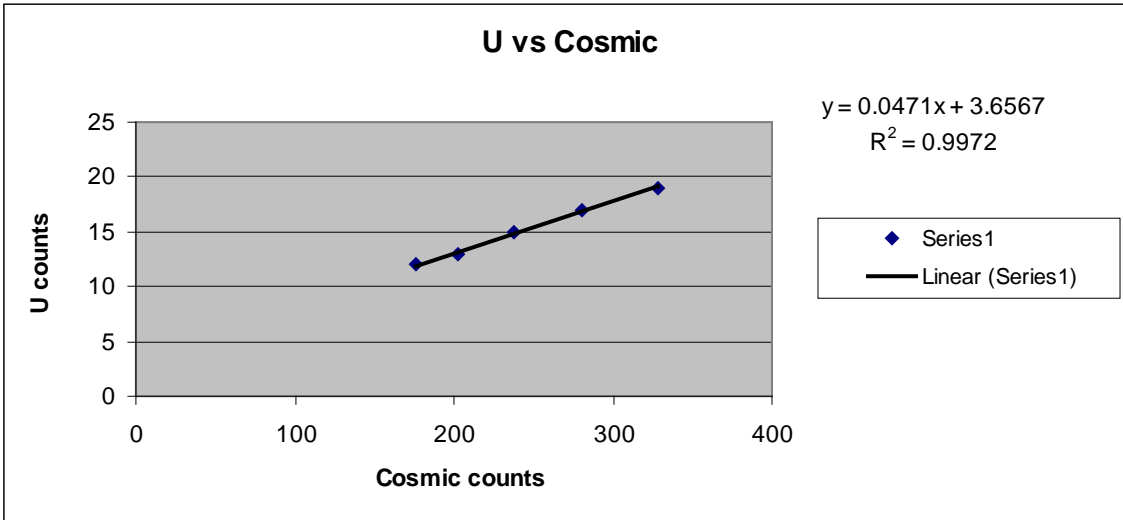
Respectfully submitted,

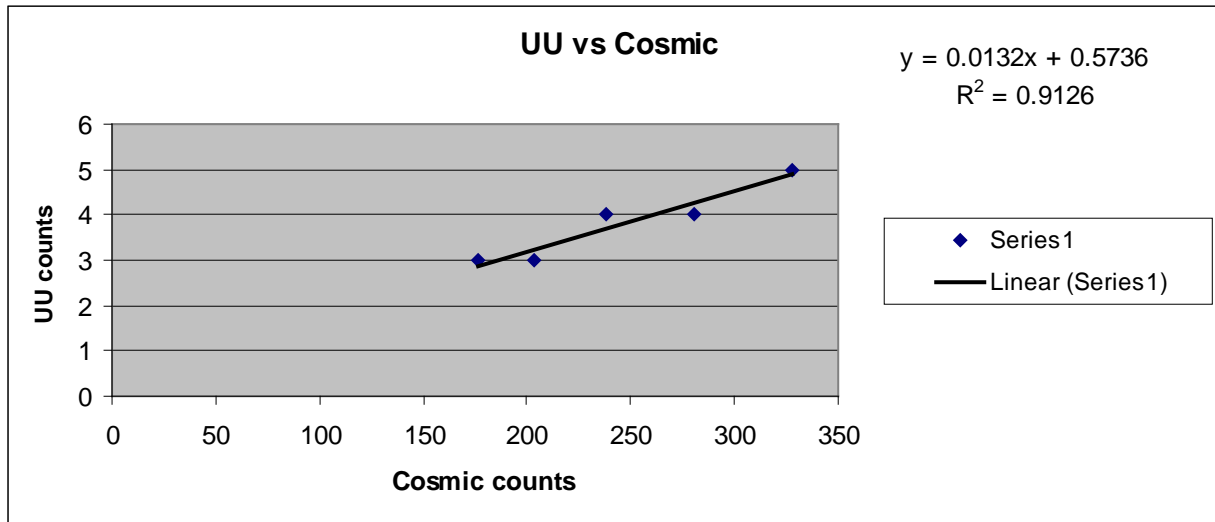
Andrei Yakovenko  
New-Sense Geophysics Ltd.  
Date: October 12<sup>th</sup>, 2010

**APPENDIX A: BACKGROUND AND COSMIC TESTS CHARTS**

**August 15, 2010**

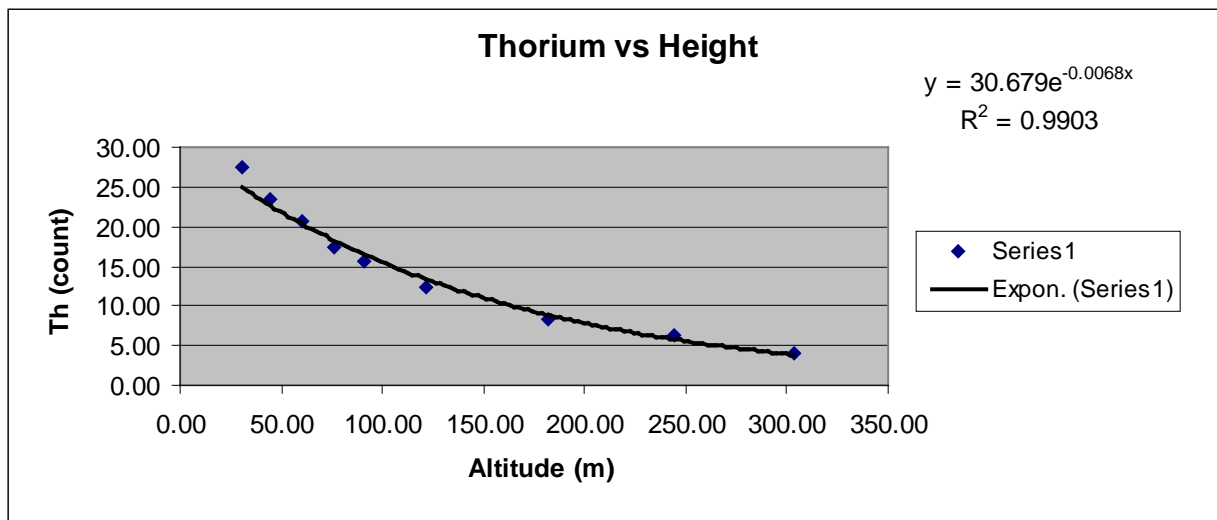
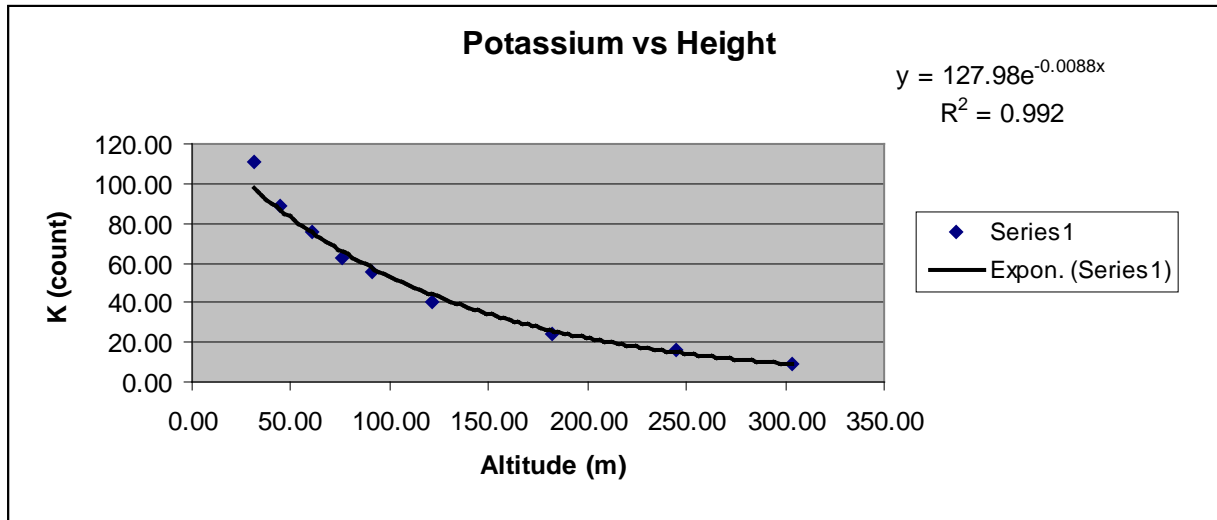


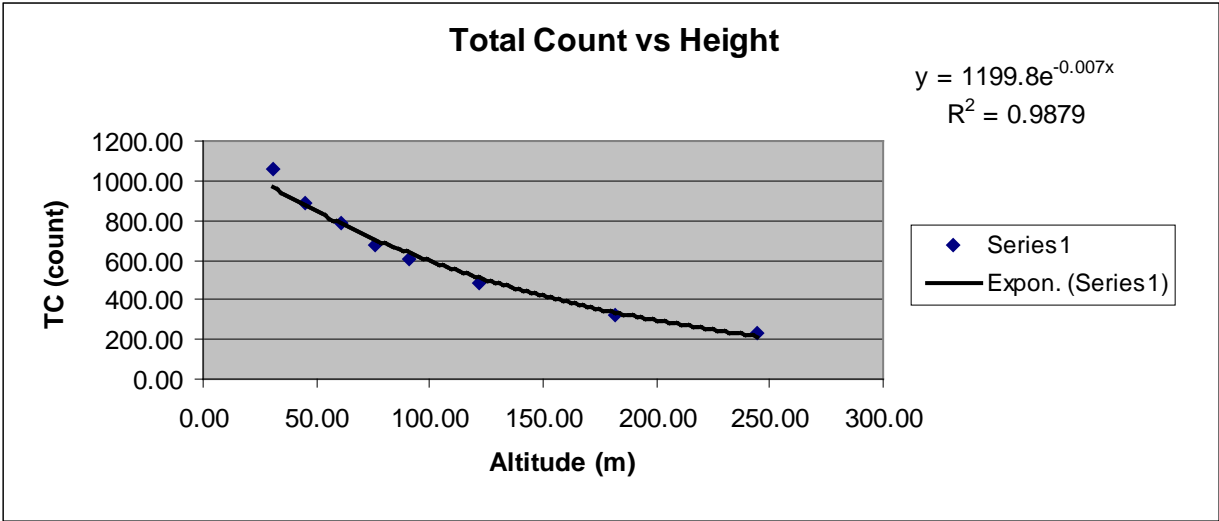
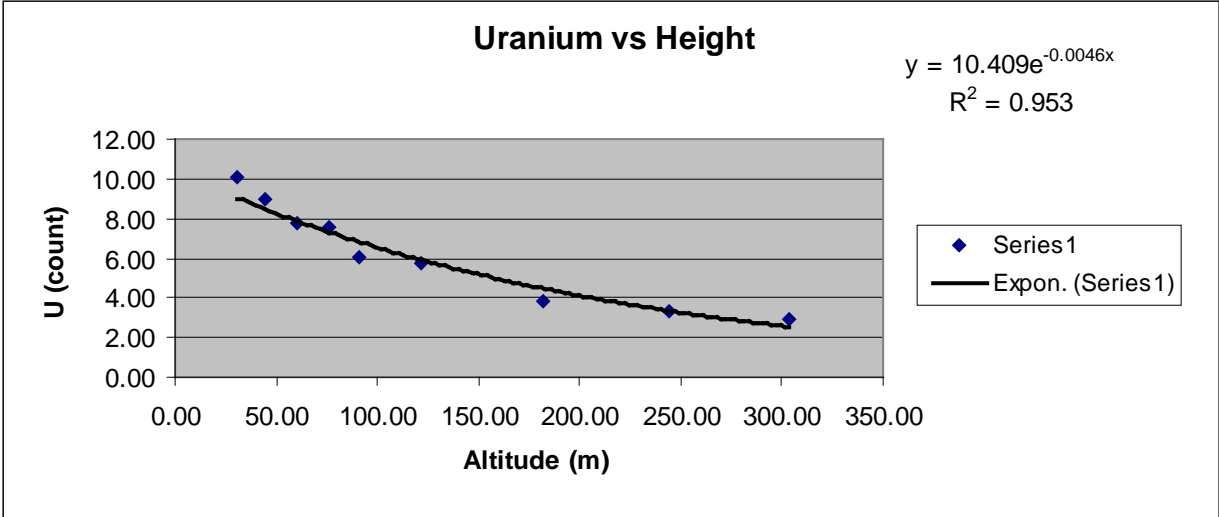




# Height Attenuation Test Charts

August 20, 2010

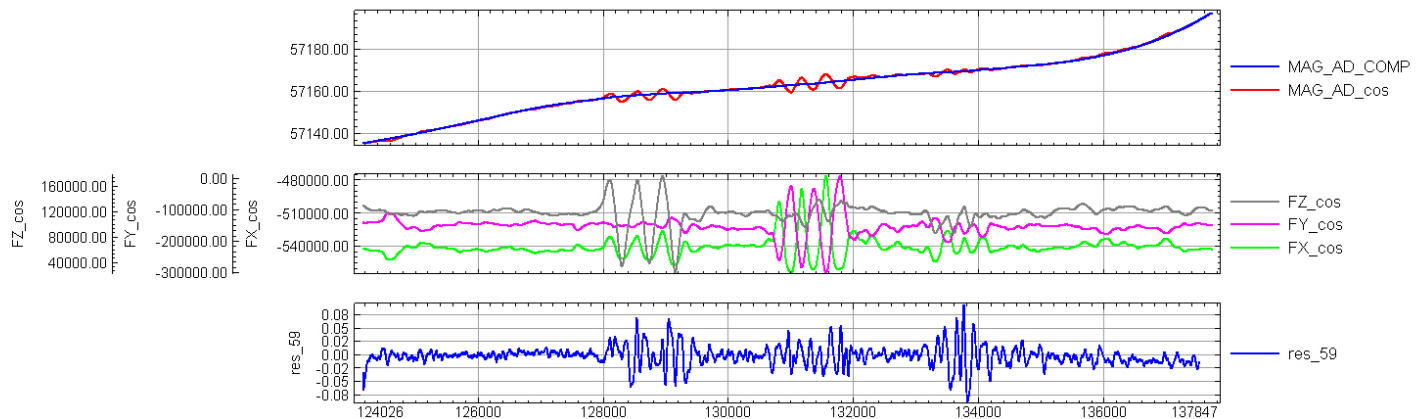




## APPENDIX B: FOM RESULTS

Strategic Metals, Yukon, FOM result, August 17 <sup>th</sup> , 2010					
line	direction	pitch	roll	yaw	total
<b>1000</b>	<b>0</b>	0.125	0.085	0.175	0.385
<b>2000</b>	<b>90</b>	0.125	0.050	0.138	0.313
<b>3000</b>	<b>180</b>	0.138	0.050	0.055	0.243
<b>4000</b>	<b>270</b>	0.100	0.050	0.108	0.258
	<b>total</b>	0.488	0.235	0.475	<b>1.198</b>

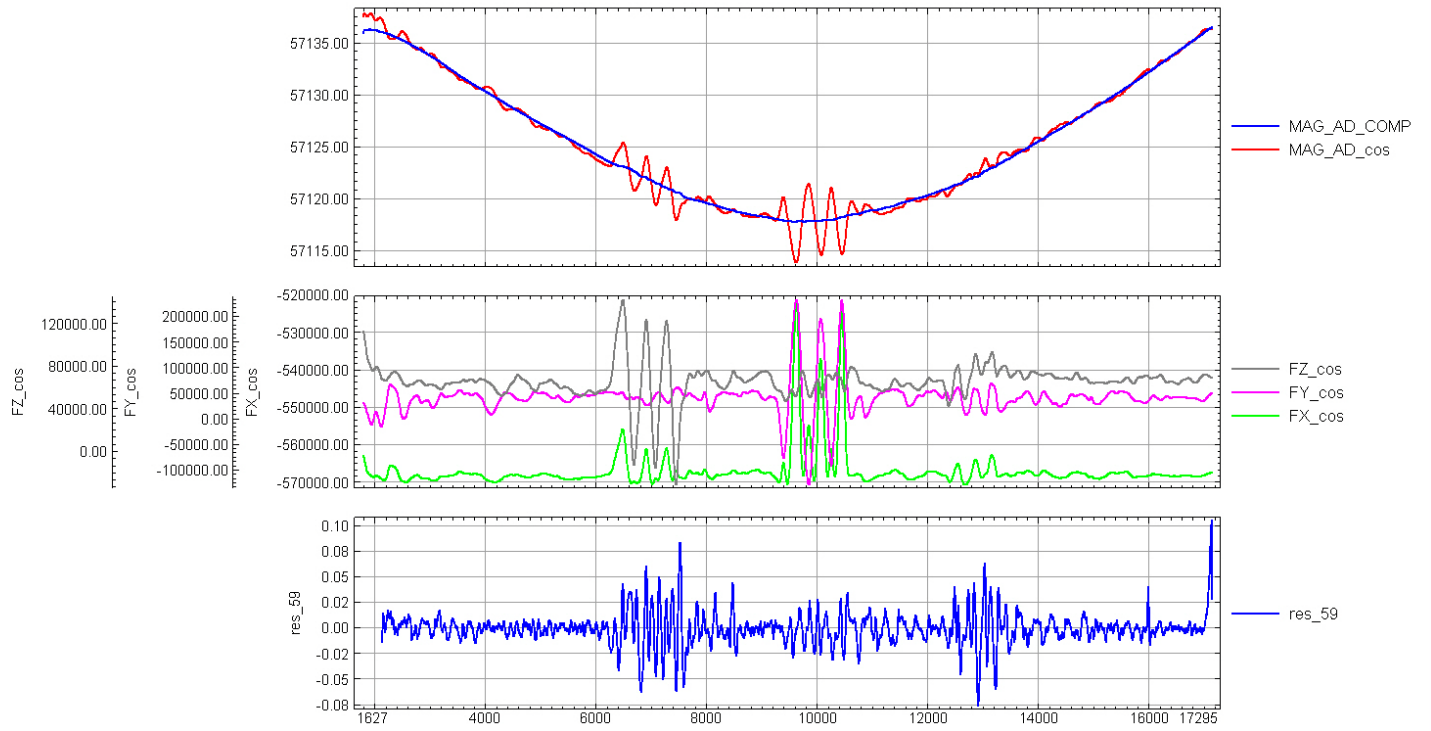
FOM results, August 17th 2010, 0 degree direction



database: D:\StrategicFOMs\Klotassin NS and Klaza\FOM east August 17, 2010\FOM\_FLT18\_08172010\_Short\_1.gdb line/group: L1000.1

2010/09/27

# FOM results, August 17th 2010, 90 degree direction

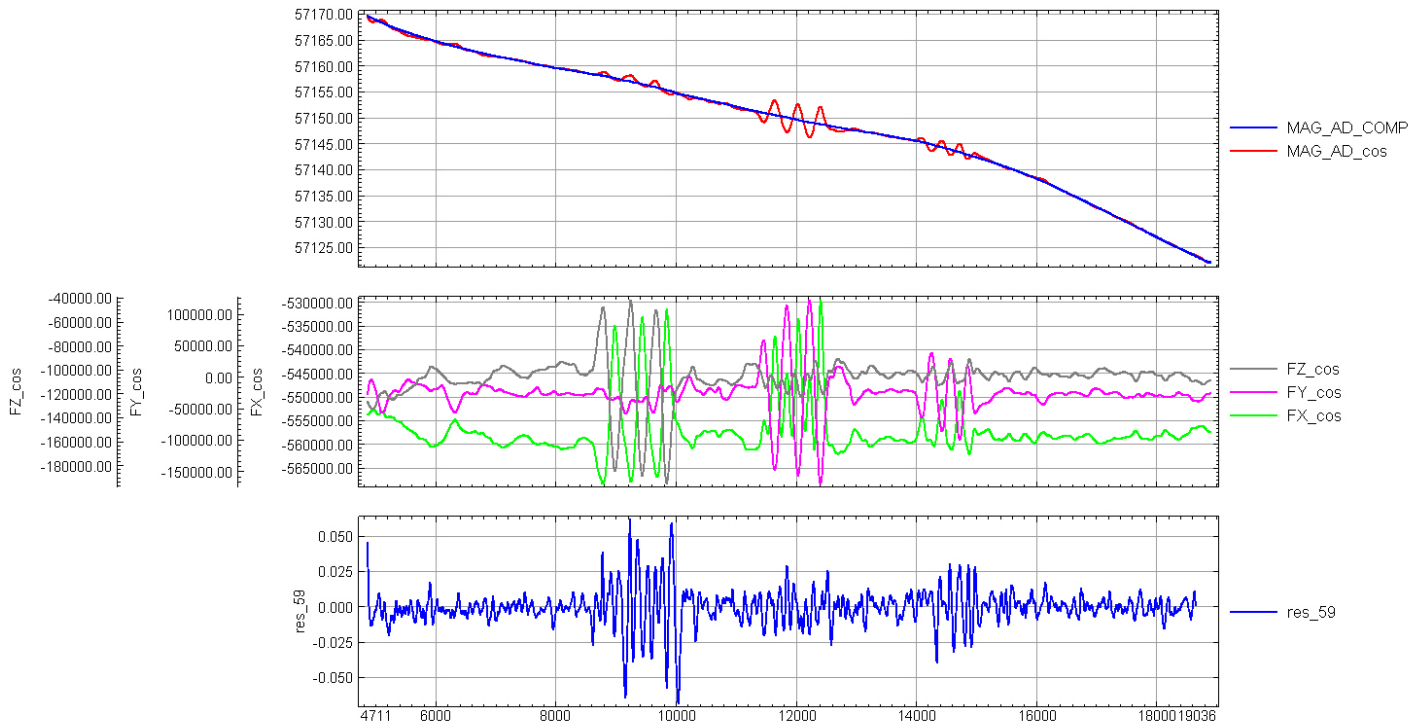


database: D:\Strategic\FOMs\Klotassin NS and Klaza\FOM east August 17, 2010\FOM\_FLT18\_08172010\_Short\_1.gdb line/group: L2000.1

2010/09/27



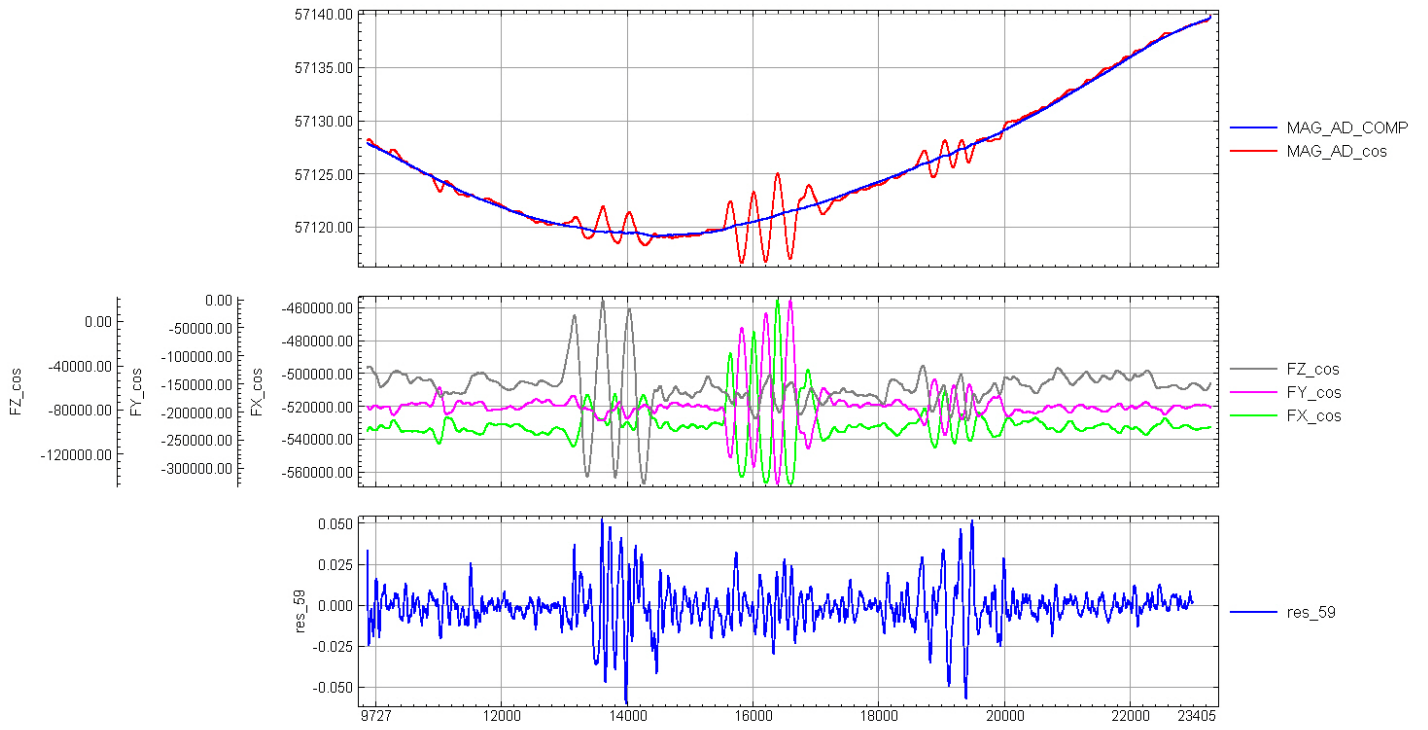
# FOM results, August 17th 2010, 180 degree direction



database: D:\StrategicFOMs\Klotassin NS and Klaza\FOM east August 17, 2010\FOM\_FLT18\_08172010\_Short\_1.gdb line/group: L3000.1

2010/09/27

# FOM results, August 17th 2010, 270 degree direction



database: D:\StrategicFOMs\Klotassin NS and Klaza\FOM east August 17, 2010\FOM\_FLT18\_08172010\_Short\_1.gdb line/group: L4000.1

2010/09/27

## APPENDIX C: DATABASE DESCRIPTIONS

### Magnetic Databases for BBB, CCC and DDD blocks

Database Name: MAGNETIC\_blockname\_BK.gdb  
 Format: Geosoft .gdb  
 Number of Channels: 28

Note: If the database is opened in Oasis montaj, please load included “*Magnetic database channel display.dbview*” file to insure that ALL the channels are displayed in the same order as listed below (Database menu -> Get Saved View).

Channel Name	Units	Description
LINE	number	Line number
FLIGHT	number	Flight number
DATE	date	Date flown (YYMMDD)
FIDUCIAL	number	Fiducial count (flight specific)
SYSTEM_CLOCK	milsec	KANA8 (A/D converter) counter
UTM_X_NAD83	meters	UTM East in NAD83, North America, Zone 8N
UTM_Y_NAD83	meters	UTM North in NAD83, North America, Zone 8N
LATITUDE_WGS84	degrees	GPS latitude, WGS 84, World
LONGITUDE_WGS84	degrees	GPS longitude, WGS 84, World
GPS_HEIGHT_WGS84	meters	GPS height (orthometric) above MSL, WGS 84, World
UTC_DAYSEC	decimal seconds	UTC daily second counter (0-86399)
FLUX_X	volts	Fluxgate x-axis
FLUX_Y	volts	Fluxgate y-axis
FLUX_Z	volts	Fluxgate z-axis
RAD_ALT_feet	feet	Radar altimeter, height above ground
MAG_RAW	nT	Raw magnetometer data
MAG_COMP	nT	Compensated magnetometer data
DIURNAL	nT	Base station magnetometer data (filtered with 101point low pass filter)
MAG_DIURNAL_CORR	nT	Base station (diurnal) corrected magnetometer data
MAG_LAG_CORR	nT	Lag corrected magnetometer data
MAG_HEADING_CORR	nT	Heading corrected magnetometer data
IGRF	nT	Calculated IGRF, using 2010 model
MAG_IGRF_CORR	nT	IGRF corrected magnetometer data
MAG_SIMPLE_LVL	nT	Conventionally (simple) leveled magnetometer data
MAG_MICLEV	nT	Microleveled magnetometer data (if applicable)
TMI_FINAL	nT	Final magnetometer data (a copy of either MAG_SIMPLE_LVL or MAG_MICLEV channels)
VDV	nT/m	1 <sup>st</sup> order Vertical Derivative (VDV)
DTM	meters	Calculated DTM channel

## Radiometric Databases for BBB, CCC and DDD blocks

Database Name: `RADIOMETRIC_blockname_BK.gdb`

Format: Geosoft .gdb

Number of Channels: 34

Note: If the database is opened in Oasis montaj, please load included “*Radiometric database channel display.dbview*” file to insure that ALL the channels are displayed in the same order as listed below (Database menu -> Get Saved View).

Channel Name	Units	Description
LINE	number	Line Number
FLIGHT	number	Flight Number
DATE	date	Date flown (YYMMDD)
FIDUCIAL	number	Fiducial count (line specific)
UTM_X_NAD83	meters	UTM East in NAD83, North America, Zone 8N
UTM_Y_NAD83	meters	UTM North in NAD83, North America, Zone 8N
LATITUDE_WGS84	degrees	GPS latitude, WGS 84, World
LONGITUDE_WGS84	degrees	GPS longitude, WGS 84, World
GPS_HEIGHT_WGS84	meters	GPS height (orthometric) above MSL, WGS 84, World
UTC_DAYSEC	seconds	UTC daily second counter (0-86399)
RAD_ALT_feet	feet	Radar altimeter, height above ground
PRESSURE	mbar	Ambient pressure output
TEMPERATURE	degrees C	Ambient temperature output
DOWN_LIVE_TIME	seconds	Live time channel
RAW_Potassium	counts/sec	Raw Potassium channel
RAW_Thorium	counts/sec	Raw Thorium channel
RAW_Uranium	counts/sec	Raw Uranium channel
RAW_TotCount	counts/sec	Raw Total Count channel
RAW_UpDet	counts/sec	Raw upward looking crystal Uranium channel
COSMIC	counts/sec	Raw Cosmic channel from downward looking crystals
SPECTRUM	counts/sec	1024 channel down spectrum
EQUIVALENT_HEIGHT_m	meters	Equivalent height above ground at STP
K_CORR	counts/sec	Live Time, Background, Cosmic, Compton Scattering and Altitude Attenuation corrected Potassium counts
Th_CORR	counts/sec	Live Time, Background, Cosmic, Compton Scattering and Altitude Attenuation corrected Thorium counts
U_CORR	counts/sec	Live Time, Background, Cosmic, Compton Scattering and Altitude Attenuation corrected Uranium counts
TC_CORR	counts/sec	Live Time, Background, Cosmic, Compton Scattering and Altitude Attenuation corrected Total Count counts
K_FINAL_CORR	counts/sec	Final Potassium counts; microleveled (if applicable, see section 7.5.6.8 for details)

Th_FINAL_CORR	counts/sec	Final Thorium counts; microleveled (if applicable, see section 7.5.6.8 for details)
U_FINAL_CORR	counts/sec	Final Uranium counts; microleveled (if applicable, see section 7.5.6.8 for details)
TC_FINAL_CORR	counts/sec	Final Total Count counts; microleveled (if applicable, see section 7.5.6.8 for details)
K_Percent	%	Estimated concentrations of Potassium
eTh	ppm	Estimated equivalent concentrations of Thorium
eU	ppm	Estimated equivalent concentrations of Uranium
DOSE_RATE	nGy/h	Natural air absorption Dose Rate

**APPENDIX D: RSX-5 SPECTROMETER (SN 5503): DAILY RESOLUTION TESTS RESULTS**

Executed 2010/08/20 12:21:28

Detector	Det 1 - SN:00318	Det 2 - SN:00037	Det 3 - SN:00040	Det 4 - SN:00032	Det 5 - SN:00038	Det 1 + 2 + 3 + 4
Status	Done	Done	Done	Done	Done	Done
Counts	2005	2008	2005	2003	2008	8021
Gain	0.971344	0.948381	0.981524	0.959283	1.045188	-
Peak	871.28 (+/- 0.401)	878.74 (+/- 0.677)	871.83 (+/- 0.599)	872.48 (+/- 0.654)	873.05 (+/- 0.935)	872.96 (+/- 0.310)
FWHM	3.95 (+/- 1.007)	4.06 (+/- 1.760)	4.90 (+/- 1.595)	4.73 (+/- 1.741)	6.32 (+/- 2.741)	4.55 (+/- 0.808)

Executed 2010/08/21 08:27:51

Detector	Det 1 - SN:00318	Det 2 - SN:00037	Det 3 - SN:00040	Det 4 - SN:00032	Det 5 - SN:00038	Det 1 + 2 + 3 + 4
Status	Done	Done	Done	Done	Done	Done
Counts	2017	2007	2008	2012	2001	8044
Gain	0.979845	0.953761	0.985191	0.961098	1.050286	-
Peak	871.35 (+/- 0.688)	878.21 (+/- 0.809)	872.74 (+/- 0.617)	872.16 (+/- 0.657)	871.59 (+/- 1.103)	873.09 (+/- 0.357)
FWHM	4.03 (+/- 1.813)	4.77 (+/- 2.345)	4.93 (+/- 1.694)	4.82 (+/- 1.830)	6.84 (+/- 3.407)	4.68 (+/- 0.945)

Executed 2010/08/21 12:41:40

Detector	Det 1 - SN:00318	Det 2 - SN:00037	Det 3 - SN:00040	Det 4 - SN:00032	Det 5 - SN:00038	Det 1 + 2 + 3 + 4
Status	Done	Done	Done	Done	Done	Done
Counts	2008	2001	2009	2007	2003	8025
Gain	1.007866	0.995107	1.022537	0.993067	1.091524	-
Peak	871.39 (+/- 0.512)	877.10 (+/- 1.007)	873.15 (+/- 0.556)	872.24 (+/- 0.714)	869.82 (+/- 1.035)	873.24 (+/- 0.377)
FWHM	4.11 (+/- 1.268)	5.10 (+/- 3.017)	4.68 (+/- 1.562)	5.41 (+/- 1.899)	6.69 (+/- 3.194)	4.77 (+/- 0.994)

Executed 2010/08/21 16:35:02

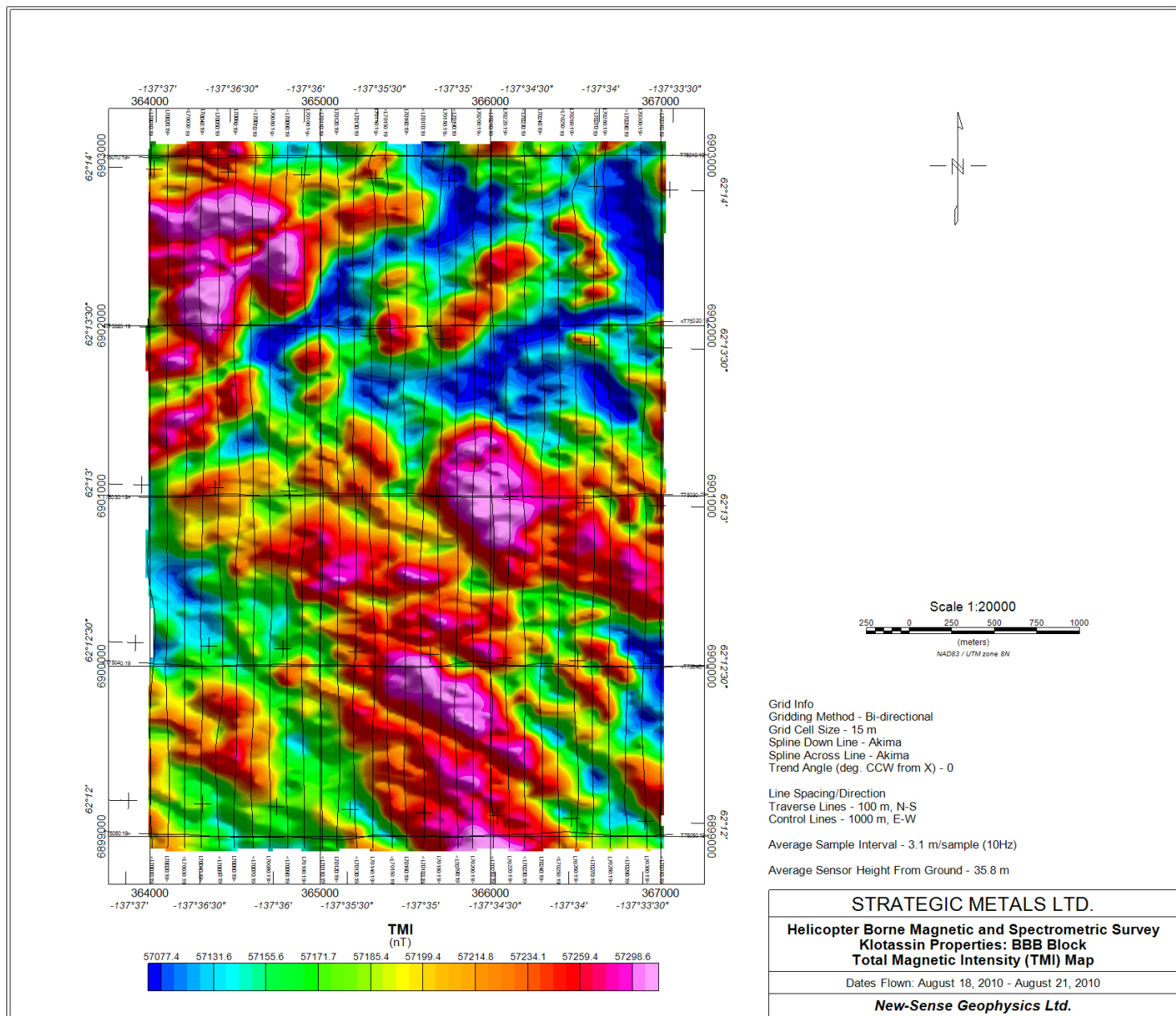
Detector	Det 1 - SN:00318	Det 2 - SN:00037	Det 3 - SN:00040	Det 4 - SN:00032	Det 5 - SN:00038	Det 1 + 2 + 3 + 4
Status	Done	Done	Done	Done	Done	Done
Counts	2017	2003	2010	2004	2001	8034
Gain	1.00248	0.996287	1.021197	0.992742	1.08771	-
Peak	871.84 (+/- 0.634)	877.34 (+/- 0.766)	873.05 (+/- 0.630)	870.40 (+/- 0.591)	867.76 (+/- 1.035)	872.39 (+/- 0.321)
FWHM	4.83 (+/- 1.672)	4.46 (+/- 2.166)	4.80 (+/- 1.697)	4.81 (+/- 1.596)	6.58 (+/- 3.152)	4.78 (+/- 0.831)

Executed 2010/08/21 21:11:28

Detector	Det 1 - SN:00318	Det 2 - SN:00037	Det 3 - SN:00040	Det 4 - SN:00032	Det 5 - SN:00038	Det 1 + 2 + 3 + 4
Status	Done	Done	Done	Done	Done	Done
Counts	2004	2001	2003	2008	2004	8016
Gain	0.992341	0.984908	1.013699	0.981971	1.080414	-
Peak	872.06 (+/- 0.397)	878.97 (+/- 0.868)	872.26 (+/- 0.732)	872.46 (+/- 0.703)	869.45 (+/- 1.029)	873.39 (+/- 0.343)
FWHM	4.11 (+/- 0.993)	4.90 (+/- 2.460)	4.48 (+/- 1.973)	5.04 (+/- 1.853)	7.00 (+/- 3.020)	4.64 (+/- 0.894)

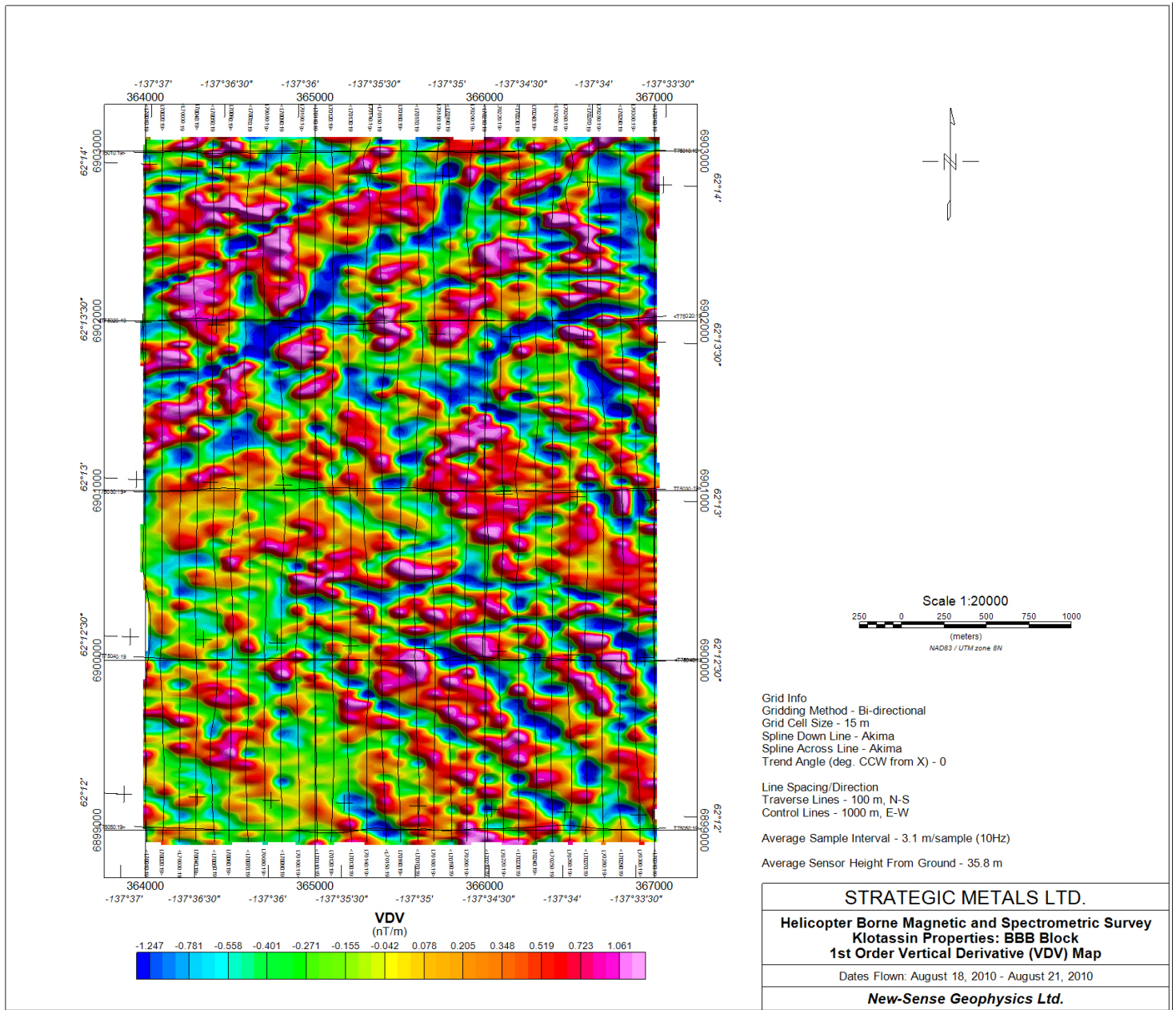
# APPENDIX E: IMAGES OF FINAL MAPS

## BBB Block Image of TMI FINAL Map

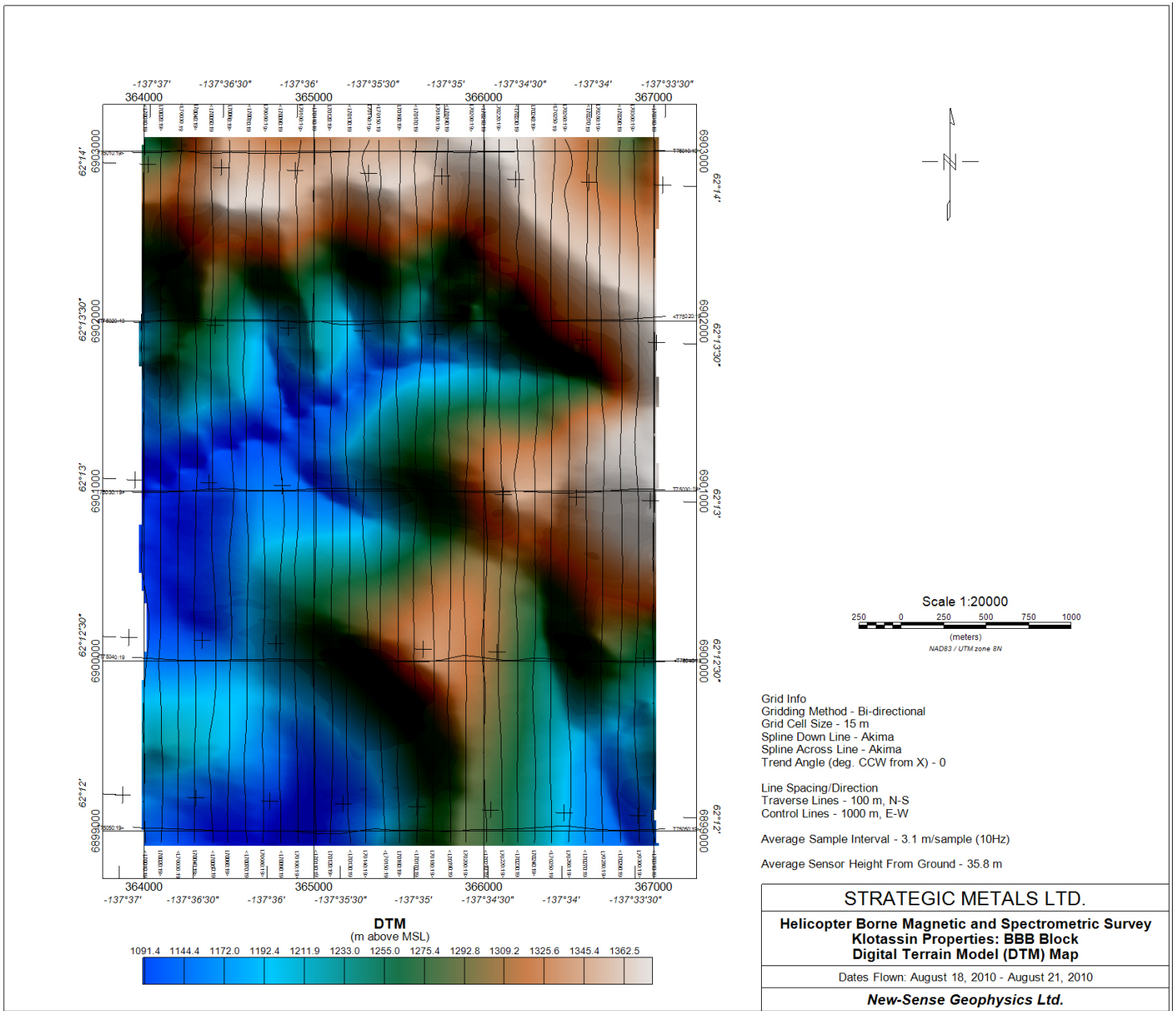




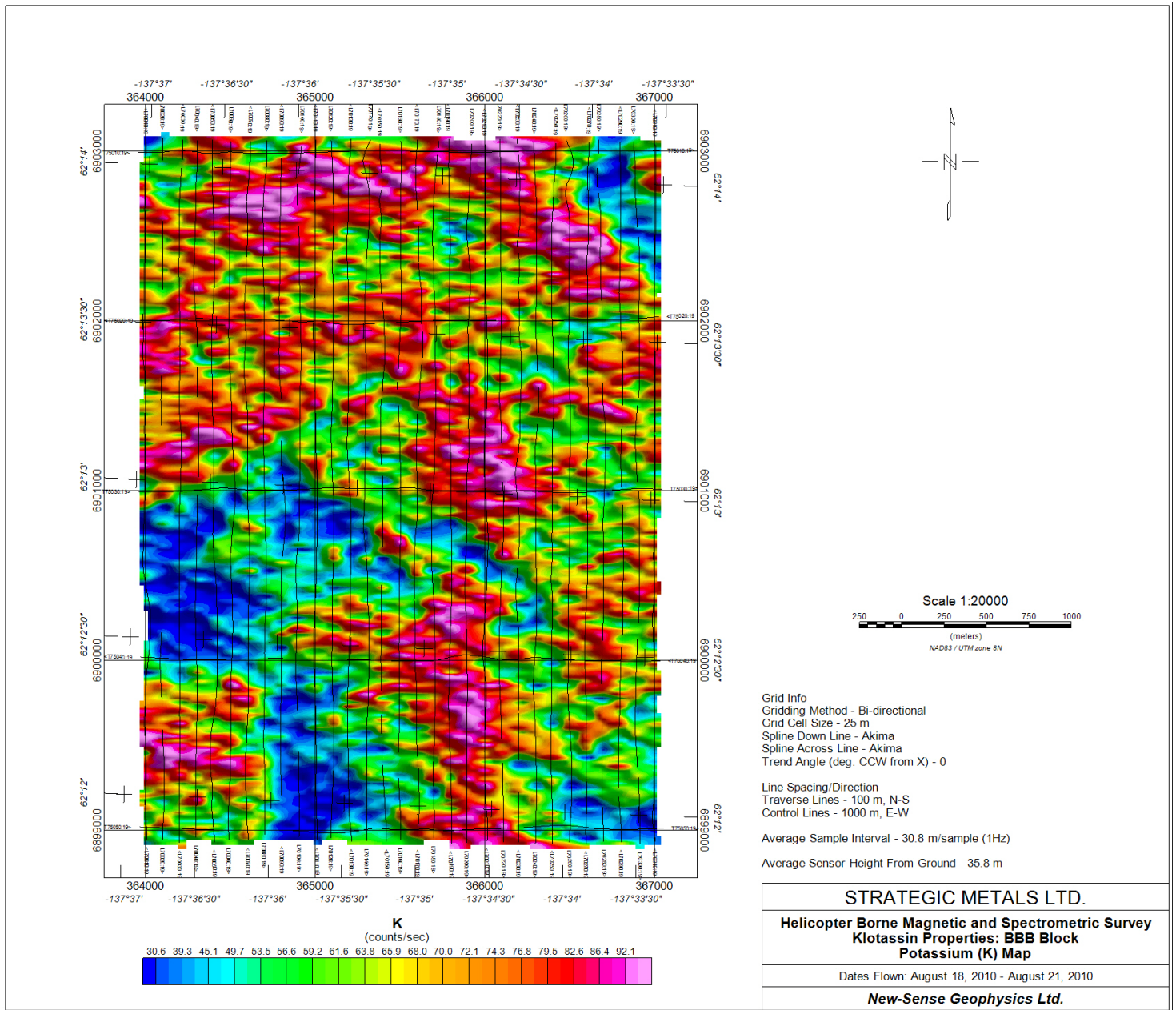
# BBB Block Image of VDV Map



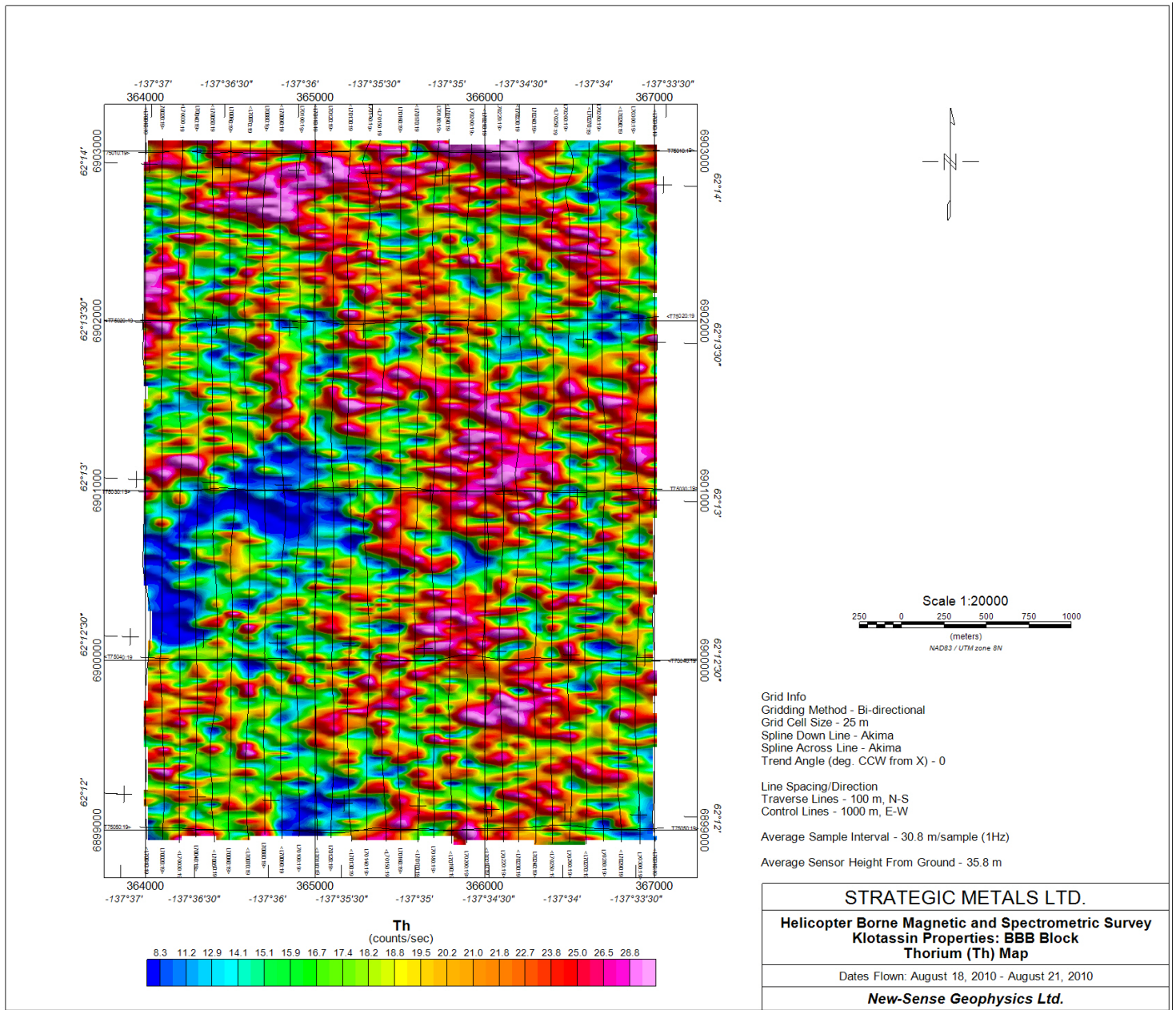
# BBB Block Image of DTM Map



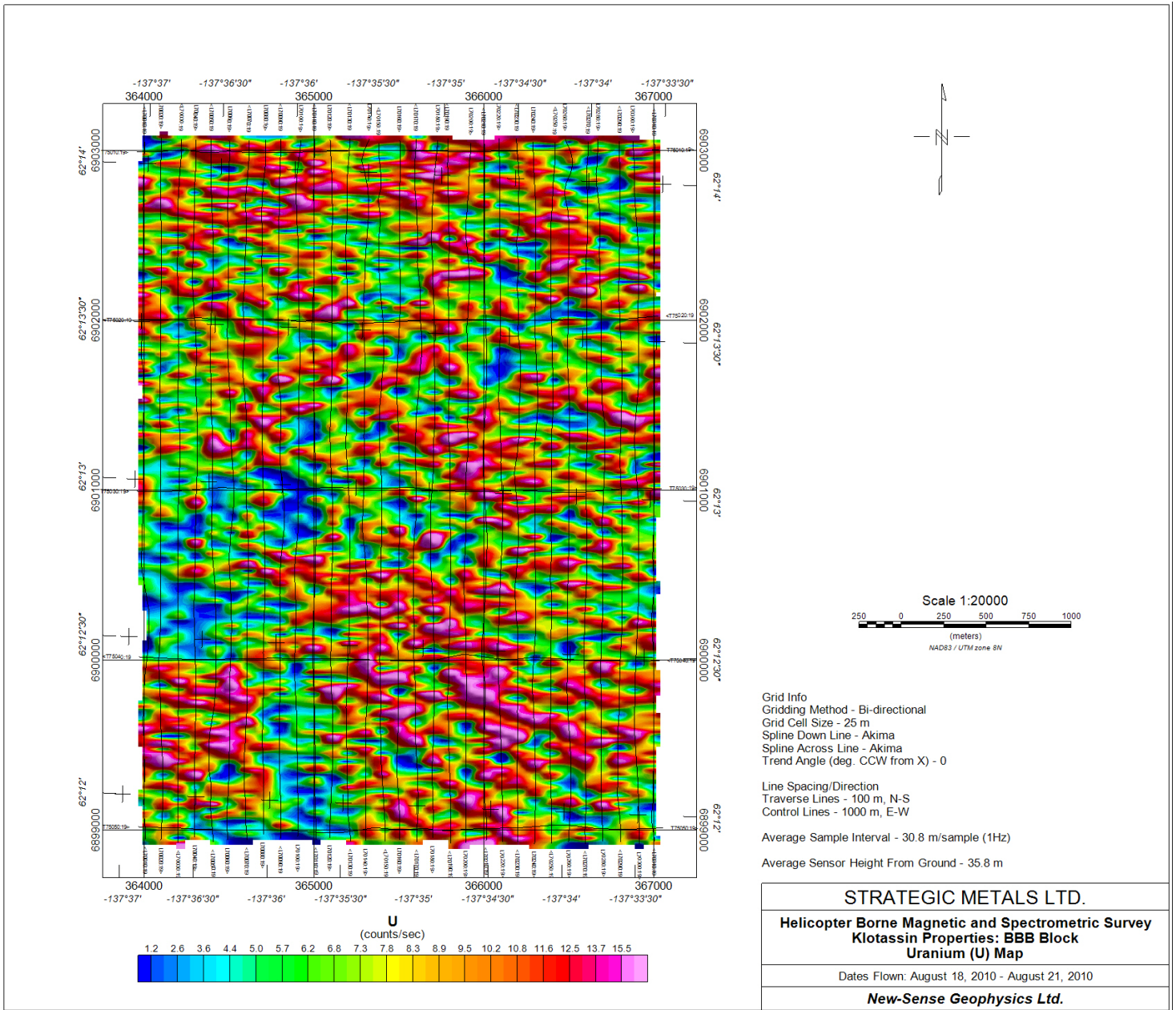
# BBB Block Image of Potassium Map



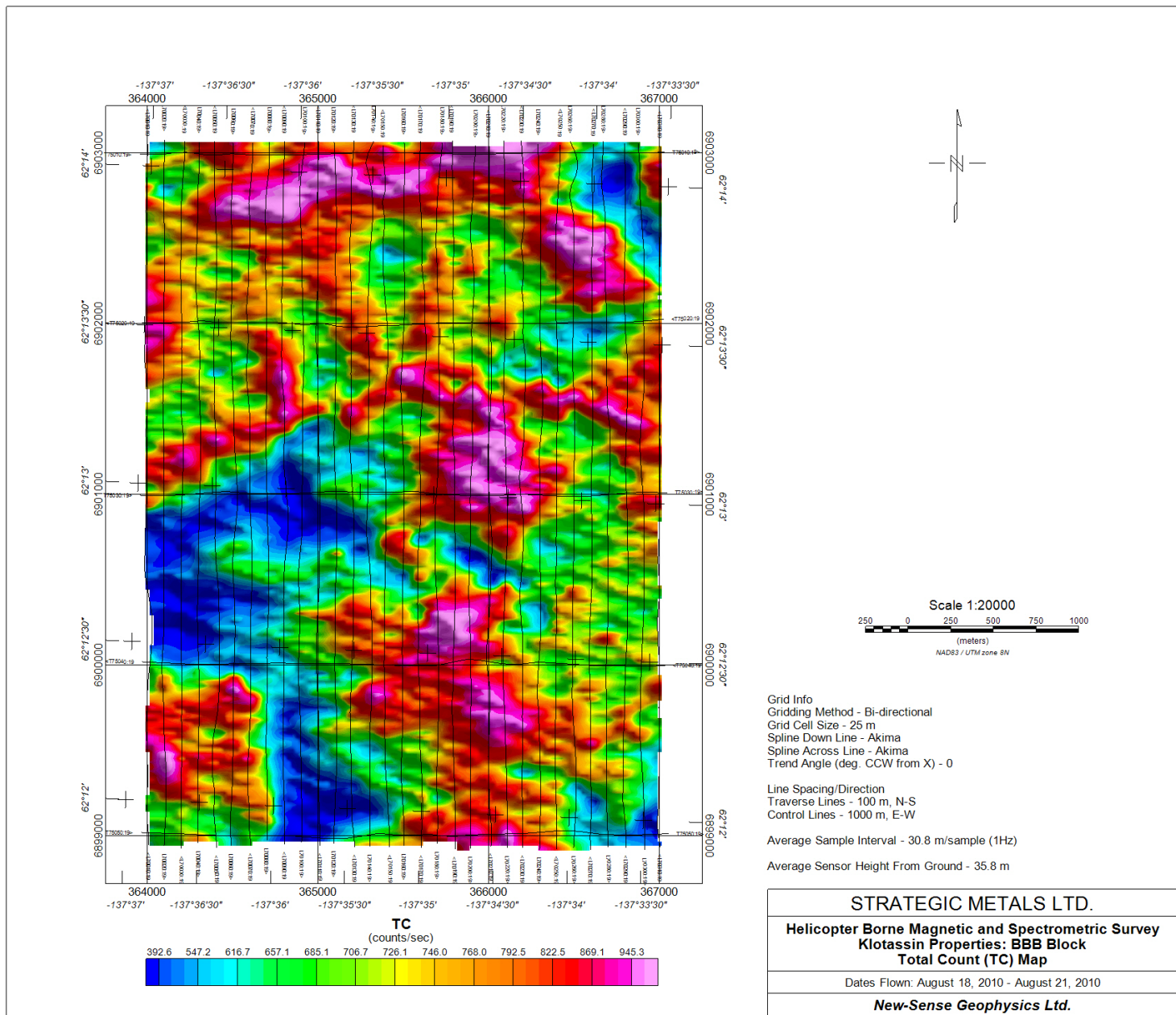
# BBB Block Image of Thorium Map



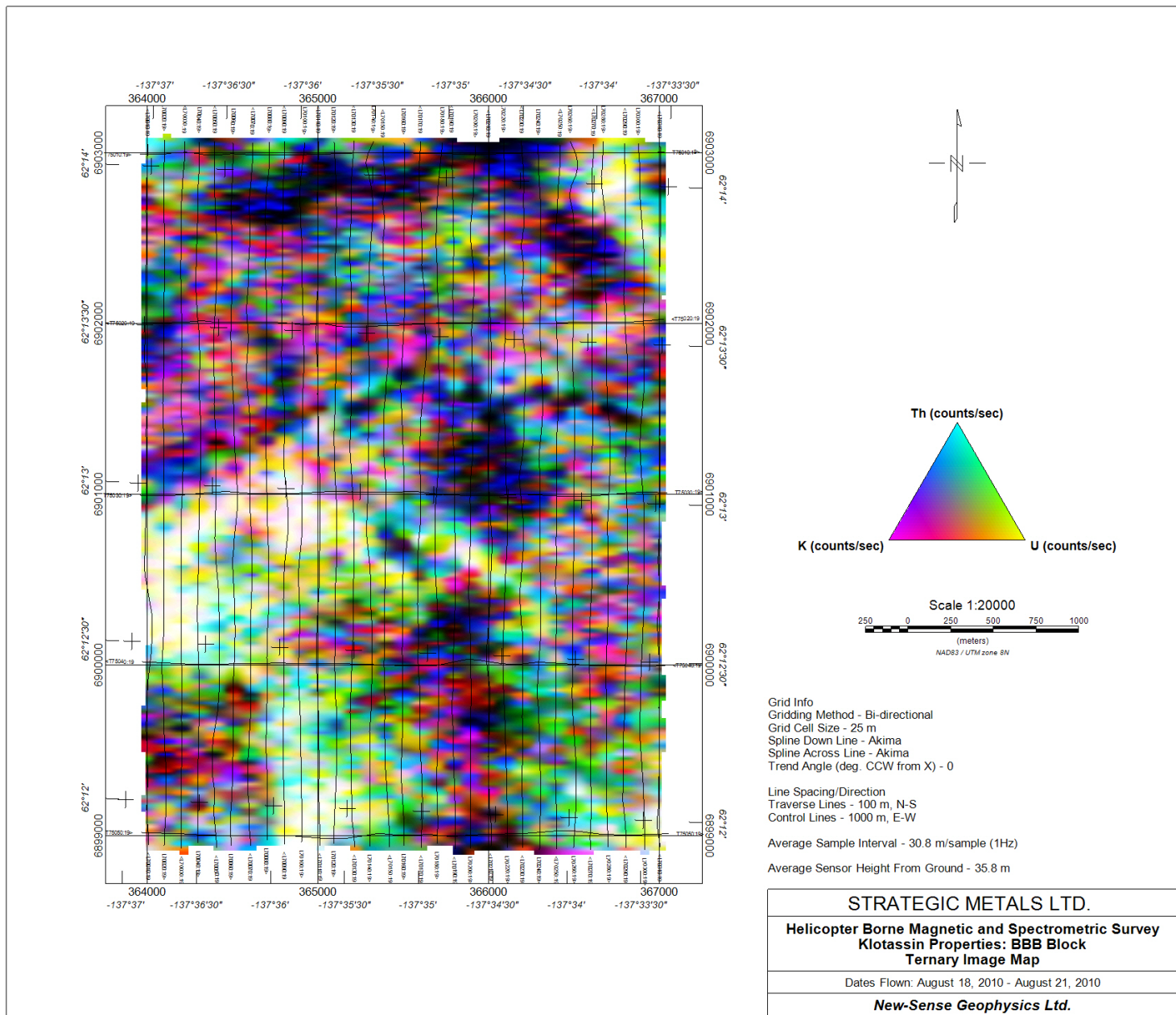
# BBB Block Image of Uranium Map



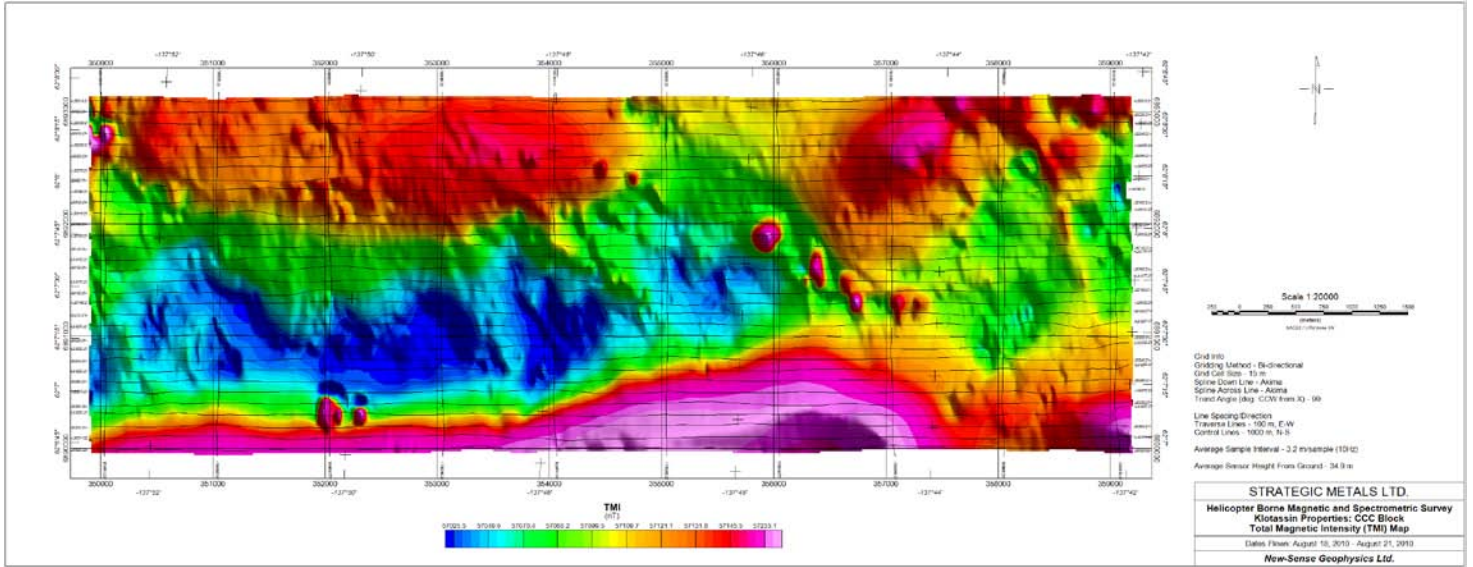
# BBB Block Image of Total Count Map



## BBB Block Image of Ternary Map

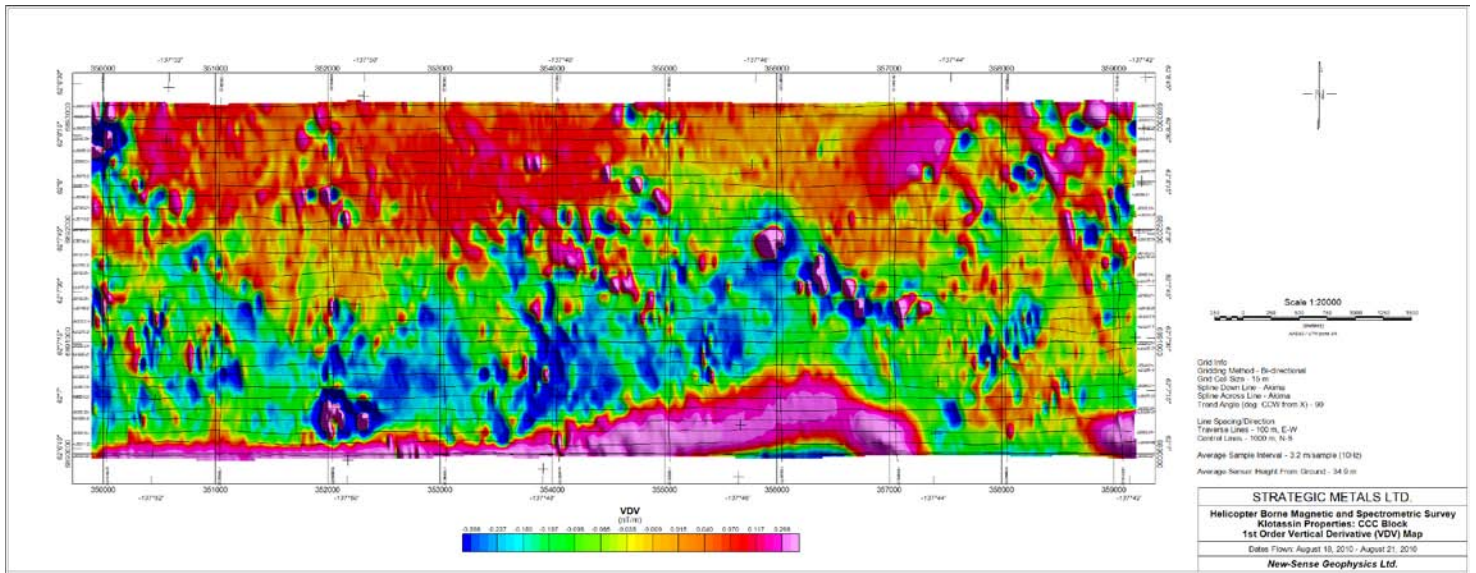


# CCC Block Image of TMI FINAL Map

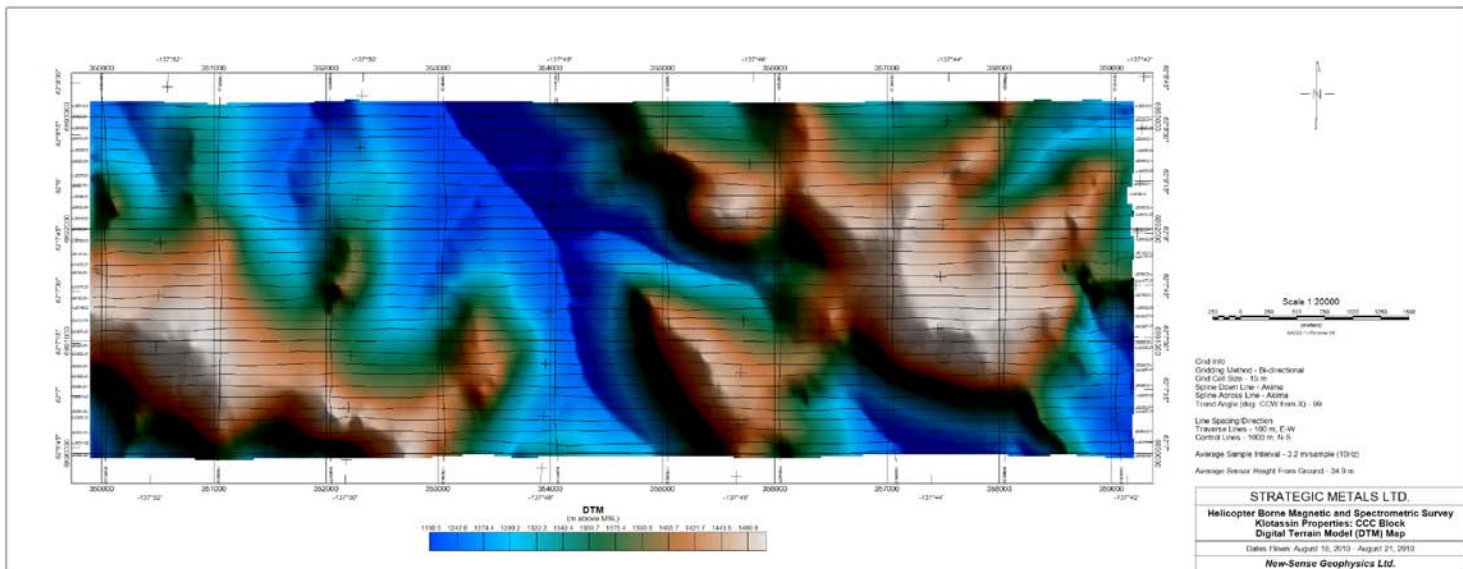




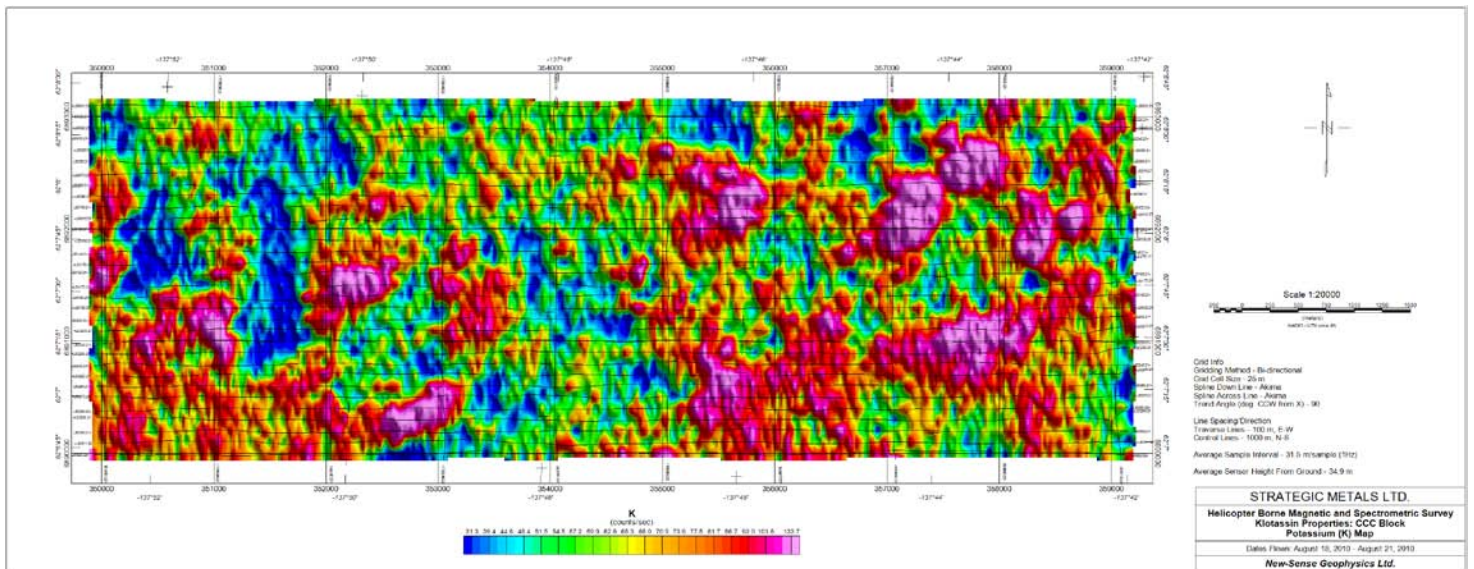
# CCC Block Image of VDV Map



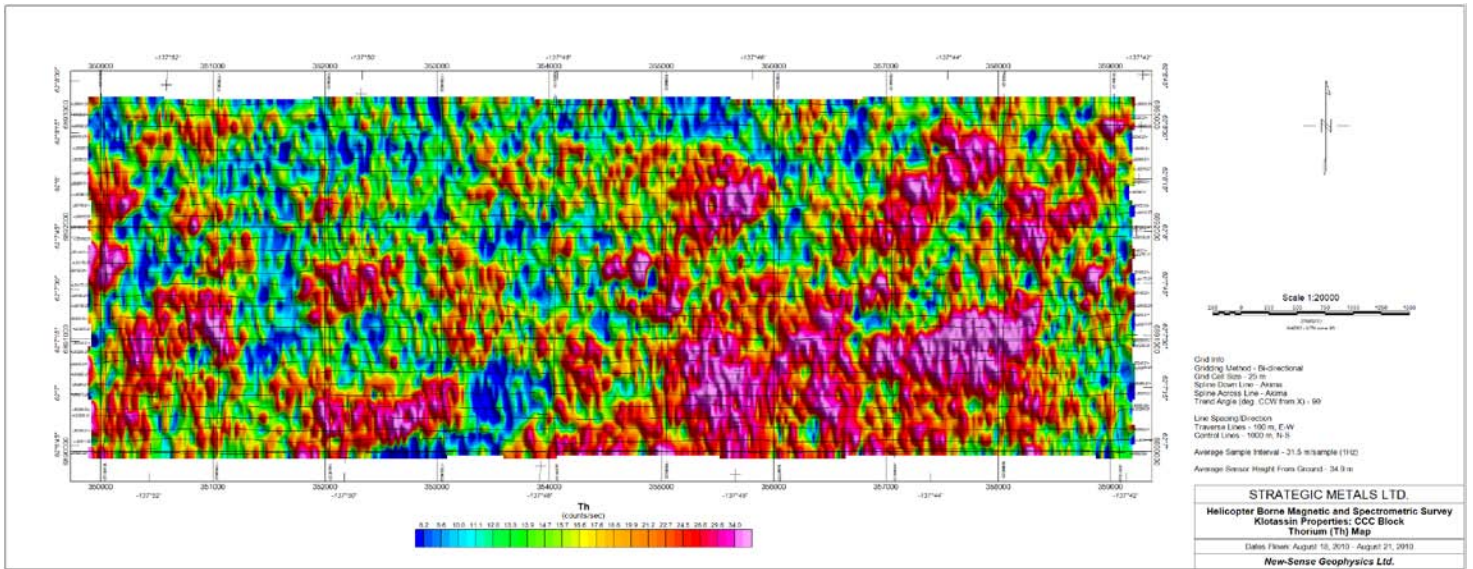
# CCC Block Image of DTM Map



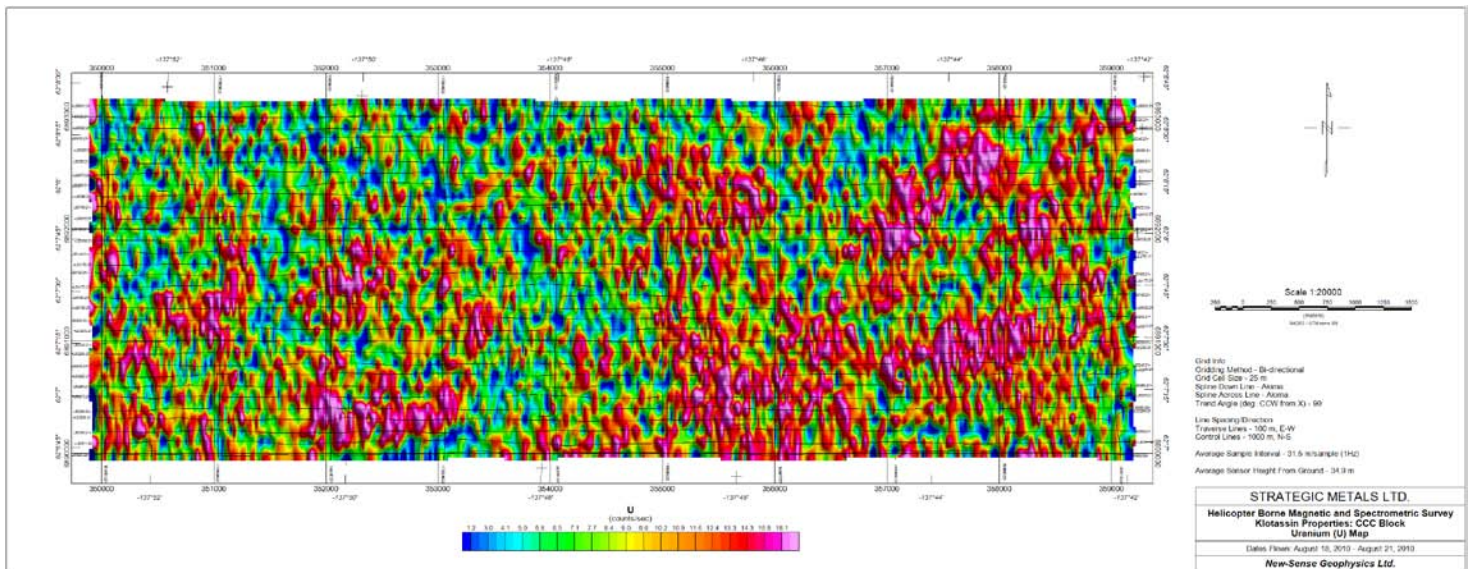
# CCC Block Image of Potassium Map



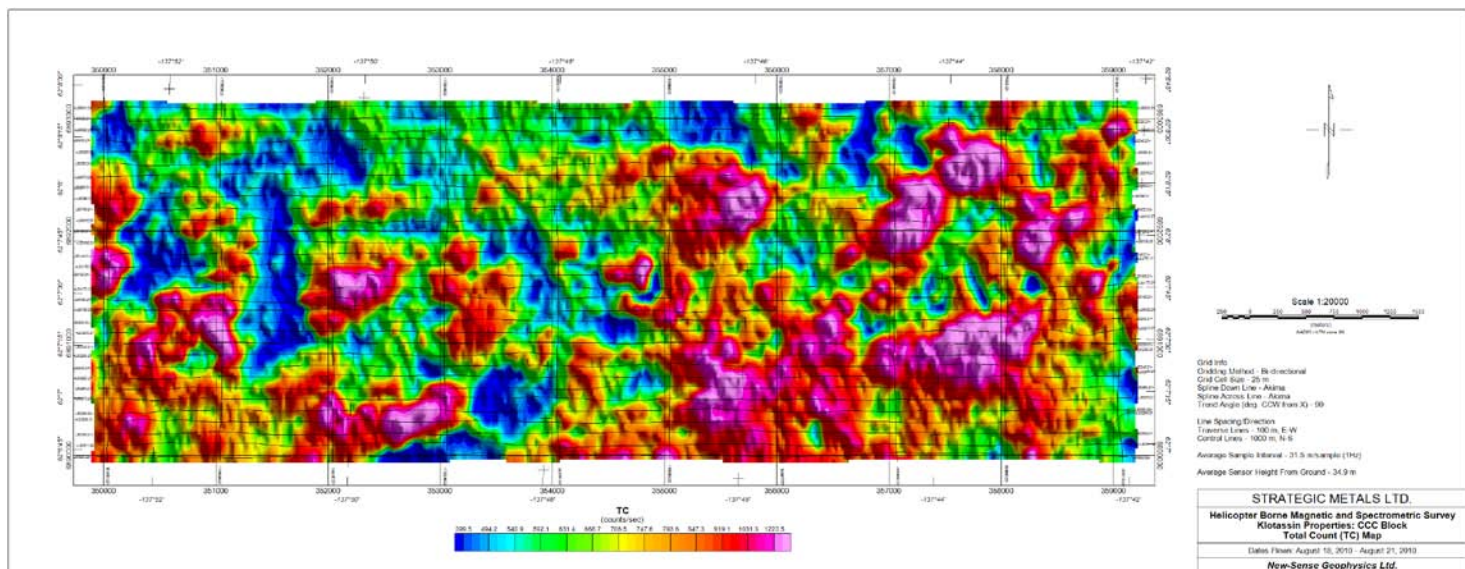
# CCC Block Image of Thorium Map



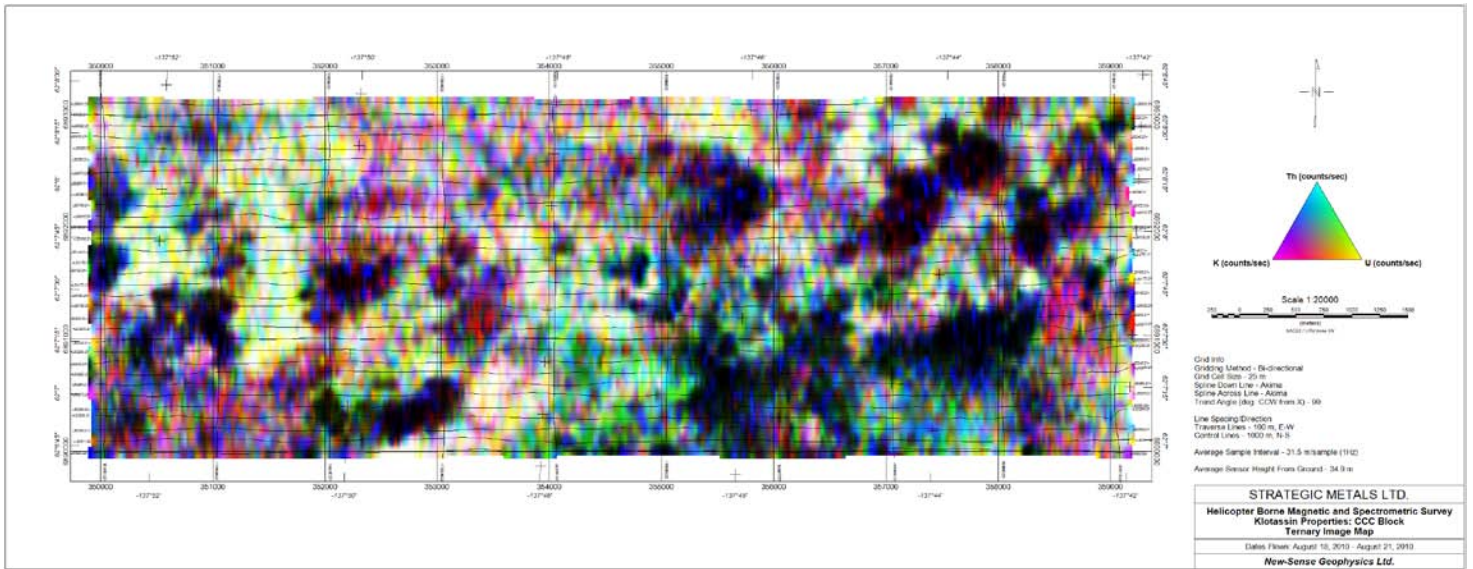
# CCC Block Image of Uranium Map



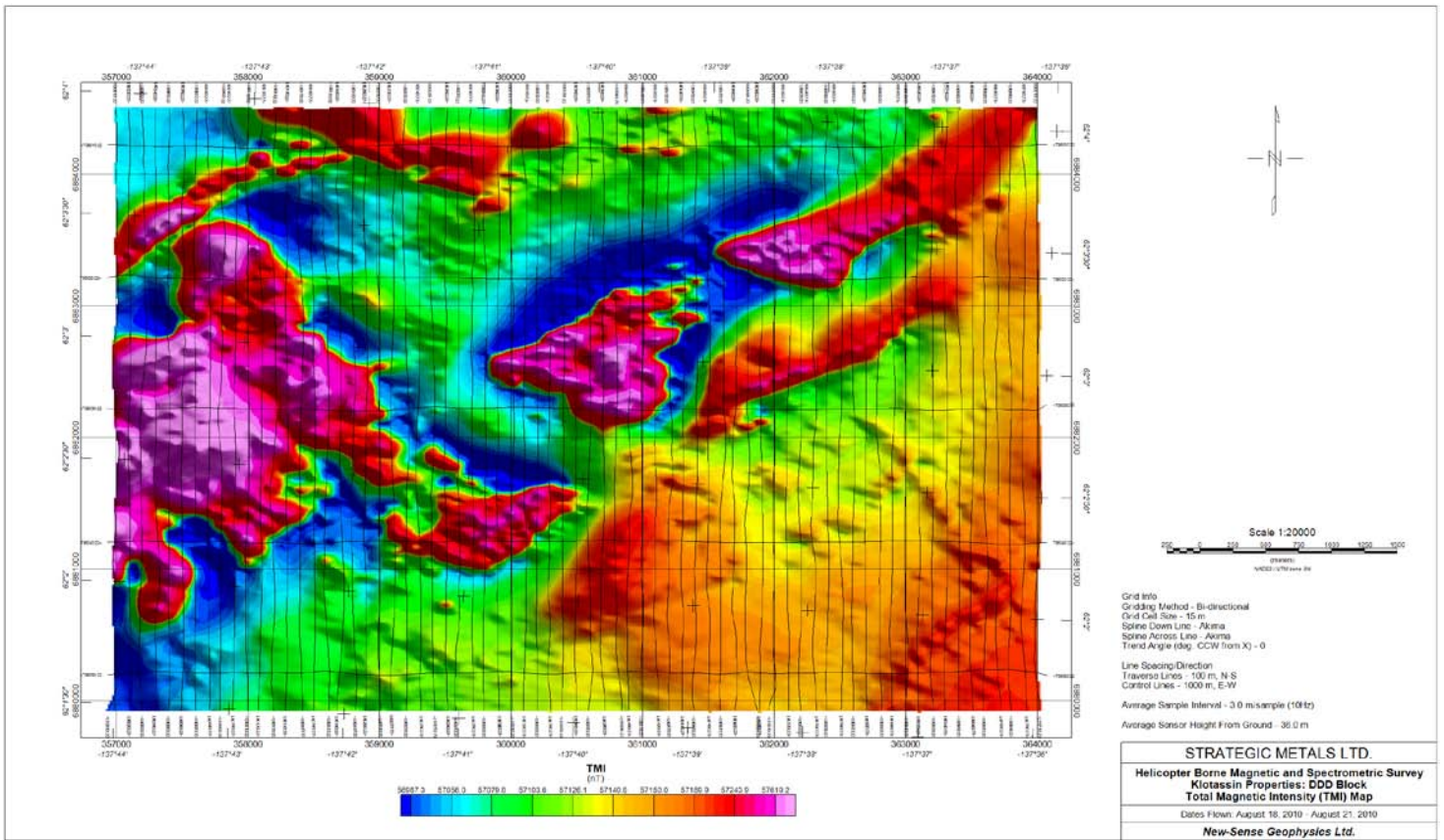
# CCC Block Image of Total Count Map



# CCC Block Image of Ternary Map

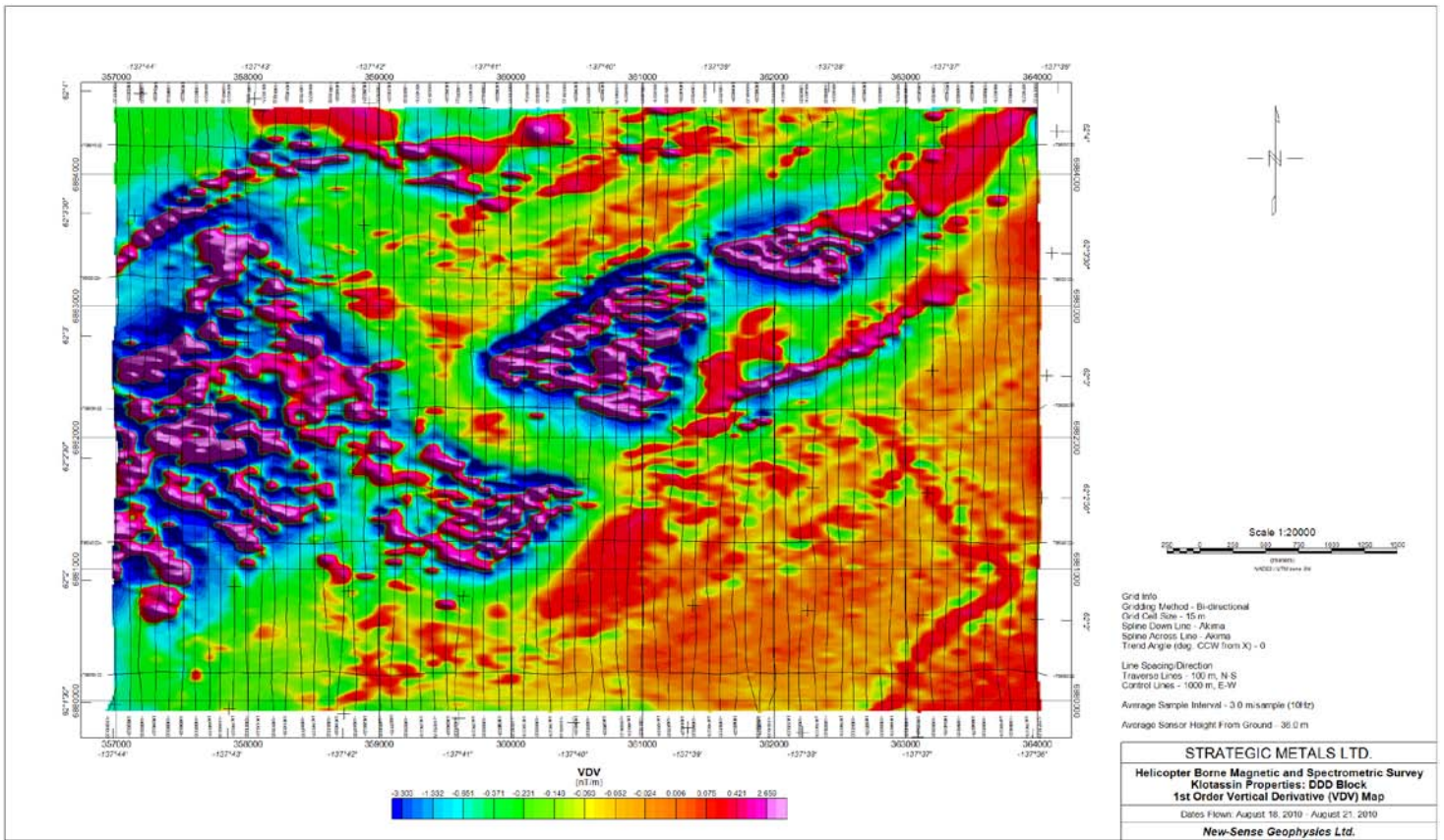


# DDD Block Image of TMI FINAL Map

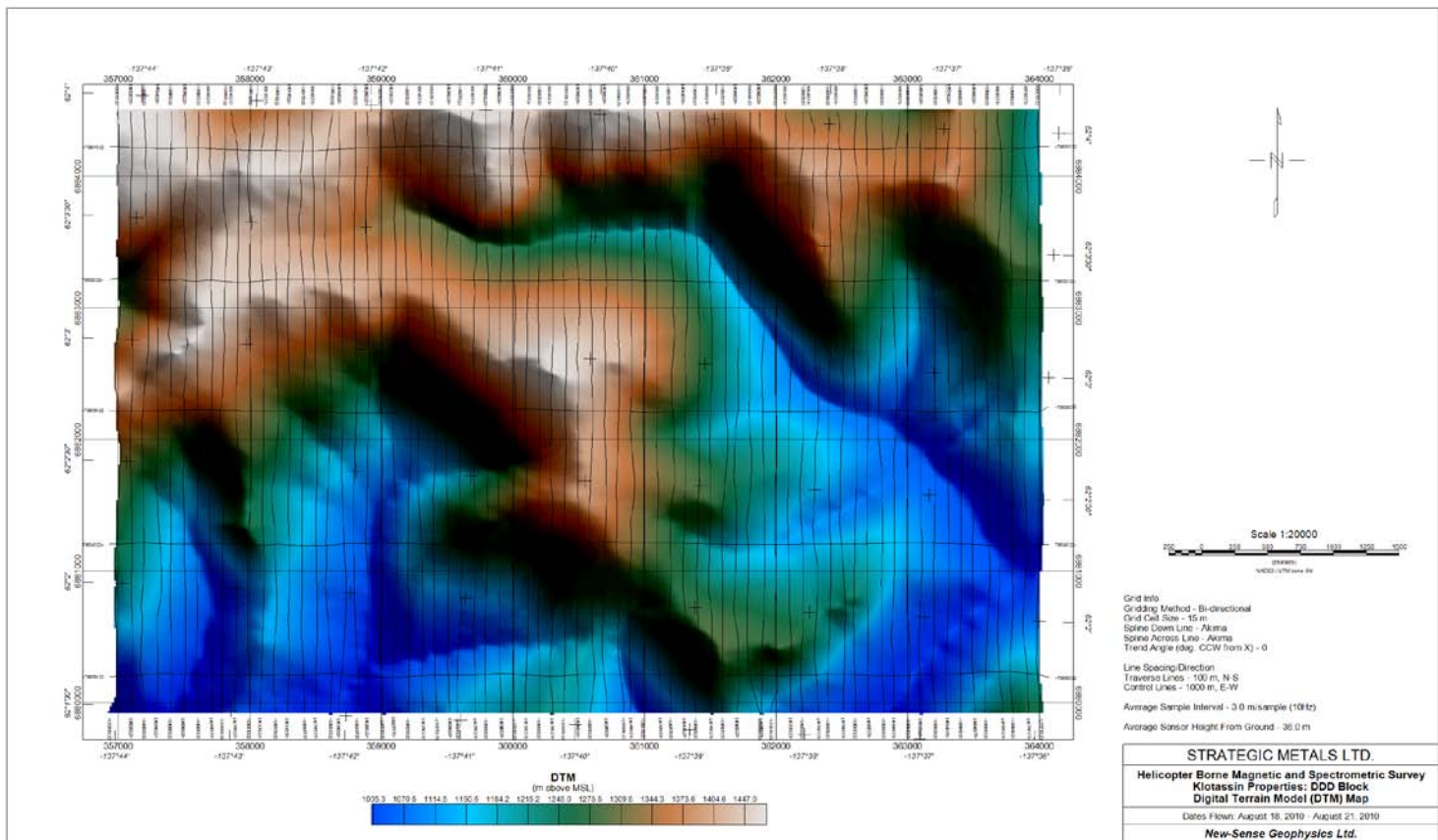




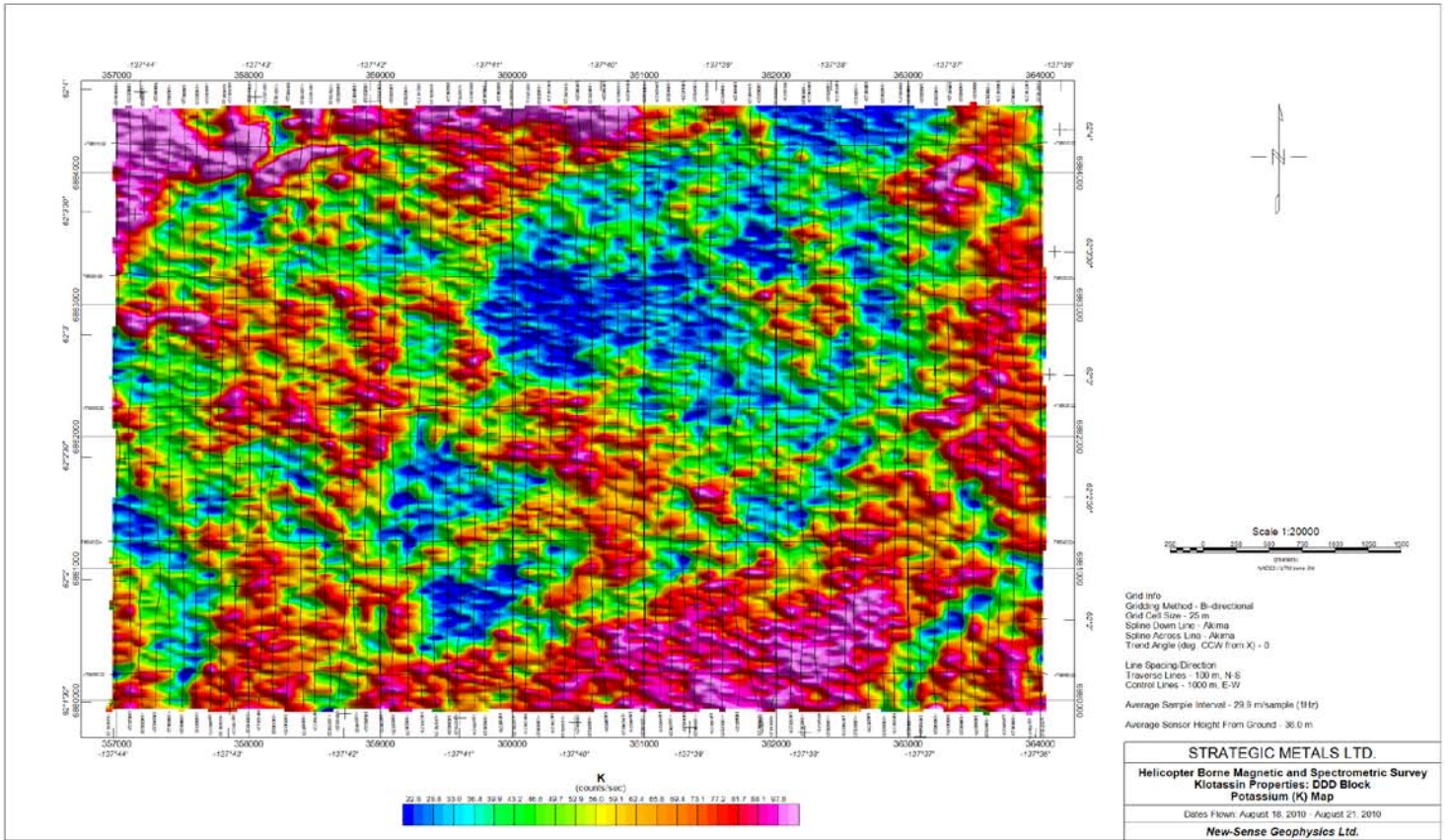
# DDD Block Image of VDV Map



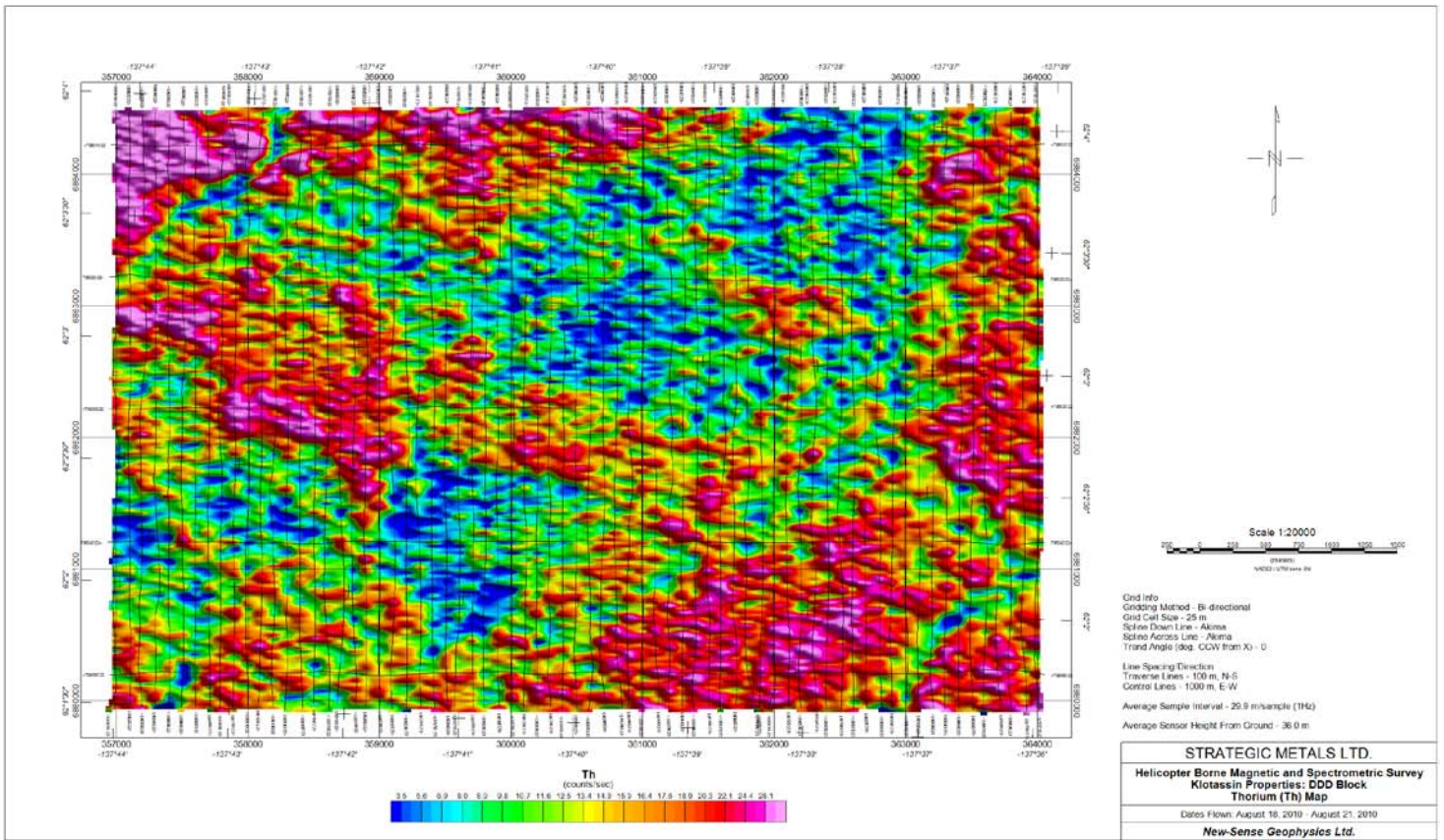
# DDD Block Image of DTM Map



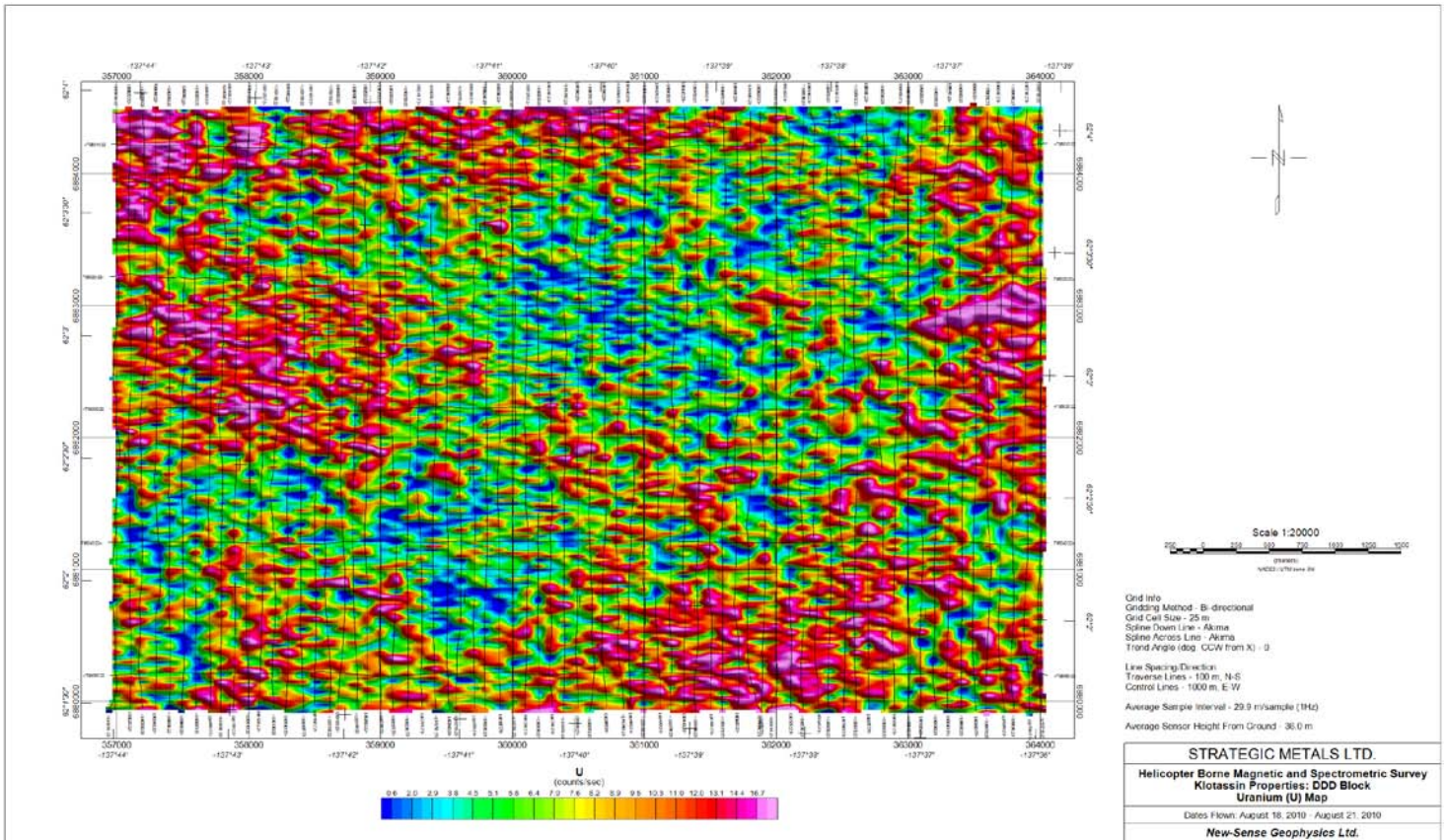
# DDD Block Image of Potassium Map



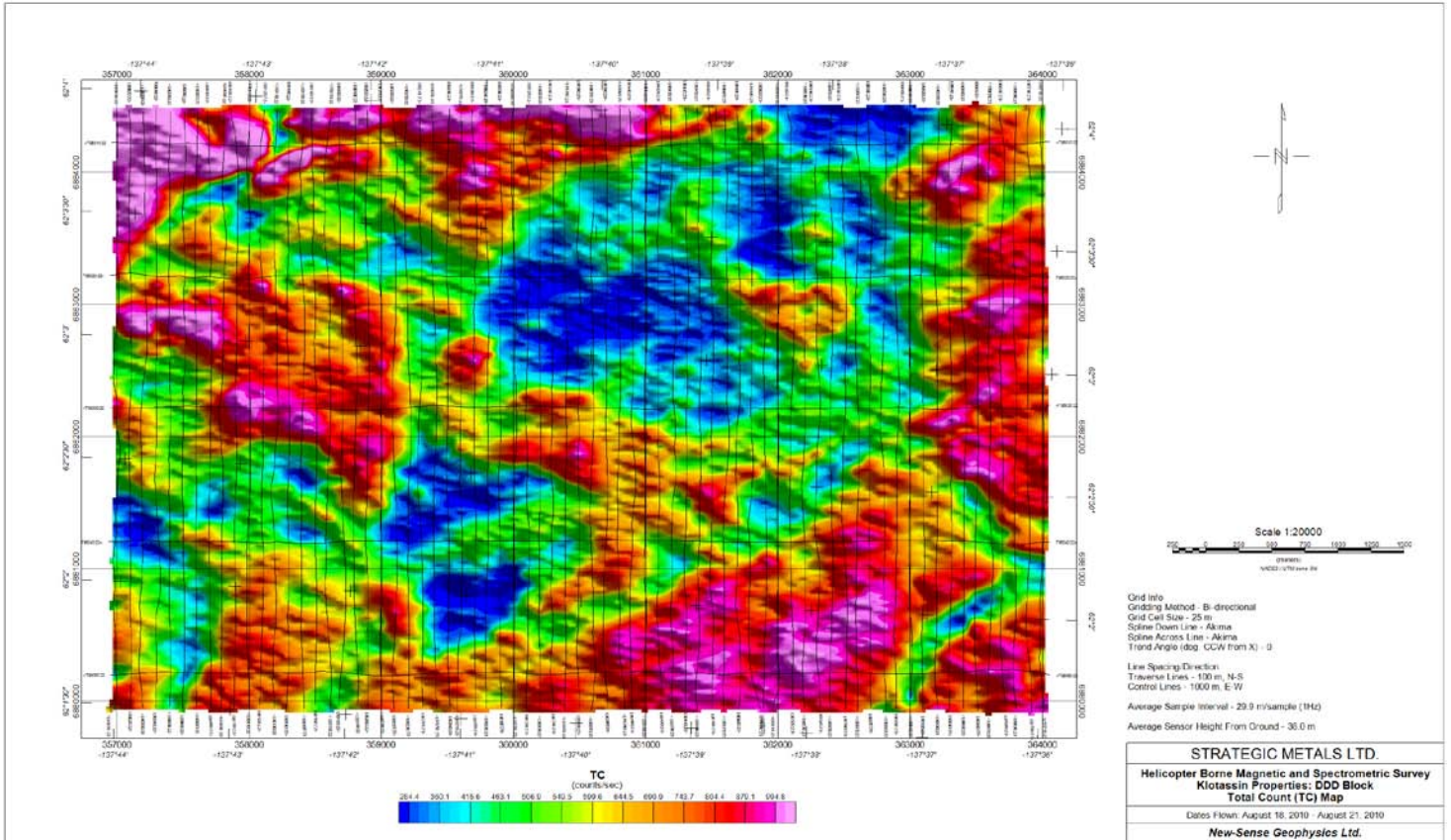
# DDD Block Image of Thorium Map



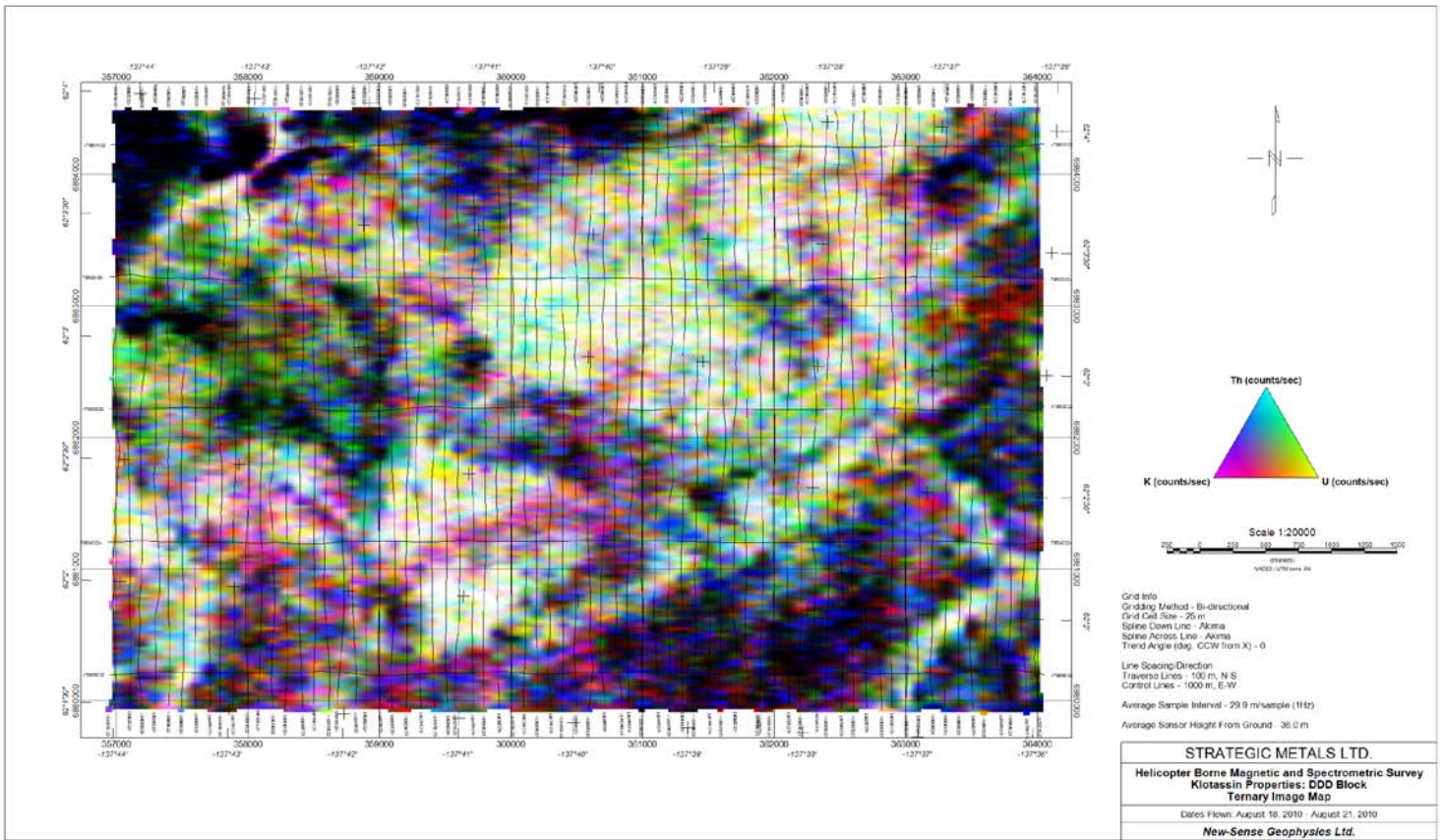
# DDD Block Image of Uranium Map



# DDD Block Image of Total Count Map



# DDD Block Image of Ternary Map



## APPENDIX F: MICROLEVELLING DESCRIPTION

As per PGW Microlevelling GX help file available through Geosoft Oasis montaj 7.2

**DECORR.GX**                   Version 3.0  
                              Paterson, Grant & Watson Limited  
                              March 2003

**PARAMETERS:** (miclev group parameters are used, so that values set will be passed to MICLEV.GX)

miclev.Xchan = x channel (default "x")  
.Ychan = y channel (default "y")  
.Ochan = original data channel (no default)  
.Nchan = decorrugation noise channel (default "dcor\_noise")  
.Space = flight line spacing  
.Dir = flight line direction in degrees azimuth (clockwise from North)  
.Cell = cell size to use for gridding (default = line spacing/5)  
.Wlen = decorrugation high-pass wavelength (default = 4 \* line spacing)  
.Ogrid = original output grid, new or existing  
.Nnoise= decorrugation noise grid  
.XY = Xmin,Ymin,Xmax,Ymax (optional)  
.LOGOPT= Log option (optional)  
.LOGMIN= Log minimum (optional)  
.DSF = Low-pass desampling factor (optional)  
.BKD = Blanking distance (optional)  
.TOL = Tolerance (optional)  
.PASTOL= % pass tolerance (optional)  
.ITRMAX= Max. iterations (optional)  
.ICGR = Starting coarse grid (optional)  
.SRD = Starting search radius (optional)  
.TENS = Internal tension (0-1) (optional)  
.EDGCLP= Cells to extend beyond data (optional)

### DESCRIPTION:

decorr.gx and miclev.gx implement a procedure called microlevelling which removes any low-amplitude component of flight line noise still remaining in airborne survey data after tie line levelling. Microlevelling calculates a correction channel and adds it to the profile database. This correction is subtracted from the original data to give a set of levelled profiles, from which a final levelled grid may then be generated. Microlevelling has the advantage over standard methods of decorrugation that it better distinguishes flight line noise from geological signal, and thus can remove the noise without causing a loss in resolution of the data.

To microlevel data, first run decorr.gx, then miclev.gx. decorr.gx offers two options for the grid of the channel to be microlevelled. If a grid prepared from this channel already exists, it may be specified, and when prompted to overwrite, the user should answer no. If the user wishes to prepare a new grid of the channel to be microlevelled, the



minimum curvature gridding algorithm (rangrid.gx) is applied. The advanced button provides access to the standard minimum curvature gridding parameters. Once the gridding is completed, decorr.gx applies a directional high-pass filter (see end note) perpendicular to the flight line direction, in order to produce a decorrugation noise grid. (The default grid cell size is 1/5 of the line spacing. The user may specify a different cell size if desired. A smaller cell size will give a more accurate result, but a larger cell size will make the gx run faster and use less disk space.) The noise grid is then extracted as a new channel in the database (default name is "dcor\_noise"). This channel contains the line level drift component of the data, but it also contains some residual high-frequency components of the geological signal. miclev.gx applies amplitude limiting and low-pass filtering to the noise channel in order to remove this residual geological signal and leave only the component of line level drift, which is then subtracted from the original data to produce a levelled output channel named "miclev".

decorr.gx calculates default amplitude limit and filter length values for use in miclev.gx, but the skilled user may be able to set better values for these parameters based on an inspection of the noise grid. (The micro-levelling process is broken up into two separate GXes in order to allow the user to do this.) Flight line noise should appear in the decorrugation noise grid as long stripes in the flight-line direction, whereas geological anomalies should appear as small spots and cross-cutting lineaments, generally with a higher amplitude than the flight line noise, but with a shorter wavelength in the flight-line direction. The user can estimate the maximum amplitude of the flight line noise, and set the noise amplitude limit value accordingly. Similarly the user can estimate the minimum wavelength of the level drift along the flight lines, and set the low-pass Naudy filter width to half this wavelength. The defaults are to set the amplitude limit equal to the standard deviation of the noise grid, and to set the filter width equal to five times the flight line spacing.

There is an option of using either of two kinds of amplitude limiting. In "clip" mode any value outside the limit is set equal to the limit value. In "zero" mode any value outside the limit is set equal to zero. The clip mode makes more sense intuitively, but it has been found in practise that the zero mode may reject geologic signal better, depending on the particular data set. As a rule the zero mode works better on datasets in which the noise grid contains a lot of high-amplitude geological signals (e.g. shallow basement areas). For datasets in which the noise grid contains mainly flight line noise (e.g. sedimentary basins), the clip mode works better.

Microlevelling applies a level correction to the traverse lines only. If it is desired to grid the tie lines together with the micro-levelled traverse lines, then it may be necessary to also apply a level correction to the tie lines so that their values agree with the micro-levelled traverse lines at the intersections. This may be done as follows:

- 1) Copy the tie line values to the microlevelled channel.
- 2) Use intersct.gx to find cross-difference values for the microlevelled data.
- 3) Use xlevel.gx to load these cross-difference values to the tie lines.
- 4) Apply fulllev.gx to the tie lines. The output will be a set of tie

lines that matches the microlevelled traverse lines at all intersections.

- 5) Copy the microlevelled traverse line values into the same channel as the corrected tie line values.

---

#### **Decorrugation Filter:**

The decorrugation noise filter is a sixth-order high-pass Butterworth filter with a default cutoff wavelength of four times the flight line spacing, combined with a directional filter. The directional filter coefficient as a function of angle is  $F=(\sin(a))^2$ , where  $a$  is the angle between the direction of propagation of a wave and the flight line direction, i.e.  $F=0$  for a wave travelling along the flight lines, and  $F=1$  for a wave travelling perpendicular to them. (Note this is the exact opposite of what is usually called a decorrugation filter, since the intention here is to pass the noise only, rather than reject it.)

The default cutoff wavelength ( $4 * \text{line spacing}$ ) gives good results if the data is already fairly well levelled to start with. In cases where many lines are badly mis-levelled, it may be necessary to set a longer cutoff wavelength, at the risk of removing more geological signal.

QW28788

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
1016 – 510 West Hastings Street  
Vancouver, B.C. V6B 1L8

Telephone: 604-688-2568

Fax: 604-688-2578

AFFIDAVIT



I, Joan Mariacher, of Vancouver, B.C. make oath and say:

That to the best of my knowledge the attached Statement of Expenditures for exploration work on the BBB 1-152 mineral claims on Claim Sheet 115I/3 is accurate.

  
Joan Mariacher

Sworn before me at Vancouver, B.C.

this 19th day of April 2011.

  
Barrister & Solicitor

**IAN J. TALBOT**  
Barrister & Solicitor  
281 East 5th Street  
North Vancouver  
British Columbia  
Canada V7L 1L8

Statement of Expenditures  
BBB 1-152 Mineral Claims  
April 15, 2011



Labour

H. Smith (geologist) September to December 2010 – 7 hrs @ \$75/hr	\$ 588.00
January to April 2011 – 4 1/2 hrs @ \$90/hr	453.60
C. Chung (geologist) January to April 2011 – 45 hrs @ \$85/hr	4,284.00
N. Sheshi (field assistant) July 2010 – 2 days @ \$336/day	752.64
T. Epp (field assistant) July 2010 – 2 days @ \$328/day	734.72
D. Hogarth (field assistant) July 2010 – 2 days @ \$328/day	734.72
B. Alladice (field assistant) July 2010 – 2 days @ \$304/day	680.96
C. Candlish-Rutherford (field assistant) July 2010 – 2 days @ \$304/day	680.96
	<hr/>
	8,909.60

Expenses

Field room and board – 10 mandays @ \$125/manday	1,400.00
Capital Helicopters	4,089.75
ALS Chemex	2,930.98
	<hr/>
	8,420.73
Total Labour and Expenses	<hr/> <hr/>
	17,330.33
Contract ZTEM Survey	<hr/> <hr/>
	13,731.87
Total	<hr/> <hr/>
	\$31,062.20

# CAPITAL HELICOPTERS (1995) INC.

Suite 3 - 25 Pilgrim Place, Whitehorse, Y.T. Y1A 6E6  
 Phone: (867) 668-6200 Fax: (867) 668-6201  
 capitalheli@polarcom.com



**Charter and Contract Service**

## INVOICE

NO. 11306-11311

DATE 16/07/2010



SOLD TO

Archer Cathro  
 Suite 1016, 510 West Hastings  
 Vancouver, B. C. V6B 1L8

SHIP TO

Archer Cathro  
 Suite 1016, 510 West Hastings  
 Vancouver, B. C. V6B 1L8

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	GST	PST	UNIT PRICE	AMOUNT
July 7	4.1	hrs	DDD Klaza camp-S/O and P/U Klotassen 1.2 Selwyn	G	MMM	1,025.00	4,202.50
July 8	3.6	hrs	EEE Klaza camp-S/O and P/U Klotassen 1.4 Selwyn	G	MMM	1,025.00	3,690.00
July 9	5.2	hrs	QQQ Klaza camp-S/O and P/U Klotassen 2.8 Selwyn	G	KKK	1,025.00	5,330.00
July 10	3.4	hrs	CCC Klaza camp-S/O and P/U Klotassen 1.4 Selwyn	G	OOO	1,025.00	3,485.00
July 12	1.8	hrs	BBB Klaza camp-S/O and P/U Klotassen 1.8 Selwyn	G		1,025.00	1,845.00
July 14/13	5.2	hrs	HHH Klaza camp-S/O and P/U Klotassen 3. Selwyn	G	JJJ	1,025.00	5,330.00
July 15 OK	2.8	hrs	BBB Klaza camp-S/O and P/U Klotassen 2.8 Selwyn	G		1,025.00	2,870.00
	26.1						
			G - GST 5.00%				
			GST				1,337.63
<p>Handwritten notes: 14.4 Klotassen - 14760.00, 11.7 Selwyn - 11992.50</p>							26252.50
<p>Capital Helicopters (1995) Inc. GST: #899587984</p>							
<p>Thank You! Your Business Is Appreciated! Fuel Price includes Federal and Yukon Tax</p>							28,090.13
<p>COMMENTS</p>							
<p>TOTAL</p>							

3.8 HA BBB - 4089.75  
 1.4 H CCC - 1506.75  
 1.2 H DDD - 1291.50  
 1.4 H EEE - 1506.75  
 3.0 H HHH - 3228.75  
 0.8 H III - 861.00  
 2.8 H QQQ - 3013.50  
 Selwyn  
 2.2 H JJJ - 2367.75  
 2.4 H KKK - 2583.00  
 5.1 H MMM - 5488.88  
 2.0 H OOO - 2152.50  
 28090.13



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: STRATEGIC METALS LTD.  
 C/O ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

INVOICE NUMBER 2112275

BILLING INFORMATION	
Certificate:	VA10098128
Sample Type:	Soil
Account:	MTT
Date:	2-AUG-2010
Project:	KLOTASSIN <i>AM</i>
P.O. No.:	BBB
Quote:	ALSM-CW10-010-F
Terms:	Net 30 Days
Comments:	C1

QUANTITY	CODE	ANALYSED FOR DESCRIPTION	UNIT PRICE	TOTAL
131	PREP-41	Dry, Sieve (180 um) Soil	0.96	125.76
42.70	PREP-41	Weight Charge (kg) - Dry, Sieve (180 um) Soil	1.80	76.86
131	Au-ICP21	Au 30g FA ICP-AES Finish	11.06	1,448.86
131	ME-ICP41	35 Element Aqua Regia ICP-AES	4.92	644.52
131	GEO-AR01	Aqua regia digestion	2.45	320.95

*1448.86  
N Dry*

To: STRATEGIC METALS LTD.  
 ATTN: JOAN MARIACHER  
 C/O ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
 1016-510 W HASTINGS ST  
 VANCOUVER BC V6B 1L8

SUBTOTAL (CAD) \$ 2,616.95  
 R100938885 HST BC \$ 314.03  
 TOTAL PAYABLE (CAD) \$ 2,930.98

Payment may be made by: Cheque or Bank Transfer  
 Beneficiary Name: ALS Canada Ltd.  
 Bank: Royal Bank of Canada  
 SWIFT: ROYCCAT2  
 Address: Vancouver, BC, CAN  
 Account: 003-00010-1001098



Please Remit Payments To :  
**ALS Canada Ltd.**  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7

# New-Sense Geophysics Limited

## Invoice – 1

Job ID: HMR100816



August 16<sup>th</sup> 2010

To: STRATEGIC METALS LTD.  
1016-510 West Hastings st.  
Vancouver, BC, V6B 1L8  
Telephone: (604) 687 2522  
Email: lorna\_xy@telus.net

Attn: W. Douglas Eaton, President and CEO

From: NEW-SENSE GEOPHYSICS LTD.  
195 Clayton Drive, Unit 11,  
Markham, ON, Canada, L3R 7P3  
Telephone: (905) 480-1107 / (905) 480-9989  
Fax: (905) 480-1207  
GST #: 86982 9283 RT0001

*AA BBB - 6726.85*

*✓ CCC - 14799.08*

*✓ DDD - 23319.76*

*44845.69*

Description: Helicopter aeromagnetic and spectrometric survey over Klotassin properties (BBB, CCC and DDD blocks), Yukon, Canada:

*152 332 520 (1004 da)  
.15 .33 .52*

Estimated total contract value due to New-Sense:

CAD \$ 85,420.35

815 km @ CAD \$103.89/km: CAD \$ 84,670.35

Mobilization/Demobilization: CAD \$ 750

Invoice On Signing and Mobilization (50% contract value):

CAD \$ 42,710.18

GST 5%

CAD \$ 2,135.51

Total due on this invoice:

CAD \$ 44,845.69

### Wire Transfer instructions:

Beneficiary: New-Sense Geophysics Limited  
Bank: The Bank of Nova Scotia  
Account #: 02011  
Transit #: 11452  
Institution Code: 002  
Swift: NOSCCATT  
ABA Routing: 026002532  
Address: 880 Eglinton Avenue E. at Laird Drive  
Toronto, Ontario, M4G 2L2, Canada

*NA 11*

*✓ Klotassin*

Andrei Yakovenko  
Vice President  
New-Sense Geophysics Limited

195 Clayton Drive, Unit 11, Markham,  
Ontario, Canada, L3R 7P3  
Phone: (905) 480-1107 / (905) 480-9989  
Fax: (905) 480-1207

San Juan de la Cruz 13631  
Las Condes, Santiago, Chile  
Tel: (56) 2 326-5116 / Fax: (56) 2 217-5865  
E-mail: surveys@new-sense.com

# New-Sense

Geophysics Limited

## Invoice - 2

Job ID: HMR100816



To: STRATEGIC METALS LTD.  
1016-510 West Hastings st.  
Vancouver, BC, V6B 1L8  
Telephone: (604) 687 2522  
Email: lorna\_xy@telus.net

Attn: W. Douglas Eaton, President and CEO

From: NEW-SENSE GEOPHYSICS LTD.  
195 Clayton Drive, Unit 11,  
Markham, ON, Canada, L3R 7P3  
Telephone: (905) 480-1107 / (905) 480-9989  
Fax: (905) 480-1207  
GST #: 86982 9283 RT0001

AM

Description: Helicopter aeromagnetic and spectrometric survey over Klofassin properties (BBB, CCC and DDD blocks), Yukon, Canada:

.14 .33 .15

Estimated total contract value due to New-Sense: CAD \$ 85,420.35  
815 km @ CAD \$103.89/km: CAD \$ 84,670.35  
Mobilization/Demobilization: CAD \$ 750

Invoice On Completion of Flying (40% contract value): CAD \$ 34,168.14

GST 5% CAD \$ 1,708.41

Total due on this invoice: CAD \$ 35,876.55

### Wire Transfer instructions:

Beneficiary: New-Sense Geophysics Limited  
Bank: The Bank of Nova Scotia  
Account #: 02011  
Transit #: 11452  
Institution Code: 002  
Swift: NOSCCATT  
ABA Routing: 026002532  
Address: 880 Eglinton Avenue E. at Laird Drive  
Toronto, Ontario, M4G 2L2, Canada

NA 11  
A - BBB: 5381.48  
CCC: 11839.26  
DDD: 18625.81  
35876.55

Andrei Yakovenko  
Vice President  
New-Sense Geophysics Limited

195 Clayton Drive, Unit 11, Markham,  
Ontario, Canada, L3R 7P3  
Phone: (905) 480-1107 / (905) 480-9989  
Fax: (905) 480-1207

San Juan de la Cruz 13631  
Las Condes, Santiago, Chile  
Tel: (56) 2 326-5116 / Fax: (56) 2 217-5865  
E-mail: surveys@new-sense.com



# New-Sense

Geophysics Limited

## Invoice – 3

Job ID: HMR100816

To: STRATEGIC METALS LTD.  
1016-510 West Hastings st.  
Vancouver, BC, V6B 1L8  
Telephone: (604) 687 2522  
Email: lorna\_xy@telus.net

Attn: W. Douglas Eaton, President and CEO

From: NEW-SENSE GEOPHYSICS LTD.  
195 Clayton Drive, Unit 11,  
Markham, ON, Canada, L3R 7P3  
Telephone: (905) 480-1107 / (905) 480-9989  
Fax: (905) 480-1207  
GST #: 86982 9283 RT0001



Description: Helicopter aeromagnetic and spectrometric survey over Klotassin properties (BBB, CCC and DDD blocks), Yukon, Canada:

Actual total contract value due to New-Sense: CAD \$ 91,545.80  
832 km @ CAD \$103.89/km: CAD \$ 86,436.48  
Mobilization/Demobilization: CAD \$ 750.00  
Standby (August 18 & 19, 2010 @ \$ 2,480.00/day): No charge  
GST (5%): CAD \$ 4,359.32

Minus Invoice 1 (GST of \$ 2,135.51 included): CAD \$ 44,845.69  
Minus Invoice 2 (GST of \$ 1,708.41 included): CAD \$ 35,876.55  
Total: CAD \$ 80,722.24

Total due on this invoice (balance; GST of \$ 515.40 included): CAD \$ 10,823.56 *NA 11*

### Wire Transfer instructions:

Beneficiary: New-Sense Geophysics Limited  
Bank: The Bank of Nova Scotia  
Account #: 02011  
Transit #: 11452  
Institution Code: 002  
Swift: NOSCCATT  
ABA Routing: 026002532  
Address: 880 Eglinton Avenue E. at Laird Drive  
Toronto, Ontario, M4G 2L2, Canada

*515.40*  
*10 308.16*  
*10 823.56*

*AA BBB - 1423.54*  
*CCC - 3401.69*  
*DDD - 5360.24*

Andrei Yakovenko, Vice President  
New-Sense Geophysics Ltd.

195 Clayton Drive, Unit 11, Markham,  
Ontario, Canada, L3R 7P3  
Phone: (905) 480-1107 / (905) 480-9989  
Fax: (905) 480-1207

San Juan de la Cruz 13631  
Las Condes, Santiago, Chile  
Tel: (56) 2 326-5116 / Fax: (56) 2 217-5865  
E-mail: surveys@new-sense.com