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# ASSESSMENT REPORT

describing

## GEOCHEMICAL SAMPLING, GEOPHYSICAL SURVEYS, PETROGRAPHIC STUDIES AND DIAMOND DRILLING

at the

## TOULEARY PROPERTY

| | |
|---|---|
| TL 1-109 | YC76097-YC76205 |
| 110-183 | YC93602-YC93675 |
| 184-580 | YD30404-YD30800 |
| 581-632 | YD31571-YD31622 |

NTS 115O/02 and 03 and 115J/14
Latitude 62°57′N; Longitude 139°10′W

located in the

Dawson Mining District
Yukon Territory

prepared by

Archer, Cathro & Associates (1981) Limited

for

**ATAC RESOURCES LTD.**
and
**ARCUS DEVELOPMENT GROUP INC**.

by

H. Smith, B.Sc., P.Geo.
May 2012

## CONTENTS


| | Page |
|---|---|
| INTRODUCTION | 1 |
| PROPERTY LOCATION, CLAIM DATA AND ACCESS | 1 |
| HISTORY | 2 |
| GEOMORPHOLOGY | 4 |
| REGIONAL GEOLOGY | 4 |
| PROPERTY GEOLOGY | 6 |
| MINERALIZATION | 9 |
| SOIL GEOCHEMISTRY | 11 |
| GEOPHYSICAL SURVEYS | 14 |
| PETROGRAPHY | 14 |
| DEPOSIT MODEL | 16 |
| DISCUSSION AND CONCLUSIONS | 16 |
| REFERENCES | 18 |


## APPENDICES


I STATEMENT OF QUALIFICATIONS

II SCANNING ELECTRON MICROSCOPE REPORT

III CERTIFICATES OF ANALYSIS

IV GEOLOGICAL AND GEOTECHNICAL LOGS

V GEOPHYSICAL REPORTS

VI PETROGRAPHIC REPORT

## FIGURES


| No. | Description | Follows Page |
|---|---|---|
| 1 | Property Location | 1 |
| 2 | Claim Locations | in pocket |
| 3 | Tectonic Setting | 4 |
| 4 | Geology | 5 |
| 5 | Soil Sample Locations | in pocket |
| 6 | Gold Soil Geochemistry | in pocket |
| 7 | Silver Soil Geochemistry | in pocket |
| 8 | Copper Soil Geochemistry | in pocket |
| 9 | Lead Soil Geochemistry | f2in pocket |
| 10 | Zinc Soil Geochemistry | in pocket |
| 11 | Drill Hole Locations | 13 |
| 12 | Drill Section 1 | 13 |
| 13 | Drill Section 2 | 13 |
| 14 | Drill Section 3 | 13 |
| 15 | Drill Section 4 | 13 |
| 16 | Total Magnetic Intensity | 14 |
| 17 | VTEM dB/dt | 14 |

## TABLES


| | | |
|---|---|---|
| I | Placer Production | 2 |
| II | Regional Lithologies | 5 |
| III | Soil Sample Thresholds | 12 |
| IV | Drill Hole Data | 13 |
| V | Significant Drill Intercepts | 13 |

## INTRODUCTION

The Touleary property hosts a new Volcanogenic Massive Sulphide (VMS) discovery. The property lies within the South Klondike District of western Yukon, which hosts active placer gold mines and which has recently attracted wider attention due to exploration successes at the nearby White Gold (Kinross Gold Corporation) and Coffee (Kaminak Gold Corporation) properties.

Work conducted during the 2011 exploration program on the Touleary property completed earn-in requirements under an option agreement between Arcus Development Group Inc. and ATAC Resources Ltd. Thus, the property is now 50% owned by both companies under terms of a joint venture agreement. Arcus will act as the joint venture operator.

This report describes geochemical sampling, diamond drilling, helicopter-borne geophysical surveys and petrographic studies that were conducted in 2011. The fieldwork was done by Archer, Cathro & Associates (1981) Limited. The geophysical surveys were flown by Precision GeoSurveys Inc. and GeoTech Ltd. and the petrographic study was performed by Vancouver Petrographics. The author directed and participated in the program, and her Statement of Qualifications is in Appendix I.

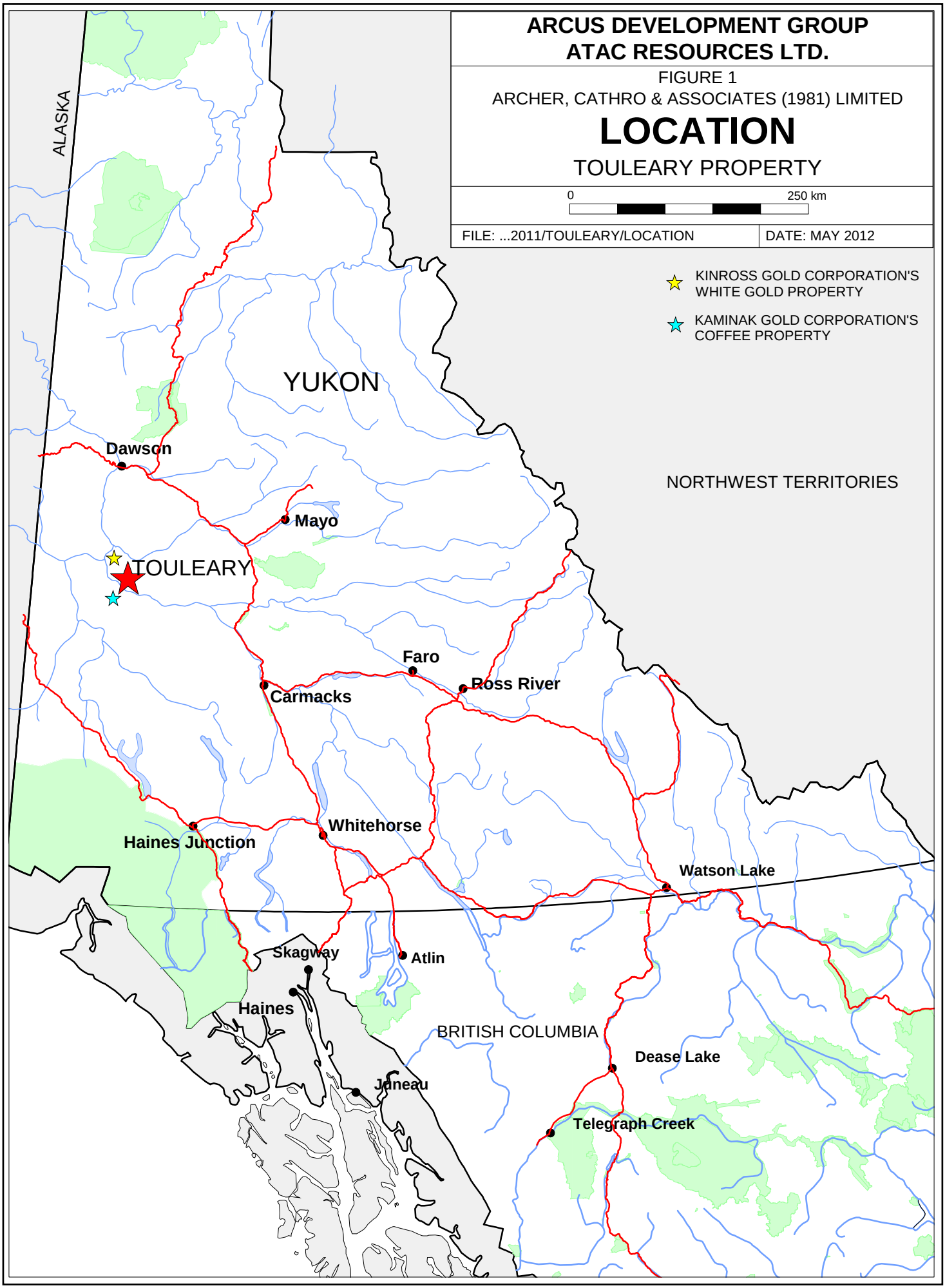
## PROPERTY LOCATION, CLAIM DATA AND ACCESS

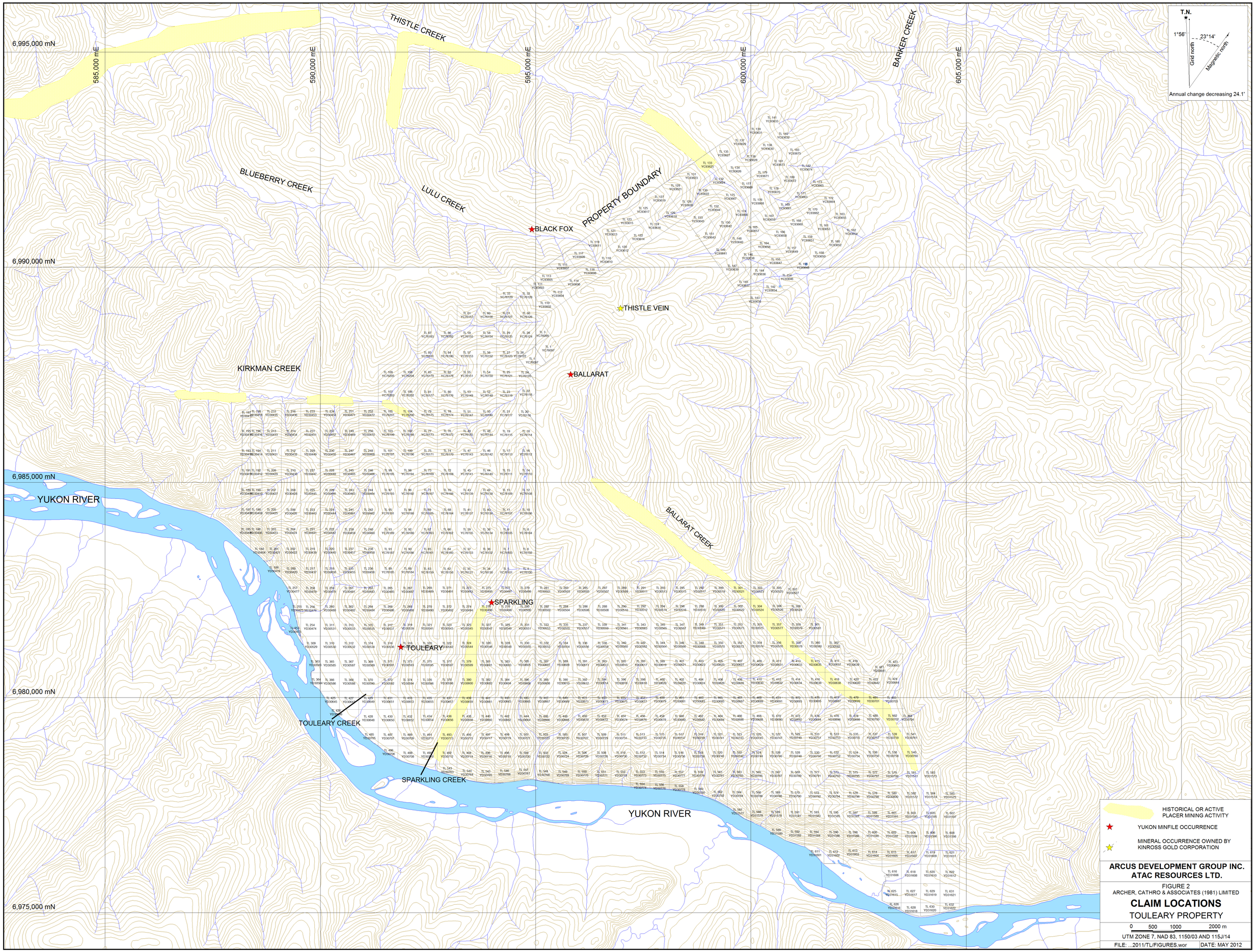
The Touleary property comprises 632 contiguous mineral claims in the Thistle Mountain area of west-central Yukon. The property is centred at latitude 62°57′N and longitude 139°10′W on NTS map sheets 115O/02 and 03 and 115J/14 as shown on Figure 1. It covers an area of approximately 12,800 ha (128 sq km). The claims are registered with the Dawson Mining Recorder in the name of Archer Cathro, which holds them in trust for Arcus and ATAC. Claim data are listed below while the locations of individual claims are illustrated on Figure 2.

| Claim Name | Grant Number | Expiry Date* |
|---|---|---|
| TL 1-109 | YC76097-YC76205 | April 29, 2023 |
| 110-183 | YC93602-YC93675 | April 29, 2023 |
| 184-580 | YD30404-YD30800 | August 29, 2019 |
| 581-632 | YD31571-YD31622 | August 29, 2019 |

*Expiry dates include 2011 work which has been filed for assessment credit but not yet accepted.

The 2011 work was conducted from a tent camp on the Touleary property. Two airstrips were used during the exploration season – Kirkman and Thistle – because large aircraft cannot land at the Kirkman airstrip. Mobilization of crew and gear was performed by three fixed wing airplanes. A Twin Otter operated by Alcan Air of Whitehorse was used to mobilize lumber, camp gear and a diamond drill to the Thistle airstrip from the Dawson City Airport. An Islander operated by Great River Aviation from its base at the Dawson City Airport was used to ferry supplies and samples to and from the Kirkman airstrip. A Skyvan operated by Summit Air Charters Limited Partnership was used for demobilization of the diamond drill from the Thistle airstrip to the Dawson City Airport.


ARCUS DEVELOPMENT GROUP
ATAC RESOURCES LTD.
FIGURE 1
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
LOCATION
TOULEARY PROPERTY
0
250 km
FILE: ...2011/TOULEARY/LOCATION
DATE: MAY 2012
KINROSS GOLD CORPORATION'S WHITE GOLD PROPERTY
KAMINAK GOLD CORPORATION'S COFFEE PROPERTY
ALASKA
YUKON
NORTHWEST TERRITORIES
BRITISH COLUMBIA
Dawson
Mayo
TOULEARY
Faro
Ross River
Carmacks
Whitehorse
Haines Junction
Watson Lake
Skagway
Atlin
Haines
Dease Lake
Juneau
Telegraph Creek




**ARCUS DEVELOPMENT GROUP INC.**
**ATAC RESOURCES LTD.**

FIGURE 2
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

# CLAIM LOCATIONS

TOULEARY PROPERTY

0 500 1000 2000 m

UTM ZONE 7, NAD 83, 1150/03 AND 115J/14

FILE: ...2011/TL/FIGURES.wor | DATE: MAY 2012

A Hughes 500D helicopter operated by Fireweed Helicopters Ltd. was on contract during the exploration program. The helicopter was used to move gear between the airstrips, camp and drill areas. It was also used for daily crew changes and drill moves.

A Kawasaki 610 Mule all-terrain vehicle was used for some crew transport on a series of well-connected roads and trails built by local placer miners. The Mule was used to access the Kirkman airstrip, where a temporary core shack was established during the program, and to reach road accessible soil sampling areas near Thistle Mountain (Figure 2).

## HISTORY

The Touleary property is located in the headwaters of four creeks that host historical and active placer gold operations in the southern part of the Klondike Goldfields. The area has a rich placer gold mining history dating back to 1898. Recorded hard rock exploration in the area started in 1936. Mining and exploration histories are described in more detail in the following paragraphs.

### Placer History

Thistle, Kirkman, Ballarat and Sparkling creeks are placer gold producers that drain areas covered by the Touleary property (Figure 2). In addition, Touleary Creek is listed as a watercourse with past placer activity but it is not currently staked. A 1.06 ounce gold nugget was reportedly recovered by panning on Touleary Creek in the early 1980s (pers. comm., J. Stephen, 2010). Table I below lists reported gold production from the primary placer creeks in the Touleary property area.

**Table I – Placer Production (*after LeBarge, 2007*)**

| Creek | Status | Production (oz. year to year) | Fineness |
|---|---|---|---|
| Thistle | Active | 81,540 (1949 to 2006) | 848 to 895 |
| Kirkman | Active | 13,943 (1914 to 2006) | 860 to 896 |
| Sparkling | Not active | 2761 (1997 to 1998) | 880 |
| Ballarat | Active | 16,078 (1978 to 2005) | 860 |

### Hard Rock History

Three historical mineral occurrences lie just off the Touleary property (Ballarat –115J 061, Black Fox –115O 014 and Touleary –115J 060). These occurrences are described in the following paragraphs, and their locations are shown on Figure 2.

The Ballarat Occurrence is located on the west side of Ballarat Creek, 700 m east of the property. It was originally staked in 1936. Those claims were allowed to lapse and no further work was until 1990, when Sparkling Minerals Incorporated performed prospecting, geological mapping and geochemical sampling. In 1990, Sparkling Minerals identified two styles of quartz veining at this occurrence. The first style is inferred to be epithermal and consists of massive interlocking white quartz crystals with occasional fine grained disseminated pyrite and specular hematite. The other style is thought to have originated from a mesothermal system and features

quartz with feldspar. The epithermal veins are up to two metres wide and have vertical dips. Limonite forms up to 3% of these veins as fracture coatings and veinlets, while specular hematite comprises approximately 5%. Sparkling Minerals reported that a quartz vein sample with 1% galena yielded 31.71 g/t gold, 75.43 g/t silver and 1.5 % lead and that soil sampling returned up to 811 ppb (Andersen, 1991). In 1993, a small trenching program was completed and in 1998, additional soil and stream sediment sampling was performed. The highest gold-in-soil value from this work was 65 ppb (Andersen, 1999). No mineralization or geochemical anomalies are reported from the mesothermal veins.

The Black Fox Occurrence lies 1000 m north of the property on Lulu Creek, a tributary of Thistle Creek. It was originally staked in 1901 and was restaked in 1910 and again in 1914. From 1970 to 1995, a number of companies staked claims and explored within the area surrounding this occurrence. The most noteworthy results were from a VLF-EM geophysical survey that Faith Mines Ltd. performed in 1995. This survey identified several linear conductors oriented parallel to a large fault (Southam, 1995a), but follow-up soil sampling, which was done at 25 m intervals on lines spaced 200 m apart over the VLF-EM conductors, returned only background values (Southam, 1995b).

The Touleary Occurrence is located on Touleary Creek. The Minfile database speculates that quartz claims were staked based on previous placer activity. There is no record of any assessment reports having ever been filed for this occurrence.

In 1980, Archer Cathro performed regional exploration in the South Klondike District for the NAT Joint Venture (NAT JV), which comprised Chevron Canada Limited and Armco Mineral Exploration Ltd. The NAT JV program covered much of western Yukon and included reanalyses of splits from over 5000 previously collected samples for gold, silver, arsenic and lead, plus follow up geochemical sampling (Archer and Onasick, 1980). A number of silt samples collected from creeks draining the current Touleary property were analyzed and returned background to moderately anomalous values for gold (up to 28 ppb). Limited follow-up soil sampling returned only background values.

ATAC staked the initial claims comprising the Touleary property in April 2009 and soon afterward optioned them to Arcus. Work performed in 2009 included geochemical sampling and prospecting (Smith, 2009). A total of 65 rock and 2166 soil samples were collected for analysis. Results from this work were encouraging. The most anomalous rock sample was a limonitic quartz vein with dark grey metallic sulphide patches and rare arsenopyrite blebs, which returned 2.8 g/t gold. Three anomalous zones (Anomalies A to C) were identified through soil sampling. Anomaly A features gold-in-soil values up to 304 ppb, but lacks arsenic support. Anomalies B and C are arsenic-rich (20 to 324 ppm) but contain only background gold values.

In summer 2010, Arcus expanded the Touleary property based on exploration success of companies working nearby, particularly Kinross and Kaminak. The 2010 exploration program on the property comprised geochemical sampling and excavator trenching near Anomaly A. This work was performed from the FellHawk placer operation on Kirkman Creek. Six trenches totalling 1112 m in length were dug by a Komatsu 325 excavator owned and operated by FellHawk. The trenching program was hindered by permafrost and therefore only 562 m of

bedrock were exposed for mapping and sampling. The best result from this program was 0.82 g/t gold and 14.3 g/t silver over 34 m including 2.59 g/t gold and 20 g/t silver over five metres (Smith, 2011).

## GEOMORPHOLOGY

The claims lie within the Dawson Range, immediately east of Yukon River. Local topography shows moderate relief with elevations ranging from 730 to 1480 m above sea level. Treeline in the area is approximately 1400 m. Higher elevations are lightly vegetated with moss and scrub brush while lower elevations support a mixture of deciduous and evergreen forest with thick buckbrush-, willow- and moss-covered slopes. Bedrock is exposed along ridges and spines at higher elevations and in road cuts at lower elevations.

The Touleary property is located in part of the Dawson Range that escaped Pleistocene glaciation and consequently, the landscape is mature with dendritic drainages forming radial fans off the flanks of upland domes.

Soil profiles in the Dawson Range are complex compared to most other places in Yukon. Due to the absence of glaciation, ridges and spines are deeply weathered and often leached. On hillsides and valley bottoms, the soil profile from surface to bedrock typically consists of the following: a layer of organic matter, which ranges from 10 to 50 cm thick; a layer of volcanic ash from the Mount Churchill eruption, which varies from 0 to 20 cm thick; a layer comprised of loess mixed with soliflucted B and C-horizon residual soil, which ranges from 0 to more than 100 cm thick; and a layer of C-horizon residual soil (Bond, 2007).

The west and central parts of the property are drained by numerous creeks that flow directly to the Yukon River. The eastern part of the property is drained by two main creeks that flow to the Stewart River, a major tributary of the Yukon River.

## REGIONAL GEOLOGY

The Touleary property lies within the Yukon-Tanana Terrane (YTT) approximately 100 km southwest of the Tintina Fault (Figure 3). YTT comprises a variety of Late Devonian to Early Mississippian metavolcanic and metasedimentary rocks, and represents both arc and back-arc environments (Colpron et al., 2006; Piercey et al., 2006). The Tintina Fault is a transcurrent structure that experienced about 450 km of dextral strike-slip movement during the Eocene. This movement offset an outlier of YTT in the Finlayson Lake District of southeastern Yukon from the main body of YTT, which lies southwest of the fault.

YTT rocks of back-arc affinity occur mainly in the Finlayson Lake District where they are host to four VMS deposits – Kudz Ze Kayah, Wolverine, Fyre Lake and GP4F. Back-arc facies are dominated by bimodal metavolcanic rocks associated with fine-grained carbonaceous metaclastic rocks. The Wolverine Deposit, owned by Yukon Zinc Corporation, is the most advanced deposit hosted in YTT rocks in the Finlayson Lake District. It has a NI 43-101 compliant, measured and indicated mineral resource of 4.46 Mt grading 12.14% zinc, 354.8 g/t silver, 1.16% copper, 1.70 g/t gold and 1.58% lead (Meade, 2007).

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FIGURE 3

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

# TECTONIC SETTING

## TOULEARY PROPERTY

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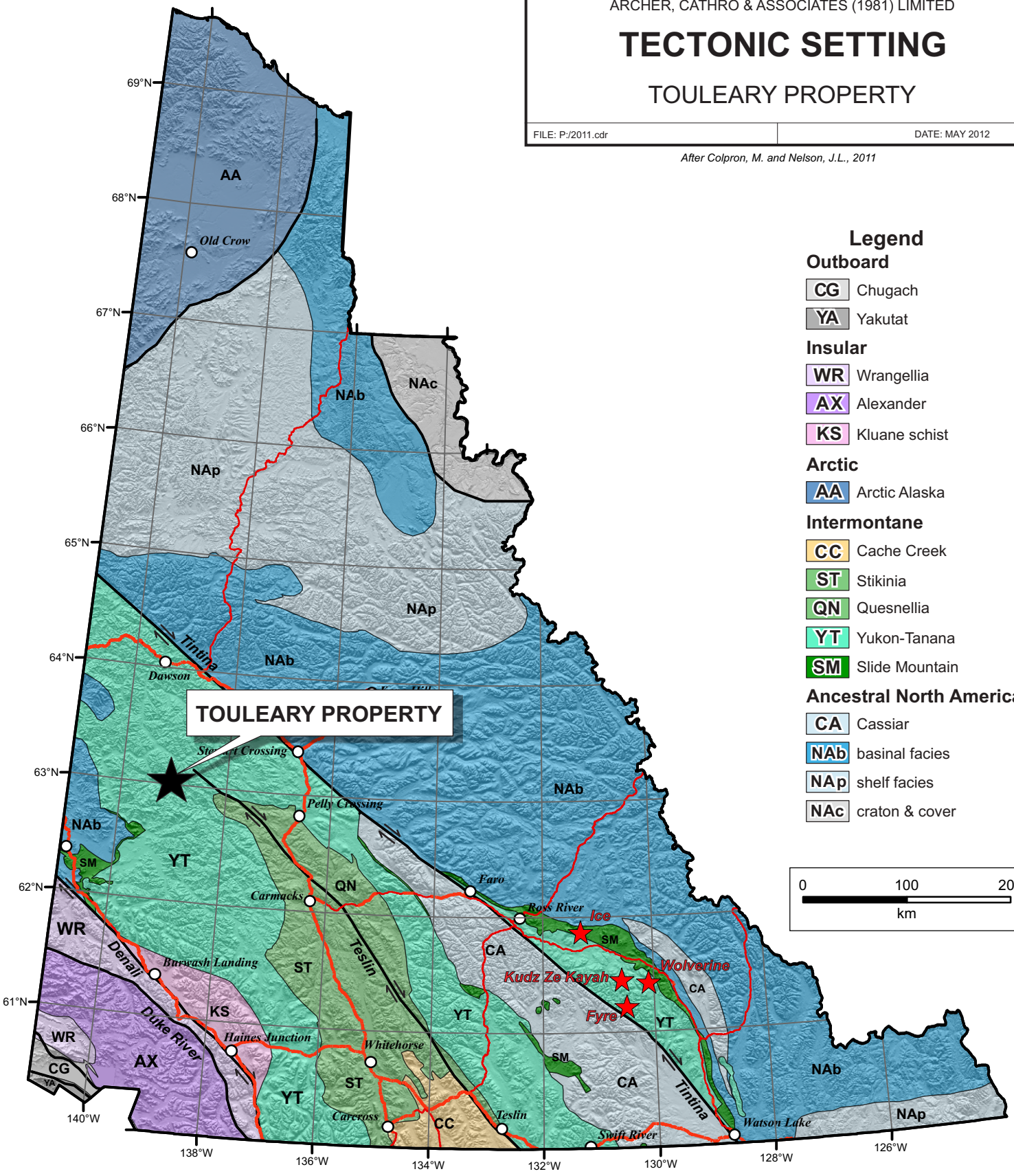
*After Colpron, M. and Nelson, J.L., 2011*




## Legend

**Outboard**
- CG Chugach
- YA Yakutat

**Insular**
- WR Wrangellia
- AX Alexander
- KS Kluane schist

**Arctic**
- AA Arctic Alaska

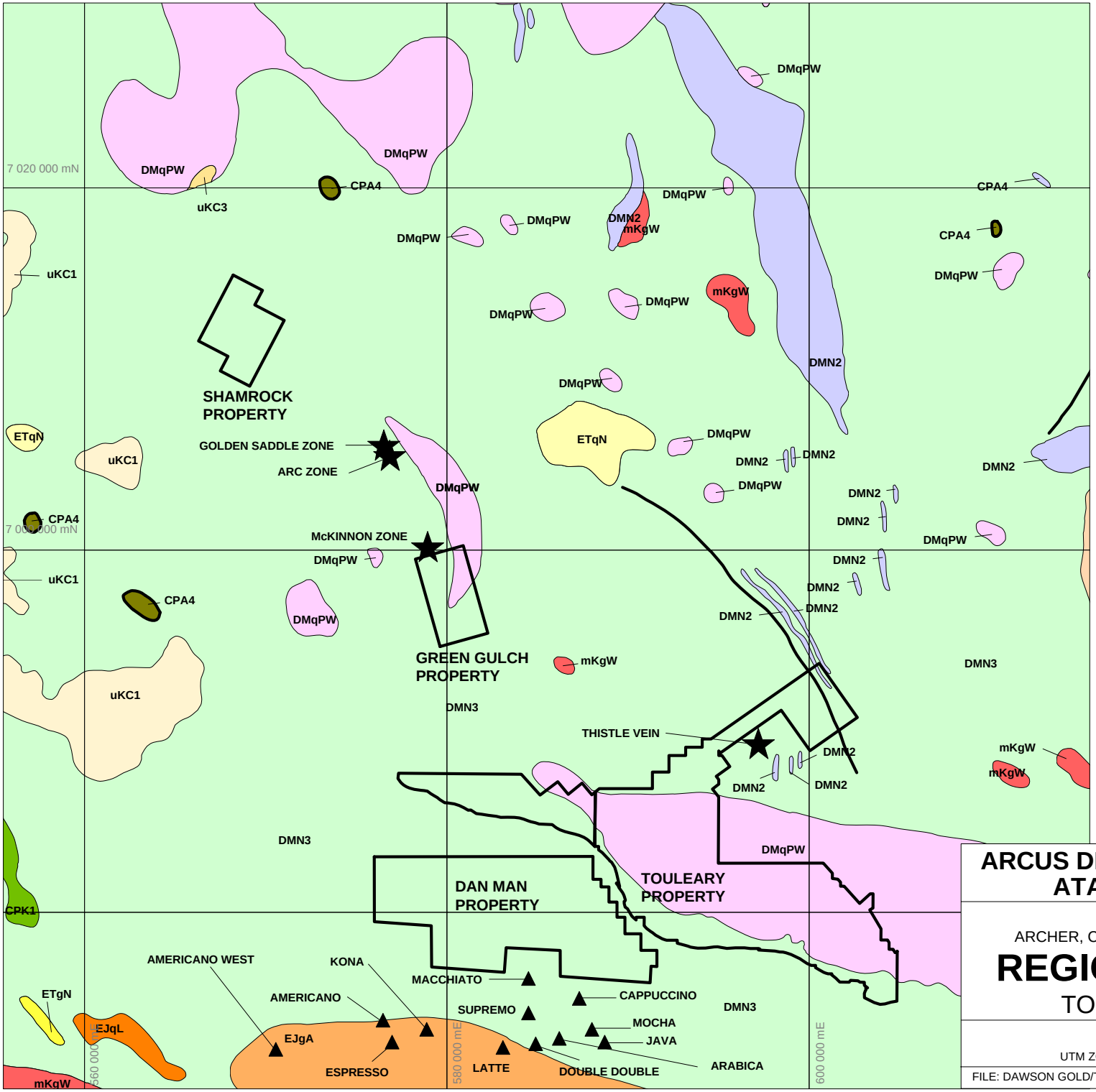
**Intermontane**
- CC Cache Creek
- ST Stikinia
- QN Quesnellia
- YT Yukon-Tanana
- SM Slide Mountain

**Ancestral North America**
- CA Cassiar
- NAb basinal facies
- NAp shelf facies
- NAc craton & cover

Southwest of Tintina Fault, the YTT assemblage comprises mostly intermediate to mafic metavolcanic and metavolcaniclastic rocks of arc affinity, and fringing metasedimentary rocks (Colpron et al., 2006). Table II below contains a brief summary of the main lithologies in the Touleary property area. Figure 4 illustrates the distribution of those lithologies.

**Table II - Regional Lithologies (*After Gordey and Makepeace, 2003*)**

| Unit | Period | Description |
|---|---|---|
| ETqN | Early Tertiary | **Nisling Range Suite**: Series of felsic intrusives ranging in composition from granodiorite to mafic-poor granite. |
| uKC1 | Upper Cretaceous | **Carmacks Group (1)**: Volcanic succession dominantly olivine basalt and breccia; hornblende-feldspar porphyry and andesite and dacite flows with minor sandy tuff, granite boulder conglomerate, agglomerate and associated epiclastic rocks. |
| uKC3 | Upper Cretaceous | **Carmacks Group (3)**: Medium bedded, poorly sorted, coarse- to fine-grained sandstone, pebble conglomerate, shale, tuff and coal; massive to thick bedded locally derived granite or quartzite pebble to boulder conglomerate. |
| mKgW | Mid-Cretaceous | **Whitehorse Suite**: Felsic intrusives ranging in composition from quartz monzonite to leucogranite. |
| EJgA | Early Jurassic | **Aishihik Suite**: Medium to coarse grained, foliated biotite-hornblende granodiorite; biotite rich gneiss; foliated hornblende diorite to monzodiorite with local potassium-feldspar megacrysts. |
| EJqL | Early Jurassic | **Long Lake Suite**: Felsic, massive to weakly foliated, fine to coarse grained biotite, biotite-muscovite and biotite-hornblende quartz monzonite to granite. Commonly hosts potassium feldspar megacrysts. |
| CPK1 | Carboniferous to Permian | **Klondike Schist (1)**: Tan to rusty and black weathering muscovite and/or chloritic quartzite and quartz-muscovite-chlorite schist; quartz and/or feldspar augen-bearing quartz-muscovite (+/-chlorite) schist; includes augen gneiss and amphibolite. |
| CPA4 | Carboniferous toPermian | **Anvil Range Group (4)**: Dunite, peridotite, gabbro, pyroxenite, harzburgite with minor diorite, hornblendite and diabase; serpentinite, orange weathering quartz-carbonate rock with minor green chromian muscovite, talc-carbonate schist and carbonatized ultramafic rocks. |
| DMqPW | Late Devonian to Mississippian | **Pelly Gneiss Suite**: Foliated equigranular, medium grained muscovite quartz monzonite, moderately to strongly foliated K-feldspar augen quartz monzonitic to granitic gneiss. |
| DMgPW | Late Devonian to Mississippian | **Pelly Gneiss Suite**: Foliated medium grained, homogenous biotite granite gneiss to biotite or |




**EARLY TERTIARY**

- ETgN — Nisling Range Suite
- ETqN — Nisling Range Suite

**UPPER CRETACEOUS**

- uKC1 — Carmacks
- uKC3 — Carmacks

**MID-CRETACEOUS**

- mKgW — Whitehorse Suite

**EARLY JURASSIC**

- EJgA — Aishihik Suite
- EJqL — Long Lake Suite

**CARBONIFEROUS AND PERMIAN**

- CPK1 — Klondike Schist
- CPA4 — Anvil

**LATE DEVONIAN TO MISSISSIPPIAN**

- DMqPW — Pelly Gneiss Suite-Southwest

**DEVONIAN, MISSISSIPIAN AND (?) OLDER**

- DMN2 — Nasina
- DMN3 — Nasina

*** After Gordey and Makepeace, 1999**

★ Mineral occurrence owned by Kinross Gold Corp.

▲ Mineral occurrence owned by Kaminak Gold Corporation

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FIGURE 4

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

# REGIONAL GEOLOGY

## TOULEARY PROPERTY

0 — 10 km

UTM ZONE 7, NAD 83, 115O/02 & 03 and 115J/14

FILE: DAWSON GOLD/TOULEARY/ REGIONAL.WOR | DATE: MAY 2012

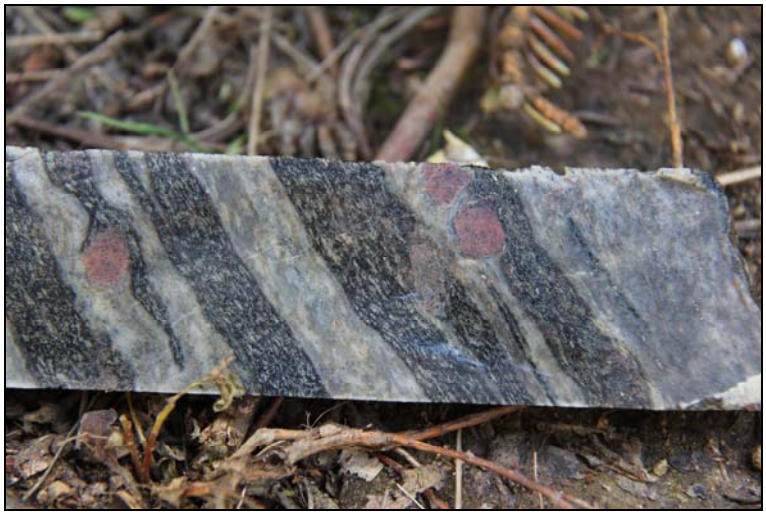
| | | |
|---|---|---|
| | | hornblende granodiorite gneiss; includes interfoliated amphibolite, quartz-mica schist and phyllites. |
| DMN2 | Devonian, Mississippian and older (?) | **Nasina Assemblage (2)**: Marble. |
| DMN3 | Devonian, Mississippian and older (?) | **Nasina Assemblage (3)**: Quartzite, micaceous quartzite, quartz-muscovite schist, and minor metaconglomerate and metagrit. May locally include significant Nisling Assemblage. |

## PROPERTY GEOLOGY

The Touleary property is underlain by Late Devonian to Mississippian Pelly Gneiss Suite (DMqPW) and the highly strained Devonian, Mississippian and older (?) Nasina Assemblage (DMN3). No detailed geological mapping has been done on the Touleary property, but trench mapping in 2010 and diamond drilling in 2011 identified the following units:

1) Gneiss (DMqPW);
2) Schist (DMN3); and,
3) Mafic to Ultramafic rocks.

Five types of gneiss have been identified on the property: chlorite-amphibole-hornblende gneiss (Zebra gneiss); megacrystic garnet augen gneiss; porphyritic chlorite augen gneiss; aphanitic biotite-chlorite-garnet gneiss; and, fuschite-muscovite-chlorite gneiss.



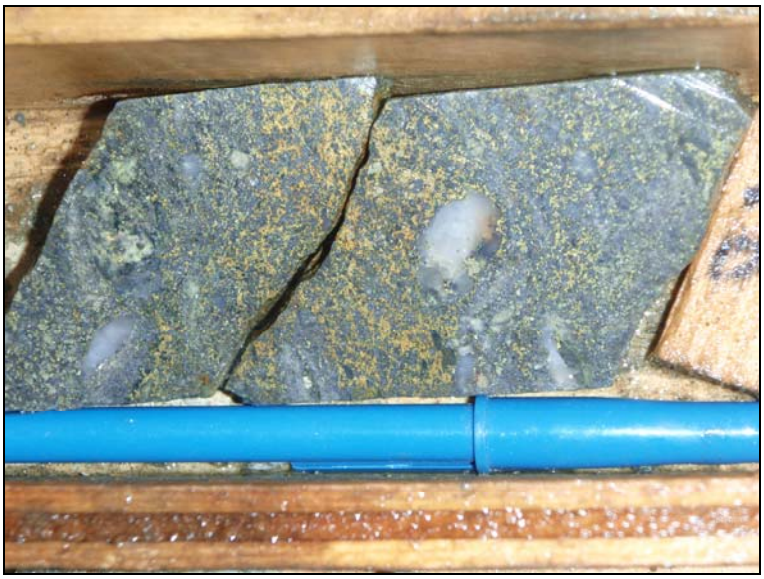
TL-11-05 at 144.50 m

Alteration within the gneiss includes sericite, ankerite and limonite. In some areas, garnet augens have retrograded to chlorite. Quartz veins and flooding occur throughout the gneiss.



TL-11-05 at 112.17 m

The protolith of the schists are unknown due to intense multi-phase deformation, which has destroyed most primary textures; however, based on sections containing quartz-eye phenocrysts (see photo below) the original rocks were likely volcaniclastics.



TL-11-03 at 90.80 m

The following photo shows ankerite and limonite alteration in heavily quartz flooded gneiss.



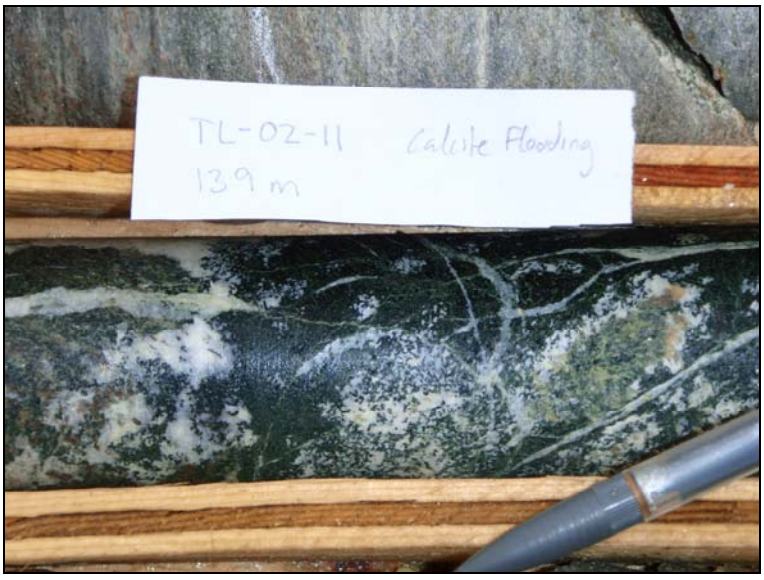
TL-11-01 at 50 m

The schists are mainly felsic or mafic in composition. Felsic schist comprises muscovite-epidote-talc-chlorite-garnet-sphene and is variably bleached and silicified. Mafic schist is composed of biotite, chlorite and muscovite. Barite and quartz are minor components in all schists.




TL-11-02 at 99.10 m

The mafic to ultramafic rocks typically occurs as thin layers within the gneiss. They are fine grained, equigranular and contain dark green chlorite, diopside and actinolite. This unit is often variably flooded by quartz, ankerite or calcite as shown in the following photo.




TL-11-02 at 139 m

## MINERALIZATION

In August 2011, well mineralized intervals were logged in detail and key macroscopic features were noted. In February 2012, Arcus contracted Dr. V. Bennett to perform Scanning Electron Microscope (SEM) and zircon work on ten samples collected for petrographic analyses. The full report from Dr. Bennett's work is provided in Appendix II.

Mineralization is hosted in felsic to intermediate schist-volcaniclastic (?) that has undergone multiple phases of deformation. The deformation events include: major regional deformation, which metamorphosed the gneiss and schist; followed by a pyrite alteration event, which preferentially replaced certain minerals in the schist; and a later deformation event, which folded the pyrite-rich schist. Increased porosity related to late crenulation fold-hinges created open space for fluids that deposited mineralization in the schist-volcaniclastic (?).

Microstructural evidence suggests that deformation exerts an important control on modal distribution of sulphides with polymetallic ore coarsening and concentrating in early-stage tight to isoclinal fold hinges (Bennett, 2012).

Mineralization occurs along fold limbs and at fold hinges within the drill core. Limb-hosted mineralization comprises wispy, blebby, foliation parallel, sulphides while fold hinge-hosted mineralization comprises semi-massive to massive, net-textured, coarsely recrystallized sulphides. The primary sulphides present are chalcopyrite, pyrite, sphalerite, arsenopyrite, covellite and bornite. The following photo (TL-11-05 at 129.25 m) is a good representation of wispy, foliation parallel mineralization that blowouts to coarse sulphides near the fold hinge.

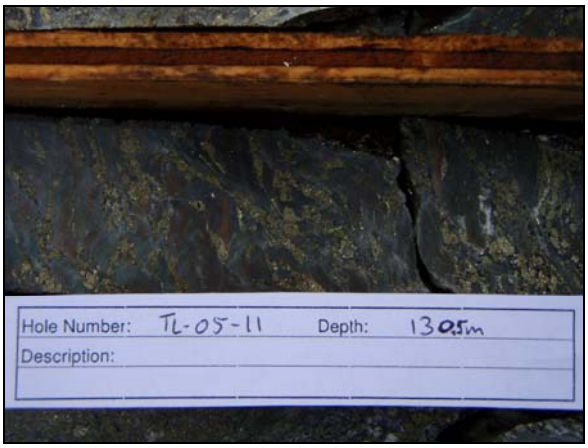


TL-11-05 at 129.25 m

The photos below show the wispy textures developed on fold limbs in the felsic and intermediate schist-volcaniclastic(?). These photos also demonstrate the direct positive correlation between mineralization and silica content in the schist.

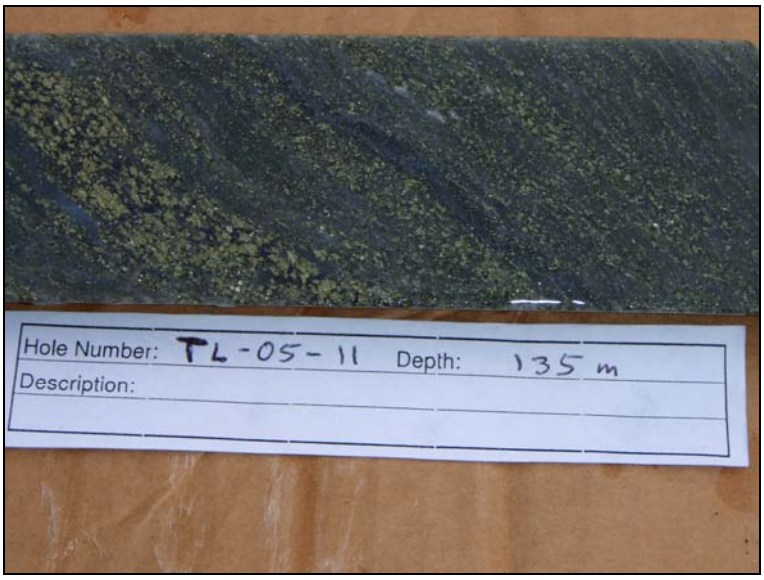



TL-11-03 at 91.52 m




TL-11-05 at 1305.5 m.

The next photo is of talc-chlorite-sericite schist-volcaniclastic (?) with heavily disseminated and semi-massive, coarsely recrystallized and fine grained, wispy pyrite and chalcopyrite with relict foliation. This fabric is indicative of a fold limb domain.



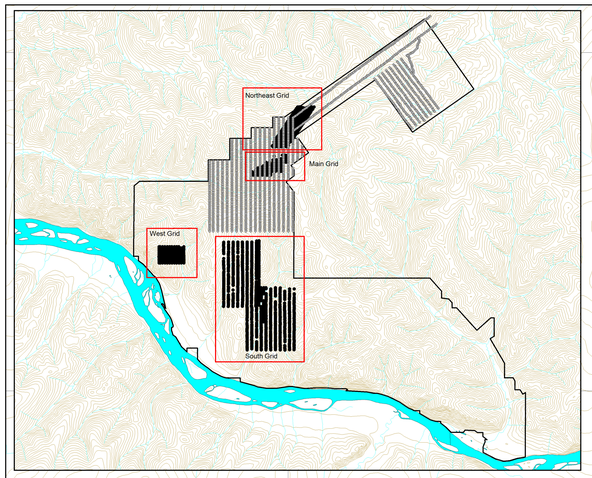
TL-11-05 at 135 m

SEM analysis of fold hinge mineralization has shown that sulphide content is 48.37 wt. % chalcopyrite, 2.46 wt. % sphalerite and 4.41 wt. % pyrite, which contrasts dramatically with analysis of the fold limb mineralization where composition of sulphide was 0.89 wt. % chalcopyrite, 0.1 wt. % sphalerite and 35.43 wt. % pyrite (Bennett, 2012).

## SOIL GEOCHEMISTRY

In 2011, 1938 soil samples were collected from the Touleary property. The samples were collected at 50 by 50 m or 50 by 200 m spacings from isolated grids, which were positioned to follow up anomalous results from more widely spaced, 2010 soil geochemistry or the helicopter-borne magnetic survey. Locations for all samples were established 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. Samples were dug using hand-held augers and were collected as deep in the soil profile as ground conditions allowed, which was typically between 40 and 70 cm depth. Each sample was placed into individually pre-numbered Kraft paper bags.

All soil samples were sent to ALS Minerals, 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 30 g charge was further analysed for gold by fire assay with inductively coupled plasma-atomic emissions spectroscopy finish (Au-ICP21). Certificates of Analysis are located in Appendix III. Soil sample locations are shown on Figure 5, while figures 6 to 10 illustrate gold, copper, silver, lead and zinc geochemistry. Thresholds used for describing soil results are shown in Table III.




INSET B

595000 mE

6990000 mN

6989000 mN

SEE INSET B

SEE INSET A

6988000 mN

6986000 mN

6984000 mN

6982000 mN

6980000 mN

INSET A

594000 mE

6988000 mN

6987000 mN

588000 mE

590000 mE

592000 mE

594000 mE

T.N.
1°56'
23°14'
Grid North
Magnetic North
Annual change decreasing 24.1'

0 500 1 km

**ARCUS DEVELOPMENT GROUP INC.**
**ATAC RESOURCES LTD.**

FIGURE 5

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

**SAMPLE LOCATIONS**

TOULEARY PROPERTY

2010 Soil sample location

UTM ZONE 7, NAD 83, 115O/03 AND 115J/14

FILE: 2011\TL\Figures\TL-F_5_Sample_Locations.WOR

DATE: MAY 2012

586000 mE
588000 mE
590000 mE
592000 mE
594000 mE
596000 mE

6986000 mN
6984000 mN
6982000 mN
6980000 mN

T.N.
1°56'
23°14'
Grid north
Magnetic north
Annual change decreasing 24.1'

4,600
3,200

313
161
107
104

2011 Soils Au (ppb)
100 ≥313
50 ≥100
20 ≥ 50
10 ≥ 20
0 ≥ 10

2010 Soil Au (ppm)
100 ≥ 304
50 ≥ 100
20 ≥ 50
10 ≥ 20
0 ≥ 10

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FIGURE 6

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

**GOLD GEOCHEMISTRY**

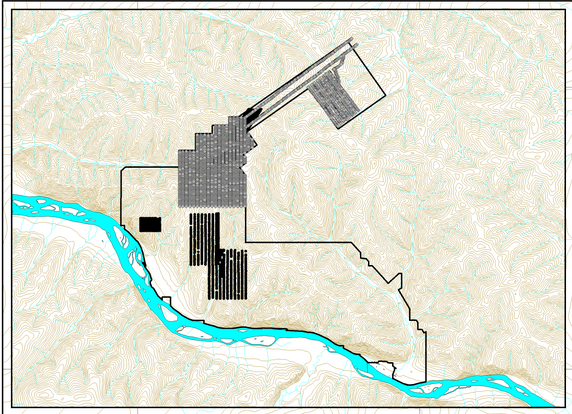
TOULEARY PROPERTY

0 500 1 km

UTM ZONE 7, NAD 83, 115O/03 AND 115J/14

FILE: ...2011/TL/Figures/TL-F_6_Au_Geochemistry.WOR

DATE: MAY 2012



586000 mE
588000 mE
590000 mE
592000 mE
594000 mE
596000 mE
6986000 mN
6984000 mN
6982000 mN
6980000 mN
T.N.
1°56'
23°14'
Grid north
Magnetic north
Annual change decreasing 24.1'
4400
2300
255
258
218
2011 Soils Cu (ppm)
200 ≥218
100 ≥200
50 ≥100
20 ≥ 50
10 ≥ 20
0 ≥ 10
2010 Soil Cu (ppm)
200 ≥258
100 ≥200
50 ≥100
20 ≥ 50
10 ≥ 20
0 ≥ 10

**ARCUS DEVELOPMENT GROUP INC.**
**ATAC RESOURCES LTD.**

FIGURE 7

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

**COPPER GEOCHEMISTRY**

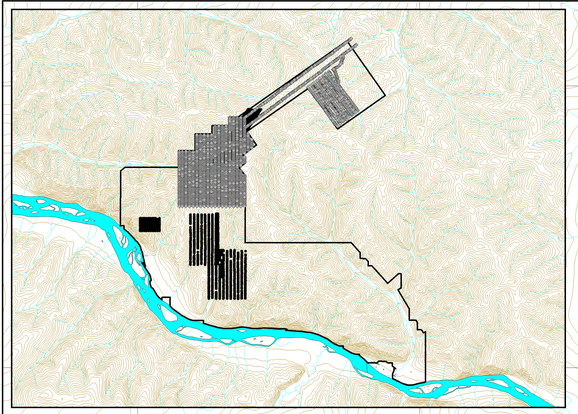
TOULEARY PROPERTY

0 500 1 km

UTM ZONE 7, NAD 83, 115O/03 AND 115J/14

FILE: ... 2011/TL/Figures/TL-F_7_Cu_Geochemistry.WOR

DATE: MAY 2012



586000 mE
588000 mE
590000 mE
592000 mE
594000 mE
596000 mE

T.N.
1°56'
23°14'
Grid north
Magnetic north
Annual change decreasing 24.1'

6986000 mN
6984000 mN
6982000 mN
6980000 mN

2.5

2011 Soils Ag (ppm)
- 2.0 ≥3.6
- 1.0 ≥2.0
- 0.5 ≥1.0
- 0.2 ≥0.5
- 0.1 ≥0.2
- 0 ≥0.1

2010 Soil Ag (ppm)
- 1.0 ≥1.3
- 0.5 ≥1.0
- 0.2 ≥0.5
- 0.1 ≥0.2
- 0 ≥0.1

**ARCUS DEVELOPMENT GROUP INC.**
**ATAC RESOURCES LTD.**

FIGURE 8

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

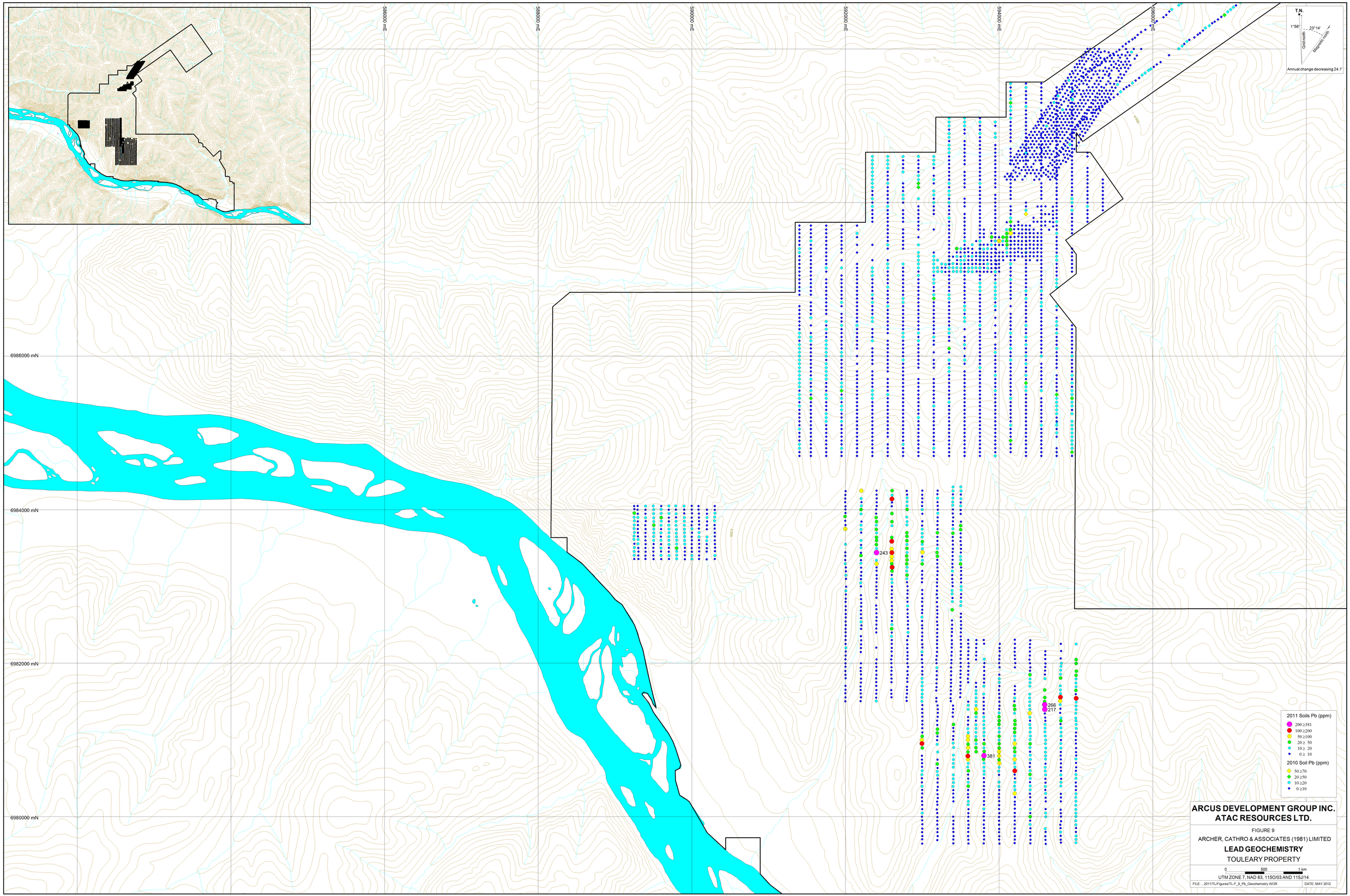
**SILVER GEOCHEMISTRY**

TOULEARY PROPERTY

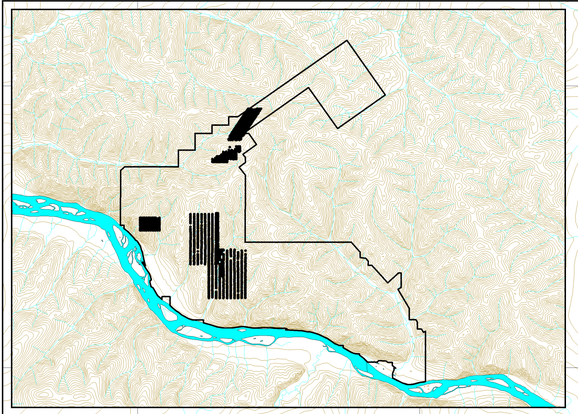
0 500 1 km

UTM ZONE 7, NAD 83, 115O/03 AND 115J/14

FILE: ...2011/TL/Figures/TL-F_8_Ag_Geochemistry.WOR | DATE: MAY 2012



586000 mE
588000 mE
590000 mE
592000 mE
594000 mE
596000 mE
6986000 mN
6984000 mN
6982000 mN
6980000 mN
T.N.
1°56'
23°14'
Grid north
Magnetic north
Annual change decreasing 24.1'
243
266
217
381
2011 Soils Pb (ppm)
200 ≥381
100 ≥200
50 ≥100
20 ≥ 50
10 ≥ 20
0 ≥ 10
2010 Soil Pb (ppm)
50 ≥70
20 ≥50
10 ≥20
0 ≥10
ARCUS DEVELOPMENT GROUP INC.
ATAC RESOURCES LTD.
FIGURE 9
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
LEAD GEOCHEMISTRY
TOULEARY PROPERTY
0
500
1 km
UTM ZONE 7, NAD 83, 115O/03 AND 115J/14
FILE: ...2011/TL/Figures/TL-F_9_Pb_Geochemistry.WOR
DATE: MAY 2012



586000 mE
588000 mE
590000 mE
592000 mE
594000 mE
596000 mE
6986000 mN
6984000 mN
6982000 mN
6980000 mN
T.N.
1°56'
23°14'
Grid north
Magnetic north
Annual change decreasing 24.1'
4,500
3,500
2,500
501
1,185
962
1,025
659
2011 Soils Zn (ppm)
500 ≥1,185
200 ≥ 500
100 ≥ 200
50 ≥ 100
20 ≥ 50
0 ≥ 20
2010 Soil Zn (ppm)
200 ≥377
100 ≥200
50 ≥100
20 ≥ 50
0 ≥ 20
ARCUS DEVELOPMENT GROUP INC.
ATAC RESOURCES LTD.
FIGURE 10
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
ZINC GEOCHEMISTRY
TOULEARY PROPERTY
0 500 1 km
UTM ZONE 7, NAD 83, 115O/03 AND 115J/14
FILE: ... 2011/TL/Figures/TL-F_10_Zn_Geochemistry.WOR
DATE: MAY 2012

**Table III– Soil sample thresholds**

| Element | Weak | Moderate | Strong | Peak |
|---|---|---|---|---|
| Gold (ppb) | 20 ≤ 50 | 50 ≤ 100 | ≥ 100 | 313 |
| Silver (ppm) | 0.2 ≤ 0.5 | 0.5 ≤ 1.0 | ≥ 1.0 | 3.6 |
| Copper (ppm) | 20 ≤ 50 | 50 ≤ 100 | ≥ 100 | 218 |
| Lead (ppm) | 20 ≤ 50 | 50 ≤ 100 | ≥ 100 | 381 |
| Zinc (ppm) | 50 ≤ 100 | 100 ≤ 200 | ≥ 200 | 1185 |

Four areas were soil sampled during the 2011 program. These areas have been labelled the Main, Northeast, South and West grids (Figure 5).

The 2010 excavator trenching and the 2011 diamond drilling was completed within the Main Grid. Anomalous samples from this grid feature a multi-element geochemical signature of gold, copper and silver. Moderately to strongly anomalous gold values cluster in the central part of the grid near the ridge line. Samples were not collected north of the ridge due to permafrost. The peak gold value (313 ppb) is surrounded by background to weakly anomalous values in the eastern part of the grid. Copper values were weakly to moderately anomalous, except for three strongly anomalous samples (132, 178 and 181 ppm). In the central part of the Main Grid there is a string of moderately to strongly anomalous silver values (up to 3.6 ppm). Zinc and lead values were background to weakly anomalous.

The South Grid is located about four kilometres south of the Main Grid and contains the second most significant area. It hosts moderately to strongly anomalous values for silver, lead and zinc with scattered moderately anomalous gold (up to 82 ppb) and copper (up to 218 ppm) values. There is good correlation between, and clustering of, elevated values for silver, lead and zinc. The peak values for zinc (1185 ppm) and lead (381 ppm) lie within this grid.

The Northeast Grid lies immediately northeast of the Main Grid and hosts noteworthy values for copper, but only background to weakly anomalous values for gold, silver, lead and zinc. Moderately anomalous copper values form a linear anomaly through the centre of the grid, with the highest value being 174 ppm.

The Western Grid yielded background to weakly anomalous values for all elements.

## DIAMOND DRILLING

In 2011, a total of 935.9 m of diamond drilling was completed in five holes. The drill program was primarily designed to test down-dip continuity of a mineralized interval exposed in a 2010 excavator trench (TR-10-04), which graded 0.82 g/t gold and 14.3 g/t silver over 34 m. The mineralized exposure coincided with a linear magnetic low identified by the helicopter-borne magnetic survey. Holes TL-01-11 and TL-02-11 tested directly beneath TR-10-04, while holes TL-03-11 and TL-04-11 were drilled 50 m east and west of the initial holes, respectively. TL-05-11 was drilled 200 m along strike to the east from TL-03-11 and was positioned to test beneath a 122 ppb gold-in-soil anomaly and the extension of the magnetic low.

The first hole was collared on June 13, 2011 and the final hole was completed on July 25, 2011. The work was contracted to Elite Diamond Drilling Ltd. of Vernon, British Columbia. It was done with a heli-portable diesel-powered JKS-300 drill using BTW equipment. The drill was set up on platforms of 8"x 8" timbers covered with 2"x 8" planks, which were built on sites dug by hand.

Drill collar locations are plotted on Figure 11 while cross-sections are illustrated on Figures 12 to 15. Certificates of Analyses are provided in Appendix III, and Geological and Geotechnical Logs are given in Appendix IV. Data concerning individual holes is presented on Table IV.

**Table IV – Drill Hole Data**

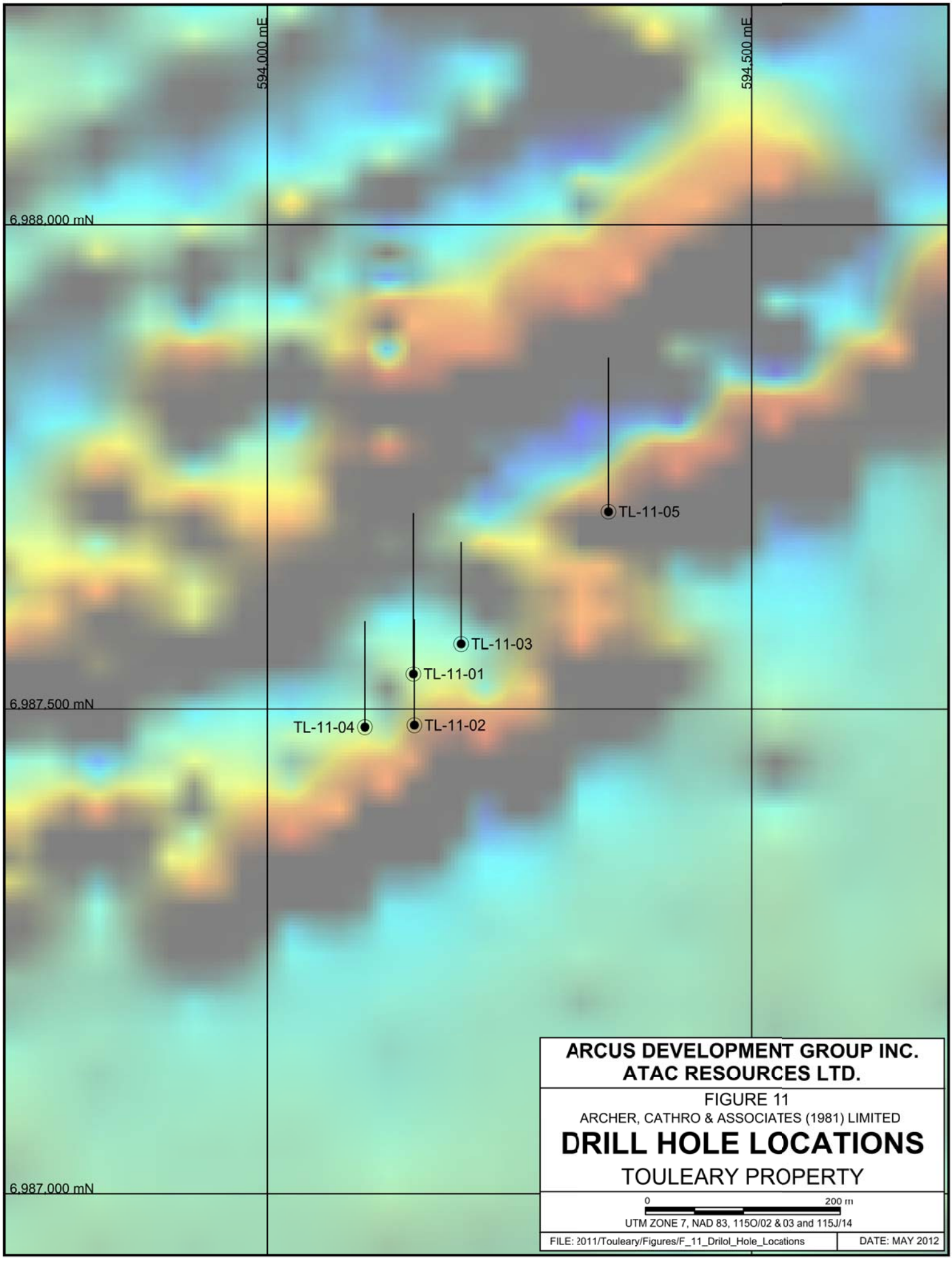
| DRILL HOLE | EASTING | NORTHING | ELEVATION | AZM | DIP | FEET | METRES |
|---|---|---|---|---|---|---|---|
| TL-01-11 | 594152 | 6987536 | 3917 | 0 | -45 | 768 | 234.1 |
| TL-02-11 | 594152 | 6987483 | 3862 | 0 | -45 | 508 | 154.9 |
| TL-03-11 | 594200 | 6987567 | 3948 | 0 | -45 | 478 | 145.7 |
| TL-04-11 | 594101 | 6987481 | 3860 | 0 | -45 | 508 | 154.9 |
| TL-05-11 | 594353 | 6987715 | 3979 | 0 | -45 | 808 | 246.3 |

Core samples from the Touleary property were processed in 36 sample batches with each batch including two assay standards and two blank samples. Analytical work was done by ALS Minerals with sample preparation in Whitehorse and assays and geochemical analyses in North Vancouver, British Columbia. Each sample was dried, fine crushed to better than 70% passing -2 mm and then a 250 g split was pulverized to better that 85% passing 75 micron. All samples were then analyzed for gold by fire assay followed by atomic absorption (Au-AA24) and 35 other elements by inductively coupled plasma-atomic emission spectroscopy (ME-ICP41). Overlimit values for copper and zinc were determined using Cu-OG46 and Zn-OG46. All standard and blank samples passed QAQC reviews. Table V below lists significant drill intercepts from each of the drill holes.

**Table V– Significant Drill Intercepts**

| Hole | Section | From (m) | To (m) | Interval (m) | Cu (%) | Ag (g/t) | Au (g/t) | Zn (%) |
|---|---|---|---|---|---|---|---|---|
| TL-01-11 | 4150 E | 85.61 | 91.70 | 6.09 | 1.37 | 14.5 | 0.80 | 0.41 |
| TL-02-11 | 4150 E | 124.00 | 127.17 | 3.17 | 2.38 | 32.9 | 2.01 | 1.38 |
| TL-03-11 | 4200 E | 64.21 | 64.80 | 0.59 | 1.42 | 36.4 | 1.15 | 2.81 |
| | | 90.36 | 90.97 | 0.61 | 4.01 | 73.9 | 2.18 | 0.93 |
| TL-04-11 | 4100 E | 93.88 | 106.75 | 12.87 | 0.21 | 7.69 | 0.55 | - |
| TL-05-11 | 4200 E | 115.62 | 117.87 | 2.25 | 7.18 | 116 | 3.55 | 4.30 |
| | | 124.50 | 138.65 | 14.15 | 1.44 | 16.5 | 0.77 | 0.29 |
| including | | 128.25 | 134.92 | 6.67 | 1.99 | 27.3 | 1.22 | 0.58 |

The deformation of the host rock is evident from parasitic folding and sulphide textures observed in drill core. Oriented core techniques were not used during the diamond drill program and




**ARCUS DEVELOPMENT GROUP INC.**
**ATAC RESOURCES LTD.**

FIGURE 11

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

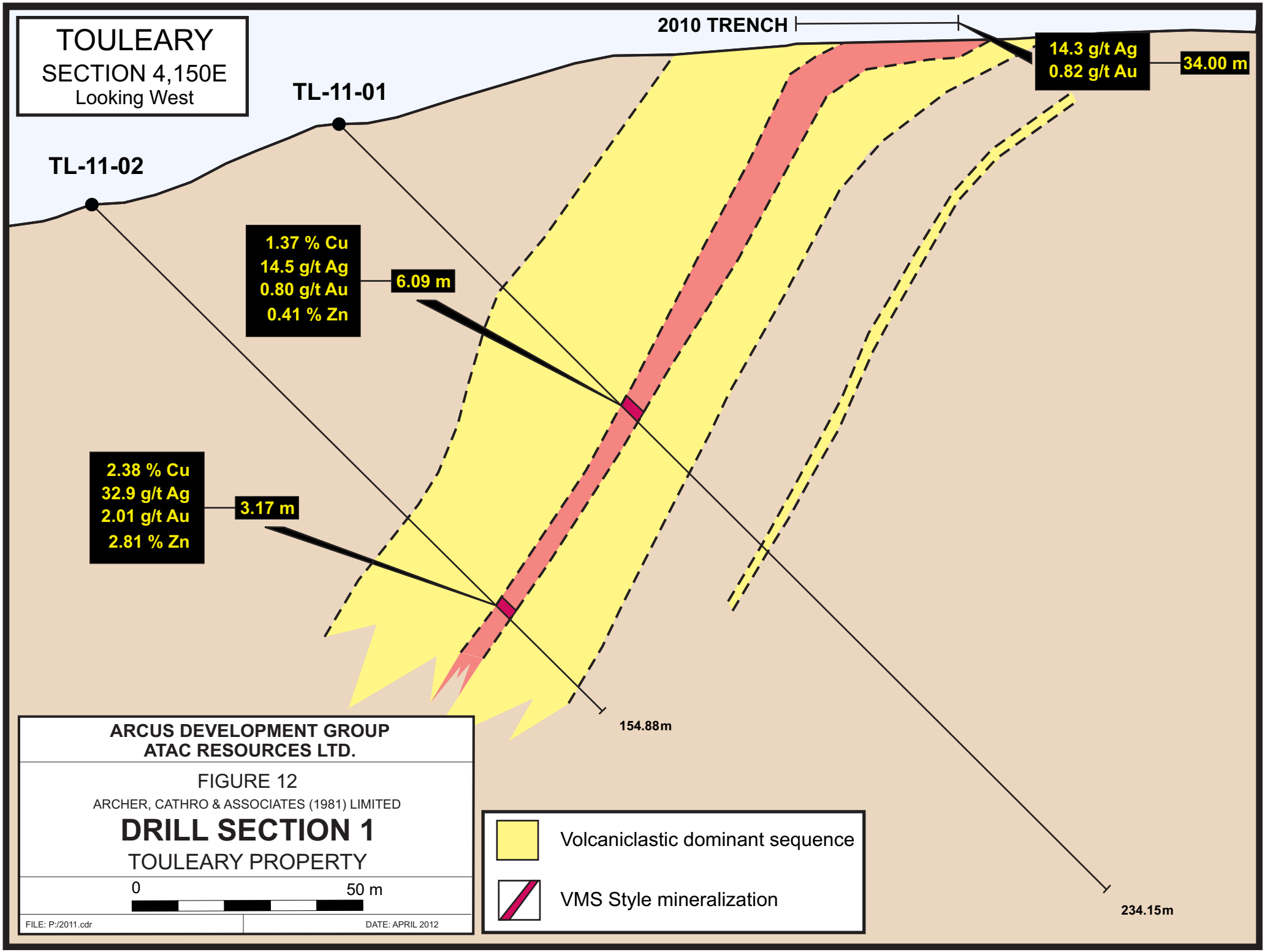
# DRILL HOLE LOCATIONS

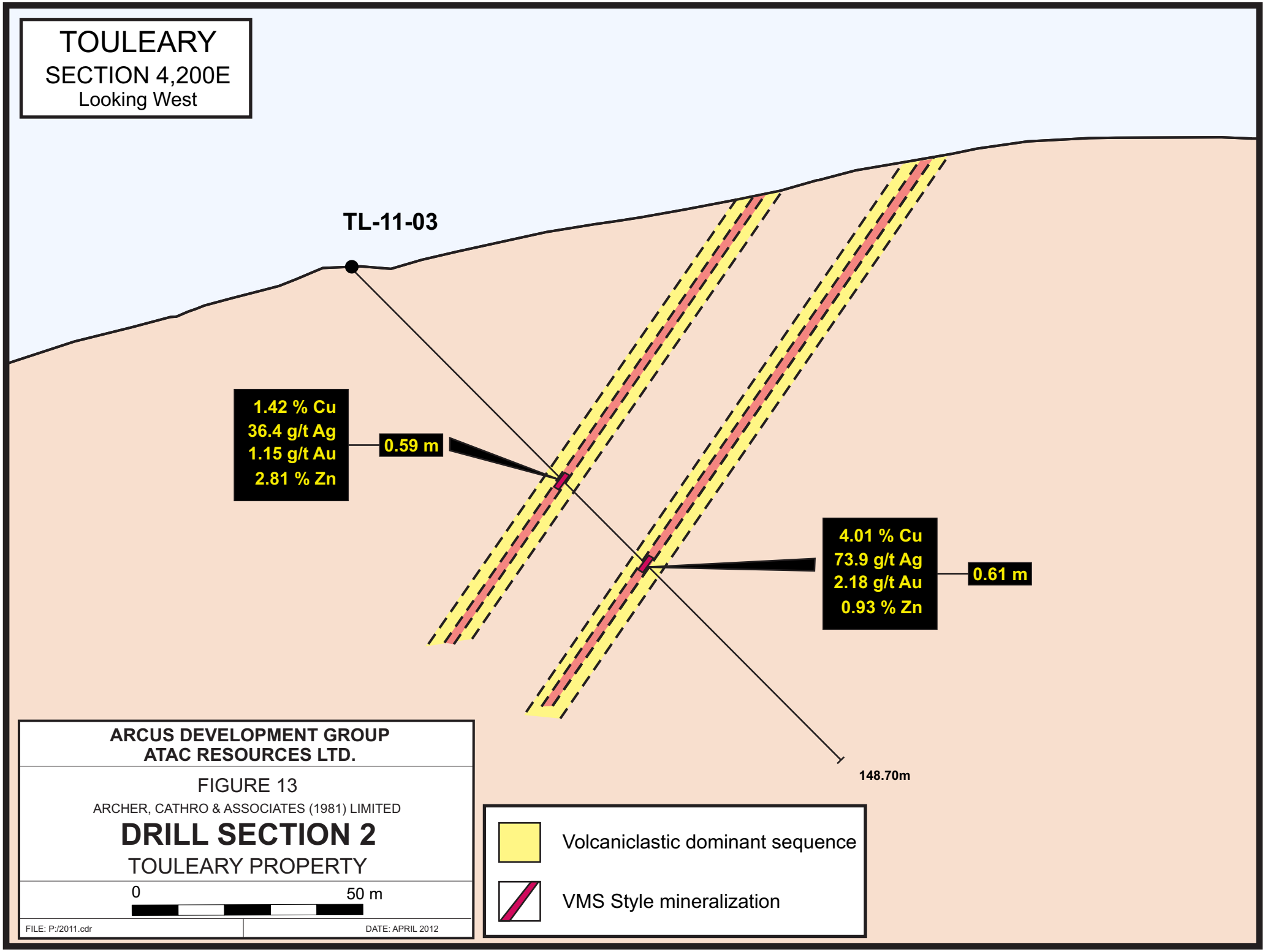
TOULEARY PROPERTY

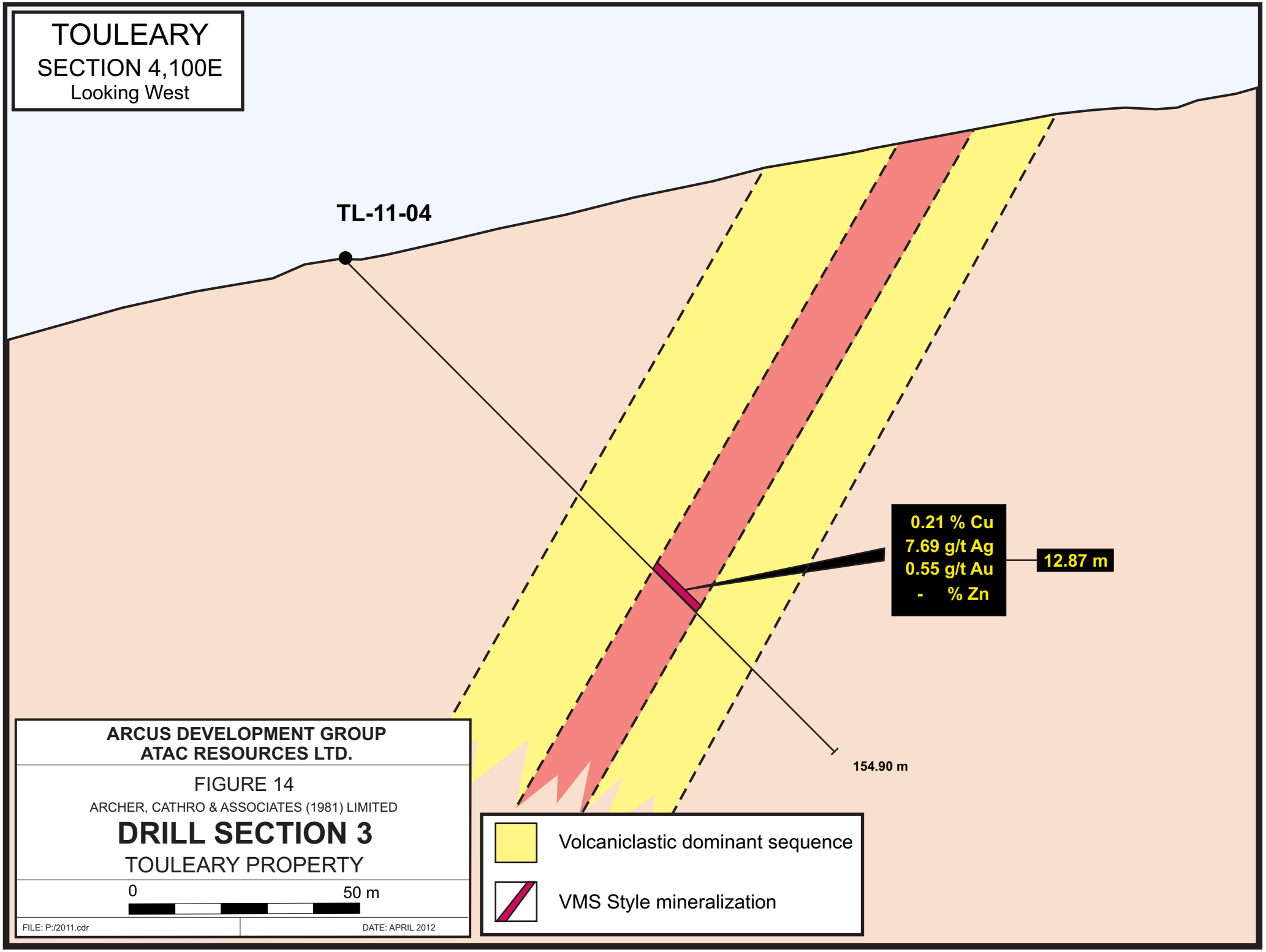
0 200 m

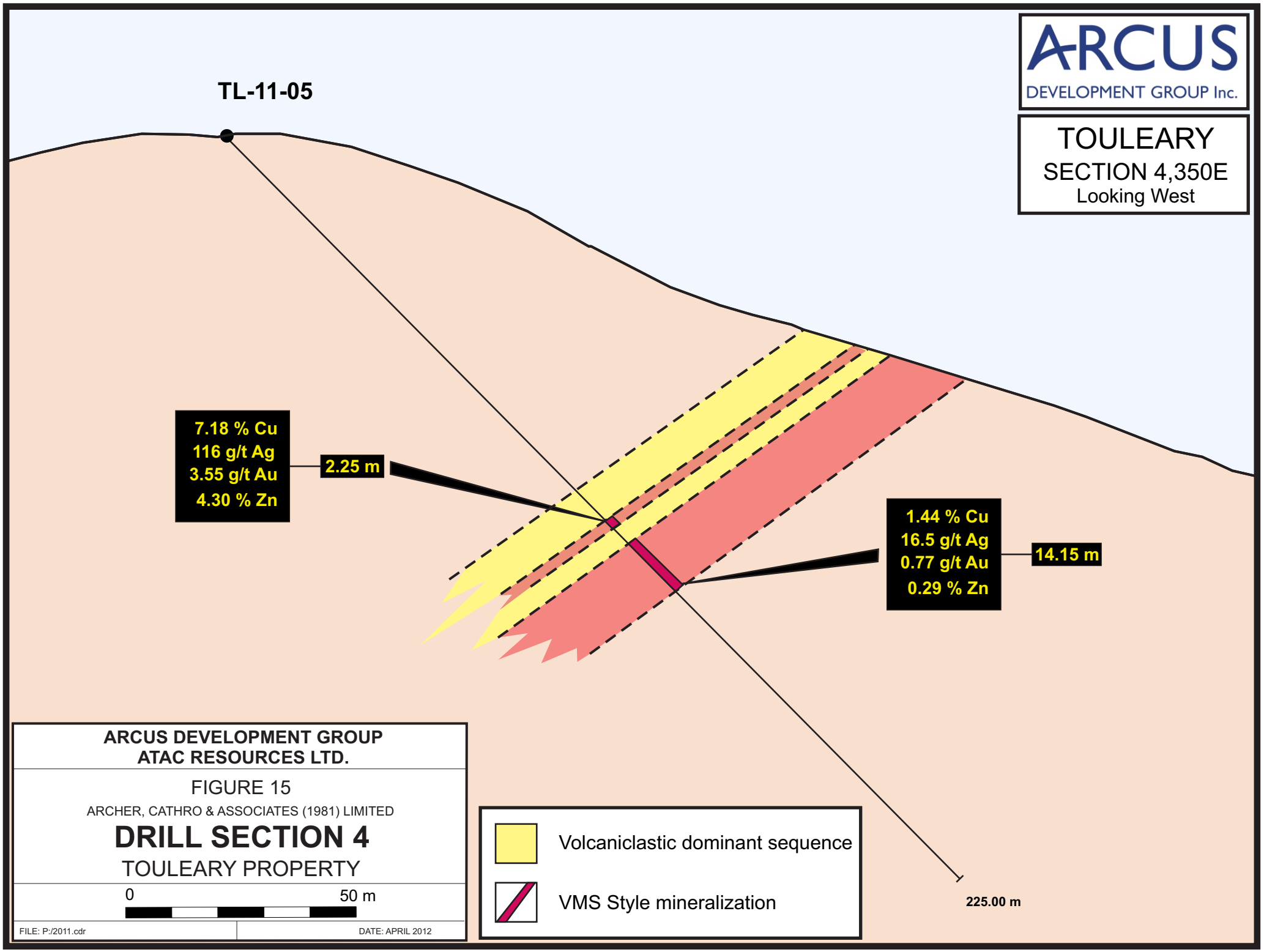
UTM ZONE 7, NAD 83, 115O/02 & 03 and 115J/14

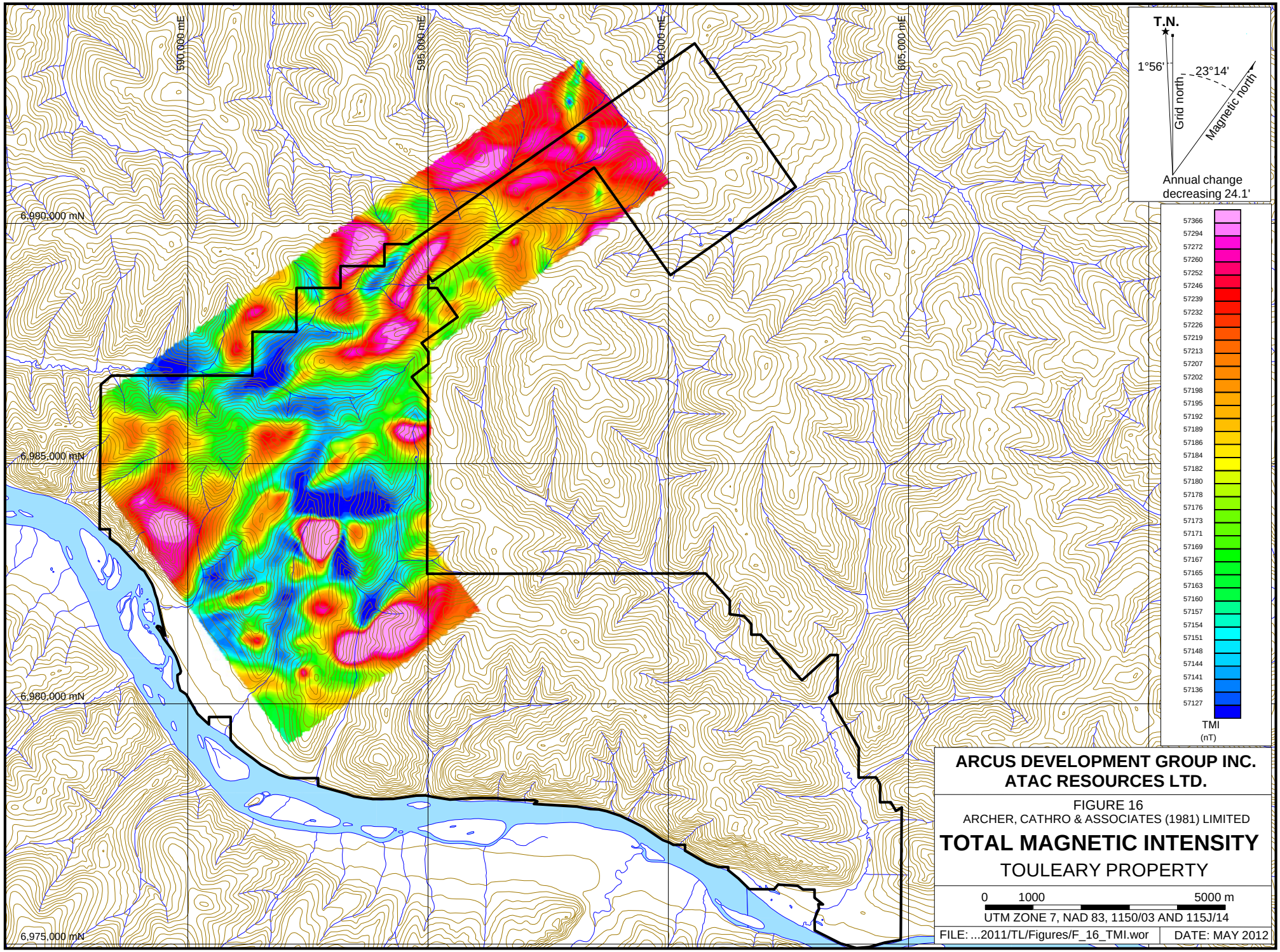
FILE: 2011/Touleary/Figures/F_11_Drilol_Hole_Locations | DATE: MAY 2012


TOULEARY
SECTION 4,150E
Looking West
2010 TRENCH
TL-11-01
TL-11-02
14.3 g/t Ag
0.82 g/t Au
34.00 m
1.37 % Cu
14.5 g/t Ag
0.80 g/t Au
0.41 % Zn
6.09 m
2.38 % Cu
32.9 g/t Ag
2.01 g/t Au
2.81 % Zn
3.17 m
154.88m
234.15m
ARCUS DEVELOPMENT GROUP
ATAC RESOURCES LTD.
FIGURE 12
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
DRILL SECTION 1
TOULEARY PROPERTY
0
50 m
FILE: P:/2011.cdr
DATE: APRIL 2012
Volcaniclastic dominant sequence
VMS Style mineralization


TOULEARY
SECTION 4,200E
Looking West
TL-11-03
1.42 % Cu
36.4 g/t Ag
1.15 g/t Au
2.81 % Zn
0.59 m
4.01 % Cu
73.9 g/t Ag
2.18 g/t Au
0.93 % Zn
0.61 m
148.70m
ARCUS DEVELOPMENT GROUP
ATAC RESOURCES LTD.
FIGURE 13
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
DRILL SECTION 2
TOULEARY PROPERTY
0
50 m
FILE: P:/2011.cdr
DATE: APRIL 2012
Volcaniclastic dominant sequence
VMS Style mineralization


TOULEARY
SECTION 4,100E
Looking West
TL-11-04
0.21 % Cu
7.69 g/t Ag
0.55 g/t Au
- % Zn
12.87 m
154.90 m
ARCUS DEVELOPMENT GROUP
ATAC RESOURCES LTD.
FIGURE 14
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
DRILL SECTION 3
TOULEARY PROPERTY
0
50 m
FILE: P:/2011.cdr
DATE: APRIL 2012
Volcaniclastic dominant sequence
VMS Style mineralization


TL-11-05
ARCUS
DEVELOPMENT GROUP Inc.
TOULEARY
SECTION 4,350E
Looking West
7.18 % Cu
116 g/t Ag
3.55 g/t Au
4.30 % Zn
2.25 m
1.44 % Cu
16.5 g/t Ag
0.77 g/t Au
0.29 % Zn
14.15 m
225.00 m
ARCUS DEVELOPMENT GROUP
ATAC RESOURCES LTD.
FIGURE 15
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
DRILL SECTION 4
TOULEARY PROPERTY
0
50 m
FILE: P:/2011.cdr
DATE: APRIL 2012
Volcaniclastic dominant sequence
VMS Style mineralization




**ARCUS DEVELOPMENT GROUP INC.**
**ATAC RESOURCES LTD.**

FIGURE 16
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

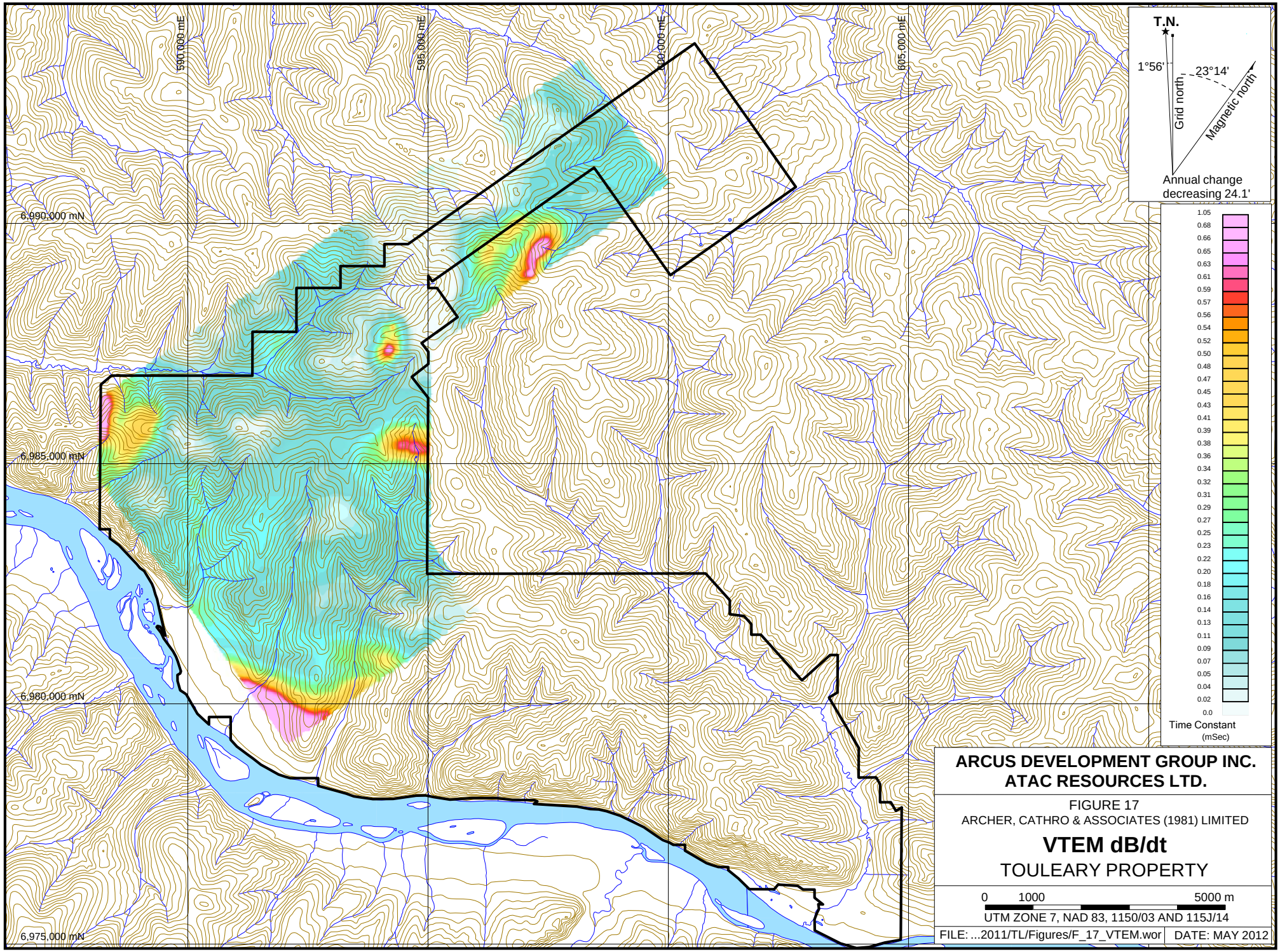
# TOTAL MAGNETIC INTENSITY

TOULEARY PROPERTY

0 1000 5000 m

UTM ZONE 7, NAD 83, 1150/03 AND 115J/14

FILE: ...2011/TL/Figures/F_16_TMI.wor | DATE: MAY 2012




**ARCUS DEVELOPMENT GROUP INC.**
**ATAC RESOURCES LTD.**

FIGURE 17
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

# VTEM dB/dt

TOULEARY PROPERTY

0 1000 5000 m

UTM ZONE 7, NAD 83, 1150/03 AND 115J/14

FILE: ...2011/TL/Figures/F_17_VTEM.wor DATE: MAY 2012

therefore, the cross sections shown on Figures 12 to 15 are primarily useful for illustrating mineralized horizons. There are two main mineralized horizons – an upper and lower horizon. The relationship between the two horizons is not known; however, it appears that the width of both horizons increases along-strike to the northeast.

## GEOPHYSICAL SURVEYS

In spring 2011, a helicopter-borne magnetic survey was contracted to Precision Geosurveys Inc. of Vancouver, British Columbia. The survey was conducted between March 16 and April 26. Interpretation of the survey data was completed by Condor Consulting Inc. of Lakewood, Colorado.

A total of 6931 line kilometers were flown during Precision's survey of the Kirkman area, which covered Arcus' Dan Man and Touleary properties. Appendix V contains reports by Precision and Condor, which describe equipment and procedures that were used during the survey and an interpretation of the results. CDs containing digital survey data are also attached to this report.

Condor identified a number of magmatic domains with different textures. Within these domains isolated magnetic highs and lows occurred as discrete blobs or linear features up to several kilometres long (Figure 16). The 2011 drill program tested significant gold-in-soil values from the 2010 sampling program and a coincident, linear magnetic low feature. A number of faults offset this feature, but it can be traced along strike from the discovery zone for over five kilometres.

Between October 1 and 4, 2011, a helicopter-borne versatile time-domain electromagnetic (VTEM) survey was conducted by Geotech Ltd of Aurora, Ontario. Interpretation of the survey data was completed by Condor Consulting Inc. of Lakewood, Colorado.

A total of 756.8 line kilometers were flown over the Touleary property. Appendix V contains a report by Geotech which describes equipment and procedures that were used during the survey and un-interpreted results. CDs containing digital survey data are also attached to this report. The survey data is currently being interpreted by Condor.

The VTEM survey data was refined using a first vertical derivative (dB/dt) calculated time constant. This analysis identified five conductive zones, one of which corresponds with the discovery zone. Figure 17 shows the five conductive zones with diamond drill hole locations and the surface trace of the linear magnetic low feature. Three of the five conductive zones are well defined, while the remaining two lie on the edge of the survey area and have not been fully delineated. One of the clusters of moderately to strongly anomalous values for silver, lead and zinc in the South Grid corresponds with a conductive zone identified by the VTEM survey.

## PETROGRAPHY

Ten specimen samples of drill core from the Touleary property were sent to Vancouver Petrographics for examination. Four of the samples comprised semi-massive to massive

sulphide, while the remaining six of the samples were moderately to strongly foliated schist wallrock. The complete petrographic report is presented in Appendix VI.

Gangue mineralogy within the semi-massive to massive samples include: quartz, sericite, muscovite and barite. The well mineralized samples comprise pyrite with lesser chalcopyrite and sphalerite. Covellite and bornite can replace chalcopyrite and sometimes sphalerite. Where chalcopyrite is the primary sulphide, an accessory silver-bearing sulfosalt, tetrahedrite(?), occurs (Leitch, 2011). Photo A below was taken using reflected light and uncrossed polars with a 2.25 mm lens. It illustrates semi-massive sulphides comprising chalcopyrite (cp), locally with covellite (cv) altered chalcopyrite margins, minor pyrite (py) and sphalerite (sp) associated with symplectic intergrowths of silver-bearing sulfosalt (tetrahedrite –tt?) and gangue minerals of quartz (qz) and barite (ba). This slide reflects typically mineralization within a 2.25 m interval that returned 7.18% copper, 116 g/t silver, 3.55 g/t gold and 4.30% zinc.

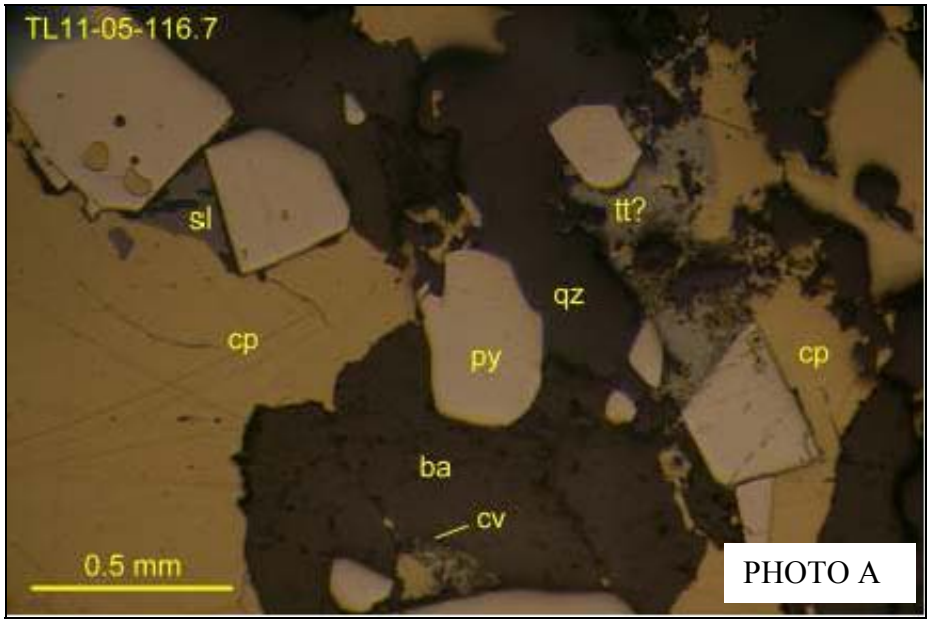



PHOTO A

The wallrock specimens comprised moderately to strongly foliated, quartz-sericite-chlorite-epidote± muscovite±talc schist with pyrite and sieve-textured porphyroblasts of garnet, amphibole, chlorite, hematite, sphene and rutile. These specimens appear to represent former felsic or mafic volcanic suites, but due to intense deformation and metamorphism this has not been proven conclusively (Leitch, 2011).

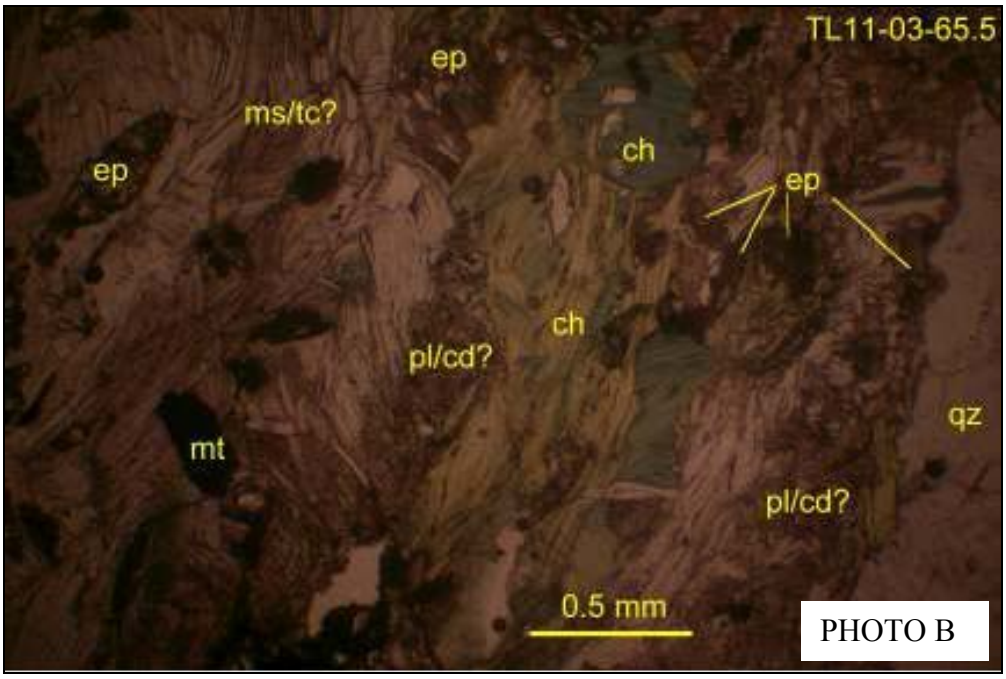



Photo B above was taken under plain light with a three millimetre field of view. This slide represents unmineralized footwall rocks below a 0.69 m interval grading 1.42% copper, 36.4 g/t silver, 1.15 g/t gold and 2.81% zinc. It illustrates well foliated and crenulated muscovite-sericite/talc schist with local epidote (ep), bands or lenses of chlorite (ch), altered plagioclase (pl) or cordierite (cd) and quartz. Relict magnetite (mt) has been partially oxidized to hematite (Leitch, 2011).

## DEPOSIT MODEL

Modern studies are beginning to examine the spatial relationship between gold deposits and VMS deposits. No direct association has been established as yet (i.e. one deposit type can form without the other); however, it has been observed that orogenic gold deposits commonly occur within VMS districts (Goldfarb pers. comm, 2011) or vice versa. The VMS discovery at the Touleary property within an established orogenic gold camp (evident by placer mines and nearby White Gold and Coffee Creek occurrences) supports Goldfarb's theory for a spatial relationship between the two deposit types.

At the present time it is difficult to classify the Touleary VMS discovery into a specific deposit type. The strong copper content and mafic schist-volcaniclastic (?) host suggests a Besshi style target, but the elevated zinc and silver content and felsic schist-volcaniclastic (?) host suggests a Kuroko style target.

## DISCUSSION AND CONCLUSIONS

The 2011 exploration program at the Touleary property was highly successful and resulted in the first discovery of significant VMS occurrence in YTT rocks southwest of the Tintina Fault. The potential for VMS deposits in YTT rocks southwest of the fault has been theorized about by

geologists working in government, industry and academia for years – and now Arcus' discovery has confirmed the hypothesis.

Future work on the property should be done on a high priority basis. This work should include additional diamond drilling, soil sampling and mapping. Future drill holes should test the along-strike and down-dip potential of the coincident linear magnetic low, gold-in-soil geochemical anomaly and VTEM conductor.

Soil geochemistry has proven to be a worthwhile exploration tool despite permafrost on north-facing slopes. The copper soil geochemical response is subdued in the vicinity of the discovery zone despite drill core which contains significant copper mineralization. This could be due to a number of factors including: frozen ground, thick overburden cover, and/or metal leaching from soil and near surface bedrock. Closely spaced grid soil sampling should be performed over the three main VTEM anomalies.

Surface mapping should be done along ridges and spines in the vicinity of the discovery zone where bedrock is exposed.

Due to the intense deformation and folding illustrated in the magnetic survey and observed in drill core, oriented drill core should be implemented into future drill programs to ensure that the structural data is accurately interpreted and can be used for vectoring.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

Heather Smith B.Sc., P.Geo.

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# APPENDIX I

# STATEMENT OF QUALIFICATIONS

## STATEMENT OF QUALIFICATIONS

I, Heather Smith, geologist, with business addresses in Vancouver, British Columbia and Whitehorse, Yukon Territory and residential address in Squamish, British Columbia do hereby certify that:

1. I graduated from the University of British Columbia in 2006 with a B.Sc in Geological Sciences.

2. From 2004 to present, I have been actively engaged in mineral exploration in the Yukon Territory, British Columbia and Northwest Territories.

3. I am a Professional Geoscientist (P.Geo.) with the Association of Professional Engineers and Geoscientists of British Columbia (Member Number 34689).

4. I have personally directed the fieldwork reported herein and have interpreted all data resulting from this work.

Heather Smith, B.Sc., P.Geo.

# APPENDIX II

# BENNETT'S SCANNING ELECTRON MICROSCOPE REPORT

# Touleary Project
# Dawson Range Mineral Belt, Yukon, Canada,

# *SEM study*

Prepared for:


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By:


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## Key Point Summary

- Four zircon grains and 1 monazite grain were identified from the Mineral Liberation Analysis -Scanning Electron Microscopy (MLA-SEM) study. Zircon grains identified were both igenous and hydrothermal (metamorphic?) in origin. Additionally, a single igneous monazite grain was identified in sample TL-11-05_132.9m.

- The amount of dateable zircon grains discovered was not sufficent to proceed with in situ U-Pb dating via Laser Ablation Inductively Coupled Plasma Mass Spectrometry techniques. The low zircon abundance of requires a larger sample volume (ca. 5-15kg dependent on availability) and it is recommended that if an age determination is required for the project, that material from **DDH TL-11-05 (ca. 132.9m)** be collected**.**

- Modal mineral mapping of samples TL11-05-116.7m and TL11-05-132.90m has revealed distinct mineralogical and modal differences that correlates with significantly different grades.

- TL11-05-116.7m is a coarse-grained, polymetallic massive sulphide ore comprised of 48.37 wt% chalcopyrite, 24.56 wt% barite, 18.34 wt% quartz, 4.41 wt% pyrite, 2.64 wt% sphalerite, 0.59 wt% tetrahedrite and 0.52 wt% covellite (+/- chalcocite) representing the major constituent phases.

- TL11-05-132.90m is a highly deformed muscovite-sercite-pyrite schist comprised of 56.75 wt% muscovite-serite, 35.43 wt% pyrite, 4.79 wt% albite, 0.89 wt% chalcopyrite, 0.74 wt% quartz, 0.57 wt% rutile as the main mineral phases present. Trace amounts of barite, sphalerite and covellite are also present.

- Microstructures present in the Touleary sample suite indicate that mineralization can be divided into **limb domain** and **hinge domain ore**, where higher-grade polymetallic ore is most concentrated in fold hinges.

- An understanding of the **orientation and plunge of early-stage folding** that has effected the property should be included into **drill program** design as fold hinge zones will host higher-grade, polymetallic ore.

- A simple paragenetic sequence for the samples examined involves:

    1. Pre-Ore:  pyrite 1 muscovite-sericite +/- albite

    2. Ore-stage:  chalcopyrite - sphalerite - minor barite (limb domain)

    2.  Ore-stage: chalcopyrite - sphalerite - quartz - barite - tetrahedrite (hinge domain)

    3. Late-Ore:  euhedral pyrite 2 (with galena inclusions) (hinge domain)

    4. Post - ore: covellite -chalcocite

# 1.0 Introduction

Diamond drilling in 2011 on the Touleary project of Arcus Development Group intersected signifcant Volcanogenic Massive Sulphide mineralization (VMS). The mineralized intervals are hosted within intermediate to mafic volcanic sequences that are associated with the Yukon - Tanana Terrane, Dawson Range Mineral Belt Yukon. The massive sulphide ore is thought to be Permian in age and potentially time equivalent to VMS deposits that are located in the Finlayson District, SE Yukon.

Selected core samples were submitted to Vancouver Petrographics where both reflected and transmitted light petrographic studies were completed by Craig Leitch (Dec 2011).

The samples were then made available to carry out Scanning Electron Microscopy (SEM). The main objectives of the SEM study were to;

(i) locate mineral phases amenable to in-situ U-Pb age dating via Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) and,

ii) map all mineral phases in two samples using the FEI$^{TM}$ Mineral Liberation Analysis software in order to determine modal abundances and provide confirmation and/or identification of unknown/uncertain mineral phases identified in the Dec 2011 petrographic study.

The MLA-SEM facility is housed within the Bruneau Innovation Centre, Memorial University of Newfoundland. All work completed and reported here was carried out at this facility, which houses two FEI$^{TM}$ SEM instruments, the Quanta 450 and the Quanta 650. Both instruments were used to complete the study.

# 2.0 MLA-SEM U-Pb chronometer search

Six samples with high-relief, highly-birefingent accessory mineral phases were selected for analysis using the Quanta 450 thermal emission SEM. Samples selected for the chronometer search included:

TL11-03-60.0 - chlorite-epidote-plagioclase-quartz-ilmenite-magnetite +/- cordierite schist

TL11-03-65.50 - sericite - muscovite schist

TL11-05-116.7 - semi-massive sulphide

TL11-05-132.90 - sericite - muscovite - sulphide schist

TL11-05-133.00 - quartz - sericite/muscovite - rutile schist

TL11-13-71.30 - quartz - sericite/muscovite - plagioclase - amphibole schist

***Methodology***

Thin sections were carbon coated use in the SEM. Each thin section was mapped in back-scattered-electron mode (BSE). Subsequent to the BSE mapping, a search was then conducted for zircon, monazite, titanite and other high mean atomic number mineral phases. Mean atomic number dictates the brightness of each mineral in BSE mode, such that high mean atomic numbers are bright and low mean atomic numbers are dull. For typical U-Pb chronometers, Titanite<Zircon<Monazite with respect to their brightness values. MLA-SEM search parametres are setup to exclude all mineral phases with brightness values lower than titanite in the case of the Touleary sample suite. The instrument then automatically scans for all phases within the selected brightness range across the entire surface area of the thin section.

X-ray spectra are collected simultaneously and are subsequently matched to known x-ray spectra of mineral phases (mineral reference list). Any mineral for which there is a poor or no fit of the acquired x-ray spectra to the reference spectra list is classified as an unknown. Post-processing after completion of the automated mapping allows for follow up to identify unknown phases and allows the user to observe mineral associations or, in the case of U-Pb work, image the internal structure of zircon or monazite grains to ensure no inherited cores are analysed during LA -ICPMS dating procedures. All mineral grains that are mapped are associated with an X-Y co-ordinate which is used to locate the grains of interest on both the SEM and LA-ICPMS sample stages.

***Results***

Four zircon grains and 1 monazite grain were identified from the MLA-SEM search (Fig. 1). Zircon grains identified were both igneous and hydrothermal (metamorphic?) in origin. Igneous zircon enclosed in muscovite was located in sample TL1105_132.9 (Fig. 1a). A single elongate monazite crystal enclosed in plagioclase was also located in TL1105_132.9 (Fig. 1b). Potential hydrothemal (or metamorphic?) zircon was located in sample TL1103_60. Zircon in this sample is intimately intergrown with titanomagnetite (Fig. 1c). No U-Pb minerals were located in the remaining four samples.

Despite the lack of zircon occurring in the Touleary thin section suite, the MLA_SEM search results indicate that sample TL1105_132.9 is the best host rock to determine a crystallization age of the Touleary VMS target horizon. However, the low abundance of zircon in the sample will require a larger sample volume (ca. 5-15kg dependent on availability) and it is recommended that if an age determination is required for the project to collect material from DDH TL-11-05 (ca. 132.9m)

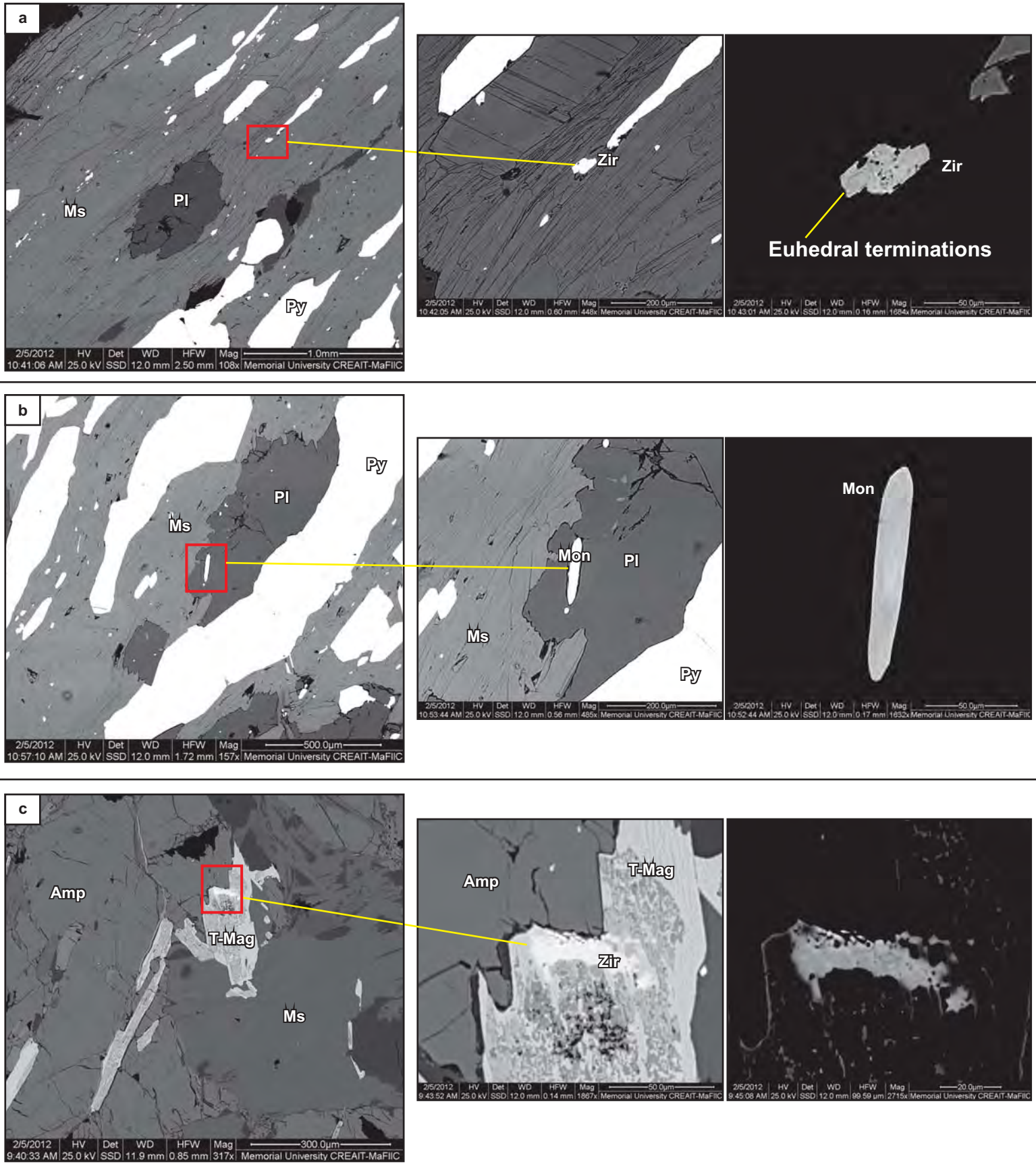


**Figure 1: (a)** Igneous zircon within muscovite (Ms) -pyrite (py) schist (TL1105_132.9). Note euhedral terminations on zircon (Zir) grain suggestive of magmatic origin. **(b)** Igneous monazite (Mon) crystal enclosed within plagioclase (Pl). **(c)** Ragged hydrothermal (or metamorphic) zircon associated with titano-magnetic (T-mag) crystals. Amp - Amphibole

## 3.0 Follow-up SEM examination and Modal Mapping

The second component of this study involved:

(i) modal mapping of mineral phases using the automated MLA-SEM system and,

(ii) SEM confirmation and/or identification uncertain and/or unknown mineral phases as outlined in the Dec 2011 petrographic report.

Two samples (TL11-05-116.7 and TL11-05-132.90; Fig. 2 ) were chosen to complete this part of the study.

***Modal Mapping - Methodology***

Samples TL-11-05-116.7m and TL-11-05-132.90m (Fig. 2) were analysed using the Quanta 650 field emission SEM using a similar methodology as described above for the zircon search, however rather than searching for specific mineral phases within a specific brightness/Mean Atomic Number interval, BSE data for the entire brightness range was acquired. Data acquisition occurs in a series of mosaic images which are subsequently merged together into one thinsection image (Figs. 3 and 4).

Additionally, a uniformly spaced point grid is created across the entire thin section and at each point location x-ray spectra are collected. Each point x-ray spectra collected are subsequently matched to a reference x-ray spectra mineral list created for each project. Any minerals that do not match the mineral reference list are classified as unknown. Unknown mineral phases are reviewed and identified after the automated analysis is complete. Once all mineral phases present are identified and assigned a representative X-ray spectra and mineral formula, a final colourized mineral map is produced (Fig 3 and 4.) and modal abundances are calculated by both wt% and areal extent (Table 1). Note - weight percent (wt %) modal values are quoted in the proceeding text.

***Modal Mapping - Results***

Distinct mineralogical and modal differences are evident between the two samples, with TL-11-05-116.7m exhibiting a polymetallic mineralogy (Cp-Sph-Cov-Py-Tet-Po) compared to TL-11-05-132.90m (Py-Cp-Sph). Gangue minerals also vary between the two samples, with TL-11-05-116.7m comprised predominantly of quartz-barite gangue and TL-11-05-132.90m characterized by muscovite-sericite-albite-rutile gangue.

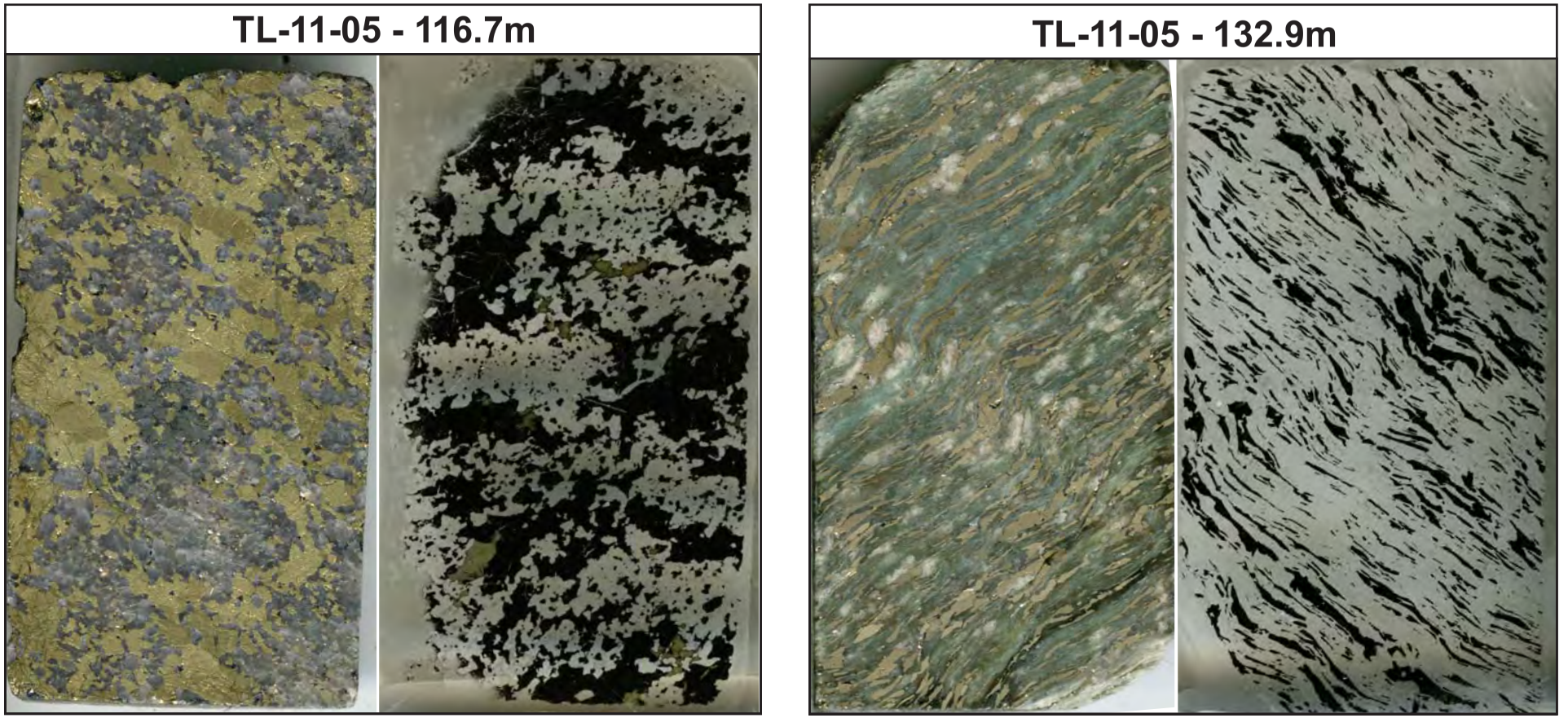


**Figure 2**: Scanned images of thinsections and offcuts selected for modal analysis mapping. Tl-11-05-116.7 represents a coarse-grained polymetallic massive sulphide (*Hinge Domain*) and TL-11-06-132.9 represents a strongly deformed Pyritic (+ Cp) schist (*Limb Domain*)

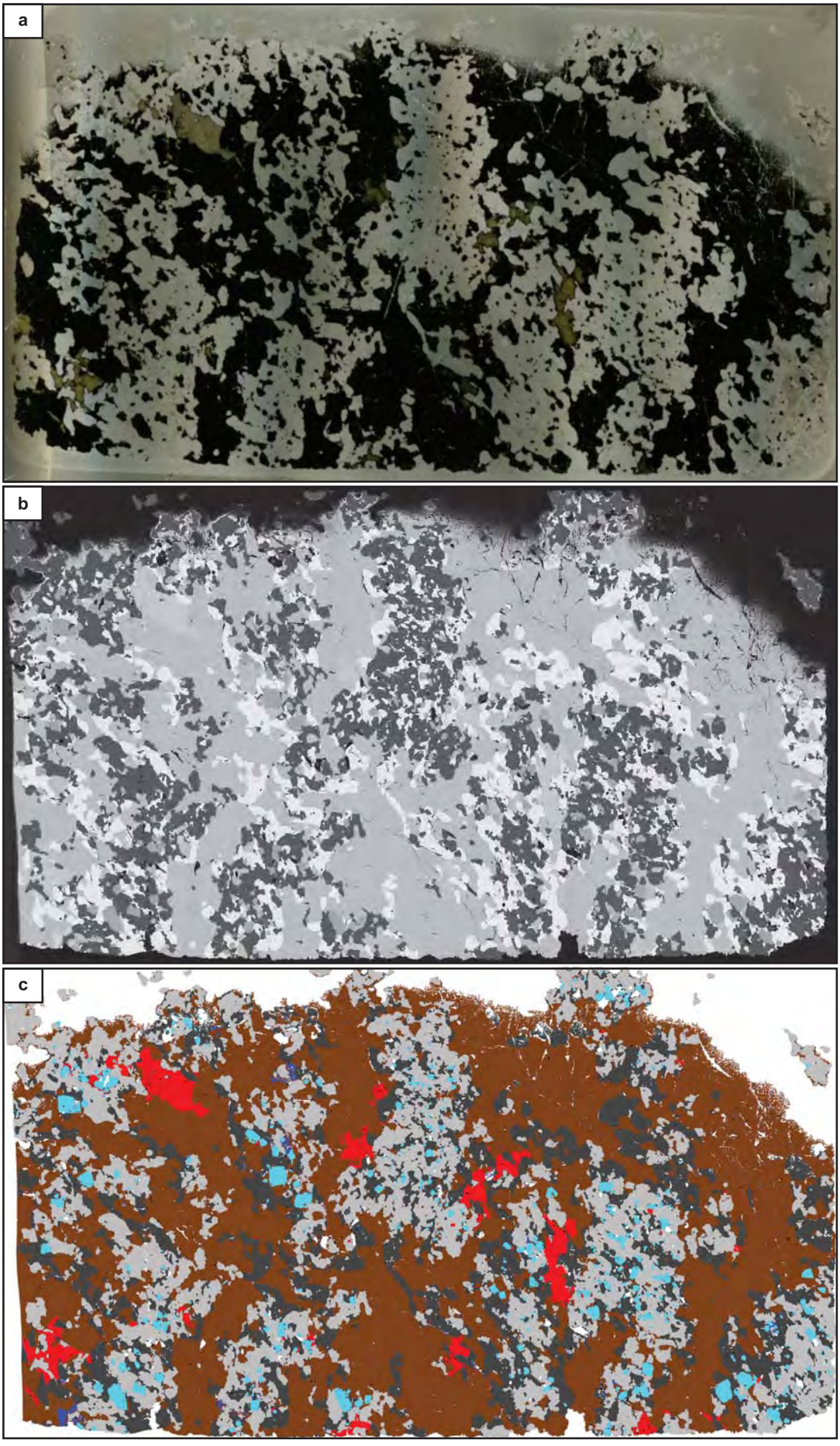


**Figure 3**: Tl-11-05-116.7 (a) Scanned image of thin section mapped using MLA-SEM technique. (b) Back-scattered electron image map. (c) Resultant modal mineral map.

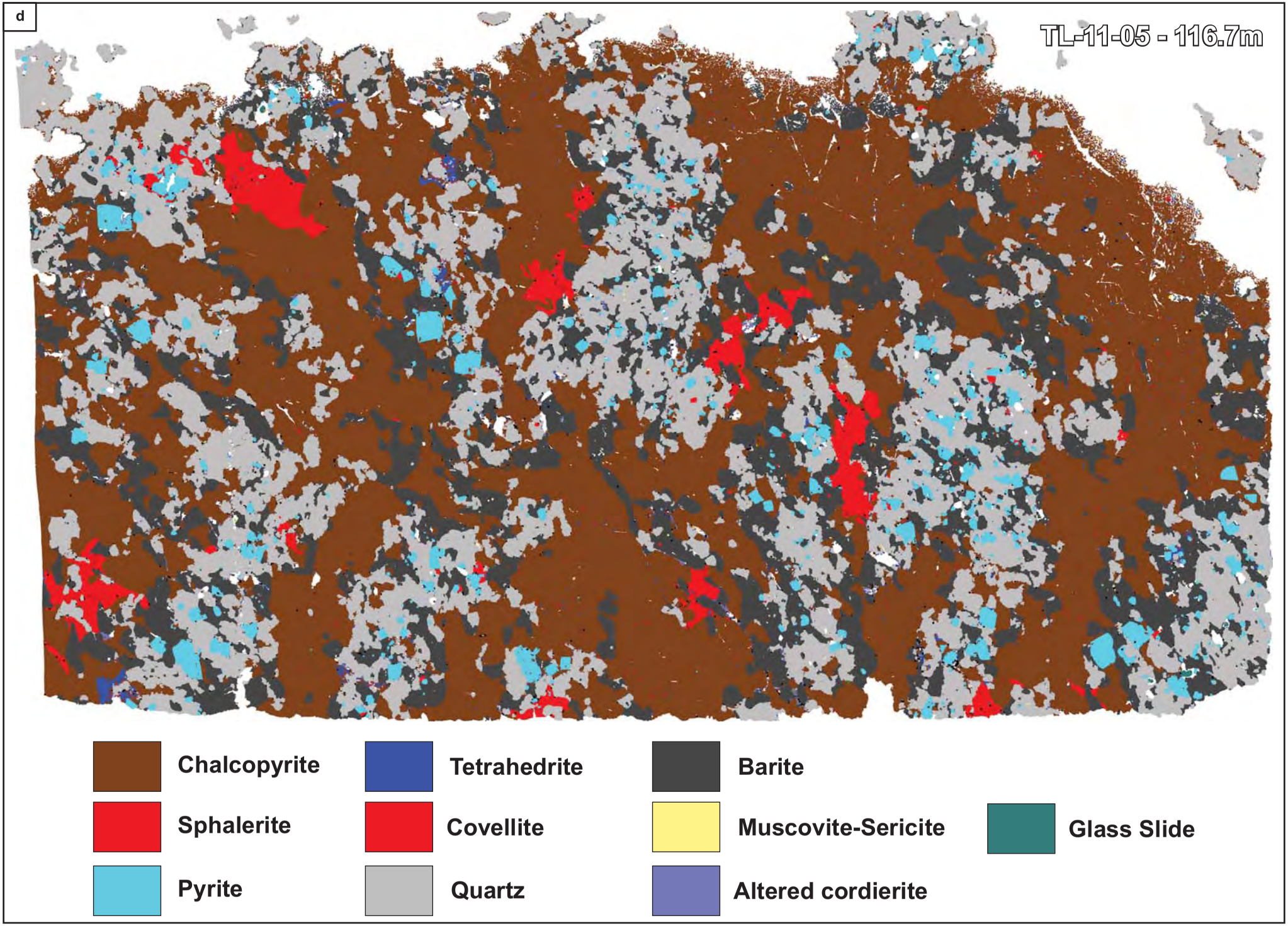


**Figure 3 (*continued*)**: Tl-11-05-116.7 (d) Resultant modal mineral map with mineral legend.

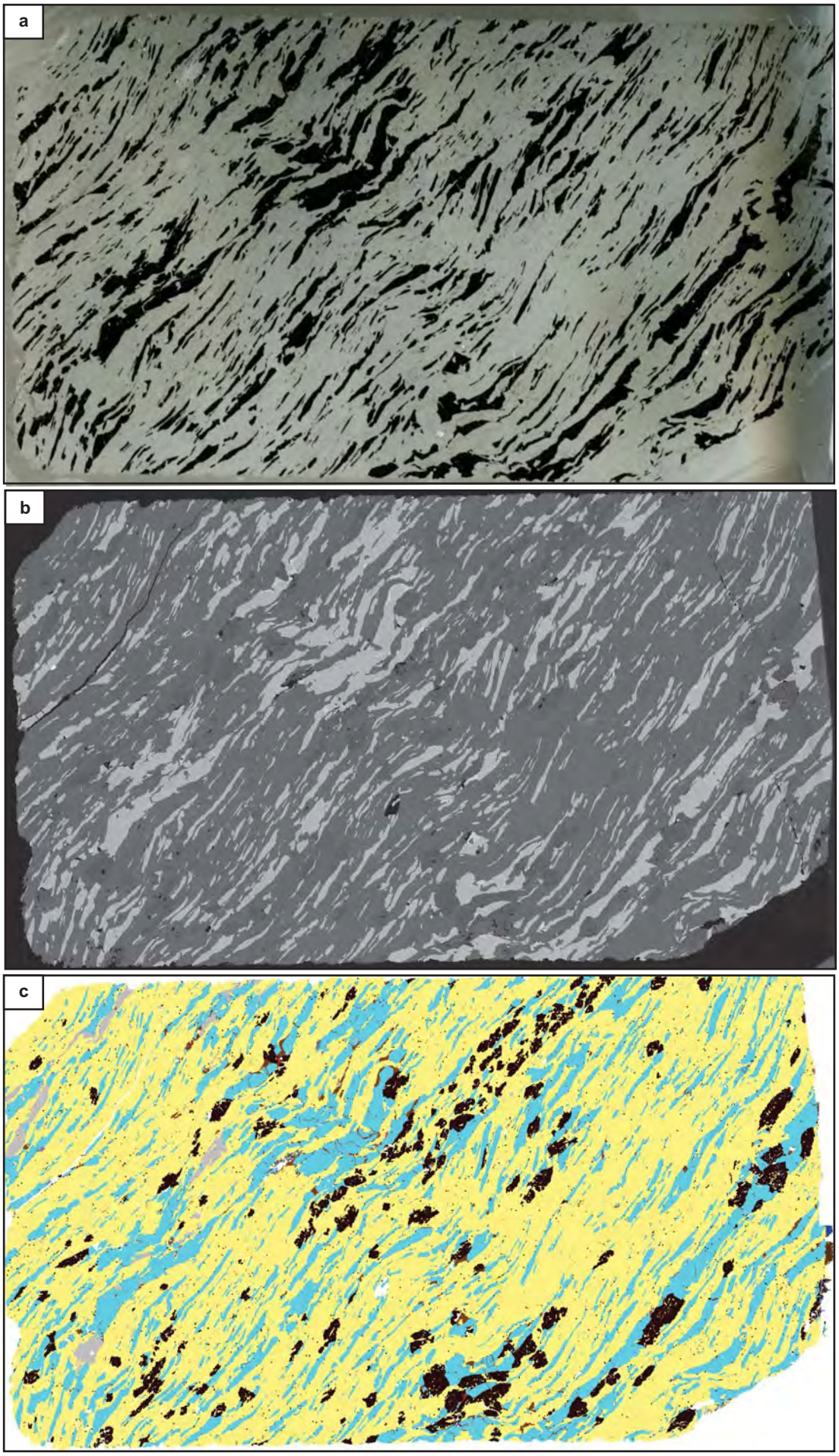


**Figure 4**: Tl-11-05-132.9 (a) Scanned image of thin section mapped using MLA-SEM technique. (b) Back-scattered electron image map. (c) Resultant modal mineral map.

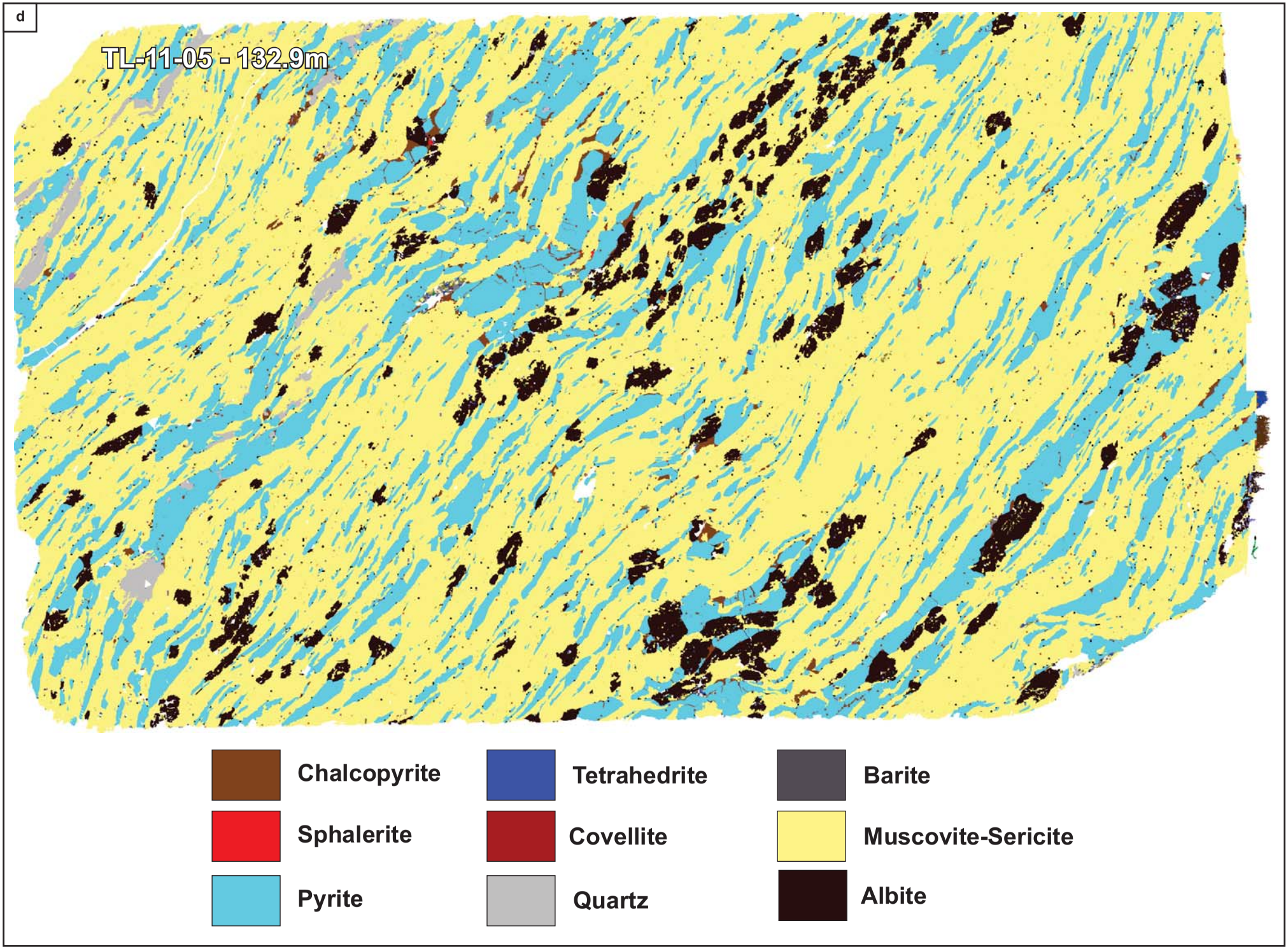


**Figure 4 (*continued*)**: Tl-11-05-132.9 (d) Resultant modal mineral map with mineral legend.

| | *Hinge_Domain* | *Limb_Domain* |
|---|---|---|
| **Mineral** | **TL11-05-116 - Wt%** | **TL11-05-132 - Wt%** |
| ***Sulphide_Phases*** | | |
| Chalcopyrite | 48.37 | 0.89 |
| Pyrite | 4.41 | 35.43 |
| Sphalerite | 2.64 | 0.01 |
| Covellite (+ minor chalcocite) | 0.52 | 0.08 |
| Pyrrhotite | 0.03 | 0.08 |
| Tetrahedrite | 0.59 | 0.04 |
| ***Alteration_Gangue*** | | |
| Quartz | 18.34 | 0.74 |
| Barite | 24.56 | 0.03 |
| Muscovite | 0.01 | 56.75 |
| Sericite | 0.01 | 0.07 |
| White_mica | 0.04 | 0.07 |
| ***Silicate-Phases*** | | |
| Biotite | 0.01 | 0.11 |
| Hornblende | 0.01 | 0.01 |
| Albite | 0.02 | 4.79 |
| Altered_cordierite | 0.32 | 0.19 |
| Unknown Li phase within altered Cordierite | 0.09 | 0.1 |
| ***Accessory Phases*** | | |
| Rutile | 0 | 0.57 |
| Monazite-(Al) | 0 | 0.01 |
| Zircon | 0 | 0.01 |
| Apatite | 0 | 0.01 |
| Glass slide | 0.03 | 0.02 |
| **Total** | 100 | 100 |

| | *Hinge_Domain* | *Limb_Domain* |
|---|---|---|
| **Mineral** | **TL11-05-116 - Area%** | **TL11-05-132 - Area%** |
| ***Sulphide_Phases*** | | |
| Chalcopyrite | 44.22 | 0.71 |
| Pyrite | 3.38 | 23.56 |
| Sphalerite | 2.54 | 0.01 |
| Covellite (+ minor chalcocite) | 0.43 | 0.06 |
| Pyrrhotite | 0.02 | 0.06 |
| Tetrahedrite | 0.47 | 0.03 |
| ***Alteration_Gangue*** | | |
| Quartz | 26.82 | 0.93 |
| Barite | 21.05 | 0.02 |
| Muscovite | 0.02 | 66.92 |
| Sericite | 0.01 | 0.1 |
| White_mica | 0.06 | 0.08 |
| ***Silicate-Phases*** | | |
| Biotite | 0.01 | 0.12 |
| Hornblende | 0.01 | 0.01 |
| Albite | 0.03 | 6.09 |
| Altered_albite | 0.4 | 0.21 |
| Unknown Li phase within altered Cordierite | 0.12 | 0.12 |
| ***Accessory Phases*** | | |
| Rutile | 0 | 0.45 |
| Monazite-(Al) | 0 | 0 |
| Zircon | 0 | 0.01 |
| Apatite | 0 | 0.01 |
| Glass slide | 0.03 | 0.02 |
| **Total** | 100 | 100 |

**Table 1**: Modal calculations by weight % and area %

Chalcopyrite abundances vary from 48.37wt% in the massive sulphide sample, TL-11-05-116.7m compared to 0.89% in the muscovite-sericite-pyrite schist, TL-11-05-132.90m. Sphalerite abundances show a similar increase (up to 2.64wt%) in the massive sulphide sample compared to the muscovite-sericite-pyrite schist (0.1wt%). Pyrite abundances decrease significantly in TL-11-05-116.7m, where it has a mode of 4.41wt% compared to 35.43 wt% in TL-11-05-132.90m.

No visible Au or Ag was identified during the mapping process, however, if present these metals may be associated with the symplectic intergrowths if tetrahedrite - barite - quartz - pyrite that occurs within sample TL-11-05-116.7m, but not structurally bound within tetrahedrite (see below).

***Modal Mapping - Interpretation***

Deformation exerts an important control on modal distribution of sulphide phases within the two samples examined. Additionally, microstructural evidence suggests that folding is an important mechanism to coarsen and concentrate polymetallic ore into early-stage tight to isoclinal fold hinges.

With the exception of pyrite grains, the polymetallic sulphide ore is less strained (granoblastic - euhedral grain shapes) and coarser grained in TL-11-05-116.7m compared to the strongly deformed, TL-11-05-132.90m. Similar coarse grained, polymetallic sulphide ore and quartz-barite gangue occurs in sample TL-11-03-64.6m (Fig. 5). Unlike sample TL-11-05-116.7m which is comprised entirely of massive sulphide, this sample includes the enclosing muscovite-sercite schist within the thinsection. Important microstructures include prominent crenulation cleavage and fold hinge development indicating presence a fold hinge domain (Fig 6). In contrast, sample TL-11-05-132.90m, is characterized by a pervasive, strongly developed mineral fabric indicative of a fold limb domain (Fig. 6). Despite, the highly strained nature of sample TL-11-05-132.90m, polymetallic mineralization also occurs, but is restricted to the hinge domains of open folds of the early-stage mineral foliation, which chalcopyrite-sphalerite-barite form in tensional cracks (axial planar related) associated with fold development (Fig. 7). Mineral relationships in these hinge zones indicate that fabric-forming pyrite mineralization was early-stage and overprinted by later-stage polymetallic ore fluids (see paragenesis section below).

Recognition of hinge vs limb domains and the importance of ductile folding in concentrating polymetallic ore has implications with respect to drill targets. An understanding of the orientation and plunge of early-stage folding that has effected the property should be included into drill program design as fold hinge zones will host higher-grade, polymetallic ore (Fig. 8).

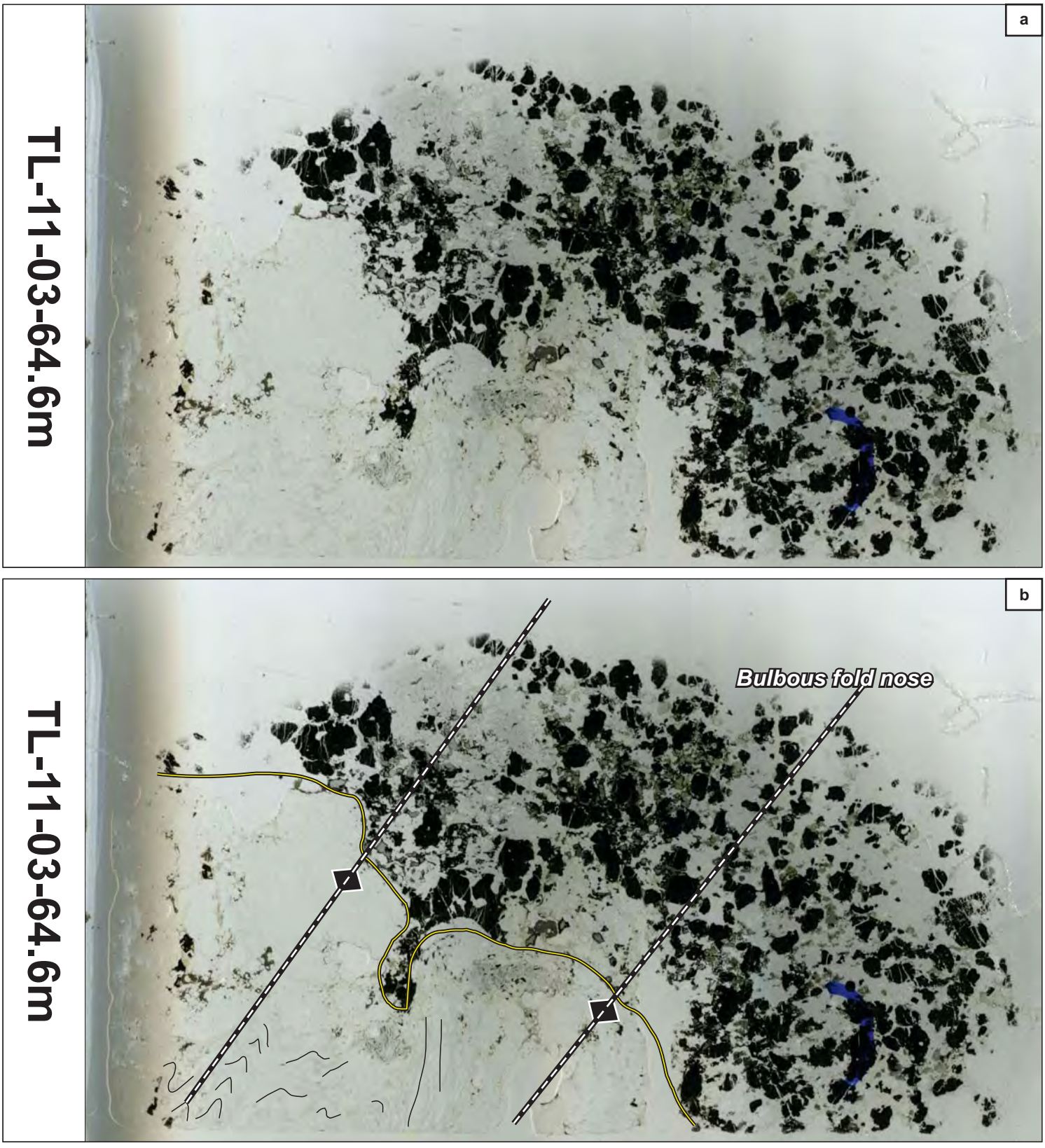


**Figure 5**: (a) Scanned image of thin section Tl-11-03-64.6. (b) Structural interpretation illustrating the presence of minor fold hinge. Massive sulphide ore display a bulbous fold nose geometry.

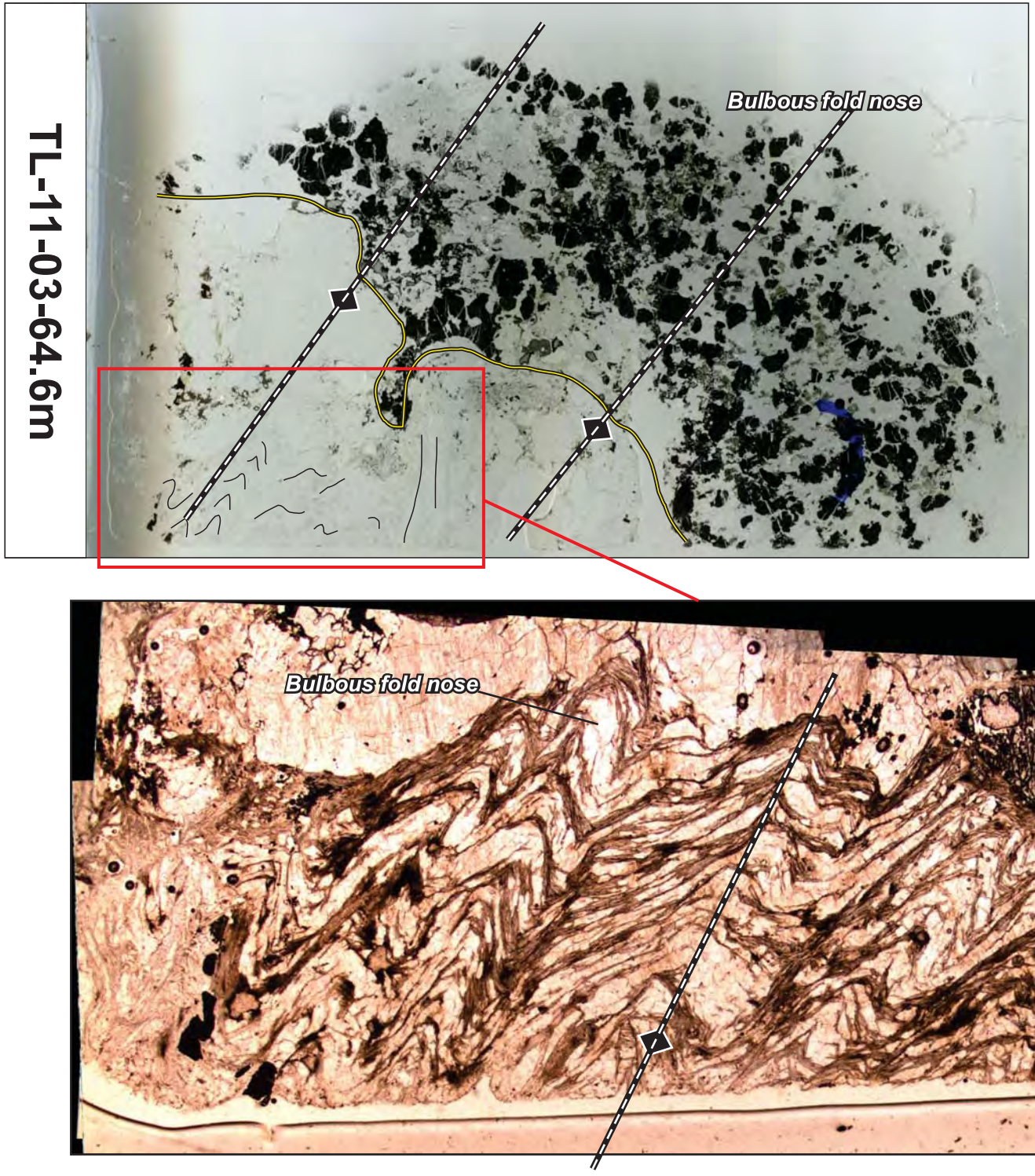


**Figure 6 (a)**: Well developed crenulation cleavage in minor fold hinge of samples Tl-11-03-64.6.

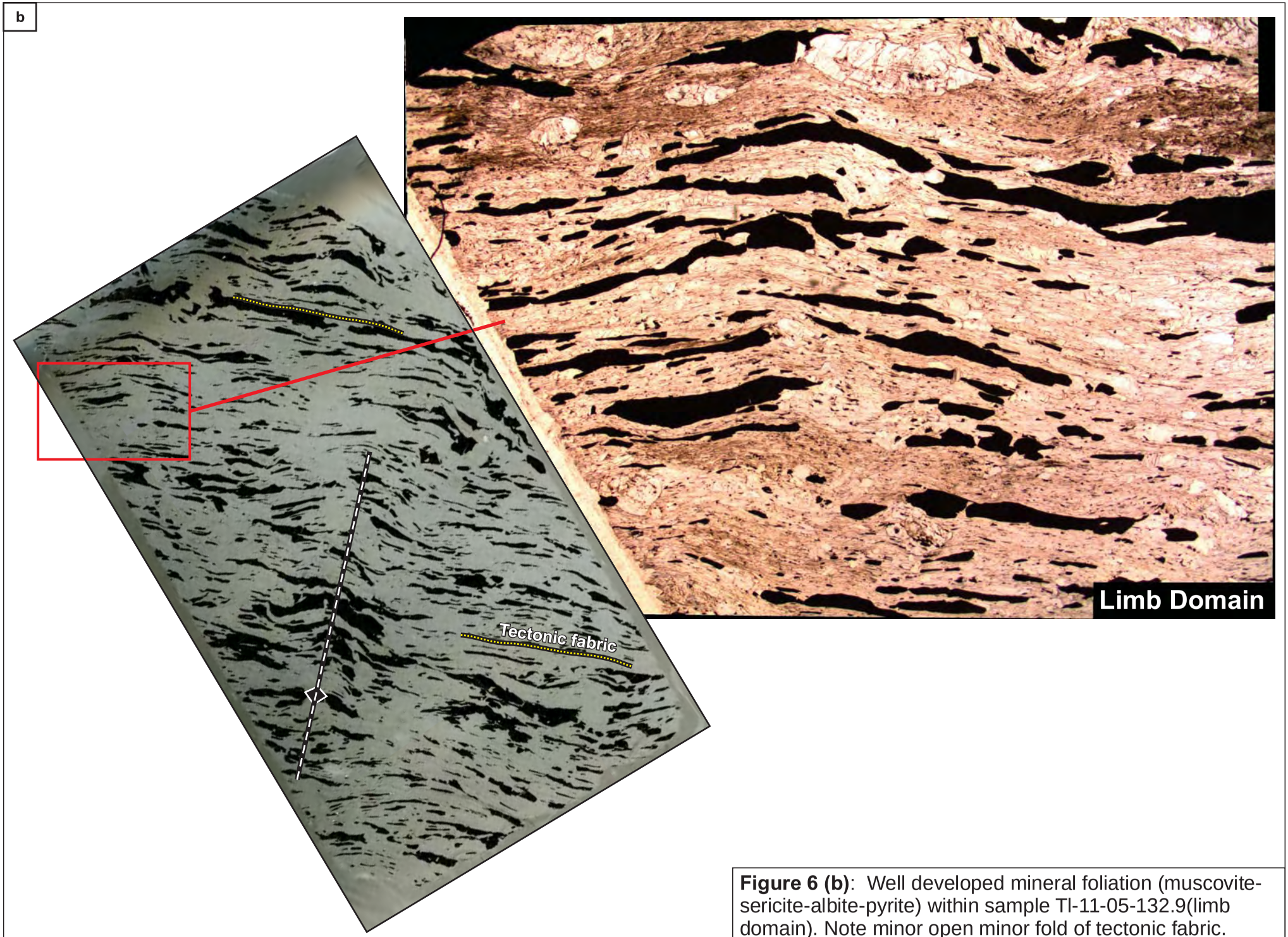


**Figure 6 (b)**: Well developed mineral foliation (muscovite-sericite-albite-pyrite) within sample Tl-11-05-132.9(limb domain). Note minor open minor fold of tectonic fabric.

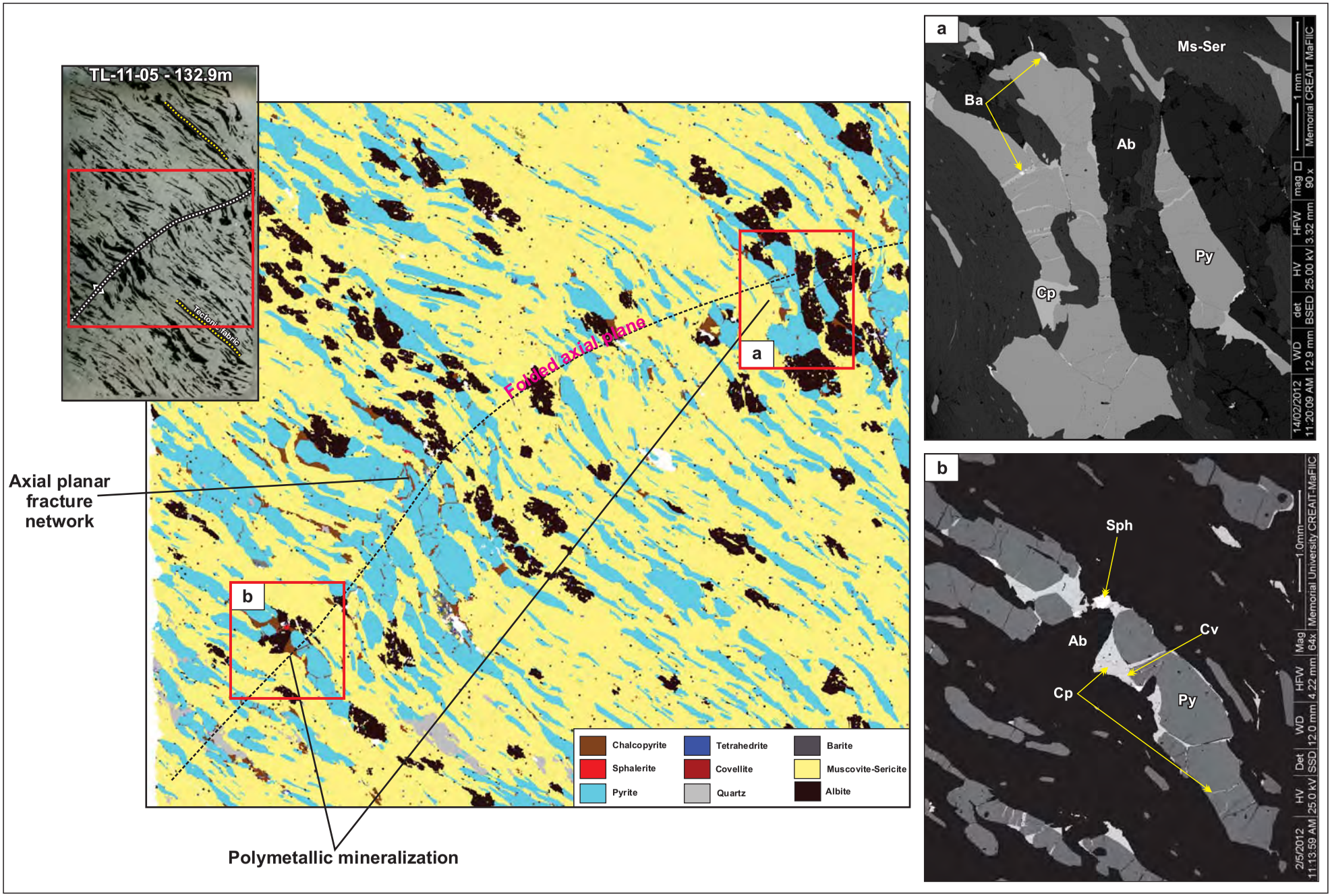


**Figure 7** : Scanned thin section and associated mineral map of minor fold in sample Tl-11-05-132.9 illustrating restriction of polymetallic mineralization to zones of extension within fold hinge zones. (a) Backscattered electron image of open fold nose with late stage Chalcopyrite (Cp) and Barite (Ba) in tensional cracks. (b) Backscattered electron image of open fold nose with late stage Chalcopyrite (Cp), Sphalerite (Sph) and minor Covellite (cv). Note the axial trace of the open system is folded implying a minimum of two phases of folding are present.

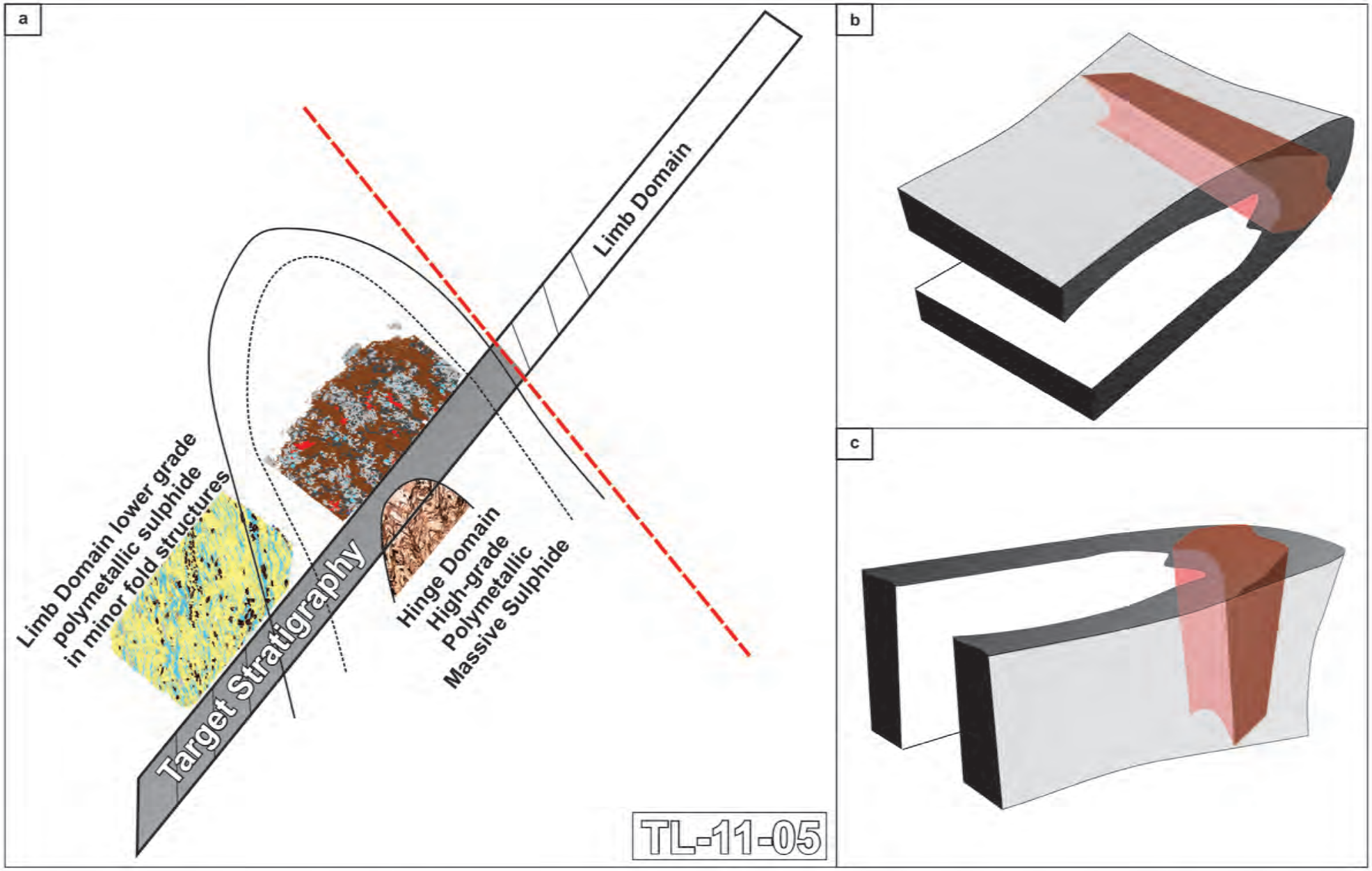


**Figure 8** : (a) Schematic interpretation of structures controlling mineralization in DDH TL-11-05. Mineralized intervals within the target stratigraphy are divided into limb and hinge domains based on minor structures present. (b) and (c) End member schematic diagrams illustrating the importance of fold hinge orientation and plunge for controlling the distribution of high-grade polymetallic ore.

***Phase Confirmation/Identification***

The Dec 2011 petrographic study recommended SEM work to confirm the presence of several mineral phases, including:

a) Ag-Bearing Sulfosalt or Ag-bearing tetrahedrite (TL11-05-116.7). In the report, Leitch describes "symplectic intergrowths of sulfosalt, possibly tetrahedrite, and gangue with chalcopyrite with trace alteration to covellite margins". The SEM confirmed the presence of tetrahedrite and associated symplectic intergrowths (Fig 9) with chalcopyrite-quartz-barite, however X-ray spectra did not detect anomalously elevated Ag within tetrahedite (Fig. 10), suggesting Ag resides elsewhere within the polymetallic ore assemblage.

b) Cordierite, sericite and talc (TL11-03-71.3, TL11-05-114.1, TL11-03-65.5, TL11-03-60). Unaltered cordierite was not observed within the polished thin sections examined, and all locations observed prograde cordierite had altered to an aggregate of white mica. Sericite and unidentified white mica aggregates (potentially talc) occur in association with muscovite, where sericite passively replaces muscovite (Fig 11) and fine white mica aggregates destructively replaces both sericite and muscovite (Fig. 12).

## 4.0 Paragenesis

A simple paragenetic sequence is summarized in Figure 13 and involves 4 pre, syn and post ore sulphide and gangue mineral phases:

***Pre-Ore:*** Pre-ore mineralization consists of pyrite 1- muscovite-sericite +/- albite. These represent foliation-forming minerals and have been effected by ductile deformation. Incompetent muscovite grains have their main cleavage parallel to the ductile fabric, whereas the more competent pyrite and albite grains are attenuated within the foliation (Fig. 14a).

***Ore-stage - Limb Domain***: Chalcopyrite - sphalerite locally overprint pyrite 1 in minor fold hinges (Fig 7). Crack-filling chalcopyrite +/- barite likely represents an axial planar fabric related to this folding event (Fig. 14b).

***Ore-stage - Hinge Domain***: Chalcopyrite - sphalerite - quartz - barite - tetrahedrite form coarse-grained polygonal or granoblastic aggregates in fold hinges (Fig. 14c)

***Late Ore - Hinge Domain:*** Euhedral Pyrite 2 (with galena and Ore stage 1 inclusions) postdates Ore-stage 1 granoblastic ore-gangue assemblage (Fig. 14d, e)

***Post - ore (Limb and Hinge Domain)***: Late-stage covellite +/-chalcocite forms within cracks and along grain boundaries between Pyrite 1, chalcopyrite, sphalerite, quartz and barite (Fig. 14f, g, h).

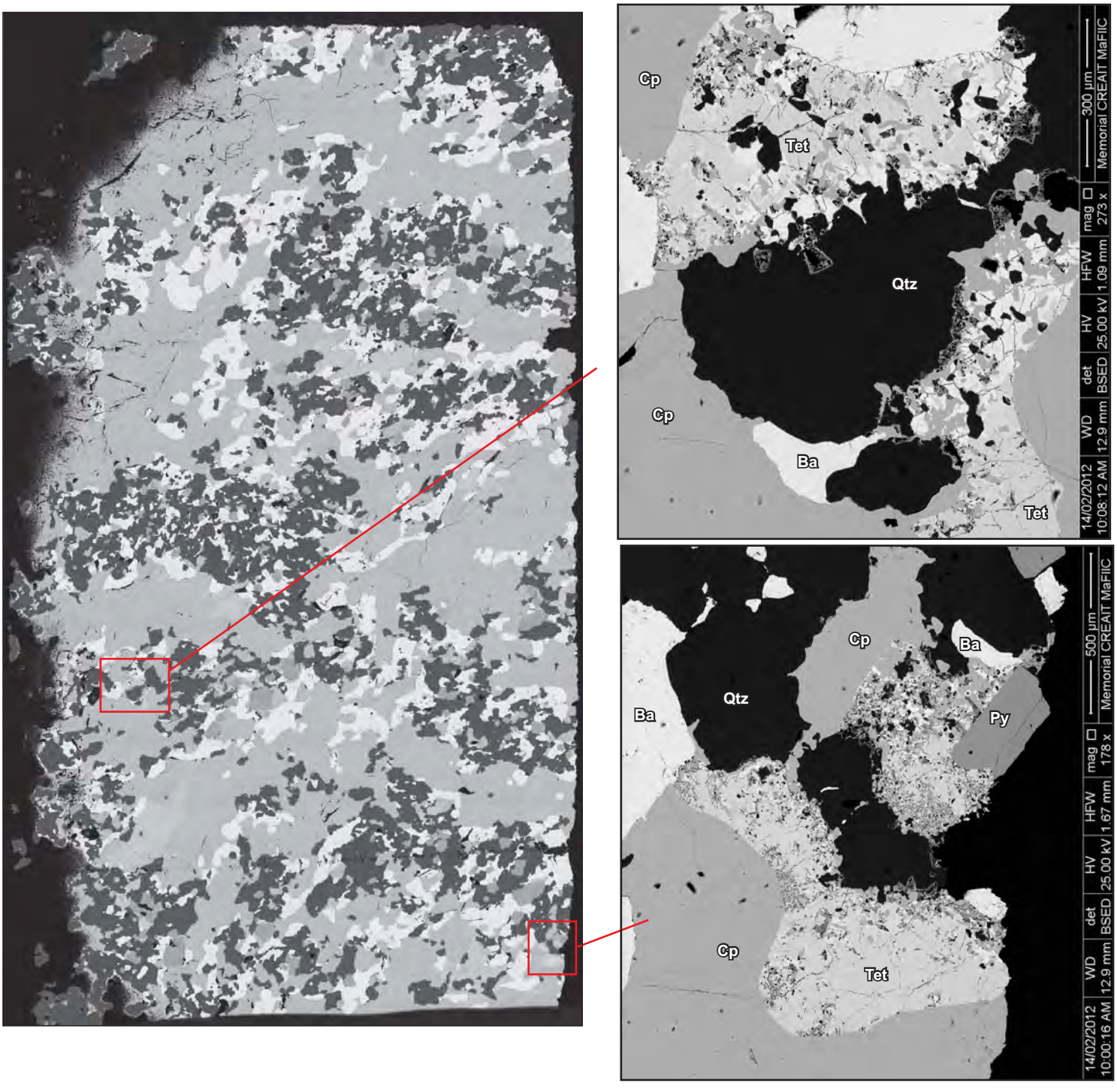


**Figure 9** : Back scattered electron images illustrating symplectic intergrowths of tetrahedrite - barite - quartz with chalcopyrite and minor sphalerite. Note the single euhedral pyrite grain postdates the symplectic intergrowth (lower right image).

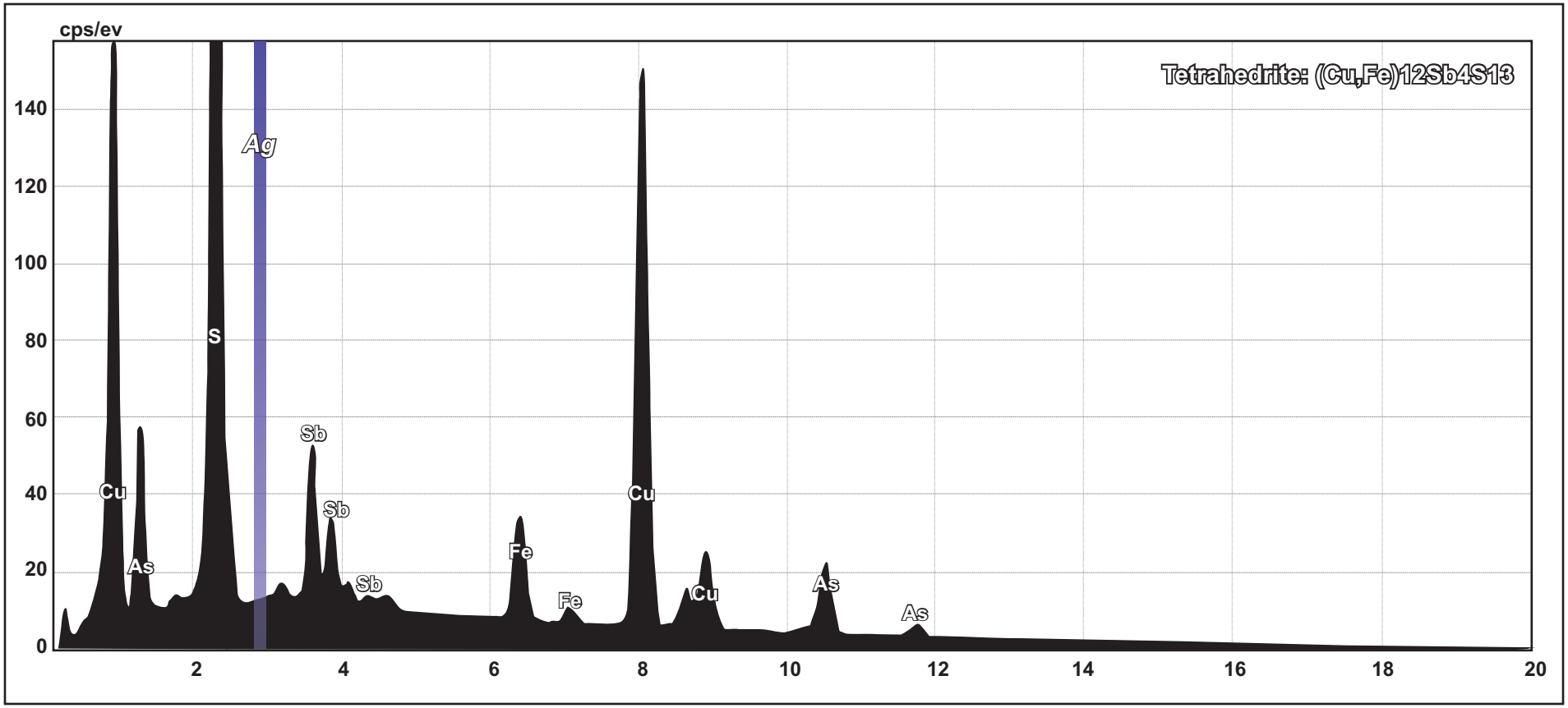


**Figure 10** : X-ray spectra for tetrahedrite occurring in TL-11-05-116.7. Note the lack of significant Ag peak

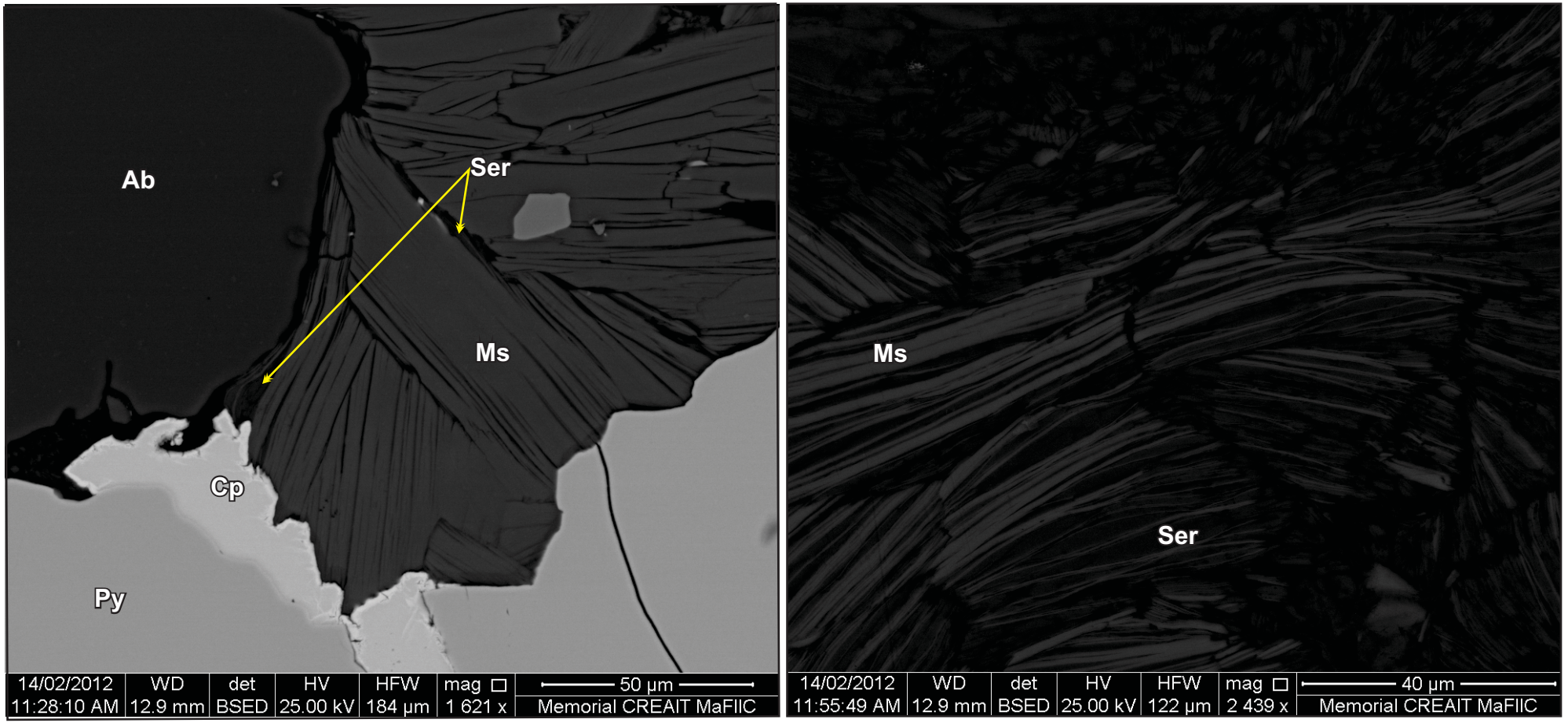


**Figure 11** : Sericite replacement of muscovite in sample TL-11-05-132.9

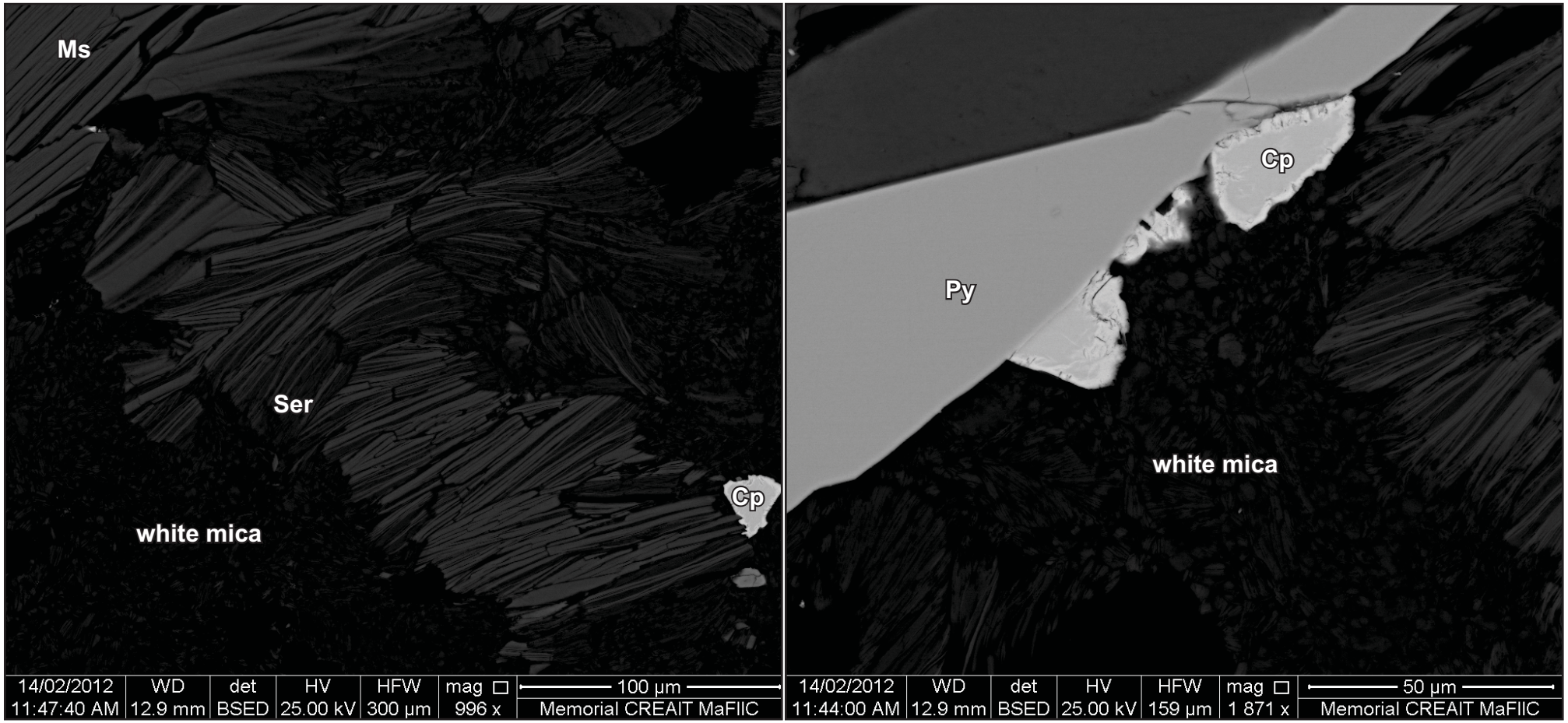


**Figure 12** : Late-stage white mica replacement of muscovite and sericite in sample TL-11-05-132.9

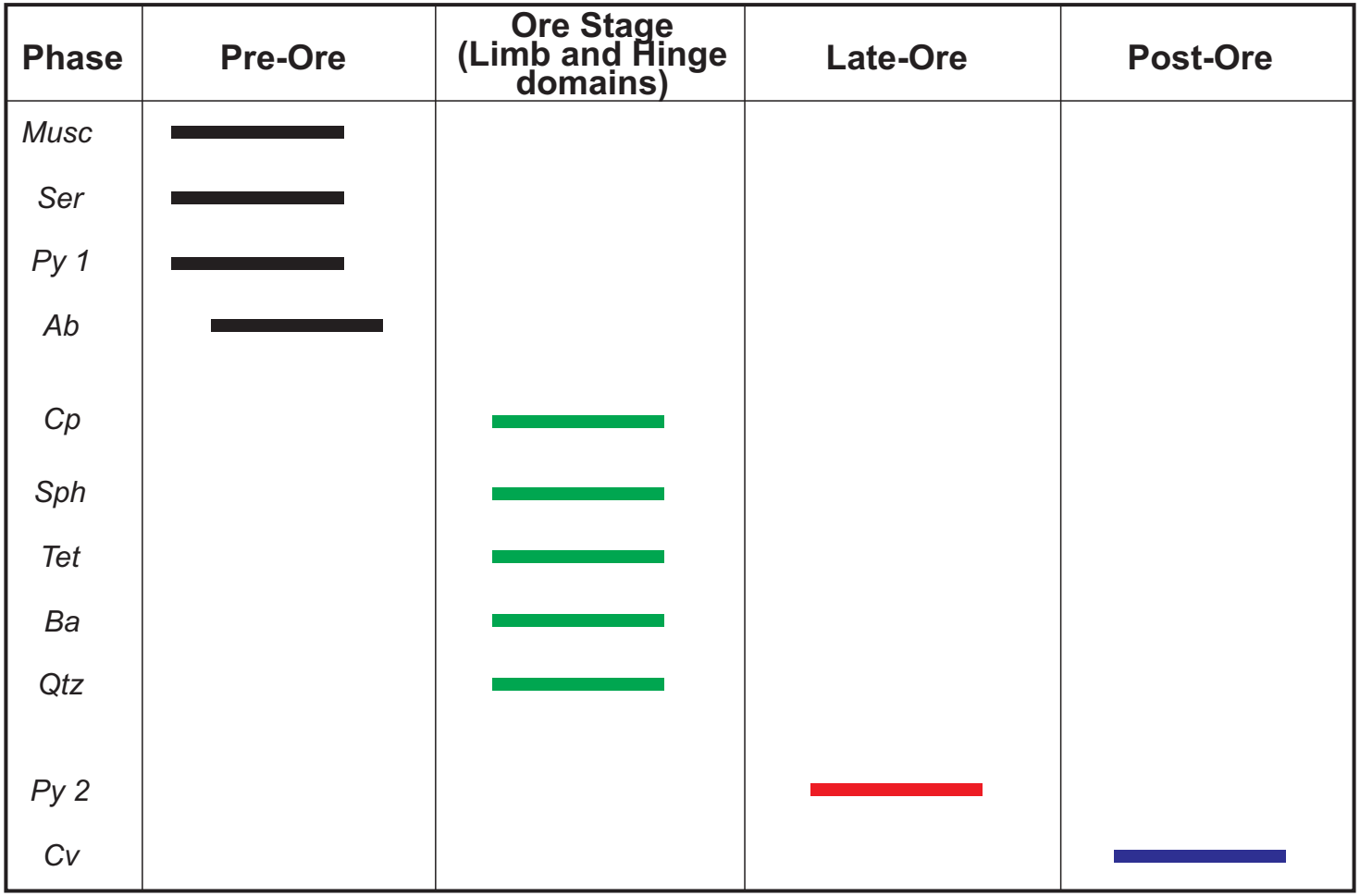


**Figure 13** : Summary paragenetic sequence for mineral relations observed in samples TL-11-05 116.7 and TL-11-05 132.9

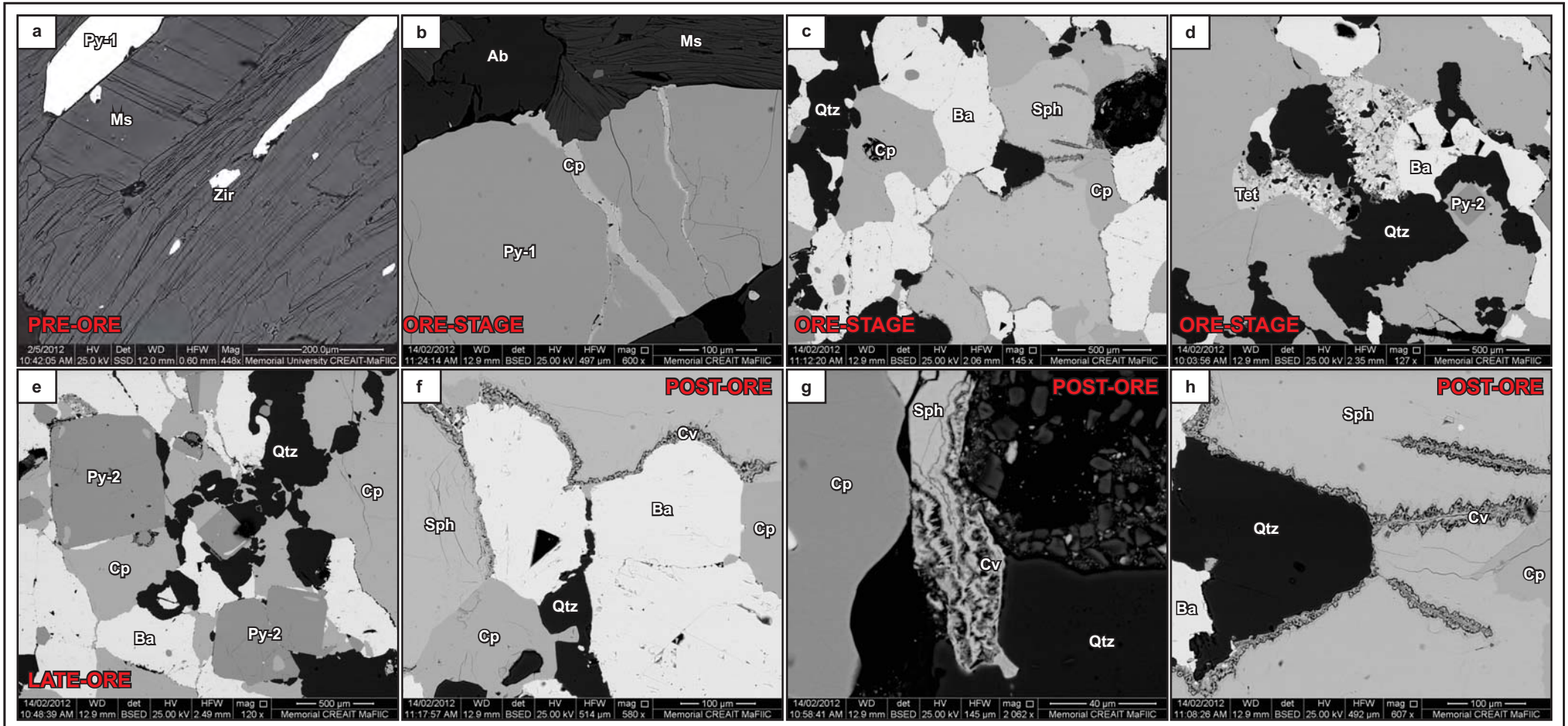


**Figure 14** : (a) Pre-ore foliation forming mineral assemblage pyrite 1 (Py-1), muscovite (Ms), sericite (Ser), Albite (Ab); (b) Limb domain ore-stage chalcopyrite (Cp) overprinting axial planar cracks in Py-1; (c) Hinge domain ore-stage polygonal aggregates of quartz (Qtz), barite (Ba), sphalerite (Sph), Cp and tetrahedrite (Tet); (d) and (e) Late-ore euhedral pyrite 2 (Py-2) overprinting ore-stage mineral assemblage; (f -h)Post-ore covellite forming along grain boundaries of ore-stage mineral assemblage and within fractures occurring in sphalerite grains.

# 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: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 27-JUL-2011**
**Account: F**

# CERTIFICATE WH11135392

Project: Arcus-TL-04-11

P.O. No.: Batch 7

This report is for 36 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 17-JUL-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| PUL-QC | Pulverizing QC Test |
| CRU-31 | Fine crushing - 70% <2mm |
| SPL-21 | Split sample - riffle splitter |
| PUL-31 | Pulverize split to 85% <75 um |
| LOG-24 | Pulp Login - Rcd w/o Barcode |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au-AA24 | Au 50g FA AA finish | AAS |
| ME-ICP41 | 35 Element Aqua Regia ICP-AES | ICP-AES |
| ME-OG46 | Ore Grade Elements - AquaRegia | ICP-AES |
| Zn-OG46 | Ore Grade Zn - Aqua Regia | VARIABLE |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**Finalized Date: 27-JUL-2011**
**Account: F**

Project: Arcus-TL-04-11

# CERTIFICATE OF ANALYSIS WH11135392

| Sample Description | Method | WEI-21 | Au-AA24 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.005 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| J998016 | | 5.79 | <0.005 | <0.2 | 1.10 | <2 | <10 | 170 | <0.5 | <2 | 0.24 | <0.5 | 1 | 4 | 3 | 1.58 |
| J998017 | | 2.13 | <0.005 | <0.2 | 1.10 | <2 | <10 | 160 | <0.5 | <2 | 0.23 | <0.5 | 1 | 2 | 12 | 1.99 |
| J998018 | | 6.97 | <0.005 | <0.2 | 1.20 | <2 | <10 | 100 | <0.5 | <2 | 0.21 | <0.5 | 2 | 4 | 4 | 1.82 |
| J998019 | | 7.52 | <0.005 | <0.2 | 1.30 | <2 | <10 | 110 | <0.5 | <2 | 0.20 | <0.5 | 4 | 3 | 29 | 2.20 |
| J998020 | | 5.45 | <0.005 | <0.2 | 1.21 | <2 | <10 | 200 | <0.5 | <2 | 0.22 | <0.5 | 3 | 3 | 31 | 2.14 |
| J998021 | | 5.95 | <0.005 | <0.2 | 1.13 | <2 | <10 | 180 | <0.5 | <2 | 0.26 | <0.5 | 5 | 2 | 33 | 1.65 |
| J998022 | | 0.25 | 0.282 | 54.8 | 1.20 | 101 | <10 | 70 | <0.5 | 2 | 0.52 | 22.3 | 17 | 31 | 4440 | 4.75 |
| J998023 | | 1.36 | <0.005 | <0.2 | 0.73 | 16 | <10 | 130 | <0.5 | <2 | 0.08 | <0.5 | 10 | 1 | 45 | 3.79 |
| J998024 | | 1.01 | <0.005 | <0.2 | 0.03 | <2 | <10 | 10 | <0.5 | <2 | 20.3 | <0.5 | <1 | <1 | 2 | 0.46 |
| J998025 | | 4.99 | <0.005 | <0.2 | 1.15 | <2 | <10 | 180 | <0.5 | <2 | 0.22 | <0.5 | 3 | 2 | 24 | 2.12 |
| J998026 | | 4.94 | <0.005 | <0.2 | 1.57 | 2 | <10 | 150 | <0.5 | <2 | 0.40 | <0.5 | 5 | 3 | 41 | 2.83 |
| J998027 | | 13.14 | <0.005 | <0.2 | 1.98 | <2 | <10 | 120 | <0.5 | <2 | 0.74 | <0.5 | 18 | 14 | 152 | 3.84 |
| J998028 | | 9.43 | 0.008 | <0.2 | 2.89 | <2 | <10 | 150 | <0.5 | <2 | 0.76 | <0.5 | 25 | 3 | 172 | 4.81 |
| J998029 | | 5.00 | 0.027 | 0.6 | 0.47 | <2 | <10 | 100 | <0.5 | <2 | 0.01 | <0.5 | 6 | 2 | 116 | 3.32 |
| J998030 | | 4.76 | 0.012 | <0.2 | 3.74 | <2 | <10 | 40 | <0.5 | <2 | 0.55 | <0.5 | 27 | 8 | 237 | 6.73 |
| J998031 | | 3.77 | 0.070 | 1.9 | 0.41 | 7 | <10 | 30 | <0.5 | 2 | 0.01 | <0.5 | 3 | 2 | 32 | 3.89 |
| J998032 | | 2.99 | 0.049 | 1.2 | 0.32 | 3 | <10 | 20 | <0.5 | 2 | 0.01 | <0.5 | 4 | 1 | 6 | 5.09 |
| J998033 | | 3.58 | 0.073 | 1.1 | 0.37 | 6 | <10 | 20 | <0.5 | 2 | <0.01 | <0.5 | 3 | 3 | 6 | 4.43 |
| J998034 | | 3.59 | 0.314 | 5.3 | 0.50 | 59 | <10 | 30 | <0.5 | 5 | <0.01 | <0.5 | 7 | 10 | 28 | 4.30 |
| J998035 | | 4.42 | 0.157 | 1.3 | 0.38 | 16 | <10 | 20 | <0.5 | 2 | <0.01 | <0.5 | 10 | 8 | 32 | 4.40 |
| J998036 | | 3.86 | 0.392 | 3.9 | 0.34 | 281 | <10 | 20 | <0.5 | 5 | <0.01 | 0.5 | 12 | 7 | 621 | 7.04 |
| J998037 | | 4.24 | 0.740 | 5.9 | 0.25 | 131 | <10 | 20 | <0.5 | 4 | <0.01 | 0.9 | 14 | 6 | 488 | 6.96 |
| J998038 | | 0.12 | 2.07 | 15.6 | 0.92 | 28 | <10 | 30 | <0.5 | 3 | 0.30 | 56.9 | 10 | 42 | 4980 | 9.30 |
| J998039 | | 3.48 | 1.390 | 12.5 | 0.31 | 48 | <10 | 20 | <0.5 | 2 | 0.01 | <0.5 | 11 | 6 | 1885 | 6.03 |
| J998040 | | 0.99 | 0.679 | 15.7 | 0.03 | 47 | <10 | 10 | <0.5 | <2 | <0.01 | 2.0 | 11 | <1 | 4610 | 22.7 |
| J998041 | | 1.94 | 0.009 | 0.2 | 0.03 | <2 | <10 | 190 | <0.5 | <2 | 20.3 | <0.5 | 1 | 1 | 8 | 0.49 |
| J998042 | | 4.66 | 0.021 | 0.4 | 0.86 | 47 | <10 | 950 | <0.5 | <2 | 0.10 | <0.5 | 1 | 5 | 105 | 1.74 |
| J998043 | | 1.93 | 0.797 | 16.0 | 0.59 | 23 | <10 | 30 | <0.5 | <2 | 0.04 | 0.9 | 5 | 5 | 4450 | 7.55 |
| J998044 | | 4.47 | 0.484 | 8.5 | 0.79 | 28 | <10 | 30 | <0.5 | 2 | 0.07 | 0.7 | 14 | 6 | 4730 | 7.97 |
| J998045 | | 8.02 | 0.017 | 0.3 | 2.17 | 42 | <10 | 660 | <0.5 | <2 | 0.79 | 1.0 | 20 | 5 | 1080 | 3.99 |
| J998046 | | 4.20 | 0.461 | 4.0 | 0.61 | 33 | <10 | 20 | <0.5 | <2 | 0.04 | <0.5 | 14 | 7 | 2900 | 9.76 |
| J998047 | | 8.29 | 0.116 | 2.4 | 0.83 | 13 | <10 | 20 | <0.5 | <2 | 0.18 | 8.3 | 14 | 5 | 2330 | 6.79 |
| J998048 | | 6.50 | 0.038 | 0.6 | 1.63 | <2 | <10 | 50 | <0.5 | <2 | 1.46 | 0.6 | 15 | 3 | 274 | 4.85 |
| J998049 | | 5.14 | 0.056 | 0.6 | 0.90 | 4 | <10 | 30 | <0.5 | <2 | 0.33 | 2.9 | 7 | 3 | 437 | 4.32 |
| J998050 | | 8.66 | 0.008 | <0.2 | 2.64 | 5 | <10 | 420 | <0.5 | <2 | 0.74 | <0.5 | 20 | 4 | 152 | 4.21 |
| J998051 | | 4.26 | 0.013 | 0.4 | 1.07 | <2 | <10 | 100 | <0.5 | <2 | 1.54 | 0.5 | 7 | 2 | 124 | 2.63 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 27-JUL-2011**
**Account: F**

Project: Arcus-TL-04-11

# CERTIFICATE OF ANALYSIS WH11135392

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| J998016 | | <10 | <1 | 0.57 | 10 | 0.52 | 316 | <1 | 0.05 | 1 | 230 | 2 | 0.02 | <2 | 1 | 13 |
| J998017 | | <10 | <1 | 0.35 | 10 | 0.47 | 286 | <1 | 0.05 | 1 | 210 | 4 | 0.10 | <2 | 3 | 34 |
| J998018 | | <10 | <1 | 0.25 | 10 | 0.63 | 315 | <1 | 0.06 | 1 | 210 | <2 | 0.04 | <2 | 2 | 10 |
| J998019 | | <10 | <1 | 0.23 | 10 | 0.58 | 398 | <1 | 0.06 | 2 | 300 | 3 | 0.01 | <2 | 4 | 10 |
| J998020 | | <10 | <1 | 0.46 | 10 | 0.43 | 342 | <1 | 0.07 | 1 | 300 | 3 | 0.05 | <2 | 3 | 21 |
| J998021 | | <10 | <1 | 0.49 | 10 | 0.57 | 447 | <1 | 0.04 | 2 | 310 | 2 | 0.06 | <2 | 1 | 12 |
| J998022 | | 10 | <1 | 0.56 | 10 | 0.68 | 510 | 179 | 0.04 | 25 | 890 | 2180 | 2.49 | 67 | 7 | 37 |
| J998023 | | <10 | <1 | 0.15 | 20 | 0.13 | 97 | <1 | 0.04 | 6 | 490 | 7 | 0.09 | <2 | 3 | 30 |
| J998024 | | <10 | <1 | 0.02 | <10 | 11.90 | 215 | <1 | 0.01 | <1 | 170 | 4 | 0.08 | <2 | <1 | 54 |
| J998025 | | <10 | <1 | 0.47 | 10 | 0.49 | 284 | <1 | 0.04 | <1 | 290 | 3 | 0.03 | <2 | 2 | 9 |
| J998026 | | 10 | <1 | 0.45 | 10 | 0.79 | 439 | <1 | 0.08 | 2 | 470 | 3 | 0.12 | <2 | 4 | 14 |
| J998027 | | 10 | <1 | 0.21 | <10 | 1.45 | 440 | <1 | 0.12 | 12 | 590 | 3 | 0.49 | <2 | 7 | 14 |
| J998028 | | 10 | <1 | 0.20 | <10 | 2.24 | 480 | <1 | 0.10 | 7 | 650 | 3 | 0.35 | <2 | 7 | 14 |
| J998029 | | <10 | 1 | 0.18 | 10 | 0.07 | 44 | 4 | 0.05 | 4 | 220 | 16 | 3.13 | <2 | 1 | 12 |
| J998030 | | 10 | 1 | 0.07 | <10 | 2.66 | 604 | <1 | 0.04 | 11 | 800 | 8 | 0.19 | <2 | 10 | 30 |
| J998031 | | <10 | 1 | 0.36 | <10 | 0.01 | 36 | 4 | 0.05 | 1 | 250 | 24 | 3.11 | <2 | 2 | 13 |
| J998032 | | <10 | 1 | 0.14 | <10 | 0.01 | 15 | 12 | 0.04 | 4 | 60 | 12 | 5.29 | 2 | 1 | 25 |
| J998033 | | <10 | 2 | 0.16 | <10 | 0.01 | 26 | 19 | 0.05 | 2 | 50 | 57 | 4.45 | <2 | 1 | 20 |
| J998034 | | <10 | 7 | 0.19 | <10 | 0.01 | 21 | 15 | 0.06 | 29 | 40 | 119 | 4.45 | 142 | 1 | 27 |
| J998035 | | <10 | 2 | 0.14 | <10 | 0.01 | 12 | 8 | 0.05 | 37 | 20 | 46 | 4.63 | 18 | 1 | 25 |
| J998036 | | <10 | 6 | 0.12 | <10 | 0.01 | 21 | 10 | 0.04 | 24 | 10 | 225 | 8.16 | 65 | 1 | 55 |
| J998037 | | <10 | 5 | 0.09 | <10 | 0.01 | 20 | 23 | 0.03 | 20 | 10 | 107 | 8.16 | 42 | 1 | 59 |
| J998038 | | <10 | 2 | 0.09 | <10 | 0.94 | 329 | 13 | 0.02 | 23 | 110 | 248 | >10.0 | <2 | 2 | 7 |
| J998039 | | <10 | 4 | 0.11 | <10 | 0.01 | 51 | 41 | 0.03 | 10 | 50 | 138 | 6.63 | 13 | 1 | 60 |
| J998040 | | <10 | 16 | 0.01 | <10 | 0.01 | <5 | 70 | 0.02 | 21 | <10 | 84 | >10.0 | 4 | <1 | 18 |
| J998041 | | <10 | <1 | 0.01 | <10 | 12.70 | 212 | <1 | <0.01 | <1 | 160 | 2 | 0.05 | <2 | <1 | 46 |
| J998042 | | <10 | <1 | 0.12 | 10 | 0.33 | 195 | 3 | 0.06 | <1 | 270 | 212 | 0.25 | 11 | 2 | 23 |
| J998043 | | <10 | 10 | 0.14 | <10 | 0.14 | 100 | 30 | 0.05 | 21 | 150 | 264 | 8.16 | 8 | 2 | 84 |
| J998044 | | <10 | 2 | 0.12 | <10 | 0.38 | 166 | 17 | 0.04 | 7 | 230 | 72 | 7.84 | <2 | 2 | 59 |
| J998045 | | <10 | 1 | 0.25 | <10 | 1.17 | 524 | <1 | 0.09 | 5 | 750 | 22 | 0.47 | <2 | 6 | 36 |
| J998046 | | <10 | 3 | 0.21 | <10 | 0.11 | 76 | 26 | 0.04 | 25 | 180 | 37 | >10.0 | <2 | 3 | 51 |
| J998047 | | <10 | 3 | 0.25 | <10 | 0.31 | 142 | 13 | 0.04 | 25 | 510 | 34 | 7.41 | <2 | 2 | 40 |
| J998048 | | <10 | <1 | 0.40 | 10 | 1.18 | 652 | 2 | 0.05 | 4 | 570 | 16 | 2.74 | <2 | 6 | 25 |
| J998049 | | <10 | 1 | 0.41 | 10 | 0.34 | 362 | 5 | 0.05 | <1 | 520 | 3 | 3.87 | <2 | 2 | 8 |
| J998050 | | 10 | <1 | 0.52 | <10 | 1.96 | 594 | <1 | 0.08 | 4 | 670 | <2 | 0.16 | <2 | 4 | 17 |
| J998051 | | <10 | <1 | 0.47 | 10 | 0.85 | 1265 | 3 | 0.04 | <1 | 680 | 4 | 2.05 | <2 | 2 | 10 |

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**Finalized Date: 27-JUL-2011**
**Account: F**

Project: Arcus-TL-04-11

# CERTIFICATE OF ANALYSIS WH11135392

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | Zn-OG46 |
|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm | % |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 | 0.001 |
| J998016 | | <20 | 0.08 | <10 | <10 | 2 | <10 | 71 | |
| J998017 | | <20 | 0.07 | <10 | <10 | 2 | <10 | 59 | |
| J998018 | | <20 | 0.04 | <10 | <10 | 1 | <10 | 94 | |
| J998019 | | <20 | 0.04 | <10 | <10 | 7 | <10 | 96 | |
| J998020 | | <20 | 0.10 | <10 | <10 | 3 | <10 | 77 | |
| J998021 | | <20 | 0.09 | <10 | <10 | 2 | <10 | 138 | |
| J998022 | | <20 | 0.09 | <10 | <10 | 89 | <10 | 2810 | |
| J998023 | | <20 | 0.02 | <10 | <10 | 6 | <10 | 90 | |
| J998024 | | <20 | <0.01 | <10 | 10 | 3 | <10 | 20 | |
| J998025 | | <20 | 0.08 | <10 | <10 | 6 | <10 | 97 | |
| J998026 | | <20 | 0.12 | <10 | <10 | 24 | <10 | 138 | |
| J998027 | | <20 | 0.10 | <10 | <10 | 112 | <10 | 110 | |
| J998028 | | <20 | 0.09 | <10 | <10 | 133 | <10 | 155 | |
| J998029 | | <20 | <0.01 | <10 | <10 | 5 | <10 | 103 | |
| J998030 | | <20 | 0.03 | <10 | <10 | 160 | <10 | 296 | |
| J998031 | | <20 | <0.01 | <10 | <10 | 5 | <10 | 4 | |
| J998032 | | <20 | 0.01 | <10 | <10 | 4 | <10 | 4 | |
| J998033 | | <20 | 0.01 | <10 | <10 | 3 | <10 | 4 | |
| J998034 | | <20 | 0.01 | <10 | <10 | 6 | <10 | 4 | |
| J998035 | | <20 | <0.01 | <10 | <10 | 5 | <10 | 4 | |
| J998036 | | <20 | <0.01 | <10 | <10 | 4 | <10 | 165 | |
| J998037 | | <20 | <0.01 | <10 | <10 | 4 | <10 | 349 | |
| J998038 | | <20 | 0.02 | <10 | <10 | 15 | <10 | >10000 | 1.320 |
| J998039 | | <20 | 0.01 | <10 | <10 | 11 | <10 | 149 | |
| J998040 | | <20 | <0.01 | <10 | <10 | 1 | <10 | 401 | |
| J998041 | | <20 | <0.01 | <10 | <10 | <1 | <10 | 16 | |
| J998042 | | <20 | <0.01 | <10 | <10 | 4 | <10 | 89 | |
| J998043 | | <20 | 0.01 | <10 | <10 | 5 | <10 | 157 | |
| J998044 | | <20 | 0.01 | <10 | <10 | 12 | <10 | 394 | |
| J998045 | | <20 | 0.12 | <10 | <10 | 106 | <10 | 339 | |
| J998046 | | <20 | 0.01 | <10 | <10 | 9 | <10 | 226 | |
| J998047 | | <20 | 0.01 | <10 | <10 | 12 | <10 | 2350 | |
| J998048 | | <20 | 0.03 | <10 | <10 | 57 | <10 | 301 | |
| J998049 | | <20 | 0.02 | <10 | <10 | 8 | <10 | 1160 | |
| J998050 | | <20 | 0.13 | <10 | <10 | 105 | <10 | 209 | |
| J998051 | | <20 | 0.03 | <10 | <10 | 9 | <10 | 372 | |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
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**VANCOUVER BC V6B 1L8**


**Finalized Date: 27-JUL-2011**
**Account: F**

# CERTIFICATE WH11138851

Project: Arcus-TL-04-11

P.O. No.: Batch 8

This report is for 8 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 21-JUL-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| CRU-QC | Crushing QC Test |
| CRU-31 | Fine crushing - 70% <2mm |
| SPL-21 | Split sample - riffle splitter |
| PUL-31 | Pulverize split to 85% <75 um |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au-AA24 | Au 50g FA AA finish | AAS |
| ME-ICP41 | 35 Element Aqua Regia ICP-AES | ICP-AES |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
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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

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**Finalized Date: 27-JUL-2011**
**Account: F**

Project: Arcus-TL-04-11

# CERTIFICATE OF ANALYSIS WH11138851

| Sample Description | Method | WEI-21 | Au-AA24 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.005 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| J998052 | | 3.84 | <0.005 | 0.2 | 1.32 | 4 | <10 | 170 | <0.5 | <2 | 0.93 | 0.5 | 13 | 4 | 29 | 2.37 |
| J998053 | | 5.30 | <0.005 | 0.2 | 1.27 | 2 | <10 | 110 | <0.5 | <2 | 0.51 | <0.5 | 14 | 5 | 129 | 3.47 |
| J998054 | | 4.90 | <0.005 | 0.3 | 1.51 | 6 | <10 | 100 | <0.5 | <2 | 0.80 | 1.4 | 14 | 18 | 232 | 3.08 |
| J998055 | | 5.07 | <0.005 | <0.2 | 1.34 | 2 | <10 | 90 | <0.5 | <2 | 0.33 | <0.5 | 7 | 3 | 54 | 2.64 |
| J998056 | | 4.96 | <0.005 | <0.2 | 1.50 | <2 | <10 | 130 | <0.5 | <2 | 0.31 | <0.5 | 7 | 3 | 213 | 2.46 |
| J998057 | | 5.25 | <0.005 | <0.2 | 1.58 | 2 | <10 | 150 | <0.5 | <2 | 0.42 | <0.5 | 9 | 5 | 91 | 2.36 |
| J998058 | | 4.92 | <0.005 | <0.2 | 1.03 | 3 | <10 | 110 | <0.5 | <2 | 0.74 | <0.5 | 7 | 2 | 27 | 2.68 |
| J998059 | | 5.12 | <0.005 | <0.2 | 1.34 | 4 | <10 | 70 | <0.5 | <2 | 0.74 | <0.5 | 12 | 4 | 34 | 3.31 |

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**Finalized Date: 27-JUL-2011**
**Account: F**

Project: Arcus-TL-04-11

# CERTIFICATE OF ANALYSIS WH11138851

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| J998052 | | <10 | <1 | 0.57 | 10 | 0.81 | 764 | 9 | 0.06 | 2 | 720 | 5 | 1.66 | <2 | 5 | 11 |
| J998053 | | <10 | <1 | 0.54 | 10 | 0.85 | 494 | 2 | 0.05 | 3 | 410 | 6 | 2.68 | <2 | 4 | 8 |
| J998054 | | <10 | 1 | 0.39 | 10 | 1.13 | 480 | 4 | 0.08 | 13 | 680 | 4 | 1.64 | <2 | 5 | 16 |
| J998055 | | <10 | 1 | 0.58 | <10 | 0.92 | 315 | 2 | 0.05 | <1 | 420 | 2 | 1.63 | <2 | 2 | 9 |
| J998056 | | <10 | 1 | 0.66 | 10 | 1.08 | 466 | 1 | 0.05 | <1 | 450 | 2 | 0.95 | <2 | 3 | 8 |
| J998057 | | <10 | 1 | 0.78 | 10 | 0.86 | 490 | 1 | 0.05 | 1 | 410 | 2 | 0.65 | 2 | 3 | 8 |
| J998058 | | <10 | <1 | 0.38 | 10 | 0.35 | 282 | 3 | 0.07 | <1 | 390 | 4 | 2.13 | <2 | 4 | 14 |
| J998059 | | <10 | <1 | 0.34 | 10 | 0.80 | 401 | 1 | 0.05 | 3 | 520 | 3 | 2.00 | <2 | 3 | 13 |

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**Finalized Date: 27-JUL-2011**
**Account: F**

Project: Arcus-TL-04-11

# CERTIFICATE OF ANALYSIS WH11138851

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| J998052 | | <20 | 0.03 | <10 | <10 | 22 | <10 | 227 |
| J998053 | | <20 | 0.04 | <10 | <10 | 35 | <10 | 213 |
| J998054 | | <20 | 0.04 | <10 | <10 | 23 | <10 | 358 |
| J998055 | | <20 | 0.05 | <10 | <10 | 12 | <10 | 183 |
| J998056 | | <20 | 0.06 | <10 | <10 | 14 | <10 | 213 |
| J998057 | | <20 | 0.06 | <10 | <10 | 17 | <10 | 247 |
| J998058 | | <20 | 0.02 | <10 | <10 | 8 | <10 | 94 |
| J998059 | | <20 | 0.03 | <10 | <10 | 31 | <10 | 172 |

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**Finalized Date: 11-AUG-2011**
**Account: F**

# CERTIFICATE WH11143335

Project: Arcus-TL-04-11

P.O. No.: Batch 7

This report is for 36 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 28-JUL-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| FND-02 | Find Sample for Addn Analysis |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au-AA24 | Au 50g FA AA finish | AAS |
| ME-ICP41 | 35 Element Aqua Regia ICP-AES | ICP-AES |
| ME-OG46 | Ore Grade Elements - AquaRegia | ICP-AES |
| Zn-OG46 | Ore Grade Zn - Aqua Regia | VARIABLE |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
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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

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**Finalized Date: 11-AUG-2011**
**Account: F**

Project: Arcus-TL-04-11

# CERTIFICATE OF ANALYSIS WH11143335

| Sample Description | Method | Au-AA24 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe | Ga |
| | Units | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % | ppm |
| | LOR | 0.005 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 | 10 |
| J998016 | | <0.005 | <0.2 | 1.12 | <2 | <10 | 160 | <0.5 | <2 | 0.26 | <0.5 | 2 | 6 | 3 | 1.69 | <10 |
| J998017 | | <0.005 | <0.2 | 1.08 | 2 | <10 | 150 | <0.5 | <2 | 0.23 | <0.5 | 2 | 3 | 12 | 1.97 | <10 |
| J998018 | | <0.005 | <0.2 | 1.17 | <2 | <10 | 90 | <0.5 | <2 | 0.22 | <0.5 | 2 | 5 | 4 | 1.78 | <10 |
| J998019 | | <0.005 | <0.2 | 1.26 | 2 | <10 | 90 | <0.5 | <2 | 0.21 | <0.5 | 6 | 4 | 28 | 2.31 | 10 |
| J998020 | | <0.005 | <0.2 | 1.19 | <2 | <10 | 180 | <0.5 | <2 | 0.23 | <0.5 | 3 | 4 | 30 | 2.16 | <10 |
| J998021 | | <0.005 | <0.2 | 1.10 | <2 | <10 | 160 | <0.5 | <2 | 0.27 | <0.5 | 6 | 3 | 32 | 1.60 | <10 |
| J998022 | | 0.348 | 52.6 | 1.14 | 101 | <10 | 50 | <0.5 | <2 | 0.51 | 21.7 | 18 | 32 | 4280 | 4.73 | 10 |
| J998023 | | <0.005 | <0.2 | 0.71 | 18 | <10 | 110 | <0.5 | <2 | 0.08 | <0.5 | 10 | 2 | 45 | 3.69 | <10 |
| J998024 | | 0.005 | <0.2 | 0.03 | <2 | <10 | <10 | <0.5 | <2 | 20.9 | <0.5 | 2 | <1 | 2 | 0.47 | <10 |
| J998025 | | <0.005 | <0.2 | 1.16 | <2 | <10 | 170 | <0.5 | <2 | 0.23 | <0.5 | 4 | 3 | 23 | 2.19 | <10 |
| J998026 | | <0.005 | <0.2 | 1.47 | 5 | <10 | 140 | <0.5 | <2 | 0.39 | <0.5 | 6 | 4 | 39 | 2.79 | 10 |
| J998027 | | 0.005 | <0.2 | 1.99 | 4 | <10 | 110 | <0.5 | <2 | 0.76 | <0.5 | 20 | 16 | 151 | 3.92 | 10 |
| J998028 | | <0.005 | <0.2 | 3.04 | <2 | <10 | 140 | <0.5 | <2 | 0.82 | <0.5 | 26 | 4 | 172 | 5.04 | 10 |
| J998029 | | 0.025 | 0.8 | 0.46 | 3 | <10 | 70 | <0.5 | <2 | 0.01 | <0.5 | 7 | 3 | 112 | 3.32 | <10 |
| J998030 | | 0.011 | <0.2 | 3.68 | 3 | <10 | 30 | <0.5 | <2 | 0.55 | <0.5 | 28 | 9 | 224 | 6.73 | 10 |
| J998031 | | 0.066 | 2.0 | 0.40 | 10 | <10 | 20 | <0.5 | <2 | 0.01 | <0.5 | 4 | 3 | 30 | 3.87 | <10 |
| J998032 | | 0.046 | 1.2 | 0.33 | 5 | <10 | 10 | <0.5 | 2 | 0.01 | <0.5 | 5 | 1 | 4 | 4.90 | <10 |
| J998033 | | 0.065 | 1.0 | 0.37 | 8 | <10 | 10 | <0.5 | <2 | <0.01 | <0.5 | 4 | 3 | 6 | 4.33 | <10 |
| J998034 | | 0.349 | 4.9 | 0.53 | 59 | <10 | 20 | <0.5 | 3 | <0.01 | <0.5 | 8 | 10 | 27 | 4.23 | <10 |
| J998035 | | 0.153 | 1.1 | 0.39 | 17 | <10 | 20 | <0.5 | <2 | <0.01 | <0.5 | 11 | 9 | 31 | 4.30 | <10 |
| J998036 | | 0.396 | 3.6 | 0.36 | 279 | <10 | <10 | <0.5 | 2 | <0.01 | 0.6 | 13 | 8 | 632 | 7.33 | <10 |
| J998037 | | 0.718 | 6.0 | 0.29 | 134 | <10 | 10 | <0.5 | 2 | <0.01 | 0.8 | 15 | 7 | 510 | 7.13 | <10 |
| J998038 | | 2.15 | 14.5 | 1.03 | 30 | <10 | 20 | <0.5 | <2 | 0.31 | 56.7 | 12 | 44 | 5040 | 9.57 | <10 |
| J998039 | | 1.275 | 12.7 | 0.35 | 53 | <10 | 20 | <0.5 | 2 | 0.01 | <0.5 | 13 | 7 | 2010 | 6.25 | <10 |
| J998040 | | 0.591 | 15.9 | 0.03 | 43 | <10 | <10 | <0.5 | 2 | <0.01 | 1.8 | 13 | <1 | 4700 | 23.7 | <10 |
| J998041 | | 0.008 | <0.2 | 0.02 | 3 | <10 | 210 | <0.5 | <2 | 20.1 | <0.5 | 2 | <1 | 19 | 0.51 | <10 |
| J998042 | | 0.022 | 0.4 | 0.88 | 44 | <10 | 900 | <0.5 | <2 | 0.10 | <0.5 | 2 | 6 | 104 | 1.75 | <10 |
| J998043 | | 0.446 | 14.8 | 0.59 | 27 | <10 | 20 | <0.5 | <2 | 0.04 | 1.1 | 7 | 6 | 4310 | 7.44 | <10 |
| J998044 | | 0.408 | 8.2 | 0.82 | 28 | <10 | 20 | <0.5 | <2 | 0.07 | 0.5 | 14 | 7 | 4720 | 8.11 | <10 |
| J998045 | | 0.016 | 0.3 | 2.24 | 41 | <10 | 850 | <0.5 | <2 | 0.84 | 1.1 | 19 | 5 | 1070 | 4.01 | 10 |
| J998046 | | 0.452 | 3.7 | 0.63 | 32 | <10 | 20 | <0.5 | <2 | 0.04 | <0.5 | 16 | 8 | 2980 | 9.87 | <10 |
| J998047 | | 0.108 | 2.1 | 0.91 | 11 | <10 | 30 | <0.5 | <2 | 0.19 | 8.6 | 16 | 6 | 2420 | 6.99 | <10 |
| J998048 | | 0.034 | 0.5 | 1.76 | 3 | <10 | 40 | <0.5 | <2 | 1.50 | 0.7 | 17 | 4 | 284 | 4.95 | <10 |
| J998049 | | 0.052 | 0.4 | 0.97 | 4 | <10 | 30 | <0.5 | <2 | 0.34 | 2.9 | 8 | 4 | 454 | 4.40 | <10 |
| J998050 | | 0.007 | <0.2 | 2.75 | <2 | <10 | 400 | <0.5 | <2 | 0.74 | <0.5 | 20 | 5 | 156 | 4.24 | 10 |
| J998051 | | 0.013 | 0.2 | 1.06 | <2 | <10 | 100 | <0.5 | <2 | 1.46 | 0.7 | 7 | 2 | 124 | 2.51 | <10 |

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**Finalized Date: 11-AUG-2011**
**Account: F**

Project: Arcus-TL-04-11

# CERTIFICATE OF ANALYSIS WH11143335

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr | Th |
| | Units | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm |
| | LOR | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 | 20 |
| J998016 | | 1 | 0.61 | 10 | 0.54 | 327 | <1 | 0.06 | <1 | 250 | 3 | 0.03 | <2 | 2 | 14 | <20 |
| J998017 | | <1 | 0.36 | 10 | 0.49 | 277 | 2 | 0.06 | <1 | 220 | 4 | 0.11 | <2 | 3 | 33 | <20 |
| J998018 | | <1 | 0.26 | 10 | 0.65 | 305 | <1 | 0.07 | <1 | 230 | <2 | 0.05 | <2 | 2 | 11 | <20 |
| J998019 | | <1 | 0.23 | 10 | 0.60 | 389 | <1 | 0.07 | 1 | 320 | 2 | 0.02 | <2 | 4 | 10 | <20 |
| J998020 | | <1 | 0.46 | 10 | 0.45 | 338 | <1 | 0.07 | 1 | 310 | 2 | 0.06 | <2 | 3 | 21 | <20 |
| J998021 | | <1 | 0.49 | 10 | 0.57 | 424 | <1 | 0.05 | 1 | 320 | <2 | 0.08 | <2 | 2 | 12 | <20 |
| J998022 | | 1 | 0.56 | 10 | 0.69 | 489 | 174 | 0.05 | 23 | 900 | 2180 | 2.52 | 65 | 7 | 35 | <20 |
| J998023 | | <1 | 0.15 | 20 | 0.15 | 91 | 2 | 0.04 | 5 | 500 | 7 | 0.10 | <2 | 3 | 29 | <20 |
| J998024 | | <1 | 0.02 | <10 | 12.50 | 216 | <1 | 0.02 | 1 | 200 | <2 | 0.03 | <2 | <1 | 51 | <20 |
| J998025 | | <1 | 0.49 | 10 | 0.51 | 283 | <1 | 0.05 | 1 | 300 | 2 | 0.04 | <2 | 3 | 10 | <20 |
| J998026 | | <1 | 0.44 | 10 | 0.81 | 415 | <1 | 0.08 | 2 | 480 | 2 | 0.12 | <2 | 4 | 14 | <20 |
| J998027 | | <1 | 0.22 | <10 | 1.49 | 431 | 1 | 0.12 | 12 | 620 | 2 | 0.52 | <2 | 7 | 14 | <20 |
| J998028 | | <1 | 0.21 | <10 | 2.36 | 488 | <1 | 0.12 | 8 | 690 | 4 | 0.37 | <2 | 7 | 15 | <20 |
| J998029 | | 1 | 0.18 | 10 | 0.09 | 42 | 6 | 0.06 | 3 | 230 | 15 | 3.22 | <2 | 1 | 13 | <20 |
| J998030 | | <1 | 0.07 | <10 | 2.70 | 582 | <1 | 0.05 | 12 | 810 | 8 | 0.19 | <2 | 11 | 29 | <20 |
| J998031 | | 1 | 0.37 | <10 | 0.03 | 34 | 6 | 0.05 | 1 | 260 | 24 | 3.16 | <2 | 2 | 13 | <20 |
| J998032 | | 1 | 0.14 | <10 | 0.01 | 15 | 13 | 0.03 | 3 | 50 | 13 | 5.17 | <2 | 1 | 24 | <20 |
| J998033 | | 2 | 0.16 | <10 | 0.01 | 27 | 19 | 0.04 | 1 | 40 | 55 | 4.38 | <2 | 1 | 19 | <20 |
| J998034 | | 7 | 0.21 | <10 | 0.01 | 21 | 15 | 0.05 | 27 | 30 | 117 | 4.44 | 141 | 2 | 27 | <20 |
| J998035 | | 2 | 0.14 | <10 | 0.01 | 15 | 9 | 0.05 | 35 | 20 | 47 | 4.55 | 18 | 1 | 25 | <20 |
| J998036 | | 6 | 0.13 | <10 | <0.01 | 21 | 11 | 0.04 | 22 | 10 | 228 | 8.19 | 64 | 1 | 53 | <20 |
| J998037 | | 5 | 0.11 | <10 | 0.01 | 20 | 24 | 0.03 | 20 | 10 | 105 | 8.08 | 43 | 1 | 53 | <20 |
| J998038 | | 2 | 0.11 | <10 | 1.04 | 356 | 13 | 0.02 | 23 | 110 | 255 | >10.0 | <2 | 2 | 8 | <20 |
| J998039 | | 3 | 0.13 | <10 | <0.01 | 61 | 45 | 0.01 | 9 | 60 | 140 | 6.79 | 12 | 1 | 56 | <20 |
| J998040 | | 15 | 0.01 | <10 | <0.01 | <5 | 73 | 0.02 | 17 | <10 | 88 | >10.0 | 4 | <1 | 19 | <20 |
| J998041 | | <1 | 0.01 | <10 | 12.55 | 212 | <1 | 0.02 | 1 | 170 | <2 | 0.08 | <2 | <1 | 48 | <20 |
| J998042 | | <1 | 0.13 | 10 | 0.32 | 197 | 3 | 0.06 | <1 | 260 | 207 | 0.25 | 10 | 2 | 21 | <20 |
| J998043 | | 10 | 0.14 | <10 | 0.13 | 103 | 29 | 0.05 | 20 | 140 | 264 | 7.62 | 6 | 2 | 89 | <20 |
| J998044 | | 2 | 0.13 | <10 | 0.39 | 170 | 17 | 0.03 | 5 | 230 | 76 | 7.66 | <2 | 2 | 55 | <20 |
| J998045 | | <1 | 0.26 | <10 | 1.21 | 547 | <1 | 0.09 | 3 | 750 | 22 | 0.47 | <2 | 6 | 38 | <20 |
| J998046 | | 2 | 0.22 | <10 | 0.11 | 79 | 29 | 0.04 | 26 | 180 | 39 | >10.0 | <2 | 3 | 52 | <20 |
| J998047 | | 2 | 0.28 | <10 | 0.33 | 147 | 13 | 0.04 | 24 | 510 | 36 | 7.27 | <2 | 2 | 45 | <20 |
| J998048 | | <1 | 0.44 | 10 | 1.25 | 684 | 2 | 0.06 | 4 | 580 | 17 | 2.80 | <2 | 7 | 26 | <20 |
| J998049 | | 1 | 0.44 | 10 | 0.35 | 383 | 5 | 0.05 | <1 | 520 | 6 | 4.01 | <2 | 2 | 8 | <20 |
| J998050 | | 1 | 0.53 | <10 | 2.03 | 613 | <1 | 0.08 | 4 | 680 | 2 | 0.17 | <2 | 4 | 16 | <20 |
| J998051 | | <1 | 0.44 | 10 | 0.83 | 1190 | 4 | 0.03 | 4 | 630 | 8 | 1.92 | <2 | 2 | 10 | <20 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 11-AUG-2011**
**Account: F**

Project: Arcus-TL-04-11

# CERTIFICATE OF ANALYSIS WH11143335

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | Zn-OG46 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Ti | Tl | U | V | W | Zn | Zn |
| | Units | % | ppm | ppm | ppm | ppm | ppm | % |
| | LOR | 0.01 | 10 | 10 | 1 | 10 | 2 | 0.001 |
| J998016 | | 0.09 | <10 | <10 | 2 | <10 | 71 | |
| J998017 | | 0.07 | <10 | <10 | 2 | <10 | 57 | |
| J998018 | | 0.04 | <10 | <10 | 1 | <10 | 91 | |
| J998019 | | 0.04 | <10 | <10 | 7 | <10 | 95 | |
| J998020 | | 0.10 | <10 | <10 | 3 | <10 | 75 | |
| J998021 | | 0.09 | <10 | <10 | 2 | <10 | 133 | |
| J998022 | | 0.09 | <10 | <10 | 88 | <10 | 2750 | |
| J998023 | | 0.02 | <10 | <10 | 5 | <10 | 89 | |
| J998024 | | <0.01 | <10 | 20 | 1 | <10 | 20 | |
| J998025 | | 0.08 | <10 | <10 | 6 | <10 | 96 | |
| J998026 | | 0.12 | <10 | <10 | 23 | <10 | 131 | |
| J998027 | | 0.10 | <10 | <10 | 113 | <10 | 110 | |
| J998028 | | 0.10 | <10 | <10 | 137 | <10 | 155 | |
| J998029 | | <0.01 | <10 | <10 | 5 | <10 | 104 | |
| J998030 | | 0.03 | <10 | <10 | 158 | <10 | 289 | |
| J998031 | | <0.01 | <10 | <10 | 5 | <10 | 3 | |
| J998032 | | 0.01 | <10 | <10 | 4 | <10 | 2 | |
| J998033 | | 0.01 | <10 | <10 | 3 | <10 | 3 | |
| J998034 | | 0.01 | <10 | <10 | 6 | <10 | 4 | |
| J998035 | | <0.01 | <10 | <10 | 5 | <10 | 3 | |
| J998036 | | <0.01 | <10 | <10 | 4 | <10 | 165 | |
| J998037 | | <0.01 | <10 | <10 | 4 | <10 | 346 | |
| J998038 | | 0.02 | <10 | <10 | 17 | <10 | >10000 | 1.300 |
| J998039 | | 0.02 | <10 | <10 | 14 | <10 | 111 | |
| J998040 | | <0.01 | <10 | <10 | 2 | <10 | 424 | |
| J998041 | | <0.01 | <10 | 20 | 1 | <10 | 18 | |
| J998042 | | 0.01 | <10 | <10 | 4 | <10 | 87 | |
| J998043 | | 0.01 | <10 | <10 | 5 | <10 | 162 | |
| J998044 | | 0.01 | <10 | <10 | 13 | <10 | 409 | |
| J998045 | | 0.12 | <10 | <10 | 109 | <10 | 343 | |
| J998046 | | 0.01 | <10 | <10 | 10 | <10 | 230 | |
| J998047 | | 0.01 | <10 | <10 | 13 | <10 | 2380 | |
| J998048 | | 0.03 | <10 | <10 | 61 | <10 | 312 | |
| J998049 | | 0.02 | <10 | <10 | 8 | <10 | 1175 | |
| J998050 | | 0.13 | <10 | <10 | 107 | <10 | 210 | |
| J998051 | | 0.03 | <10 | <10 | 9 | <10 | 358 | |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 21-AUG-2011**
**Account: F**

# CERTIFICATE WH11151853

Project: Arcus TL-05-11

P.O. No.: Batch C

This report is for 36 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 5-AUG-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| CRU-QC | Crushing QC Test |
| PUL-QC | Pulverizing QC Test |
| CRU-31 | Fine crushing - 70% <2mm |
| SPL-21 | Split sample - riffle splitter |
| PUL-31 | Pulverize split to 85% <75 um |
| LOG-24 | Pulp Login - Rcd w/o Barcode |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au-AA24 | Au 50g FA AA finish | AAS |
| ME-ICP41 | 35 Element Aqua Regia ICP-AES | ICP-AES |
| Ag-OG46 | Ore Grade Ag - Aqua Regia | VARIABLE |
| ME-OG46 | Ore Grade Elements - AquaRegia | ICP-AES |
| Cu-OG46 | Ore Grade Cu - Aqua Regia | VARIABLE |
| Zn-OG46 | Ore Grade Zn - Aqua Regia | VARIABLE |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**Finalized Date: 21-AUG-2011**
**Account: F**

Project: Arcus TL-05-11

# CERTIFICATE OF ANALYSIS WH11151853

| Sample Description | Method | WEI-21 | Au-AA24 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.005 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| J998060 | | 3.21 | <0.005 | <0.2 | 0.66 | <2 | <10 | 90 | <0.5 | <2 | 0.48 | <0.5 | 3 | 6 | 28 | 1.73 |
| J998061 | | 5.28 | <0.005 | <0.2 | 0.48 | <2 | <10 | 80 | <0.5 | <2 | 0.97 | <0.5 | 2 | 4 | 121 | 0.83 |
| J998062 | | 5.63 | <0.005 | <0.2 | 0.59 | 2 | <10 | 70 | <0.5 | 2 | 1.11 | <0.5 | 1 | 5 | 9 | 1.85 |
| J998063 | | 7.91 | <0.005 | <0.2 | 0.65 | <2 | <10 | 80 | <0.5 | <2 | 0.91 | <0.5 | 3 | 6 | 12 | 1.33 |
| J998064 | | 6.65 | <0.005 | <0.2 | 0.69 | <2 | <10 | 80 | <0.5 | 2 | 0.75 | <0.5 | 3 | 4 | 8 | 1.56 |
| J998065 | | 3.64 | <0.005 | <0.2 | 0.61 | <2 | <10 | 90 | <0.5 | <2 | 0.88 | <0.5 | 2 | 4 | 36 | 1.47 |
| J998066 | | 7.05 | <0.005 | <0.2 | 0.67 | <2 | <10 | 90 | <0.5 | <2 | 0.96 | <0.5 | 3 | 5 | 3 | 1.56 |
| J998067 | | 4.78 | <0.005 | <0.2 | 0.74 | <2 | <10 | 90 | <0.5 | <2 | 0.63 | <0.5 | 3 | 6 | 6 | 1.47 |
| J998068 | | 12.74 | <0.005 | <0.2 | 0.69 | <2 | <10 | 80 | <0.5 | <2 | 0.82 | <0.5 | 2 | 7 | 12 | 1.47 |
| J998069 | | 2.03 | <0.005 | <0.2 | 0.63 | <2 | <10 | 90 | <0.5 | <2 | 0.75 | <0.5 | 2 | 7 | 22 | 2.27 |
| J998070 | | 0.21 | 0.352 | 53.1 | 1.15 | 106 | <10 | 70 | <0.5 | 2 | 0.51 | 22.6 | 17 | 35 | 4620 | 4.66 |
| J998071 | | 3.09 | <0.005 | <0.2 | 0.59 | <2 | <10 | 100 | <0.5 | 2 | 0.86 | <0.5 | 1 | 2 | 11 | 1.89 |
| J998072 | | 5.57 | <0.005 | <0.2 | 0.69 | <2 | <10 | 110 | <0.5 | 2 | 0.71 | <0.5 | 1 | 4 | 2 | 2.04 |
| J998073 | | 6.18 | <0.005 | <0.2 | 0.62 | <2 | <10 | 150 | <0.5 | 3 | 1.18 | <0.5 | 1 | 3 | 5 | 1.44 |
| J998074 | | 7.68 | <0.005 | <0.2 | 0.66 | <2 | <10 | 100 | <0.5 | <2 | 1.14 | <0.5 | 1 | 3 | 9 | 0.81 |
| J998075 | | 7.11 | <0.005 | <0.2 | 0.65 | <2 | <10 | 80 | <0.5 | <2 | 1.19 | <0.5 | 1 | 4 | 34 | 0.93 |
| J998076 | | 6.12 | <0.005 | <0.2 | 0.71 | <2 | <10 | 100 | <0.5 | <2 | 0.97 | <0.5 | 1 | 4 | 22 | 1.29 |
| J998077 | | 6.17 | <0.005 | <0.2 | 0.78 | 2 | <10 | 100 | <0.5 | 2 | 1.04 | <0.5 | 5 | 4 | 21 | 1.40 |
| J998078 | | 6.07 | <0.005 | <0.2 | 1.01 | 3 | <10 | 110 | <0.5 | <2 | 0.97 | <0.5 | 7 | 4 | 16 | 1.46 |
| J998079 | | 6.18 | 0.005 | <0.2 | 0.75 | 2 | <10 | 80 | <0.5 | <2 | 0.70 | <0.5 | 3 | 3 | 6 | 1.13 |
| J998080 | | 8.96 | <0.005 | <0.2 | 0.99 | <2 | <10 | 110 | <0.5 | 2 | 0.59 | <0.5 | 3 | 3 | 12 | 1.32 |
| J998081 | | 7.14 | <0.005 | <0.2 | 0.54 | <2 | <10 | 90 | <0.5 | <2 | 0.75 | <0.5 | 2 | 3 | 7 | 1.09 |
| J998082 | | 7.40 | <0.005 | <0.2 | 0.65 | <2 | <10 | 90 | <0.5 | <2 | 0.82 | <0.5 | 2 | 14 | 9 | 1.15 |
| J998083 | | 5.51 | <0.005 | <0.2 | 0.82 | 2 | <10 | 90 | <0.5 | 2 | 0.56 | <0.5 | 2 | 2 | 10 | 1.66 |
| J998084 | | 7.67 | <0.005 | <0.2 | 1.05 | 2 | <10 | 120 | <0.5 | <2 | 0.40 | <0.5 | 3 | 16 | 6 | 2.27 |
| J998085 | | 5.79 | <0.005 | <0.2 | 0.80 | 2 | <10 | 100 | <0.5 | 2 | 0.43 | <0.5 | 3 | 6 | 69 | 2.45 |
| J998086 | | 6.68 | <0.005 | <0.2 | 0.97 | <2 | <10 | 180 | <0.5 | <2 | 0.27 | <0.5 | 3 | 5 | 15 | 1.94 |
| J998087 | | 6.56 | <0.005 | <0.2 | 1.09 | 4 | <10 | 250 | <0.5 | <2 | 0.23 | <0.5 | 2 | 4 | 5 | 2.23 |
| J998088 | | 6.43 | <0.005 | <0.2 | 0.74 | <2 | <10 | 120 | <0.5 | <2 | 0.43 | <0.5 | 3 | 3 | 17 | 1.11 |
| J998089 | | 1.58 | <0.005 | <0.2 | 0.14 | 3 | <10 | 20 | <0.5 | <2 | 19.5 | <0.5 | 1 | <1 | <1 | 0.45 |
| J998090 | | 8.56 | 0.012 | <0.2 | 0.75 | 3 | <10 | 90 | <0.5 | <2 | 0.33 | 0.8 | 5 | 5 | 122 | 1.12 |
| J998091 | | 4.42 | <0.005 | <0.2 | 1.40 | 10 | <10 | 100 | <0.5 | <2 | 0.37 | 1.3 | 7 | 5 | 333 | 2.87 |
| J998092 | | 0.06 | 2.21 | 14.0 | 0.90 | 26 | <10 | 30 | <0.5 | 5 | 0.31 | 55.0 | 10 | 41 | 4830 | 8.94 |
| J998093 | | 6.40 | <0.005 | 0.3 | 0.81 | 17 | <10 | 130 | <0.5 | <2 | 0.07 | <0.5 | 7 | 8 | 145 | 2.70 |
| J998094 | | 1.49 | <0.005 | <0.2 | 0.04 | <2 | <10 | 10 | <0.5 | <2 | 20.0 | <0.5 | 1 | 1 | 26 | 0.48 |
| J998095 | | 4.84 | 2.79 | >100 | 0.16 | 1340 | <10 | 50 | <0.5 | <2 | 0.14 | 210 | 9 | 3 | >10000 | 18.0 |

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**Finalized Date: 21-AUG-2011**
**Account: F**

Project: Arcus TL-05-11

# CERTIFICATE OF ANALYSIS WH11151853

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| J998060 | | <10 | <1 | 0.23 | 10 | 0.19 | 235 | <1 | 0.04 | 1 | 300 | 3 | 0.01 | <2 | 1 | 11 |
| J998061 | | <10 | <1 | 0.20 | 20 | 0.05 | 226 | <1 | 0.04 | <1 | 210 | 4 | 0.01 | <2 | 2 | 13 |
| J998062 | | <10 | <1 | 0.24 | 10 | 0.05 | 245 | <1 | 0.04 | 1 | 330 | 6 | <0.01 | <2 | 2 | 13 |
| J998063 | | <10 | <1 | 0.23 | 10 | 0.14 | 240 | <1 | 0.04 | 1 | 270 | 4 | <0.01 | <2 | 2 | 15 |
| J998064 | | <10 | <1 | 0.21 | 10 | 0.12 | 287 | <1 | 0.04 | 1 | 230 | 6 | <0.01 | <2 | 2 | 13 |
| J998065 | | <10 | <1 | 0.23 | 10 | 0.07 | 194 | <1 | 0.04 | <1 | 330 | 3 | <0.01 | <2 | 2 | 15 |
| J998066 | | <10 | <1 | 0.21 | 10 | 0.16 | 325 | <1 | 0.03 | 1 | 260 | 3 | <0.01 | <2 | 1 | 14 |
| J998067 | | <10 | <1 | 0.23 | 10 | 0.21 | 256 | <1 | 0.04 | 2 | 250 | 3 | <0.01 | <2 | 1 | 15 |
| J998068 | | <10 | <1 | 0.25 | 10 | 0.22 | 237 | <1 | 0.05 | 1 | 280 | 5 | 0.03 | <2 | 2 | 14 |
| J998069 | | <10 | <1 | 0.23 | 20 | 0.15 | 214 | <1 | 0.06 | 2 | 370 | 7 | 0.01 | <2 | 3 | 15 |
| J998070 | | 10 | <1 | 0.54 | 10 | 0.69 | 490 | 183 | 0.04 | 25 | 920 | 2190 | 2.54 | 70 | 7 | 35 |
| J998071 | | <10 | <1 | 0.26 | 10 | 0.12 | 186 | 2 | 0.05 | <1 | 390 | 6 | 0.01 | <2 | 2 | 15 |
| J998072 | | <10 | <1 | 0.21 | 10 | 0.20 | 187 | <1 | 0.06 | <1 | 420 | 3 | 0.02 | <2 | 2 | 17 |
| J998073 | | <10 | <1 | 0.26 | 10 | 0.14 | 231 | <1 | 0.05 | 1 | 420 | 3 | 0.07 | <2 | 2 | 16 |
| J998074 | | <10 | <1 | 0.29 | 10 | 0.13 | 208 | 1 | 0.06 | <1 | 400 | 3 | 0.08 | <2 | 2 | 11 |
| J998075 | | <10 | <1 | 0.28 | 10 | 0.17 | 229 | 4 | 0.04 | 20 | 400 | 17 | 0.12 | <2 | 2 | 13 |
| J998076 | | <10 | 1 | 0.27 | 10 | 0.27 | 303 | 1 | 0.04 | 9 | 500 | 9 | 0.17 | <2 | 3 | 14 |
| J998077 | | <10 | <1 | 0.29 | 10 | 0.33 | 325 | 2 | 0.05 | 7 | 560 | 7 | 0.34 | <2 | 2 | 14 |
| J998078 | | <10 | 1 | 0.41 | 10 | 0.58 | 401 | 3 | 0.04 | 6 | 350 | 5 | 0.36 | <2 | 2 | 21 |
| J998079 | | <10 | 1 | 0.36 | 10 | 0.32 | 341 | <1 | 0.04 | 4 | 280 | 4 | 0.15 | <2 | 2 | 10 |
| J998080 | | <10 | <1 | 0.52 | 10 | 0.48 | 298 | 3 | 0.03 | 3 | 240 | 5 | 0.13 | <2 | 4 | 13 |
| J998081 | | <10 | <1 | 0.26 | 20 | 0.29 | 310 | 1 | 0.04 | 2 | 230 | 6 | 0.07 | <2 | 4 | 16 |
| J998082 | | <10 | <1 | 0.32 | 20 | 0.37 | 271 | <1 | 0.04 | 5 | 280 | 5 | 0.02 | <2 | 3 | 14 |
| J998083 | | <10 | <1 | 0.33 | 10 | 0.45 | 265 | 5 | 0.02 | 2 | 270 | 4 | 0.20 | <2 | 3 | 13 |
| J998084 | | <10 | 1 | 0.44 | 10 | 0.55 | 257 | <1 | 0.07 | 2 | 520 | 2 | 0.05 | <2 | 5 | 10 |
| J998085 | | <10 | <1 | 0.24 | 10 | 0.41 | 315 | 1 | 0.08 | 1 | 460 | 2 | 0.20 | <2 | 6 | 7 |
| J998086 | | <10 | 1 | 0.48 | 10 | 0.48 | 258 | 1 | 0.07 | 2 | 330 | 2 | 0.33 | <2 | 4 | 7 |
| J998087 | | <10 | <1 | 0.60 | 10 | 0.51 | 222 | <1 | 0.07 | 1 | 340 | 2 | 0.17 | <2 | 4 | 6 |
| J998088 | | <10 | <1 | 0.33 | 10 | 0.30 | 203 | 1 | 0.07 | 2 | 310 | 2 | 0.34 | 2 | 2 | 9 |
| J998089 | | <10 | <1 | 0.13 | <10 | 12.25 | 208 | <1 | <0.01 | 1 | 190 | 3 | 0.08 | <2 | <1 | 49 |
| J998090 | | <10 | <1 | 0.23 | 10 | 0.36 | 167 | 1 | 0.05 | 2 | 290 | 3 | 0.41 | <2 | 2 | 9 |
| J998091 | | <10 | <1 | 0.16 | <10 | 0.62 | 229 | 1 | 0.03 | 4 | 460 | 11 | 1.49 | <2 | 3 | 11 |
| J998092 | | <10 | 1 | 0.09 | <10 | 0.91 | 314 | 13 | <0.01 | 24 | 110 | 249 | >10.0 | 4 | 2 | 8 |
| J998093 | | <10 | 1 | 0.13 | <10 | 0.20 | 86 | 9 | 0.10 | 15 | 220 | 30 | 2.38 | <2 | 2 | 18 |
| J998094 | | <10 | 1 | 0.01 | <10 | 12.20 | 200 | <1 | <0.01 | 2 | 170 | 4 | 0.11 | <2 | <1 | 49 |
| J998095 | | 10 | 80 | 0.04 | <10 | 0.08 | 40 | 34 | <0.01 | 22 | 90 | 1355 | >10.0 | 679 | 2 | 30 |

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**Finalized Date: 21-AUG-2011**
**Account: F**

Project: Arcus TL-05-11

# CERTIFICATE OF ANALYSIS WH11151853

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | Ag-OG46 | Cu-OG46 | Zn-OG46 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn | Ag | Cu | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm | ppm | % | % |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 | 1 | 0.001 | 0.001 |
| J998060 | | <20 | 0.02 | <10 | <10 | 11 | <10 | 54 | | | |
| J998061 | | <20 | 0.01 | <10 | <10 | 2 | <10 | 25 | | | |
| J998062 | | <20 | 0.01 | <10 | <10 | 9 | <10 | 30 | | | |
| J998063 | | <20 | 0.01 | <10 | <10 | 3 | <10 | 46 | | | |
| J998064 | | <20 | 0.01 | <10 | <10 | 6 | <10 | 49 | | | |
| J998065 | | <20 | 0.01 | <10 | <10 | 7 | <10 | 33 | | | |
| J998066 | | <20 | 0.01 | <10 | <10 | 4 | <10 | 52 | | | |
| J998067 | | <20 | 0.02 | <10 | <10 | 3 | <10 | 60 | | | |
| J998068 | | <20 | 0.02 | <10 | <10 | 4 | <10 | 55 | | | |
| J998069 | | <20 | 0.01 | <10 | <10 | 8 | <10 | 54 | | | |
| J998070 | | <20 | 0.09 | <10 | <10 | 92 | <10 | 2720 | | | |
| J998071 | | <20 | 0.01 | <10 | <10 | 4 | <10 | 52 | | | |
| J998072 | | <20 | 0.02 | <10 | <10 | 5 | <10 | 38 | | | |
| J998073 | | <20 | 0.01 | <10 | <10 | 4 | <10 | 41 | | | |
| J998074 | | <20 | 0.02 | <10 | <10 | 3 | <10 | 39 | | | |
| J998075 | | <20 | 0.02 | <10 | <10 | 3 | <10 | 50 | | | |
| J998076 | | <20 | 0.04 | <10 | <10 | 7 | <10 | 38 | | | |
| J998077 | | <20 | 0.06 | <10 | <10 | 5 | <10 | 42 | | | |
| J998078 | | <20 | 0.07 | <10 | <10 | 6 | <10 | 61 | | | |
| J998079 | | <20 | 0.06 | <10 | <10 | 2 | <10 | 43 | | | |
| J998080 | | <20 | 0.05 | <10 | <10 | 2 | <10 | 62 | | | |
| J998081 | | <20 | 0.02 | <10 | <10 | 1 | <10 | 37 | | | |
| J998082 | | <20 | 0.03 | <10 | <10 | 7 | <10 | 38 | | | |
| J998083 | | <20 | 0.03 | <10 | <10 | 3 | <10 | 56 | | | |
| J998084 | | <20 | 0.09 | <10 | <10 | 34 | <10 | 60 | | | |
| J998085 | | <20 | 0.05 | <10 | <10 | 14 | <10 | 103 | | | |
| J998086 | | <20 | 0.09 | <10 | <10 | 5 | <10 | 65 | | | |
| J998087 | | <20 | 0.11 | <10 | <10 | 6 | <10 | 83 | | | |
| J998088 | | <20 | 0.07 | <10 | <10 | 3 | <10 | 56 | | | |
| J998089 | | <20 | <0.01 | <10 | <10 | 2 | <10 | 19 | | | |
| J998090 | | <20 | 0.03 | <10 | <10 | 5 | <10 | 196 | | | |
| J998091 | | <20 | 0.01 | <10 | <10 | 17 | <10 | 287 | | | |
| J998092 | | <20 | 0.02 | <10 | <10 | 15 | <10 | >10000 | | | 1.305 |
| J998093 | | <20 | <0.01 | <10 | <10 | 9 | <10 | 91 | | | |
| J998094 | | <20 | <0.01 | <10 | <10 | 2 | <10 | 78 | | | |
| J998095 | | <20 | <0.01 | <10 | 10 | 4 | 30 | >10000 | 116 | 6.56 | 3.94 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
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**VANCOUVER BC V6B 1L8**


**Finalized Date: 22-AUG-2011**
**Account: F**

# CERTIFICATE WH11152727

Project: Arcus-TL-05-11

P.O. No.: Batch 10

This report is for 36 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 7-AUG-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| CRU-QC | Crushing QC Test |
| PUL-QC | Pulverizing QC Test |
| CRU-31 | Fine crushing - 70% <2mm |
| SPL-21 | Split sample - riffle splitter |
| PUL-31 | Pulverize split to 85% <75 um |
| LOG-24 | Pulp Login - Rcd w/o Barcode |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au-AA24 | Au 50g FA AA finish | AAS |
| ME-ICP41 | 35 Element Aqua Regia ICP-AES | ICP-AES |
| ME-OG46 | Ore Grade Elements - AquaRegia | ICP-AES |
| Cu-OG46 | Ore Grade Cu - Aqua Regia | VARIABLE |
| Zn-OG46 | Ore Grade Zn - Aqua Regia | VARIABLE |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 22-AUG-2011**
**Account: F**

Project: Arcus-TL-05-11

# CERTIFICATE OF ANALYSIS WH11152727

| Sample Description | Method | WEI-21 | Au-AA24 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.005 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| J998096 | | 3.14 | 0.005 | 0.2 | 0.90 | 37 | <10 | 110 | <0.5 | <2 | 0.14 | <0.5 | 6 | 7 | 204 | 1.82 |
| J998097 | | 5.30 | <0.005 | <0.2 | 2.06 | 8 | <10 | 110 | <0.5 | <2 | 0.56 | 1.3 | 13 | 31 | 152 | 3.35 |
| J998098 | | 2.12 | 0.371 | 3.8 | 1.66 | 51 | <10 | 70 | <0.5 | <2 | 1.05 | 2.2 | 7 | 10 | 1660 | 3.14 |
| J998099 | | 5.52 | 0.192 | 10.4 | 0.62 | 21 | <10 | 20 | <0.5 | 2 | 0.03 | 3.0 | 7 | 7 | >10000 | 4.08 |
| J998100 | | 2.11 | 1.725 | 79.8 | 0.28 | 17 | <10 | 50 | <0.5 | 2 | 0.01 | 18.5 | 17 | 2 | >10000 | 17.4 |
| J998101 | | 1.98 | 0.943 | 17.8 | 0.41 | 12 | <10 | 20 | <0.5 | 8 | 0.01 | 12.4 | 17 | 7 | >10000 | 15.6 |
| J998102 | | 0.08 | 2.18 | 16.2 | 0.98 | 28 | <10 | 10 | <0.5 | 4 | 0.31 | 56.7 | 11 | 44 | 5240 | 9.33 |
| J998103 | | 6.23 | 1.355 | 25.4 | 0.40 | 75 | <10 | 10 | <0.5 | 11 | 0.01 | 41.0 | 15 | 7 | >10000 | 18.2 |
| J998104 | | 1.51 | <0.005 | <0.2 | 0.03 | <2 | <10 | 460 | <0.5 | 2 | 19.0 | <0.5 | 1 | <1 | 123 | 0.50 |
| J998105 | | 4.13 | 0.797 | 14.9 | 0.46 | 8 | <10 | 10 | <0.5 | 8 | 0.06 | 21.8 | 12 | 5 | 8720 | 9.34 |
| J998106 | | 2.97 | 0.576 | 1.5 | 0.40 | 9 | <10 | 10 | <0.5 | 7 | 0.05 | <0.5 | 16 | 5 | 4290 | 11.05 |
| J998107 | | 0.23 | 0.312 | 55.3 | 1.22 | 102 | <10 | 90 | <0.5 | 2 | 0.52 | 22.2 | 17 | 31 | 4750 | 4.92 |
| J998108 | | 3.83 | 0.433 | 3.3 | 0.39 | 11 | <10 | 10 | <0.5 | 8 | 0.02 | 1.5 | 14 | 4 | 7030 | 8.99 |
| J998109 | | 4.51 | 0.046 | 1.0 | 0.77 | 11 | <10 | 20 | <0.5 | <2 | 0.43 | 3.5 | 9 | 3 | 501 | 3.62 |
| J998110 | | 1.26 | <0.005 | <0.2 | 0.03 | 2 | <10 | 30 | <0.5 | <2 | 19.0 | <0.5 | 1 | <1 | 21 | 0.48 |
| J998111 | | 7.09 | 0.010 | 0.3 | 1.17 | 2 | <10 | 140 | <0.5 | <2 | 0.73 | 3.3 | 9 | 7 | 152 | 3.10 |
| J998112 | | 5.27 | 0.013 | 0.2 | 1.36 | 4 | <10 | 190 | <0.5 | <2 | 0.69 | <0.5 | 7 | 3 | 129 | 2.84 |
| J998113 | | 6.59 | 0.006 | 0.2 | 1.00 | 3 | <10 | 90 | <0.5 | <2 | 0.61 | <0.5 | 11 | 3 | 35 | 3.53 |
| J998114 | | 2.21 | <0.005 | <0.2 | 0.12 | <2 | <10 | 50 | <0.5 | <2 | 0.19 | <0.5 | 2 | 12 | 34 | 0.65 |
| J998115 | | 6.61 | <0.005 | <0.2 | 2.13 | 2 | <10 | 100 | <0.5 | <2 | 1.01 | <0.5 | 15 | 4 | 91 | 4.13 |
| J998116 | | 4.86 | <0.005 | <0.2 | 1.98 | 2 | <10 | 260 | <0.5 | <2 | 0.52 | <0.5 | 10 | 4 | 93 | 3.30 |
| J998117 | | 8.01 | <0.005 | 0.2 | 1.62 | 3 | <10 | 100 | <0.5 | <2 | 0.61 | <0.5 | 12 | 3 | 117 | 3.17 |
| J998118 | | 5.75 | <0.005 | 0.2 | 2.26 | <2 | <10 | 380 | <0.5 | <2 | 1.07 | <0.5 | 19 | 7 | 119 | 3.44 |
| J998119 | | 5.66 | 0.027 | 0.3 | 1.16 | 2 | <10 | 90 | <0.5 | <2 | 0.65 | <0.5 | 5 | 2 | 116 | 2.63 |
| J998120 | | 5.42 | 0.006 | <0.2 | 1.18 | <2 | <10 | 90 | <0.5 | <2 | 0.83 | <0.5 | 6 | 3 | 22 | 2.38 |
| J998121 | | 7.95 | <0.005 | <0.2 | 1.28 | <2 | <10 | 140 | <0.5 | <2 | 0.60 | <0.5 | 8 | 3 | 47 | 2.21 |
| J998122 | | 7.54 | <0.005 | <0.2 | 1.41 | <2 | <10 | 90 | <0.5 | <2 | 0.87 | <0.5 | 8 | 4 | 29 | 2.00 |
| J998123 | | 7.68 | <0.005 | <0.2 | 1.52 | <2 | <10 | 160 | <0.5 | <2 | 0.54 | <0.5 | 7 | 4 | 13 | 2.21 |
| J998124 | | 9.92 | <0.005 | <0.2 | 1.71 | <2 | <10 | 170 | <0.5 | <2 | 0.63 | <0.5 | 7 | 4 | 25 | 2.57 |
| J998125 | | 6.50 | <0.005 | <0.2 | 1.84 | <2 | <10 | 90 | <0.5 | <2 | 1.17 | <0.5 | 11 | 9 | 33 | 2.71 |
| J998126 | | 10.52 | <0.005 | <0.2 | 1.48 | <2 | <10 | 80 | <0.5 | <2 | 0.76 | <0.5 | 9 | 9 | 30 | 2.75 |
| J998127 | | 10.20 | <0.005 | <0.2 | 1.11 | <2 | <10 | 110 | <0.5 | <2 | 0.47 | <0.5 | 6 | 4 | 30 | 2.54 |
| J998128 | | 5.33 | <0.005 | <0.2 | 1.37 | 2 | <10 | 80 | <0.5 | <2 | 0.57 | <0.5 | 5 | 5 | 13 | 2.05 |
| J998129 | | 8.56 | <0.005 | <0.2 | 1.79 | <2 | <10 | 90 | <0.5 | <2 | 0.92 | <0.5 | 12 | 5 | 52 | 3.00 |
| J998130 | | 8.89 | <0.005 | <0.2 | 1.73 | <2 | <10 | 100 | <0.5 | <2 | 0.81 | <0.5 | 10 | 4 | 67 | 3.23 |
| J998131 | | 8.81 | <0.005 | <0.2 | 1.27 | 2 | <10 | 60 | <0.5 | <2 | 0.99 | <0.5 | 7 | 3 | 16 | 2.83 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 22-AUG-2011**
**Account: F**

Project: Arcus-TL-05-11

# CERTIFICATE OF ANALYSIS WH11152727

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| J998096 | | <10 | <1 | 0.15 | 10 | 0.24 | 85 | <1 | 0.08 | 4 | 150 | 39 | 1.37 | <2 | 2 | 18 |
| J998097 | | <10 | <1 | 0.14 | <10 | 1.26 | 315 | <1 | 0.05 | 21 | 470 | 19 | 1.72 | <2 | 4 | 23 |
| J998098 | | 10 | 1 | 0.26 | 30 | 0.39 | 253 | 2 | 0.05 | 5 | 1180 | 102 | 2.24 | <2 | 5 | 88 |
| J998099 | | 10 | 2 | 0.15 | 10 | 0.11 | 136 | 8 | 0.09 | 7 | 290 | 383 | 3.00 | 2 | 3 | 51 |
| J998100 | | 10 | 21 | 0.06 | <10 | <0.01 | <5 | 25 | 0.04 | 21 | 160 | 805 | >10.0 | 3 | 3 | 57 |
| J998101 | | <10 | 7 | 0.10 | <10 | 0.01 | 7 | 40 | 0.07 | 37 | 60 | 147 | >10.0 | <2 | 2 | 40 |
| J998102 | | <10 | 2 | 0.10 | <10 | 0.98 | 348 | 14 | 0.02 | 22 | 110 | 246 | >10.0 | 2 | 2 | 8 |
| J998103 | | <10 | 17 | 0.03 | <10 | <0.01 | 18 | 83 | 0.12 | 35 | 50 | 208 | >10.0 | 27 | 2 | 31 |
| J998104 | | <10 | <1 | 0.01 | <10 | 12.35 | 212 | <1 | 0.02 | 1 | 170 | <2 | 0.10 | <2 | <1 | 59 |
| J998105 | | <10 | 10 | 0.18 | <10 | 0.03 | 14 | 23 | 0.05 | 27 | 30 | 24 | >10.0 | 2 | 1 | 29 |
| J998106 | | <10 | 2 | 0.16 | <10 | 0.03 | 13 | 24 | 0.04 | 1 | 10 | 8 | >10.0 | 4 | 1 | 19 |
| J998107 | | 10 | 1 | 0.57 | 10 | 0.69 | 497 | 183 | 0.05 | 24 | 940 | 2170 | 2.60 | 69 | 7 | 38 |
| J998108 | | <10 | 2 | 0.18 | <10 | 0.01 | 13 | 20 | 0.03 | <1 | 20 | 22 | >10.0 | 4 | 1 | 15 |
| J998109 | | <10 | <1 | 0.19 | <10 | 0.02 | 61 | 3 | 0.03 | 3 | 650 | 23 | 4.07 | <2 | 2 | 8 |
| J998110 | | <10 | <1 | 0.01 | <10 | 12.25 | 218 | <1 | 0.02 | 1 | 170 | <2 | 0.04 | <2 | <1 | 50 |
| J998111 | | <10 | <1 | 0.21 | 10 | 0.55 | 678 | 1 | 0.05 | 6 | 510 | 13 | 1.77 | <2 | 5 | 13 |
| J998112 | | <10 | <1 | 0.47 | 10 | 0.58 | 701 | <1 | 0.04 | 2 | 540 | 3 | 1.13 | <2 | 3 | 12 |
| J998113 | | <10 | <1 | 0.26 | 10 | 0.45 | 325 | 2 | 0.06 | 4 | 640 | 7 | 2.79 | <2 | 3 | 11 |
| J998114 | | <10 | <1 | 0.03 | <10 | 0.08 | 118 | <1 | 0.01 | 2 | 10 | <2 | 0.23 | <2 | 1 | 2 |
| J998115 | | 10 | <1 | 0.24 | 10 | 1.50 | 539 | 1 | 0.05 | 5 | 610 | 5 | 1.53 | <2 | 4 | 16 |
| J998116 | | 10 | <1 | 0.89 | 10 | 1.41 | 476 | 1 | 0.07 | 2 | 490 | 2 | 0.89 | <2 | 4 | 15 |
| J998117 | | <10 | <1 | 0.71 | 10 | 1.02 | 416 | 1 | 0.05 | 2 | 680 | 4 | 1.56 | <2 | 3 | 12 |
| J998118 | | 10 | <1 | 0.42 | <10 | 1.76 | 647 | 4 | 0.08 | 7 | 560 | <2 | 0.34 | <2 | 4 | 23 |
| J998119 | | <10 | <1 | 0.43 | 10 | 0.75 | 496 | 3 | 0.04 | <1 | 410 | 4 | 1.83 | <2 | 2 | 11 |
| J998120 | | <10 | <1 | 0.37 | <10 | 0.75 | 407 | 3 | 0.04 | <1 | 430 | 3 | 1.66 | <2 | 2 | 7 |
| J998121 | | <10 | <1 | 0.52 | 10 | 0.68 | 396 | 2 | 0.05 | 2 | 420 | 3 | 0.51 | <2 | 3 | 10 |
| J998122 | | <10 | <1 | 0.34 | <10 | 0.65 | 363 | 1 | 0.05 | 2 | 1490 | <2 | 0.17 | <2 | 3 | 13 |
| J998123 | | <10 | <1 | 0.64 | 10 | 0.77 | 289 | 1 | 0.06 | 2 | 390 | 2 | 0.25 | <2 | 3 | 10 |
| J998124 | | <10 | <1 | 0.65 | 10 | 0.92 | 371 | <1 | 0.05 | 1 | 500 | <2 | 0.08 | <2 | 3 | 19 |
| J998125 | | <10 | <1 | 0.26 | <10 | 1.20 | 523 | 1 | 0.09 | 5 | 580 | 2 | 0.10 | <2 | 5 | 22 |
| J998126 | | <10 | <1 | 0.23 | <10 | 0.82 | 380 | <1 | 0.08 | 6 | 470 | 2 | 0.05 | <2 | 4 | 17 |
| J998127 | | <10 | <1 | 0.34 | 10 | 0.61 | 352 | <1 | 0.07 | 2 | 430 | <2 | 0.11 | <2 | 4 | 10 |
| J998128 | | <10 | <1 | 0.13 | <10 | 0.75 | 349 | <1 | 0.06 | 3 | 450 | 2 | 0.02 | <2 | 2 | 15 |
| J998129 | | 10 | <1 | 0.35 | <10 | 1.14 | 498 | 1 | 0.07 | 2 | 470 | 3 | 0.15 | <2 | 5 | 13 |
| J998130 | | 10 | <1 | 0.43 | <10 | 1.22 | 460 | <1 | 0.12 | 2 | 520 | 4 | 0.06 | <2 | 7 | 15 |
| J998131 | | <10 | <1 | 0.20 | 10 | 0.79 | 562 | 1 | 0.07 | 2 | 470 | 3 | 0.06 | <2 | 7 | 15 |

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**Finalized Date: 22-AUG-2011**
**Account: F**

Project: Arcus-TL-05-11

# CERTIFICATE OF ANALYSIS WH11152727

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | Cu-OG46 | Zn-OG46 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn | Cu | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm | % | % |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 | 0.001 | 0.001 |
| J998096 | | <20 | <0.01 | <10 | <10 | 6 | <10 | 99 | | |
| J998097 | | <20 | 0.01 | <10 | <10 | 30 | <10 | 296 | | |
| J998098 | | <20 | 0.01 | <10 | <10 | 34 | <10 | 614 | | |
| J998099 | | <20 | 0.01 | <10 | <10 | 19 | <10 | 353 | 1.340 | |
| J998100 | | <20 | <0.01 | <10 | <10 | 6 | <10 | 2850 | 7.78 | |
| J998101 | | <20 | <0.01 | <10 | <10 | 5 | <10 | 1720 | 1.360 | |
| J998102 | | <20 | 0.02 | <10 | <10 | 16 | 10 | >10000 | | 1.280 |
| J998103 | | <20 | <0.01 | <10 | 10 | 5 | <10 | 8150 | 1.350 | |
| J998104 | | <20 | <0.01 | <10 | <10 | 1 | <10 | 63 | | |
| J998105 | | <20 | <0.01 | <10 | <10 | 4 | <10 | 4870 | | |
| J998106 | | <20 | <0.01 | <10 | <10 | 4 | <10 | 65 | | |
| J998107 | | <20 | 0.09 | <10 | <10 | 89 | <10 | 2630 | | |
| J998108 | | <20 | <0.01 | <10 | <10 | 5 | <10 | 442 | | |
| J998109 | | <20 | <0.01 | <10 | <10 | 10 | <10 | 850 | | |
| J998110 | | <20 | <0.01 | <10 | <10 | 1 | <10 | 28 | | |
| J998111 | | <20 | 0.01 | <10 | <10 | 14 | <10 | 887 | | |
| J998112 | | <20 | 0.05 | <10 | <10 | 22 | <10 | 369 | | |
| J998113 | | <20 | 0.01 | <10 | <10 | 18 | <10 | 250 | | |
| J998114 | | <20 | <0.01 | <10 | <10 | 5 | <10 | 122 | | |
| J998115 | | <20 | 0.04 | <10 | <10 | 67 | <10 | 169 | | |
| J998116 | | <20 | 0.14 | <10 | <10 | 65 | <10 | 166 | | |
| J998117 | | <20 | 0.08 | <10 | <10 | 44 | <10 | 196 | | |
| J998118 | | <20 | 0.11 | <10 | <10 | 96 | <10 | 141 | | |
| J998119 | | <20 | 0.03 | <10 | <10 | 10 | <10 | 166 | | |
| J998120 | | <20 | 0.02 | <10 | <10 | 10 | <10 | 162 | | |
| J998121 | | <20 | 0.05 | <10 | <10 | 22 | <10 | 174 | | |
| J998122 | | <20 | 0.03 | <10 | <10 | 19 | <10 | 86 | | |
| J998123 | | <20 | 0.08 | <10 | <10 | 25 | <10 | 84 | | |
| J998124 | | <20 | 0.12 | <10 | <10 | 40 | <10 | 87 | | |
| J998125 | | <20 | 0.09 | <10 | <10 | 44 | <10 | 93 | | |
| J998126 | | <20 | 0.08 | <10 | <10 | 45 | <10 | 79 | | |
| J998127 | | <20 | 0.06 | <10 | <10 | 28 | <10 | 71 | | |
| J998128 | | <20 | 0.03 | <10 | <10 | 14 | <10 | 74 | | |
| J998129 | | <20 | 0.07 | <10 | <10 | 56 | <10 | 94 | | |
| J998130 | | <20 | 0.11 | <10 | <10 | 78 | <10 | 68 | | |
| J998131 | | <20 | 0.03 | <10 | <10 | 33 | <10 | 70 | | |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
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**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-SEP-2011**
**Account: F**

# CERTIFICATE WH11152743

Project: TOULERY - ARCUS

P.O. No.:

This report is for 190 Soil samples submitted to our lab in Whitehorse, YT, Canada on 7-AUG-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| 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: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**Finalized Date: 17-SEP-2011**
**Account: F**

Project: TOULERY - ARCUS

# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| ZZ24001 | | 0.12 | <0.001 | 0.2 | 1.32 | 6 | <10 | 90 | <0.5 | <2 | 0.29 | <0.5 | 9 | 36 | 35 | 2.67 |
| ZZ24002 | | 0.24 | 0.001 | <0.2 | 2.07 | 3 | <10 | 190 | <0.5 | <2 | 0.44 | <0.5 | 15 | 28 | 46 | 3.28 |
| ZZ24003 | | 0.20 | 0.001 | 0.2 | 2.06 | 4 | <10 | 200 | 0.5 | <2 | 0.57 | <0.5 | 17 | 227 | 44 | 2.91 |
| ZZ24004 | | 0.18 | 0.001 | <0.2 | 1.68 | 7 | <10 | 100 | <0.5 | <2 | 0.25 | <0.5 | 10 | 34 | 11 | 2.61 |
| ZZ24005 | | 0.18 | 0.002 | 0.2 | 1.85 | 8 | <10 | 210 | <0.5 | <2 | 0.29 | <0.5 | 10 | 63 | 51 | 3.03 |
| ZZ24006 | | 0.16 | 0.001 | 0.2 | 1.60 | 6 | <10 | 240 | <0.5 | <2 | 0.19 | <0.5 | 12 | 39 | 15 | 2.68 |
| ZZ24007 | | 0.12 | 0.001 | 0.2 | 1.78 | 6 | <10 | 150 | <0.5 | <2 | 0.25 | <0.5 | 13 | 32 | 22 | 2.91 |
| ZZ24008 | | 0.12 | 0.001 | 0.2 | 2.14 | 6 | <10 | 140 | <0.5 | <2 | 0.15 | <0.5 | 9 | 41 | 16 | 3.18 |
| ZZ24009 | | 0.22 | 0.003 | <0.2 | 1.72 | 10 | <10 | 150 | <0.5 | <2 | 0.19 | <0.5 | 9 | 33 | 21 | 2.79 |
| ZZ24010 | | 0.14 | 0.001 | <0.2 | 1.67 | 3 | <10 | 90 | <0.5 | <2 | 0.16 | <0.5 | 8 | 29 | 18 | 2.48 |
| ZZ24011 | | 0.24 | 0.002 | 0.2 | 1.85 | 5 | <10 | 160 | <0.5 | <2 | 0.38 | <0.5 | 11 | 50 | 34 | 2.88 |
| ZZ24012 | | 0.18 | 0.004 | <0.2 | 1.94 | 5 | <10 | 140 | <0.5 | <2 | 0.53 | <0.5 | 12 | 50 | 28 | 3.16 |
| ZZ24013 | | 0.16 | 0.001 | <0.2 | 3.07 | 7 | <10 | 200 | <0.5 | <2 | 0.59 | <0.5 | 19 | 78 | 59 | 4.02 |
| ZZ24014 | | 0.18 | 0.003 | <0.2 | 1.77 | 11 | <10 | 270 | 0.6 | <2 | 0.38 | <0.5 | 12 | 45 | 30 | 2.97 |
| ZZ24015 | | 0.20 | 0.003 | <0.2 | 1.77 | 8 | <10 | 180 | <0.5 | <2 | 0.27 | <0.5 | 8 | 34 | 15 | 2.72 |
| ZZ24016 | | 0.20 | 0.002 | <0.2 | 1.73 | 12 | <10 | 250 | 0.6 | <2 | 0.40 | <0.5 | 11 | 34 | 21 | 3.02 |
| ZZ24017 | | 0.16 | 0.003 | <0.2 | 1.69 | 8 | <10 | 230 | 0.6 | <2 | 0.51 | <0.5 | 10 | 33 | 22 | 2.77 |
| ZZ24018 | | 0.20 | 0.003 | <0.2 | 1.39 | 9 | <10 | 250 | 0.5 | <2 | 0.74 | <0.5 | 12 | 30 | 39 | 2.69 |
| ZZ24019 | | 0.18 | 0.007 | <0.2 | 1.49 | 8 | <10 | 280 | 0.5 | <2 | 0.86 | <0.5 | 10 | 28 | 31 | 2.68 |
| ZZ24020 | | 0.12 | 0.002 | 0.3 | 1.61 | 39 | <10 | 150 | 0.6 | <2 | 0.32 | <0.5 | 20 | 34 | 70 | 3.42 |
| ZZ24021 | | 0.16 | 0.001 | 0.3 | 1.76 | 9 | <10 | 280 | <0.5 | <2 | 0.31 | <0.5 | 9 | 35 | 22 | 2.85 |
| ZZ24022 | | 0.14 | 0.002 | 0.4 | 2.92 | 6 | <10 | 330 | 0.6 | <2 | 0.43 | 0.6 | 11 | 24 | 141 | 3.43 |
| ZZ24023 | | 0.18 | 0.001 | 0.7 | 1.94 | 5 | <10 | 280 | <0.5 | <2 | 0.31 | 0.8 | 8 | 23 | 57 | 2.81 |
| ZZ24024 | | 0.16 | 0.004 | <0.2 | 1.87 | 6 | <10 | 370 | 0.6 | <2 | 0.46 | 0.6 | 11 | 26 | 64 | 3.79 |
| ZZ24025 | | 0.12 | 0.001 | 0.2 | 3.12 | 4 | <10 | 630 | 0.6 | <2 | 0.67 | 0.5 | 21 | 30 | 73 | 5.46 |
| ZZ24026 | | 0.14 | 0.002 | 0.3 | 2.81 | 8 | <10 | 410 | 0.6 | <2 | 0.46 | <0.5 | 17 | 35 | 38 | 4.85 |
| ZZ24027 | | 0.18 | 0.001 | <0.2 | 1.83 | 6 | <10 | 250 | 0.6 | <2 | 0.22 | <0.5 | 12 | 43 | 16 | 2.85 |
| ZZ24028 | | 0.16 | 0.002 | <0.2 | 1.81 | 7 | <10 | 230 | <0.5 | <2 | 0.24 | <0.5 | 8 | 28 | 27 | 3.15 |
| ZZ24029 | | 0.18 | 0.003 | <0.2 | 1.67 | 6 | <10 | 260 | 0.5 | <2 | 0.35 | <0.5 | 9 | 32 | 22 | 2.81 |
| ZZ24030 | | 0.26 | 0.002 | 0.2 | 1.66 | 6 | <10 | 230 | 0.5 | <2 | 0.46 | <0.5 | 8 | 28 | 38 | 2.86 |
| ZZ24031 | | 0.18 | 0.003 | <0.2 | 1.58 | 6 | <10 | 280 | <0.5 | <2 | 0.44 | <0.5 | 9 | 21 | 37 | 3.03 |
| ZZ24032 | | 0.28 | 0.004 | 0.2 | 1.70 | 5 | <10 | 330 | 1.2 | <2 | 0.66 | 0.5 | 11 | 21 | 30 | 3.07 |
| ZZ24033 | | 0.20 | 0.001 | <0.2 | 2.08 | 6 | <10 | 230 | <0.5 | <2 | 0.45 | <0.5 | 11 | 59 | 71 | 3.38 |
| ZZ24034 | | 0.16 | 0.002 | <0.2 | 2.41 | 6 | <10 | 370 | 0.5 | <2 | 0.69 | <0.5 | 16 | 35 | 84 | 4.10 |
| ZZ24035 | | 0.20 | 0.001 | <0.2 | 1.96 | 5 | <10 | 320 | 0.6 | <2 | 0.64 | <0.5 | 12 | 141 | 33 | 3.00 |
| ZZ24036 | | 0.20 | 0.001 | <0.2 | 1.99 | 7 | <10 | 210 | 0.8 | <2 | 0.63 | <0.5 | 11 | 55 | 24 | 3.13 |
| ZZ24037 | | 0.14 | 0.004 | <0.2 | 1.90 | 8 | <10 | 160 | 0.8 | <2 | 0.43 | <0.5 | 11 | 63 | 23 | 3.12 |
| ZZ24038 | | 0.20 | 0.003 | 0.4 | 2.18 | 6 | <10 | 170 | 0.8 | <2 | 0.44 | <0.5 | 14 | 42 | 36 | 3.51 |
| ZZ24039 | | 0.14 | 0.001 | <0.2 | 1.74 | 9 | <10 | 150 | 0.6 | <2 | 0.34 | <0.5 | 10 | 39 | 27 | 2.99 |
| ZZ24040 | | 0.20 | 0.003 | <0.2 | 1.61 | 6 | <10 | 110 | 0.6 | <2 | 0.26 | <0.5 | 9 | 32 | 24 | 2.90 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-SEP-2011**
**Account: F**

Project: TOULERY - ARCUS

# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24001 | | <10 | <1 | 0.07 | 10 | 0.55 | 322 | 2 | 0.02 | 30 | 300 | 7 | 0.03 | <2 | 3 | 20 |
| ZZ24002 | | 10 | <1 | 0.23 | 10 | 1.16 | 394 | 1 | 0.03 | 20 | 460 | 4 | 0.03 | <2 | 3 | 35 |
| ZZ24003 | | 10 | <1 | 0.14 | 10 | 1.76 | 422 | <1 | 0.03 | 85 | 770 | 5 | 0.03 | <2 | 3 | 41 |
| ZZ24004 | | <10 | <1 | 0.08 | <10 | 0.87 | 195 | 1 | 0.03 | 17 | 260 | 4 | 0.03 | 2 | 2 | 23 |
| ZZ24005 | | <10 | <1 | 0.08 | 10 | 0.92 | 275 | 1 | 0.03 | 30 | 170 | 5 | 0.03 | <2 | 4 | 27 |
| ZZ24006 | | <10 | <1 | 0.09 | 10 | 0.55 | 291 | 1 | 0.03 | 23 | 180 | 7 | 0.03 | 2 | 3 | 20 |
| ZZ24007 | | <10 | <1 | 0.32 | 10 | 0.78 | 238 | 1 | 0.03 | 24 | 380 | 6 | 0.03 | <2 | 3 | 19 |
| ZZ24008 | | 10 | <1 | 0.31 | 10 | 0.86 | 252 | 1 | 0.03 | 24 | 250 | 7 | 0.03 | <2 | 3 | 15 |
| ZZ24009 | | <10 | <1 | 0.06 | 30 | 0.59 | 189 | 1 | 0.03 | 20 | 190 | 8 | 0.03 | <2 | 4 | 20 |
| ZZ24010 | | 10 | <1 | 0.29 | 30 | 0.72 | 147 | 1 | 0.03 | 21 | 360 | 7 | 0.04 | <2 | 3 | 13 |
| ZZ24011 | | 10 | <1 | 0.14 | 20 | 0.89 | 236 | 1 | 0.03 | 25 | 470 | 5 | 0.03 | <2 | 4 | 27 |
| ZZ24012 | | 10 | <1 | 0.16 | 10 | 0.91 | 239 | 1 | 0.04 | 28 | 660 | 6 | 0.03 | <2 | 4 | 29 |
| ZZ24013 | | 10 | <1 | 0.10 | <10 | 2.23 | 420 | <1 | 0.03 | 36 | 180 | 5 | 0.01 | <2 | 5 | 39 |
| ZZ24014 | | <10 | <1 | 0.07 | 20 | 0.59 | 347 | <1 | 0.03 | 26 | 230 | 8 | 0.01 | <2 | 7 | 33 |
| ZZ24015 | | 10 | <1 | 0.06 | 10 | 0.50 | 237 | 1 | 0.02 | 17 | 360 | 9 | 0.01 | <2 | 3 | 24 |
| ZZ24016 | | 10 | <1 | 0.05 | 20 | 0.51 | 287 | <1 | 0.02 | 22 | 480 | 10 | 0.01 | <2 | 4 | 27 |
| ZZ24017 | | 10 | <1 | 0.05 | 30 | 0.50 | 353 | <1 | 0.03 | 24 | 510 | 11 | 0.01 | <2 | 5 | 30 |
| ZZ24018 | | <10 | <1 | 0.04 | 20 | 0.52 | 427 | 1 | 0.03 | 32 | 700 | 9 | 0.02 | 2 | 4 | 41 |
| ZZ24019 | | <10 | <1 | 0.07 | 20 | 0.55 | 436 | <1 | 0.04 | 19 | 530 | 11 | 0.02 | 2 | 5 | 53 |
| ZZ24020 | | 10 | <1 | 0.15 | 10 | 0.47 | 233 | 5 | 0.02 | 60 | 290 | 11 | 0.01 | <2 | 3 | 36 |
| ZZ24021 | | <10 | <1 | 0.15 | 10 | 0.56 | 372 | 2 | 0.02 | 18 | 180 | 61 | 0.01 | <2 | 4 | 25 |
| ZZ24022 | | 10 | <1 | 0.24 | 10 | 1.52 | 886 | 3 | 0.02 | 14 | 320 | 26 | 0.01 | <2 | 4 | 32 |
| ZZ24023 | | 10 | <1 | 0.15 | 10 | 0.98 | 753 | 2 | 0.02 | 11 | 310 | 89 | 0.01 | <2 | 3 | 26 |
| ZZ24024 | | 10 | <1 | 0.25 | 10 | 0.74 | 693 | 2 | 0.02 | 14 | 640 | 99 | 0.02 | 2 | 6 | 30 |
| ZZ24025 | | 10 | <1 | 1.08 | 10 | 1.87 | 825 | 1 | 0.03 | 16 | 1360 | 44 | 0.01 | <2 | 5 | 34 |
| ZZ24026 | | 10 | <1 | 1.15 | <10 | 1.37 | 861 | <1 | 0.02 | 17 | 1030 | 25 | 0.01 | <2 | 3 | 32 |
| ZZ24027 | | 10 | <1 | 0.12 | 20 | 0.47 | 591 | 1 | 0.02 | 17 | 280 | 19 | 0.01 | <2 | 4 | 21 |
| ZZ24028 | | 10 | <1 | 0.16 | 10 | 0.62 | 363 | 1 | 0.02 | 14 | 250 | 22 | 0.01 | <2 | 4 | 23 |
| ZZ24029 | | <10 | <1 | 0.07 | 10 | 0.51 | 359 | <1 | 0.02 | 16 | 360 | 12 | 0.01 | <2 | 5 | 28 |
| ZZ24030 | | 10 | <1 | 0.10 | 20 | 0.53 | 342 | <1 | 0.02 | 14 | 480 | 19 | 0.01 | 2 | 5 | 29 |
| ZZ24031 | | 10 | <1 | 0.27 | 20 | 0.59 | 447 | 1 | 0.02 | 9 | 730 | 34 | 0.01 | <2 | 5 | 28 |
| ZZ24032 | | 10 | <1 | 0.28 | 20 | 0.69 | 584 | 1 | 0.03 | 9 | 890 | 22 | 0.03 | <2 | 5 | 41 |
| ZZ24033 | | 10 | <1 | 0.33 | 10 | 1.12 | 300 | 1 | 0.03 | 25 | 290 | 4 | 0.01 | <2 | 4 | 28 |
| ZZ24034 | | 10 | <1 | 0.38 | 10 | 1.43 | 500 | <1 | 0.03 | 23 | 1130 | 3 | 0.01 | <2 | 5 | 35 |
| ZZ24035 | | 10 | <1 | 0.23 | 20 | 1.14 | 298 | <1 | 0.02 | 45 | 580 | 7 | 0.02 | <2 | 4 | 32 |
| ZZ24036 | | 10 | <1 | 0.09 | 10 | 0.92 | 368 | <1 | 0.03 | 21 | 260 | 6 | 0.01 | <2 | 5 | 29 |
| ZZ24037 | | 10 | <1 | 0.21 | 10 | 0.95 | 363 | 1 | 0.02 | 35 | 360 | 9 | 0.01 | <2 | 5 | 23 |
| ZZ24038 | | 10 | <1 | 0.27 | 120 | 0.91 | 446 | 1 | 0.02 | 31 | 440 | 13 | 0.02 | 2 | 6 | 30 |
| ZZ24039 | | 10 | <1 | 0.13 | 20 | 0.62 | 232 | <1 | 0.02 | 26 | 250 | 8 | 0.01 | <2 | 6 | 23 |
| ZZ24040 | | 10 | <1 | 0.10 | 20 | 0.55 | 216 | <1 | 0.01 | 22 | 230 | 20 | 0.01 | <2 | 3 | 20 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-SEP-2011**
**Account: F**

Project: TOULERY - ARCUS

# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ24001 | | <20 | 0.05 | <10 | <10 | 56 | <10 | 63 |
| ZZ24002 | | <20 | 0.17 | <10 | <10 | 80 | <10 | 66 |
| ZZ24003 | | <20 | 0.15 | <10 | <10 | 61 | <10 | 52 |
| ZZ24004 | | <20 | 0.12 | <10 | <10 | 62 | <10 | 50 |
| ZZ24005 | | <20 | 0.13 | <10 | <10 | 67 | <10 | 55 |
| ZZ24006 | | <20 | 0.08 | <10 | <10 | 59 | <10 | 46 |
| ZZ24007 | | <20 | 0.10 | <10 | <10 | 54 | <10 | 61 |
| ZZ24008 | | <20 | 0.15 | <10 | <10 | 55 | <10 | 61 |
| ZZ24009 | | <20 | 0.08 | <10 | <10 | 52 | <10 | 48 |
| ZZ24010 | | <20 | 0.10 | <10 | <10 | 43 | <10 | 62 |
| ZZ24011 | | <20 | 0.13 | <10 | <10 | 63 | <10 | 64 |
| ZZ24012 | | <20 | 0.14 | <10 | <10 | 70 | <10 | 58 |
| ZZ24013 | | <20 | 0.22 | <10 | <10 | 114 | <10 | 70 |
| ZZ24014 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 53 |
| ZZ24015 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 50 |
| ZZ24016 | | <20 | 0.07 | <10 | <10 | 62 | <10 | 59 |
| ZZ24017 | | <20 | 0.07 | <10 | <10 | 54 | <10 | 67 |
| ZZ24018 | | <20 | 0.07 | <10 | <10 | 52 | <10 | 66 |
| ZZ24019 | | <20 | 0.08 | <10 | <10 | 54 | <10 | 65 |
| ZZ24020 | | <20 | 0.06 | <10 | <10 | 60 | <10 | 74 |
| ZZ24021 | | <20 | 0.09 | <10 | <10 | 61 | <10 | 151 |
| ZZ24022 | | <20 | 0.10 | <10 | <10 | 53 | <10 | 342 |
| ZZ24023 | | <20 | 0.07 | <10 | <10 | 51 | <10 | 258 |
| ZZ24024 | | <20 | 0.10 | <10 | <10 | 60 | <10 | 311 |
| ZZ24025 | | <20 | 0.26 | <10 | <10 | 107 | <10 | 326 |
| ZZ24026 | | <20 | 0.32 | <10 | <10 | 85 | <10 | 285 |
| ZZ24027 | | <20 | 0.07 | <10 | <10 | 62 | <10 | 88 |
| ZZ24028 | | <20 | 0.11 | <10 | <10 | 60 | <10 | 131 |
| ZZ24029 | | <20 | 0.08 | <10 | <10 | 60 | <10 | 71 |
| ZZ24030 | | <20 | 0.10 | <10 | <10 | 53 | <10 | 101 |
| ZZ24031 | | <20 | 0.12 | <10 | <10 | 51 | <10 | 171 |
| ZZ24032 | | <20 | 0.12 | <10 | <10 | 58 | <10 | 167 |
| ZZ24033 | | <20 | 0.18 | <10 | <10 | 85 | <10 | 67 |
| ZZ24034 | | <20 | 0.13 | <10 | <10 | 94 | <10 | 79 |
| ZZ24035 | | <20 | 0.13 | <10 | <10 | 66 | <10 | 55 |
| ZZ24036 | | <20 | 0.12 | <10 | <10 | 73 | <10 | 56 |
| ZZ24037 | | <20 | 0.09 | <10 | <10 | 62 | <10 | 63 |
| ZZ24038 | | 20 | 0.10 | <10 | <10 | 58 | <10 | 68 |
| ZZ24039 | | <20 | 0.08 | <10 | <10 | 56 | <10 | 54 |
| ZZ24040 | | <20 | 0.09 | <10 | <10 | 48 | <10 | 70 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-SEP-2011**
**Account: F**

Project: TOULERY - ARCUS

# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| ZZ24041 | | 0.22 | 0.002 | <0.2 | 1.60 | 8 | <10 | 200 | <0.5 | <2 | 0.29 | <0.5 | 9 | 40 | 18 | 2.73 |
| ZZ24042 | | 0.18 | 0.002 | <0.2 | 2.34 | 9 | <10 | 190 | 1.2 | <2 | 0.59 | <0.5 | 14 | 72 | 44 | 4.07 |
| ZZ24043 | | 0.18 | 0.001 | <0.2 | 1.88 | 11 | <10 | 170 | 0.6 | <2 | 0.31 | <0.5 | 11 | 46 | 26 | 3.15 |
| ZZ24044 | | 0.14 | 0.001 | 0.2 | 2.00 | 7 | <10 | 270 | 0.5 | <2 | 0.39 | <0.5 | 12 | 33 | 19 | 2.99 |
| ZZ24045 | | 0.16 | 0.002 | <0.2 | 1.52 | 9 | <10 | 170 | 0.5 | <2 | 0.34 | <0.5 | 8 | 36 | 22 | 2.74 |
| ZZ24046 | | 0.20 | 0.002 | <0.2 | 2.02 | 8 | <10 | 160 | 0.6 | <2 | 0.42 | <0.5 | 11 | 44 | 22 | 3.36 |
| ZZ24047 | | 0.16 | 0.001 | <0.2 | 1.86 | 4 | <10 | 80 | 0.8 | <2 | 0.23 | <0.5 | 6 | 34 | 36 | 2.79 |
| ZZ24048 | | 0.14 | 0.001 | <0.2 | 2.41 | 18 | <10 | 130 | 1.3 | <2 | 0.34 | <0.5 | 24 | 54 | 102 | 4.32 |
| ZZ24049 | | 0.16 | 0.002 | <0.2 | 1.94 | 11 | <10 | 200 | <0.5 | <2 | 0.22 | <0.5 | 9 | 34 | 18 | 2.85 |
| ZZ24050 | | 0.18 | 0.001 | 0.2 | 2.03 | 12 | <10 | 200 | 0.6 | <2 | 0.22 | <0.5 | 15 | 87 | 32 | 3.27 |
| ZZ24051 | | 0.16 | 0.004 | <0.2 | 2.21 | 8 | <10 | 290 | 0.8 | <2 | 0.46 | <0.5 | 13 | 42 | 44 | 3.13 |
| ZZ24052 | | 0.20 | 0.002 | <0.2 | 1.58 | 8 | <10 | 210 | 0.5 | <2 | 0.19 | <0.5 | 8 | 33 | 21 | 2.87 |
| ZZ24053 | | 0.16 | 0.001 | <0.2 | 1.32 | 6 | <10 | 290 | <0.5 | <2 | 0.18 | <0.5 | 9 | 26 | 13 | 2.79 |
| ZZ24054 | | 0.16 | 0.002 | <0.2 | 1.59 | 8 | <10 | 260 | <0.5 | <2 | 0.35 | <0.5 | 9 | 31 | 16 | 2.74 |
| ZZ24055 | | 0.20 | 0.006 | <0.2 | 1.52 | 5 | <10 | 310 | 0.5 | <2 | 0.32 | <0.5 | 7 | 34 | 20 | 2.62 |
| ZZ24056 | | 0.14 | 0.001 | <0.2 | 1.59 | 7 | <10 | 390 | <0.5 | <2 | 0.31 | <0.5 | 12 | 37 | 24 | 2.82 |
| ZZ24057 | | 0.20 | 0.001 | <0.2 | 1.52 | 7 | <10 | 330 | <0.5 | <2 | 0.30 | <0.5 | 10 | 32 | 15 | 2.74 |
| ZZ24058 | | 0.18 | 0.003 | 0.2 | 1.71 | 8 | <10 | 330 | 0.5 | <2 | 0.27 | <0.5 | 11 | 35 | 14 | 3.02 |
| ZZ24059 | | 0.18 | 0.001 | <0.2 | 1.66 | 5 | <10 | 230 | 0.6 | <2 | 0.12 | <0.5 | 8 | 16 | 34 | 3.87 |
| ZZ24060 | | 0.22 | 0.002 | <0.2 | 2.23 | 6 | <10 | 330 | 0.5 | <2 | 0.41 | <0.5 | 10 | 32 | 29 | 3.68 |
| ZZ24061 | | 0.18 | 0.003 | <0.2 | 1.83 | 6 | <10 | 210 | 0.5 | <2 | 0.26 | <0.5 | 7 | 32 | 18 | 2.94 |
| ZZ24062 | | 0.22 | 0.004 | <0.2 | 1.88 | 7 | <10 | 200 | 3.2 | <2 | 0.30 | <0.5 | 7 | 33 | 21 | 2.82 |
| ZZ24063 | | 0.24 | 0.001 | <0.2 | 2.12 | 5 | <10 | 310 | 1.5 | <2 | 0.30 | <0.5 | 9 | 26 | 29 | 3.41 |
| ZZ24064 | | 0.22 | 0.002 | 0.2 | 1.71 | 7 | <10 | 420 | 0.9 | <2 | 0.40 | <0.5 | 10 | 28 | 37 | 2.83 |
| ZZ24065 | | 0.20 | 0.002 | <0.2 | 1.55 | 8 | <10 | 300 | 0.8 | <2 | 0.34 | <0.5 | 10 | 27 | 27 | 2.94 |
| ZZ24066 | | 0.22 | 0.005 | <0.2 | 1.83 | 5 | <10 | 490 | <0.5 | <2 | 0.31 | <0.5 | 11 | 26 | 23 | 2.90 |
| ZZ24067 | | 0.22 | 0.006 | 0.3 | 2.01 | 5 | <10 | 680 | 0.6 | <2 | 0.47 | <0.5 | 11 | 30 | 30 | 3.21 |
| ZZ24068 | | 0.16 | 0.002 | <0.2 | 1.32 | 3 | <10 | 270 | <0.5 | <2 | 0.29 | <0.5 | 9 | 19 | 29 | 3.55 |
| ZZ24069 | | 0.20 | 0.002 | <0.2 | 1.71 | 10 | <10 | 210 | <0.5 | <2 | 0.25 | <0.5 | 8 | 27 | 18 | 2.99 |
| ZZ24070 | | 0.18 | 0.003 | <0.2 | 1.70 | 8 | <10 | 320 | 0.5 | <2 | 0.48 | <0.5 | 11 | 35 | 31 | 2.99 |
| ZZ24071 | | 0.18 | 0.003 | <0.2 | 2.10 | 10 | <10 | 200 | <0.5 | <2 | 0.30 | <0.5 | 11 | 39 | 20 | 3.36 |
| ZZ24072 | | 0.20 | 0.002 | <0.2 | 1.92 | 9 | <10 | 220 | <0.5 | <2 | 0.35 | <0.5 | 13 | 48 | 25 | 3.30 |
| ZZ24073 | | 0.20 | 0.003 | <0.2 | 2.11 | 11 | <10 | 170 | <0.5 | <2 | 0.42 | <0.5 | 13 | 43 | 31 | 3.43 |
| ZZ24074 | | 0.16 | 0.001 | <0.2 | 1.92 | 6 | <10 | 190 | <0.5 | <2 | 0.44 | <0.5 | 16 | 35 | 39 | 3.22 |
| ZZ24075 | | 0.18 | 0.004 | <0.2 | 1.73 | 6 | <10 | 260 | <0.5 | <2 | 0.51 | <0.5 | 14 | 36 | 31 | 3.10 |
| ZZ24076 | | 0.16 | 0.001 | <0.2 | 1.72 | 5 | <10 | 310 | 0.5 | <2 | 0.37 | <0.5 | 12 | 26 | 22 | 2.86 |
| ZZ24077 | | 0.18 | 0.001 | <0.2 | 1.54 | 7 | <10 | 290 | <0.5 | <2 | 0.53 | <0.5 | 11 | 30 | 29 | 2.76 |
| ZZ24078 | | 0.18 | 0.004 | <0.2 | 1.56 | 7 | <10 | 350 | <0.5 | <2 | 0.51 | <0.5 | 10 | 26 | 29 | 2.80 |
| ZZ24079 | | 0.22 | 0.002 | <0.2 | 1.90 | 9 | <10 | 130 | 1.2 | <2 | 0.19 | <0.5 | 9 | 46 | 19 | 3.06 |
| ZZ24080 | | 0.18 | 0.001 | <0.2 | 1.55 | 7 | <10 | 170 | 2.6 | <2 | 0.40 | <0.5 | 10 | 23 | 22 | 3.32 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-SEP-2011**
**Account: F**

Project: TOULERY - ARCUS

# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24041 | | <10 | <1 | 0.09 | 10 | 0.59 | 294 | <1 | 0.02 | 19 | 200 | 9 | 0.01 | <2 | 4 | 25 |
| ZZ24042 | | 10 | <1 | 0.12 | 20 | 1.17 | 498 | 1 | 0.02 | 43 | 540 | 10 | 0.02 | <2 | 9 | 29 |
| ZZ24043 | | 10 | <1 | 0.21 | 20 | 0.61 | 291 | 1 | 0.02 | 28 | 220 | 8 | 0.01 | <2 | 6 | 24 |
| ZZ24044 | | 10 | <1 | 0.07 | 10 | 0.55 | 640 | 1 | 0.02 | 24 | 580 | 7 | 0.01 | <2 | 3 | 29 |
| ZZ24045 | | 10 | <1 | 0.08 | 20 | 0.54 | 230 | <1 | 0.03 | 22 | 320 | 7 | 0.01 | <2 | 5 | 30 |
| ZZ24046 | | 10 | <1 | 0.12 | 20 | 0.75 | 330 | <1 | 0.02 | 30 | 280 | 7 | 0.01 | <2 | 4 | 29 |
| ZZ24047 | | 10 | <1 | 0.09 | 20 | 0.30 | 118 | 1 | 0.01 | 17 | 260 | 11 | 0.01 | <2 | 4 | 33 |
| ZZ24048 | | 10 | <1 | 0.08 | 20 | 0.77 | 286 | 1 | 0.01 | 104 | 650 | 11 | 0.01 | <2 | 5 | 21 |
| ZZ24049 | | 10 | <1 | 0.07 | 10 | 0.48 | 309 | 1 | 0.02 | 21 | 320 | 9 | 0.01 | <2 | 3 | 22 |
| ZZ24050 | | 10 | <1 | 0.10 | 10 | 0.65 | 421 | 1 | 0.02 | 59 | 360 | 11 | 0.01 | 2 | 3 | 23 |
| ZZ24051 | | 10 | <1 | 0.13 | 10 | 0.63 | 445 | 2 | 0.02 | 38 | 220 | 48 | 0.01 | <2 | 5 | 62 |
| ZZ24052 | | <10 | <1 | 0.08 | 10 | 0.49 | 236 | 1 | 0.02 | 18 | 140 | 12 | 0.01 | <2 | 4 | 21 |
| ZZ24053 | | <10 | <1 | 0.12 | 10 | 0.42 | 692 | 1 | 0.02 | 12 | 190 | 9 | 0.01 | <2 | 3 | 21 |
| ZZ24054 | | <10 | <1 | 0.08 | 10 | 0.60 | 422 | 1 | 0.02 | 16 | 480 | 8 | 0.01 | <2 | 3 | 31 |
| ZZ24055 | | 10 | <1 | 0.08 | 10 | 0.61 | 412 | <1 | 0.02 | 16 | 320 | 13 | 0.01 | <2 | 5 | 28 |
| ZZ24056 | | <10 | <1 | 0.25 | 10 | 0.62 | 853 | <1 | 0.02 | 26 | 160 | 10 | 0.01 | <2 | 5 | 27 |
| ZZ24057 | | <10 | <1 | 0.18 | 10 | 0.48 | 494 | <1 | 0.02 | 18 | 180 | 8 | 0.01 | 2 | 4 | 27 |
| ZZ24058 | | <10 | <1 | 0.18 | 10 | 0.52 | 608 | <1 | 0.02 | 17 | 240 | 10 | 0.01 | <2 | 5 | 25 |
| ZZ24059 | | <10 | <1 | 0.35 | 20 | 0.61 | 647 | 2 | 0.01 | 8 | 220 | 33 | 0.01 | 2 | 3 | 13 |
| ZZ24060 | | 10 | <1 | 0.37 | 20 | 0.98 | 492 | 3 | 0.02 | 14 | 630 | 10 | 0.01 | <2 | 4 | 29 |
| ZZ24061 | | 10 | 1 | 0.16 | 10 | 0.72 | 369 | 1 | 0.02 | 13 | 300 | 11 | 0.01 | 2 | 4 | 22 |
| ZZ24062 | | 10 | <1 | 0.14 | 20 | 0.65 | 324 | 1 | 0.02 | 12 | 240 | 11 | 0.01 | <2 | 4 | 27 |
| ZZ24063 | | 10 | <1 | 0.61 | 20 | 1.02 | 608 | <1 | 0.02 | 11 | 500 | 11 | 0.01 | <2 | 5 | 22 |
| ZZ24064 | | 10 | <1 | 0.17 | 30 | 0.56 | 775 | 1 | 0.02 | 12 | 320 | 14 | 0.01 | <2 | 6 | 29 |
| ZZ24065 | | <10 | <1 | 0.19 | 20 | 0.67 | 436 | 1 | 0.02 | 14 | 300 | 9 | 0.01 | <2 | 6 | 26 |
| ZZ24066 | | 10 | <1 | 0.28 | 10 | 0.67 | 770 | 1 | 0.03 | 11 | 290 | 13 | 0.01 | <2 | 4 | 30 |
| ZZ24067 | | 10 | <1 | 0.32 | 40 | 0.77 | 730 | 1 | 0.02 | 14 | 390 | 13 | 0.02 | <2 | 6 | 44 |
| ZZ24068 | | <10 | <1 | 0.47 | 10 | 0.54 | 480 | 1 | 0.01 | 10 | 560 | 14 | 0.02 | <2 | 4 | 17 |
| ZZ24069 | | 10 | <1 | 0.32 | 10 | 0.68 | 353 | <1 | 0.02 | 13 | 360 | 8 | 0.02 | <2 | 3 | 20 |
| ZZ24070 | | <10 | <1 | 0.10 | 10 | 0.66 | 417 | <1 | 0.03 | 21 | 390 | 8 | 0.01 | <2 | 7 | 33 |
| ZZ24071 | | 10 | <1 | 0.17 | 10 | 0.83 | 303 | <1 | 0.02 | 20 | 280 | 7 | 0.01 | 2 | 4 | 23 |
| ZZ24072 | | 10 | <1 | 0.27 | 10 | 0.77 | 309 | <1 | 0.02 | 23 | 290 | 6 | 0.02 | <2 | 5 | 26 |
| ZZ24073 | | 10 | <1 | 0.21 | 10 | 0.94 | 335 | <1 | 0.02 | 26 | 390 | 6 | 0.01 | <2 | 4 | 30 |
| ZZ24074 | | 10 | <1 | 0.25 | 10 | 1.21 | 324 | <1 | 0.03 | 19 | 440 | 5 | 0.01 | <2 | 5 | 25 |
| ZZ24075 | | <10 | 1 | 0.38 | 10 | 0.84 | 488 | <1 | 0.03 | 19 | 730 | 6 | 0.01 | <2 | 5 | 29 |
| ZZ24076 | | <10 | <1 | 0.27 | 10 | 0.65 | 733 | <1 | 0.02 | 14 | 350 | 10 | 0.01 | <2 | 4 | 27 |
| ZZ24077 | | <10 | <1 | 0.22 | 10 | 0.63 | 482 | <1 | 0.03 | 21 | 400 | 8 | 0.01 | <2 | 5 | 31 |
| ZZ24078 | | <10 | <1 | 0.22 | 20 | 0.66 | 381 | <1 | 0.02 | 14 | 320 | 8 | 0.02 | 2 | 5 | 38 |
| ZZ24079 | | 10 | <1 | 0.12 | 20 | 0.60 | 265 | 1 | 0.02 | 22 | 150 | 8 | 0.01 | <2 | 5 | 22 |
| ZZ24080 | | 10 | <1 | 0.16 | 30 | 0.60 | 547 | 1 | 0.02 | 10 | 270 | 17 | 0.04 | <2 | 6 | 30 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-SEP-2011**
**Account: F**

Project: TOULERY - ARCUS

# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ24041 | | <20 | 0.09 | <10 | <10 | 60 | <10 | 50 |
| ZZ24042 | | <20 | 0.09 | <10 | <10 | 88 | <10 | 86 |
| ZZ24043 | | <20 | 0.10 | <10 | <10 | 66 | <10 | 59 |
| ZZ24044 | | <20 | 0.07 | <10 | <10 | 68 | <10 | 89 |
| ZZ24045 | | <20 | 0.09 | <10 | <10 | 61 | <10 | 48 |
| ZZ24046 | | <20 | 0.10 | <10 | <10 | 57 | <10 | 58 |
| ZZ24047 | | <20 | 0.06 | <10 | <10 | 40 | <10 | 70 |
| ZZ24048 | | <20 | 0.02 | <10 | <10 | 68 | <10 | 64 |
| ZZ24049 | | <20 | 0.06 | <10 | <10 | 68 | <10 | 68 |
| ZZ24050 | | <20 | 0.07 | <10 | <10 | 67 | <10 | 60 |
| ZZ24051 | | <20 | 0.09 | <10 | <10 | 58 | <10 | 135 |
| ZZ24052 | | <20 | 0.07 | <10 | <10 | 56 | <10 | 67 |
| ZZ24053 | | <20 | 0.06 | <10 | <10 | 54 | <10 | 66 |
| ZZ24054 | | <20 | 0.07 | <10 | <10 | 59 | <10 | 52 |
| ZZ24055 | | <20 | 0.07 | <10 | <10 | 51 | <10 | 86 |
| ZZ24056 | | <20 | 0.11 | <10 | <10 | 62 | <10 | 77 |
| ZZ24057 | | <20 | 0.09 | <10 | <10 | 59 | <10 | 65 |
| ZZ24058 | | <20 | 0.09 | <10 | <10 | 61 | <10 | 88 |
| ZZ24059 | | <20 | 0.09 | <10 | <10 | 34 | <10 | 251 |
| ZZ24060 | | <20 | 0.16 | <10 | <10 | 70 | <10 | 92 |
| ZZ24061 | | <20 | 0.13 | <10 | <10 | 63 | <10 | 71 |
| ZZ24062 | | <20 | 0.11 | <10 | <10 | 58 | <10 | 67 |
| ZZ24063 | | <20 | 0.17 | <10 | <10 | 60 | <10 | 112 |
| ZZ24064 | | <20 | 0.10 | <10 | <10 | 59 | <10 | 67 |
| ZZ24065 | | <20 | 0.11 | <10 | <10 | 63 | <10 | 58 |
| ZZ24066 | | <20 | 0.12 | <10 | <10 | 64 | <10 | 74 |
| ZZ24067 | | <20 | 0.12 | <10 | <10 | 68 | <10 | 82 |
| ZZ24068 | | <20 | 0.07 | <10 | <10 | 38 | <10 | 72 |
| ZZ24069 | | <20 | 0.12 | <10 | <10 | 66 | <10 | 68 |
| ZZ24070 | | <20 | 0.11 | <10 | <10 | 69 | <10 | 54 |
| ZZ24071 | | <20 | 0.13 | <10 | <10 | 79 | <10 | 60 |
| ZZ24072 | | <20 | 0.14 | <10 | <10 | 78 | <10 | 62 |
| ZZ24073 | | <20 | 0.16 | <10 | <10 | 83 | <10 | 62 |
| ZZ24074 | | <20 | 0.16 | <10 | <10 | 79 | <10 | 57 |
| ZZ24075 | | <20 | 0.13 | <10 | <10 | 73 | <10 | 60 |
| ZZ24076 | | <20 | 0.11 | <10 | <10 | 60 | <10 | 88 |
| ZZ24077 | | <20 | 0.11 | <10 | <10 | 63 | <10 | 56 |
| ZZ24078 | | <20 | 0.10 | <10 | <10 | 63 | <10 | 60 |
| ZZ24079 | | <20 | 0.10 | <10 | <10 | 66 | <10 | 61 |
| ZZ24080 | | <20 | 0.05 | <10 | <10 | 57 | <10 | 71 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-SEP-2011**
**Account: F**

Project: TOULERY - ARCUS

# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method / Analyte / Units / LOR | WEI-21 Recvd Wt. kg 0.02 | Au-ICP21 Au ppm 0.001 | ME-ICP41 Ag ppm 0.2 | ME-ICP41 Al % 0.01 | ME-ICP41 As ppm 2 | ME-ICP41 B ppm 10 | ME-ICP41 Ba ppm 10 | ME-ICP41 Be ppm 0.5 | ME-ICP41 Bi ppm 2 | ME-ICP41 Ca % 0.01 | ME-ICP41 Cd ppm 0.5 | ME-ICP41 Co ppm 1 | ME-ICP41 Cr ppm 1 | ME-ICP41 Cu ppm 1 | ME-ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ24081 | | 0.16 | 0.005 | <0.2 | 1.28 | 58 | <10 | 340 | 2.5 | <2 | 0.86 | <0.5 | 20 | 28 | 69 | 3.65 |
| ZZ24082 | | 0.12 | 0.001 | <0.2 | 1.13 | 5 | <10 | 150 | 0.6 | <2 | 0.59 | <0.5 | 10 | 24 | 20 | 2.61 |
| ZZ24083 | | 0.16 | 0.002 | <0.2 | 1.64 | 11 | <10 | 190 | 0.7 | <2 | 0.57 | <0.5 | 12 | 35 | 24 | 2.79 |
| ZZ24084 | | 0.20 | 0.001 | <0.2 | 1.37 | 12 | <10 | 110 | 1.7 | <2 | 0.36 | <0.5 | 8 | 30 | 15 | 2.56 |
| ZZ24085 | | 0.16 | 0.001 | <0.2 | 1.85 | 16 | <10 | 140 | 1.7 | <2 | 0.37 | <0.5 | 12 | 73 | 26 | 3.02 |
| ZZ24086 | | 0.20 | 0.003 | <0.2 | 1.58 | 7 | <10 | 120 | 1.2 | <2 | 0.36 | <0.5 | 9 | 49 | 25 | 2.63 |
| ZZ24087 | | 0.12 | 0.003 | <0.2 | 1.67 | 5 | <10 | 100 | 0.7 | <2 | 0.24 | <0.5 | 8 | 35 | 24 | 2.83 |
| ZZ24088 | | 0.14 | 0.003 | <0.2 | 1.81 | 8 | <10 | 140 | 1.3 | <2 | 0.32 | <0.5 | 7 | 34 | 25 | 2.70 |
| ZZ24089 | | 0.14 | 0.003 | <0.2 | 1.73 | 10 | <10 | 90 | 1.4 | <2 | 0.17 | <0.5 | 8 | 31 | 19 | 2.84 |
| ZZ24090 | | 0.12 | 0.002 | <0.2 | 1.41 | 6 | <10 | 90 | 2.1 | <2 | 0.17 | <0.5 | 6 | 25 | 18 | 2.28 |
| ZZ24091 | | 0.20 | 0.001 | <0.2 | 1.76 | 4 | <10 | 130 | 0.5 | 2 | 0.29 | <0.5 | 9 | 30 | 18 | 2.86 |
| ZZ24092 | | 0.18 | 0.001 | <0.2 | 1.78 | 8 | <10 | 110 | <0.5 | <2 | 0.14 | <0.5 | 8 | 36 | 16 | 2.91 |
| ZZ24093 | | 0.14 | 0.001 | 0.2 | 1.63 | 15 | <10 | 180 | <0.5 | <2 | 0.26 | <0.5 | 8 | 32 | 20 | 2.83 |
| ZZ24094 | | 0.14 | 0.004 | <0.2 | 1.36 | 8 | <10 | 150 | <0.5 | <2 | 0.28 | <0.5 | 7 | 32 | 13 | 2.40 |
| ZZ24095 | | 0.18 | 0.004 | <0.2 | 1.78 | 7 | <10 | 250 | <0.5 | <2 | 0.50 | <0.5 | 12 | 39 | 35 | 2.94 |
| ZZ24096 | | 0.24 | 0.003 | <0.2 | 1.67 | 11 | <10 | 170 | <0.5 | <2 | 0.33 | <0.5 | 9 | 37 | 20 | 2.86 |
| ZZ24097 | | 0.16 | 0.002 | <0.2 | 1.87 | 11 | <10 | 180 | 0.5 | <2 | 0.48 | <0.5 | 11 | 44 | 34 | 3.10 |
| ZZ24098 | | 0.22 | 0.001 | <0.2 | 1.64 | 5 | <10 | 200 | <0.5 | <2 | 0.41 | <0.5 | 9 | 36 | 21 | 2.56 |
| ZZ24099 | | 0.20 | 0.002 | <0.2 | 1.76 | 8 | <10 | 170 | <0.5 | <2 | 0.58 | <0.5 | 11 | 71 | 40 | 3.01 |
| ZZ24100 | | 0.16 | 0.001 | <0.2 | 1.50 | 3 | <10 | 150 | <0.5 | <2 | 0.32 | <0.5 | 9 | 33 | 42 | 2.49 |
| ZZ24101 | | 0.26 | 0.001 | <0.2 | 1.54 | 8 | <10 | 240 | <0.5 | <2 | 0.24 | <0.5 | 6 | 37 | 20 | 2.60 |
| ZZ24102 | | 0.22 | 0.002 | <0.2 | 2.01 | 10 | <10 | 250 | 0.5 | <2 | 0.75 | <0.5 | 11 | 31 | 37 | 3.67 |
| ZZ24103 | | 0.24 | 0.007 | <0.2 | 1.77 | 12 | <10 | 380 | 0.6 | <2 | 0.34 | <0.5 | 7 | 45 | 29 | 2.92 |
| ZZ24104 | | 0.28 | 0.003 | <0.2 | 1.86 | 14 | <10 | 240 | 0.5 | <2 | 0.24 | <0.5 | 9 | 42 | 21 | 3.12 |
| ZZ24105 | | 0.28 | 0.003 | <0.2 | 2.06 | 12 | <10 | 310 | 0.6 | <2 | 0.36 | <0.5 | 12 | 40 | 24 | 3.40 |
| ZZ24106 | | 0.22 | 0.002 | <0.2 | 2.49 | 13 | <10 | 330 | 1.3 | <2 | 0.42 | <0.5 | 12 | 35 | 25 | 3.68 |
| ZZ24107 | | 0.30 | 0.001 | <0.2 | 2.99 | 7 | <10 | 530 | 0.7 | 2 | 0.51 | <0.5 | 15 | 52 | 22 | 4.92 |
| ZZ24108 | | 0.24 | 0.003 | <0.2 | 1.91 | 10 | <10 | 280 | 0.5 | 2 | 0.30 | <0.5 | 10 | 42 | 25 | 3.07 |
| ZZ24109 | | 0.22 | <0.001 | <0.2 | 4.70 | 7 | <10 | 310 | 0.9 | 2 | 0.62 | <0.5 | 32 | 29 | 21 | 6.45 |
| ZZ24110 | | 0.20 | 0.001 | <0.2 | 3.02 | 9 | <10 | 320 | 0.7 | 2 | 0.38 | <0.5 | 13 | 38 | 34 | 5.12 |
| ZZ24111 | | 0.22 | 0.001 | <0.2 | 2.76 | 5 | <10 | 290 | 0.5 | <2 | 0.42 | <0.5 | 14 | 19 | 33 | 4.26 |
| ZZ24112 | | 0.24 | <0.001 | <0.2 | 3.30 | 5 | <10 | 420 | 0.5 | <2 | 0.42 | <0.5 | 15 | 18 | 40 | 5.37 |
| ZZ24113 | | 0.24 | <0.001 | <0.2 | 2.18 | 6 | <10 | 340 | <0.5 | <2 | 0.38 | <0.5 | 11 | 40 | 20 | 3.31 |
| ZZ24114 | | 0.26 | 0.003 | 0.3 | 3.13 | 3 | <10 | 550 | 0.6 | <2 | 0.36 | <0.5 | 14 | 16 | 41 | 4.82 |
| ZZ24115 | | 0.28 | 0.002 | <0.2 | 1.98 | 10 | <10 | 270 | <0.5 | <2 | 0.28 | <0.5 | 9 | 34 | 25 | 3.24 |
| ZZ24116 | | 0.20 | 0.001 | <0.2 | 1.84 | 7 | <10 | 280 | 0.6 | <2 | 0.26 | <0.5 | 11 | 22 | 24 | 3.63 |
| ZZ24117 | | 0.26 | 0.002 | <0.2 | 1.99 | 7 | <10 | 230 | 0.5 | <2 | 0.30 | <0.5 | 10 | 31 | 18 | 3.36 |
| ZZ24118 | | 0.20 | 0.001 | <0.2 | 1.58 | 10 | <10 | 170 | 0.7 | <2 | 0.24 | <0.5 | 7 | 23 | 20 | 2.94 |
| ZZ24119 | | 0.22 | 0.001 | <0.2 | 2.06 | 6 | <10 | 150 | 0.8 | <2 | 0.17 | <0.5 | 7 | 19 | 23 | 3.92 |
| ZZ24120 | | 0.18 | 0.001 | <0.2 | 1.79 | 12 | <10 | 210 | 0.6 | <2 | 0.24 | <0.5 | 8 | 35 | 19 | 2.86 |

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# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24081 | | <10 | <1 | 0.09 | 40 | 0.39 | 331 | 7 | 0.02 | 81 | 730 | 13 | 0.08 | <2 | 6 | 92 |
| ZZ24082 | | <10 | <1 | 0.14 | 20 | 0.58 | 529 | 1 | 0.02 | 15 | 640 | 7 | 0.04 | <2 | 3 | 33 |
| ZZ24083 | | <10 | <1 | 0.04 | 30 | 0.60 | 459 | 1 | 0.03 | 21 | 690 | 7 | 0.02 | <2 | 4 | 33 |
| ZZ24084 | | 10 | <1 | 0.05 | 10 | 0.57 | 222 | <1 | 0.02 | 17 | 540 | 9 | 0.01 | <2 | 3 | 23 |
| ZZ24085 | | 10 | 1 | 0.10 | 20 | 0.82 | 341 | 1 | 0.02 | 44 | 560 | 14 | <0.01 | 2 | 4 | 24 |
| ZZ24086 | | 10 | 1 | 0.06 | 20 | 0.71 | 251 | <1 | 0.02 | 25 | 480 | 10 | <0.01 | <2 | 4 | 25 |
| ZZ24087 | | 10 | <1 | 0.18 | 20 | 0.70 | 204 | <1 | 0.02 | 24 | 560 | 13 | <0.01 | <2 | 3 | 15 |
| ZZ24088 | | 10 | <1 | 0.08 | 20 | 0.54 | 190 | 1 | 0.02 | 19 | 460 | 12 | <0.01 | <2 | 3 | 25 |
| ZZ24089 | | 10 | <1 | 0.11 | 20 | 0.59 | 189 | <1 | 0.02 | 21 | 390 | 10 | <0.01 | 2 | 3 | 15 |
| ZZ24090 | | 10 | <1 | 0.11 | 30 | 0.48 | 124 | 1 | 0.02 | 17 | 450 | 12 | <0.01 | <2 | 2 | 17 |
| ZZ24091 | | 10 | <1 | 0.28 | 40 | 0.82 | 219 | <1 | 0.02 | 23 | 560 | 11 | <0.01 | <2 | 3 | 17 |
| ZZ24092 | | 10 | <1 | 0.09 | 10 | 0.65 | 169 | 1 | 0.02 | 20 | 250 | 10 | <0.01 | <2 | 3 | 14 |
| ZZ24093 | | 10 | <1 | 0.10 | 10 | 0.54 | 259 | 1 | 0.02 | 23 | 200 | 10 | <0.01 | 2 | 3 | 19 |
| ZZ24094 | | <10 | <1 | 0.06 | 10 | 0.50 | 233 | <1 | 0.02 | 14 | 210 | 9 | <0.01 | <2 | 2 | 21 |
| ZZ24095 | | <10 | <1 | 0.13 | 10 | 0.54 | 856 | <1 | 0.03 | 22 | 170 | 9 | <0.01 | <2 | 5 | 27 |
| ZZ24096 | | <10 | <1 | 0.17 | 10 | 0.54 | 258 | 1 | 0.02 | 22 | 320 | 12 | <0.01 | <2 | 4 | 24 |
| ZZ24097 | | 10 | <1 | 0.11 | 10 | 0.67 | 364 | <1 | 0.02 | 26 | 270 | 11 | <0.01 | 2 | 6 | 30 |
| ZZ24098 | | <10 | <1 | 0.12 | 10 | 0.41 | 378 | 1 | 0.02 | 19 | 190 | 10 | <0.01 | <2 | 4 | 23 |
| ZZ24099 | | 10 | <1 | 0.12 | 10 | 0.86 | 363 | 1 | 0.03 | 39 | 510 | 9 | <0.01 | 2 | 5 | 34 |
| ZZ24100 | | <10 | <1 | 0.26 | <10 | 0.75 | 322 | <1 | 0.02 | 17 | 440 | 7 | <0.01 | <2 | 3 | 23 |
| ZZ24101 | | 10 | 1 | 0.07 | 10 | 0.60 | 278 | 1 | 0.02 | 18 | 130 | 13 | <0.01 | <2 | 3 | 27 |
| ZZ24102 | | 10 | 1 | 0.11 | 10 | 0.91 | 456 | <1 | 0.04 | 17 | 2080 | 9 | <0.01 | <2 | 5 | 37 |
| ZZ24103 | | <10 | <1 | 0.08 | 20 | 0.58 | 295 | <1 | 0.02 | 25 | 340 | 12 | <0.01 | <2 | 7 | 31 |
| ZZ24104 | | 10 | <1 | 0.18 | 10 | 0.64 | 351 | 1 | 0.02 | 22 | 170 | 13 | <0.01 | 2 | 5 | 25 |
| ZZ24105 | | 10 | 1 | 0.32 | 10 | 0.76 | 844 | 1 | 0.02 | 22 | 290 | 10 | <0.01 | 2 | 7 | 30 |
| ZZ24106 | | 10 | <1 | 0.43 | 10 | 1.10 | 451 | <1 | 0.02 | 20 | 530 | 12 | <0.01 | <2 | 5 | 34 |
| ZZ24107 | | 10 | 1 | 1.26 | 10 | 1.64 | 1070 | <1 | 0.03 | 22 | 1400 | 13 | <0.01 | <2 | 10 | 26 |
| ZZ24108 | | <10 | <1 | 0.17 | 10 | 0.64 | 548 | <1 | 0.02 | 26 | 280 | 10 | <0.01 | <2 | 6 | 28 |
| ZZ24109 | | 10 | 1 | 1.09 | <10 | 3.55 | 1555 | <1 | 0.03 | 19 | 510 | 12 | <0.01 | <2 | 3 | 85 |
| ZZ24110 | | 10 | <1 | 0.69 | 10 | 1.35 | 1115 | 1 | 0.02 | 15 | 1080 | 13 | <0.01 | <2 | 6 | 27 |
| ZZ24111 | | 10 | 1 | 0.80 | <10 | 1.64 | 992 | 1 | 0.02 | 10 | 830 | 14 | 0.01 | <2 | 3 | 39 |
| ZZ24112 | | 10 | 1 | 1.63 | 10 | 1.79 | 1330 | <1 | 0.03 | 8 | 1480 | 14 | <0.01 | <2 | 8 | 18 |
| ZZ24113 | | 10 | <1 | 0.77 | <10 | 1.20 | 539 | <1 | 0.02 | 22 | 990 | 9 | <0.01 | <2 | 2 | 35 |
| ZZ24114 | | 10 | <1 | 1.57 | 20 | 2.13 | 1000 | <1 | 0.03 | 6 | 930 | 23 | 0.18 | <2 | 4 | 57 |
| ZZ24115 | | 10 | 1 | 0.38 | 10 | 0.82 | 396 | <1 | 0.02 | 21 | 280 | 9 | <0.01 | 3 | 4 | 27 |
| ZZ24116 | | 10 | <1 | 0.61 | 20 | 0.82 | 672 | 1 | 0.02 | 13 | 490 | 15 | <0.01 | <2 | 5 | 25 |
| ZZ24117 | | 10 | <1 | 0.33 | 10 | 0.70 | 568 | <1 | 0.02 | 16 | 460 | 12 | <0.01 | <2 | 5 | 27 |
| ZZ24118 | | 10 | <1 | 0.44 | 10 | 0.64 | 424 | <1 | 0.02 | 14 | 320 | 16 | <0.01 | <2 | 4 | 19 |
| ZZ24119 | | 10 | <1 | 0.98 | 20 | 0.94 | 640 | <1 | 0.02 | 10 | 390 | 9 | 0.01 | <2 | 6 | 18 |
| ZZ24120 | | 10 | <1 | 0.12 | 10 | 0.52 | 283 | <1 | 0.02 | 21 | 280 | 10 | <0.01 | 2 | 4 | 25 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-SEP-2011**
**Account: F**

Project: TOULERY - ARCUS

# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method / Analyte / Units / LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ24081 | | <20 | 0.01 | <10 | <10 | 53 | <10 | 61 |
| ZZ24082 | | <20 | 0.06 | <10 | <10 | 45 | <10 | 68 |
| ZZ24083 | | <20 | 0.08 | <10 | <10 | 53 | <10 | 68 |
| ZZ24084 | | <20 | 0.07 | <10 | <10 | 48 | <10 | 54 |
| ZZ24085 | | <20 | 0.09 | <10 | <10 | 58 | <10 | 66 |
| ZZ24086 | | <20 | 0.09 | <10 | <10 | 53 | <10 | 55 |
| ZZ24087 | | <20 | 0.10 | <10 | <10 | 52 | <10 | 57 |
| ZZ24088 | | <20 | 0.10 | <10 | <10 | 57 | <10 | 53 |
| ZZ24089 | | <20 | 0.10 | <10 | <10 | 54 | <10 | 53 |
| ZZ24090 | | <20 | 0.09 | <10 | <10 | 43 | <10 | 54 |
| ZZ24091 | | <20 | 0.13 | <10 | <10 | 43 | <10 | 62 |
| ZZ24092 | | <20 | 0.12 | <10 | <10 | 72 | <10 | 45 |
| ZZ24093 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 57 |
| ZZ24094 | | <20 | 0.08 | <10 | <10 | 60 | <10 | 41 |
| ZZ24095 | | <20 | 0.08 | <10 | <10 | 71 | <10 | 46 |
| ZZ24096 | | <20 | 0.09 | <10 | <10 | 66 | <10 | 55 |
| ZZ24097 | | <20 | 0.09 | <10 | <10 | 76 | <10 | 47 |
| ZZ24098 | | <20 | 0.08 | <10 | <10 | 59 | <10 | 42 |
| ZZ24099 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 56 |
| ZZ24100 | | <20 | 0.10 | <10 | <10 | 49 | <10 | 61 |
| ZZ24101 | | <20 | 0.06 | <10 | <10 | 51 | <10 | 66 |
| ZZ24102 | | <20 | 0.13 | <10 | <10 | 85 | <10 | 67 |
| ZZ24103 | | <20 | 0.09 | <10 | <10 | 64 | <10 | 55 |
| ZZ24104 | | <20 | 0.12 | <10 | <10 | 66 | <10 | 70 |
| ZZ24105 | | <20 | 0.13 | <10 | <10 | 77 | <10 | 75 |
| ZZ24106 | | <20 | 0.16 | <10 | <10 | 91 | <10 | 82 |
| ZZ24107 | | <20 | 0.23 | <10 | <10 | 117 | <10 | 110 |
| ZZ24108 | | <20 | 0.13 | <10 | <10 | 73 | <10 | 61 |
| ZZ24109 | | <20 | 0.44 | <10 | <10 | 161 | <10 | 256 |
| ZZ24110 | | <20 | 0.14 | <10 | <10 | 100 | <10 | 167 |
| ZZ24111 | | <20 | 0.21 | <10 | <10 | 109 | <10 | 145 |
| ZZ24112 | | <20 | 0.36 | <10 | <10 | 102 | <10 | 206 |
| ZZ24113 | | <20 | 0.17 | <10 | <10 | 65 | <10 | 124 |
| ZZ24114 | | <20 | 0.31 | <10 | <10 | 118 | <10 | 208 |
| ZZ24115 | | <20 | 0.17 | <10 | <10 | 72 | <10 | 81 |
| ZZ24116 | | <20 | 0.11 | <10 | <10 | 71 | <10 | 88 |
| ZZ24117 | | <20 | 0.09 | <10 | <10 | 61 | <10 | 82 |
| ZZ24118 | | <20 | 0.09 | <10 | <10 | 42 | <10 | 80 |
| ZZ24119 | | <20 | 0.17 | <10 | <10 | 40 | <10 | 138 |
| ZZ24120 | | <20 | 0.10 | <10 | <10 | 63 | <10 | 57 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-SEP-2011**
**Account: F**

Project: TOULERY - ARCUS

# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| ZZ24121 | | 0.24 | 0.004 | <0.2 | 1.79 | 10 | <10 | 230 | 0.7 | <2 | 0.35 | <0.5 | 9 | 39 | 38 | 3.16 |
| ZZ24122 | | 0.24 | 0.001 | <0.2 | 1.90 | 9 | <10 | 210 | 0.5 | <2 | 0.36 | <0.5 | 10 | 54 | 25 | 3.37 |
| ZZ24123 | | 0.24 | <0.001 | <0.2 | 2.35 | 9 | <10 | 250 | 0.7 | <2 | 0.38 | <0.5 | 11 | 30 | 32 | 3.77 |
| ZZ24124 | | 0.22 | 0.002 | <0.2 | 2.25 | 7 | <10 | 200 | 0.5 | <2 | 0.50 | <0.5 | 12 | 28 | 23 | 3.77 |
| ZZ24125 | | 0.22 | 0.001 | <0.2 | 2.90 | 4 | <10 | 320 | 0.6 | <2 | 0.68 | <0.5 | 15 | 24 | 27 | 4.60 |
| ZZ24126 | | 0.28 | 0.003 | 0.2 | 1.67 | 10 | <10 | 260 | 0.5 | <2 | 0.49 | <0.5 | 11 | 32 | 31 | 3.04 |
| ZZ24127 | | 0.22 | 0.004 | <0.2 | 1.90 | 12 | <10 | 140 | 0.7 | <2 | 0.32 | <0.5 | 11 | 45 | 34 | 3.68 |
| ZZ24128 | | 0.18 | 0.008 | 0.2 | 1.44 | 10 | <10 | 230 | 0.6 | <2 | 0.33 | <0.5 | 15 | 27 | 27 | 2.59 |
| ZZ24129 | | 0.18 | 0.001 | <0.2 | 1.61 | 6 | <10 | 170 | 0.6 | <2 | 0.41 | <0.5 | 14 | 49 | 27 | 3.45 |
| ZZ24130 | | 0.24 | 0.007 | 0.2 | 1.76 | 12 | <10 | 120 | 1.7 | <2 | 0.52 | <0.5 | 32 | 35 | 83 | 4.26 |
| ZZ24131 | | 0.20 | 0.002 | <0.2 | 2.07 | 10 | <10 | 200 | 0.9 | <2 | 0.45 | <0.5 | 12 | 43 | 20 | 3.20 |
| ZZ24132 | | 0.14 | 0.003 | <0.2 | 2.08 | 7 | <10 | 220 | 0.7 | <2 | 0.62 | <0.5 | 13 | 40 | 19 | 3.34 |
| ZZ24133 | | 0.20 | 0.005 | 0.2 | 1.52 | 5 | <10 | 200 | 0.7 | <2 | 0.84 | <0.5 | 10 | 31 | 26 | 2.26 |
| ZZ24134 | | 0.18 | 0.003 | <0.2 | 1.86 | 8 | <10 | 120 | <0.5 | <2 | 0.41 | <0.5 | 9 | 36 | 30 | 3.20 |
| ZZ24135 | | 0.18 | 0.002 | <0.2 | 1.72 | 4 | <10 | 120 | 0.5 | <2 | 0.33 | <0.5 | 9 | 33 | 22 | 2.88 |
| ZZ24136 | | 0.18 | 0.003 | <0.2 | 1.91 | 6 | <10 | 120 | 0.5 | <2 | 0.33 | <0.5 | 11 | 36 | 24 | 3.16 |
| ZZ24137 | | 0.20 | 0.001 | <0.2 | 2.05 | 13 | <10 | 220 | 0.5 | <2 | 0.51 | <0.5 | 10 | 44 | 31 | 3.27 |
| ZZ24138 | | 0.22 | 0.002 | <0.2 | 1.71 | 9 | <10 | 210 | 0.5 | <2 | 0.49 | <0.5 | 12 | 82 | 22 | 2.77 |
| ZZ24139 | | 0.24 | 0.002 | <0.2 | 1.78 | 7 | <10 | 180 | <0.5 | <2 | 0.44 | <0.5 | 12 | 49 | 32 | 2.92 |
| ZZ24140 | | 0.24 | 0.003 | 0.2 | 2.04 | 10 | <10 | 120 | 0.5 | <2 | 0.37 | <0.5 | 9 | 45 | 22 | 3.19 |
| ZZ20371 | | 0.20 | 0.007 | <0.2 | 1.34 | 10 | <10 | 210 | <0.5 | <2 | 0.59 | <0.5 | 10 | 31 | 51 | 2.72 |
| ZZ20372 | | 0.20 | 0.001 | <0.2 | 1.91 | 4 | <10 | 140 | <0.5 | <2 | 0.59 | <0.5 | 12 | 23 | 32 | 2.86 |
| ZZ20373 | | 0.20 | 0.002 | <0.2 | 1.90 | 9 | <10 | 140 | <0.5 | <2 | 0.42 | <0.5 | 12 | 58 | 26 | 3.04 |
| ZZ20374 | | 0.30 | 0.002 | 0.3 | 2.48 | 11 | <10 | 160 | 0.8 | <2 | 0.30 | <0.5 | 11 | 59 | 61 | 4.03 |
| ZZ20375 | | 0.14 | 0.002 | <0.2 | 1.89 | 13 | <10 | 190 | 0.6 | <2 | 0.22 | <0.5 | 9 | 57 | 21 | 3.13 |
| ZZ20376 | | 0.24 | 0.002 | 0.2 | 3.19 | 5 | <10 | 220 | 0.9 | <2 | 0.55 | <0.5 | 19 | 77 | 64 | 4.27 |
| ZZ20377 | | 0.24 | 0.003 | <0.2 | 1.91 | 6 | <10 | 130 | 0.6 | <2 | 0.18 | <0.5 | 10 | 33 | 27 | 3.40 |
| ZZ20378 | | 0.36 | 0.007 | 0.2 | 1.62 | 10 | <10 | 170 | <0.5 | <2 | 0.23 | <0.5 | 10 | 28 | 17 | 2.77 |
| ZZ20379 | | 0.24 | 0.001 | 0.2 | 2.21 | 9 | <10 | 250 | 0.5 | <2 | 0.23 | <0.5 | 11 | 44 | 23 | 3.27 |
| ZZ20380 | | 0.34 | 0.002 | 0.2 | 2.22 | 14 | <10 | 180 | <0.5 | <2 | 0.26 | <0.5 | 10 | 40 | 21 | 3.62 |
| ZZ20381 | | 0.20 | 0.002 | 0.2 | 1.93 | 9 | <10 | 180 | <0.5 | <2 | 0.25 | <0.5 | 10 | 45 | 41 | 2.86 |
| ZZ20382 | | 0.30 | 0.002 | <0.2 | 2.17 | 7 | <10 | 230 | 0.6 | <2 | 0.32 | <0.5 | 14 | 46 | 23 | 3.38 |
| ZZ20383 | | 0.28 | 0.002 | <0.2 | 2.24 | 15 | <10 | 190 | 0.9 | <2 | 0.38 | <0.5 | 11 | 40 | 24 | 3.68 |
| ZZ20384 | | 0.26 | 0.004 | 0.7 | 1.94 | 8 | <10 | 200 | 0.5 | <2 | 0.21 | <0.5 | 9 | 37 | 21 | 2.90 |
| ZZ20385 | | 0.26 | 0.001 | 0.2 | 2.48 | 7 | <10 | 160 | 0.7 | <2 | 0.40 | <0.5 | 14 | 77 | 41 | 4.40 |
| ZZ20386 | | 0.24 | 0.002 | <0.2 | 1.81 | 7 | <10 | 190 | 0.6 | <2 | 0.41 | <0.5 | 9 | 37 | 19 | 3.01 |
| ZZ20387 | | 0.30 | 0.002 | <0.2 | 2.11 | 12 | <10 | 150 | 0.7 | <2 | 0.27 | <0.5 | 11 | 40 | 34 | 3.42 |
| ZZ20388 | | 0.30 | 0.004 | <0.2 | 1.59 | 10 | <10 | 220 | 0.6 | <2 | 0.52 | <0.5 | 13 | 35 | 48 | 3.23 |
| ZZ20389 | | 0.26 | 0.004 | 0.2 | 1.75 | 7 | <10 | 260 | 0.5 | <2 | 0.59 | <0.5 | 11 | 41 | 36 | 3.01 |
| ZZ20390 | | 0.30 | 0.002 | 0.2 | 2.26 | 3 | <10 | 220 | 0.6 | 2 | 0.48 | 1.2 | 8 | 18 | 123 | 3.25 |

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**Finalized Date: 17-SEP-2011**
**Account: F**

Project: TOULERY - ARCUS

# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24121 | | 10 | <1 | 0.14 | 60 | 0.62 | 397 | 1 | 0.02 | 25 | 260 | 12 | 0.01 | <2 | 8 | 29 |
| ZZ24122 | | 10 | <1 | 0.16 | 10 | 0.82 | 529 | 1 | 0.02 | 29 | 480 | 8 | 0.01 | <2 | 5 | 26 |
| ZZ24123 | | 10 | 1 | 0.45 | 10 | 1.23 | 717 | 1 | 0.02 | 15 | 220 | 8 | 0.01 | <2 | 5 | 31 |
| ZZ24124 | | 10 | <1 | 0.43 | 10 | 1.17 | 716 | 1 | 0.02 | 15 | 320 | 6 | 0.01 | <2 | 4 | 33 |
| ZZ24125 | | 10 | 1 | 1.05 | 10 | 1.93 | 936 | 1 | 0.02 | 14 | 1370 | 7 | 0.01 | <2 | 4 | 41 |
| ZZ24126 | | 10 | <1 | 0.09 | 20 | 0.68 | 523 | <1 | 0.03 | 21 | 500 | 9 | 0.01 | <2 | 7 | 36 |
| ZZ24127 | | 10 | <1 | 0.08 | 10 | 0.72 | 378 | 1 | 0.02 | 21 | 260 | 9 | 0.01 | <2 | 6 | 32 |
| ZZ24128 | | 10 | <1 | 0.13 | 10 | 0.36 | 408 | 1 | 0.02 | 37 | 400 | 10 | 0.01 | <2 | 3 | 27 |
| ZZ24129 | | 10 | 1 | 0.12 | 10 | 0.68 | 412 | 1 | 0.01 | 41 | 670 | 7 | 0.01 | <2 | 4 | 24 |
| ZZ24130 | | 10 | 1 | 0.10 | 50 | 0.49 | 303 | 5 | 0.01 | 109 | 790 | 15 | 0.01 | <2 | 6 | 23 |
| ZZ24131 | | 10 | <1 | 0.09 | 30 | 0.50 | 347 | 1 | 0.02 | 29 | 260 | 11 | 0.01 | <2 | 7 | 27 |
| ZZ24132 | | 10 | 1 | 0.21 | 10 | 0.60 | 373 | 1 | 0.02 | 25 | 240 | 8 | 0.01 | <2 | 4 | 36 |
| ZZ24133 | | 10 | 1 | 0.17 | 30 | 0.70 | 276 | <1 | 0.03 | 19 | 680 | 6 | 0.07 | <2 | 4 | 106 |
| ZZ24134 | | 10 | <1 | 0.08 | 10 | 0.78 | 257 | 1 | 0.02 | 17 | 520 | 5 | 0.02 | <2 | 4 | 26 |
| ZZ24135 | | 10 | 1 | 0.22 | 50 | 0.73 | 161 | <1 | 0.02 | 24 | 390 | 9 | 0.01 | <2 | 3 | 22 |
| ZZ24136 | | 10 | 1 | 0.24 | 20 | 0.92 | 211 | 1 | 0.02 | 28 | 570 | 6 | 0.01 | <2 | 3 | 20 |
| ZZ24137 | | 10 | 1 | 0.34 | 10 | 1.18 | 334 | 2 | 0.03 | 28 | 560 | 8 | 0.05 | <2 | 4 | 30 |
| ZZ24138 | | 10 | <1 | 0.08 | 10 | 0.92 | 319 | 1 | 0.02 | 37 | 270 | 6 | 0.01 | <2 | 4 | 28 |
| ZZ24139 | | 10 | <1 | 0.07 | 10 | 0.81 | 449 | <1 | 0.02 | 23 | 220 | 7 | 0.01 | <2 | 5 | 29 |
| ZZ24140 | | 10 | 1 | 0.09 | 10 | 0.59 | 253 | 1 | 0.02 | 21 | 170 | 9 | 0.01 | <2 | 4 | 26 |
| ZZ20371 | | <10 | <1 | 0.07 | 10 | 0.65 | 397 | <1 | 0.04 | 29 | 710 | 5 | 0.01 | <2 | 5 | 40 |
| ZZ20372 | | 10 | 1 | 0.09 | <10 | 0.94 | 288 | <1 | 0.04 | 11 | 650 | 3 | 0.01 | <2 | 5 | 35 |
| ZZ20373 | | 10 | 1 | 0.07 | 10 | 1.00 | 247 | <1 | 0.03 | 23 | 280 | 3 | 0.01 | <2 | 6 | 28 |
| ZZ20374 | | 10 | <1 | 0.07 | 10 | 1.09 | 362 | 1 | 0.02 | 31 | 280 | 8 | 0.01 | <2 | 8 | 30 |
| ZZ20375 | | 10 | 1 | 0.09 | 10 | 0.64 | 265 | 1 | 0.02 | 32 | 230 | 7 | 0.01 | <2 | 5 | 23 |
| ZZ20376 | | 10 | <1 | 0.76 | 30 | 1.90 | 299 | 2 | 0.02 | 63 | 1470 | 9 | 0.01 | <2 | 6 | 24 |
| ZZ20377 | | 10 | <1 | 0.38 | 30 | 0.78 | 196 | <1 | 0.01 | 23 | 230 | 8 | 0.01 | <2 | 4 | 19 |
| ZZ20378 | | 10 | 1 | 0.07 | 10 | 0.47 | 320 | 1 | 0.02 | 19 | 640 | 8 | 0.02 | <2 | 3 | 25 |
| ZZ20379 | | 10 | <1 | 0.07 | 10 | 0.63 | 342 | 1 | 0.02 | 26 | 330 | 9 | 0.01 | <2 | 4 | 23 |
| ZZ20380 | | 10 | <1 | 0.05 | 10 | 0.56 | 381 | 2 | 0.02 | 19 | 390 | 8 | 0.02 | <2 | 3 | 25 |
| ZZ20381 | | 10 | 1 | 0.07 | 10 | 0.65 | 336 | <1 | 0.02 | 21 | 250 | 6 | 0.01 | <2 | 4 | 22 |
| ZZ20382 | | 10 | 1 | 0.10 | 10 | 0.69 | 461 | 1 | 0.02 | 27 | 260 | 9 | 0.01 | <2 | 4 | 28 |
| ZZ20383 | | 10 | <1 | 0.05 | 10 | 0.65 | 282 | 1 | 0.01 | 28 | 420 | 9 | 0.01 | <2 | 5 | 38 |
| ZZ20384 | | 10 | 1 | 0.05 | 20 | 0.51 | 214 | 1 | 0.02 | 22 | 150 | 81 | 0.01 | <2 | 4 | 23 |
| ZZ20385 | | 10 | 1 | 0.06 | 20 | 0.98 | 294 | 1 | 0.02 | 48 | 800 | 19 | 0.01 | <2 | 5 | 27 |
| ZZ20386 | | 10 | <1 | 0.05 | 20 | 0.59 | 279 | <1 | 0.02 | 23 | 340 | 11 | 0.01 | <2 | 4 | 29 |
| ZZ20387 | | 10 | <1 | 0.05 | 20 | 0.57 | 220 | 1 | 0.01 | 38 | 330 | 10 | 0.01 | <2 | 4 | 22 |
| ZZ20388 | | <10 | <1 | 0.08 | 20 | 0.59 | 364 | 1 | 0.03 | 44 | 680 | 9 | 0.01 | 2 | 5 | 35 |
| ZZ20389 | | 10 | 1 | 0.06 | 20 | 0.64 | 367 | 1 | 0.03 | 33 | 500 | 8 | 0.01 | 2 | 5 | 36 |
| ZZ20390 | | 10 | 1 | 0.14 | 30 | 1.20 | 693 | 5 | 0.02 | 10 | 290 | 161 | <0.01 | <2 | 4 | 30 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-SEP-2011**
**Account: F**

Project: TOULERY - ARCUS

# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ24121 | | <20 | 0.11 | <10 | <10 | 64 | <10 | 71 |
| ZZ24122 | | <20 | 0.08 | <10 | <10 | 61 | <10 | 72 |
| ZZ24123 | | <20 | 0.16 | <10 | <10 | 71 | <10 | 106 |
| ZZ24124 | | <20 | 0.18 | <10 | <10 | 87 | <10 | 94 |
| ZZ24125 | | <20 | 0.19 | <10 | <10 | 92 | <10 | 158 |
| ZZ24126 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 62 |
| ZZ24127 | | <20 | 0.07 | <10 | <10 | 73 | <10 | 68 |
| ZZ24128 | | <20 | 0.05 | <10 | <10 | 45 | <10 | 49 |
| ZZ24129 | | <20 | 0.03 | <10 | <10 | 62 | <10 | 65 |
| ZZ24130 | | 20 | 0.01 | <10 | <10 | 48 | <10 | 74 |
| ZZ24131 | | <20 | 0.06 | <10 | <10 | 65 | <10 | 56 |
| ZZ24132 | | <20 | 0.10 | <10 | <10 | 54 | <10 | 72 |
| ZZ24133 | | <20 | 0.09 | <10 | <10 | 43 | <10 | 67 |
| ZZ24134 | | <20 | 0.10 | <10 | <10 | 79 | <10 | 50 |
| ZZ24135 | | <20 | 0.11 | <10 | <10 | 53 | <10 | 57 |
| ZZ24136 | | <20 | 0.11 | <10 | <10 | 49 | <10 | 58 |
| ZZ24137 | | <20 | 0.13 | <10 | <10 | 75 | <10 | 77 |
| ZZ24138 | | <20 | 0.10 | <10 | <10 | 63 | <10 | 45 |
| ZZ24139 | | <20 | 0.10 | <10 | <10 | 62 | <10 | 48 |
| ZZ24140 | | <20 | 0.09 | <10 | <10 | 69 | <10 | 49 |
| ZZ20371 | | <20 | 0.09 | <10 | <10 | 60 | <10 | 52 |
| ZZ20372 | | <20 | 0.09 | <10 | <10 | 64 | <10 | 42 |
| ZZ20373 | | <20 | 0.13 | <10 | <10 | 76 | <10 | 51 |
| ZZ20374 | | <20 | 0.12 | <10 | <10 | 85 | <10 | 65 |
| ZZ20375 | | <20 | 0.10 | <10 | <10 | 69 | <10 | 51 |
| ZZ20376 | | <20 | 0.18 | <10 | <10 | 123 | <10 | 133 |
| ZZ20377 | | 20 | 0.13 | <10 | <10 | 44 | <10 | 61 |
| ZZ20378 | | <20 | 0.06 | <10 | <10 | 56 | <10 | 68 |
| ZZ20379 | | <20 | 0.10 | <10 | <10 | 74 | <10 | 83 |
| ZZ20380 | | <20 | 0.08 | <10 | <10 | 83 | <10 | 49 |
| ZZ20381 | | <20 | 0.09 | <10 | <10 | 74 | <10 | 47 |
| ZZ20382 | | <20 | 0.09 | <10 | <10 | 70 | <10 | 73 |
| ZZ20383 | | <20 | 0.06 | <10 | <10 | 58 | <10 | 66 |
| ZZ20384 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 46 |
| ZZ20385 | | <20 | 0.12 | <10 | <10 | 79 | <10 | 98 |
| ZZ20386 | | <20 | 0.08 | <10 | <10 | 55 | <10 | 60 |
| ZZ20387 | | <20 | 0.08 | <10 | <10 | 71 | <10 | 60 |
| ZZ20388 | | <20 | 0.09 | <10 | <10 | 60 | <10 | 61 |
| ZZ20389 | | <20 | 0.10 | <10 | <10 | 59 | <10 | 54 |
| ZZ20390 | | <20 | 0.09 | <10 | <10 | 46 | <10 | 454 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-SEP-2011**
**Account: F**

Project: TOULERY - ARCUS

# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method / Analyte / Units / LOR | WEI-21 Recvd Wt. kg 0.02 | Au-ICP21 Au ppm 0.001 | ME-ICP41 Ag ppm 0.2 | ME-ICP41 Al % 0.01 | ME-ICP41 As ppm 2 | ME-ICP41 B ppm 10 | ME-ICP41 Ba ppm 10 | ME-ICP41 Be ppm 0.5 | ME-ICP41 Bi ppm 2 | ME-ICP41 Ca % 0.01 | ME-ICP41 Cd ppm 0.5 | ME-ICP41 Co ppm 1 | ME-ICP41 Cr ppm 1 | ME-ICP41 Cu ppm 1 | ME-ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ20391 | | 0.34 | 0.003 | <0.2 | 1.56 | 7 | <10 | 230 | <0.5 | <2 | 0.41 | <0.5 | 9 | 32 | 19 | 2.81 |
| ZZ20392 | | 0.24 | 0.002 | <0.2 | 1.59 | 6 | <10 | 250 | <0.5 | <2 | 0.46 | <0.5 | 8 | 28 | 19 | 2.93 |
| ZZ20393 | | 0.24 | 0.001 | <0.2 | 2.25 | 7 | <10 | 210 | 0.5 | <2 | 0.42 | <0.5 | 10 | 36 | 46 | 3.62 |
| ZZ20394 | | 0.20 | 0.001 | <0.2 | 2.51 | 8 | <10 | 180 | 0.6 | <2 | 0.23 | <0.5 | 10 | 100 | 33 | 3.82 |
| ZZ20395 | | 0.24 | 0.002 | <0.2 | 2.07 | 10 | <10 | 200 | 0.6 | <2 | 0.31 | <0.5 | 11 | 38 | 27 | 3.50 |
| ZZ20396 | | 0.22 | 0.001 | 0.3 | 2.20 | 4 | <10 | 320 | <0.5 | <2 | 0.36 | <0.5 | 8 | 19 | 17 | 2.62 |
| ZZ20397 | | 0.28 | 0.001 | 0.4 | 2.46 | 5 | <10 | 440 | 0.5 | <2 | 0.36 | <0.5 | 15 | 23 | 36 | 4.38 |
| ZZ20398 | | 0.22 | 0.002 | 0.2 | 1.62 | 4 | <10 | 350 | 0.6 | <2 | 0.28 | <0.5 | 10 | 27 | 27 | 3.97 |
| ZZ20399 | | 0.28 | 0.004 | 0.2 | 2.18 | 3 | <10 | 400 | 0.5 | <2 | 0.43 | <0.5 | 12 | 30 | 35 | 4.30 |
| ZZ20400 | | 0.20 | 0.002 | <0.2 | 2.11 | 7 | <10 | 270 | <0.5 | <2 | 0.38 | <0.5 | 12 | 28 | 36 | 4.76 |
| ZZ20401 | | 0.34 | 0.002 | 0.2 | 2.34 | 2 | <10 | 380 | <0.5 | <2 | 0.61 | <0.5 | 13 | 25 | 59 | 4.04 |
| ZZ20402 | | 0.30 | 0.003 | 0.2 | 2.05 | 2 | <10 | 430 | 1.0 | <2 | 0.71 | 0.7 | 12 | 26 | 52 | 3.56 |
| ZZ20403 | | 0.26 | 0.007 | 0.3 | 1.77 | 3 | <10 | 260 | 1.9 | <2 | 0.61 | 0.5 | 10 | 24 | 50 | 3.74 |
| ZZ20404 | | 0.26 | 0.003 | 0.3 | 2.14 | 5 | <10 | 280 | 0.5 | <2 | 1.10 | <0.5 | 14 | 45 | 105 | 3.72 |
| ZZ20405 | | 0.20 | 0.002 | <0.2 | 1.70 | 3 | <10 | 190 | <0.5 | 2 | 0.85 | <0.5 | 11 | 27 | 53 | 2.89 |
| ZZ20406 | | 0.16 | 0.002 | <0.2 | 1.67 | 6 | <10 | 290 | 0.6 | <2 | 1.48 | <0.5 | 10 | 49 | 40 | 2.76 |
| ZZ20407 | | 0.22 | 0.004 | <0.2 | 1.83 | 8 | <10 | 170 | 0.5 | <2 | 0.82 | <0.5 | 12 | 39 | 41 | 3.11 |
| ZZ20408 | | 0.18 | 0.003 | <0.2 | 1.58 | 2 | <10 | 150 | 0.5 | <2 | 1.26 | <0.5 | 11 | 37 | 28 | 2.61 |
| ZZ20409 | | 0.24 | 0.001 | <0.2 | 2.61 | 15 | <10 | 290 | 1.9 | <2 | 0.57 | <0.5 | 22 | 98 | 76 | 5.34 |
| ZZ20410 | | 0.20 | <0.001 | <0.2 | 2.26 | <2 | <10 | 80 | 0.6 | <2 | 0.36 | <0.5 | 18 | 57 | 44 | 3.98 |
| ZZ20411 | | 0.16 | 0.002 | <0.2 | 1.84 | 7 | <10 | 170 | 0.5 | <2 | 0.47 | <0.5 | 10 | 36 | 33 | 3.08 |
| ZZ20412 | | 0.18 | 0.002 | <0.2 | 1.72 | 8 | <10 | 140 | 0.7 | <2 | 0.51 | <0.5 | 12 | 40 | 30 | 3.40 |
| ZZ20413 | | 0.30 | 0.004 | <0.2 | 1.80 | 11 | <10 | 140 | 0.7 | <2 | 0.39 | <0.5 | 10 | 42 | 27 | 3.20 |
| ZZ20414 | | 0.16 | 0.001 | <0.2 | 1.83 | 17 | <10 | 120 | 1.1 | <2 | 0.34 | <0.5 | 13 | 33 | 31 | 3.43 |
| ZZ20415 | | 0.26 | 0.003 | <0.2 | 2.08 | 10 | <10 | 190 | 0.8 | <2 | 0.37 | <0.5 | 11 | 41 | 26 | 3.48 |
| ZZ20416 | | 0.24 | 0.003 | <0.2 | 1.76 | 21 | <10 | 220 | 1.4 | 2 | 0.38 | <0.5 | 12 | 34 | 42 | 3.82 |
| ZZ20417 | | 0.18 | 0.002 | <0.2 | 2.60 | 4 | <10 | 150 | 0.9 | <2 | 0.60 | <0.5 | 16 | 60 | 27 | 3.84 |
| ZZ20418 | | 0.30 | 0.003 | <0.2 | 1.88 | 12 | <10 | 150 | 0.6 | <2 | 0.35 | <0.5 | 9 | 45 | 27 | 3.27 |
| ZZ20419 | | 0.18 | 0.002 | <0.2 | 2.00 | 8 | <10 | 150 | 0.6 | <2 | 0.31 | <0.5 | 9 | 41 | 32 | 3.24 |
| ZZ20420 | | 0.22 | 0.002 | <0.2 | 1.70 | 8 | <10 | 210 | <0.5 | <2 | 0.28 | <0.5 | 8 | 35 | 17 | 3.08 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-SEP-2011**
**Account: F**

Project: TOULERY - ARCUS

# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ20391 | | <10 | <1 | 0.08 | 20 | 0.55 | 343 | <1 | 0.02 | 19 | 360 | 10 | 0.01 | <2 | 5 | 29 |
| ZZ20392 | | 10 | <1 | 0.14 | 10 | 0.61 | 438 | <1 | 0.02 | 17 | 310 | 12 | 0.01 | <2 | 5 | 32 |
| ZZ20393 | | 10 | <1 | 0.23 | 10 | 0.98 | 574 | 1 | 0.01 | 22 | 270 | 83 | 0.01 | 2 | 4 | 32 |
| ZZ20394 | | 10 | <1 | 0.40 | 20 | 1.22 | 461 | <1 | 0.01 | 37 | 190 | 10 | <0.01 | <2 | 6 | 22 |
| ZZ20395 | | 10 | 1 | 0.29 | 10 | 0.76 | 429 | <1 | 0.01 | 25 | 370 | 43 | <0.01 | <2 | 6 | 25 |
| ZZ20396 | | 10 | <1 | 0.40 | 10 | 1.45 | 552 | 1 | 0.01 | 13 | 290 | 32 | 0.01 | 2 | 3 | 25 |
| ZZ20397 | | 10 | <1 | 0.88 | <10 | 1.21 | 633 | 1 | 0.02 | 19 | 500 | 62 | 0.01 | <2 | 3 | 23 |
| ZZ20398 | | <10 | <1 | 0.13 | 10 | 0.50 | 481 | 7 | 0.01 | 17 | 540 | 17 | <0.01 | <2 | 4 | 20 |
| ZZ20399 | | 10 | <1 | 0.41 | 10 | 0.87 | 478 | 1 | 0.02 | 16 | 850 | 19 | 0.07 | 2 | 6 | 37 |
| ZZ20400 | | 10 | <1 | 0.57 | 10 | 0.87 | 505 | 1 | 0.02 | 14 | 1060 | 25 | 0.10 | <2 | 6 | 31 |
| ZZ20401 | | 10 | <1 | 0.53 | 10 | 1.20 | 406 | 1 | 0.03 | 12 | 850 | 23 | 0.01 | 3 | 5 | 41 |
| ZZ20402 | | 10 | 1 | 0.47 | 30 | 0.97 | 677 | 1 | 0.02 | 15 | 760 | 43 | 0.02 | 3 | 6 | 41 |
| ZZ20403 | | 10 | 1 | 0.29 | 20 | 0.69 | 566 | 1 | 0.02 | 14 | 750 | 42 | 0.01 | <2 | 6 | 29 |
| ZZ20404 | | <10 | <1 | 0.29 | 10 | 1.48 | 468 | <1 | 0.02 | 30 | 1390 | 4 | 0.02 | <2 | 5 | 43 |
| ZZ20405 | | <10 | <1 | 0.10 | 10 | 0.80 | 239 | <1 | 0.02 | 20 | 430 | 5 | 0.03 | 2 | 3 | 41 |
| ZZ20406 | | <10 | <1 | 0.08 | 10 | 0.92 | 379 | <1 | 0.03 | 28 | 510 | 5 | 0.04 | <2 | 4 | 53 |
| ZZ20407 | | <10 | <1 | 0.14 | 10 | 0.83 | 266 | <1 | 0.02 | 25 | 200 | 6 | 0.03 | <2 | 5 | 35 |
| ZZ20408 | | <10 | <1 | 0.17 | 50 | 0.82 | 434 | <1 | 0.02 | 29 | 500 | 10 | 0.07 | 2 | 4 | 50 |
| ZZ20409 | | 10 | 1 | 0.59 | 50 | 1.58 | 820 | 1 | 0.01 | 84 | 980 | 15 | 0.01 | <2 | 10 | 23 |
| ZZ20410 | | 10 | 1 | 0.47 | 50 | 1.34 | 287 | 1 | 0.01 | 50 | 440 | 10 | 0.02 | <2 | 5 | 18 |
| ZZ20411 | | 10 | 1 | 0.23 | 10 | 0.75 | 295 | 1 | 0.02 | 22 | 280 | 5 | <0.01 | 2 | 5 | 26 |
| ZZ20412 | | 10 | <1 | 0.16 | 20 | 0.81 | 379 | <1 | 0.02 | 33 | 610 | 9 | <0.01 | <2 | 5 | 24 |
| ZZ20413 | | <10 | <1 | 0.09 | 20 | 0.53 | 220 | <1 | 0.02 | 29 | 220 | 8 | 0.01 | 2 | 8 | 26 |
| ZZ20414 | | 10 | <1 | 0.14 | 40 | 0.48 | 339 | 2 | 0.01 | 35 | 390 | 11 | <0.01 | <2 | 6 | 18 |
| ZZ20415 | | 10 | <1 | 0.18 | 20 | 0.52 | 395 | 1 | 0.01 | 28 | 260 | 8 | 0.01 | <2 | 7 | 24 |
| ZZ20416 | | 10 | <1 | 0.11 | 40 | 0.36 | 416 | 2 | 0.01 | 38 | 320 | 14 | 0.01 | <2 | 8 | 23 |
| ZZ20417 | | 10 | 1 | 0.17 | 20 | 1.57 | 567 | 1 | 0.02 | 42 | 310 | 6 | 0.01 | <2 | 7 | 26 |
| ZZ20418 | | 10 | <1 | 0.09 | 20 | 0.62 | 272 | <1 | 0.01 | 31 | 300 | 8 | 0.01 | <2 | 7 | 27 |
| ZZ20419 | | 10 | <1 | 0.15 | 10 | 0.74 | 371 | <1 | 0.01 | 25 | 280 | 14 | 0.01 | 2 | 8 | 33 |
| ZZ20420 | | 10 | <1 | 0.15 | 10 | 0.56 | 329 | <1 | 0.01 | 19 | 200 | 15 | 0.01 | <2 | 4 | 24 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-SEP-2011**
**Account: F**

Project: TOULERY - ARCUS

# CERTIFICATE OF ANALYSIS WH11152743

| Sample Description | Method Analyte Units LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ20391 | | <20 | 0.09 | <10 | <10 | 56 | <10 | 51 |
| ZZ20392 | | <20 | 0.09 | <10 | <10 | 53 | <10 | 76 |
| ZZ20393 | | <20 | 0.09 | <10 | <10 | 52 | <10 | 199 |
| ZZ20394 | | <20 | 0.14 | <10 | <10 | 55 | <10 | 110 |
| ZZ20395 | | <20 | 0.14 | <10 | <10 | 64 | <10 | 153 |
| ZZ20396 | | <20 | 0.11 | <10 | <10 | 40 | <10 | 260 |
| ZZ20397 | | <20 | 0.23 | <10 | <10 | 84 | <10 | 299 |
| ZZ20398 | | <20 | 0.06 | <10 | <10 | 55 | <10 | 107 |
| ZZ20399 | | <20 | 0.19 | <10 | <10 | 75 | <10 | 132 |
| ZZ20400 | | <20 | 0.18 | <10 | <10 | 77 | <10 | 182 |
| ZZ20401 | | <20 | 0.20 | <10 | <10 | 87 | <10 | 171 |
| ZZ20402 | | <20 | 0.15 | <10 | <10 | 66 | <10 | 292 |
| ZZ20403 | | <20 | 0.12 | <10 | <10 | 54 | <10 | 199 |
| ZZ20404 | | <20 | 0.14 | <10 | <10 | 82 | <10 | 72 |
| ZZ20405 | | <20 | 0.13 | <10 | <10 | 65 | <10 | 47 |
| ZZ20406 | | <20 | 0.09 | <10 | <10 | 59 | <10 | 52 |
| ZZ20407 | | <20 | 0.12 | <10 | <10 | 69 | <10 | 55 |
| ZZ20408 | | <20 | 0.08 | <10 | <10 | 40 | <10 | 52 |
| ZZ20409 | | 20 | 0.10 | <10 | <10 | 82 | <10 | 114 |
| ZZ20410 | | 20 | 0.10 | <10 | <10 | 51 | <10 | 104 |
| ZZ20411 | | <20 | 0.12 | <10 | <10 | 62 | <10 | 48 |
| ZZ20412 | | <20 | 0.10 | <10 | <10 | 53 | <10 | 75 |
| ZZ20413 | | <20 | 0.09 | <10 | <10 | 67 | <10 | 51 |
| ZZ20414 | | 20 | 0.03 | <10 | <10 | 50 | <10 | 59 |
| ZZ20415 | | <20 | 0.07 | <10 | <10 | 66 | <10 | 60 |
| ZZ20416 | | <20 | 0.04 | <10 | <10 | 63 | <10 | 68 |
| ZZ20417 | | <20 | 0.16 | <10 | <10 | 72 | <10 | 60 |
| ZZ20418 | | <20 | 0.11 | <10 | <10 | 70 | <10 | 52 |
| ZZ20419 | | <20 | 0.10 | <10 | <10 | 60 | <10 | 70 |
| ZZ20420 | | <20 | 0.10 | <10 | <10 | 62 | <10 | 70 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-OCT-2011**
**Account: F**

# CERTIFICATE WH11171446

Project: Arcus - Touleary

P.O. No.:

This report is for 239 Soil samples submitted to our lab in Whitehorse, YT, Canada on 26-AUG-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| 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: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
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**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method / Analyte / Units / LOR | WEI-21 Recvd Wt. kg 0.02 | Au-ICP21 Au ppm 0.001 | ME-ICP41 Ag ppm 0.2 | ME-ICP41 Al % 0.01 | ME-ICP41 As ppm 2 | ME-ICP41 B ppm 10 | ME-ICP41 Ba ppm 10 | ME-ICP41 Be ppm 0.5 | ME-ICP41 Bi ppm 2 | ME-ICP41 Ca % 0.01 | ME-ICP41 Cd ppm 0.5 | ME-ICP41 Co ppm 1 | ME-ICP41 Cr ppm 1 | ME-ICP41 Cu ppm 1 | ME-ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ21002 | | 0.20 | 0.003 | 0.4 | 1.88 | 5 | <10 | 250 | <0.5 | <2 | 0.63 | <0.5 | 8 | 41 | 30 | 2.29 |
| ZZ21003 | | 0.18 | 0.004 | <0.2 | 1.79 | 3 | <10 | 300 | <0.5 | <2 | 0.58 | <0.5 | 12 | 48 | 33 | 2.70 |
| ZZ21004 | | 0.24 | 0.006 | 0.2 | 1.70 | 2 | <10 | 260 | <0.5 | <2 | 0.54 | <0.5 | 13 | 49 | 33 | 2.56 |
| ZZ21005 | | 0.20 | 0.004 | <0.2 | 1.78 | 3 | <10 | 350 | <0.5 | <2 | 0.55 | <0.5 | 14 | 58 | 33 | 2.69 |
| ZZ21006 | | 0.14 | 0.004 | <0.2 | 1.72 | 6 | <10 | 270 | <0.5 | <2 | 0.33 | <0.5 | 17 | 51 | 21 | 2.97 |
| ZZ21007 | | 0.22 | 0.004 | <0.2 | 1.77 | 5 | <10 | 220 | <0.5 | <2 | 0.29 | <0.5 | 10 | 60 | 19 | 2.63 |
| ZZ21008 | | 0.14 | 0.004 | 0.2 | 1.67 | 5 | <10 | 350 | <0.5 | <2 | 0.48 | <0.5 | 9 | 54 | 20 | 2.51 |
| ZZ21009 | | 0.16 | 0.004 | 0.2 | 1.85 | 5 | <10 | 320 | <0.5 | <2 | 0.44 | <0.5 | 12 | 57 | 33 | 2.63 |
| ZZ21010 | | 0.16 | 0.004 | <0.2 | 1.74 | 5 | <10 | 200 | <0.5 | <2 | 0.38 | <0.5 | 11 | 49 | 18 | 2.70 |
| ZZ21011 | | 0.18 | 0.003 | 0.2 | 1.79 | 4 | <10 | 310 | <0.5 | <2 | 0.48 | <0.5 | 11 | 51 | 26 | 2.70 |
| ZZ21012 | | 0.22 | 0.005 | 0.2 | 1.57 | 6 | <10 | 300 | <0.5 | <2 | 0.98 | <0.5 | 13 | 34 | 39 | 3.47 |
| ZZ21013 | | 0.34 | 0.002 | <0.2 | 1.93 | 8 | <10 | 260 | <0.5 | <2 | 0.60 | <0.5 | 13 | 31 | 51 | 3.24 |
| ZZ21014 | | 0.26 | 0.002 | <0.2 | 1.79 | 9 | <10 | 220 | <0.5 | <2 | 0.50 | <0.5 | 13 | 35 | 35 | 3.18 |
| ZZ21015 | | 0.26 | 0.002 | <0.2 | 1.50 | 5 | <10 | 220 | <0.5 | <2 | 0.52 | <0.5 | 10 | 31 | 36 | 2.68 |
| ZZ21016 | | 0.24 | <0.001 | <0.2 | 1.71 | 2 | <10 | 100 | <0.5 | <2 | 0.75 | <0.5 | 16 | 20 | 87 | 3.31 |
| ZZ21017 | | 0.26 | 0.002 | <0.2 | 1.54 | 6 | <10 | 230 | <0.5 | <2 | 0.56 | <0.5 | 11 | 31 | 48 | 2.75 |
| ZZ21018 | | 0.20 | 0.003 | 0.2 | 1.55 | 7 | <10 | 470 | <0.5 | <2 | 1.35 | <0.5 | 11 | 30 | 40 | 3.03 |
| ZZ21019 | | 0.18 | 0.001 | <0.2 | 1.46 | 6 | <10 | 340 | <0.5 | <2 | 1.63 | <0.5 | 11 | 25 | 36 | 3.05 |
| ZZ21020 | | 0.16 | 0.003 | <0.2 | 1.31 | 6 | <10 | 310 | <0.5 | <2 | 1.65 | <0.5 | 11 | 20 | 59 | 2.93 |
| ZZ21411 | | 0.28 | 0.001 | <0.2 | 2.10 | 5 | <10 | 270 | 0.5 | <2 | 0.42 | <0.5 | 14 | 48 | 49 | 3.46 |
| ZZ21412 | | 0.24 | 0.001 | <0.2 | 2.25 | 6 | <10 | 200 | <0.5 | <2 | 0.55 | <0.5 | 15 | 49 | 138 | 3.95 |
| ZZ21413 | | 0.24 | 0.002 | <0.2 | 1.82 | 5 | <10 | 200 | <0.5 | <2 | 0.48 | <0.5 | 10 | 32 | 38 | 2.99 |
| ZZ21414 | | 0.28 | 0.002 | <0.2 | 1.61 | 4 | <10 | 190 | <0.5 | <2 | 0.78 | <0.5 | 11 | 38 | 69 | 3.14 |
| ZZ21415 | | 0.26 | 0.005 | <0.2 | 1.62 | 8 | <10 | 270 | 0.5 | <2 | 0.44 | <0.5 | 10 | 36 | 41 | 2.95 |
| ZZ21416 | | 0.20 | 0.002 | 0.2 | 1.71 | 9 | <10 | 320 | <0.5 | <2 | 0.85 | <0.5 | 10 | 32 | 30 | 2.84 |
| ZZ21417 | | 0.26 | 0.010 | <0.2 | 1.86 | 5 | <10 | 440 | <0.5 | <2 | 0.50 | <0.5 | 10 | 55 | 37 | 3.02 |
| ZZ21418 | | 0.24 | 0.002 | <0.2 | 1.90 | 5 | <10 | 320 | <0.5 | <2 | 0.39 | <0.5 | 23 | 75 | 33 | 3.89 |
| ZZ21419 | | 0.28 | 0.002 | <0.2 | 1.65 | 5 | <10 | 240 | <0.5 | <2 | 0.45 | <0.5 | 10 | 42 | 18 | 2.83 |
| ZZ21420 | | 0.30 | 0.006 | <0.2 | 1.86 | 6 | <10 | 140 | <0.5 | <2 | 0.36 | <0.5 | 12 | 34 | 18 | 2.91 |
| ZZ21421 | | 0.24 | 0.011 | 0.3 | 1.71 | 8 | <10 | 340 | <0.5 | <2 | 0.81 | <0.5 | 15 | 27 | 61 | 3.95 |
| ZZ21422 | | 0.24 | 0.004 | <0.2 | 1.59 | 5 | <10 | 290 | <0.5 | <2 | 0.73 | <0.5 | 12 | 24 | 35 | 4.51 |
| ZZ21423 | | 0.38 | 0.002 | <0.2 | 1.69 | 5 | <10 | 250 | <0.5 | <2 | 0.58 | <0.5 | 12 | 30 | 30 | 3.77 |
| ZZ21424 | | 0.24 | 0.001 | <0.2 | 1.68 | 7 | <10 | 200 | <0.5 | <2 | 0.41 | <0.5 | 8 | 27 | 19 | 3.42 |
| ZZ21425 | | 0.30 | 0.003 | <0.2 | 2.21 | 6 | <10 | 270 | 0.5 | <2 | 0.55 | <0.5 | 11 | 25 | 41 | 4.48 |
| ZZ21426 | | 0.16 | 0.007 | 0.2 | 1.62 | 5 | <10 | 380 | 0.8 | <2 | 1.11 | 0.5 | 14 | 23 | 43 | 3.08 |
| ZZ21427 | | 0.20 | 0.007 | <0.2 | 1.73 | 8 | <10 | 290 | <0.5 | <2 | 0.63 | <0.5 | 11 | 29 | 30 | 3.08 |
| ZZ21428 | | 0.30 | 0.003 | <0.2 | 1.80 | 6 | <10 | 220 | <0.5 | <2 | 0.67 | <0.5 | 12 | 27 | 31 | 3.21 |
| ZZ21429 | | 0.22 | 0.003 | <0.2 | 1.79 | 7 | <10 | 300 | 0.5 | <2 | 0.58 | <0.5 | 10 | 32 | 32 | 3.08 |
| ZZ21430 | | 0.26 | 0.003 | <0.2 | 1.79 | 5 | <10 | 200 | <0.5 | <2 | 0.39 | <0.5 | 10 | 25 | 15 | 3.63 |
| ZZ21431 | | 0.26 | 0.004 | <0.2 | 1.59 | 10 | <10 | 250 | 0.5 | <2 | 0.49 | <0.5 | 10 | 30 | 33 | 3.11 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ21002 | | 10 | <1 | 0.05 | 10 | 0.82 | 211 | 1 | 0.02 | 16 | 690 | 11 | 0.07 | <2 | 5 | 28 |
| ZZ21003 | | 10 | <1 | 0.07 | 10 | 0.80 | 417 | <1 | 0.02 | 23 | 790 | 7 | 0.07 | <2 | 5 | 45 |
| ZZ21004 | | 10 | <1 | 0.06 | 10 | 0.84 | 405 | <1 | 0.02 | 22 | 810 | 5 | 0.04 | <2 | 4 | 28 |
| ZZ21005 | | 10 | <1 | 0.07 | 10 | 0.85 | 682 | <1 | 0.02 | 24 | 810 | 7 | 0.06 | <2 | 4 | 30 |
| ZZ21006 | | 10 | <1 | 0.06 | 10 | 0.80 | 700 | 1 | 0.02 | 22 | 660 | 7 | 0.06 | <2 | 4 | 23 |
| ZZ21007 | | 10 | <1 | 0.05 | 10 | 0.89 | 261 | <1 | 0.02 | 23 | 610 | 6 | 0.05 | <2 | 3 | 21 |
| ZZ21008 | | 10 | <1 | 0.06 | 10 | 0.76 | 298 | 1 | 0.02 | 22 | 720 | 7 | 0.06 | <2 | 4 | 29 |
| ZZ21009 | | 10 | <1 | 0.07 | 20 | 0.84 | 411 | <1 | 0.02 | 24 | 790 | 7 | 0.06 | <2 | 5 | 26 |
| ZZ21010 | | 10 | <1 | 0.07 | 10 | 0.84 | 266 | 1 | 0.01 | 20 | 660 | 7 | 0.03 | <2 | 4 | 22 |
| ZZ21011 | | 10 | <1 | 0.09 | 10 | 0.84 | 347 | <1 | 0.02 | 22 | 690 | 6 | 0.05 | <2 | 4 | 28 |
| ZZ21012 | | 10 | <1 | 0.24 | 10 | 0.92 | 437 | 1 | 0.02 | 23 | 830 | 8 | 0.06 | <2 | 5 | 77 |
| ZZ21013 | | 10 | <1 | 0.06 | 10 | 0.72 | 262 | <1 | 0.02 | 20 | 820 | 5 | 0.01 | <2 | 5 | 58 |
| ZZ21014 | | 10 | <1 | 0.05 | 10 | 0.62 | 262 | <1 | 0.03 | 22 | 680 | 7 | 0.01 | <2 | 5 | 33 |
| ZZ21015 | | <10 | <1 | 0.05 | 10 | 0.56 | 307 | 1 | 0.02 | 17 | 600 | 5 | 0.01 | <2 | 5 | 32 |
| ZZ21016 | | 10 | <1 | 0.18 | <10 | 1.08 | 253 | 1 | 0.03 | 15 | 1900 | <2 | 0.01 | <2 | 4 | 29 |
| ZZ21017 | | <10 | <1 | 0.06 | 10 | 0.68 | 269 | 1 | 0.02 | 20 | 610 | 6 | 0.01 | <2 | 5 | 36 |
| ZZ21018 | | <10 | <1 | 0.30 | 10 | 0.82 | 468 | <1 | 0.02 | 22 | 780 | 7 | 0.05 | <2 | 5 | 48 |
| ZZ21019 | | <10 | <1 | 0.32 | 10 | 0.95 | 423 | <1 | 0.02 | 16 | 830 | 6 | 0.04 | <2 | 4 | 54 |
| ZZ21020 | | <10 | <1 | 0.20 | 20 | 0.68 | 461 | <1 | 0.03 | 14 | 820 | 15 | 0.06 | <2 | 6 | 55 |
| ZZ21411 | | 10 | <1 | 0.16 | 10 | 0.86 | 458 | <1 | 0.02 | 28 | 370 | 7 | 0.01 | <2 | 7 | 29 |
| ZZ21412 | | 10 | <1 | 0.18 | 10 | 0.92 | 438 | <1 | 0.02 | 24 | 690 | 4 | 0.01 | <2 | 10 | 31 |
| ZZ21413 | | 10 | <1 | 0.09 | 10 | 0.55 | 296 | 1 | 0.02 | 17 | 760 | 5 | 0.01 | <2 | 5 | 29 |
| ZZ21414 | | 10 | <1 | 0.06 | <10 | 0.84 | 290 | <1 | 0.03 | 19 | 1470 | 3 | 0.01 | <2 | 5 | 29 |
| ZZ21415 | | <10 | <1 | 0.08 | 10 | 0.60 | 400 | <1 | 0.02 | 27 | 480 | 7 | 0.01 | <2 | 7 | 35 |
| ZZ21416 | | <10 | <1 | 0.04 | 10 | 0.59 | 457 | <1 | 0.03 | 21 | 580 | 7 | 0.02 | <2 | 5 | 53 |
| ZZ21417 | | 10 | <1 | 0.08 | 10 | 0.86 | 408 | 1 | 0.01 | 24 | 1230 | 7 | 0.08 | <2 | 4 | 27 |
| ZZ21418 | | 10 | <1 | 0.06 | 10 | 0.95 | 1705 | 1 | 0.02 | 30 | 690 | 6 | 0.05 | <2 | 4 | 22 |
| ZZ21419 | | 10 | <1 | 0.07 | 10 | 0.92 | 241 | 1 | 0.01 | 18 | 650 | 8 | 0.05 | <2 | 4 | 20 |
| ZZ21420 | | <10 | <1 | 0.09 | 10 | 0.87 | 396 | 1 | 0.01 | 22 | 890 | 5 | 0.03 | <2 | 3 | 19 |
| ZZ21421 | | 10 | <1 | 0.10 | 20 | 0.75 | 350 | 1 | 0.04 | 17 | 960 | 12 | 0.02 | <2 | 6 | 44 |
| ZZ21422 | | 10 | <1 | 0.26 | 20 | 0.72 | 375 | 1 | 0.04 | 13 | 1090 | 16 | 0.02 | <2 | 6 | 36 |
| ZZ21423 | | 10 | <1 | 0.11 | 10 | 0.70 | 374 | <1 | 0.04 | 17 | 780 | 14 | 0.01 | <2 | 5 | 37 |
| ZZ21424 | | 10 | <1 | 0.12 | 10 | 0.57 | 266 | 1 | 0.02 | 14 | 440 | 18 | 0.01 | <2 | 3 | 29 |
| ZZ21425 | | 10 | <1 | 0.38 | 10 | 0.93 | 528 | <1 | 0.02 | 13 | 770 | 52 | 0.02 | <2 | 6 | 33 |
| ZZ21426 | | 10 | <1 | 0.25 | 30 | 0.65 | 820 | 1 | 0.03 | 14 | 830 | 24 | 0.06 | <2 | 5 | 66 |
| ZZ21427 | | 10 | <1 | 0.13 | 10 | 0.67 | 486 | 1 | 0.02 | 20 | 780 | 17 | 0.01 | <2 | 5 | 45 |
| ZZ21428 | | 10 | <1 | 0.15 | 10 | 0.67 | 242 | 1 | 0.02 | 15 | 1790 | 8 | 0.01 | <2 | 4 | 40 |
| ZZ21429 | | 10 | <1 | 0.10 | 10 | 0.61 | 524 | 1 | 0.03 | 23 | 460 | 11 | 0.01 | <2 | 6 | 42 |
| ZZ21430 | | 10 | <1 | 0.49 | 10 | 0.76 | 532 | 1 | 0.02 | 13 | 610 | 10 | 0.02 | <2 | 3 | 28 |
| ZZ21431 | | <10 | <1 | 0.17 | 30 | 0.61 | 451 | 1 | 0.02 | 20 | 510 | 10 | 0.01 | <2 | 6 | 37 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ21002 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 68 |
| ZZ21003 | | <20 | 0.09 | <10 | <10 | 70 | <10 | 65 |
| ZZ21004 | | <20 | 0.10 | <10 | <10 | 69 | <10 | 64 |
| ZZ21005 | | <20 | 0.10 | <10 | <10 | 66 | <10 | 67 |
| ZZ21006 | | <20 | 0.10 | <10 | <10 | 81 | <10 | 62 |
| ZZ21007 | | <20 | 0.11 | <10 | <10 | 74 | <10 | 57 |
| ZZ21008 | | <20 | 0.10 | <10 | <10 | 61 | <10 | 60 |
| ZZ21009 | | <20 | 0.10 | <10 | <10 | 61 | <10 | 55 |
| ZZ21010 | | <20 | 0.11 | <10 | <10 | 64 | <10 | 57 |
| ZZ21011 | | <20 | 0.11 | <10 | <10 | 63 | <10 | 58 |
| ZZ21012 | | <20 | 0.10 | <10 | <10 | 69 | <10 | 70 |
| ZZ21013 | | <20 | 0.11 | <10 | <10 | 78 | <10 | 51 |
| ZZ21014 | | <20 | 0.12 | <10 | <10 | 73 | <10 | 48 |
| ZZ21015 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 41 |
| ZZ21016 | | <20 | 0.16 | <10 | <10 | 81 | <10 | 46 |
| ZZ21017 | | <20 | 0.11 | <10 | <10 | 65 | <10 | 48 |
| ZZ21018 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 60 |
| ZZ21019 | | <20 | 0.11 | <10 | <10 | 72 | <10 | 59 |
| ZZ21020 | | <20 | 0.09 | <10 | <10 | 74 | <10 | 61 |
| ZZ21411 | | <20 | 0.13 | <10 | <10 | 82 | <10 | 51 |
| ZZ21412 | | <20 | 0.11 | <10 | <10 | 98 | <10 | 54 |
| ZZ21413 | | <20 | 0.09 | <10 | <10 | 74 | <10 | 46 |
| ZZ21414 | | <20 | 0.12 | <10 | <10 | 82 | <10 | 42 |
| ZZ21415 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 48 |
| ZZ21416 | | <20 | 0.08 | <10 | <10 | 65 | <10 | 51 |
| ZZ21417 | | <20 | 0.07 | <10 | <10 | 75 | <10 | 66 |
| ZZ21418 | | <20 | 0.08 | <10 | <10 | 68 | <10 | 73 |
| ZZ21419 | | <20 | 0.10 | <10 | <10 | 54 | <10 | 69 |
| ZZ21420 | | <20 | 0.10 | <10 | <10 | 63 | <10 | 73 |
| ZZ21421 | | <20 | 0.12 | <10 | <10 | 109 | <10 | 58 |
| ZZ21422 | | <20 | 0.12 | <10 | <10 | 121 | <10 | 74 |
| ZZ21423 | | <20 | 0.12 | <10 | <10 | 101 | <10 | 63 |
| ZZ21424 | | <20 | 0.12 | <10 | <10 | 90 | <10 | 62 |
| ZZ21425 | | <20 | 0.15 | <10 | <10 | 77 | <10 | 193 |
| ZZ21426 | | <20 | 0.10 | <10 | <10 | 61 | <10 | 124 |
| ZZ21427 | | <20 | 0.12 | <10 | <10 | 63 | <10 | 103 |
| ZZ21428 | | <20 | 0.12 | <10 | <10 | 82 | <10 | 61 |
| ZZ21429 | | <20 | 0.11 | <10 | <10 | 64 | <10 | 68 |
| ZZ21430 | | <20 | 0.18 | <10 | <10 | 61 | <10 | 131 |
| ZZ21431 | | <20 | 0.11 | <10 | <10 | 59 | <10 | 74 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| ZZ21432 | | 0.26 | 0.003 | <0.2 | 1.91 | 9 | <10 | 190 | 0.5 | <2 | 0.32 | <0.5 | 9 | 28 | 20 | 3.49 |
| ZZ21433 | | 0.24 | 0.002 | 0.3 | 2.16 | 10 | <10 | 210 | 0.6 | <2 | 0.34 | <0.5 | 11 | 42 | 29 | 3.47 |
| ZZ21434 | | 0.30 | 0.002 | 0.2 | 2.12 | 7 | <10 | 350 | 0.5 | <2 | 0.43 | <0.5 | 10 | 32 | 45 | 3.69 |
| ZZ21435 | | 0.28 | 0.001 | <0.2 | 2.29 | 4 | <10 | 350 | 0.5 | <2 | 0.54 | <0.5 | 13 | 37 | 45 | 4.33 |
| ZZ21436 | | 0.22 | 0.025 | 0.8 | 1.83 | 6 | <10 | 400 | <0.5 | <2 | 1.15 | 0.8 | 11 | 27 | 57 | 3.44 |
| ZZ21437 | | 0.20 | 0.005 | <0.2 | 2.17 | 11 | <10 | 170 | <0.5 | <2 | 0.32 | <0.5 | 10 | 33 | 22 | 2.98 |
| ZZ21438 | | 0.30 | 0.005 | <0.2 | 2.56 | 9 | <10 | 200 | 0.5 | <2 | 0.28 | <0.5 | 11 | 39 | 26 | 3.42 |
| ZZ21439 | | 0.16 | 0.006 | 0.3 | 2.27 | 6 | <10 | 350 | <0.5 | <2 | 0.61 | <0.5 | 32 | 37 | 29 | 3.39 |
| ZZ21440 | | 0.20 | 0.003 | <0.2 | 1.90 | 4 | <10 | 270 | <0.5 | <2 | 0.70 | <0.5 | 10 | 36 | 25 | 2.62 |
| ZZ21441 | | 0.24 | 0.003 | <0.2 | 2.05 | 5 | <10 | 240 | <0.5 | <2 | 0.45 | <0.5 | 9 | 36 | 25 | 2.68 |
| ZZ21442 | | 0.32 | 0.004 | <0.2 | 2.08 | 5 | <10 | 210 | <0.5 | <2 | 0.35 | <0.5 | 9 | 39 | 29 | 2.76 |
| ZZ21443 | | 0.26 | 0.010 | <0.2 | 1.98 | 6 | <10 | 280 | <0.5 | <2 | 0.59 | <0.5 | 12 | 40 | 28 | 2.78 |
| ZZ21444 | | 0.30 | 0.004 | <0.2 | 1.94 | 7 | <10 | 240 | <0.5 | <2 | 0.41 | <0.5 | 10 | 37 | 20 | 2.65 |
| ZZ21445 | | 0.32 | 0.002 | <0.2 | 1.98 | 5 | <10 | 230 | <0.5 | <2 | 0.45 | <0.5 | 10 | 40 | 27 | 2.86 |
| ZZ21446 | | 0.28 | 0.005 | 0.2 | 2.02 | 6 | <10 | 220 | <0.5 | <2 | 0.42 | <0.5 | 11 | 40 | 38 | 2.89 |
| ZZ21447 | | 0.20 | 0.005 | <0.2 | 2.12 | 7 | <10 | 220 | <0.5 | <2 | 0.45 | <0.5 | 11 | 39 | 32 | 3.12 |
| ZZ21448 | | 0.28 | 0.003 | <0.2 | 1.82 | 8 | <10 | 210 | <0.5 | <2 | 0.44 | <0.5 | 10 | 35 | 30 | 2.85 |
| ZZ21449 | | 0.28 | 0.002 | <0.2 | 1.91 | 5 | <10 | 220 | <0.5 | <2 | 0.51 | <0.5 | 11 | 38 | 30 | 2.77 |
| ZZ21450 | | 0.10 | 0.004 | 0.2 | 1.95 | 6 | <10 | 270 | <0.5 | <2 | 0.82 | <0.5 | 10 | 37 | 37 | 2.62 |
| ZZ21501 | | 0.18 | 0.001 | 1.2 | 1.76 | 5 | <10 | 700 | <0.5 | <2 | 0.38 | 0.7 | 32 | 46 | 25 | 2.96 |
| ZZ21502 | | 0.22 | 0.005 | 0.6 | 1.78 | 18 | <10 | 520 | 0.6 | <2 | 0.32 | 0.6 | 13 | 46 | 48 | 4.00 |
| ZZ21503 | | 0.22 | 0.005 | 1.0 | 1.49 | 5 | <10 | 500 | <0.5 | <2 | 0.31 | 0.5 | 8 | 35 | 25 | 3.19 |
| ZZ21504 | | 0.18 | 0.002 | 0.2 | 1.82 | 12 | <10 | 710 | 0.6 | <2 | 0.45 | <0.5 | 13 | 54 | 23 | 3.49 |
| ZZ21505 | | 0.18 | 0.002 | <0.2 | 2.26 | 5 | <10 | 290 | <0.5 | <2 | 0.74 | <0.5 | 44 | 216 | 28 | 3.26 |
| ZZ21506 | | 0.14 | 0.001 | <0.2 | 1.33 | 11 | <10 | 150 | <0.5 | <2 | 0.19 | <0.5 | 8 | 60 | 10 | 2.28 |
| ZZ21507 | | 0.16 | 0.004 | <0.2 | 1.31 | 15 | <10 | 390 | <0.5 | <2 | 0.53 | <0.5 | 13 | 106 | 22 | 2.06 |
| ZZ21508 | | 0.18 | 0.004 | 0.5 | 1.67 | 10 | <10 | 350 | <0.5 | <2 | 0.49 | 0.6 | 10 | 42 | 37 | 2.90 |
| ZZ21509 | | 0.22 | 0.002 | 1.1 | 1.49 | 4 | <10 | 330 | <0.5 | <2 | 0.31 | <0.5 | 8 | 50 | 31 | 3.13 |
| ZZ21510 | | 0.16 | 0.002 | 0.7 | 1.47 | 7 | <10 | 360 | 0.5 | <2 | 0.49 | 0.6 | 12 | 32 | 35 | 2.69 |
| ZZ21511 | | 0.22 | 0.002 | 0.8 | 1.82 | 10 | <10 | 350 | 0.5 | <2 | 0.39 | <0.5 | 12 | 37 | 28 | 3.13 |
| ZZ21512 | | 0.22 | 0.001 | 0.3 | 1.67 | 13 | <10 | 310 | 0.5 | <2 | 0.45 | <0.5 | 12 | 38 | 26 | 3.02 |
| ZZ21513 | | 0.18 | 0.001 | 0.5 | 1.64 | 6 | <10 | 400 | 0.5 | <2 | 0.41 | 0.6 | 13 | 39 | 45 | 3.23 |
| ZZ21514 | | 0.18 | 0.001 | <0.2 | 1.43 | 4 | <10 | 200 | <0.5 | <2 | 0.48 | <0.5 | 11 | 22 | 38 | 3.19 |
| ZZ21515 | | 0.16 | 0.002 | <0.2 | 2.05 | 6 | <10 | 620 | 0.5 | <2 | 0.69 | <0.5 | 13 | 31 | 42 | 3.93 |
| ZZ21516 | | 0.14 | 0.002 | <0.2 | 2.20 | 8 | <10 | 510 | <0.5 | <2 | 1.04 | <0.5 | 14 | 32 | 46 | 4.17 |
| ZZ21517 | | 0.26 | 0.005 | <0.2 | 1.97 | 6 | <10 | 420 | <0.5 | <2 | 0.91 | <0.5 | 13 | 36 | 46 | 3.72 |
| ZZ21518 | | 0.18 | 0.003 | <0.2 | 1.70 | 6 | <10 | 340 | <0.5 | <2 | 0.72 | <0.5 | 19 | 40 | 38 | 3.85 |
| ZZ21519 | | 0.12 | 0.003 | <0.2 | 1.51 | 4 | <10 | 140 | <0.5 | <2 | 0.18 | <0.5 | 18 | 26 | 31 | 3.04 |
| ZZ21520 | | 0.16 | 0.004 | <0.2 | 1.41 | 8 | <10 | 260 | <0.5 | <2 | 0.33 | <0.5 | 9 | 25 | 26 | 2.64 |
| ZZ21521 | | 0.20 | 0.003 | <0.2 | 1.21 | 6 | <10 | 70 | <0.5 | <2 | 0.17 | <0.5 | 5 | 20 | 20 | 2.42 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ21432 | | 10 | <1 | 0.16 | 10 | 0.60 | 358 | <1 | 0.01 | 17 | 260 | 10 | 0.02 | <2 | 4 | 35 |
| ZZ21433 | | 10 | <1 | 0.18 | 10 | 0.83 | 386 | 1 | 0.02 | 24 | 290 | 37 | 0.02 | <2 | 6 | 32 |
| ZZ21434 | | 10 | <1 | 0.47 | 20 | 0.87 | 490 | 1 | 0.02 | 17 | 500 | 18 | 0.02 | <2 | 5 | 32 |
| ZZ21435 | | 10 | <1 | 0.96 | <10 | 1.16 | 769 | <1 | 0.01 | 18 | 1130 | 20 | 0.02 | <2 | 3 | 33 |
| ZZ21436 | | 10 | <1 | 0.39 | 10 | 0.85 | 658 | 2 | 0.03 | 15 | 960 | 42 | 0.06 | <2 | 4 | 75 |
| ZZ21437 | | 10 | <1 | 0.05 | 10 | 0.65 | 324 | <1 | 0.02 | 24 | 360 | 7 | 0.03 | <2 | 4 | 25 |
| ZZ21438 | | 10 | <1 | 0.05 | 10 | 0.76 | 364 | <1 | 0.01 | 27 | 350 | 7 | 0.02 | <2 | 5 | 23 |
| ZZ21439 | | 10 | <1 | 0.05 | 10 | 0.75 | 2050 | 2 | 0.03 | 18 | 1180 | 8 | 0.11 | <2 | 3 | 35 |
| ZZ21440 | | 10 | <1 | 0.05 | 10 | 0.74 | 355 | 1 | 0.02 | 19 | 800 | 6 | 0.05 | <2 | 4 | 32 |
| ZZ21441 | | 10 | <1 | 0.05 | 10 | 0.78 | 281 | 1 | 0.02 | 21 | 800 | 6 | 0.03 | <2 | 4 | 28 |
| ZZ21442 | | 10 | <1 | 0.05 | 10 | 0.77 | 241 | 1 | 0.01 | 20 | 650 | 6 | 0.03 | <2 | 3 | 24 |
| ZZ21443 | | 10 | <1 | 0.06 | 10 | 0.80 | 863 | 2 | 0.02 | 18 | 930 | 6 | 0.05 | <2 | 3 | 31 |
| ZZ21444 | | 10 | <1 | 0.06 | 10 | 0.76 | 389 | 1 | 0.02 | 17 | 630 | 6 | 0.04 | <2 | 4 | 24 |
| ZZ21445 | | 10 | <1 | 0.06 | 10 | 0.85 | 422 | 1 | 0.02 | 19 | 610 | 5 | 0.03 | <2 | 4 | 24 |
| ZZ21446 | | 10 | <1 | 0.06 | 10 | 0.79 | 441 | 1 | 0.02 | 20 | 540 | 5 | 0.03 | <2 | 4 | 24 |
| ZZ21447 | | 10 | <1 | 0.06 | 10 | 0.75 | 383 | 1 | 0.02 | 19 | 540 | 7 | 0.03 | <2 | 5 | 28 |
| ZZ21448 | | 10 | <1 | 0.07 | 10 | 0.75 | 337 | 1 | 0.02 | 18 | 690 | 6 | 0.03 | <2 | 4 | 26 |
| ZZ21449 | | 10 | <1 | 0.12 | 10 | 1.05 | 334 | 1 | 0.02 | 15 | 580 | 4 | 0.02 | <2 | 4 | 22 |
| ZZ21450 | | 10 | <1 | 0.06 | 10 | 0.79 | 266 | 1 | 0.01 | 18 | 650 | 6 | 0.04 | <2 | 4 | 35 |
| ZZ21501 | | 10 | <1 | 0.18 | 10 | 0.60 | 1455 | 1 | 0.03 | 38 | 1340 | 7 | 0.04 | <2 | 3 | 32 |
| ZZ21502 | | 10 | <1 | 0.21 | 20 | 0.56 | 621 | 3 | 0.02 | 55 | 1320 | 9 | 0.11 | <2 | 4 | 33 |
| ZZ21503 | | 10 | <1 | 0.16 | 10 | 0.50 | 237 | 2 | 0.02 | 25 | 860 | 9 | 0.07 | <2 | 3 | 35 |
| ZZ21504 | | 10 | <1 | 0.31 | 30 | 0.64 | 646 | 1 | 0.01 | 51 | 1160 | 8 | 0.02 | <2 | 6 | 31 |
| ZZ21505 | | <10 | <1 | 0.12 | 10 | 2.22 | 678 | <1 | 0.02 | 523 | 370 | 5 | 0.03 | <2 | 5 | 36 |
| ZZ21506 | | <10 | <1 | 0.03 | 10 | 0.61 | 182 | 1 | 0.02 | 63 | 160 | 6 | 0.02 | <2 | 3 | 17 |
| ZZ21507 | | <10 | <1 | 0.10 | 10 | 0.94 | 319 | <1 | 0.02 | 147 | 430 | 4 | 0.03 | <2 | 3 | 34 |
| ZZ21508 | | <10 | <1 | 0.19 | 10 | 0.62 | 415 | 2 | 0.02 | 42 | 880 | 7 | 0.07 | <2 | 4 | 36 |
| ZZ21509 | | 10 | <1 | 0.21 | 10 | 0.71 | 180 | 2 | 0.02 | 31 | 1030 | 6 | 0.08 | <2 | 3 | 29 |
| ZZ21510 | | <10 | <1 | 0.18 | 10 | 0.42 | 478 | 1 | 0.02 | 35 | 800 | 8 | 0.05 | <2 | 4 | 39 |
| ZZ21511 | | 10 | <1 | 0.23 | 10 | 0.62 | 664 | 1 | 0.02 | 29 | 480 | 9 | 0.07 | <2 | 5 | 36 |
| ZZ21512 | | 10 | <1 | 0.20 | 10 | 0.50 | 523 | 1 | 0.02 | 33 | 500 | 8 | 0.03 | <2 | 5 | 29 |
| ZZ21513 | | <10 | <1 | 0.25 | 10 | 0.54 | 853 | <1 | 0.02 | 46 | 780 | 10 | 0.09 | <2 | 4 | 33 |
| ZZ21514 | | 10 | <1 | 0.12 | 10 | 0.71 | 235 | <1 | 0.03 | 14 | 830 | 14 | 0.02 | <2 | 4 | 27 |
| ZZ21515 | | 10 | <1 | 0.28 | 20 | 0.84 | 422 | <1 | 0.02 | 20 | 470 | 11 | 0.02 | <2 | 7 | 34 |
| ZZ21516 | | 10 | <1 | 0.36 | 10 | 1.05 | 698 | <1 | 0.02 | 23 | 610 | 7 | 0.03 | <2 | 8 | 39 |
| ZZ21517 | | 10 | <1 | 0.32 | 10 | 1.04 | 567 | <1 | 0.03 | 25 | 760 | 7 | 0.04 | <2 | 7 | 37 |
| ZZ21518 | | 10 | <1 | 0.23 | 10 | 0.82 | 479 | <1 | 0.03 | 20 | 1310 | 4 | 0.03 | <2 | 5 | 33 |
| ZZ21519 | | 10 | <1 | 0.05 | <10 | 0.33 | 436 | <1 | 0.02 | 12 | 890 | 6 | 0.02 | <2 | 2 | 13 |
| ZZ21520 | | 10 | <1 | 0.06 | <10 | 0.53 | 199 | <1 | 0.02 | 16 | 850 | 5 | 0.02 | <2 | 3 | 22 |
| ZZ21521 | | 10 | 1 | 0.04 | <10 | 0.31 | 136 | <1 | 0.01 | 9 | 410 | 5 | 0.02 | <2 | 1 | 11 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ21432 | | <20 | 0.09 | <10 | <10 | 58 | <10 | 89 |
| ZZ21433 | | <20 | 0.14 | <10 | <10 | 68 | <10 | 158 |
| ZZ21434 | | <20 | 0.18 | <10 | <10 | 57 | <10 | 162 |
| ZZ21435 | | <20 | 0.28 | <10 | <10 | 57 | <10 | 204 |
| ZZ21436 | | <20 | 0.15 | <10 | <10 | 58 | <10 | 197 |
| ZZ21437 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 53 |
| ZZ21438 | | <20 | 0.12 | <10 | <10 | 77 | <10 | 57 |
| ZZ21439 | | <20 | 0.06 | <10 | <10 | 79 | <10 | 47 |
| ZZ21440 | | <20 | 0.07 | <10 | <10 | 65 | <10 | 50 |
| ZZ21441 | | <20 | 0.09 | <10 | <10 | 60 | <10 | 53 |
| ZZ21442 | | <20 | 0.08 | <10 | <10 | 67 | <10 | 51 |
| ZZ21443 | | <20 | 0.07 | <10 | <10 | 66 | <10 | 47 |
| ZZ21444 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 54 |
| ZZ21445 | | <20 | 0.09 | <10 | <10 | 69 | <10 | 51 |
| ZZ21446 | | <20 | 0.09 | <10 | <10 | 70 | <10 | 53 |
| ZZ21447 | | <20 | 0.10 | <10 | <10 | 78 | <10 | 51 |
| ZZ21448 | | <20 | 0.10 | <10 | <10 | 71 | <10 | 50 |
| ZZ21449 | | <20 | 0.11 | <10 | <10 | 72 | <10 | 49 |
| ZZ21450 | | <20 | 0.08 | <10 | <10 | 67 | <10 | 52 |
| ZZ21501 | | <20 | 0.09 | <10 | <10 | 69 | <10 | 84 |
| ZZ21502 | | <20 | 0.06 | <10 | <10 | 82 | <10 | 144 |
| ZZ21503 | | <20 | 0.08 | <10 | <10 | 68 | <10 | 91 |
| ZZ21504 | | <20 | 0.10 | <10 | <10 | 85 | <10 | 109 |
| ZZ21505 | | <20 | 0.07 | <10 | <10 | 44 | <10 | 67 |
| ZZ21506 | | <20 | 0.07 | <10 | <10 | 56 | <10 | 39 |
| ZZ21507 | | <20 | 0.07 | <10 | <10 | 42 | <10 | 38 |
| ZZ21508 | | <20 | 0.07 | <10 | <10 | 68 | <10 | 84 |
| ZZ21509 | | <20 | 0.12 | <10 | <10 | 80 | <10 | 85 |
| ZZ21510 | | <20 | 0.06 | <10 | <10 | 56 | <10 | 86 |
| ZZ21511 | | <20 | 0.09 | <10 | <10 | 63 | <10 | 95 |
| ZZ21512 | | <20 | 0.09 | <10 | <10 | 67 | <10 | 100 |
| ZZ21513 | | <20 | 0.07 | <10 | <10 | 64 | <10 | 149 |
| ZZ21514 | | <20 | 0.12 | <10 | <10 | 95 | <10 | 56 |
| ZZ21515 | | <20 | 0.13 | <10 | <10 | 89 | <10 | 67 |
| ZZ21516 | | <20 | 0.14 | <10 | <10 | 90 | <10 | 75 |
| ZZ21517 | | <20 | 0.13 | <10 | <10 | 82 | <10 | 68 |
| ZZ21518 | | <20 | 0.12 | <10 | <10 | 87 | <10 | 55 |
| ZZ21519 | | <20 | 0.09 | <10 | <10 | 65 | <10 | 33 |
| ZZ21520 | | <20 | 0.10 | <10 | <10 | 67 | <10 | 35 |
| ZZ21521 | | <20 | 0.11 | <10 | <10 | 66 | <10 | 31 |

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**Finalized Date: 3-OCT-2011**
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Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| ZZ21522 | | 0.14 | 0.004 | <0.2 | 1.76 | 4 | <10 | 420 | <0.5 | 2 | 0.81 | <0.5 | 19 | 24 | 41 | 3.82 |
| ZZ21523 | | 0.26 | 0.003 | <0.2 | 2.02 | 6 | <10 | 180 | <0.5 | <2 | 0.49 | <0.5 | 13 | 35 | 71 | 3.00 |
| ZZ21524 | | 0.22 | 0.002 | <0.2 | 2.04 | 2 | <10 | 320 | <0.5 | <2 | 0.57 | <0.5 | 16 | 42 | 78 | 3.32 |
| ZZ21525 | | 0.18 | 0.016 | <0.2 | 1.87 | 6 | <10 | 310 | <0.5 | <2 | 0.29 | <0.5 | 13 | 30 | 31 | 3.35 |
| ZZ21526 | | 0.24 | 0.001 | <0.2 | 1.99 | 4 | <10 | 440 | <0.5 | <2 | 0.32 | <0.5 | 17 | 34 | 31 | 3.53 |
| ZZ21527 | | 0.22 | 0.002 | <0.2 | 2.01 | 6 | <10 | 400 | <0.5 | <2 | 0.43 | <0.5 | 15 | 33 | 36 | 3.48 |
| ZZ21528 | | 0.22 | 0.002 | <0.2 | 1.93 | 7 | <10 | 370 | <0.5 | <2 | 0.33 | <0.5 | 17 | 33 | 27 | 3.41 |
| ZZ21529 | | 0.18 | 0.001 | <0.2 | 1.95 | 4 | <10 | 450 | <0.5 | <2 | 0.47 | <0.5 | 18 | 31 | 38 | 3.32 |
| ZZ21530 | | 0.18 | 0.003 | <0.2 | 2.13 | 6 | <10 | 500 | <0.5 | <2 | 0.63 | <0.5 | 14 | 40 | 28 | 3.63 |
| ZZ21531 | | 0.28 | 0.002 | 0.4 | 1.47 | 6 | <10 | 400 | <0.5 | <2 | 0.32 | <0.5 | 10 | 32 | 16 | 2.76 |
| ZZ21532 | | 0.24 | 0.003 | 0.3 | 1.64 | 5 | <10 | 420 | <0.5 | <2 | 0.37 | <0.5 | 9 | 32 | 15 | 2.75 |
| ZZ21533 | | 0.12 | 0.001 | 1.0 | 1.57 | <2 | <10 | 550 | <0.5 | <2 | 0.24 | 0.8 | 13 | 30 | 18 | 2.79 |
| ZZ21534 | | 0.22 | 0.002 | 0.8 | 1.78 | 8 | <10 | 730 | 0.5 | <2 | 0.50 | 0.6 | 16 | 35 | 17 | 3.20 |
| ZZ21535 | | 0.20 | 0.004 | 0.4 | 1.89 | 3 | <10 | 750 | <0.5 | <2 | 0.45 | <0.5 | 11 | 32 | 19 | 2.96 |
| ZZ21536 | | 0.26 | 0.002 | 0.2 | 2.09 | 6 | <10 | 440 | 0.5 | <2 | 0.19 | <0.5 | 9 | 57 | 48 | 3.63 |
| ZZ21537 | | 0.20 | 0.003 | 1.1 | 1.82 | 10 | <10 | 1010 | 0.5 | <2 | 0.38 | 1.4 | 18 | 57 | 35 | 3.45 |
| ZZ21538 | | 0.16 | 0.003 | 0.4 | 1.59 | 22 | <10 | 1110 | 0.7 | <2 | 0.31 | 0.8 | 13 | 30 | 50 | 3.81 |
| ZZ21539 | | 0.18 | 0.002 | 0.5 | 1.15 | 6 | <10 | 610 | <0.5 | 2 | 0.42 | 0.7 | 9 | 35 | 22 | 2.94 |
| ZZ21540 | | 0.12 | 0.002 | 0.5 | 1.75 | 2 | <10 | 520 | <0.5 | <2 | 0.24 | <0.5 | 20 | 35 | 19 | 2.80 |
| ZZ21541 | | 0.12 | 0.003 | 0.2 | 1.00 | 5 | <10 | 210 | <0.5 | <2 | 0.23 | <0.5 | 4 | 21 | 25 | 1.97 |
| ZZ21542 | | 0.22 | 0.013 | 0.7 | 1.84 | 12 | <10 | 450 | <0.5 | <2 | 0.22 | <0.5 | 8 | 35 | 17 | 3.24 |
| ZZ21543 | | 0.18 | 0.002 | 0.8 | 2.03 | 9 | <10 | 1160 | 0.5 | <2 | 0.44 | 0.7 | 11 | 38 | 19 | 3.16 |
| ZZ21544 | | 0.30 | 0.004 | 0.5 | 1.78 | 3 | <10 | 580 | 0.5 | <2 | 0.37 | 0.5 | 13 | 49 | 31 | 3.22 |
| ZZ21545 | | 0.22 | 0.001 | 0.3 | 1.68 | 8 | <10 | 500 | <0.5 | <2 | 0.42 | <0.5 | 12 | 38 | 28 | 2.97 |
| ZZ21546 | | 0.30 | 0.003 | 0.2 | 1.80 | 7 | <10 | 420 | <0.5 | 2 | 0.39 | <0.5 | 9 | 35 | 16 | 2.92 |
| ZZ21547 | | 0.20 | 0.002 | 0.4 | 1.56 | 6 | <10 | 680 | <0.5 | <2 | 0.44 | <0.5 | 10 | 34 | 26 | 2.92 |
| ZZ21548 | | 0.26 | 0.002 | 0.3 | 1.40 | 4 | <10 | 470 | <0.5 | <2 | 0.41 | <0.5 | 10 | 46 | 16 | 2.73 |
| ZZ21549 | | 0.30 | 0.003 | 0.3 | 1.62 | 11 | <10 | 320 | 0.5 | <2 | 0.38 | <0.5 | 11 | 39 | 22 | 2.85 |
| ZZ21550 | | 0.24 | 0.001 | 0.5 | 1.56 | 6 | <10 | 470 | <0.5 | <2 | 0.40 | 0.5 | 9 | 31 | 18 | 2.85 |
| ZZ21551 | | 0.20 | 0.006 | <0.2 | 1.32 | 4 | <10 | 140 | <0.5 | <2 | 0.21 | <0.5 | 11 | 31 | 40 | 2.48 |
| ZZ21552 | | 0.08 | 0.004 | 0.2 | 0.88 | <2 | <10 | 120 | <0.5 | <2 | 0.21 | <0.5 | 5 | 24 | 42 | 1.49 |
| ZZ21553 | | 0.18 | 0.006 | <0.2 | 1.51 | 2 | <10 | 140 | <0.5 | <2 | 0.26 | <0.5 | 11 | 36 | 46 | 2.92 |
| ZZ21554 | | 0.18 | 0.005 | <0.2 | 1.52 | 4 | <10 | 140 | <0.5 | <2 | 0.25 | <0.5 | 11 | 36 | 47 | 2.98 |
| ZZ21555 | | 0.22 | 0.003 | <0.2 | 1.53 | 3 | <10 | 140 | <0.5 | <2 | 0.25 | <0.5 | 11 | 36 | 47 | 2.90 |
| ZZ21556 | | 0.28 | 0.003 | <0.2 | 1.45 | 3 | <10 | 130 | <0.5 | <2 | 0.24 | <0.5 | 11 | 34 | 46 | 2.70 |
| ZZ21557 | | 0.16 | 0.004 | <0.2 | 1.39 | 3 | <10 | 130 | <0.5 | <2 | 0.24 | <0.5 | 8 | 32 | 36 | 2.37 |
| ZZ21558 | | 0.16 | 0.005 | <0.2 | 1.29 | 3 | <10 | 120 | <0.5 | <2 | 0.25 | <0.5 | 10 | 31 | 39 | 2.60 |
| ZZ21559 | | 0.20 | 0.003 | 0.2 | 1.51 | 4 | <10 | 140 | <0.5 | <2 | 0.35 | <0.5 | 8 | 29 | 32 | 2.45 |
| ZZ21560 | | 0.14 | 0.006 | <0.2 | 1.14 | 2 | <10 | 200 | <0.5 | <2 | 0.22 | <0.5 | 4 | 21 | 21 | 1.64 |
| ZZ21561 | | 0.18 | 0.004 | <0.2 | 1.71 | 5 | <10 | 220 | <0.5 | <2 | 0.80 | <0.5 | 11 | 33 | 44 | 2.86 |

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# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ21522 | | 10 | <1 | 0.21 | 20 | 0.84 | 483 | <1 | 0.02 | 13 | 1450 | 13 | 0.07 | <2 | 6 | 57 |
| ZZ21523 | | 10 | <1 | 0.06 | <10 | 0.71 | 341 | <1 | 0.02 | 20 | 280 | 5 | 0.01 | <2 | 4 | 43 |
| ZZ21524 | | 10 | <1 | 0.08 | <10 | 0.87 | 734 | <1 | 0.02 | 22 | 690 | 4 | 0.01 | <2 | 5 | 37 |
| ZZ21525 | | 10 | <1 | 0.14 | 10 | 0.67 | 222 | <1 | 0.02 | 17 | 380 | 5 | 0.01 | <2 | 3 | 19 |
| ZZ21526 | | 10 | <1 | 0.18 | 10 | 0.70 | 352 | <1 | 0.02 | 20 | 350 | 6 | 0.01 | <2 | 5 | 22 |
| ZZ21527 | | 10 | <1 | 0.22 | 10 | 0.81 | 392 | <1 | 0.02 | 19 | 440 | 6 | 0.01 | <2 | 5 | 27 |
| ZZ21528 | | 10 | <1 | 0.15 | 10 | 0.66 | 401 | <1 | 0.02 | 19 | 320 | 5 | 0.01 | <2 | 5 | 21 |
| ZZ21529 | | 10 | <1 | 0.27 | 10 | 0.86 | 397 | <1 | 0.02 | 19 | 600 | 5 | 0.01 | <2 | 4 | 27 |
| ZZ21530 | | 10 | <1 | 0.10 | <10 | 0.79 | 389 | <1 | 0.01 | 21 | 690 | 7 | 0.01 | <2 | 3 | 39 |
| ZZ21531 | | <10 | <1 | 0.12 | 10 | 0.46 | 426 | <1 | 0.01 | 21 | 500 | 6 | 0.01 | <2 | 3 | 25 |
| ZZ21532 | | 10 | <1 | 0.11 | 10 | 0.45 | 529 | <1 | 0.01 | 21 | 590 | 7 | 0.01 | <2 | 3 | 26 |
| ZZ21533 | | 10 | <1 | 0.10 | 10 | 0.43 | 1130 | <1 | 0.02 | 19 | 1040 | 7 | 0.04 | <2 | 3 | 21 |
| ZZ21534 | | 10 | <1 | 0.12 | 10 | 0.49 | 840 | <1 | 0.01 | 29 | 1240 | 9 | 0.01 | <2 | 5 | 35 |
| ZZ21535 | | 10 | <1 | 0.12 | 10 | 0.48 | 1440 | <1 | 0.02 | 22 | 2620 | 7 | 0.03 | <2 | 3 | 38 |
| ZZ21536 | | 10 | <1 | 0.13 | 20 | 0.88 | 253 | <1 | 0.01 | 40 | 780 | 7 | 0.06 | <2 | 4 | 20 |
| ZZ21537 | | 10 | <1 | 0.22 | 10 | 0.59 | 2070 | <1 | 0.03 | 31 | 2450 | 9 | 0.08 | <2 | 5 | 34 |
| ZZ21538 | | 10 | <1 | 0.07 | 10 | 0.32 | 470 | 1 | 0.01 | 54 | 1530 | 11 | 0.02 | <2 | 4 | 40 |
| ZZ21539 | | 10 | <1 | 0.26 | 20 | 0.47 | 464 | <1 | 0.02 | 27 | 1130 | 8 | 0.04 | <2 | 2 | 31 |
| ZZ21540 | | 10 | <1 | 0.07 | 10 | 0.48 | 889 | <1 | 0.02 | 29 | 1460 | 6 | 0.03 | <2 | 2 | 19 |
| ZZ21541 | | <10 | <1 | 0.04 | 10 | 0.33 | 152 | <1 | 0.01 | 10 | 950 | 6 | 0.08 | <2 | 1 | 16 |
| ZZ21542 | | 10 | <1 | 0.06 | 10 | 0.48 | 345 | <1 | 0.01 | 23 | 250 | 9 | 0.01 | <2 | 3 | 22 |
| ZZ21543 | | 10 | <1 | 0.09 | 10 | 0.56 | 469 | <1 | 0.01 | 38 | 900 | 8 | 0.01 | <2 | 4 | 32 |
| ZZ21544 | | 10 | <1 | 0.21 | 10 | 0.68 | 611 | <1 | 0.01 | 48 | 510 | 6 | 0.03 | <2 | 5 | 29 |
| ZZ21545 | | 10 | <1 | 0.15 | 10 | 0.50 | 388 | <1 | 0.01 | 31 | 390 | 12 | 0.02 | <2 | 5 | 26 |
| ZZ21546 | | <10 | <1 | 0.10 | 10 | 0.45 | 422 | <1 | 0.01 | 21 | 600 | 9 | 0.01 | <2 | 5 | 25 |
| ZZ21547 | | 10 | <1 | 0.22 | 10 | 0.53 | 585 | <1 | 0.02 | 25 | 910 | 8 | 0.05 | <2 | 4 | 32 |
| ZZ21548 | | <10 | <1 | 0.27 | 10 | 0.50 | 681 | <1 | 0.02 | 21 | 810 | 7 | 0.04 | <2 | 4 | 29 |
| ZZ21549 | | <10 | <1 | 0.13 | 10 | 0.49 | 419 | 1 | 0.01 | 27 | 470 | 7 | 0.01 | <2 | 5 | 27 |
| ZZ21550 | | 10 | <1 | 0.13 | 10 | 0.47 | 542 | 1 | 0.01 | 19 | 910 | 9 | 0.02 | <2 | 3 | 29 |
| ZZ21551 | | 10 | <1 | 0.06 | 10 | 0.45 | 426 | <1 | 0.01 | 15 | 540 | 5 | 0.04 | <2 | 3 | 16 |
| ZZ21552 | | <10 | <1 | 0.05 | 10 | 0.23 | 201 | <1 | 0.01 | 10 | 630 | 5 | 0.04 | <2 | 1 | 15 |
| ZZ21553 | | 10 | <1 | 0.10 | 10 | 0.61 | 574 | <1 | 0.01 | 19 | 570 | 6 | 0.01 | <2 | 4 | 14 |
| ZZ21554 | | 10 | <1 | 0.10 | 10 | 0.60 | 611 | <1 | 0.01 | 18 | 580 | 3 | 0.01 | <2 | 4 | 14 |
| ZZ21555 | | 10 | <1 | 0.10 | 10 | 0.59 | 574 | <1 | 0.01 | 17 | 570 | 5 | 0.01 | <2 | 4 | 14 |
| ZZ21556 | | 10 | <1 | 0.08 | 10 | 0.53 | 517 | <1 | 0.01 | 16 | 560 | 5 | 0.02 | <2 | 4 | 14 |
| ZZ21557 | | 10 | <1 | 0.05 | 10 | 0.44 | 305 | 1 | 0.01 | 13 | 510 | 7 | 0.02 | <2 | 2 | 17 |
| ZZ21558 | | 10 | <1 | 0.05 | 10 | 0.42 | 624 | 1 | 0.01 | 14 | 610 | 7 | 0.02 | <2 | 3 | 16 |
| ZZ21559 | | 10 | <1 | 0.04 | 10 | 0.54 | 255 | <1 | 0.02 | 15 | 610 | 6 | 0.03 | <2 | 3 | 20 |
| ZZ21560 | | <10 | <1 | 0.04 | 10 | 0.35 | 107 | <1 | 0.01 | 8 | 510 | 6 | 0.05 | <2 | 2 | 16 |
| ZZ21561 | | 10 | 1 | 0.05 | 10 | 0.75 | 469 | <1 | 0.02 | 20 | 800 | 6 | 0.06 | <2 | 5 | 29 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method Analyte Units LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ21522 | | <20 | 0.13 | <10 | <10 | 87 | <10 | 74 |
| ZZ21523 | | <20 | 0.09 | <10 | <10 | 76 | <10 | 40 |
| ZZ21524 | | <20 | 0.12 | <10 | <10 | 81 | <10 | 52 |
| ZZ21525 | | <20 | 0.10 | <10 | <10 | 75 | <10 | 45 |
| ZZ21526 | | <20 | 0.11 | <10 | <10 | 80 | <10 | 48 |
| ZZ21527 | | <20 | 0.12 | <10 | <10 | 77 | <10 | 49 |
| ZZ21528 | | <20 | 0.10 | <10 | <10 | 76 | <10 | 49 |
| ZZ21529 | | <20 | 0.12 | <10 | <10 | 75 | <10 | 50 |
| ZZ21530 | | <20 | 0.11 | <10 | <10 | 83 | <10 | 61 |
| ZZ21531 | | <20 | 0.07 | <10 | <10 | 61 | <10 | 57 |
| ZZ21532 | | <20 | 0.06 | <10 | <10 | 58 | <10 | 66 |
| ZZ21533 | | <20 | 0.07 | <10 | <10 | 52 | <10 | 98 |
| ZZ21534 | | <20 | 0.07 | <10 | <10 | 62 | <10 | 105 |
| ZZ21535 | | <20 | 0.07 | <10 | <10 | 57 | <10 | 90 |
| ZZ21536 | | <20 | 0.11 | <10 | <10 | 92 | <10 | 86 |
| ZZ21537 | | <20 | 0.09 | <10 | <10 | 77 | <10 | 228 |
| ZZ21538 | | <20 | 0.02 | <10 | <10 | 63 | <10 | 202 |
| ZZ21539 | | <20 | 0.08 | <10 | <10 | 60 | <10 | 96 |
| ZZ21540 | | <20 | 0.07 | <10 | <10 | 59 | <10 | 103 |
| ZZ21541 | | <20 | 0.03 | <10 | <10 | 36 | <10 | 46 |
| ZZ21542 | | <20 | 0.07 | <10 | <10 | 75 | <10 | 54 |
| ZZ21543 | | <20 | 0.06 | <10 | <10 | 70 | <10 | 134 |
| ZZ21544 | | <20 | 0.09 | <10 | <10 | 74 | <10 | 134 |
| ZZ21545 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 66 |
| ZZ21546 | | <20 | 0.07 | <10 | <10 | 62 | <10 | 52 |
| ZZ21547 | | <20 | 0.09 | <10 | <10 | 64 | <10 | 72 |
| ZZ21548 | | <20 | 0.09 | <10 | <10 | 53 | <10 | 91 |
| ZZ21549 | | <20 | 0.08 | <10 | <10 | 68 | <10 | 63 |
| ZZ21550 | | <20 | 0.06 | <10 | <10 | 57 | <10 | 68 |
| ZZ21551 | | <20 | 0.06 | <10 | <10 | 54 | <10 | 48 |
| ZZ21552 | | <20 | 0.04 | <10 | <10 | 35 | <10 | 29 |
| ZZ21553 | | <20 | 0.07 | <10 | <10 | 58 | <10 | 59 |
| ZZ21554 | | <20 | 0.07 | <10 | <10 | 60 | <10 | 60 |
| ZZ21555 | | <20 | 0.07 | <10 | <10 | 59 | <10 | 57 |
| ZZ21556 | | <20 | 0.07 | <10 | <10 | 56 | <10 | 51 |
| ZZ21557 | | <20 | 0.07 | <10 | <10 | 57 | <10 | 45 |
| ZZ21558 | | <20 | 0.07 | <10 | <10 | 61 | <10 | 46 |
| ZZ21559 | | <20 | 0.07 | <10 | <10 | 57 | <10 | 52 |
| ZZ21560 | | <20 | 0.06 | <10 | <10 | 31 | <10 | 42 |
| ZZ21561 | | <20 | 0.07 | <10 | <10 | 69 | <10 | 77 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| ZZ21562 | | 0.12 | 0.007 | 0.2 | 1.68 | 3 | <10 | 270 | <0.5 | <2 | 1.59 | <0.5 | 11 | 30 | 79 | 2.57 |
| ZZ21563 | | 0.18 | 0.008 | <0.2 | 1.84 | 3 | <10 | 240 | <0.5 | <2 | 0.31 | <0.5 | 10 | 32 | 31 | 2.80 |
| ZZ21564 | | 0.10 | 0.008 | <0.2 | 1.46 | 3 | <10 | 190 | <0.5 | <2 | 0.28 | 0.5 | 10 | 25 | 23 | 2.25 |
| ZZ21565 | | 0.14 | 0.006 | <0.2 | 1.92 | 4 | <10 | 230 | <0.5 | <2 | 0.39 | <0.5 | 10 | 32 | 29 | 2.83 |
| ZZ21566 | | 0.16 | 0.007 | <0.2 | 1.97 | 6 | <10 | 250 | <0.5 | <2 | 0.44 | <0.5 | 11 | 35 | 33 | 3.26 |
| ZZ21567 | | 0.10 | 0.007 | <0.2 | 1.82 | 4 | <10 | 230 | <0.5 | <2 | 0.45 | 0.5 | 13 | 31 | 29 | 2.79 |
| ZZ21568 | | 0.18 | 0.007 | 0.2 | 1.89 | 4 | <10 | 240 | <0.5 | <2 | 0.43 | 0.5 | 11 | 34 | 30 | 2.87 |
| ZZ21569 | | 0.14 | 0.006 | 0.2 | 1.88 | 4 | <10 | 250 | <0.5 | <2 | 0.44 | <0.5 | 12 | 34 | 31 | 2.88 |
| ZZ21570 | | 0.12 | 0.006 | 0.2 | 2.00 | 5 | <10 | 250 | <0.5 | <2 | 0.49 | 0.5 | 10 | 36 | 32 | 2.95 |
| ZZ21571 | | 0.22 | 0.006 | <0.2 | 1.81 | 4 | <10 | 200 | <0.5 | <2 | 0.35 | 0.5 | 10 | 32 | 27 | 2.83 |
| ZZ21572 | | 0.22 | 0.007 | 0.2 | 1.84 | 6 | <10 | 240 | <0.5 | <2 | 0.44 | <0.5 | 10 | 33 | 34 | 2.98 |
| ZZ21573 | | 0.22 | 0.007 | 0.2 | 1.84 | 5 | <10 | 240 | <0.5 | <2 | 0.44 | <0.5 | 11 | 34 | 40 | 2.95 |
| ZZ21574 | | 0.16 | 0.006 | 0.2 | 1.95 | 4 | <10 | 240 | <0.5 | <2 | 0.45 | <0.5 | 11 | 34 | 32 | 2.99 |
| ZZ21575 | | 0.16 | 0.008 | <0.2 | 1.90 | 3 | <10 | 240 | <0.5 | <2 | 0.42 | 0.5 | 11 | 33 | 30 | 2.84 |
| ZZ21576 | | 0.22 | 0.006 | <0.2 | 0.59 | <2 | <10 | 70 | <0.5 | <2 | 0.13 | <0.5 | <1 | 3 | 2 | 0.93 |
| ZZ21577 | | 0.14 | 0.006 | <0.2 | 1.97 | 4 | <10 | 200 | <0.5 | <2 | 0.34 | 0.6 | 10 | 33 | 26 | 2.94 |
| ZZ21578 | | 0.14 | 0.005 | <0.2 | 2.06 | 6 | <10 | 240 | <0.5 | <2 | 0.37 | <0.5 | 10 | 36 | 32 | 2.97 |
| ZZ21579 | | 0.12 | 0.007 | 0.2 | 1.81 | 5 | <10 | 250 | <0.5 | <2 | 0.50 | <0.5 | 11 | 31 | 29 | 2.77 |
| ZZ21580 | | 0.20 | 0.008 | <0.2 | 1.79 | 3 | <10 | 210 | <0.5 | <2 | 0.38 | <0.5 | 10 | 31 | 27 | 2.73 |
| ZZ21581 | | 0.16 | 0.004 | <0.2 | 1.74 | 3 | <10 | 140 | <0.5 | <2 | 0.26 | <0.5 | 13 | 43 | 47 | 3.36 |
| ZZ21582 | | 0.22 | 0.003 | <0.2 | 1.74 | 3 | <10 | 140 | <0.5 | <2 | 0.26 | <0.5 | 13 | 41 | 45 | 3.36 |
| ZZ21583 | | 0.22 | 0.004 | <0.2 | 1.65 | 4 | <10 | 130 | <0.5 | <2 | 0.26 | <0.5 | 12 | 40 | 44 | 3.17 |
| ZZ21584 | | 0.22 | 0.004 | <0.2 | 1.60 | 4 | <10 | 130 | <0.5 | <2 | 0.25 | <0.5 | 12 | 38 | 42 | 3.09 |
| ZZ21585 | | 0.24 | 0.003 | 0.2 | 1.66 | 5 | <10 | 140 | <0.5 | <2 | 0.25 | <0.5 | 14 | 42 | 57 | 3.31 |
| ZZ21586 | | 0.26 | 0.005 | <0.2 | 1.60 | 5 | <10 | 140 | <0.5 | <2 | 0.25 | <0.5 | 13 | 40 | 50 | 3.21 |
| ZZ21587 | | 0.20 | 0.004 | 0.2 | 1.43 | 5 | <10 | 120 | <0.5 | <2 | 0.22 | <0.5 | 9 | 33 | 37 | 2.59 |
| ZZ21588 | | 0.20 | 0.004 | 0.2 | 1.48 | 5 | <10 | 130 | <0.5 | <2 | 0.24 | <0.5 | 12 | 38 | 42 | 3.14 |
| ZZ21589 | | 0.28 | 0.004 | <0.2 | 1.57 | 4 | <10 | 140 | <0.5 | 2 | 0.24 | <0.5 | 12 | 38 | 46 | 3.01 |
| ZZ21590 | | 0.08 | 0.005 | <0.2 | 0.86 | 2 | <10 | 110 | <0.5 | <2 | 0.20 | <0.5 | 6 | 27 | 36 | 1.68 |
| ZZ21601 | | 0.18 | 0.007 | 0.4 | 1.62 | 3 | <10 | 210 | <0.5 | <2 | 0.34 | <0.5 | 21 | 41 | 62 | 2.80 |
| ZZ21602 | | 0.24 | 0.005 | <0.2 | 1.64 | 4 | <10 | 170 | <0.5 | <2 | 0.31 | <0.5 | 14 | 38 | 45 | 3.33 |
| ZZ21603 | | 0.30 | 0.004 | <0.2 | 1.58 | 4 | <10 | 180 | <0.5 | <2 | 0.29 | <0.5 | 14 | 36 | 46 | 3.29 |
| ZZ21604 | | 0.24 | 0.006 | <0.2 | 1.64 | 4 | <10 | 180 | <0.5 | <2 | 0.31 | <0.5 | 14 | 36 | 45 | 3.28 |
| ZZ21605 | | 0.18 | 0.004 | <0.2 | 1.47 | 4 | <10 | 170 | <0.5 | <2 | 0.28 | <0.5 | 11 | 33 | 41 | 2.79 |
| ZZ21606 | | 0.24 | 0.002 | <0.2 | 1.61 | 2 | <10 | 190 | <0.5 | <2 | 0.32 | <0.5 | 13 | 38 | 44 | 3.27 |
| ZZ21607 | | 0.28 | 0.002 | <0.2 | 1.72 | 4 | <10 | 180 | <0.5 | <2 | 0.31 | <0.5 | 14 | 40 | 45 | 3.52 |
| ZZ21608 | | 0.26 | 0.003 | <0.2 | 1.55 | 4 | <10 | 190 | <0.5 | <2 | 0.32 | <0.5 | 14 | 36 | 45 | 3.15 |
| ZZ21609 | | 0.30 | 0.005 | <0.2 | 1.72 | 3 | <10 | 180 | <0.5 | <2 | 0.30 | <0.5 | 16 | 38 | 48 | 3.56 |
| ZZ21610 | | 0.18 | 0.003 | 0.2 | 1.51 | 5 | <10 | 210 | <0.5 | <2 | 0.37 | <0.5 | 12 | 35 | 48 | 3.07 |
| ZZ21611 | | 0.22 | 0.006 | <0.2 | 1.67 | 4 | <10 | 180 | <0.5 | <2 | 0.30 | <0.5 | 17 | 38 | 44 | 3.50 |

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**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ21562 | | <10 | <1 | 0.06 | 20 | 0.62 | 620 | <1 | 0.02 | 21 | 1150 | 4 | 0.14 | <2 | 6 | 42 |
| ZZ21563 | | 10 | 1 | 0.05 | 10 | 0.59 | 379 | 1 | 0.02 | 17 | 530 | 8 | 0.04 | <2 | 4 | 22 |
| ZZ21564 | | <10 | <1 | 0.05 | 10 | 0.46 | 498 | 1 | 0.01 | 14 | 610 | 7 | 0.04 | <2 | 3 | 18 |
| ZZ21565 | | 10 | 1 | 0.05 | 10 | 0.62 | 456 | 1 | 0.02 | 17 | 620 | 9 | 0.04 | <2 | 4 | 24 |
| ZZ21566 | | 10 | <1 | 0.06 | 10 | 0.69 | 549 | 1 | 0.02 | 19 | 630 | 9 | 0.03 | <2 | 5 | 24 |
| ZZ21567 | | 10 | <1 | 0.06 | 10 | 0.58 | 781 | 1 | 0.01 | 17 | 830 | 9 | 0.05 | <2 | 4 | 27 |
| ZZ21568 | | 10 | <1 | 0.06 | 10 | 0.63 | 514 | 1 | 0.01 | 19 | 700 | 9 | 0.04 | <2 | 4 | 25 |
| ZZ21569 | | 10 | <1 | 0.06 | 10 | 0.62 | 547 | 1 | 0.02 | 19 | 760 | 8 | 0.05 | <2 | 4 | 27 |
| ZZ21570 | | 10 | 1 | 0.07 | 10 | 0.64 | 412 | 1 | 0.02 | 21 | 690 | 9 | 0.05 | <2 | 5 | 31 |
| ZZ21571 | | 10 | <1 | 0.06 | 10 | 0.62 | 417 | 1 | 0.01 | 17 | 710 | 8 | 0.03 | <2 | 4 | 22 |
| ZZ21572 | | 10 | <1 | 0.05 | 10 | 0.64 | 491 | <1 | 0.02 | 18 | 630 | 7 | 0.02 | <2 | 5 | 24 |
| ZZ21573 | | 10 | <1 | 0.06 | 10 | 0.63 | 502 | 1 | 0.02 | 25 | 650 | 10 | 0.03 | <2 | 5 | 25 |
| ZZ21574 | | 10 | <1 | 0.06 | 10 | 0.64 | 570 | 1 | 0.01 | 19 | 780 | 9 | 0.05 | <2 | 4 | 26 |
| ZZ21575 | | 10 | <1 | 0.06 | 10 | 0.62 | 525 | 1 | 0.02 | 18 | 730 | 8 | 0.05 | <2 | 4 | 26 |
| ZZ21576 | | <10 | <1 | <0.01 | <10 | 0.19 | 160 | <1 | <0.01 | 1 | 220 | 3 | <0.01 | <2 | 1 | 8 |
| ZZ21577 | | 10 | <1 | 0.06 | 10 | 0.64 | 556 | 1 | 0.02 | 19 | 730 | 9 | 0.04 | <2 | 4 | 22 |
| ZZ21578 | | 10 | 1 | 0.06 | 10 | 0.64 | 445 | 1 | 0.02 | 18 | 840 | 10 | 0.05 | <2 | 4 | 24 |
| ZZ21579 | | 10 | 1 | 0.05 | 10 | 0.61 | 644 | 1 | 0.02 | 17 | 690 | 9 | 0.04 | <2 | 4 | 28 |
| ZZ21580 | | 10 | 1 | 0.05 | 10 | 0.62 | 479 | 1 | 0.02 | 17 | 600 | 10 | 0.03 | <2 | 4 | 23 |
| ZZ21581 | | 10 | <1 | 0.13 | 10 | 0.80 | 612 | <1 | 0.02 | 21 | 510 | 5 | <0.01 | <2 | 6 | 12 |
| ZZ21582 | | 10 | <1 | 0.15 | 10 | 0.77 | 653 | <1 | 0.01 | 21 | 600 | 5 | <0.01 | <2 | 6 | 13 |
| ZZ21583 | | 10 | <1 | 0.10 | 10 | 0.69 | 578 | <1 | 0.02 | 21 | 540 | 6 | <0.01 | <2 | 5 | 14 |
| ZZ21584 | | 10 | <1 | 0.10 | 10 | 0.66 | 629 | <1 | 0.01 | 19 | 570 | 4 | <0.01 | <2 | 5 | 14 |
| ZZ21585 | | 10 | <1 | 0.09 | 10 | 0.65 | 587 | 1 | 0.02 | 21 | 660 | 8 | 0.03 | 2 | 5 | 16 |
| ZZ21586 | | 10 | <1 | 0.10 | 10 | 0.64 | 637 | 1 | 0.01 | 19 | 630 | 7 | 0.02 | <2 | 5 | 16 |
| ZZ21587 | | 10 | <1 | 0.04 | 10 | 0.44 | 433 | 1 | 0.01 | 13 | 570 | 8 | 0.03 | <2 | 2 | 18 |
| ZZ21588 | | 10 | <1 | 0.07 | 10 | 0.57 | 619 | 1 | 0.02 | 16 | 600 | 8 | 0.03 | 3 | 4 | 17 |
| ZZ21589 | | 10 | <1 | 0.07 | 10 | 0.55 | 544 | 1 | 0.02 | 18 | 630 | 7 | 0.03 | <2 | 4 | 17 |
| ZZ21590 | | <10 | <1 | 0.05 | 10 | 0.24 | 518 | 2 | 0.02 | 13 | 770 | 7 | 0.06 | <2 | 1 | 17 |
| ZZ21601 | | 10 | <1 | 0.05 | 10 | 0.59 | 1485 | 1 | 0.01 | 15 | 910 | 8 | 0.08 | <2 | 5 | 20 |
| ZZ21602 | | 10 | 1 | 0.15 | 10 | 0.79 | 750 | 1 | 0.01 | 19 | 590 | 5 | 0.02 | <2 | 6 | 17 |
| ZZ21603 | | 10 | <1 | 0.14 | 10 | 0.76 | 769 | 1 | 0.01 | 18 | 560 | 5 | 0.02 | <2 | 6 | 16 |
| ZZ21604 | | 10 | <1 | 0.14 | 10 | 0.76 | 752 | 1 | 0.02 | 19 | 620 | 5 | 0.03 | 2 | 6 | 18 |
| ZZ21605 | | 10 | <1 | 0.11 | 10 | 0.67 | 510 | <1 | 0.02 | 16 | 540 | 5 | 0.04 | <2 | 5 | 17 |
| ZZ21606 | | 10 | <1 | 0.13 | 10 | 0.76 | 654 | 1 | 0.02 | 19 | 550 | 6 | 0.03 | <2 | 6 | 19 |
| ZZ21607 | | 10 | <1 | 0.14 | 10 | 0.82 | 793 | 1 | 0.01 | 21 | 560 | 6 | 0.02 | <2 | 6 | 17 |
| ZZ21608 | | 10 | <1 | 0.13 | 10 | 0.73 | 742 | 1 | 0.02 | 18 | 600 | 5 | 0.03 | 2 | 6 | 18 |
| ZZ21609 | | 10 | <1 | 0.16 | 10 | 0.82 | 983 | 1 | 0.02 | 20 | 590 | 6 | 0.02 | <2 | 6 | 16 |
| ZZ21610 | | 10 | 1 | 0.12 | 10 | 0.68 | 606 | 1 | 0.02 | 19 | 680 | 6 | 0.05 | <2 | 6 | 22 |
| ZZ21611 | | 10 | <1 | 0.17 | 10 | 0.82 | 1015 | 1 | 0.02 | 19 | 580 | 6 | 0.02 | <2 | 6 | 16 |

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**Finalized Date: 3-OCT-2011**
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Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method Analyte Units LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ21562 | | <20 | 0.05 | <10 | <10 | 58 | <10 | 75 |
| ZZ21563 | | <20 | 0.08 | <10 | <10 | 65 | <10 | 66 |
| ZZ21564 | | <20 | 0.06 | <10 | <10 | 51 | <10 | 53 |
| ZZ21565 | | <20 | 0.08 | <10 | <10 | 62 | <10 | 64 |
| ZZ21566 | | <20 | 0.08 | <10 | <10 | 70 | <10 | 72 |
| ZZ21567 | | <20 | 0.06 | <10 | <10 | 62 | <10 | 67 |
| ZZ21568 | | <20 | 0.07 | <10 | <10 | 65 | <10 | 70 |
| ZZ21569 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 71 |
| ZZ21570 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 76 |
| ZZ21571 | | <20 | 0.07 | <10 | <10 | 65 | <10 | 69 |
| ZZ21572 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 69 |
| ZZ21573 | | <20 | 0.08 | <10 | <10 | 65 | <10 | 78 |
| ZZ21574 | | <20 | 0.07 | <10 | <10 | 65 | <10 | 72 |
| ZZ21575 | | <20 | 0.07 | <10 | <10 | 64 | <10 | 72 |
| ZZ21576 | | <20 | 0.01 | <10 | <10 | 6 | <10 | 4 |
| ZZ21577 | | <20 | 0.07 | <10 | <10 | 65 | <10 | 67 |
| ZZ21578 | | <20 | 0.07 | <10 | <10 | 68 | <10 | 69 |
| ZZ21579 | | <20 | 0.07 | <10 | <10 | 62 | <10 | 70 |
| ZZ21580 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 70 |
| ZZ21581 | | <20 | 0.09 | <10 | <10 | 69 | <10 | 68 |
| ZZ21582 | | <20 | 0.09 | <10 | <10 | 65 | <10 | 66 |
| ZZ21583 | | <20 | 0.09 | <10 | <10 | 66 | <10 | 66 |
| ZZ21584 | | <20 | 0.08 | <10 | <10 | 61 | <10 | 60 |
| ZZ21585 | | <20 | 0.08 | <10 | <10 | 65 | <10 | 65 |
| ZZ21586 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 61 |
| ZZ21587 | | <20 | 0.07 | <10 | <10 | 58 | <10 | 46 |
| ZZ21588 | | <20 | 0.08 | <10 | <10 | 71 | <10 | 56 |
| ZZ21589 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 56 |
| ZZ21590 | | <20 | 0.04 | <10 | <10 | 37 | <10 | 31 |
| ZZ21601 | | <20 | 0.05 | <10 | <10 | 62 | <10 | 55 |
| ZZ21602 | | <20 | 0.09 | <10 | <10 | 72 | <10 | 64 |
| ZZ21603 | | <20 | 0.08 | <10 | <10 | 68 | <10 | 60 |
| ZZ21604 | | <20 | 0.08 | <10 | <10 | 68 | <10 | 62 |
| ZZ21605 | | <20 | 0.07 | <10 | <10 | 60 | <10 | 54 |
| ZZ21606 | | <20 | 0.09 | <10 | <10 | 71 | <10 | 60 |
| ZZ21607 | | <20 | 0.09 | <10 | <10 | 76 | <10 | 66 |
| ZZ21608 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 59 |
| ZZ21609 | | <20 | 0.09 | <10 | <10 | 73 | <10 | 66 |
| ZZ21610 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 57 |
| ZZ21611 | | <20 | 0.09 | <10 | <10 | 74 | <10 | 66 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method Analyte Units LOR | WEI-21 Recvd Wt. kg 0.02 | Au-ICP21 Au ppm 0.001 | ME-ICP41 Ag ppm 0.2 | ME-ICP41 Al % 0.01 | ME-ICP41 As ppm 2 | ME-ICP41 B ppm 10 | ME-ICP41 Ba ppm 10 | ME-ICP41 Be ppm 0.5 | ME-ICP41 Bi ppm 2 | ME-ICP41 Ca % 0.01 | ME-ICP41 Cd ppm 0.5 | ME-ICP41 Co ppm 1 | ME-ICP41 Cr ppm 1 | ME-ICP41 Cu ppm 1 | ME-ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ21612 | | 0.32 | 0.004 | <0.2 | 1.76 | 4 | <10 | 160 | <0.5 | <2 | 0.32 | <0.5 | 14 | 41 | 45 | 3.50 |
| ZZ21613 | | 0.38 | 0.008 | <0.2 | 1.66 | 3 | <10 | 160 | <0.5 | <2 | 0.29 | <0.5 | 13 | 38 | 43 | 3.33 |
| ZZ21614 | | 0.30 | 0.009 | <0.2 | 1.66 | 4 | <10 | 190 | <0.5 | <2 | 0.33 | <0.5 | 15 | 37 | 51 | 3.40 |
| ZZ21615 | | 0.32 | 0.004 | <0.2 | 1.69 | 5 | <10 | 190 | <0.5 | <2 | 0.35 | <0.5 | 14 | 38 | 48 | 3.34 |
| ZZ21616 | | 0.20 | 0.006 | 0.3 | 1.64 | 4 | <10 | 220 | <0.5 | <2 | 0.38 | <0.5 | 11 | 36 | 53 | 3.07 |
| ZZ21617 | | 0.26 | 0.006 | <0.2 | 1.59 | 5 | <10 | 180 | <0.5 | <2 | 0.31 | <0.5 | 14 | 36 | 46 | 3.26 |
| ZZ21618 | | 0.24 | 0.012 | 0.2 | 1.59 | 3 | <10 | 200 | <0.5 | <2 | 0.37 | <0.5 | 12 | 35 | 50 | 3.06 |
| ZZ21619 | | 0.36 | 0.003 | <0.2 | 1.70 | 4 | <10 | 180 | <0.5 | <2 | 0.32 | <0.5 | 15 | 39 | 45 | 3.41 |
| ZZ21620 | | 0.24 | 0.004 | <0.2 | 1.67 | 4 | <10 | 180 | <0.5 | <2 | 0.34 | <0.5 | 14 | 37 | 46 | 3.28 |
| ZZ21621 | | 0.28 | 0.002 | <0.2 | 1.75 | 3 | <10 | 180 | <0.5 | <2 | 0.30 | <0.5 | 16 | 41 | 45 | 3.56 |
| ZZ21622 | | 0.32 | 0.004 | <0.2 | 1.72 | 4 | <10 | 180 | <0.5 | <2 | 0.32 | <0.5 | 14 | 39 | 45 | 3.45 |
| ZZ21623 | | 0.32 | 0.006 | 0.2 | 1.67 | 4 | <10 | 200 | <0.5 | <2 | 0.33 | <0.5 | 16 | 37 | 48 | 3.39 |
| ZZ21624 | | 0.26 | 0.008 | 0.2 | 1.61 | 4 | <10 | 200 | <0.5 | <2 | 0.34 | <0.5 | 13 | 37 | 49 | 3.15 |
| ZZ21625 | | 0.40 | 0.006 | <0.2 | 1.69 | 3 | <10 | 160 | <0.5 | <2 | 0.32 | <0.5 | 14 | 39 | 47 | 3.36 |
| ZZ21626 | | 0.26 | 0.007 | <0.2 | 1.71 | 5 | <10 | 210 | <0.5 | <2 | 0.37 | <0.5 | 10 | 32 | 30 | 2.94 |
| ZZ21627 | | 0.28 | 0.011 | 0.3 | 1.77 | 3 | <10 | 250 | <0.5 | 2 | 0.47 | <0.5 | 10 | 32 | 32 | 2.86 |
| ZZ21628 | | 0.14 | 0.007 | 0.2 | 1.73 | 5 | <10 | 220 | <0.5 | <2 | 0.41 | 0.6 | 10 | 31 | 29 | 2.74 |
| ZZ21629 | | 0.18 | 0.009 | 0.2 | 1.77 | 6 | <10 | 230 | <0.5 | <2 | 0.41 | <0.5 | 11 | 33 | 30 | 2.85 |
| ZZ21630 | | 0.26 | 0.006 | 0.2 | 1.72 | 4 | <10 | 220 | <0.5 | <2 | 0.40 | <0.5 | 9 | 32 | 31 | 2.89 |
| ZZ24441 | | 0.24 | 0.003 | 0.2 | 1.81 | 11 | <10 | 280 | 0.6 | <2 | 0.40 | <0.5 | 10 | 32 | 27 | 3.28 |
| ZZ24442 | | 0.24 | 0.002 | <0.2 | 2.17 | 19 | <10 | 260 | 0.5 | <2 | 0.32 | <0.5 | 13 | 38 | 21 | 4.22 |
| ZZ24443 | | 0.24 | 0.005 | 0.2 | 2.26 | 8 | <10 | 490 | 0.8 | <2 | 0.51 | <0.5 | 17 | 26 | 27 | 5.18 |
| ZZ24444 | | 0.18 | 0.002 | 0.4 | 2.14 | 3 | <10 | 600 | 0.5 | <2 | 0.97 | <0.5 | 17 | 29 | 40 | 3.91 |
| ZZ24445 | | 0.18 | 0.002 | <0.2 | 1.75 | 4 | <10 | 220 | <0.5 | <2 | 0.35 | <0.5 | 9 | 27 | 20 | 3.11 |
| ZZ24446 | | 0.24 | 0.003 | 2.5 | 1.65 | 9 | <10 | 180 | <0.5 | <2 | 0.27 | 0.5 | 7 | 25 | 13 | 2.83 |
| ZZ24447 | | 0.20 | 0.002 | 0.3 | 2.91 | 2 | <10 | 390 | 0.5 | <2 | 0.34 | <0.5 | 18 | 24 | 45 | 5.28 |
| ZZ24448 | | 0.16 | <0.001 | 0.5 | 1.86 | 3 | <10 | 550 | <0.5 | <2 | 0.60 | <0.5 | 9 | 68 | 17 | 2.42 |
| ZZ24449 | | 0.28 | 0.006 | 0.6 | 2.53 | 10 | <10 | 810 | <0.5 | <2 | 0.16 | <0.5 | 10 | 28 | 92 | 3.89 |
| ZZ24450 | | 0.20 | 0.003 | 0.3 | 3.40 | 2 | <10 | 430 | 0.5 | <2 | 0.30 | 1.2 | 16 | 30 | 59 | 5.27 |
| ZZ24451 | | 0.22 | 0.005 | 0.2 | 2.07 | 7 | <10 | 250 | 0.5 | <2 | 0.34 | 0.5 | 9 | 29 | 37 | 3.41 |
| ZZ24452 | | 0.30 | 0.004 | <0.2 | 1.85 | 8 | <10 | 290 | <0.5 | <2 | 0.32 | <0.5 | 10 | 37 | 31 | 3.10 |
| ZZ24453 | | 0.24 | <0.001 | <0.2 | 1.71 | 7 | <10 | 420 | <0.5 | <2 | 0.36 | <0.5 | 12 | 29 | 23 | 2.99 |
| ZZ24454 | | 0.24 | <0.001 | <0.2 | 2.81 | 3 | <10 | 290 | 0.7 | <2 | 0.30 | <0.5 | 14 | 25 | 22 | 4.55 |
| ZZ24455 | | 0.24 | 0.001 | <0.2 | 2.15 | 4 | <10 | 440 | <0.5 | <2 | 0.32 | <0.5 | 11 | 27 | 27 | 3.72 |
| ZZ24456 | | 0.20 | 0.001 | 0.2 | 2.24 | 3 | <10 | 520 | <0.5 | <2 | 0.49 | <0.5 | 10 | 21 | 38 | 3.41 |
| ZZ24457 | | 0.16 | 0.001 | 0.2 | 1.69 | 4 | <10 | 690 | <0.5 | <2 | 0.41 | <0.5 | 7 | 25 | 37 | 2.64 |
| ZZ24458 | | 0.28 | 0.003 | 0.2 | 2.86 | 2 | <10 | 700 | 0.5 | <2 | 0.92 | <0.5 | 18 | 18 | 80 | 4.81 |
| ZZ24459 | | 0.28 | 0.002 | 0.2 | 2.14 | 7 | <10 | 510 | <0.5 | <2 | 0.45 | 0.6 | 10 | 26 | 32 | 3.69 |
| ZZ24460 | | 0.22 | 0.003 | 0.7 | 1.72 | 5 | <10 | 750 | <0.5 | <2 | 0.53 | 0.9 | 8 | 22 | 50 | 2.65 |
| ZZ24461 | | 0.20 | 0.004 | 0.3 | 2.10 | 4 | <10 | 480 | <0.5 | <2 | 0.30 | <0.5 | 10 | 29 | 32 | 3.54 |

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**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ21612 | | 10 | <1 | 0.17 | 10 | 0.85 | 799 | <1 | 0.02 | 20 | 590 | 5 | 0.02 | <2 | 7 | 17 |
| ZZ21613 | | 10 | <1 | 0.16 | 10 | 0.80 | 800 | <1 | 0.02 | 18 | 540 | 6 | 0.02 | <2 | 6 | 16 |
| ZZ21614 | | 10 | <1 | 0.14 | 10 | 0.78 | 880 | 1 | 0.02 | 24 | 600 | 9 | 0.03 | 2 | 6 | 18 |
| ZZ21615 | | 10 | <1 | 0.13 | 10 | 0.77 | 784 | 1 | 0.02 | 20 | 570 | 6 | 0.03 | 2 | 6 | 19 |
| ZZ21616 | | 10 | <1 | 0.11 | 10 | 0.67 | 616 | 1 | 0.02 | 18 | 660 | 7 | 0.05 | <2 | 6 | 23 |
| ZZ21617 | | 10 | <1 | 0.13 | 10 | 0.74 | 798 | 1 | 0.02 | 18 | 570 | 7 | 0.03 | 2 | 6 | 18 |
| ZZ21618 | | 10 | <1 | 0.11 | 10 | 0.67 | 614 | 1 | 0.02 | 18 | 650 | 7 | 0.05 | <2 | 6 | 22 |
| ZZ21619 | | 10 | <1 | 0.15 | 10 | 0.81 | 785 | 1 | 0.02 | 20 | 570 | 6 | 0.03 | 2 | 6 | 18 |
| ZZ21620 | | 10 | <1 | 0.14 | 10 | 0.76 | 772 | 1 | 0.02 | 20 | 570 | 6 | 0.03 | <2 | 6 | 19 |
| ZZ21621 | | 10 | <1 | 0.17 | 10 | 0.86 | 853 | 1 | 0.01 | 20 | 580 | 7 | 0.02 | <2 | 6 | 17 |
| ZZ21622 | | 10 | <1 | 0.15 | 10 | 0.82 | 744 | 1 | 0.02 | 20 | 590 | 6 | 0.02 | <2 | 6 | 18 |
| ZZ21623 | | 10 | <1 | 0.14 | 10 | 0.76 | 936 | 1 | 0.02 | 19 | 600 | 7 | 0.03 | 2 | 6 | 18 |
| ZZ21624 | | 10 | <1 | 0.11 | 10 | 0.71 | 686 | 1 | 0.02 | 18 | 590 | 6 | 0.04 | <2 | 6 | 20 |
| ZZ21625 | | 10 | <1 | 0.16 | 10 | 0.79 | 729 | 1 | 0.01 | 20 | 590 | 6 | 0.02 | 2 | 6 | 17 |
| ZZ21626 | | 10 | <1 | 0.05 | 10 | 0.60 | 503 | 1 | 0.02 | 16 | 640 | 9 | 0.04 | 2 | 4 | 24 |
| ZZ21627 | | 10 | 1 | 0.05 | 10 | 0.59 | 461 | 1 | 0.02 | 17 | 760 | 8 | 0.06 | <2 | 4 | 29 |
| ZZ21628 | | 10 | <1 | 0.05 | 10 | 0.57 | 508 | 1 | 0.02 | 17 | 750 | 8 | 0.07 | <2 | 4 | 27 |
| ZZ21629 | | 10 | <1 | 0.06 | 10 | 0.59 | 486 | 1 | 0.02 | 17 | 730 | 9 | 0.06 | <2 | 4 | 27 |
| ZZ21630 | | 10 | <1 | 0.05 | 10 | 0.60 | 477 | 1 | 0.01 | 17 | 690 | 9 | 0.05 | <2 | 4 | 25 |
| ZZ24441 | | 10 | <1 | 0.17 | 20 | 0.64 | 400 | 1 | 0.01 | 17 | 600 | 18 | 0.01 | <2 | 5 | 22 |
| ZZ24442 | | 10 | <1 | 0.33 | 20 | 0.95 | 496 | 1 | 0.01 | 16 | 570 | 12 | <0.01 | <2 | 6 | 18 |
| ZZ24443 | | 10 | 1 | 0.59 | 20 | 1.13 | 1030 | 1 | 0.01 | 18 | 790 | 15 | <0.01 | <2 | 9 | 23 |
| ZZ24444 | | 10 | <1 | 0.37 | 50 | 1.17 | 779 | 1 | 0.02 | 14 | 970 | 16 | 0.05 | <2 | 8 | 40 |
| ZZ24445 | | 10 | <1 | 0.26 | 10 | 0.71 | 370 | 1 | 0.01 | 12 | 600 | 35 | <0.01 | <2 | 4 | 19 |
| ZZ24446 | | 10 | <1 | 0.17 | 10 | 0.57 | 284 | 1 | 0.01 | 10 | 470 | 14 | <0.01 | <2 | 3 | 19 |
| ZZ24447 | | 10 | <1 | 1.06 | 10 | 1.53 | 960 | 1 | 0.01 | 12 | 710 | 13 | <0.01 | <2 | 2 | 21 |
| ZZ24448 | | 10 | <1 | 0.21 | 10 | 1.09 | 377 | <1 | 0.02 | 16 | 550 | 12 | 0.01 | <2 | 3 | 30 |
| ZZ24449 | | 10 | <1 | 0.26 | 10 | 0.81 | 456 | 1 | <0.01 | 12 | 410 | 135 | <0.01 | <2 | 3 | 28 |
| ZZ24450 | | 10 | <1 | 1.45 | 10 | 2.10 | 1675 | 3 | 0.02 | 13 | 640 | 57 | <0.01 | 2 | 3 | 22 |
| ZZ24451 | | 10 | <1 | 0.53 | 20 | 0.90 | 564 | <1 | 0.02 | 25 | 600 | 12 | <0.01 | <2 | 4 | 23 |
| ZZ24452 | | 10 | <1 | 0.12 | 10 | 0.69 | 271 | <1 | 0.02 | 24 | 330 | 6 | <0.01 | <2 | 4 | 27 |
| ZZ24453 | | 10 | <1 | 0.22 | 10 | 0.59 | 1205 | 1 | 0.02 | 17 | 440 | 7 | <0.01 | <2 | 4 | 30 |
| ZZ24454 | | 10 | <1 | 1.31 | 10 | 1.67 | 1120 | <1 | 0.02 | 15 | 580 | 14 | <0.01 | <2 | 3 | 27 |
| ZZ24455 | | 10 | 1 | 0.52 | 10 | 1.03 | 576 | 1 | 0.01 | 13 | 360 | 11 | <0.01 | <2 | 4 | 28 |
| ZZ24456 | | 10 | 1 | 0.81 | 20 | 1.21 | 678 | 1 | 0.02 | 10 | 540 | 10 | <0.01 | <2 | 4 | 35 |
| ZZ24457 | | 10 | <1 | 0.23 | 20 | 0.58 | 252 | 1 | 0.02 | 13 | 220 | 10 | <0.01 | <2 | 4 | 32 |
| ZZ24458 | | 10 | <1 | 0.93 | 20 | 1.55 | 565 | 1 | 0.03 | 9 | 1540 | 15 | <0.01 | <2 | 8 | 44 |
| ZZ24459 | | 10 | <1 | 0.38 | 10 | 0.82 | 365 | 1 | 0.01 | 16 | 660 | 10 | <0.01 | 2 | 3 | 34 |
| ZZ24460 | | 10 | <1 | 0.24 | 20 | 0.59 | 402 | 1 | 0.02 | 12 | 440 | 175 | 0.01 | <2 | 4 | 34 |
| ZZ24461 | | 10 | <1 | 0.53 | 10 | 0.92 | 511 | <1 | 0.01 | 12 | 380 | 9 | <0.01 | <2 | 3 | 21 |

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**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ21612 | | <20 | 0.10 | <10 | <10 | 72 | <10 | 69 |
| ZZ21613 | | <20 | 0.09 | <10 | <10 | 69 | <10 | 65 |
| ZZ21614 | | <20 | 0.09 | <10 | <10 | 73 | <10 | 68 |
| ZZ21615 | | <20 | 0.09 | <10 | <10 | 72 | <10 | 65 |
| ZZ21616 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 59 |
| ZZ21617 | | <20 | 0.08 | <10 | <10 | 70 | <10 | 62 |
| ZZ21618 | | <20 | 0.08 | <10 | <10 | 67 | <10 | 56 |
| ZZ21619 | | <20 | 0.09 | <10 | <10 | 72 | <10 | 65 |
| ZZ21620 | | <20 | 0.09 | <10 | <10 | 69 | <10 | 63 |
| ZZ21621 | | <20 | 0.10 | <10 | <10 | 74 | <10 | 68 |
| ZZ21622 | | <20 | 0.09 | <10 | <10 | 73 | <10 | 67 |
| ZZ21623 | | <20 | 0.09 | <10 | <10 | 72 | <10 | 64 |
| ZZ21624 | | <20 | 0.08 | <10 | <10 | 71 | <10 | 60 |
| ZZ21625 | | <20 | 0.09 | <10 | <10 | 70 | <10 | 65 |
| ZZ21626 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 66 |
| ZZ21627 | | <20 | 0.07 | <10 | <10 | 61 | <10 | 70 |
| ZZ21628 | | <20 | 0.07 | <10 | <10 | 60 | <10 | 66 |
| ZZ21629 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 68 |
| ZZ21630 | | <20 | 0.07 | <10 | <10 | 61 | <10 | 66 |
| ZZ24441 | | <20 | 0.11 | <10 | <10 | 66 | <10 | 85 |
| ZZ24442 | | <20 | 0.18 | <10 | <10 | 80 | <10 | 94 |
| ZZ24443 | | <20 | 0.19 | <10 | <10 | 94 | <10 | 131 |
| ZZ24444 | | <20 | 0.13 | <10 | <10 | 101 | <10 | 86 |
| ZZ24445 | | <20 | 0.14 | <10 | <10 | 63 | <10 | 74 |
| ZZ24446 | | <20 | 0.13 | <10 | <10 | 64 | <10 | 80 |
| ZZ24447 | | <20 | 0.34 | <10 | <10 | 89 | <10 | 174 |
| ZZ24448 | | <20 | 0.15 | <10 | <10 | 65 | <10 | 79 |
| ZZ24449 | | <20 | 0.14 | <10 | <10 | 74 | <10 | 315 |
| ZZ24450 | | <20 | 0.33 | <10 | <10 | 103 | <10 | 659 |
| ZZ24451 | | <20 | 0.16 | <10 | <10 | 57 | <10 | 163 |
| ZZ24452 | | <20 | 0.13 | <10 | <10 | 69 | <10 | 58 |
| ZZ24453 | | <20 | 0.11 | <10 | <10 | 63 | <10 | 55 |
| ZZ24454 | | <20 | 0.25 | <10 | <10 | 80 | <10 | 168 |
| ZZ24455 | | <20 | 0.18 | <10 | <10 | 80 | <10 | 127 |
| ZZ24456 | | <20 | 0.20 | <10 | <10 | 67 | <10 | 127 |
| ZZ24457 | | <20 | 0.12 | <10 | <10 | 60 | <10 | 64 |
| ZZ24458 | | <20 | 0.22 | <10 | <10 | 105 | <10 | 142 |
| ZZ24459 | | <20 | 0.15 | <10 | <10 | 73 | <10 | 132 |
| ZZ24460 | | <20 | 0.11 | <10 | <10 | 57 | <10 | 255 |
| ZZ24461 | | <20 | 0.19 | <10 | <10 | 69 | <10 | 91 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| ZZ24462 | | 0.26 | 0.002 | 0.7 | 1.91 | 6 | <10 | 370 | <0.5 | <2 | 0.24 | <0.5 | 10 | 29 | 29 | 3.36 |
| ZZ24463 | | 0.24 | 0.005 | <0.2 | 2.75 | 5 | <10 | 350 | 0.5 | <2 | 0.24 | <0.5 | 11 | 29 | 31 | 4.75 |
| ZZ24464 | | 0.24 | 0.002 | 0.5 | 2.32 | 5 | <10 | 570 | <0.5 | <2 | 0.44 | <0.5 | 19 | 26 | 36 | 3.82 |
| ZZ24465 | | 0.18 | 0.002 | <0.2 | 1.99 | 8 | <10 | 230 | <0.5 | <2 | 0.24 | <0.5 | 8 | 25 | 16 | 3.34 |
| ZZ24466 | | 0.18 | 0.006 | <0.2 | 2.28 | 5 | <10 | 300 | <0.5 | <2 | 0.30 | <0.5 | 11 | 29 | 23 | 3.87 |
| ZZ24467 | | 0.26 | 0.002 | 0.3 | 1.81 | 5 | <10 | 400 | 0.5 | <2 | 0.41 | <0.5 | 10 | 20 | 21 | 3.67 |
| ZZ24468 | | 0.22 | 0.004 | 0.7 | 1.68 | 2 | <10 | 350 | <0.5 | <2 | 0.29 | <0.5 | 8 | 21 | 24 | 3.01 |
| ZZ24469 | | 0.22 | 0.004 | 0.4 | 1.90 | 3 | <10 | 460 | <0.5 | <2 | 0.31 | <0.5 | 9 | 22 | 20 | 3.46 |
| ZZ24470 | | 0.28 | 0.003 | <0.2 | 2.41 | 6 | <10 | 480 | 0.6 | <2 | 0.78 | <0.5 | 13 | 48 | 30 | 4.15 |
| ZZ24471 | | 0.32 | <0.001 | <0.2 | 1.99 | 7 | <10 | 540 | 0.8 | <2 | 0.38 | <0.5 | 13 | 44 | 21 | 3.34 |
| ZZ24472 | | 0.30 | 0.001 | <0.2 | 1.84 | 12 | <10 | 280 | <0.5 | <2 | 0.39 | <0.5 | 12 | 43 | 33 | 3.32 |
| ZZ24473 | | 0.34 | 0.005 | <0.2 | 1.62 | 10 | <10 | 330 | 0.5 | <2 | 0.42 | <0.5 | 10 | 39 | 26 | 3.01 |
| ZZ24474 | | 0.26 | 0.003 | 0.2 | 1.74 | 9 | <10 | 350 | 0.5 | <2 | 0.37 | <0.5 | 10 | 37 | 29 | 3.37 |
| ZZ24475 | | 0.28 | 0.003 | 0.3 | 1.66 | 14 | <10 | 480 | 0.5 | <2 | 0.49 | <0.5 | 13 | 44 | 33 | 3.11 |
| ZZ24476 | | 0.34 | 0.002 | 0.2 | 1.71 | 10 | <10 | 430 | 0.5 | <2 | 0.42 | <0.5 | 14 | 45 | 31 | 2.90 |
| ZZ24477 | | 0.32 | 0.003 | 0.6 | 1.78 | 13 | <10 | 460 | 0.6 | <2 | 0.37 | <0.5 | 11 | 54 | 35 | 3.29 |
| ZZ24478 | | 0.28 | 0.016 | <0.2 | 1.77 | 13 | <10 | 280 | <0.5 | <2 | 0.30 | <0.5 | 9 | 45 | 35 | 3.11 |
| ZZ24479 | | 0.28 | 0.002 | 0.3 | 1.94 | 24 | <10 | 570 | 0.7 | <2 | 0.29 | <0.5 | 7 | 51 | 49 | 4.01 |
| ZZ24480 | | 0.28 | 0.001 | 0.3 | 1.70 | 8 | <10 | 420 | <0.5 | <2 | 0.36 | <0.5 | 9 | 38 | 18 | 2.86 |
| ZZ24481 | | 0.22 | 0.011 | 0.2 | 1.74 | 11 | <10 | 520 | 0.5 | <2 | 0.43 | <0.5 | 10 | 47 | 40 | 3.13 |
| ZZ24482 | | 0.26 | 0.002 | 0.6 | 1.86 | 10 | <10 | 630 | 0.5 | <2 | 0.29 | <0.5 | 7 | 42 | 44 | 3.23 |
| ZZ24483 | | 0.26 | 0.005 | 0.6 | 1.47 | 13 | <10 | 410 | <0.5 | <2 | 0.27 | 0.6 | 9 | 34 | 26 | 2.77 |
| ZZ24484 | | 0.22 | 0.002 | <0.2 | 1.14 | 4 | <10 | 100 | <0.5 | <2 | 0.32 | <0.5 | 10 | 25 | 18 | 2.49 |
| ZZ24485 | | 0.16 | 0.005 | <0.2 | 1.46 | 6 | <10 | 160 | <0.5 | <2 | 0.86 | <0.5 | 11 | 33 | 29 | 2.59 |
| ZZ24486 | | 0.22 | 0.006 | <0.2 | 1.36 | 5 | <10 | 160 | <0.5 | <2 | 0.79 | <0.5 | 11 | 30 | 25 | 2.56 |
| ZZ24487 | | 0.20 | 0.003 | <0.2 | 1.28 | 8 | <10 | 160 | <0.5 | <2 | 0.95 | <0.5 | 10 | 27 | 24 | 2.51 |
| ZZ24488 | | 0.22 | 0.003 | <0.2 | 2.00 | 2 | <10 | 140 | 0.5 | <2 | 0.33 | <0.5 | 11 | 33 | 33 | 4.07 |
| ZZ24489 | | 0.22 | 0.001 | <0.2 | 2.07 | 6 | <10 | 210 | 0.6 | 2 | 0.43 | <0.5 | 15 | 37 | 31 | 3.76 |
| ZZ24490 | | 0.28 | 0.002 | <0.2 | 2.23 | 7 | <10 | 150 | 0.6 | <2 | 0.37 | <0.5 | 12 | 40 | 39 | 3.98 |
| ZZ24491 | | 0.30 | 0.003 | <0.2 | 2.03 | 9 | <10 | 190 | 0.6 | <2 | 0.30 | <0.5 | 10 | 39 | 22 | 3.51 |
| ZZ24492 | | 0.26 | 0.004 | <0.2 | 1.71 | 11 | <10 | 140 | 0.5 | <2 | 0.23 | <0.5 | 9 | 40 | 24 | 3.07 |
| ZZ24493 | | 0.26 | 0.003 | <0.2 | 1.75 | 8 | <10 | 200 | 0.5 | <2 | 0.31 | <0.5 | 12 | 36 | 22 | 3.06 |
| ZZ24494 | | 0.28 | 0.005 | <0.2 | 1.57 | 9 | <10 | 170 | <0.5 | <2 | 0.29 | <0.5 | 9 | 32 | 16 | 2.87 |
| ZZ24495 | | 0.22 | <0.001 | <0.2 | 2.07 | 8 | <10 | 200 | 0.5 | <2 | 0.19 | <0.5 | 7 | 39 | 37 | 3.81 |
| ZZ24496 | | 0.18 | 0.006 | 0.2 | 1.65 | 9 | <10 | 360 | <0.5 | <2 | 0.31 | <0.5 | 12 | 53 | 39 | 3.37 |
| ZZ24497 | | 0.24 | 0.004 | <0.2 | 1.87 | 6 | <10 | 300 | <0.5 | <2 | 0.32 | <0.5 | 8 | 53 | 26 | 2.24 |
| ZZ24498 | | 0.32 | 0.001 | <0.2 | 1.79 | 7 | <10 | 410 | <0.5 | <2 | 0.44 | <0.5 | 13 | 60 | 28 | 2.96 |
| ZZ24499 | | 0.20 | 0.002 | 0.4 | 1.86 | 6 | <10 | 470 | <0.5 | <2 | 0.50 | <0.5 | 12 | 67 | 43 | 3.13 |
| ZZ24500 | | 0.22 | 0.003 | 0.2 | 1.89 | 6 | <10 | 450 | <0.5 | <2 | 0.52 | <0.5 | 12 | 75 | 52 | 3.33 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24462 | | 10 | <1 | 0.26 | 20 | 0.66 | 782 | 1 | 0.02 | 12 | 270 | 32 | <0.01 | <2 | 4 | 20 |
| ZZ24463 | | 10 | <1 | 0.94 | 10 | 1.20 | 794 | <1 | 0.01 | 15 | 400 | 15 | <0.01 | <2 | 3 | 18 |
| ZZ24464 | | 10 | <1 | 0.37 | 10 | 1.01 | 1480 | 1 | 0.02 | 14 | 370 | 17 | <0.01 | <2 | 4 | 29 |
| ZZ24465 | | 10 | <1 | 0.17 | 10 | 0.60 | 278 | 1 | 0.01 | 12 | 350 | 10 | <0.01 | <2 | 3 | 19 |
| ZZ24466 | | 10 | <1 | 0.24 | 10 | 0.85 | 423 | 1 | 0.01 | 14 | 670 | 21 | 0.01 | <2 | 3 | 21 |
| ZZ24467 | | 10 | 1 | 0.22 | 20 | 0.64 | 424 | 2 | 0.01 | 10 | 1020 | 28 | <0.01 | <2 | 4 | 22 |
| ZZ24468 | | 10 | <1 | 0.38 | 10 | 0.77 | 310 | 1 | 0.02 | 9 | 810 | 30 | 0.17 | <2 | 3 | 30 |
| ZZ24469 | | 10 | <1 | 0.40 | 20 | 0.86 | 394 | 1 | 0.03 | 9 | 880 | 22 | 0.26 | <2 | 4 | 40 |
| ZZ24470 | | 10 | 1 | 0.61 | 30 | 1.43 | 692 | 1 | 0.01 | 22 | 1070 | 13 | 0.01 | <2 | 8 | 30 |
| ZZ24471 | | 10 | <1 | 0.68 | 10 | 1.06 | 666 | 1 | 0.01 | 36 | 750 | 10 | <0.01 | <2 | 6 | 24 |
| ZZ24472 | | 10 | <1 | 0.37 | 10 | 0.78 | 327 | 1 | 0.02 | 33 | 620 | 8 | <0.01 | <2 | 5 | 30 |
| ZZ24473 | | 10 | <1 | 0.14 | 20 | 0.61 | 422 | 1 | 0.02 | 28 | 470 | 8 | <0.01 | <2 | 5 | 32 |
| ZZ24474 | | 10 | 1 | 0.20 | 10 | 0.67 | 358 | 2 | 0.02 | 32 | 690 | 8 | <0.01 | <2 | 5 | 25 |
| ZZ24475 | | 10 | <1 | 0.26 | 20 | 0.64 | 643 | 1 | 0.02 | 32 | 500 | 8 | 0.01 | <2 | 6 | 33 |
| ZZ24476 | | 10 | <1 | 0.25 | 10 | 0.67 | 388 | 1 | 0.01 | 42 | 940 | 7 | 0.03 | <2 | 4 | 29 |
| ZZ24477 | | 10 | <1 | 0.27 | 20 | 0.71 | 386 | 2 | 0.01 | 39 | 740 | 10 | 0.02 | <2 | 6 | 34 |
| ZZ24478 | | 10 | <1 | 0.24 | 10 | 0.63 | 205 | 1 | 0.01 | 34 | 640 | 6 | 0.03 | <2 | 5 | 26 |
| ZZ24479 | | 10 | <1 | 0.25 | 20 | 0.56 | 216 | 2 | 0.01 | 32 | 710 | 9 | 0.06 | 3 | 8 | 33 |
| ZZ24480 | | 10 | <1 | 0.12 | 10 | 0.54 | 270 | 1 | 0.01 | 22 | 700 | 7 | 0.01 | <2 | 4 | 30 |
| ZZ24481 | | 10 | <1 | 0.15 | 20 | 0.66 | 309 | 2 | 0.02 | 33 | 550 | 9 | 0.07 | <2 | 6 | 37 |
| ZZ24482 | | 10 | <1 | 0.06 | 10 | 0.51 | 232 | 2 | 0.01 | 29 | 410 | 9 | 0.01 | <2 | 5 | 30 |
| ZZ24483 | | <10 | <1 | 0.07 | 10 | 0.45 | 395 | 1 | 0.01 | 28 | 780 | 8 | <0.01 | <2 | 3 | 24 |
| ZZ24484 | | <10 | <1 | 0.32 | 30 | 0.67 | 210 | 1 | 0.01 | 23 | 630 | 7 | 0.04 | <2 | 3 | 19 |
| ZZ24485 | | 10 | <1 | 0.24 | 30 | 0.75 | 415 | 1 | 0.02 | 30 | 770 | 9 | 0.11 | <2 | 4 | 44 |
| ZZ24486 | | <10 | <1 | 0.30 | 30 | 0.74 | 447 | 1 | 0.01 | 26 | 750 | 7 | 0.08 | <2 | 3 | 37 |
| ZZ24487 | | <10 | <1 | 0.24 | 30 | 0.62 | 312 | 1 | 0.02 | 23 | 750 | 7 | 0.08 | <2 | 3 | 41 |
| ZZ24488 | | 10 | <1 | 0.71 | 80 | 0.96 | 247 | 1 | 0.01 | 46 | 660 | 11 | 0.04 | <2 | 4 | 30 |
| ZZ24489 | | 10 | <1 | 0.28 | 30 | 0.75 | 345 | 1 | 0.02 | 30 | 260 | 10 | 0.04 | <2 | 5 | 36 |
| ZZ24490 | | 10 | <1 | 0.44 | 50 | 1.05 | 232 | 1 | 0.03 | 23 | 440 | 9 | 0.20 | <2 | 6 | 37 |
| ZZ24491 | | 10 | <1 | 0.17 | 20 | 0.68 | 206 | 1 | 0.02 | 22 | 390 | 8 | 0.07 | 2 | 5 | 30 |
| ZZ24492 | | 10 | <1 | 0.08 | 10 | 0.58 | 221 | 1 | 0.02 | 27 | 170 | 7 | <0.01 | <2 | 5 | 26 |
| ZZ24493 | | 10 | <1 | 0.17 | 20 | 0.60 | 363 | 1 | 0.02 | 22 | 330 | 14 | 0.02 | 2 | 5 | 28 |
| ZZ24494 | | 10 | <1 | 0.11 | 10 | 0.54 | 270 | 1 | 0.01 | 21 | 270 | 8 | <0.01 | <2 | 3 | 26 |
| ZZ24495 | | 10 | <1 | 0.54 | 30 | 1.01 | 200 | 1 | 0.04 | 17 | 430 | 7 | 0.28 | <2 | 5 | 31 |
| ZZ24496 | | 10 | <1 | 0.10 | 10 | 0.75 | 955 | 1 | 0.01 | 20 | 1310 | 8 | 0.09 | <2 | 2 | 21 |
| ZZ24497 | | 10 | <1 | 0.08 | 10 | 0.85 | 199 | <1 | 0.01 | 22 | 920 | 10 | 0.05 | <2 | 3 | 21 |
| ZZ24498 | | 10 | <1 | 0.08 | 10 | 0.94 | 562 | <1 | 0.01 | 25 | 950 | 8 | 0.04 | <2 | 3 | 25 |
| ZZ24499 | | 10 | <1 | 0.07 | 20 | 0.97 | 443 | 1 | 0.01 | 28 | 1290 | 7 | 0.07 | <2 | 5 | 27 |
| ZZ24500 | | 10 | <1 | 0.07 | 10 | 0.97 | 452 | <1 | 0.01 | 27 | 1460 | 6 | 0.10 | <2 | 7 | 27 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171446

| Sample Description | Method Analyte Units LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ24462 | | <20 | 0.15 | <10 | <10 | 69 | <10 | 110 |
| ZZ24463 | | <20 | 0.26 | <10 | <10 | 69 | <10 | 196 |
| ZZ24464 | | <20 | 0.22 | <10 | <10 | 95 | <10 | 115 |
| ZZ24465 | | <20 | 0.15 | <10 | <10 | 73 | <10 | 67 |
| ZZ24466 | | <20 | 0.17 | <10 | <10 | 69 | <10 | 133 |
| ZZ24467 | | <20 | 0.12 | <10 | <10 | 48 | <10 | 110 |
| ZZ24468 | | <20 | 0.15 | <10 | <10 | 49 | <10 | 99 |
| ZZ24469 | | <20 | 0.15 | <10 | <10 | 56 | <10 | 85 |
| ZZ24470 | | <20 | 0.18 | <10 | <10 | 85 | <10 | 98 |
| ZZ24471 | | <20 | 0.13 | <10 | <10 | 75 | <10 | 93 |
| ZZ24472 | | <20 | 0.14 | <10 | <10 | 77 | <10 | 77 |
| ZZ24473 | | <20 | 0.10 | <10 | <10 | 67 | <10 | 59 |
| ZZ24474 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 71 |
| ZZ24475 | | <20 | 0.10 | <10 | <10 | 71 | <10 | 72 |
| ZZ24476 | | <20 | 0.09 | <10 | <10 | 80 | <10 | 93 |
| ZZ24477 | | <20 | 0.09 | <10 | <10 | 84 | <10 | 96 |
| ZZ24478 | | <20 | 0.10 | <10 | <10 | 76 | <10 | 66 |
| ZZ24479 | | <20 | 0.08 | <10 | <10 | 93 | <10 | 88 |
| ZZ24480 | | <20 | 0.08 | <10 | <10 | 70 | <10 | 67 |
| ZZ24481 | | <20 | 0.10 | <10 | <10 | 82 | <10 | 82 |
| ZZ24482 | | <20 | 0.08 | <10 | <10 | 94 | <10 | 95 |
| ZZ24483 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 73 |
| ZZ24484 | | <20 | 0.08 | <10 | <10 | 32 | <10 | 63 |
| ZZ24485 | | <20 | 0.09 | <10 | 10 | 41 | <10 | 67 |
| ZZ24486 | | <20 | 0.09 | <10 | <10 | 40 | <10 | 66 |
| ZZ24487 | | <20 | 0.07 | <10 | <10 | 38 | <10 | 60 |
| ZZ24488 | | 20 | 0.13 | <10 | <10 | 38 | <10 | 96 |
| ZZ24489 | | <20 | 0.11 | <10 | <10 | 58 | <10 | 64 |
| ZZ24490 | | <20 | 0.12 | <10 | <10 | 54 | <10 | 79 |
| ZZ24491 | | <20 | 0.10 | <10 | <10 | 63 | <10 | 65 |
| ZZ24492 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 49 |
| ZZ24493 | | <20 | 0.10 | <10 | <10 | 62 | <10 | 68 |
| ZZ24494 | | <20 | 0.09 | <10 | <10 | 59 | <10 | 58 |
| ZZ24495 | | <20 | 0.14 | <10 | <10 | 52 | <10 | 77 |
| ZZ24496 | | <20 | 0.06 | <10 | <10 | 77 | <10 | 73 |
| ZZ24497 | | <20 | 0.09 | <10 | <10 | 61 | <10 | 68 |
| ZZ24498 | | <20 | 0.09 | <10 | <10 | 68 | <10 | 79 |
| ZZ24499 | | <20 | 0.08 | <10 | <10 | 68 | <10 | 97 |
| ZZ24500 | | <20 | 0.07 | <10 | <10 | 76 | <10 | 92 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 5-OCT-2011**
**Account: F**

# CERTIFICATE WH11171447

Project: Arcus - Touleary

P.O. No.:

This report is for 180 Soil samples submitted to our lab in Whitehorse, YT, Canada on 26-AUG-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| 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: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 5-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method / Analyte / Units / LOR | WEI-21 Recvd Wt. kg 0.02 | Au-ICP21 Au ppm 0.001 | ME-ICP41 Ag ppm 0.2 | ME-ICP41 Al % 0.01 | ME-ICP41 As ppm 2 | ME-ICP41 B ppm 10 | ME-ICP41 Ba ppm 10 | ME-ICP41 Be ppm 0.5 | ME-ICP41 Bi ppm 2 | ME-ICP41 Ca % 0.01 | ME-ICP41 Cd ppm 0.5 | ME-ICP41 Co ppm 1 | ME-ICP41 Cr ppm 1 | ME-ICP41 Cu ppm 1 | ME-ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ24751 | | 0.24 | 0.002 | <0.2 | 1.42 | 5 | <10 | 120 | <0.5 | <2 | 0.19 | <0.5 | 9 | 28 | 29 | 3.19 |
| ZZ24752 | | 0.44 | 0.001 | <0.2 | 1.44 | 5 | <10 | 100 | <0.5 | <2 | 0.60 | <0.5 | 12 | 32 | 50 | 3.44 |
| ZZ24753 | | 0.24 | 0.002 | <0.2 | 1.58 | 3 | <10 | 110 | <0.5 | <2 | 0.61 | <0.5 | 9 | 27 | 59 | 3.33 |
| ZZ24754 | | 0.28 | <0.001 | <0.2 | 1.50 | 5 | <10 | 120 | <0.5 | <2 | 0.48 | <0.5 | 9 | 30 | 27 | 3.00 |
| ZZ24755 | | 0.34 | <0.001 | <0.2 | 1.83 | 3 | <10 | 130 | <0.5 | <2 | 0.46 | <0.5 | 13 | 31 | 26 | 3.93 |
| ZZ24756 | | 0.36 | <0.001 | <0.2 | 1.73 | 5 | <10 | 110 | <0.5 | <2 | 0.36 | <0.5 | 10 | 34 | 13 | 2.69 |
| ZZ24757 | | 0.28 | <0.001 | <0.2 | 1.49 | 5 | <10 | 230 | <0.5 | <2 | 0.50 | <0.5 | 8 | 34 | 25 | 2.23 |
| ZZ24758 | | 0.28 | 0.001 | <0.2 | 1.79 | 6 | <10 | 200 | <0.5 | <2 | 0.36 | <0.5 | 11 | 37 | 23 | 2.86 |
| ZZ24759 | | 0.22 | 0.001 | 0.2 | 1.93 | 7 | <10 | 200 | <0.5 | <2 | 0.37 | <0.5 | 11 | 27 | 53 | 3.22 |
| ZZ24760 | | 0.34 | 0.001 | 0.2 | 1.93 | 5 | <10 | 190 | <0.5 | <2 | 0.40 | <0.5 | 11 | 27 | 55 | 3.19 |
| ZZ24761 | | 0.20 | 0.001 | <0.2 | 1.89 | 7 | <10 | 190 | <0.5 | <2 | 0.35 | <0.5 | 11 | 31 | 28 | 3.18 |
| ZZ24762 | | 0.18 | 0.004 | <0.2 | 2.27 | 8 | <10 | 230 | <0.5 | <2 | 0.39 | <0.5 | 12 | 36 | 37 | 3.36 |
| ZZ24763 | | 0.26 | 0.002 | <0.2 | 2.14 | 6 | <10 | 200 | <0.5 | <2 | 0.36 | <0.5 | 11 | 34 | 30 | 3.22 |
| ZZ24764 | | 0.18 | <0.001 | 0.2 | 1.55 | 4 | <10 | 160 | <0.5 | <2 | 0.28 | <0.5 | 8 | 24 | 26 | 2.48 |
| ZZ24765 | | 0.22 | <0.001 | <0.2 | 1.84 | 6 | <10 | 220 | <0.5 | <2 | 0.38 | <0.5 | 11 | 33 | 29 | 3.07 |
| ZZ24766 | | 0.20 | <0.001 | <0.2 | 2.25 | 8 | <10 | 250 | <0.5 | <2 | 0.43 | <0.5 | 13 | 37 | 34 | 3.52 |
| ZZ24767 | | 0.20 | <0.001 | <0.2 | 1.94 | 6 | <10 | 230 | <0.5 | <2 | 0.40 | <0.5 | 10 | 32 | 28 | 3.25 |
| ZZ24768 | | 0.22 | 0.001 | <0.2 | 1.94 | 6 | <10 | 220 | <0.5 | <2 | 0.45 | <0.5 | 11 | 31 | 27 | 3.33 |
| ZZ24769 | | 0.34 | 0.003 | <0.2 | 1.57 | 5 | <10 | 90 | <0.5 | <2 | 0.57 | <0.5 | 12 | 16 | 94 | 3.42 |
| ZZ24770 | | 0.22 | 0.001 | <0.2 | 1.81 | 5 | <10 | 100 | <0.5 | <2 | 0.51 | <0.5 | 8 | 34 | 28 | 3.21 |
| ZZ24771 | | 0.34 | 0.002 | <0.2 | 1.98 | 6 | <10 | 150 | <0.5 | <2 | 0.52 | <0.5 | 15 | 27 | 23 | 4.46 |
| ZZ24772 | | 0.26 | 0.001 | <0.2 | 1.82 | 6 | <10 | 110 | <0.5 | <2 | 0.45 | <0.5 | 11 | 30 | 22 | 3.80 |
| ZZ24773 | | 0.30 | <0.001 | <0.2 | 1.54 | 3 | <10 | 120 | <0.5 | <2 | 0.38 | <0.5 | 7 | 35 | 13 | 2.63 |
| ZZ24774 | | 0.24 | 0.003 | <0.2 | 1.58 | 5 | <10 | 190 | <0.5 | <2 | 0.47 | <0.5 | 11 | 35 | 27 | 3.13 |
| ZZ24775 | | 0.20 | 0.002 | <0.2 | 1.78 | 5 | <10 | 220 | <0.5 | <2 | 0.56 | <0.5 | 10 | 33 | 24 | 2.70 |
| ZZ24776 | | 0.26 | <0.001 | <0.2 | 1.72 | 6 | <10 | 190 | <0.5 | <2 | 0.34 | <0.5 | 14 | 36 | 18 | 2.60 |
| ZZ24777 | | 0.38 | 0.005 | 0.2 | 1.60 | 5 | <10 | 230 | <0.5 | <2 | 0.44 | <0.5 | 10 | 35 | 32 | 2.70 |
| ZZ24778 | | 0.20 | 0.003 | <0.2 | 1.58 | 5 | <10 | 280 | <0.5 | <2 | 0.45 | <0.5 | 10 | 42 | 32 | 2.69 |
| ZZ24779 | | 0.14 | 0.001 | <0.2 | 1.57 | 6 | <10 | 100 | <0.5 | <2 | 0.18 | <0.5 | 6 | 30 | 44 | 3.45 |
| ZZ24780 | | 0.16 | 0.002 | <0.2 | 1.75 | 6 | <10 | 120 | <0.5 | <2 | 0.21 | <0.5 | 9 | 32 | 69 | 2.95 |
| ZZ24781 | | 0.22 | <0.001 | <0.2 | 1.45 | 3 | <10 | 190 | <0.5 | <2 | 0.59 | <0.5 | 10 | 30 | 61 | 2.58 |
| ZZ24782 | | 0.16 | <0.001 | <0.2 | 1.78 | 4 | <10 | 220 | <0.5 | <2 | 0.49 | <0.5 | 12 | 35 | 59 | 3.00 |
| ZZ24783 | | 0.24 | 0.002 | <0.2 | 1.80 | 8 | <10 | 150 | <0.5 | <2 | 0.40 | <0.5 | 16 | 22 | 112 | 3.30 |
| ZZ24784 | | 0.32 | 0.003 | <0.2 | 1.82 | 10 | <10 | 140 | <0.5 | <2 | 0.35 | <0.5 | 14 | 37 | 69 | 3.29 |
| ZZ24785 | | 0.24 | 0.002 | <0.2 | 1.88 | 5 | <10 | 170 | <0.5 | <2 | 0.35 | <0.5 | 16 | 26 | 61 | 3.28 |
| ZZ24786 | | 0.16 | <0.001 | <0.2 | 1.78 | 6 | <10 | 220 | <0.5 | <2 | 0.29 | <0.5 | 12 | 24 | 35 | 3.12 |
| ZZ24787 | | 0.18 | 0.001 | <0.2 | 1.69 | 5 | <10 | 340 | <0.5 | <2 | 0.31 | <0.5 | 13 | 28 | 48 | 2.88 |
| ZZ24788 | | 0.20 | <0.001 | <0.2 | 1.47 | 6 | <10 | 180 | <0.5 | <2 | 0.32 | <0.5 | 8 | 35 | 34 | 2.54 |
| ZZ24789 | | 0.14 | 0.002 | 0.2 | 1.33 | 6 | <10 | 80 | <0.5 | <2 | 0.19 | <0.5 | 6 | 20 | 32 | 3.21 |
| ZZ24790 | | 0.14 | <0.001 | <0.2 | 2.41 | 8 | <10 | 110 | 0.5 | <2 | 0.18 | <0.5 | 6 | 29 | 21 | 3.46 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 5-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24751 | | <10 | <1 | 0.05 | 10 | 0.40 | 452 | <1 | 0.01 | 19 | 550 | 8 | 0.04 | <2 | 3 | 15 |
| ZZ24752 | | <10 | <1 | 0.05 | 10 | 0.64 | 702 | 1 | 0.01 | 18 | 630 | 6 | 0.04 | <2 | 7 | 17 |
| ZZ24753 | | <10 | <1 | 0.07 | 10 | 0.71 | 326 | <1 | 0.02 | 13 | 800 | 5 | 0.04 | <2 | 8 | 19 |
| ZZ24754 | | <10 | <1 | 0.04 | 10 | 0.75 | 241 | <1 | 0.01 | 14 | 570 | 4 | 0.04 | 2 | 5 | 15 |
| ZZ24755 | | 10 | <1 | 0.06 | 10 | 1.02 | 644 | <1 | 0.01 | 13 | 750 | 3 | 0.03 | 2 | 6 | 16 |
| ZZ24756 | | <10 | <1 | 0.05 | 10 | 0.98 | 202 | <1 | 0.01 | 13 | 570 | 3 | 0.01 | 3 | 5 | 13 |
| ZZ24757 | | <10 | <1 | 0.05 | 10 | 0.68 | 343 | <1 | 0.01 | 16 | 850 | 5 | 0.04 | <2 | 3 | 22 |
| ZZ24758 | | <10 | <1 | 0.05 | 10 | 0.72 | 503 | <1 | 0.01 | 17 | 740 | 8 | 0.03 | 3 | 4 | 19 |
| ZZ24759 | | 10 | <1 | 0.05 | 10 | 0.72 | 537 | <1 | 0.01 | 17 | 720 | 5 | 0.02 | <2 | 4 | 18 |
| ZZ24760 | | 10 | <1 | 0.06 | 10 | 0.76 | 498 | <1 | 0.01 | 18 | 640 | 5 | 0.02 | <2 | 4 | 19 |
| ZZ24761 | | 10 | <1 | 0.07 | 10 | 0.75 | 493 | <1 | 0.01 | 16 | 620 | 6 | 0.02 | <2 | 4 | 20 |
| ZZ24762 | | 10 | <1 | 0.08 | 10 | 0.92 | 577 | <1 | 0.01 | 20 | 780 | 6 | 0.03 | 2 | 6 | 21 |
| ZZ24763 | | 10 | <1 | 0.07 | 10 | 0.82 | 506 | <1 | 0.01 | 20 | 670 | 6 | 0.02 | 2 | 5 | 21 |
| ZZ24764 | | <10 | <1 | 0.06 | 10 | 0.47 | 395 | <1 | 0.01 | 11 | 710 | 5 | 0.04 | 2 | 3 | 16 |
| ZZ24765 | | 10 | <1 | 0.10 | 10 | 0.90 | 582 | <1 | 0.02 | 18 | 550 | 5 | 0.02 | <2 | 5 | 21 |
| ZZ24766 | | 10 | <1 | 0.10 | 10 | 0.92 | 589 | <1 | 0.01 | 22 | 790 | 7 | 0.03 | 2 | 5 | 23 |
| ZZ24767 | | 10 | <1 | 0.07 | 10 | 0.86 | 471 | <1 | 0.01 | 14 | 580 | 4 | 0.02 | 3 | 5 | 20 |
| ZZ24768 | | 10 | <1 | 0.15 | 10 | 1.19 | 541 | <1 | 0.02 | 17 | 740 | 4 | 0.01 | <2 | 6 | 21 |
| ZZ24769 | | <10 | <1 | 0.06 | 10 | 0.76 | 237 | <1 | 0.01 | 10 | 850 | 3 | 0.02 | <2 | 5 | 15 |
| ZZ24770 | | 10 | <1 | 0.05 | 10 | 1.01 | 181 | <1 | 0.02 | 13 | 720 | 4 | 0.02 | <2 | 5 | 17 |
| ZZ24771 | | 10 | <1 | 0.05 | 10 | 1.09 | 956 | <1 | 0.01 | 10 | 790 | 4 | 0.04 | 2 | 6 | 16 |
| ZZ24772 | | 10 | <1 | 0.05 | 10 | 1.07 | 434 | <1 | 0.01 | 12 | 780 | 4 | 0.02 | 2 | 5 | 15 |
| ZZ24773 | | <10 | <1 | 0.05 | 10 | 0.77 | 159 | <1 | 0.02 | 13 | 570 | 4 | 0.02 | <2 | 4 | 17 |
| ZZ24774 | | <10 | <1 | 0.06 | 10 | 0.77 | 443 | <1 | 0.01 | 17 | 680 | 6 | 0.03 | 2 | 5 | 22 |
| ZZ24775 | | <10 | <1 | 0.05 | 10 | 0.75 | 249 | <1 | 0.01 | 17 | 930 | 6 | 0.05 | 2 | 4 | 24 |
| ZZ24776 | | <10 | <1 | 0.05 | 10 | 0.71 | 464 | <1 | 0.01 | 16 | 720 | 6 | 0.03 | 2 | 3 | 19 |
| ZZ24777 | | <10 | <1 | 0.06 | 10 | 0.76 | 362 | <1 | 0.01 | 18 | 700 | 5 | 0.02 | 3 | 5 | 19 |
| ZZ24778 | | <10 | <1 | 0.06 | 10 | 0.72 | 391 | <1 | 0.01 | 19 | 750 | 5 | 0.03 | 2 | 4 | 21 |
| ZZ24779 | | 10 | <1 | 0.04 | 10 | 0.48 | 221 | 1 | 0.01 | 14 | 330 | 8 | 0.03 | 2 | 3 | 15 |
| ZZ24780 | | 10 | <1 | 0.05 | 10 | 0.64 | 242 | <1 | 0.01 | 18 | 490 | 6 | 0.03 | <2 | 3 | 15 |
| ZZ24781 | | <10 | <1 | 0.05 | 10 | 0.66 | 282 | <1 | 0.02 | 16 | 540 | 4 | 0.03 | <2 | 4 | 25 |
| ZZ24782 | | 10 | <1 | 0.06 | 10 | 0.76 | 388 | <1 | 0.02 | 19 | 720 | 5 | 0.05 | <2 | 4 | 25 |
| ZZ24783 | | <10 | <1 | 0.06 | 10 | 0.64 | 321 | 1 | 0.01 | 16 | 450 | 5 | 0.03 | <2 | 4 | 19 |
| ZZ24784 | | <10 | <1 | 0.05 | 10 | 0.66 | 330 | 1 | 0.01 | 26 | 380 | 5 | 0.02 | <2 | 3 | 17 |
| ZZ24785 | | <10 | <1 | 0.06 | 10 | 0.69 | 460 | <1 | 0.01 | 19 | 380 | 5 | 0.01 | 2 | 3 | 17 |
| ZZ24786 | | <10 | <1 | 0.07 | 10 | 0.69 | 297 | 1 | 0.01 | 17 | 440 | 5 | 0.02 | <2 | 3 | 17 |
| ZZ24787 | | <10 | 1 | 0.07 | 10 | 0.65 | 369 | 1 | 0.01 | 26 | 550 | 8 | 0.02 | <2 | 3 | 18 |
| ZZ24788 | | 10 | 1 | 0.06 | 10 | 0.48 | 230 | 1 | 0.01 | 20 | 330 | 6 | 0.01 | <2 | 2 | 19 |
| ZZ24789 | | 10 | <1 | 0.05 | 10 | 0.32 | 170 | 2 | 0.01 | 13 | 400 | 5 | 0.02 | <2 | 3 | 15 |
| ZZ24790 | | 10 | <1 | 0.04 | 10 | 0.39 | 174 | 1 | 0.01 | 13 | 420 | 9 | 0.03 | <2 | 3 | 11 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 5-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ24751 | | <20 | 0.06 | <10 | <10 | 62 | <10 | 58 |
| ZZ24752 | | <20 | 0.06 | <10 | <10 | 62 | <10 | 69 |
| ZZ24753 | | <20 | 0.07 | <10 | <10 | 70 | <10 | 61 |
| ZZ24754 | | <20 | 0.06 | <10 | <10 | 73 | <10 | 65 |
| ZZ24755 | | <20 | 0.07 | <10 | <10 | 82 | <10 | 73 |
| ZZ24756 | | <20 | 0.08 | <10 | <10 | 67 | <10 | 64 |
| ZZ24757 | | <20 | 0.06 | <10 | <10 | 51 | <10 | 58 |
| ZZ24758 | | <20 | 0.07 | <10 | <10 | 62 | <10 | 68 |
| ZZ24759 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 57 |
| ZZ24760 | | <20 | 0.08 | <10 | <10 | 68 | <10 | 59 |
| ZZ24761 | | <20 | 0.08 | <10 | <10 | 73 | <10 | 54 |
| ZZ24762 | | <20 | 0.09 | <10 | <10 | 70 | <10 | 66 |
| ZZ24763 | | <20 | 0.09 | <10 | <10 | 68 | <10 | 60 |
| ZZ24764 | | <20 | 0.06 | <10 | <10 | 55 | <10 | 36 |
| ZZ24765 | | <20 | 0.10 | <10 | <10 | 70 | <10 | 62 |
| ZZ24766 | | <20 | 0.09 | <10 | <10 | 73 | <10 | 66 |
| ZZ24767 | | <20 | 0.10 | <10 | <10 | 73 | <10 | 52 |
| ZZ24768 | | <20 | 0.12 | <10 | <10 | 80 | <10 | 64 |
| ZZ24769 | | <20 | 0.06 | <10 | <10 | 74 | <10 | 56 |
| ZZ24770 | | <20 | 0.10 | <10 | <10 | 95 | <10 | 54 |
| ZZ24771 | | <20 | 0.07 | <10 | <10 | 84 | <10 | 58 |
| ZZ24772 | | <20 | 0.06 | <10 | <10 | 89 | <10 | 71 |
| ZZ24773 | | <20 | 0.08 | <10 | <10 | 56 | <10 | 54 |
| ZZ24774 | | <20 | 0.07 | <10 | <10 | 66 | <10 | 77 |
| ZZ24775 | | <20 | 0.07 | <10 | <10 | 58 | <10 | 63 |
| ZZ24776 | | <20 | 0.07 | <10 | <10 | 59 | <10 | 59 |
| ZZ24777 | | <20 | 0.08 | <10 | <10 | 59 | <10 | 61 |
| ZZ24778 | | <20 | 0.07 | <10 | <10 | 57 | <10 | 66 |
| ZZ24779 | | <20 | 0.11 | <10 | <10 | 98 | <10 | 71 |
| ZZ24780 | | <20 | 0.09 | <10 | <10 | 75 | <10 | 53 |
| ZZ24781 | | <20 | 0.09 | <10 | <10 | 70 | <10 | 53 |
| ZZ24782 | | <20 | 0.09 | <10 | <10 | 76 | <10 | 66 |
| ZZ24783 | | <20 | 0.08 | <10 | <10 | 75 | <10 | 47 |
| ZZ24784 | | <20 | 0.08 | <10 | <10 | 72 | <10 | 45 |
| ZZ24785 | | <20 | 0.09 | <10 | <10 | 68 | <10 | 49 |
| ZZ24786 | | <20 | 0.10 | <10 | <10 | 72 | <10 | 50 |
| ZZ24787 | | <20 | 0.09 | <10 | <10 | 66 | <10 | 52 |
| ZZ24788 | | <20 | 0.08 | <10 | <10 | 59 | <10 | 38 |
| ZZ24789 | | <20 | 0.07 | <10 | <10 | 85 | <10 | 36 |
| ZZ24790 | | <20 | 0.08 | <10 | <10 | 75 | <10 | 40 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 5-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| ZZ24791 | | 0.16 | 0.001 | <0.2 | 1.48 | 7 | <10 | 160 | <0.5 | <2 | 0.28 | <0.5 | 7 | 23 | 17 | 2.63 |
| ZZ24792 | | 0.20 | <0.001 | <0.2 | 1.67 | 6 | <10 | 100 | <0.5 | <2 | 0.27 | <0.5 | 9 | 22 | 21 | 3.36 |
| ZZ24793 | | 0.20 | 0.001 | <0.2 | 1.41 | 4 | <10 | 120 | <0.5 | <2 | 0.39 | <0.5 | 10 | 29 | 21 | 2.52 |
| ZZ24794 | | 0.30 | 0.002 | <0.2 | 1.72 | 6 | <10 | 180 | <0.5 | <2 | 0.43 | <0.5 | 12 | 32 | 30 | 2.84 |
| ZZ24795 | | 0.36 | 0.001 | <0.2 | 1.71 | 3 | <10 | 190 | <0.5 | <2 | 0.46 | <0.5 | 9 | 36 | 22 | 2.56 |
| ZZ24796 | | 0.30 | 0.001 | <0.2 | 1.85 | 4 | <10 | 190 | <0.5 | <2 | 0.39 | <0.5 | 10 | 25 | 29 | 3.08 |
| ZZ24797 | | 0.24 | 0.001 | <0.2 | 1.85 | 7 | <10 | 190 | <0.5 | <2 | 0.37 | <0.5 | 13 | 25 | 57 | 3.26 |
| ZZ24798 | | 0.24 | 0.001 | <0.2 | 1.99 | 7 | <10 | 140 | <0.5 | <2 | 0.32 | <0.5 | 11 | 27 | 45 | 3.43 |
| ZZ24799 | | 0.24 | 0.002 | <0.2 | 2.09 | 6 | <10 | 140 | <0.5 | <2 | 0.40 | <0.5 | 11 | 30 | 87 | 3.48 |
| ZZ24800 | | 0.28 | 0.001 | <0.2 | 2.23 | 5 | <10 | 150 | <0.5 | <2 | 0.32 | <0.5 | 20 | 73 | 75 | 3.79 |
| ZZ24801 | | 0.26 | 0.001 | <0.2 | 1.59 | 2 | <10 | 180 | <0.5 | <2 | 0.26 | <0.5 | 8 | 45 | 18 | 2.12 |
| ZZ24802 | | 0.26 | 0.001 | 0.2 | 1.66 | 6 | <10 | 180 | <0.5 | <2 | 0.30 | <0.5 | 11 | 33 | 35 | 2.82 |
| ZZ24803 | | 0.26 | 0.001 | <0.2 | 1.90 | 7 | <10 | 160 | <0.5 | <2 | 0.30 | <0.5 | 9 | 33 | 29 | 3.02 |
| ZZ24804 | | 0.26 | 0.001 | <0.2 | 1.83 | 4 | <10 | 150 | <0.5 | <2 | 0.31 | <0.5 | 9 | 34 | 23 | 3.10 |
| ZZ24805 | | 0.18 | 0.001 | <0.2 | 1.96 | 8 | <10 | 230 | <0.5 | <2 | 0.35 | <0.5 | 10 | 32 | 37 | 3.13 |
| ZZ24806 | | 0.24 | 0.001 | <0.2 | 1.89 | 9 | <10 | 190 | <0.5 | <2 | 0.31 | <0.5 | 11 | 33 | 34 | 3.09 |
| ZZ24807 | | 0.18 | 0.001 | <0.2 | 1.87 | 7 | <10 | 190 | <0.5 | <2 | 0.30 | <0.5 | 10 | 34 | 30 | 3.06 |
| ZZ24808 | | 0.24 | 0.001 | <0.2 | 1.89 | 7 | <10 | 180 | <0.5 | <2 | 0.30 | <0.5 | 10 | 34 | 31 | 3.05 |
| ZZ24809 | | 0.20 | 0.001 | <0.2 | 1.73 | 6 | <10 | 170 | <0.5 | <2 | 0.33 | <0.5 | 10 | 32 | 30 | 2.92 |
| ZZ24810 | | 0.20 | <0.001 | <0.2 | 1.65 | 7 | <10 | 160 | <0.5 | <2 | 0.33 | <0.5 | 10 | 31 | 21 | 3.14 |
| ZZ24811 | | 0.38 | 0.001 | <0.2 | 1.62 | 11 | <10 | 170 | <0.5 | <2 | 0.40 | <0.5 | 10 | 40 | 20 | 3.53 |
| ZZ24812 | | 0.14 | <0.001 | <0.2 | 1.37 | 11 | <10 | 160 | <0.5 | <2 | 0.50 | <0.5 | 8 | 32 | 17 | 3.01 |
| ZZ24813 | | 0.14 | 0.003 | 0.2 | 1.57 | 4 | <10 | 500 | <0.5 | <2 | 0.57 | 0.5 | 73 | 34 | 14 | 4.13 |
| ZZ24814 | | 0.46 | 0.001 | <0.2 | 2.01 | 2 | <10 | 160 | <0.5 | <2 | 0.40 | <0.5 | 13 | 36 | 35 | 3.00 |
| ZZ24815 | | 0.44 | 0.002 | <0.2 | 2.02 | 2 | <10 | 130 | <0.5 | <2 | 0.43 | <0.5 | 12 | 42 | 33 | 3.03 |
| ZZ24816 | | 0.40 | <0.001 | <0.2 | 2.05 | 4 | <10 | 210 | <0.5 | <2 | 0.44 | <0.5 | 13 | 45 | 32 | 3.29 |
| ZZ24817 | | 0.26 | <0.001 | <0.2 | 1.79 | 5 | <10 | 140 | <0.5 | <2 | 0.32 | <0.5 | 9 | 32 | 22 | 3.16 |
| ZZ24818 | | 0.36 | 0.002 | <0.2 | 2.21 | 8 | <10 | 190 | <0.5 | <2 | 0.34 | <0.5 | 11 | 35 | 29 | 3.34 |
| ZZ24819 | | 0.38 | 0.001 | <0.2 | 2.27 | 10 | <10 | 210 | <0.5 | <2 | 0.35 | <0.5 | 12 | 35 | 31 | 3.46 |
| ZZ24820 | | 0.34 | 0.001 | <0.2 | 2.19 | 8 | <10 | 230 | <0.5 | <2 | 0.37 | <0.5 | 12 | 35 | 33 | 3.34 |
| ZZ24821 | | 0.42 | 0.008 | <0.2 | 1.89 | 5 | <10 | 150 | <0.5 | <2 | 0.32 | <0.5 | 10 | 31 | 23 | 3.14 |
| ZZ24822 | | 0.38 | <0.001 | <0.2 | 2.07 | 8 | <10 | 170 | <0.5 | <2 | 0.34 | <0.5 | 11 | 33 | 28 | 3.16 |
| ZZ24823 | | 0.30 | 0.002 | <0.2 | 1.95 | 6 | <10 | 180 | <0.5 | <2 | 0.34 | <0.5 | 11 | 37 | 30 | 3.04 |
| ZZ24824 | | 0.32 | 0.002 | <0.2 | 1.84 | 8 | <10 | 150 | <0.5 | <2 | 0.31 | <0.5 | 11 | 32 | 22 | 3.11 |
| ZZ24825 | | 0.30 | <0.001 | <0.2 | 1.96 | 7 | <10 | 170 | <0.5 | <2 | 0.33 | <0.5 | 11 | 32 | 26 | 3.09 |
| ZZ24826 | | 0.30 | 0.001 | <0.2 | 1.95 | 5 | <10 | 180 | <0.5 | <2 | 0.36 | <0.5 | 11 | 32 | 28 | 3.01 |
| ZZ24827 | | 0.36 | 0.003 | <0.2 | 1.92 | 4 | <10 | 190 | <0.5 | <2 | 0.37 | <0.5 | 11 | 32 | 29 | 3.03 |
| ZZ24828 | | 0.36 | 0.001 | <0.2 | 1.90 | 6 | <10 | 200 | <0.5 | <2 | 0.39 | <0.5 | 11 | 33 | 30 | 2.97 |
| ZZ24829 | | 0.28 | <0.001 | 0.2 | 1.77 | 4 | <10 | 200 | <0.5 | <2 | 0.39 | <0.5 | 10 | 34 | 26 | 2.88 |
| ZZ24830 | | 0.32 | <0.001 | <0.2 | 1.76 | 2 | <10 | 200 | <0.5 | <2 | 0.41 | <0.5 | 10 | 30 | 23 | 2.90 |

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# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24791 | | <10 | <1 | 0.04 | 10 | 0.48 | 189 | 1 | 0.01 | 14 | 350 | 6 | 0.01 | <2 | 2 | 18 |
| ZZ24792 | | 10 | <1 | 0.05 | 10 | 0.69 | 412 | 1 | 0.01 | 12 | 870 | 5 | 0.01 | <2 | 4 | 14 |
| ZZ24793 | | <10 | 1 | 0.05 | 10 | 0.68 | 361 | 1 | 0.02 | 16 | 610 | 4 | 0.01 | <2 | 3 | 17 |
| ZZ24794 | | <10 | 1 | 0.06 | 10 | 0.82 | 463 | <1 | 0.01 | 15 | 600 | 5 | 0.01 | <2 | 4 | 18 |
| ZZ24795 | | 10 | <1 | 0.06 | 10 | 0.92 | 423 | <1 | 0.02 | 13 | 760 | 4 | 0.03 | <2 | 5 | 16 |
| ZZ24796 | | 10 | 1 | 0.05 | 10 | 0.78 | 491 | <1 | 0.01 | 14 | 590 | 4 | 0.02 | <2 | 5 | 18 |
| ZZ24797 | | 10 | 1 | 0.06 | 10 | 0.71 | 513 | <1 | 0.01 | 17 | 630 | 4 | 0.02 | <2 | 4 | 18 |
| ZZ24798 | | 10 | 1 | 0.06 | 10 | 0.72 | 433 | 1 | 0.01 | 18 | 560 | 4 | 0.02 | <2 | 5 | 16 |
| ZZ24799 | | 10 | 1 | 0.06 | 10 | 0.83 | 511 | <1 | 0.01 | 24 | 510 | 6 | 0.02 | <2 | 7 | 21 |
| ZZ24800 | | 10 | 1 | 0.06 | 10 | 1.16 | 982 | <1 | 0.01 | 52 | 400 | 6 | 0.02 | <2 | 7 | 15 |
| ZZ24801 | | 10 | 1 | 0.05 | 10 | 0.76 | 173 | <1 | 0.01 | 17 | 500 | 7 | 0.03 | <2 | 3 | 17 |
| ZZ24802 | | 10 | <1 | 0.08 | 10 | 0.72 | 397 | <1 | 0.01 | 23 | 510 | 5 | 0.01 | <2 | 5 | 16 |
| ZZ24803 | | 10 | 1 | 0.06 | 10 | 0.79 | 375 | <1 | 0.01 | 18 | 550 | 6 | 0.02 | <2 | 5 | 16 |
| ZZ24804 | | 10 | 1 | 0.07 | 10 | 0.83 | 367 | <1 | 0.01 | 16 | 510 | 6 | 0.02 | <2 | 5 | 16 |
| ZZ24805 | | 10 | 1 | 0.10 | 10 | 0.85 | 496 | <1 | 0.02 | 19 | 650 | 5 | 0.02 | <2 | 6 | 18 |
| ZZ24806 | | 10 | 1 | 0.07 | 10 | 0.77 | 543 | <1 | 0.01 | 18 | 620 | 6 | 0.02 | <2 | 5 | 17 |
| ZZ24807 | | 10 | 1 | 0.07 | 10 | 0.79 | 496 | <1 | 0.01 | 17 | 580 | 6 | 0.02 | <2 | 5 | 17 |
| ZZ24808 | | 10 | 1 | 0.07 | 10 | 0.80 | 484 | <1 | 0.01 | 20 | 590 | 6 | 0.02 | <2 | 5 | 17 |
| ZZ24809 | | 10 | <1 | 0.09 | 10 | 0.80 | 465 | <1 | 0.01 | 20 | 570 | 5 | 0.02 | <2 | 5 | 18 |
| ZZ24810 | | 10 | 1 | 0.07 | 10 | 0.76 | 466 | <1 | 0.01 | 14 | 580 | 6 | 0.02 | <2 | 4 | 16 |
| ZZ24811 | | 10 | <1 | 0.05 | 10 | 0.79 | 359 | <1 | 0.02 | 15 | 820 | 6 | 0.06 | <2 | 5 | 18 |
| ZZ24812 | | <10 | <1 | 0.06 | 10 | 0.71 | 293 | <1 | 0.02 | 14 | 740 | 3 | 0.05 | <2 | 4 | 21 |
| ZZ24813 | | <10 | 1 | 0.05 | 10 | 0.71 | 11000 | 1 | 0.02 | 15 | 1140 | 7 | 0.05 | <2 | 4 | 22 |
| ZZ24814 | | 10 | 1 | 0.10 | 10 | 1.20 | 250 | <1 | 0.02 | 16 | 600 | 4 | 0.01 | <2 | 8 | 18 |
| ZZ24815 | | 10 | 1 | 0.05 | 10 | 1.12 | 304 | <1 | 0.02 | 17 | 770 | 4 | 0.01 | <2 | 7 | 17 |
| ZZ24816 | | 10 | 1 | 0.07 | 10 | 1.08 | 443 | <1 | 0.02 | 19 | 740 | 5 | 0.02 | <2 | 8 | 18 |
| ZZ24817 | | 10 | 1 | 0.07 | 10 | 0.74 | 431 | <1 | 0.01 | 16 | 570 | 5 | 0.02 | <2 | 4 | 17 |
| ZZ24818 | | 10 | 1 | 0.08 | 10 | 0.82 | 591 | <1 | 0.02 | 23 | 650 | 6 | 0.02 | <2 | 6 | 19 |
| ZZ24819 | | 10 | <1 | 0.08 | 10 | 0.84 | 656 | <1 | 0.02 | 23 | 710 | 7 | 0.02 | <2 | 6 | 20 |
| ZZ24820 | | 10 | 1 | 0.08 | 10 | 0.84 | 614 | <1 | 0.02 | 24 | 760 | 6 | 0.02 | <2 | 6 | 21 |
| ZZ24821 | | 10 | 1 | 0.07 | 10 | 0.76 | 467 | <1 | 0.01 | 18 | 600 | 5 | 0.02 | <2 | 4 | 17 |
| ZZ24822 | | 10 | 1 | 0.08 | 10 | 0.81 | 527 | <1 | 0.02 | 22 | 710 | 6 | 0.02 | <2 | 5 | 19 |
| ZZ24823 | | 10 | 1 | 0.09 | 10 | 0.80 | 477 | <1 | 0.02 | 23 | 690 | 5 | 0.02 | <2 | 6 | 19 |
| ZZ24824 | | 10 | 1 | 0.07 | 10 | 0.72 | 486 | <1 | 0.01 | 19 | 610 | 7 | 0.03 | <2 | 4 | 18 |
| ZZ24825 | | 10 | <1 | 0.08 | 10 | 0.76 | 543 | <1 | 0.01 | 22 | 690 | 6 | 0.02 | <2 | 5 | 19 |
| ZZ24826 | | 10 | 1 | 0.08 | 10 | 0.77 | 521 | <1 | 0.02 | 24 | 720 | 6 | 0.02 | <2 | 5 | 21 |
| ZZ24827 | | 10 | <1 | 0.08 | 10 | 0.78 | 525 | <1 | 0.02 | 24 | 750 | 5 | 0.02 | <2 | 5 | 21 |
| ZZ24828 | | 10 | <1 | 0.10 | 10 | 0.80 | 508 | <1 | 0.02 | 22 | 760 | 5 | 0.02 | <2 | 5 | 20 |
| ZZ24829 | | 10 | <1 | 0.11 | 10 | 0.84 | 512 | <1 | 0.02 | 19 | 740 | 3 | 0.01 | <2 | 5 | 19 |
| ZZ24830 | | 10 | <1 | 0.12 | 10 | 0.86 | 526 | <1 | 0.02 | 16 | 790 | 3 | 0.01 | <2 | 5 | 18 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 5-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method Analyte Units LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ24791 | | <20 | 0.08 | <10 | <10 | 61 | <10 | 37 |
| ZZ24792 | | <20 | 0.09 | <10 | <10 | 72 | <10 | 59 |
| ZZ24793 | | <20 | 0.09 | <10 | <10 | 62 | <10 | 53 |
| ZZ24794 | | <20 | 0.09 | <10 | <10 | 65 | <10 | 54 |
| ZZ24795 | | <20 | 0.09 | <10 | <10 | 60 | <10 | 55 |
| ZZ24796 | | <20 | 0.07 | <10 | <10 | 59 | <10 | 59 |
| ZZ24797 | | <20 | 0.08 | <10 | <10 | 65 | <10 | 57 |
| ZZ24798 | | <20 | 0.09 | <10 | <10 | 74 | <10 | 57 |
| ZZ24799 | | <20 | 0.09 | <10 | <10 | 81 | <10 | 61 |
| ZZ24800 | | <20 | 0.08 | <10 | <10 | 75 | <10 | 52 |
| ZZ24801 | | <20 | 0.09 | <10 | <10 | 52 | <10 | 56 |
| ZZ24802 | | <20 | 0.10 | <10 | <10 | 70 | <10 | 59 |
| ZZ24803 | | <20 | 0.10 | <10 | <10 | 71 | <10 | 54 |
| ZZ24804 | | <20 | 0.10 | <10 | <10 | 74 | <10 | 54 |
| ZZ24805 | | <20 | 0.10 | <10 | <10 | 70 | <10 | 60 |
| ZZ24806 | | <20 | 0.10 | <10 | <10 | 70 | <10 | 56 |
| ZZ24807 | | <20 | 0.10 | <10 | <10 | 73 | <10 | 56 |
| ZZ24808 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 58 |
| ZZ24809 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 56 |
| ZZ24810 | | <20 | 0.09 | <10 | <10 | 77 | <10 | 51 |
| ZZ24811 | | <20 | 0.08 | <10 | <10 | 75 | <10 | 57 |
| ZZ24812 | | <20 | 0.07 | <10 | <10 | 66 | <10 | 52 |
| ZZ24813 | | <20 | 0.06 | <10 | <10 | 55 | <10 | 81 |
| ZZ24814 | | <20 | 0.11 | <10 | <10 | 72 | <10 | 60 |
| ZZ24815 | | <20 | 0.09 | <10 | <10 | 76 | <10 | 58 |
| ZZ24816 | | <20 | 0.08 | <10 | <10 | 73 | <10 | 60 |
| ZZ24817 | | <20 | 0.10 | <10 | <10 | 72 | <10 | 55 |
| ZZ24818 | | <20 | 0.11 | <10 | <10 | 71 | <10 | 64 |
| ZZ24819 | | <20 | 0.10 | <10 | <10 | 72 | <10 | 68 |
| ZZ24820 | | <20 | 0.10 | <10 | <10 | 72 | <10 | 68 |
| ZZ24821 | | <20 | 0.10 | <10 | <10 | 69 | <10 | 58 |
| ZZ24822 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 64 |
| ZZ24823 | | <20 | 0.11 | <10 | <10 | 69 | <10 | 62 |
| ZZ24824 | | <20 | 0.10 | <10 | <10 | 70 | <10 | 58 |
| ZZ24825 | | <20 | 0.10 | <10 | <10 | 67 | <10 | 61 |
| ZZ24826 | | <20 | 0.11 | <10 | <10 | 67 | <10 | 61 |
| ZZ24827 | | <20 | 0.11 | <10 | <10 | 67 | <10 | 62 |
| ZZ24828 | | <20 | 0.12 | <10 | <10 | 66 | <10 | 61 |
| ZZ24829 | | <20 | 0.11 | <10 | <10 | 66 | <10 | 59 |
| ZZ24830 | | <20 | 0.11 | <10 | <10 | 66 | <10 | 58 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 5-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| ZZ24831 | | 0.40 | <0.001 | <0.2 | 1.70 | 3 | <10 | 190 | <0.5 | <2 | 0.43 | <0.5 | 10 | 30 | 21 | 2.88 |
| ZZ24832 | | 0.32 | <0.001 | <0.2 | 1.80 | 4 | <10 | 210 | <0.5 | <2 | 0.46 | <0.5 | 11 | 31 | 23 | 3.17 |
| ZZ24833 | | 0.28 | <0.001 | <0.2 | 1.71 | 4 | <10 | 110 | <0.5 | <2 | 0.31 | <0.5 | 9 | 31 | 18 | 3.04 |
| ZZ24834 | | 0.42 | <0.001 | <0.2 | 1.95 | 7 | <10 | 140 | <0.5 | <2 | 0.30 | <0.5 | 10 | 32 | 21 | 3.14 |
| ZZ24835 | | 0.36 | <0.001 | <0.2 | 2.24 | 9 | <10 | 200 | <0.5 | <2 | 0.34 | <0.5 | 12 | 35 | 30 | 3.42 |
| ZZ24836 | | 0.32 | <0.001 | <0.2 | 2.08 | 6 | <10 | 220 | <0.5 | <2 | 0.37 | <0.5 | 11 | 34 | 32 | 3.26 |
| ZZ24837 | | 0.26 | <0.001 | <0.2 | 1.65 | 3 | <10 | 130 | <0.5 | <2 | 0.33 | <0.5 | 11 | 29 | 17 | 2.88 |
| ZZ24838 | | 0.36 | <0.001 | <0.2 | 1.76 | 7 | <10 | 140 | <0.5 | 2 | 0.28 | <0.5 | 10 | 30 | 20 | 2.93 |
| ZZ24839 | | 0.38 | 0.003 | <0.2 | 1.89 | 6 | <10 | 170 | <0.5 | <2 | 0.30 | <0.5 | 10 | 32 | 26 | 3.06 |
| ZZ24840 | | 0.34 | 0.005 | <0.2 | 2.00 | 8 | <10 | 180 | <0.5 | <2 | 0.32 | <0.5 | 10 | 33 | 28 | 3.10 |
| ZZ24841 | | 0.16 | <0.001 | <0.2 | 1.38 | 2 | <10 | 210 | <0.5 | <2 | 0.31 | <0.5 | 9 | 38 | 31 | 2.17 |
| ZZ24842 | | 0.14 | 0.005 | 0.2 | 1.77 | 6 | <10 | 260 | <0.5 | <2 | 0.35 | <0.5 | 10 | 39 | 77 | 2.89 |
| ZZ24843 | | 0.24 | 0.001 | <0.2 | 1.66 | 6 | <10 | 170 | <0.5 | <2 | 0.33 | <0.5 | 13 | 28 | 70 | 2.99 |
| ZZ24844 | | 0.30 | 0.003 | <0.2 | 1.67 | 4 | <10 | 180 | <0.5 | 2 | 0.38 | <0.5 | 15 | 29 | 93 | 3.28 |
| ZZ24845 | | 0.26 | <0.001 | 0.2 | 1.65 | 4 | <10 | 200 | <0.5 | <2 | 0.42 | <0.5 | 12 | 32 | 66 | 2.98 |
| ZZ24846 | | 0.28 | <0.001 | <0.2 | 1.80 | 3 | <10 | 210 | <0.5 | <2 | 0.32 | <0.5 | 12 | 43 | 24 | 3.16 |
| ZZ24847 | | 0.24 | 0.005 | <0.2 | 1.56 | 3 | <10 | 190 | <0.5 | <2 | 0.31 | <0.5 | 9 | 42 | 18 | 2.35 |
| ZZ24848 | | 0.18 | <0.001 | <0.2 | 1.46 | 2 | <10 | 180 | <0.5 | <2 | 0.27 | <0.5 | 10 | 43 | 17 | 2.20 |
| ZZ24849 | | 0.22 | <0.001 | <0.2 | 1.67 | 6 | <10 | 270 | <0.5 | <2 | 0.33 | <0.5 | 15 | 47 | 22 | 2.79 |
| ZZ24850 | | 0.26 | 0.001 | <0.2 | 1.51 | 3 | <10 | 270 | <0.5 | <2 | 0.43 | <0.5 | 13 | 61 | 28 | 2.33 |
| ZZ24851 | | 0.24 | <0.001 | <0.2 | 1.65 | 2 | <10 | 440 | <0.5 | <2 | 0.54 | <0.5 | 11 | 49 | 27 | 2.36 |
| ZZ24852 | | 0.18 | <0.001 | <0.2 | 1.38 | 4 | <10 | 160 | <0.5 | <2 | 0.41 | <0.5 | 7 | 30 | 18 | 2.32 |
| ZZ24853 | | 0.22 | <0.001 | <0.2 | 2.08 | 6 | <10 | 310 | <0.5 | <2 | 0.65 | <0.5 | 16 | 35 | 44 | 2.88 |
| ZZ24854 | | 0.36 | 0.005 | <0.2 | 1.70 | 3 | <10 | 140 | <0.5 | <2 | 0.32 | <0.5 | 11 | 37 | 22 | 2.57 |
| ZZ24855 | | 0.28 | 0.002 | <0.2 | 1.70 | 5 | <10 | 230 | <0.5 | <2 | 0.41 | <0.5 | 10 | 31 | 33 | 2.66 |
| ZZ24856 | | 0.24 | <0.001 | <0.2 | 1.67 | 6 | <10 | 210 | <0.5 | <2 | 0.48 | <0.5 | 10 | 35 | 28 | 2.67 |
| ZZ24857 | | 0.24 | <0.001 | <0.2 | 1.48 | 4 | <10 | 170 | <0.5 | <2 | 0.40 | <0.5 | 9 | 30 | 31 | 2.43 |
| ZZ24858 | | 0.26 | 0.001 | <0.2 | 1.67 | 5 | <10 | 160 | <0.5 | <2 | 0.33 | <0.5 | 9 | 31 | 24 | 2.73 |
| ZZ24859 | | 0.26 | 0.004 | <0.2 | 1.67 | 6 | <10 | 180 | <0.5 | <2 | 0.37 | <0.5 | 8 | 32 | 27 | 2.77 |
| ZZ24860 | | 0.20 | <0.001 | <0.2 | 1.77 | 7 | <10 | 140 | <0.5 | <2 | 0.25 | <0.5 | 8 | 33 | 36 | 2.96 |
| ZZ24861 | | 0.24 | <0.001 | <0.2 | 1.66 | 6 | <10 | 180 | <0.5 | <2 | 0.41 | <0.5 | 13 | 36 | 25 | 2.86 |
| ZZ24862 | | 0.24 | <0.001 | <0.2 | 1.67 | 5 | <10 | 140 | <0.5 | <2 | 0.33 | <0.5 | 9 | 38 | 18 | 2.58 |
| ZZ24863 | | 0.24 | 0.002 | <0.2 | 1.86 | 3 | <10 | 180 | <0.5 | <2 | 0.31 | <0.5 | 10 | 34 | 22 | 2.67 |
| ZZ24864 | | 0.32 | <0.001 | <0.2 | 1.91 | 4 | <10 | 190 | <0.5 | <2 | 0.41 | <0.5 | 10 | 37 | 29 | 2.85 |
| ZZ24865 | | 0.24 | 0.001 | 0.2 | 2.00 | 6 | <10 | 270 | 0.5 | <2 | 0.59 | <0.5 | 10 | 37 | 78 | 2.65 |
| ZZ24866 | | 0.26 | 0.005 | <0.2 | 2.20 | 9 | <10 | 180 | 0.5 | <2 | 0.31 | <0.5 | 9 | 36 | 26 | 3.03 |
| ZZ24867 | | 0.28 | 0.001 | <0.2 | 1.96 | 4 | <10 | 210 | <0.5 | <2 | 0.37 | <0.5 | 11 | 40 | 20 | 3.06 |
| ZZ24868 | | 0.28 | <0.001 | <0.2 | 1.98 | 5 | <10 | 180 | <0.5 | <2 | 0.37 | <0.5 | 10 | 38 | 18 | 3.01 |
| ZZ24869 | | 0.18 | <0.001 | <0.2 | 1.99 | 7 | <10 | 180 | <0.5 | <2 | 0.68 | <0.5 | 13 | 44 | 22 | 3.28 |
| ZZ24870 | | 0.26 | <0.001 | <0.2 | 2.27 | 2 | <10 | 210 | 0.5 | <2 | 0.52 | <0.5 | 17 | 95 | 23 | 4.05 |

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**Finalized Date: 5-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24831 | | 10 | 1 | 0.12 | 10 | 0.89 | 517 | <1 | 0.02 | 14 | 880 | 3 | <0.01 | <2 | 6 | 16 |
| ZZ24832 | | 10 | <1 | 0.12 | 10 | 0.96 | 609 | <1 | 0.02 | 15 | 880 | 2 | 0.01 | <2 | 6 | 17 |
| ZZ24833 | | 10 | 1 | 0.06 | 10 | 0.73 | 368 | <1 | 0.01 | 15 | 550 | 5 | 0.02 | <2 | 4 | 16 |
| ZZ24834 | | 10 | <1 | 0.07 | 10 | 0.72 | 432 | <1 | 0.01 | 18 | 570 | 5 | 0.04 | <2 | 4 | 17 |
| ZZ24835 | | 10 | <1 | 0.08 | 10 | 0.81 | 589 | <1 | 0.01 | 25 | 690 | 6 | 0.03 | <2 | 6 | 20 |
| ZZ24836 | | 10 | <1 | 0.11 | 10 | 0.83 | 530 | <1 | 0.02 | 25 | 700 | 6 | 0.02 | <2 | 6 | 22 |
| ZZ24837 | | 10 | 1 | 0.07 | 10 | 0.70 | 542 | <1 | 0.01 | 15 | 650 | 4 | 0.02 | <2 | 4 | 18 |
| ZZ24838 | | 10 | 1 | 0.06 | 10 | 0.69 | 404 | <1 | 0.01 | 17 | 570 | 6 | 0.02 | <2 | 4 | 17 |
| ZZ24839 | | 10 | 1 | 0.06 | 10 | 0.70 | 447 | <1 | 0.01 | 19 | 570 | 5 | 0.02 | <2 | 5 | 18 |
| ZZ24840 | | 10 | <1 | 0.06 | 10 | 0.71 | 458 | <1 | 0.01 | 21 | 580 | 6 | 0.02 | <2 | 5 | 19 |
| ZZ24841 | | 10 | <1 | 0.06 | 10 | 0.63 | 301 | <1 | 0.01 | 17 | 460 | 6 | 0.02 | <2 | 3 | 20 |
| ZZ24842 | | 10 | 1 | 0.07 | 10 | 0.64 | 368 | <1 | 0.02 | 20 | 620 | 5 | 0.03 | <2 | 4 | 23 |
| ZZ24843 | | 10 | 1 | 0.07 | 10 | 0.63 | 462 | <1 | 0.01 | 20 | 600 | 6 | 0.01 | <2 | 5 | 20 |
| ZZ24844 | | 10 | <1 | 0.06 | 10 | 0.74 | 690 | <1 | 0.02 | 18 | 870 | 4 | 0.01 | <2 | 7 | 15 |
| ZZ24845 | | 10 | <1 | 0.08 | 10 | 0.85 | 503 | <1 | 0.02 | 19 | 800 | 4 | 0.01 | <2 | 5 | 22 |
| ZZ24846 | | 10 | <1 | 0.06 | 10 | 0.73 | 460 | <1 | 0.01 | 21 | 650 | 6 | 0.02 | <2 | 4 | 21 |
| ZZ24847 | | 10 | <1 | 0.06 | 10 | 0.73 | 274 | <1 | 0.02 | 18 | 630 | 5 | 0.03 | <2 | 3 | 21 |
| ZZ24848 | | 10 | 1 | 0.05 | 10 | 0.65 | 306 | <1 | 0.01 | 17 | 640 | 7 | 0.04 | <2 | 3 | 18 |
| ZZ24849 | | 10 | 1 | 0.05 | 10 | 0.79 | 588 | <1 | 0.02 | 22 | 770 | 6 | 0.03 | <2 | 4 | 20 |
| ZZ24850 | | 10 | <1 | 0.07 | 10 | 0.76 | 542 | <1 | 0.02 | 26 | 810 | 6 | 0.03 | <2 | 4 | 22 |
| ZZ24851 | | 10 | <1 | 0.09 | 10 | 0.79 | 420 | <1 | 0.02 | 23 | 790 | 6 | 0.04 | <2 | 4 | 36 |
| ZZ24852 | | 10 | <1 | 0.05 | <10 | 0.61 | 181 | <1 | 0.02 | 13 | 340 | 4 | 0.02 | <2 | 3 | 21 |
| ZZ24853 | | 10 | <1 | 0.07 | 10 | 0.95 | 634 | <1 | 0.02 | 17 | 730 | 3 | 0.04 | <2 | 4 | 25 |
| ZZ24854 | | <10 | 1 | 0.06 | 10 | 0.80 | 330 | <1 | 0.02 | 15 | 440 | 2 | <0.01 | <2 | 4 | 16 |
| ZZ24855 | | 10 | <1 | 0.05 | 10 | 0.62 | 373 | <1 | 0.02 | 17 | 540 | 5 | 0.02 | <2 | 4 | 23 |
| ZZ24856 | | <10 | 1 | 0.05 | 10 | 0.77 | 360 | <1 | 0.02 | 17 | 620 | 4 | 0.02 | <2 | 3 | 22 |
| ZZ24857 | | <10 | 1 | 0.05 | 10 | 0.67 | 332 | <1 | 0.02 | 18 | 590 | 5 | <0.01 | <2 | 3 | 22 |
| ZZ24858 | | 10 | <1 | 0.06 | 10 | 0.69 | 297 | <1 | 0.02 | 17 | 430 | 5 | <0.01 | <2 | 3 | 21 |
| ZZ24859 | | 10 | <1 | 0.07 | 10 | 0.62 | 315 | 1 | 0.02 | 20 | 500 | 6 | <0.01 | <2 | 4 | 21 |
| ZZ24860 | | 10 | <1 | 0.05 | 10 | 0.63 | 237 | <1 | 0.01 | 19 | 380 | 8 | <0.01 | <2 | 3 | 20 |
| ZZ24861 | | 10 | 1 | 0.05 | 10 | 0.66 | 539 | <1 | 0.02 | 19 | 540 | 6 | <0.01 | <2 | 3 | 25 |
| ZZ24862 | | 10 | <1 | 0.06 | 10 | 0.84 | 264 | <1 | 0.02 | 18 | 460 | 5 | <0.01 | <2 | 3 | 21 |
| ZZ24863 | | 10 | <1 | 0.05 | 10 | 0.65 | 293 | <1 | 0.02 | 20 | 590 | 5 | <0.01 | <2 | 3 | 20 |
| ZZ24864 | | 10 | <1 | 0.06 | 10 | 0.84 | 403 | <1 | 0.02 | 19 | 690 | 5 | 0.01 | <2 | 4 | 21 |
| ZZ24865 | | 10 | 1 | 0.05 | 20 | 0.55 | 338 | <1 | 0.01 | 18 | 720 | 7 | 0.03 | <2 | 4 | 25 |
| ZZ24866 | | 10 | <1 | 0.05 | 10 | 0.59 | 333 | <1 | 0.01 | 22 | 650 | 7 | 0.01 | <2 | 4 | 21 |
| ZZ24867 | | 10 | 1 | 0.06 | 10 | 0.84 | 393 | <1 | 0.01 | 20 | 780 | 7 | 0.01 | <2 | 4 | 22 |
| ZZ24868 | | 10 | <1 | 0.05 | 10 | 0.72 | 329 | <1 | 0.02 | 24 | 740 | 5 | 0.01 | <2 | 5 | 25 |
| ZZ24869 | | 10 | 1 | 0.06 | 10 | 0.95 | 776 | <1 | 0.02 | 20 | 950 | 5 | 0.03 | <2 | 4 | 24 |
| ZZ24870 | | 10 | 1 | 0.10 | 10 | 1.27 | 318 | <1 | 0.02 | 35 | 820 | 5 | 0.02 | <2 | 10 | 17 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 5-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ24831 | | <20 | 0.11 | <10 | <10 | 67 | <10 | 60 |
| ZZ24832 | | <20 | 0.11 | <10 | <10 | 72 | <10 | 69 |
| ZZ24833 | | <20 | 0.09 | <10 | <10 | 71 | <10 | 56 |
| ZZ24834 | | <20 | 0.10 | <10 | <10 | 71 | <10 | 56 |
| ZZ24835 | | <20 | 0.11 | <10 | <10 | 73 | <10 | 71 |
| ZZ24836 | | <20 | 0.12 | <10 | <10 | 71 | <10 | 67 |
| ZZ24837 | | <20 | 0.09 | <10 | <10 | 68 | <10 | 54 |
| ZZ24838 | | <20 | 0.09 | <10 | <10 | 66 | <10 | 53 |
| ZZ24839 | | <20 | 0.10 | <10 | <10 | 69 | <10 | 56 |
| ZZ24840 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 58 |
| ZZ24841 | | <20 | 0.10 | <10 | <10 | 58 | <10 | 51 |
| ZZ24842 | | <20 | 0.09 | <10 | <10 | 74 | <10 | 57 |
| ZZ24843 | | <20 | 0.10 | <10 | <10 | 74 | <10 | 57 |
| ZZ24844 | | <20 | 0.08 | <10 | <10 | 75 | <10 | 62 |
| ZZ24845 | | <20 | 0.11 | <10 | <10 | 74 | <10 | 60 |
| ZZ24846 | | <20 | 0.10 | <10 | <10 | 76 | <10 | 66 |
| ZZ24847 | | <20 | 0.10 | <10 | <10 | 59 | <10 | 58 |
| ZZ24848 | | <20 | 0.08 | <10 | <10 | 57 | <10 | 55 |
| ZZ24849 | | <20 | 0.10 | <10 | <10 | 78 | <10 | 63 |
| ZZ24850 | | <20 | 0.09 | <10 | <10 | 61 | <10 | 58 |
| ZZ24851 | | <20 | 0.10 | <10 | <10 | 59 | <10 | 58 |
| ZZ24852 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 39 |
| ZZ24853 | | <20 | 0.10 | <10 | <10 | 66 | <10 | 50 |
| ZZ24854 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 43 |
| ZZ24855 | | <20 | 0.07 | <10 | <10 | 65 | <10 | 44 |
| ZZ24856 | | <20 | 0.10 | <10 | <10 | 67 | <10 | 48 |
| ZZ24857 | | <20 | 0.10 | <10 | <10 | 63 | <10 | 45 |
| ZZ24858 | | <20 | 0.10 | <10 | <10 | 67 | <10 | 47 |
| ZZ24859 | | <20 | 0.11 | <10 | <10 | 71 | <10 | 49 |
| ZZ24860 | | <20 | 0.11 | <10 | <10 | 74 | <10 | 47 |
| ZZ24861 | | <20 | 0.11 | <10 | <10 | 79 | <10 | 49 |
| ZZ24862 | | <20 | 0.12 | <10 | <10 | 66 | <10 | 46 |
| ZZ24863 | | <20 | 0.09 | <10 | <10 | 65 | <10 | 46 |
| ZZ24864 | | <20 | 0.09 | <10 | <10 | 67 | <10 | 51 |
| ZZ24865 | | <20 | 0.06 | <10 | <10 | 67 | <10 | 41 |
| ZZ24866 | | <20 | 0.09 | <10 | <10 | 71 | <10 | 52 |
| ZZ24867 | | <20 | 0.11 | <10 | <10 | 74 | <10 | 56 |
| ZZ24868 | | <20 | 0.09 | <10 | <10 | 68 | <10 | 51 |
| ZZ24869 | | <20 | 0.07 | <10 | <10 | 72 | <10 | 60 |
| ZZ24870 | | <20 | 0.06 | <10 | <10 | 107 | <10 | 76 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 5-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| ZZ24871 | | 0.26 | 0.012 | <0.2 | 1.78 | 4 | <10 | 210 | <0.5 | <2 | 0.50 | <0.5 | 11 | 43 | 32 | 2.95 |
| ZZ24872 | | 0.32 | 0.002 | <0.2 | 1.79 | 5 | <10 | 260 | <0.5 | <2 | 0.57 | <0.5 | 13 | 41 | 24 | 2.98 |
| ZZ24873 | | 0.24 | <0.001 | <0.2 | 1.66 | 3 | <10 | 220 | <0.5 | <2 | 0.55 | <0.5 | 12 | 40 | 19 | 2.77 |
| ZZ24874 | | 0.14 | 0.001 | <0.2 | 1.65 | 5 | <10 | 260 | <0.5 | 2 | 0.54 | <0.5 | 10 | 43 | 19 | 2.68 |
| ZZ24875 | | 0.30 | 0.003 | <0.2 | 1.79 | 3 | <10 | 230 | <0.5 | <2 | 0.35 | <0.5 | 11 | 38 | 22 | 2.36 |
| ZZ24876 | | 0.26 | <0.001 | <0.2 | 1.59 | 3 | <10 | 230 | <0.5 | <2 | 0.27 | <0.5 | 10 | 44 | 23 | 2.63 |
| ZZ24877 | | 0.22 | <0.001 | <0.2 | 1.81 | 3 | <10 | 320 | <0.5 | <2 | 0.38 | <0.5 | 10 | 55 | 39 | 2.28 |
| ZZ24878 | | 0.26 | 0.001 | <0.2 | 1.51 | 2 | <10 | 320 | <0.5 | <2 | 0.46 | <0.5 | 10 | 46 | 30 | 2.35 |
| ZZ24879 | | 0.26 | 0.001 | <0.2 | 1.69 | 5 | <10 | 360 | <0.5 | <2 | 0.43 | <0.5 | 14 | 72 | 32 | 2.82 |
| ZZ24880 | | 0.22 | <0.001 | 0.2 | 1.96 | 3 | <10 | 400 | <0.5 | <2 | 0.62 | <0.5 | 13 | 55 | 44 | 3.33 |
| ZZ24881 | | 0.26 | <0.001 | <0.2 | 2.25 | 9 | <10 | 110 | 0.5 | <2 | 0.13 | <0.5 | 7 | 38 | 29 | 3.11 |
| ZZ24882 | | 0.22 | 0.002 | <0.2 | 2.20 | 8 | <10 | 150 | <0.5 | <2 | 0.26 | <0.5 | 12 | 36 | 28 | 3.03 |
| ZZ24883 | | 0.26 | 0.001 | <0.2 | 2.10 | 8 | <10 | 140 | <0.5 | <2 | 0.24 | <0.5 | 11 | 40 | 31 | 3.06 |
| ZZ24884 | | 0.30 | <0.001 | <0.2 | 1.84 | 3 | <10 | 190 | <0.5 | <2 | 0.37 | <0.5 | 8 | 37 | 20 | 2.50 |
| ZZ24885 | | 0.28 | <0.001 | <0.2 | 1.84 | 2 | <10 | 200 | <0.5 | <2 | 0.38 | <0.5 | 9 | 37 | 21 | 2.24 |
| ZZ24886 | | 0.36 | 0.002 | <0.2 | 1.81 | 3 | <10 | 190 | <0.5 | <2 | 0.40 | <0.5 | 9 | 36 | 20 | 2.56 |
| ZZ24887 | | 0.26 | 0.003 | <0.2 | 1.73 | 3 | <10 | 240 | <0.5 | <2 | 0.41 | <0.5 | 9 | 37 | 24 | 2.55 |
| ZZ24888 | | 0.30 | 0.003 | <0.2 | 1.80 | 4 | <10 | 270 | <0.5 | <2 | 0.40 | <0.5 | 9 | 37 | 25 | 2.39 |
| ZZ24889 | | 0.32 | 0.002 | <0.2 | 1.96 | 5 | <10 | 220 | <0.5 | <2 | 0.38 | <0.5 | 10 | 39 | 24 | 2.76 |
| ZZ24890 | | 0.34 | 0.002 | <0.2 | 1.75 | 6 | <10 | 240 | <0.5 | <2 | 0.27 | <0.5 | 12 | 33 | 34 | 3.14 |
| ZZ24891 | | 0.18 | <0.001 | <0.2 | 1.14 | 4 | <10 | 130 | <0.5 | <2 | 0.32 | <0.5 | 7 | 19 | 20 | 2.65 |
| ZZ24892 | | 0.18 | 0.004 | <0.2 | 1.34 | 6 | <10 | 280 | <0.5 | <2 | 0.76 | <0.5 | 13 | 27 | 37 | 2.67 |
| ZZ24893 | | 0.26 | <0.001 | <0.2 | 1.38 | 4 | <10 | 350 | <0.5 | <2 | 0.56 | <0.5 | 21 | 104 | 19 | 3.02 |
| ZZ24894 | | 0.28 | 0.001 | <0.2 | 1.79 | 6 | <10 | 390 | <0.5 | <2 | 0.46 | <0.5 | 13 | 141 | 33 | 3.29 |
| ZZ24895 | | 0.30 | <0.001 | <0.2 | 2.11 | <2 | <10 | 460 | <0.5 | <2 | 0.45 | <0.5 | 14 | 80 | 24 | 2.91 |
| ZZ24896 | | 0.26 | 0.002 | <0.2 | 1.98 | <2 | <10 | 380 | <0.5 | <2 | 0.36 | <0.5 | 10 | 92 | 21 | 2.60 |
| ZZ24897 | | 0.32 | <0.001 | <0.2 | 1.95 | 2 | <10 | 380 | <0.5 | <2 | 0.44 | <0.5 | 12 | 107 | 25 | 2.98 |
| ZZ24898 | | 0.24 | <0.001 | <0.2 | 1.73 | 3 | <10 | 320 | <0.5 | <2 | 0.37 | <0.5 | 12 | 55 | 23 | 2.77 |
| ZZ24899 | | 0.22 | 0.002 | <0.2 | 1.46 | 3 | <10 | 300 | <0.5 | <2 | 0.37 | <0.5 | 14 | 48 | 27 | 2.52 |
| ZZ24900 | | 0.28 | 0.003 | <0.2 | 1.83 | 4 | <10 | 250 | <0.5 | <2 | 0.28 | <0.5 | 10 | 52 | 34 | 2.89 |
| ZZ24901 | | 0.38 | 0.002 | <0.2 | 2.10 | 3 | <10 | 220 | <0.5 | <2 | 0.44 | <0.5 | 10 | 44 | 29 | 2.57 |
| ZZ24902 | | 0.36 | 0.001 | <0.2 | 2.01 | 4 | <10 | 210 | <0.5 | <2 | 0.45 | <0.5 | 9 | 44 | 29 | 3.24 |
| ZZ24903 | | 0.26 | 0.001 | <0.2 | 2.13 | 4 | <10 | 220 | <0.5 | <2 | 0.44 | <0.5 | 10 | 41 | 30 | 3.10 |
| ZZ24904 | | 0.28 | <0.001 | <0.2 | 2.09 | 3 | <10 | 190 | <0.5 | <2 | 0.40 | <0.5 | 10 | 42 | 25 | 2.60 |
| ZZ24905 | | 0.26 | 0.002 | <0.2 | 1.96 | 6 | <10 | 200 | <0.5 | <2 | 0.45 | <0.5 | 10 | 39 | 28 | 2.97 |
| ZZ24906 | | 0.30 | 0.002 | <0.2 | 2.05 | <2 | <10 | 200 | <0.5 | <2 | 0.46 | <0.5 | 10 | 47 | 30 | 2.77 |
| ZZ24907 | | 0.36 | 0.001 | <0.2 | 2.29 | 3 | <10 | 210 | <0.5 | <2 | 0.42 | <0.5 | 10 | 43 | 29 | 3.19 |
| ZZ24908 | | 0.42 | 0.001 | <0.2 | 2.20 | 5 | <10 | 270 | <0.5 | <2 | 0.54 | <0.5 | 11 | 45 | 33 | 3.28 |
| ZZ24909 | | 0.40 | 0.002 | <0.2 | 2.08 | 4 | <10 | 260 | <0.5 | <2 | 0.52 | <0.5 | 10 | 45 | 35 | 3.09 |
| ZZ24910 | | 0.38 | 0.001 | <0.2 | 2.21 | 4 | <10 | 280 | <0.5 | <2 | 0.52 | <0.5 | 10 | 45 | 38 | 3.25 |

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**Finalized Date: 5-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24871 | | 10 | <1 | 0.07 | 10 | 0.93 | 217 | <1 | 0.03 | 19 | 850 | 5 | 0.01 | <2 | 7 | 24 |
| ZZ24872 | | 10 | <1 | 0.08 | 10 | 0.93 | 594 | <1 | 0.02 | 21 | 910 | 5 | 0.02 | <2 | 4 | 25 |
| ZZ24873 | | 10 | <1 | 0.08 | 10 | 0.96 | 469 | <1 | 0.02 | 19 | 870 | 3 | 0.01 | <2 | 4 | 23 |
| ZZ24874 | | 10 | 1 | 0.05 | 10 | 0.81 | 247 | <1 | 0.02 | 17 | 890 | 5 | 0.06 | <2 | 4 | 26 |
| ZZ24875 | | 10 | <1 | 0.06 | 10 | 0.76 | 287 | <1 | 0.02 | 18 | 740 | 5 | 0.02 | <2 | 4 | 20 |
| ZZ24876 | | <10 | 1 | 0.05 | 10 | 0.64 | 402 | <1 | 0.01 | 22 | 740 | 5 | 0.03 | <2 | 3 | 18 |
| ZZ24877 | | 10 | 1 | 0.05 | 10 | 0.83 | 225 | <1 | 0.01 | 27 | 740 | 4 | 0.02 | <2 | 5 | 19 |
| ZZ24878 | | <10 | <1 | 0.07 | 10 | 0.73 | 378 | <1 | 0.02 | 23 | 730 | 4 | 0.04 | <2 | 4 | 24 |
| ZZ24879 | | 10 | 1 | 0.13 | 10 | 0.99 | 479 | <1 | 0.02 | 30 | 780 | 6 | 0.03 | <2 | 4 | 22 |
| ZZ24880 | | 10 | 1 | 0.13 | 10 | 1.05 | 526 | <1 | 0.02 | 23 | 890 | 3 | 0.04 | <2 | 13 | 27 |
| ZZ24881 | | 10 | 1 | 0.03 | 10 | 0.49 | 186 | 1 | 0.01 | 18 | 290 | 8 | <0.01 | <2 | 5 | 14 |
| ZZ24882 | | 10 | <1 | 0.07 | 10 | 0.72 | 438 | <1 | 0.02 | 31 | 260 | 7 | <0.01 | <2 | 5 | 19 |
| ZZ24883 | | 10 | 2 | 0.07 | 10 | 0.80 | 371 | <1 | 0.02 | 32 | 280 | 5 | <0.01 | <2 | 4 | 19 |
| ZZ24884 | | 10 | <1 | 0.09 | 10 | 0.90 | 183 | <1 | 0.02 | 20 | 780 | 5 | <0.01 | <2 | 5 | 22 |
| ZZ24885 | | 10 | 1 | 0.10 | 10 | 0.90 | 178 | <1 | 0.02 | 20 | 750 | 5 | <0.01 | <2 | 5 | 22 |
| ZZ24886 | | 10 | <1 | 0.08 | 10 | 0.89 | 179 | <1 | 0.02 | 19 | 760 | 7 | <0.01 | <2 | 4 | 23 |
| ZZ24887 | | 10 | <1 | 0.09 | 10 | 0.86 | 210 | <1 | 0.02 | 21 | 830 | 7 | <0.01 | <2 | 5 | 24 |
| ZZ24888 | | 10 | <1 | 0.08 | 10 | 0.83 | 193 | <1 | 0.02 | 21 | 820 | 6 | <0.01 | <2 | 5 | 25 |
| ZZ24889 | | 10 | <1 | 0.10 | 10 | 0.99 | 230 | <1 | 0.02 | 22 | 840 | 6 | <0.01 | <2 | 5 | 22 |
| ZZ24890 | | <10 | <1 | 0.17 | 10 | 0.67 | 437 | 1 | 0.01 | 24 | 650 | 7 | 0.01 | <2 | 4 | 18 |
| ZZ24891 | | <10 | 1 | 0.07 | 10 | 0.28 | 267 | 1 | 0.01 | 14 | 690 | 10 | 0.02 | <2 | 3 | 14 |
| ZZ24892 | | <10 | 1 | 0.09 | 30 | 0.62 | 552 | 1 | 0.02 | 17 | 770 | 7 | 0.05 | <2 | 5 | 91 |
| ZZ24893 | | <10 | <1 | 0.12 | 10 | 0.83 | 913 | 2 | 0.01 | 32 | 870 | 6 | 0.05 | <2 | 3 | 27 |
| ZZ24894 | | 10 | <1 | 0.24 | 10 | 1.18 | 255 | <1 | 0.02 | 45 | 640 | 4 | 0.03 | <2 | 5 | 23 |
| ZZ24895 | | 10 | <1 | 0.26 | 10 | 1.27 | 277 | <1 | 0.01 | 35 | 780 | 9 | 0.02 | <2 | 4 | 22 |
| ZZ24896 | | 10 | <1 | 0.17 | 10 | 1.11 | 241 | <1 | 0.01 | 29 | 740 | 8 | 0.04 | <2 | 4 | 20 |
| ZZ24897 | | 10 | <1 | 0.25 | 10 | 1.18 | 265 | <1 | 0.01 | 35 | 740 | 8 | 0.03 | <2 | 5 | 21 |
| ZZ24898 | | 10 | <1 | 0.12 | 10 | 0.93 | 407 | <1 | 0.01 | 24 | 770 | 7 | 0.05 | <2 | 3 | 20 |
| ZZ24899 | | <10 | <1 | 0.16 | 10 | 0.81 | 804 | <1 | 0.01 | 24 | 760 | 5 | 0.03 | <2 | 3 | 20 |
| ZZ24900 | | 10 | <1 | 0.08 | 10 | 0.92 | 281 | <1 | 0.01 | 24 | 740 | 8 | 0.05 | <2 | 3 | 17 |
| ZZ24901 | | 10 | <1 | 0.08 | 10 | 0.93 | 188 | <1 | 0.01 | 22 | 680 | 6 | 0.01 | <2 | 7 | 29 |
| ZZ24902 | | 10 | <1 | 0.08 | 10 | 0.90 | 187 | <1 | 0.01 | 22 | 730 | 6 | 0.01 | <2 | 7 | 26 |
| ZZ24903 | | 10 | <1 | 0.09 | 10 | 0.98 | 204 | <1 | 0.01 | 21 | 680 | 7 | 0.02 | <2 | 7 | 25 |
| ZZ24904 | | 10 | <1 | 0.07 | 10 | 0.87 | 192 | <1 | 0.01 | 22 | 680 | 7 | 0.02 | <2 | 6 | 23 |
| ZZ24905 | | 10 | <1 | 0.08 | 10 | 0.88 | 188 | <1 | 0.01 | 21 | 750 | 5 | 0.01 | 2 | 6 | 24 |
| ZZ24906 | | 10 | <1 | 0.09 | 10 | 0.92 | 188 | <1 | 0.01 | 22 | 680 | 6 | 0.01 | <2 | 7 | 26 |
| ZZ24907 | | 10 | <1 | 0.07 | 10 | 0.96 | 223 | <1 | 0.01 | 23 | 700 | 7 | 0.02 | 2 | 7 | 25 |
| ZZ24908 | | 10 | <1 | 0.14 | 10 | 1.04 | 261 | <1 | 0.02 | 25 | 800 | 6 | 0.01 | <2 | 8 | 27 |
| ZZ24909 | | 10 | <1 | 0.14 | 10 | 0.96 | 260 | <1 | 0.02 | 24 | 790 | 8 | 0.01 | <2 | 7 | 28 |
| ZZ24910 | | 10 | <1 | 0.14 | 10 | 1.00 | 259 | <1 | 0.02 | 24 | 770 | 8 | 0.02 | <2 | 8 | 29 |

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**Finalized Date: 5-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ24871 | | <20 | 0.10 | <10 | <10 | 77 | <10 | 65 |
| ZZ24872 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 70 |
| ZZ24873 | | <20 | 0.10 | <10 | <10 | 66 | <10 | 57 |
| ZZ24874 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 53 |
| ZZ24875 | | <20 | 0.09 | <10 | <10 | 67 | <10 | 62 |
| ZZ24876 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 73 |
| ZZ24877 | | <20 | 0.08 | <10 | <10 | 62 | <10 | 67 |
| ZZ24878 | | <20 | 0.09 | <10 | <10 | 54 | <10 | 86 |
| ZZ24879 | | <20 | 0.12 | <10 | <10 | 66 | <10 | 77 |
| ZZ24880 | | <20 | 0.09 | <10 | <10 | 70 | <10 | 77 |
| ZZ24881 | | <20 | 0.08 | <10 | <10 | 94 | <10 | 49 |
| ZZ24882 | | <20 | 0.13 | <10 | <10 | 71 | <10 | 61 |
| ZZ24883 | | <20 | 0.13 | <10 | <10 | 73 | <10 | 59 |
| ZZ24884 | | <20 | 0.11 | <10 | <10 | 61 | <10 | 48 |
| ZZ24885 | | <20 | 0.12 | <10 | <10 | 58 | <10 | 49 |
| ZZ24886 | | <20 | 0.12 | <10 | <10 | 64 | <10 | 50 |
| ZZ24887 | | <20 | 0.10 | <10 | <10 | 60 | <10 | 51 |
| ZZ24888 | | <20 | 0.10 | <10 | <10 | 60 | <10 | 49 |
| ZZ24889 | | <20 | 0.11 | <10 | <10 | 67 | <10 | 54 |
| ZZ24890 | | <20 | 0.09 | <10 | <10 | 53 | <10 | 78 |
| ZZ24891 | | <20 | 0.05 | <10 | <10 | 40 | <10 | 64 |
| ZZ24892 | | <20 | 0.07 | <10 | <10 | 47 | <10 | 68 |
| ZZ24893 | | <20 | 0.11 | <10 | <10 | 57 | <10 | 73 |
| ZZ24894 | | <20 | 0.14 | <10 | <10 | 77 | <10 | 73 |
| ZZ24895 | | <20 | 0.16 | <10 | <10 | 67 | <10 | 78 |
| ZZ24896 | | <20 | 0.13 | <10 | <10 | 64 | <10 | 73 |
| ZZ24897 | | <20 | 0.14 | <10 | <10 | 71 | <10 | 79 |
| ZZ24898 | | <20 | 0.12 | <10 | <10 | 58 | <10 | 69 |
| ZZ24899 | | <20 | 0.13 | <10 | <10 | 59 | <10 | 62 |
| ZZ24900 | | <20 | 0.11 | <10 | <10 | 65 | <10 | 67 |
| ZZ24901 | | <20 | 0.11 | <10 | <10 | 72 | <10 | 51 |
| ZZ24902 | | <20 | 0.11 | <10 | <10 | 73 | <10 | 51 |
| ZZ24903 | | <20 | 0.11 | <10 | <10 | 72 | <10 | 53 |
| ZZ24904 | | <20 | 0.11 | <10 | <10 | 68 | <10 | 50 |
| ZZ24905 | | <20 | 0.12 | <10 | <10 | 72 | <10 | 48 |
| ZZ24906 | | <20 | 0.13 | <10 | <10 | 75 | <10 | 55 |
| ZZ24907 | | <20 | 0.11 | <10 | <10 | 74 | <10 | 54 |
| ZZ24908 | | <20 | 0.12 | <10 | <10 | 77 | <10 | 62 |
| ZZ24909 | | <20 | 0.12 | <10 | <10 | 76 | <10 | 63 |
| ZZ24910 | | <20 | 0.13 | <10 | <10 | 79 | <10 | 64 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 5-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| ZZ24911 | | 0.32 | <0.001 | <0.2 | 2.08 | 2 | <10 | 200 | <0.5 | <2 | 0.42 | <0.5 | 10 | 42 | 30 | 2.50 |
| ZZ24912 | | 0.34 | 0.002 | <0.2 | 2.14 | 4 | <10 | 250 | <0.5 | <2 | 0.49 | <0.5 | 11 | 43 | 32 | 3.12 |
| ZZ24913 | | 0.34 | 0.001 | <0.2 | 2.11 | 4 | <10 | 210 | <0.5 | <2 | 0.40 | <0.5 | 10 | 41 | 28 | 2.80 |
| ZZ24914 | | 0.38 | <0.001 | <0.2 | 2.04 | 5 | <10 | 200 | <0.5 | <2 | 0.50 | <0.5 | 10 | 43 | 28 | 2.92 |
| ZZ24915 | | 0.24 | 0.001 | <0.2 | 2.11 | 3 | <10 | 230 | <0.5 | <2 | 0.48 | <0.5 | 10 | 44 | 29 | 2.74 |
| ZZ24916 | | 0.22 | 0.002 | <0.2 | 2.07 | 2 | <10 | 220 | <0.5 | <2 | 0.50 | <0.5 | 8 | 42 | 25 | 3.01 |
| ZZ24917 | | 0.26 | 0.002 | <0.2 | 2.10 | 4 | <10 | 230 | <0.5 | <2 | 0.48 | <0.5 | 10 | 43 | 29 | 2.89 |
| ZZ24918 | | 0.22 | 0.002 | <0.2 | 2.24 | 4 | <10 | 240 | <0.5 | <2 | 0.46 | <0.5 | 11 | 44 | 32 | 2.92 |
| ZZ24919 | | 0.36 | 0.001 | <0.2 | 2.20 | 3 | <10 | 230 | <0.5 | <2 | 0.48 | <0.5 | 11 | 48 | 33 | 3.12 |
| ZZ24920 | | 0.28 | <0.001 | <0.2 | 2.24 | 4 | <10 | 210 | <0.5 | <2 | 0.44 | <0.5 | 12 | 47 | 30 | 2.95 |
| ZZ24921 | | 0.30 | <0.001 | <0.2 | 1.97 | 2 | <10 | 210 | <0.5 | <2 | 0.50 | <0.5 | 9 | 43 | 28 | 2.67 |
| ZZ24922 | | 0.38 | 0.002 | <0.2 | 1.99 | 2 | <10 | 210 | <0.5 | <2 | 0.49 | <0.5 | 9 | 42 | 28 | 2.73 |
| ZZ24923 | | 0.22 | 0.001 | <0.2 | 2.02 | 2 | <10 | 210 | <0.5 | <2 | 0.44 | <0.5 | 10 | 43 | 29 | 2.41 |
| ZZ24924 | | 0.22 | 0.002 | <0.2 | 2.00 | <2 | <10 | 210 | <0.5 | <2 | 0.44 | <0.5 | 9 | 42 | 28 | 2.28 |
| ZZ24925 | | 0.44 | 0.003 | <0.2 | 2.06 | 2 | <10 | 220 | <0.5 | <2 | 0.47 | <0.5 | 9 | 45 | 30 | 2.69 |
| ZZ24926 | | 0.20 | 0.002 | <0.2 | 1.75 | 2 | <10 | 210 | <0.5 | <2 | 0.26 | <0.5 | 9 | 46 | 17 | 2.31 |
| ZZ24927 | | 0.18 | <0.001 | <0.2 | 1.59 | <2 | <10 | 190 | <0.5 | <2 | 0.28 | <0.5 | 10 | 43 | 14 | 2.10 |
| ZZ24928 | | 0.24 | <0.001 | <0.2 | 1.73 | <2 | <10 | 170 | <0.5 | <2 | 0.28 | <0.5 | 8 | 45 | 15 | 2.04 |
| ZZ24929 | | 0.14 | <0.001 | <0.2 | 1.65 | 2 | <10 | 170 | <0.5 | <2 | 0.27 | <0.5 | 8 | 45 | 16 | 2.28 |
| ZZ24930 | | 0.20 | 0.001 | <0.2 | 1.63 | 2 | <10 | 170 | <0.5 | <2 | 0.26 | <0.5 | 7 | 43 | 16 | 2.32 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 5-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24911 | | 10 | <1 | 0.07 | 10 | 0.90 | 183 | <1 | 0.01 | 22 | 660 | 7 | 0.01 | 2 | 6 | 24 |
| ZZ24912 | | 10 | <1 | 0.09 | 10 | 0.95 | 289 | <1 | 0.01 | 23 | 750 | 8 | 0.02 | <2 | 7 | 27 |
| ZZ24913 | | 10 | <1 | 0.07 | 10 | 0.86 | 182 | <1 | 0.01 | 22 | 680 | 7 | 0.02 | <2 | 6 | 22 |
| ZZ24914 | | 10 | <1 | 0.08 | 10 | 0.89 | 191 | <1 | 0.02 | 22 | 730 | 7 | 0.02 | <2 | 6 | 29 |
| ZZ24915 | | 10 | <1 | 0.08 | 10 | 0.91 | 206 | <1 | 0.02 | 22 | 730 | 7 | 0.02 | <2 | 7 | 27 |
| ZZ24916 | | 10 | <1 | 0.07 | 10 | 0.84 | 183 | <1 | 0.02 | 20 | 780 | 7 | 0.03 | <2 | 6 | 30 |
| ZZ24917 | | 10 | <1 | 0.07 | 10 | 0.91 | 205 | <1 | 0.02 | 22 | 760 | 7 | 0.01 | <2 | 7 | 27 |
| ZZ24918 | | 10 | 1 | 0.08 | 10 | 0.93 | 196 | <1 | 0.02 | 23 | 680 | 8 | 0.01 | <2 | 7 | 26 |
| ZZ24919 | | 10 | <1 | 0.10 | 10 | 0.97 | 192 | <1 | 0.02 | 23 | 740 | 6 | 0.01 | <2 | 8 | 29 |
| ZZ24920 | | 10 | <1 | 0.08 | 10 | 1.02 | 233 | <1 | 0.02 | 23 | 690 | 6 | 0.02 | <2 | 7 | 26 |
| ZZ24921 | | 10 | <1 | 0.09 | 10 | 0.91 | 190 | <1 | 0.02 | 21 | 730 | 6 | 0.01 | <2 | 7 | 28 |
| ZZ24922 | | 10 | <1 | 0.08 | 10 | 0.90 | 188 | <1 | 0.02 | 21 | 720 | 6 | 0.01 | <2 | 7 | 28 |
| ZZ24923 | | 10 | <1 | 0.08 | 10 | 0.90 | 188 | <1 | 0.01 | 22 | 660 | 6 | 0.01 | <2 | 7 | 25 |
| ZZ24924 | | 10 | <1 | 0.07 | 10 | 0.89 | 178 | <1 | 0.02 | 21 | 650 | 6 | 0.01 | <2 | 7 | 26 |
| ZZ24925 | | 10 | <1 | 0.08 | 10 | 0.92 | 196 | <1 | 0.02 | 22 | 700 | 7 | 0.01 | 2 | 7 | 26 |
| ZZ24926 | | 10 | <1 | 0.05 | 10 | 0.78 | 219 | <1 | 0.01 | 19 | 510 | 7 | 0.04 | <2 | 3 | 19 |
| ZZ24927 | | 10 | <1 | 0.05 | 10 | 0.72 | 240 | <1 | 0.01 | 17 | 550 | 6 | 0.04 | <2 | 3 | 18 |
| ZZ24928 | | 10 | <1 | 0.05 | 10 | 0.77 | 158 | <1 | 0.02 | 17 | 460 | 6 | 0.03 | <2 | 3 | 19 |
| ZZ24929 | | 10 | <1 | 0.05 | 10 | 0.72 | 218 | <1 | 0.01 | 17 | 590 | 6 | 0.04 | <2 | 3 | 18 |
| ZZ24930 | | 10 | <1 | 0.05 | 10 | 0.71 | 194 | <1 | 0.01 | 16 | 590 | 7 | 0.04 | <2 | 3 | 18 |

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**Finalized Date: 5-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171447

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ24911 | | <20 | 0.11 | <10 | <10 | 68 | <10 | 49 |
| ZZ24912 | | <20 | 0.12 | <10 | <10 | 75 | <10 | 56 |
| ZZ24913 | | <20 | 0.11 | <10 | <10 | 74 | <10 | 50 |
| ZZ24914 | | <20 | 0.12 | <10 | <10 | 73 | <10 | 53 |
| ZZ24915 | | <20 | 0.11 | <10 | <10 | 74 | <10 | 53 |
| ZZ24916 | | <20 | 0.10 | <10 | <10 | 72 | <10 | 51 |
| ZZ24917 | | <20 | 0.11 | <10 | <10 | 73 | <10 | 53 |
| ZZ24918 | | <20 | 0.12 | <10 | <10 | 78 | <10 | 54 |
| ZZ24919 | | <20 | 0.13 | <10 | <10 | 80 | <10 | 62 |
| ZZ24920 | | <20 | 0.12 | <10 | <10 | 77 | <10 | 57 |
| ZZ24921 | | <20 | 0.12 | <10 | <10 | 72 | <10 | 55 |
| ZZ24922 | | <20 | 0.12 | <10 | <10 | 73 | <10 | 54 |
| ZZ24923 | | <20 | 0.12 | <10 | <10 | 73 | <10 | 52 |
| ZZ24924 | | <20 | 0.12 | <10 | <10 | 73 | <10 | 50 |
| ZZ24925 | | <20 | 0.12 | <10 | <10 | 74 | <10 | 55 |
| ZZ24926 | | <20 | 0.10 | <10 | <10 | 59 | <10 | 60 |
| ZZ24927 | | <20 | 0.09 | <10 | <10 | 54 | <10 | 55 |
| ZZ24928 | | <20 | 0.10 | <10 | <10 | 53 | <10 | 57 |
| ZZ24929 | | <20 | 0.09 | <10 | <10 | 58 | <10 | 56 |
| ZZ24930 | | <20 | 0.09 | <10 | <10 | 60 | <10 | 53 |

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**Finalized Date: 9-OCT-2011**
**Account: F**

# CERTIFICATE WH11171448

Project: Arcus - Touleary

P.O. No.:

This report is for 190 Soil samples submitted to our lab in Whitehorse, YT, Canada on 26-AUG-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| 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: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**Finalized Date: 9-OCT-2011**
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# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| ZZ24935 | | 0.36 | 0.008 | <0.2 | 2.16 | 6 | <10 | 200 | <0.5 | <2 | 0.41 | <0.5 | 12 | 38 | 24 | 2.86 |
| ZZ24936 | | 0.36 | 0.004 | <0.2 | 2.00 | 3 | <10 | 180 | <0.5 | <2 | 0.40 | <0.5 | 11 | 37 | 23 | 2.58 |
| ZZ24937 | | 0.38 | 0.003 | <0.2 | 1.93 | 5 | <10 | 160 | <0.5 | <2 | 0.37 | <0.5 | 10 | 34 | 23 | 2.45 |
| ZZ24938 | | 0.36 | 0.003 | <0.2 | 1.94 | 4 | <10 | 220 | <0.5 | <2 | 0.40 | <0.5 | 11 | 36 | 22 | 2.74 |
| ZZ24939 | | 0.34 | 0.011 | <0.2 | 1.99 | 4 | <10 | 230 | <0.5 | <2 | 0.39 | <0.5 | 10 | 36 | 25 | 2.61 |
| ZZ24940 | | 0.34 | 0.004 | <0.2 | 1.97 | 3 | <10 | 230 | <0.5 | <2 | 0.40 | <0.5 | 12 | 37 | 23 | 2.65 |
| ZZ24941 | | 0.30 | 0.004 | <0.2 | 1.94 | 4 | <10 | 210 | <0.5 | <2 | 0.35 | <0.5 | 10 | 35 | 26 | 2.44 |
| ZZ24942 | | 0.32 | 0.005 | <0.2 | 1.75 | 3 | <10 | 190 | <0.5 | <2 | 0.36 | <0.5 | 9 | 36 | 22 | 2.38 |
| ZZ24943 | | 0.30 | 0.003 | <0.2 | 1.84 | 5 | <10 | 150 | <0.5 | <2 | 0.38 | <0.5 | 8 | 32 | 23 | 2.30 |
| ZZ24944 | | 0.32 | 0.004 | <0.2 | 1.98 | 4 | <10 | 180 | <0.5 | <2 | 0.37 | <0.5 | 10 | 36 | 24 | 2.41 |
| ZZ24945 | | 0.38 | 0.006 | <0.2 | 2.04 | 5 | <10 | 270 | <0.5 | <2 | 0.41 | <0.5 | 10 | 37 | 28 | 2.58 |
| ZZ24946 | | 0.28 | 0.005 | <0.2 | 2.06 | 2 | <10 | 260 | <0.5 | <2 | 0.43 | <0.5 | 12 | 39 | 29 | 2.77 |
| ZZ24947 | | 0.30 | 0.006 | <0.2 | 2.04 | 6 | <10 | 260 | <0.5 | <2 | 0.41 | <0.5 | 11 | 36 | 28 | 2.58 |
| ZZ24948 | | 0.30 | 0.003 | <0.2 | 1.97 | 2 | <10 | 270 | <0.5 | <2 | 0.42 | <0.5 | 10 | 38 | 27 | 2.59 |
| ZZ24949 | | 0.26 | 0.005 | <0.2 | 1.98 | <2 | <10 | 300 | <0.5 | <2 | 0.45 | <0.5 | 11 | 39 | 29 | 2.81 |
| ZZ24950 | | 0.28 | 0.014 | <0.2 | 2.00 | 10 | <10 | 140 | <0.5 | <2 | 0.24 | <0.5 | 11 | 32 | 31 | 2.75 |
| ZZ24951 | | 0.26 | 0.006 | <0.2 | 2.09 | 5 | <10 | 240 | <0.5 | <2 | 0.49 | <0.5 | 11 | 43 | 33 | 2.99 |
| ZZ24952 | | 0.28 | 0.006 | <0.2 | 2.10 | 8 | <10 | 220 | <0.5 | <2 | 0.41 | <0.5 | 10 | 41 | 29 | 2.83 |
| ZZ24953 | | 0.18 | 0.005 | <0.2 | 2.07 | 7 | <10 | 180 | <0.5 | <2 | 0.40 | <0.5 | 10 | 39 | 25 | 2.68 |
| ZZ24954 | | 0.34 | 0.004 | <0.2 | 2.03 | 11 | <10 | 210 | <0.5 | <2 | 0.45 | <0.5 | 9 | 40 | 28 | 2.66 |
| ZZ24955 | | 0.26 | 0.009 | <0.2 | 2.00 | 5 | <10 | 200 | <0.5 | <2 | 0.40 | <0.5 | 9 | 36 | 25 | 2.45 |
| ZZ24956 | | 0.24 | 0.004 | <0.2 | 2.14 | 6 | <10 | 200 | <0.5 | <2 | 0.42 | <0.5 | 10 | 40 | 27 | 2.82 |
| ZZ24957 | | 0.30 | 0.005 | <0.2 | 2.18 | 4 | <10 | 270 | <0.5 | <2 | 0.52 | <0.5 | 10 | 43 | 31 | 2.90 |
| ZZ24958 | | 0.30 | 0.005 | <0.2 | 2.08 | 5 | <10 | 220 | <0.5 | <2 | 0.43 | <0.5 | 10 | 43 | 29 | 2.75 |
| ZZ24959 | | 0.30 | 0.003 | <0.2 | 2.08 | 7 | <10 | 210 | <0.5 | <2 | 0.45 | <0.5 | 9 | 40 | 26 | 2.87 |
| ZZ24960 | | 0.26 | 0.004 | <0.2 | 2.08 | 5 | <10 | 190 | <0.5 | <2 | 0.44 | <0.5 | 10 | 42 | 28 | 2.85 |
| ZZ24961 | | 0.24 | 0.003 | <0.2 | 2.29 | 7 | <10 | 210 | <0.5 | <2 | 0.42 | <0.5 | 12 | 45 | 31 | 3.48 |
| ZZ24962 | | 0.28 | 0.014 | <0.2 | 2.15 | 5 | <10 | 210 | <0.5 | 2 | 0.45 | <0.5 | 10 | 44 | 29 | 2.76 |
| ZZ24963 | | 0.26 | 0.004 | <0.2 | 2.31 | 5 | <10 | 200 | <0.5 | <2 | 0.46 | <0.5 | 11 | 46 | 31 | 3.39 |
| ZZ24964 | | 0.30 | 0.005 | <0.2 | 2.18 | 6 | <10 | 200 | <0.5 | <2 | 0.43 | <0.5 | 9 | 41 | 29 | 2.51 |
| ZZ24965 | | 0.32 | 0.004 | <0.2 | 2.22 | 3 | <10 | 200 | <0.5 | <2 | 0.43 | <0.5 | 10 | 40 | 28 | 2.64 |
| ZZ24966 | | 0.50 | 0.003 | <0.2 | 2.20 | 5 | <10 | 220 | <0.5 | <2 | 0.43 | <0.5 | 10 | 41 | 29 | 2.80 |
| ZZ24967 | | 0.30 | 0.004 | <0.2 | 2.12 | 5 | <10 | 200 | <0.5 | <2 | 0.45 | <0.5 | 10 | 45 | 30 | 2.73 |
| ZZ24968 | | 0.30 | 0.004 | <0.2 | 2.23 | 6 | <10 | 210 | <0.5 | <2 | 0.44 | <0.5 | 11 | 44 | 31 | 3.07 |
| ZZ24969 | | 0.32 | 0.003 | <0.2 | 2.23 | 4 | <10 | 210 | <0.5 | <2 | 0.46 | <0.5 | 11 | 46 | 30 | 2.94 |
| ZZ24970 | | 0.32 | 0.003 | 0.2 | 2.14 | 5 | <10 | 200 | <0.5 | <2 | 0.48 | <0.5 | 10 | 47 | 28 | 2.75 |
| ZZ24971 | | 0.36 | 0.003 | <0.2 | 2.22 | 7 | <10 | 210 | <0.5 | <2 | 0.46 | <0.5 | 10 | 46 | 30 | 2.93 |
| ZZ24972 | | 0.34 | 0.003 | 0.2 | 2.21 | 6 | <10 | 210 | <0.5 | <2 | 0.48 | <0.5 | 10 | 47 | 35 | 2.88 |
| ZZ24973 | | 0.40 | 0.003 | <0.2 | 2.23 | 6 | <10 | 210 | <0.5 | <2 | 0.39 | <0.5 | 10 | 42 | 27 | 2.89 |
| ZZ24974 | | 0.30 | 0.004 | <0.2 | 2.25 | 5 | <10 | 220 | <0.5 | <2 | 0.46 | <0.5 | 10 | 43 | 31 | 2.71 |

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**Finalized Date: 9-OCT-2011**
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Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24935 | | 10 | <1 | 0.10 | 10 | 1.09 | 251 | <1 | 0.02 | 22 | 760 | 6 | 0.01 | <2 | 6 | 26 |
| ZZ24936 | | 10 | 1 | 0.10 | 10 | 1.00 | 230 | <1 | 0.02 | 21 | 770 | 5 | 0.01 | <2 | 5 | 25 |
| ZZ24937 | | 10 | <1 | 0.08 | 10 | 0.79 | 187 | <1 | 0.02 | 21 | 770 | 5 | 0.01 | <2 | 4 | 25 |
| ZZ24938 | | 10 | <1 | 0.10 | 10 | 0.99 | 250 | <1 | 0.02 | 20 | 790 | 4 | 0.01 | <2 | 5 | 26 |
| ZZ24939 | | 10 | 1 | 0.09 | 10 | 0.87 | 222 | <1 | 0.02 | 23 | 810 | 6 | 0.02 | <2 | 5 | 27 |
| ZZ24940 | | 10 | 1 | 0.11 | 10 | 1.05 | 244 | <1 | 0.02 | 19 | 760 | 6 | 0.01 | <2 | 6 | 25 |
| ZZ24941 | | 10 | <1 | 0.08 | 10 | 0.82 | 215 | <1 | 0.02 | 21 | 770 | 5 | 0.02 | <2 | 5 | 24 |
| ZZ24942 | | 10 | 1 | 0.07 | 10 | 0.85 | 197 | <1 | 0.02 | 19 | 830 | 4 | 0.03 | <2 | 4 | 23 |
| ZZ24943 | | 10 | <1 | 0.07 | 10 | 0.70 | 169 | <1 | 0.02 | 20 | 810 | 6 | 0.02 | <2 | 4 | 26 |
| ZZ24944 | | 10 | 1 | 0.07 | 10 | 0.84 | 181 | <1 | 0.02 | 21 | 760 | 6 | 0.02 | <2 | 5 | 25 |
| ZZ24945 | | 10 | 1 | 0.09 | 10 | 0.87 | 218 | <1 | 0.02 | 23 | 750 | 7 | 0.01 | <2 | 6 | 29 |
| ZZ24946 | | 10 | 1 | 0.10 | 10 | 0.97 | 275 | <1 | 0.02 | 23 | 820 | 5 | 0.01 | <2 | 6 | 30 |
| ZZ24947 | | 10 | <1 | 0.09 | 10 | 0.90 | 259 | <1 | 0.02 | 24 | 780 | 6 | 0.01 | <2 | 6 | 29 |
| ZZ24948 | | 10 | <1 | 0.10 | 10 | 0.89 | 239 | <1 | 0.02 | 23 | 820 | 6 | 0.02 | <2 | 6 | 28 |
| ZZ24949 | | 10 | <1 | 0.13 | 10 | 1.09 | 282 | <1 | 0.02 | 23 | 820 | 5 | 0.01 | <2 | 6 | 29 |
| ZZ24950 | | 10 | 1 | 0.07 | 10 | 0.65 | 407 | <1 | 0.02 | 30 | 260 | 8 | 0.02 | <2 | 4 | 19 |
| ZZ24951 | | 10 | <1 | 0.12 | 10 | 0.95 | 295 | <1 | 0.03 | 24 | 700 | 6 | 0.01 | <2 | 7 | 29 |
| ZZ24952 | | 10 | <1 | 0.09 | 10 | 0.84 | 192 | <1 | 0.03 | 22 | 700 | 6 | 0.02 | <2 | 6 | 26 |
| ZZ24953 | | 10 | <1 | 0.08 | 10 | 0.86 | 181 | <1 | 0.03 | 19 | 680 | 5 | 0.01 | <2 | 6 | 25 |
| ZZ24954 | | 10 | <1 | 0.07 | 10 | 0.89 | 184 | <1 | 0.02 | 20 | 680 | 5 | 0.01 | <2 | 6 | 28 |
| ZZ24955 | | 10 | 1 | 0.06 | 10 | 0.85 | 172 | <1 | 0.02 | 20 | 650 | 6 | 0.01 | <2 | 6 | 25 |
| ZZ24956 | | 10 | <1 | 0.06 | 10 | 0.98 | 200 | <1 | 0.02 | 22 | 620 | 4 | 0.01 | <2 | 7 | 26 |
| ZZ24957 | | 10 | <1 | 0.14 | 10 | 1.01 | 226 | <1 | 0.03 | 23 | 730 | 5 | 0.01 | <2 | 8 | 31 |
| ZZ24958 | | 10 | <1 | 0.09 | 10 | 0.94 | 189 | <1 | 0.02 | 23 | 640 | 5 | 0.01 | <2 | 7 | 27 |
| ZZ24959 | | 10 | <1 | 0.08 | 10 | 0.89 | 208 | <1 | 0.02 | 21 | 710 | 6 | 0.01 | <2 | 6 | 28 |
| ZZ24960 | | 10 | 1 | 0.07 | 10 | 0.90 | 191 | <1 | 0.02 | 20 | 690 | 5 | 0.01 | <2 | 6 | 28 |
| ZZ24961 | | 10 | <1 | 0.07 | 10 | 1.02 | 273 | <1 | 0.02 | 25 | 640 | 5 | 0.02 | <2 | 7 | 28 |
| ZZ24962 | | 10 | <1 | 0.08 | 10 | 0.96 | 191 | <1 | 0.02 | 23 | 660 | 4 | 0.01 | <2 | 7 | 29 |
| ZZ24963 | | 10 | <1 | 0.08 | 10 | 1.07 | 232 | <1 | 0.02 | 25 | 640 | 5 | 0.01 | <2 | 8 | 28 |
| ZZ24964 | | 10 | 1 | 0.08 | 10 | 0.92 | 181 | <1 | 0.03 | 21 | 620 | 5 | 0.01 | <2 | 7 | 27 |
| ZZ24965 | | 10 | <1 | 0.08 | 10 | 0.90 | 186 | <1 | 0.02 | 22 | 670 | 6 | 0.01 | <2 | 6 | 27 |
| ZZ24966 | | 10 | <1 | 0.09 | 10 | 0.94 | 189 | <1 | 0.03 | 22 | 680 | 5 | 0.01 | <2 | 7 | 27 |
| ZZ24967 | | 10 | <1 | 0.08 | 10 | 0.96 | 182 | <1 | 0.02 | 22 | 660 | 5 | 0.01 | <2 | 7 | 28 |
| ZZ24968 | | 10 | <1 | 0.07 | 10 | 1.01 | 213 | <1 | 0.02 | 24 | 680 | 6 | 0.01 | <2 | 7 | 27 |
| ZZ24969 | | 10 | <1 | 0.08 | 10 | 1.05 | 208 | <1 | 0.02 | 23 | 650 | 6 | 0.01 | <2 | 7 | 29 |
| ZZ24970 | | 10 | 1 | 0.08 | 10 | 0.97 | 187 | <1 | 0.02 | 22 | 690 | 5 | 0.01 | <2 | 7 | 29 |
| ZZ24971 | | 10 | 1 | 0.08 | 10 | 1.01 | 200 | <1 | 0.02 | 24 | 660 | 5 | 0.01 | <2 | 7 | 29 |
| ZZ24972 | | 10 | <1 | 0.09 | 10 | 1.00 | 195 | <1 | 0.02 | 28 | 680 | 6 | 0.01 | <2 | 7 | 30 |
| ZZ24973 | | 10 | <1 | 0.07 | 10 | 0.90 | 200 | <1 | 0.02 | 21 | 670 | 6 | 0.02 | <2 | 6 | 26 |
| ZZ24974 | | 10 | <1 | 0.08 | 10 | 0.95 | 187 | <1 | 0.02 | 23 | 670 | 5 | 0.01 | <2 | 7 | 28 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 9-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ24935 | | <20 | 0.12 | <10 | <10 | 66 | <10 | 56 |
| ZZ24936 | | <20 | 0.12 | <10 | <10 | 63 | <10 | 55 |
| ZZ24937 | | <20 | 0.11 | <10 | <10 | 56 | <10 | 49 |
| ZZ24938 | | <20 | 0.11 | <10 | <10 | 65 | <10 | 52 |
| ZZ24939 | | <20 | 0.10 | <10 | <10 | 59 | <10 | 52 |
| ZZ24940 | | <20 | 0.12 | <10 | <10 | 66 | <10 | 54 |
| ZZ24941 | | <20 | 0.09 | <10 | <10 | 55 | <10 | 48 |
| ZZ24942 | | <20 | 0.09 | <10 | <10 | 57 | <10 | 45 |
| ZZ24943 | | <20 | 0.10 | <10 | <10 | 51 | <10 | 47 |
| ZZ24944 | | <20 | 0.11 | <10 | <10 | 60 | <10 | 50 |
| ZZ24945 | | <20 | 0.11 | <10 | <10 | 62 | <10 | 50 |
| ZZ24946 | | <20 | 0.12 | <10 | <10 | 64 | <10 | 55 |
| ZZ24947 | | <20 | 0.10 | <10 | <10 | 60 | <10 | 52 |
| ZZ24948 | | <20 | 0.11 | <10 | <10 | 60 | <10 | 53 |
| ZZ24949 | | <20 | 0.12 | <10 | <10 | 65 | <10 | 58 |
| ZZ24950 | | <20 | 0.12 | <10 | <10 | 64 | <10 | 58 |
| ZZ24951 | | <20 | 0.13 | <10 | <10 | 72 | <10 | 55 |
| ZZ24952 | | <20 | 0.12 | <10 | <10 | 75 | <10 | 49 |
| ZZ24953 | | <20 | 0.11 | <10 | <10 | 70 | <10 | 45 |
| ZZ24954 | | <20 | 0.12 | <10 | <10 | 70 | <10 | 49 |
| ZZ24955 | | <20 | 0.11 | <10 | <10 | 64 | <10 | 44 |
| ZZ24956 | | <20 | 0.11 | <10 | <10 | 71 | <10 | 48 |
| ZZ24957 | | <20 | 0.13 | <10 | <10 | 73 | <10 | 55 |
| ZZ24958 | | <20 | 0.12 | <10 | <10 | 73 | <10 | 51 |
| ZZ24959 | | <20 | 0.11 | <10 | <10 | 70 | <10 | 47 |
| ZZ24960 | | <20 | 0.12 | <10 | <10 | 70 | <10 | 48 |
| ZZ24961 | | <20 | 0.11 | <10 | <10 | 77 | <10 | 52 |
| ZZ24962 | | <20 | 0.12 | <10 | <10 | 72 | <10 | 50 |
| ZZ24963 | | <20 | 0.12 | <10 | <10 | 76 | <10 | 52 |
| ZZ24964 | | <20 | 0.13 | <10 | <10 | 70 | <10 | 47 |
| ZZ24965 | | <20 | 0.13 | <10 | <10 | 73 | <10 | 49 |
| ZZ24966 | | <20 | 0.12 | <10 | <10 | 72 | <10 | 49 |
| ZZ24967 | | <20 | 0.12 | <10 | <10 | 70 | <10 | 50 |
| ZZ24968 | | <20 | 0.11 | <10 | <10 | 72 | <10 | 51 |
| ZZ24969 | | <20 | 0.12 | <10 | <10 | 78 | <10 | 54 |
| ZZ24970 | | <20 | 0.12 | <10 | <10 | 73 | <10 | 51 |
| ZZ24971 | | <20 | 0.12 | <10 | <10 | 75 | <10 | 52 |
| ZZ24972 | | <20 | 0.12 | <10 | <10 | 76 | <10 | 55 |
| ZZ24973 | | <20 | 0.10 | <10 | <10 | 76 | <10 | 49 |
| ZZ24974 | | <20 | 0.12 | <10 | <10 | 74 | <10 | 52 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 9-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| ZZ24975 | | 0.30 | 0.004 | <0.2 | 2.18 | 8 | <10 | 200 | <0.5 | <2 | 0.41 | <0.5 | 10 | 41 | 28 | 3.05 |
| ZZ24976 | | 0.28 | 0.003 | <0.2 | 2.06 | 6 | <10 | 190 | <0.5 | <2 | 0.43 | <0.5 | 11 | 42 | 26 | 3.03 |
| ZZ24977 | | 0.30 | 0.004 | <0.2 | 2.04 | 5 | <10 | 220 | <0.5 | <2 | 0.43 | <0.5 | 9 | 39 | 28 | 2.39 |
| ZZ24978 | | 0.34 | 0.003 | <0.2 | 2.25 | 7 | <10 | 230 | <0.5 | <2 | 0.43 | <0.5 | 12 | 43 | 30 | 3.03 |
| ZZ24979 | | 0.48 | 0.004 | <0.2 | 2.08 | 4 | <10 | 220 | <0.5 | <2 | 0.46 | <0.5 | 9 | 42 | 29 | 2.53 |
| ZZ24980 | | 0.44 | 0.004 | <0.2 | 2.18 | 7 | <10 | 250 | <0.5 | 2 | 0.50 | <0.5 | 10 | 44 | 30 | 3.02 |
| ZZ24981 | | 0.38 | 0.004 | <0.2 | 2.20 | 8 | <10 | 230 | <0.5 | <2 | 0.49 | <0.5 | 10 | 46 | 29 | 3.34 |
| ZZ24982 | | 0.38 | 0.009 | <0.2 | 2.17 | 9 | <10 | 230 | <0.5 | 2 | 0.49 | <0.5 | 11 | 45 | 30 | 2.98 |
| ZZ24983 | | 0.42 | 0.005 | <0.2 | 2.23 | 7 | <10 | 240 | <0.5 | <2 | 0.54 | <0.5 | 10 | 46 | 30 | 3.16 |
| ZZ24992 | | 0.44 | 0.004 | <0.2 | 2.26 | 7 | <10 | 230 | <0.5 | <2 | 0.48 | <0.5 | 11 | 47 | 30 | 3.38 |
| ZZ24993 | | 0.42 | 0.002 | <0.2 | 2.21 | 4 | <10 | 200 | <0.5 | 2 | 0.46 | <0.5 | 10 | 44 | 28 | 2.91 |
| ZZ24994 | | 0.32 | 0.004 | <0.2 | 1.96 | 6 | <10 | 210 | <0.5 | 3 | 0.46 | <0.5 | 13 | 42 | 28 | 3.09 |
| ZZ24995 | | 0.30 | 0.003 | <0.2 | 2.13 | 5 | <10 | 240 | <0.5 | 2 | 0.51 | <0.5 | 15 | 50 | 30 | 3.22 |
| ZZ24996 | | 0.28 | 0.006 | <0.2 | 1.97 | 6 | <10 | 230 | <0.5 | 2 | 0.42 | <0.5 | 12 | 43 | 30 | 2.48 |
| ZZ24997 | | 0.36 | 0.004 | <0.2 | 2.17 | 6 | <10 | 210 | <0.5 | 2 | 0.40 | <0.5 | 13 | 41 | 27 | 3.17 |
| ZZ24998 | | 0.46 | 0.003 | <0.2 | 2.02 | 5 | <10 | 200 | <0.5 | <2 | 0.40 | <0.5 | 12 | 42 | 27 | 2.75 |
| ZZ24999 | | 0.26 | 0.004 | <0.2 | 1.99 | 6 | <10 | 240 | <0.5 | <2 | 0.47 | <0.5 | 12 | 41 | 27 | 2.95 |
| ZZ25000 | | 0.30 | 0.005 | <0.2 | 1.93 | 5 | <10 | 210 | <0.5 | <2 | 0.46 | <0.5 | 12 | 41 | 27 | 2.60 |
| ZZ21631 | | 0.30 | 0.009 | <0.2 | 1.67 | 6 | <10 | 220 | <0.5 | <2 | 0.36 | <0.5 | 11 | 28 | 27 | 2.66 |
| ZZ21632 | | 0.18 | 0.006 | <0.2 | 1.69 | 3 | <10 | 220 | <0.5 | 2 | 0.35 | <0.5 | 12 | 29 | 27 | 2.60 |
| ZZ21633 | | 0.16 | 0.007 | <0.2 | 1.72 | 5 | <10 | 220 | <0.5 | 2 | 0.34 | <0.5 | 11 | 29 | 27 | 2.60 |
| ZZ21634 | | 0.24 | 0.011 | <0.2 | 1.66 | 2 | <10 | 240 | <0.5 | <2 | 0.47 | <0.5 | 12 | 28 | 29 | 2.52 |
| ZZ21635 | | 0.18 | 0.007 | <0.2 | 1.65 | 4 | <10 | 210 | <0.5 | <2 | 0.37 | <0.5 | 11 | 28 | 27 | 2.53 |
| ZZ21636 | | 0.20 | 0.006 | <0.2 | 1.58 | 6 | <10 | 200 | <0.5 | <2 | 0.32 | <0.5 | 12 | 28 | 25 | 2.60 |
| ZZ21637 | | 0.30 | 0.007 | 0.2 | 1.75 | 4 | <10 | 240 | <0.5 | <2 | 0.40 | <0.5 | 12 | 30 | 28 | 2.74 |
| ZZ21638 | | 0.26 | 0.003 | <0.2 | 1.61 | 6 | <10 | 240 | <0.5 | 2 | 0.56 | <0.5 | 12 | 31 | 28 | 2.37 |
| ZZ21639 | | 0.44 | 0.004 | <0.2 | 1.66 | 5 | <10 | 200 | <0.5 | 2 | 0.50 | <0.5 | 13 | 35 | 35 | 2.56 |
| ZZ21640 | | 0.20 | 0.004 | <0.2 | 1.56 | 6 | <10 | 220 | <0.5 | 2 | 0.50 | <0.5 | 14 | 30 | 32 | 2.56 |
| ZZ21641 | | 0.36 | 0.004 | <0.2 | 1.70 | 6 | <10 | 210 | <0.5 | <2 | 0.46 | <0.5 | 13 | 30 | 58 | 2.73 |
| ZZ21642 | | 0.30 | 0.002 | <0.2 | 1.63 | 3 | <10 | 190 | <0.5 | <2 | 0.42 | <0.5 | 13 | 32 | 47 | 2.09 |
| ZZ21643 | | 0.38 | 0.004 | <0.2 | 1.42 | 5 | <10 | 150 | <0.5 | <2 | 0.48 | <0.5 | 10 | 28 | 38 | 2.23 |
| ZZ21644 | | 0.34 | 0.004 | <0.2 | 1.53 | 5 | <10 | 150 | <0.5 | 2 | 0.49 | <0.5 | 14 | 34 | 51 | 3.00 |
| ZZ21645 | | 0.26 | 0.006 | <0.2 | 1.46 | 3 | <10 | 180 | <0.5 | <2 | 0.58 | <0.5 | 13 | 32 | 62 | 2.61 |
| ZZ21646 | | 0.40 | 0.005 | <0.2 | 1.50 | 2 | <10 | 160 | <0.5 | <2 | 0.57 | <0.5 | 15 | 38 | 41 | 3.01 |
| ZZ21647 | | 0.28 | 0.004 | <0.2 | 1.55 | 4 | <10 | 230 | <0.5 | 2 | 0.91 | <0.5 | 16 | 36 | 50 | 3.02 |
| ZZ21648 | | 0.42 | 0.004 | <0.2 | 1.41 | 3 | <10 | 130 | <0.5 | 2 | 0.62 | <0.5 | 17 | 28 | 52 | 3.22 |
| ZZ21649 | | 0.26 | 0.005 | <0.2 | 1.70 | 5 | <10 | 130 | <0.5 | 2 | 0.27 | <0.5 | 15 | 28 | 58 | 3.13 |
| ZZ21650 | | 0.22 | 0.004 | <0.2 | 1.75 | 6 | <10 | 110 | <0.5 | <2 | 0.29 | <0.5 | 12 | 30 | 40 | 2.98 |
| ZZ21651 | | 0.28 | 0.007 | 0.2 | 1.51 | 5 | <10 | 100 | <0.5 | <2 | 0.26 | <0.5 | 9 | 22 | 38 | 2.30 |
| ZZ21652 | | 0.22 | 0.023 | 0.2 | 1.69 | 4 | <10 | 110 | <0.5 | <2 | 0.22 | <0.5 | 9 | 23 | 51 | 2.37 |

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**Finalized Date: 9-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24975 | | 10 | <1 | 0.07 | 10 | 0.91 | 187 | <1 | 0.02 | 23 | 660 | 6 | 0.01 | <2 | 7 | 26 |
| ZZ24976 | | 10 | <1 | 0.08 | 10 | 0.88 | 246 | <1 | 0.02 | 20 | 680 | 4 | 0.02 | <2 | 6 | 27 |
| ZZ24977 | | 10 | <1 | 0.06 | 10 | 0.85 | 170 | <1 | 0.02 | 22 | 630 | 5 | 0.01 | <2 | 7 | 26 |
| ZZ24978 | | 10 | <1 | 0.07 | 10 | 0.92 | 210 | <1 | 0.02 | 25 | 680 | 5 | 0.01 | <2 | 7 | 27 |
| ZZ24979 | | 10 | <1 | 0.08 | 10 | 0.91 | 182 | <1 | 0.02 | 24 | 670 | 6 | 0.01 | <2 | 7 | 28 |
| ZZ24980 | | 10 | 1 | 0.08 | 10 | 0.94 | 271 | <1 | 0.02 | 24 | 700 | 6 | 0.01 | <2 | 7 | 30 |
| ZZ24981 | | 10 | <1 | 0.08 | 10 | 0.98 | 256 | <1 | 0.02 | 25 | 710 | 4 | 0.01 | <2 | 7 | 29 |
| ZZ24982 | | 10 | <1 | 0.08 | 10 | 0.96 | 247 | <1 | 0.02 | 24 | 710 | 6 | 0.01 | <2 | 7 | 29 |
| ZZ24983 | | 10 | <1 | 0.09 | 10 | 1.00 | 235 | <1 | 0.03 | 25 | 740 | 4 | 0.01 | <2 | 7 | 31 |
| ZZ24992 | | 10 | <1 | 0.08 | 10 | 0.99 | 226 | <1 | 0.02 | 24 | 700 | 5 | 0.01 | <2 | 7 | 29 |
| ZZ24993 | | 10 | 1 | 0.07 | 10 | 0.96 | 195 | <1 | 0.02 | 23 | 710 | 5 | 0.01 | <2 | 7 | 28 |
| ZZ24994 | | 10 | <1 | 0.09 | 10 | 0.86 | 256 | <1 | 0.03 | 24 | 740 | 6 | 0.02 | <2 | 6 | 28 |
| ZZ24995 | | 10 | <1 | 0.07 | 10 | 1.09 | 375 | <1 | 0.03 | 25 | 670 | 7 | 0.02 | <2 | 7 | 32 |
| ZZ24996 | | 10 | <1 | 0.08 | 10 | 0.85 | 177 | <1 | 0.02 | 22 | 630 | 6 | 0.01 | <2 | 7 | 26 |
| ZZ24997 | | 10 | <1 | 0.06 | 10 | 0.91 | 210 | <1 | 0.02 | 22 | 700 | 6 | 0.03 | <2 | 6 | 25 |
| ZZ24998 | | 10 | <1 | 0.07 | 10 | 0.90 | 189 | <1 | 0.02 | 22 | 640 | 6 | 0.02 | <2 | 6 | 25 |
| ZZ24999 | | 10 | <1 | 0.09 | 10 | 0.86 | 221 | <1 | 0.02 | 22 | 760 | 6 | 0.02 | <2 | 6 | 29 |
| ZZ25000 | | 10 | 1 | 0.09 | 10 | 0.91 | 195 | <1 | 0.03 | 20 | 690 | 5 | 0.01 | <2 | 7 | 28 |
| ZZ21631 | | <10 | 1 | 0.05 | 10 | 0.55 | 434 | <1 | 0.02 | 16 | 610 | 6 | 0.04 | <2 | 4 | 23 |
| ZZ21632 | | <10 | <1 | 0.05 | 10 | 0.53 | 443 | 1 | 0.02 | 16 | 650 | 7 | 0.05 | <2 | 4 | 24 |
| ZZ21633 | | 10 | 1 | 0.05 | 10 | 0.55 | 434 | <1 | 0.02 | 16 | 690 | 7 | 0.05 | <2 | 4 | 24 |
| ZZ21634 | | <10 | 1 | 0.05 | 10 | 0.51 | 431 | <1 | 0.02 | 15 | 710 | 8 | 0.06 | <2 | 4 | 28 |
| ZZ21635 | | <10 | 1 | 0.05 | 10 | 0.53 | 400 | <1 | 0.02 | 15 | 630 | 7 | 0.05 | <2 | 4 | 24 |
| ZZ21636 | | <10 | 1 | 0.05 | 10 | 0.54 | 457 | <1 | 0.02 | 15 | 530 | 6 | 0.04 | <2 | 4 | 21 |
| ZZ21637 | | 10 | <1 | 0.05 | 10 | 0.55 | 441 | <1 | 0.02 | 17 | 660 | 8 | 0.05 | <2 | 4 | 25 |
| ZZ21638 | | <10 | 1 | 0.05 | 10 | 0.59 | 558 | <1 | 0.02 | 17 | 890 | 5 | 0.07 | <2 | 4 | 32 |
| ZZ21639 | | <10 | 1 | 0.04 | 10 | 0.68 | 372 | <1 | 0.02 | 18 | 720 | 6 | 0.05 | <2 | 5 | 24 |
| ZZ21640 | | <10 | <1 | 0.04 | 10 | 0.65 | 660 | <1 | 0.02 | 16 | 720 | 3 | 0.06 | <2 | 4 | 23 |
| ZZ21641 | | <10 | 1 | 0.04 | 10 | 0.68 | 466 | <1 | 0.02 | 21 | 700 | 6 | 0.05 | <2 | 6 | 22 |
| ZZ21642 | | 10 | <1 | 0.05 | 10 | 0.70 | 236 | <1 | 0.02 | 17 | 720 | 4 | 0.06 | <2 | 4 | 18 |
| ZZ21643 | | <10 | 1 | 0.04 | 10 | 0.57 | 251 | <1 | 0.02 | 17 | 770 | 4 | 0.06 | <2 | 3 | 20 |
| ZZ21644 | | <10 | <1 | 0.05 | 10 | 0.67 | 586 | <1 | 0.02 | 19 | 700 | 5 | 0.05 | <2 | 6 | 19 |
| ZZ21645 | | <10 | <1 | 0.06 | 10 | 0.64 | 392 | <1 | 0.02 | 20 | 760 | 4 | 0.08 | <2 | 5 | 22 |
| ZZ21646 | | <10 | <1 | 0.10 | 10 | 0.86 | 544 | <1 | 0.02 | 18 | 550 | 3 | 0.04 | <2 | 6 | 18 |
| ZZ21647 | | <10 | <1 | 0.10 | 10 | 0.77 | 802 | <1 | 0.02 | 19 | 850 | 4 | 0.09 | <2 | 6 | 26 |
| ZZ21648 | | <10 | <1 | 0.06 | 10 | 0.61 | 994 | <1 | 0.02 | 20 | 690 | 4 | 0.06 | <2 | 6 | 21 |
| ZZ21649 | | <10 | 1 | 0.06 | 10 | 0.61 | 479 | <1 | 0.02 | 21 | 530 | 5 | 0.04 | <2 | 5 | 17 |
| ZZ21650 | | 10 | 1 | 0.06 | 10 | 0.52 | 374 | <1 | 0.02 | 15 | 770 | 5 | 0.06 | <2 | 3 | 18 |
| ZZ21651 | | <10 | 1 | 0.05 | 10 | 0.33 | 252 | <1 | 0.01 | 11 | 950 | 4 | 0.08 | <2 | 2 | 18 |
| ZZ21652 | | <10 | <1 | 0.04 | 10 | 0.28 | 207 | <1 | 0.01 | 11 | 1100 | 4 | 0.08 | <2 | 2 | 17 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 9-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ24975 | | <20 | 0.11 | <10 | <10 | 73 | <10 | 48 |
| ZZ24976 | | <20 | 0.12 | <10 | <10 | 70 | <10 | 50 |
| ZZ24977 | | <20 | 0.12 | <10 | <10 | 72 | <10 | 45 |
| ZZ24978 | | <20 | 0.11 | <10 | <10 | 76 | <10 | 48 |
| ZZ24979 | | <20 | 0.12 | <10 | <10 | 72 | <10 | 49 |
| ZZ24980 | | <20 | 0.12 | <10 | <10 | 74 | <10 | 54 |
| ZZ24981 | | <20 | 0.12 | <10 | <10 | 77 | <10 | 54 |
| ZZ24982 | | <20 | 0.12 | <10 | <10 | 75 | <10 | 55 |
| ZZ24983 | | <20 | 0.12 | <10 | <10 | 76 | <10 | 56 |
| ZZ24992 | | <20 | 0.12 | <10 | <10 | 77 | <10 | 53 |
| ZZ24993 | | <20 | 0.12 | <10 | <10 | 75 | <10 | 51 |
| ZZ24994 | | <20 | 0.11 | <10 | <10 | 70 | <10 | 54 |
| ZZ24995 | | <20 | 0.11 | <10 | <10 | 74 | <10 | 55 |
| ZZ24996 | | <20 | 0.11 | <10 | <10 | 71 | <10 | 50 |
| ZZ24997 | | <20 | 0.10 | <10 | <10 | 72 | <10 | 49 |
| ZZ24998 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 49 |
| ZZ24999 | | <20 | 0.11 | <10 | <10 | 70 | <10 | 51 |
| ZZ25000 | | <20 | 0.11 | <10 | <10 | 68 | <10 | 50 |
| ZZ21631 | | <20 | 0.06 | <10 | <10 | 56 | <10 | 59 |
| ZZ21632 | | <20 | 0.06 | <10 | <10 | 57 | <10 | 60 |
| ZZ21633 | | <20 | 0.06 | <10 | <10 | 57 | <10 | 63 |
| ZZ21634 | | <20 | 0.06 | <10 | <10 | 53 | <10 | 59 |
| ZZ21635 | | <20 | 0.06 | <10 | <10 | 56 | <10 | 60 |
| ZZ21636 | | <20 | 0.06 | <10 | <10 | 56 | <10 | 61 |
| ZZ21637 | | <20 | 0.06 | <10 | <10 | 59 | <10 | 63 |
| ZZ21638 | | <20 | 0.06 | <10 | <10 | 54 | <10 | 65 |
| ZZ21639 | | <20 | 0.07 | <10 | <10 | 58 | <10 | 57 |
| ZZ21640 | | <20 | 0.06 | <10 | <10 | 55 | <10 | 59 |
| ZZ21641 | | <20 | 0.06 | <10 | <10 | 57 | <10 | 61 |
| ZZ21642 | | <20 | 0.06 | <10 | <10 | 62 | <10 | 64 |
| ZZ21643 | | <20 | 0.06 | <10 | <10 | 52 | <10 | 55 |
| ZZ21644 | | <20 | 0.06 | <10 | <10 | 61 | <10 | 64 |
| ZZ21645 | | <20 | 0.08 | <10 | <10 | 59 | <10 | 58 |
| ZZ21646 | | <20 | 0.10 | <10 | <10 | 64 | <10 | 65 |
| ZZ21647 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 71 |
| ZZ21648 | | <20 | 0.06 | <10 | <10 | 57 | <10 | 69 |
| ZZ21649 | | <20 | 0.07 | <10 | <10 | 54 | <10 | 60 |
| ZZ21650 | | <20 | 0.06 | <10 | <10 | 58 | <10 | 47 |
| ZZ21651 | | <20 | 0.04 | <10 | <10 | 43 | <10 | 33 |
| ZZ21652 | | <20 | 0.04 | <10 | <10 | 45 | <10 | 32 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 9-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method Analyte Units LOR | WEI-21 Recvd Wt. kg 0.02 | Au-ICP21 Au ppm 0.001 | ME-ICP41 Ag ppm 0.2 | ME-ICP41 Al % 0.01 | ME-ICP41 As ppm 2 | ME-ICP41 B ppm 10 | ME-ICP41 Ba ppm 10 | ME-ICP41 Be ppm 0.5 | ME-ICP41 Bi ppm 2 | ME-ICP41 Ca % 0.01 | ME-ICP41 Cd ppm 0.5 | ME-ICP41 Co ppm 1 | ME-ICP41 Cr ppm 1 | ME-ICP41 Cu ppm 1 | ME-ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ21653 | | 0.18 | 0.002 | <0.2 | 1.35 | 4 | <10 | 130 | <0.5 | <2 | 0.42 | <0.5 | 13 | 25 | 28 | 2.78 |
| ZZ21654 | | 0.22 | 0.003 | <0.2 | 1.63 | 4 | <10 | 120 | <0.5 | 2 | 0.36 | <0.5 | 15 | 32 | 47 | 3.30 |
| ZZ21655 | | 0.24 | 0.004 | <0.2 | 1.56 | 3 | <10 | 150 | <0.5 | <2 | 0.40 | <0.5 | 15 | 28 | 41 | 3.22 |
| ZZ21656 | | 0.34 | 0.003 | <0.2 | 1.21 | 6 | <10 | 90 | <0.5 | <2 | 0.33 | <0.5 | 12 | 26 | 29 | 2.78 |
| ZZ21657 | | 0.32 | 0.004 | <0.2 | 1.47 | 2 | <10 | 90 | <0.5 | <2 | 0.28 | <0.5 | 12 | 29 | 34 | 3.06 |
| ZZ21658 | | 0.22 | 0.006 | <0.2 | 1.28 | 6 | <10 | 90 | <0.5 | <2 | 0.28 | <0.5 | 12 | 26 | 30 | 2.97 |
| ZZ21659 | | 0.28 | 0.007 | <0.2 | 1.36 | 5 | <10 | 80 | <0.5 | <2 | 0.29 | <0.5 | 13 | 29 | 34 | 3.13 |
| ZZ21660 | | 0.30 | 0.005 | <0.2 | 1.52 | 5 | <10 | 80 | <0.5 | <2 | 0.25 | <0.5 | 13 | 30 | 43 | 3.05 |
| ZZ21661 | | 0.26 | 0.003 | <0.2 | 1.84 | 5 | <10 | 140 | <0.5 | <2 | 0.26 | <0.5 | 15 | 31 | 33 | 3.10 |
| ZZ21662 | | 0.22 | 0.003 | <0.2 | 0.91 | 2 | <10 | 200 | <0.5 | <2 | 0.19 | <0.5 | 6 | 15 | 15 | 1.47 |
| ZZ21663 | | 0.24 | 0.004 | <0.2 | 0.84 | <2 | <10 | 160 | <0.5 | <2 | 0.17 | <0.5 | 5 | 13 | 12 | 1.32 |
| ZZ21664 | | 0.30 | 0.005 | <0.2 | 0.87 | 4 | <10 | 160 | <0.5 | <2 | 0.17 | <0.5 | 5 | 14 | 13 | 1.34 |
| ZZ21665 | | 0.20 | 0.009 | <0.2 | 0.85 | 2 | <10 | 160 | <0.5 | <2 | 0.18 | <0.5 | 5 | 14 | 12 | 1.33 |
| ZZ21666 | | 0.34 | 0.003 | <0.2 | 0.74 | 4 | <10 | 120 | <0.5 | <2 | 0.15 | <0.5 | 5 | 12 | 10 | 1.18 |
| ZZ21667 | | 0.32 | 0.008 | <0.2 | 0.71 | 2 | <10 | 110 | <0.5 | <2 | 0.14 | <0.5 | 5 | 11 | 21 | 1.14 |
| ZZ21668 | | 0.32 | 0.004 | <0.2 | 0.83 | 2 | <10 | 140 | <0.5 | <2 | 0.17 | <0.5 | 5 | 13 | 12 | 1.26 |
| ZZ21669 | | 0.32 | 0.005 | <0.2 | 0.85 | <2 | <10 | 150 | <0.5 | <2 | 0.16 | <0.5 | 6 | 14 | 12 | 1.35 |
| ZZ21670 | | 0.28 | 0.005 | <0.2 | 0.87 | 3 | <10 | 150 | <0.5 | <2 | 0.17 | <0.5 | 5 | 14 | 13 | 1.40 |
| ZZ21671 | | 0.28 | 0.004 | <0.2 | 0.84 | 3 | <10 | 150 | <0.5 | <2 | 0.17 | <0.5 | 6 | 14 | 12 | 1.27 |
| ZZ21672 | | 0.22 | 0.004 | <0.2 | 0.89 | 2 | <10 | 150 | <0.5 | <2 | 0.17 | <0.5 | 6 | 15 | 12 | 1.33 |
| ZZ21673 | | 0.18 | 0.005 | <0.2 | 1.00 | 2 | <10 | 180 | <0.5 | <2 | 0.19 | <0.5 | 5 | 18 | 15 | 1.65 |
| ZZ21674 | | 0.20 | 0.009 | <0.2 | 0.81 | 3 | <10 | 140 | <0.5 | <2 | 0.17 | <0.5 | 5 | 14 | 10 | 1.20 |
| ZZ21675 | | 0.24 | 0.012 | <0.2 | 0.79 | 2 | <10 | 130 | <0.5 | <2 | 0.18 | <0.5 | 5 | 13 | 10 | 1.19 |
| ZZ21676 | | 0.24 | 0.017 | <0.2 | 0.79 | 2 | <10 | 150 | <0.5 | <2 | 0.16 | <0.5 | 5 | 13 | 12 | 1.22 |
| ZZ21677 | | 0.28 | 0.004 | <0.2 | 1.77 | 8 | <10 | 170 | <0.5 | 2 | 0.43 | <0.5 | 14 | 25 | 46 | 2.93 |
| ZZ21678 | | 0.34 | 0.003 | <0.2 | 1.88 | 9 | <10 | 170 | <0.5 | <2 | 0.38 | <0.5 | 13 | 27 | 46 | 2.94 |
| ZZ21679 | | 0.32 | 0.004 | <0.2 | 1.91 | 7 | <10 | 170 | <0.5 | 2 | 0.36 | <0.5 | 13 | 27 | 48 | 3.01 |
| ZZ21680 | | 0.28 | 0.004 | <0.2 | 2.01 | 5 | <10 | 210 | <0.5 | 2 | 0.38 | <0.5 | 14 | 28 | 59 | 3.17 |
| ZZ21681 | | 0.22 | 0.004 | <0.2 | 1.90 | 6 | <10 | 190 | <0.5 | 2 | 0.36 | <0.5 | 14 | 27 | 54 | 3.08 |
| ZZ21682 | | 0.26 | 0.003 | <0.2 | 1.95 | 5 | <10 | 190 | <0.5 | 2 | 0.35 | <0.5 | 14 | 27 | 55 | 3.11 |
| ZZ21683 | | 0.24 | 0.003 | <0.2 | 1.87 | 7 | <10 | 190 | <0.5 | <2 | 0.35 | <0.5 | 13 | 26 | 55 | 3.00 |
| ZZ21684 | | 0.20 | 0.003 | <0.2 | 1.74 | 4 | <10 | 180 | <0.5 | <2 | 0.38 | <0.5 | 13 | 25 | 49 | 2.88 |
| ZZ21685 | | 0.24 | 0.015 | <0.2 | 1.71 | 6 | <10 | 160 | <0.5 | <2 | 0.34 | <0.5 | 14 | 25 | 54 | 2.85 |
| ZZ21686 | | 0.20 | 0.003 | <0.2 | 1.91 | 5 | <10 | 160 | <0.5 | <2 | 0.36 | <0.5 | 12 | 26 | 52 | 2.77 |
| ZZ21687 | | 0.24 | 0.005 | <0.2 | 1.79 | 5 | <10 | 170 | <0.5 | <2 | 0.40 | <0.5 | 14 | 26 | 48 | 2.95 |
| ZZ21688 | | 0.22 | 0.003 | <0.2 | 1.82 | 5 | <10 | 190 | <0.5 | 2 | 0.32 | <0.5 | 14 | 26 | 48 | 2.96 |
| ZZ21689 | | 0.30 | 0.003 | <0.2 | 1.98 | 4 | <10 | 190 | <0.5 | 2 | 0.35 | <0.5 | 14 | 28 | 57 | 3.08 |
| ZZ21690 | | 0.22 | 0.005 | <0.2 | 1.92 | 8 | <10 | 170 | <0.5 | <2 | 0.39 | <0.5 | 14 | 28 | 53 | 3.08 |
| ZZ21691 | | 0.14 | 0.004 | <0.2 | 1.01 | 4 | <10 | 170 | <0.5 | <2 | 0.23 | <0.5 | 6 | 19 | 19 | 1.65 |
| ZZ21692 | | 0.18 | 0.011 | <0.2 | 1.00 | 4 | <10 | 150 | <0.5 | <2 | 0.19 | <0.5 | 6 | 19 | 16 | 1.49 |

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**Finalized Date: 9-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ21653 | | <10 | <1 | 0.06 | 10 | 0.46 | 473 | <1 | 0.02 | 14 | 790 | 5 | 0.07 | <2 | 3 | 21 |
| ZZ21654 | | <10 | 1 | 0.09 | 10 | 0.69 | 577 | <1 | 0.02 | 21 | 530 | 4 | 0.04 | <2 | 5 | 17 |
| ZZ21655 | | <10 | <1 | 0.09 | 10 | 0.64 | 871 | <1 | 0.02 | 18 | 760 | 5 | 0.05 | <2 | 4 | 18 |
| ZZ21656 | | <10 | <1 | 0.06 | <10 | 0.51 | 503 | <1 | 0.02 | 15 | 630 | 4 | 0.05 | <2 | 3 | 17 |
| ZZ21657 | | 10 | 1 | 0.05 | 10 | 0.58 | 376 | <1 | 0.02 | 16 | 530 | 4 | 0.05 | <2 | 4 | 16 |
| ZZ21658 | | <10 | 1 | 0.05 | 10 | 0.52 | 454 | <1 | 0.02 | 14 | 570 | 5 | 0.04 | <2 | 3 | 15 |
| ZZ21659 | | 10 | <1 | 0.06 | <10 | 0.59 | 479 | <1 | 0.02 | 16 | 540 | 5 | 0.05 | <2 | 3 | 16 |
| ZZ21660 | | <10 | 1 | 0.06 | 10 | 0.64 | 328 | 1 | 0.02 | 24 | 410 | 10 | 0.03 | <2 | 4 | 15 |
| ZZ21661 | | 10 | 1 | 0.08 | 10 | 0.71 | 485 | <1 | 0.02 | 18 | 590 | 5 | 0.01 | <2 | 5 | 16 |
| ZZ21662 | | <10 | 1 | 0.03 | 10 | 0.31 | 99 | <1 | 0.02 | 8 | 430 | 6 | 0.04 | <2 | 2 | 15 |
| ZZ21663 | | <10 | <1 | 0.03 | 10 | 0.30 | 89 | <1 | 0.02 | 7 | 390 | 5 | 0.03 | <2 | 2 | 13 |
| ZZ21664 | | <10 | <1 | 0.03 | 10 | 0.30 | 90 | <1 | 0.02 | 7 | 410 | 4 | 0.04 | <2 | 2 | 14 |
| ZZ21665 | | <10 | <1 | 0.03 | 10 | 0.29 | 89 | <1 | 0.02 | 6 | 400 | 5 | 0.04 | <2 | 2 | 14 |
| ZZ21666 | | <10 | <1 | 0.02 | <10 | 0.28 | 85 | <1 | 0.01 | 6 | 340 | 4 | 0.03 | <2 | 2 | 11 |
| ZZ21667 | | <10 | <1 | 0.04 | <10 | 0.26 | 80 | <1 | 0.01 | 15 | 330 | 4 | 0.02 | <2 | 2 | 11 |
| ZZ21668 | | <10 | <1 | 0.03 | 10 | 0.28 | 85 | <1 | 0.02 | 7 | 360 | 4 | 0.03 | <2 | 2 | 14 |
| ZZ21669 | | <10 | <1 | 0.03 | 10 | 0.29 | 88 | <1 | 0.02 | 7 | 390 | 4 | 0.03 | <2 | 2 | 13 |
| ZZ21670 | | <10 | 1 | 0.03 | 10 | 0.29 | 87 | <1 | 0.02 | 7 | 430 | 5 | 0.03 | <2 | 2 | 13 |
| ZZ21671 | | <10 | 1 | 0.03 | 10 | 0.29 | 87 | <1 | 0.02 | 7 | 390 | 4 | 0.03 | <2 | 2 | 13 |
| ZZ21672 | | <10 | <1 | 0.03 | 10 | 0.30 | 89 | <1 | 0.02 | 7 | 430 | 5 | 0.04 | <2 | 2 | 14 |
| ZZ21673 | | <10 | 1 | 0.03 | 10 | 0.31 | 98 | <1 | 0.02 | 8 | 420 | 5 | 0.04 | <2 | 2 | 15 |
| ZZ21674 | | <10 | 1 | 0.03 | 10 | 0.27 | 83 | <1 | 0.02 | 6 | 350 | 4 | 0.03 | <2 | 2 | 14 |
| ZZ21675 | | <10 | <1 | 0.03 | <10 | 0.27 | 84 | <1 | 0.02 | 6 | 350 | 4 | 0.03 | <2 | 2 | 13 |
| ZZ21676 | | <10 | <1 | 0.03 | 10 | 0.25 | 79 | <1 | 0.02 | 6 | 380 | 4 | 0.04 | <2 | 2 | 13 |
| ZZ21677 | | <10 | <1 | 0.05 | 10 | 0.65 | 531 | <1 | 0.02 | 18 | 700 | 5 | 0.03 | <2 | 4 | 22 |
| ZZ21678 | | 10 | 1 | 0.05 | 10 | 0.65 | 435 | <1 | 0.02 | 18 | 670 | 5 | 0.03 | <2 | 4 | 21 |
| ZZ21679 | | 10 | <1 | 0.05 | 10 | 0.66 | 447 | <1 | 0.02 | 18 | 670 | 4 | 0.02 | <2 | 4 | 20 |
| ZZ21680 | | 10 | 1 | 0.06 | 10 | 0.72 | 510 | <1 | 0.02 | 20 | 680 | 4 | 0.02 | <2 | 5 | 21 |
| ZZ21681 | | 10 | <1 | 0.06 | 10 | 0.68 | 550 | <1 | 0.02 | 18 | 690 | 5 | 0.03 | <2 | 4 | 21 |
| ZZ21682 | | 10 | <1 | 0.05 | 10 | 0.70 | 514 | <1 | 0.02 | 18 | 700 | 5 | 0.02 | <2 | 5 | 21 |
| ZZ21683 | | 10 | <1 | 0.05 | 10 | 0.68 | 472 | <1 | 0.02 | 18 | 660 | 4 | 0.02 | <2 | 4 | 19 |
| ZZ21684 | | 10 | <1 | 0.05 | 10 | 0.64 | 542 | <1 | 0.02 | 17 | 600 | 4 | 0.03 | <2 | 4 | 20 |
| ZZ21685 | | <10 | <1 | 0.06 | 10 | 0.68 | 475 | <1 | 0.02 | 17 | 580 | 3 | 0.02 | <2 | 4 | 18 |
| ZZ21686 | | 10 | <1 | 0.05 | 10 | 0.68 | 320 | <1 | 0.02 | 17 | 650 | 5 | 0.02 | 2 | 4 | 20 |
| ZZ21687 | | 10 | <1 | 0.05 | 10 | 0.66 | 509 | <1 | 0.02 | 17 | 650 | 4 | 0.03 | <2 | 4 | 21 |
| ZZ21688 | | 10 | <1 | 0.05 | 10 | 0.66 | 529 | <1 | 0.02 | 17 | 630 | 4 | 0.02 | <2 | 4 | 18 |
| ZZ21689 | | 10 | <1 | 0.05 | 10 | 0.71 | 482 | <1 | 0.02 | 18 | 670 | 5 | 0.02 | <2 | 5 | 20 |
| ZZ21690 | | 10 | <1 | 0.05 | 10 | 0.72 | 488 | <1 | 0.02 | 18 | 650 | 4 | 0.02 | 2 | 4 | 21 |
| ZZ21691 | | <10 | <1 | 0.03 | 10 | 0.36 | 141 | <1 | 0.02 | 8 | 500 | 5 | 0.04 | <2 | 2 | 16 |
| ZZ21692 | | <10 | <1 | 0.03 | 10 | 0.34 | 105 | <1 | 0.02 | 9 | 380 | 5 | 0.04 | <2 | 2 | 16 |

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**Finalized Date: 9-OCT-2011**
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Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method Analyte Units LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ21653 | | <20 | 0.06 | <10 | <10 | 55 | <10 | 49 |
| ZZ21654 | | <20 | 0.07 | <10 | <10 | 57 | <10 | 64 |
| ZZ21655 | | <20 | 0.06 | <10 | <10 | 55 | <10 | 69 |
| ZZ21656 | | <20 | 0.06 | <10 | <10 | 60 | <10 | 56 |
| ZZ21657 | | <20 | 0.07 | <10 | <10 | 67 | <10 | 54 |
| ZZ21658 | | <20 | 0.06 | <10 | <10 | 61 | <10 | 52 |
| ZZ21659 | | <20 | 0.07 | <10 | <10 | 65 | <10 | 59 |
| ZZ21660 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 60 |
| ZZ21661 | | <20 | 0.09 | <10 | <10 | 66 | <10 | 78 |
| ZZ21662 | | <20 | 0.05 | <10 | <10 | 25 | <10 | 46 |
| ZZ21663 | | <20 | 0.05 | <10 | <10 | 23 | <10 | 42 |
| ZZ21664 | | <20 | 0.05 | <10 | <10 | 23 | <10 | 42 |
| ZZ21665 | | <20 | 0.05 | <10 | <10 | 24 | <10 | 41 |
| ZZ21666 | | <20 | 0.04 | <10 | <10 | 23 | <10 | 37 |
| ZZ21667 | | <20 | 0.04 | <10 | <10 | 21 | <10 | 38 |
| ZZ21668 | | <20 | 0.05 | <10 | <10 | 23 | <10 | 38 |
| ZZ21669 | | <20 | 0.05 | <10 | <10 | 24 | <10 | 40 |
| ZZ21670 | | <20 | 0.05 | <10 | <10 | 24 | <10 | 40 |
| ZZ21671 | | <20 | 0.05 | <10 | <10 | 22 | <10 | 40 |
| ZZ21672 | | <20 | 0.05 | <10 | <10 | 23 | <10 | 41 |
| ZZ21673 | | <20 | 0.05 | <10 | <10 | 29 | <10 | 44 |
| ZZ21674 | | <20 | 0.05 | <10 | <10 | 22 | <10 | 37 |
| ZZ21675 | | <20 | 0.05 | <10 | <10 | 24 | <10 | 37 |
| ZZ21676 | | <20 | 0.04 | <10 | <10 | 21 | <10 | 37 |
| ZZ21677 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 57 |
| ZZ21678 | | <20 | 0.07 | <10 | <10 | 64 | <10 | 57 |
| ZZ21679 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 57 |
| ZZ21680 | | <20 | 0.08 | <10 | <10 | 67 | <10 | 59 |
| ZZ21681 | | <20 | 0.08 | <10 | <10 | 67 | <10 | 58 |
| ZZ21682 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 57 |
| ZZ21683 | | <20 | 0.08 | <10 | <10 | 65 | <10 | 56 |
| ZZ21684 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 56 |
| ZZ21685 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 53 |
| ZZ21686 | | <20 | 0.07 | <10 | <10 | 61 | <10 | 54 |
| ZZ21687 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 55 |
| ZZ21688 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 55 |
| ZZ21689 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 57 |
| ZZ21690 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 59 |
| ZZ21691 | | <20 | 0.06 | <10 | <10 | 37 | <10 | 41 |
| ZZ21692 | | <20 | 0.05 | <10 | <10 | 29 | <10 | 38 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 9-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method / Analyte / Units / LOR | WEI-21 Recvd Wt. kg 0.02 | Au-ICP21 Au ppm 0.001 | ME-ICP41 Ag ppm 0.2 | ME-ICP41 Al % 0.01 | ME-ICP41 As ppm 2 | ME-ICP41 B ppm 10 | ME-ICP41 Ba ppm 10 | ME-ICP41 Be ppm 0.5 | ME-ICP41 Bi ppm 2 | ME-ICP41 Ca % 0.01 | ME-ICP41 Cd ppm 0.5 | ME-ICP41 Co ppm 1 | ME-ICP41 Cr ppm 1 | ME-ICP41 Cu ppm 1 | ME-ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ21693 | | 0.18 | 0.006 | <0.2 | 0.92 | 2 | <10 | 160 | <0.5 | <2 | 0.19 | <0.5 | 6 | 17 | 14 | 1.48 |
| ZZ21694 | | 0.16 | 0.014 | <0.2 | 0.99 | 4 | <10 | 240 | <0.5 | <2 | 0.23 | <0.5 | 6 | 17 | 17 | 1.56 |
| ZZ21695 | | 0.18 | 0.012 | <0.2 | 1.16 | 8 | <10 | 80 | <0.5 | <2 | 0.25 | <0.5 | 12 | 57 | 48 | 3.34 |
| ZZ21696 | | 0.20 | 0.010 | <0.2 | 1.42 | 3 | <10 | 100 | <0.5 | <2 | 0.18 | <0.5 | 7 | 24 | 34 | 2.01 |
| ZZ21697 | | 0.38 | 0.003 | 0.2 | 1.52 | 5 | <10 | 130 | <0.5 | <2 | 0.31 | <0.5 | 10 | 30 | 40 | 2.29 |
| ZZ21698 | | 0.08 | 0.009 | 0.2 | 1.01 | 5 | <10 | 110 | <0.5 | <2 | 0.38 | <0.5 | 6 | 20 | 30 | 1.64 |
| ZZ21699 | | 0.14 | 0.021 | 0.3 | 1.07 | 3 | <10 | 170 | <0.5 | <2 | 0.24 | <0.5 | 13 | 20 | 23 | 1.99 |
| ZZ21700 | | 0.14 | 0.006 | 0.2 | 1.11 | <2 | <10 | 90 | <0.5 | <2 | 0.18 | <0.5 | 8 | 21 | 27 | 1.92 |
| ZZ21701 | | 0.14 | 0.002 | 0.3 | 1.09 | 4 | <10 | 120 | <0.5 | <2 | 0.21 | <0.5 | 7 | 22 | 29 | 1.93 |
| ZZ21702 | | 0.20 | 0.004 | <0.2 | 1.73 | 4 | <10 | 130 | <0.5 | <2 | 0.25 | <0.5 | 10 | 36 | 31 | 3.11 |
| ZZ21703 | | 0.26 | 0.004 | <0.2 | 1.46 | 6 | <10 | 140 | <0.5 | <2 | 0.24 | <0.5 | 10 | 33 | 26 | 2.76 |
| ZZ21704 | | 0.24 | 0.006 | <0.2 | 1.58 | 6 | <10 | 130 | <0.5 | <2 | 0.27 | <0.5 | 11 | 37 | 26 | 3.00 |
| ZZ21705 | | 0.16 | 0.004 | <0.2 | 1.78 | 4 | <10 | 140 | <0.5 | 2 | 0.28 | <0.5 | 11 | 38 | 32 | 3.26 |
| ZZ21706 | | 0.22 | 0.004 | <0.2 | 1.46 | 7 | <10 | 130 | <0.5 | <2 | 0.25 | <0.5 | 9 | 35 | 27 | 2.75 |
| ZZ21707 | | 0.20 | 0.004 | <0.2 | 1.72 | 5 | <10 | 140 | <0.5 | <2 | 0.25 | <0.5 | 10 | 37 | 31 | 3.11 |
| ZZ21708 | | 0.20 | 0.006 | <0.2 | 1.75 | 6 | <10 | 140 | <0.5 | <2 | 0.27 | <0.5 | 10 | 37 | 33 | 3.10 |
| ZZ21709 | | 0.30 | 0.002 | <0.2 | 1.72 | 6 | <10 | 130 | <0.5 | <2 | 0.26 | <0.5 | 10 | 37 | 33 | 3.05 |
| ZZ21710 | | 0.24 | 0.003 | <0.2 | 1.61 | 6 | <10 | 130 | <0.5 | <2 | 0.23 | <0.5 | 9 | 35 | 29 | 2.92 |
| ZZ21711 | | 0.20 | 0.003 | 0.2 | 0.83 | 2 | <10 | 100 | <0.5 | <2 | 0.19 | <0.5 | 5 | 16 | 28 | 1.47 |
| ZZ21712 | | 0.26 | 0.003 | <0.2 | 1.51 | 4 | <10 | 140 | <0.5 | <2 | 0.26 | <0.5 | 9 | 35 | 28 | 2.77 |
| ZZ21713 | | 0.30 | 0.004 | <0.2 | 1.70 | 7 | <10 | 130 | <0.5 | <2 | 0.26 | <0.5 | 9 | 36 | 31 | 3.10 |
| ZZ21714 | | 0.32 | 0.004 | <0.2 | 1.77 | 6 | <10 | 130 | <0.5 | <2 | 0.25 | <0.5 | 10 | 37 | 31 | 3.09 |
| ZZ21715 | | 0.16 | 0.003 | <0.2 | 1.40 | 8 | <10 | 130 | <0.5 | <2 | 0.24 | <0.5 | 8 | 31 | 25 | 2.64 |
| ZZ21716 | | 0.16 | 0.007 | <0.2 | 1.28 | 3 | <10 | 140 | <0.5 | <2 | 0.24 | <0.5 | 8 | 25 | 33 | 2.35 |
| ZZ21717 | | 0.30 | 0.003 | <0.2 | 1.63 | 6 | <10 | 130 | <0.5 | <2 | 0.24 | <0.5 | 10 | 35 | 31 | 2.92 |
| ZZ21718 | | 0.20 | 0.003 | 0.2 | 1.33 | 5 | <10 | 120 | <0.5 | <2 | 0.21 | <0.5 | 8 | 29 | 25 | 2.47 |
| ZZ21719 | | 0.20 | 0.002 | 0.2 | 0.71 | 2 | <10 | 90 | <0.5 | <2 | 0.16 | <0.5 | 4 | 14 | 20 | 1.27 |
| ZZ21720 | | 0.30 | 0.003 | 0.2 | 1.67 | 7 | <10 | 160 | <0.5 | 2 | 0.38 | <0.5 | 9 | 37 | 35 | 2.88 |
| ZZ21721 | | 0.20 | 0.002 | <0.2 | 1.79 | 4 | <10 | 170 | <0.5 | <2 | 0.38 | <0.5 | 12 | 25 | 52 | 2.91 |
| ZZ21722 | | 0.26 | 0.002 | <0.2 | 1.70 | 4 | <10 | 150 | <0.5 | <2 | 0.36 | <0.5 | 11 | 23 | 47 | 2.86 |
| ZZ21723 | | 0.28 | 0.003 | <0.2 | 1.59 | 4 | <10 | 140 | <0.5 | <2 | 0.35 | <0.5 | 12 | 22 | 44 | 2.73 |
| ZZ21724 | | 0.32 | 0.003 | <0.2 | 1.69 | 4 | <10 | 330 | <0.5 | 2 | 0.45 | <0.5 | 12 | 52 | 30 | 2.53 |
| ZZ21725 | | 0.46 | 0.002 | <0.2 | 1.64 | <2 | <10 | 230 | <0.5 | <2 | 0.48 | <0.5 | 13 | 44 | 26 | 2.57 |
| ZZ21726 | | 0.50 | 0.003 | <0.2 | 1.78 | 3 | <10 | 220 | <0.5 | <2 | 0.32 | <0.5 | 11 | 48 | 30 | 2.76 |
| ZZ21727 | | 0.44 | 0.005 | <0.2 | 1.61 | 4 | <10 | 200 | <0.5 | <2 | 0.37 | <0.5 | 11 | 39 | 27 | 2.64 |
| ZZ21728 | | 0.50 | 0.004 | <0.2 | 1.75 | 6 | <10 | 200 | <0.5 | <2 | 0.33 | <0.5 | 12 | 39 | 20 | 2.53 |
| ZZ21729 | | 0.30 | 0.002 | <0.2 | 1.48 | 2 | <10 | 190 | <0.5 | <2 | 0.42 | <0.5 | 12 | 36 | 18 | 2.37 |
| ZZ21730 | | 0.38 | 0.003 | <0.2 | 1.48 | 4 | <10 | 170 | <0.5 | <2 | 0.47 | <0.5 | 13 | 35 | 16 | 2.41 |
| ZZ21731 | | 0.20 | 0.003 | <0.2 | 1.86 | 6 | <10 | 180 | <0.5 | <2 | 0.36 | <0.5 | 13 | 26 | 54 | 2.92 |
| ZZ21732 | | 0.32 | 0.003 | <0.2 | 1.64 | 3 | <10 | 160 | <0.5 | <2 | 0.34 | <0.5 | 11 | 23 | 46 | 2.69 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 9-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ21693 | | <10 | <1 | 0.03 | 10 | 0.30 | 95 | <1 | 0.02 | 8 | 430 | 5 | 0.04 | <2 | 2 | 15 |
| ZZ21694 | | <10 | <1 | 0.03 | 10 | 0.34 | 111 | <1 | 0.02 | 9 | 470 | 6 | 0.04 | <2 | 2 | 17 |
| ZZ21695 | | 10 | 1 | 0.04 | <10 | 0.56 | 342 | 1 | 0.02 | 22 | 360 | 5 | 0.03 | <2 | 4 | 15 |
| ZZ21696 | | <10 | <1 | 0.04 | 10 | 0.42 | 139 | <1 | 0.01 | 19 | 320 | 6 | 0.01 | <2 | 3 | 15 |
| ZZ21697 | | <10 | <1 | 0.04 | 10 | 0.59 | 224 | <1 | 0.02 | 18 | 590 | 5 | 0.01 | <2 | 4 | 18 |
| ZZ21698 | | <10 | <1 | 0.03 | 10 | 0.38 | 113 | <1 | 0.02 | 11 | 710 | 4 | 0.05 | <2 | 2 | 20 |
| ZZ21699 | | <10 | <1 | 0.03 | 10 | 0.26 | 1160 | <1 | 0.01 | 10 | 790 | 5 | 0.05 | <2 | 2 | 20 |
| ZZ21700 | | <10 | <1 | 0.03 | <10 | 0.31 | 259 | 1 | 0.01 | 10 | 650 | 5 | 0.04 | <2 | 2 | 14 |
| ZZ21701 | | <10 | <1 | 0.04 | 10 | 0.35 | 191 | <1 | 0.01 | 12 | 430 | 4 | 0.02 | <2 | 1 | 15 |
| ZZ21702 | | 10 | <1 | 0.05 | 10 | 0.65 | 336 | 1 | 0.01 | 17 | 460 | 5 | 0.01 | <2 | 4 | 16 |
| ZZ21703 | | 10 | <1 | 0.06 | 10 | 0.60 | 305 | 1 | 0.01 | 15 | 440 | 5 | 0.01 | <2 | 3 | 15 |
| ZZ21704 | | 10 | <1 | 0.06 | 10 | 0.66 | 362 | 1 | 0.01 | 15 | 490 | 5 | 0.01 | <2 | 4 | 15 |
| ZZ21705 | | 10 | <1 | 0.05 | 10 | 0.69 | 380 | <1 | 0.01 | 19 | 500 | 5 | 0.02 | <2 | 4 | 18 |
| ZZ21706 | | 10 | <1 | 0.05 | 10 | 0.56 | 254 | 1 | 0.01 | 14 | 420 | 5 | 0.02 | <2 | 3 | 16 |
| ZZ21707 | | 10 | <1 | 0.05 | 10 | 0.66 | 323 | 1 | 0.01 | 18 | 480 | 5 | 0.02 | <2 | 3 | 15 |
| ZZ21708 | | 10 | <1 | 0.05 | 10 | 0.64 | 322 | 1 | 0.01 | 17 | 460 | 5 | 0.02 | <2 | 4 | 16 |
| ZZ21709 | | 10 | <1 | 0.05 | 10 | 0.64 | 332 | <1 | 0.01 | 17 | 460 | 5 | 0.02 | <2 | 4 | 16 |
| ZZ21710 | | 10 | <1 | 0.05 | 10 | 0.59 | 283 | 1 | 0.01 | 16 | 430 | 5 | 0.02 | <2 | 3 | 15 |
| ZZ21711 | | <10 | <1 | 0.04 | 10 | 0.24 | 135 | <1 | 0.02 | 9 | 410 | 3 | 0.02 | <2 | 1 | 13 |
| ZZ21712 | | 10 | <1 | 0.06 | 10 | 0.60 | 270 | 1 | 0.01 | 14 | 470 | 5 | 0.02 | <2 | 3 | 16 |
| ZZ21713 | | 10 | <1 | 0.05 | 10 | 0.63 | 310 | 1 | 0.01 | 17 | 450 | 6 | 0.01 | 2 | 4 | 16 |
| ZZ21714 | | 10 | <1 | 0.05 | 10 | 0.66 | 335 | 1 | 0.01 | 18 | 470 | 6 | 0.02 | <2 | 4 | 16 |
| ZZ21715 | | 10 | <1 | 0.05 | 10 | 0.54 | 263 | 1 | 0.01 | 15 | 440 | 4 | 0.02 | <2 | 3 | 16 |
| ZZ21716 | | 10 | <1 | 0.06 | 10 | 0.46 | 249 | 1 | 0.01 | 13 | 450 | 5 | 0.02 | <2 | 2 | 16 |
| ZZ21717 | | 10 | <1 | 0.05 | 10 | 0.60 | 327 | 1 | 0.01 | 16 | 450 | 5 | 0.02 | <2 | 3 | 15 |
| ZZ21718 | | 10 | <1 | 0.05 | 10 | 0.50 | 267 | 1 | 0.01 | 14 | 400 | 5 | 0.02 | <2 | 3 | 14 |
| ZZ21719 | | <10 | <1 | 0.03 | <10 | 0.17 | 114 | <1 | 0.02 | 6 | 330 | 2 | 0.02 | <2 | 1 | 12 |
| ZZ21720 | | 10 | 1 | 0.07 | 10 | 0.60 | 321 | 1 | 0.01 | 15 | 460 | 6 | 0.02 | <2 | 4 | 20 |
| ZZ21721 | | <10 | <1 | 0.05 | 10 | 0.66 | 514 | <1 | 0.01 | 18 | 650 | 6 | 0.02 | <2 | 4 | 20 |
| ZZ21722 | | 10 | <1 | 0.06 | 10 | 0.66 | 446 | <1 | 0.01 | 17 | 520 | 4 | 0.02 | <2 | 3 | 19 |
| ZZ21723 | | <10 | <1 | 0.06 | 10 | 0.63 | 469 | <1 | 0.02 | 15 | 540 | 4 | 0.02 | <2 | 3 | 17 |
| ZZ21724 | | <10 | <1 | 0.06 | 10 | 0.76 | 353 | <1 | 0.02 | 23 | 750 | 5 | 0.03 | 2 | 4 | 24 |
| ZZ21725 | | <10 | <1 | 0.05 | 10 | 0.72 | 463 | <1 | 0.02 | 21 | 670 | 4 | 0.03 | <2 | 4 | 22 |
| ZZ21726 | | <10 | <1 | 0.05 | 10 | 0.74 | 232 | <1 | 0.02 | 22 | 660 | 5 | 0.03 | <2 | 4 | 18 |
| ZZ21727 | | <10 | <1 | 0.06 | 10 | 0.70 | 373 | 1 | 0.02 | 20 | 770 | 4 | 0.02 | <2 | 4 | 21 |
| ZZ21728 | | <10 | <1 | 0.04 | 10 | 0.75 | 311 | <1 | 0.02 | 18 | 620 | 5 | 0.02 | <2 | 3 | 18 |
| ZZ21729 | | <10 | <1 | 0.05 | 10 | 0.81 | 256 | <1 | 0.02 | 17 | 560 | 4 | 0.01 | <2 | 4 | 20 |
| ZZ21730 | | <10 | <1 | 0.05 | 10 | 0.81 | 507 | <1 | 0.02 | 16 | 510 | 4 | 0.02 | <2 | 4 | 21 |
| ZZ21731 | | 10 | <1 | 0.05 | 10 | 0.66 | 551 | 1 | 0.02 | 17 | 640 | 4 | 0.02 | <2 | 4 | 19 |
| ZZ21732 | | 10 | <1 | 0.05 | 10 | 0.59 | 430 | 3 | 0.01 | 19 | 570 | 7 | 0.02 | 2 | 3 | 19 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
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**Finalized Date: 9-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ21693 | | <20 | 0.05 | <10 | <10 | 26 | <10 | 35 |
| ZZ21694 | | <20 | 0.05 | <10 | <10 | 29 | <10 | 48 |
| ZZ21695 | | <20 | 0.07 | <10 | <10 | 86 | <10 | 71 |
| ZZ21696 | | <20 | 0.08 | <10 | <10 | 50 | <10 | 46 |
| ZZ21697 | | <20 | 0.08 | <10 | <10 | 51 | <10 | 54 |
| ZZ21698 | | <20 | 0.04 | <10 | <10 | 33 | <10 | 37 |
| ZZ21699 | | <20 | 0.04 | <10 | <10 | 33 | <10 | 31 |
| ZZ21700 | | <20 | 0.04 | <10 | <10 | 42 | <10 | 41 |
| ZZ21701 | | <20 | 0.05 | <10 | <10 | 42 | <10 | 31 |
| ZZ21702 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 51 |
| ZZ21703 | | <20 | 0.09 | <10 | <10 | 65 | <10 | 48 |
| ZZ21704 | | <20 | 0.09 | <10 | <10 | 68 | <10 | 51 |
| ZZ21705 | | <20 | 0.08 | <10 | <10 | 65 | <10 | 53 |
| ZZ21706 | | <20 | 0.08 | <10 | <10 | 68 | <10 | 46 |
| ZZ21707 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 51 |
| ZZ21708 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 51 |
| ZZ21709 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 50 |
| ZZ21710 | | <20 | 0.08 | <10 | <10 | 65 | <10 | 49 |
| ZZ21711 | | <20 | 0.04 | <10 | <10 | 33 | <10 | 23 |
| ZZ21712 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 45 |
| ZZ21713 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 50 |
| ZZ21714 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 53 |
| ZZ21715 | | <20 | 0.08 | <10 | <10 | 60 | <10 | 44 |
| ZZ21716 | | <20 | 0.07 | <10 | <10 | 53 | <10 | 39 |
| ZZ21717 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 50 |
| ZZ21718 | | <20 | 0.08 | <10 | <10 | 59 | <10 | 43 |
| ZZ21719 | | <20 | 0.04 | <10 | <10 | 26 | <10 | 19 |
| ZZ21720 | | <20 | 0.09 | <10 | <10 | 68 | <10 | 54 |
| ZZ21721 | | <20 | 0.07 | <10 | <10 | 62 | <10 | 56 |
| ZZ21722 | | <20 | 0.07 | <10 | <10 | 66 | <10 | 56 |
| ZZ21723 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 51 |
| ZZ21724 | | <20 | 0.08 | <10 | <10 | 56 | <10 | 73 |
| ZZ21725 | | <20 | 0.07 | <10 | <10 | 58 | <10 | 65 |
| ZZ21726 | | <20 | 0.07 | <10 | <10 | 59 | <10 | 68 |
| ZZ21727 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 64 |
| ZZ21728 | | <20 | 0.07 | <10 | <10 | 58 | <10 | 57 |
| ZZ21729 | | <20 | 0.08 | <10 | <10 | 56 | <10 | 55 |
| ZZ21730 | | <20 | 0.08 | <10 | <10 | 56 | <10 | 53 |
| ZZ21731 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 54 |
| ZZ21732 | | <20 | 0.07 | <10 | <10 | 59 | <10 | 53 |

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**Finalized Date: 9-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| ZZ21733 | | 0.12 | 0.003 | <0.2 | 1.31 | 5 | <10 | 160 | <0.5 | <2 | 0.47 | <0.5 | 13 | 20 | 35 | 2.27 |
| ZZ21734 | | 0.22 | 0.003 | <0.2 | 1.64 | 5 | <10 | 160 | <0.5 | <2 | 0.38 | <0.5 | 12 | 24 | 45 | 2.75 |
| ZZ21735 | | 0.22 | 0.003 | <0.2 | 1.83 | 3 | <10 | 150 | <0.5 | <2 | 0.34 | <0.5 | 12 | 25 | 53 | 2.85 |
| ZZ21736 | | 0.20 | 0.001 | <0.2 | 1.64 | 4 | <10 | 150 | <0.5 | <2 | 0.37 | <0.5 | 12 | 23 | 43 | 2.83 |
| ZZ21737 | | 0.28 | 0.002 | <0.2 | 1.66 | 4 | <10 | 150 | <0.5 | <2 | 0.37 | <0.5 | 12 | 24 | 52 | 2.84 |
| ZZ21738 | | 0.14 | 0.006 | 0.4 | 1.47 | 6 | <10 | 270 | <0.5 | 2 | 0.54 | 0.5 | 11 | 23 | 174 | 2.61 |
| ZZ21739 | | 0.12 | 0.012 | <0.2 | 1.32 | 4 | <10 | 240 | <0.5 | 2 | 0.45 | <0.5 | 10 | 22 | 67 | 2.19 |
| ZZ21740 | | 0.14 | 0.008 | 0.2 | 0.88 | 4 | <10 | 110 | <0.5 | 2 | 0.36 | <0.5 | 5 | 13 | 26 | 1.73 |
| ZZ21741 | | 0.20 | 0.008 | <0.2 | 1.67 | 5 | <10 | 140 | <0.5 | 2 | 0.29 | <0.5 | 11 | 25 | 34 | 3.01 |
| ZZ21742 | | 0.20 | 0.011 | 0.2 | 1.53 | 4 | <10 | 160 | <0.5 | 2 | 0.75 | <0.5 | 17 | 27 | 126 | 3.05 |
| ZZ21743 | | 0.20 | 0.006 | <0.2 | 1.40 | 3 | <10 | 100 | <0.5 | <2 | 0.41 | <0.5 | 16 | 32 | 44 | 3.15 |
| ZZ21744 | | 0.16 | 0.004 | <0.2 | 1.38 | 4 | <10 | 170 | <0.5 | 2 | 0.67 | <0.5 | 15 | 28 | 63 | 3.11 |
| ZZ21745 | | 0.24 | 0.005 | <0.2 | 1.45 | 3 | <10 | 160 | <0.5 | <2 | 0.71 | <0.5 | 13 | 38 | 49 | 2.96 |
| ZZ21746 | | 0.22 | 0.005 | <0.2 | 1.54 | 4 | <10 | 150 | <0.5 | <2 | 0.49 | <0.5 | 15 | 32 | 62 | 3.02 |
| ZZ21747 | | 0.26 | 0.004 | <0.2 | 1.48 | 5 | <10 | 170 | <0.5 | 2 | 0.47 | <0.5 | 14 | 30 | 40 | 2.76 |
| ZZ21748 | | 0.14 | 0.001 | 0.2 | 1.32 | 5 | <10 | 210 | <0.5 | 2 | 0.52 | <0.5 | 9 | 24 | 38 | 2.19 |
| ZZ21749 | | 0.24 | 0.003 | <0.2 | 1.52 | 3 | <10 | 190 | <0.5 | 2 | 0.36 | <0.5 | 9 | 29 | 27 | 2.33 |
| ZZ21750 | | 0.20 | 0.010 | <0.2 | 1.41 | 5 | <10 | 160 | <0.5 | <2 | 0.37 | <0.5 | 11 | 27 | 25 | 2.26 |
| ZZ21591 | | 0.18 | 0.003 | <0.2 | 1.41 | 3 | <10 | 170 | <0.5 | <2 | 0.36 | <0.5 | 11 | 27 | 33 | 2.65 |
| ZZ21592 | | 0.22 | 0.005 | <0.2 | 1.74 | 6 | <10 | 120 | <0.5 | <2 | 0.26 | <0.5 | 12 | 28 | 58 | 3.04 |
| ZZ21593 | | 0.12 | <0.001 | <0.2 | 0.71 | 3 | <10 | 50 | <0.5 | 3 | 0.26 | <0.5 | 7 | 15 | 15 | 1.72 |
| ZZ21594 | | 0.22 | 0.006 | <0.2 | 1.53 | 5 | <10 | 140 | <0.5 | 2 | 0.48 | <0.5 | 18 | 37 | 67 | 3.17 |
| ZZ21595 | | 0.26 | 0.005 | <0.2 | 1.60 | <2 | <10 | 150 | <0.5 | 2 | 0.42 | <0.5 | 13 | 32 | 30 | 2.61 |
| ZZ21596 | | 0.26 | 0.013 | <0.2 | 1.61 | 7 | <10 | 150 | <0.5 | 2 | 0.40 | <0.5 | 28 | 30 | 28 | 3.61 |
| ZZ21597 | | 0.24 | 0.007 | <0.2 | 1.64 | 5 | <10 | 170 | <0.5 | <2 | 0.37 | <0.5 | 15 | 29 | 31 | 2.67 |
| ZZ21598 | | 0.28 | 0.006 | <0.2 | 1.46 | 3 | <10 | 200 | <0.5 | <2 | 0.41 | <0.5 | 14 | 29 | 27 | 2.43 |
| ZZ21599 | | 0.22 | 0.009 | <0.2 | 1.53 | 3 | <10 | 200 | <0.5 | 2 | 0.65 | <0.5 | 9 | 27 | 29 | 2.16 |
| ZZ21600 | | 0.22 | 0.006 | <0.2 | 1.51 | 4 | <10 | 180 | <0.5 | 2 | 0.53 | <0.5 | 12 | 30 | 32 | 2.72 |
| ZZ20079 | | 0.22 | 0.010 | <0.2 | 0.81 | 5 | <10 | 100 | 0.5 | <2 | 0.26 | <0.5 | 8 | 17 | 7 | 1.94 |
| CC144865 | | 0.18 | 0.005 | <0.2 | 1.87 | 12 | <10 | 170 | <0.5 | <2 | 0.35 | <0.5 | 11 | 47 | 13 | 3.09 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 9-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ21733 | | 10 | <1 | 0.05 | 10 | 0.44 | 633 | 3 | 0.02 | 13 | 660 | 5 | 0.05 | 2 | 2 | 24 |
| ZZ21734 | | <10 | <1 | 0.05 | 10 | 0.63 | 460 | 2 | 0.01 | 18 | 600 | 5 | 0.02 | <2 | 4 | 19 |
| ZZ21735 | | 10 | 1 | 0.05 | 10 | 0.67 | 402 | 2 | 0.01 | 17 | 600 | 5 | 0.02 | 3 | 4 | 18 |
| ZZ21736 | | 10 | <1 | 0.05 | 10 | 0.67 | 424 | 2 | 0.02 | 17 | 510 | 4 | 0.02 | <2 | 4 | 19 |
| ZZ21737 | | 10 | <1 | 0.06 | 10 | 0.72 | 344 | 3 | 0.02 | 17 | 540 | 4 | 0.02 | 2 | 4 | 19 |
| ZZ21738 | | 10 | <1 | 0.04 | 10 | 0.50 | 409 | 3 | 0.02 | 16 | 570 | 14 | 0.04 | 2 | 3 | 26 |
| ZZ21739 | | <10 | <1 | 0.04 | 10 | 0.38 | 352 | 3 | 0.02 | 13 | 590 | 9 | 0.04 | 2 | 2 | 22 |
| ZZ21740 | | <10 | <1 | 0.02 | 10 | 0.18 | 204 | 3 | 0.01 | 8 | 610 | 6 | 0.06 | 2 | 2 | 18 |
| ZZ21741 | | <10 | <1 | 0.05 | 10 | 0.55 | 464 | 3 | 0.01 | 18 | 550 | 7 | 0.02 | 3 | 5 | 18 |
| ZZ21742 | | 10 | <1 | 0.05 | 20 | 0.57 | 449 | 3 | 0.02 | 22 | 860 | 6 | 0.07 | <2 | 9 | 25 |
| ZZ21743 | | 10 | <1 | 0.06 | 10 | 0.62 | 586 | 3 | 0.02 | 18 | 500 | 6 | 0.04 | <2 | 5 | 18 |
| ZZ21744 | | <10 | 1 | 0.07 | 10 | 0.58 | 671 | 3 | 0.02 | 20 | 680 | 5 | 0.05 | 2 | 6 | 21 |
| ZZ21745 | | <10 | <1 | 0.06 | 10 | 0.69 | 578 | 2 | 0.02 | 20 | 620 | 5 | 0.06 | <2 | 6 | 22 |
| ZZ21746 | | <10 | <1 | 0.05 | 10 | 0.74 | 709 | 2 | 0.02 | 20 | 640 | 5 | 0.04 | <2 | 5 | 20 |
| ZZ21747 | | <10 | <1 | 0.05 | 10 | 0.70 | 1175 | 2 | 0.02 | 18 | 680 | 5 | 0.03 | <2 | 5 | 20 |
| ZZ21748 | | 10 | <1 | 0.03 | 10 | 0.48 | 391 | 2 | 0.02 | 14 | 1070 | 4 | 0.09 | 3 | 2 | 25 |
| ZZ21749 | | 10 | <1 | 0.04 | 10 | 0.63 | 302 | 2 | 0.02 | 16 | 830 | 4 | 0.05 | 2 | 3 | 21 |
| ZZ21750 | | <10 | <1 | 0.04 | 10 | 0.59 | 302 | 2 | 0.01 | 16 | 700 | 6 | 0.01 | <2 | 4 | 20 |
| ZZ21591 | | 10 | <1 | 0.05 | 10 | 0.51 | 486 | 3 | 0.02 | 17 | 590 | 5 | 0.04 | <2 | 4 | 20 |
| ZZ21592 | | 10 | <1 | 0.05 | 10 | 0.65 | 380 | 2 | 0.01 | 27 | 510 | 6 | 0.02 | 2 | 4 | 17 |
| ZZ21593 | | <10 | <1 | 0.04 | <10 | 0.26 | 198 | 3 | 0.02 | 9 | 370 | 5 | 0.03 | <2 | 2 | 15 |
| ZZ21594 | | <10 | <1 | 0.07 | 10 | 0.80 | 563 | 2 | 0.02 | 23 | 530 | 4 | 0.03 | <2 | 6 | 16 |
| ZZ21595 | | 10 | <1 | 0.07 | 10 | 0.85 | 563 | 2 | 0.02 | 19 | 600 | 5 | 0.03 | <2 | 5 | 15 |
| ZZ21596 | | 10 | <1 | 0.04 | 10 | 0.62 | 1355 | 2 | 0.02 | 18 | 720 | 7 | 0.03 | <2 | 4 | 19 |
| ZZ21597 | | 10 | <1 | 0.04 | 10 | 0.65 | 526 | 2 | 0.02 | 19 | 590 | 5 | 0.03 | <2 | 4 | 20 |
| ZZ21598 | | 10 | <1 | 0.04 | 10 | 0.56 | 1055 | 3 | 0.02 | 16 | 780 | 6 | 0.05 | <2 | 4 | 23 |
| ZZ21599 | | 10 | <1 | 0.04 | 10 | 0.55 | 233 | 2 | 0.02 | 17 | 850 | 5 | 0.07 | <2 | 3 | 26 |
| ZZ21600 | | 10 | <1 | 0.05 | 10 | 0.63 | 516 | 2 | 0.02 | 16 | 770 | 4 | 0.05 | <2 | 5 | 24 |
| ZZ20079 | | <10 | <1 | 0.08 | 30 | 0.25 | 432 | 2 | 0.01 | 11 | 470 | 15 | 0.01 | 2 | 2 | 20 |
| CC144865 | | 10 | <1 | 0.15 | 10 | 0.76 | 323 | 2 | 0.02 | 23 | 530 | 11 | 0.01 | 3 | 6 | 22 |

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**Finalized Date: 9-OCT-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11171448

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ21733 | | <20 | 0.05 | <10 | <10 | 53 | <10 | 48 |
| ZZ21734 | | <20 | 0.07 | <10 | <10 | 61 | <10 | 54 |
| ZZ21735 | | <20 | 0.07 | <10 | <10 | 62 | <10 | 52 |
| ZZ21736 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 57 |
| ZZ21737 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 53 |
| ZZ21738 | | <20 | 0.06 | <10 | <10 | 62 | <10 | 65 |
| ZZ21739 | | <20 | 0.05 | <10 | <10 | 49 | <10 | 44 |
| ZZ21740 | | <20 | 0.05 | <10 | <10 | 40 | <10 | 23 |
| ZZ21741 | | <20 | 0.08 | <10 | <10 | 59 | <10 | 56 |
| ZZ21742 | | <20 | 0.06 | <10 | <10 | 52 | <10 | 55 |
| ZZ21743 | | <20 | 0.07 | <10 | <10 | 59 | <10 | 68 |
| ZZ21744 | | <20 | 0.06 | <10 | <10 | 55 | <10 | 71 |
| ZZ21745 | | <20 | 0.07 | <10 | <10 | 61 | <10 | 65 |
| ZZ21746 | | <20 | 0.08 | <10 | <10 | 67 | <10 | 63 |
| ZZ21747 | | <20 | 0.08 | <10 | <10 | 61 | <10 | 57 |
| ZZ21748 | | <20 | 0.04 | <10 | <10 | 48 | <10 | 43 |
| ZZ21749 | | <20 | 0.05 | <10 | <10 | 53 | <10 | 51 |
| ZZ21750 | | <20 | 0.07 | <10 | <10 | 50 | <10 | 53 |
| ZZ21591 | | <20 | 0.05 | <10 | <10 | 55 | <10 | 50 |
| ZZ21592 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 47 |
| ZZ21593 | | <20 | 0.06 | <10 | <10 | 47 | <10 | 28 |
| ZZ21594 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 59 |
| ZZ21595 | | <20 | 0.09 | <10 | <10 | 68 | <10 | 67 |
| ZZ21596 | | <20 | 0.08 | <10 | <10 | 72 | <10 | 52 |
| ZZ21597 | | <20 | 0.08 | <10 | <10 | 60 | <10 | 61 |
| ZZ21598 | | <20 | 0.06 | <10 | <10 | 56 | <10 | 59 |
| ZZ21599 | | <20 | 0.06 | <10 | <10 | 50 | <10 | 58 |
| ZZ21600 | | <20 | 0.07 | <10 | <10 | 65 | <10 | 69 |
| ZZ20079 | | <20 | 0.05 | <10 | <10 | 32 | <10 | 45 |
| CC144865 | | <20 | 0.11 | <10 | <10 | 72 | <10 | 55 |

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**Finalized Date: 25-SEP-2011**
**This copy reported on 3-OCT-2011**
**Account: F**

# CERTIFICATE WH11175301

Project: Arcus TL-05-11

P.O. No.: Batch C

This report is for 36 Crushed Rock samples submitted to our lab in Whitehorse, YT, Canada on 1-SEP-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| WEI-25 | Wt. of Crushed Reject |
| WSH-22 | "Wash" pulverizers |
| PUL-QC | Pulverizing QC Test |
| SPL-21 | Split sample - riffle splitter |
| PUL-31 | Pulverize split to 85% <75 um |
| LOG-24 | Pulp Login - Rcd w/o Barcode |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au-AA24 | Au 50g FA AA finish | AAS |
| ME-ICP41 | 35 Element Aqua Regia ICP-AES | ICP-AES |
| Ag-OG46 | Ore Grade Ag - Aqua Regia | VARIABLE |
| ME-OG46 | Ore Grade Elements - AquaRegia | ICP-AES |
| Cu-OG46 | Ore Grade Cu - Aqua Regia | VARIABLE |
| Zn-OG46 | Ore Grade Zn - Aqua Regia | VARIABLE |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**Finalized Date: 25-SEP-2011**
**Account: F**

Project: Arcus TL-05-11

# CERTIFICATE OF ANALYSIS WH11175301

| Sample Description | Method Analyte Units LOR | WEI-21 Recvd Wt. kg 0.02 | Au-AA24 Au ppm 0.005 | ME-ICP41 Ag ppm 0.2 | ME-ICP41 Al % 0.01 | ME-ICP41 As ppm 2 | ME-ICP41 B ppm 10 | ME-ICP41 Ba ppm 10 | ME-ICP41 Be ppm 0.5 | ME-ICP41 Bi ppm 2 | ME-ICP41 Ca % 0.01 | ME-ICP41 Cd ppm 0.5 | ME-ICP41 Co ppm 1 | ME-ICP41 Cr ppm 1 | ME-ICP41 Cu ppm 1 | ME-ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J998060 | | 3.21 | <0.005 | <0.2 | 0.69 | 6 | <10 | 90 | <0.5 | <2 | 0.50 | <0.5 | 2 | 5 | 13 | 1.76 |
| J998061 | | 5.28 | <0.005 | <0.2 | 0.51 | <2 | <10 | 80 | <0.5 | <2 | 0.95 | <0.5 | 1 | 4 | 108 | 0.82 |
| J998062 | | 5.63 | <0.005 | <0.2 | 0.57 | <2 | <10 | 60 | <0.5 | <2 | 1.11 | <0.5 | 1 | 5 | 9 | 1.82 |
| J998063 | | 7.91 | <0.005 | <0.2 | 0.73 | <2 | <10 | 90 | <0.5 | <2 | 0.93 | <0.5 | 3 | 5 | 11 | 1.36 |
| J998064 | | 6.65 | <0.005 | <0.2 | 0.68 | <2 | <10 | 80 | <0.5 | <2 | 0.77 | <0.5 | 3 | 3 | 7 | 1.51 |
| J998065 | | 3.64 | <0.005 | <0.2 | 0.74 | <2 | <10 | 110 | <0.5 | <2 | 0.95 | <0.5 | 1 | 5 | 34 | 1.62 |
| J998066 | | 7.05 | <0.005 | <0.2 | 0.71 | <2 | <10 | 90 | <0.5 | <2 | 1.04 | <0.5 | 2 | 5 | 3 | 1.59 |
| J998067 | | 4.78 | <0.005 | <0.2 | 0.74 | <2 | <10 | 100 | <0.5 | <2 | 0.63 | <0.5 | 2 | 5 | 6 | 1.44 |
| J998068 | | 12.74 | <0.005 | <0.2 | 0.76 | <2 | <10 | 80 | <0.5 | 3 | 0.82 | <0.5 | 2 | 7 | 15 | 1.49 |
| J998069 | | 2.03 | <0.005 | <0.2 | 0.65 | <2 | <10 | 70 | <0.5 | 3 | 0.75 | <0.5 | 1 | 7 | 18 | 2.31 |
| J998070 | | 0.21 | 0.360 | 51.3 | 1.09 | 95 | <10 | 40 | <0.5 | 4 | 0.50 | 22.4 | 16 | 32 | 4200 | 4.56 |
| J998071 | | 3.09 | <0.005 | <0.2 | 0.59 | <2 | <10 | 80 | <0.5 | 3 | 0.87 | <0.5 | 1 | 2 | 20 | 1.90 |
| J998072 | | 5.57 | <0.005 | <0.2 | 0.64 | 2 | <10 | 80 | <0.5 | 4 | 0.67 | <0.5 | 2 | 3 | <1 | 1.96 |
| J998073 | | 6.18 | <0.005 | <0.2 | 0.63 | <2 | <10 | 130 | <0.5 | 3 | 1.16 | <0.5 | 1 | 3 | 3 | 1.43 |
| J998074 | | 7.68 | <0.005 | <0.2 | 0.61 | <2 | <10 | 70 | <0.5 | 3 | 1.12 | <0.5 | 1 | 2 | 8 | 0.81 |
| J998075 | | 7.11 | <0.005 | 0.2 | 0.73 | <2 | <10 | 70 | <0.5 | 2 | 1.18 | <0.5 | 1 | 3 | 14 | 0.99 |
| J998076 | | 6.12 | 0.009 | <0.2 | 0.72 | <2 | <10 | 80 | <0.5 | 3 | 0.97 | <0.5 | 1 | 4 | 16 | 1.29 |
| J998077 | | 6.17 | <0.005 | <0.2 | 0.88 | <2 | <10 | 90 | <0.5 | 3 | 1.20 | <0.5 | 5 | 4 | 14 | 1.49 |
| J998078 | | 6.07 | <0.005 | <0.2 | 1.04 | <2 | <10 | 90 | <0.5 | 3 | 1.02 | <0.5 | 7 | 4 | 10 | 1.49 |
| J998079 | | 6.18 | <0.005 | <0.2 | 0.80 | <2 | <10 | 70 | <0.5 | 2 | 0.69 | <0.5 | 3 | 4 | 2 | 1.14 |
| J998080 | | 8.96 | <0.005 | <0.2 | 1.02 | <2 | <10 | 90 | <0.5 | 2 | 0.60 | <0.5 | 3 | 3 | 8 | 1.37 |
| J998081 | | 7.14 | <0.005 | <0.2 | 0.63 | 4 | <10 | 80 | <0.5 | 3 | 0.82 | <0.5 | 2 | 3 | 6 | 1.19 |
| J998082 | | 7.40 | <0.005 | 0.2 | 0.68 | <2 | <10 | 90 | <0.5 | 2 | 0.87 | <0.5 | 3 | 16 | 12 | 1.23 |
| J998083 | | 5.51 | <0.005 | <0.2 | 0.91 | <2 | <10 | 90 | <0.5 | 3 | 0.63 | <0.5 | 2 | 2 | 7 | 1.75 |
| J998084 | | 7.67 | <0.005 | <0.2 | 1.08 | <2 | <10 | 110 | <0.5 | 4 | 0.40 | <0.5 | 4 | 15 | 3 | 2.37 |
| J998085 | | 5.79 | <0.005 | <0.2 | 0.80 | <2 | <10 | 70 | <0.5 | 4 | 0.42 | <0.5 | 3 | 5 | 63 | 2.42 |
| J998086 | | 6.68 | <0.005 | <0.2 | 0.89 | <2 | <10 | 170 | <0.5 | <2 | 0.25 | <0.5 | 4 | 4 | 13 | 1.88 |
| J998087 | | 6.56 | <0.005 | <0.2 | 1.08 | <2 | <10 | 240 | <0.5 | <2 | 0.22 | <0.5 | 2 | 4 | 6 | 2.21 |
| J998088 | | 6.43 | <0.005 | <0.2 | 0.67 | 3 | <10 | 110 | <0.5 | <2 | 0.41 | <0.5 | 4 | 4 | 16 | 1.08 |
| J998089 | | 1.58 | <0.005 | <0.2 | 0.10 | <2 | <10 | 20 | <0.5 | <2 | 19.5 | <0.5 | 2 | 1 | 1 | 0.43 |
| J998090 | | 8.56 | 0.011 | <0.2 | 0.75 | 4 | <10 | 90 | <0.5 | <2 | 0.27 | 0.9 | 7 | 5 | 116 | 1.15 |
| J998091 | | 4.42 | <0.005 | <0.2 | 1.41 | 11 | <10 | 110 | <0.5 | <2 | 0.25 | 1.3 | 8 | 5 | 311 | 2.83 |
| J998092 | | 0.06 | 0.935 | 2.5 | 1.06 | 80 | <10 | 60 | <0.5 | <2 | 0.39 | 0.6 | 20 | 32 | 3550 | 4.79 |
| J998093 | | 6.40 | <0.005 | <0.2 | 0.77 | 17 | <10 | 90 | <0.5 | <2 | 0.06 | <0.5 | 8 | 8 | 153 | 2.85 |
| J998094 | | 1.49 | <0.005 | <0.2 | 0.03 | 5 | <10 | 10 | <0.5 | <2 | 19.7 | <0.5 | 2 | 1 | 3 | 0.44 |
| J998095 | | 4.84 | 3.55 | >100 | 0.13 | 1235 | <10 | 50 | <0.5 | 13 | 0.05 | 218 | 9 | 2 | >10000 | 16.7 |

Comments: **CORRECTED COPY FOR Au-AA24 ON ALL SAMPLES**

***** See Appendix Page for comments regarding this certificate *****

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**Finalized Date: 25-SEP-2011**
**Account: F**

Project: Arcus TL-05-11

# CERTIFICATE OF ANALYSIS WH11175301

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| J998060 | | <10 | <1 | 0.24 | 10 | 0.20 | 236 | 2 | 0.05 | 1 | 300 | 4 | 0.26 | <2 | 1 | 12 |
| J998061 | | <10 | <1 | 0.21 | 20 | 0.05 | 219 | 2 | 0.05 | <1 | 200 | 5 | 0.37 | <2 | 2 | 13 |
| J998062 | | <10 | <1 | 0.24 | 10 | 0.05 | 239 | 2 | 0.04 | 1 | 320 | 5 | 0.40 | <2 | 2 | 14 |
| J998063 | | <10 | <1 | 0.27 | 10 | 0.14 | 240 | 2 | 0.05 | 1 | 260 | 4 | 0.28 | <2 | 2 | 17 |
| J998064 | | <10 | <1 | 0.21 | 10 | 0.12 | 280 | 2 | 0.04 | 1 | 220 | 6 | 0.12 | <2 | 2 | 15 |
| J998065 | | <10 | <1 | 0.29 | 10 | 0.07 | 206 | 2 | 0.05 | 1 | 330 | 5 | 0.09 | <2 | 2 | 20 |
| J998066 | | <10 | <1 | 0.22 | 10 | 0.17 | 341 | 2 | 0.04 | 1 | 250 | 3 | 0.11 | <2 | 2 | 17 |
| J998067 | | <10 | <1 | 0.24 | 10 | 0.22 | 247 | 2 | 0.04 | 2 | 240 | 4 | 0.12 | <2 | 1 | 16 |
| J998068 | | <10 | <1 | 0.29 | 10 | 0.22 | 232 | 1 | 0.06 | 3 | 270 | 9 | 0.03 | 2 | 2 | 14 |
| J998069 | | <10 | <1 | 0.25 | 20 | 0.15 | 212 | <1 | 0.07 | <1 | 360 | 8 | 0.02 | <2 | 3 | 15 |
| J998070 | | 10 | <1 | 0.52 | 10 | 0.68 | 473 | 165 | 0.05 | 21 | 880 | 2150 | 2.46 | 67 | 7 | 33 |
| J998071 | | <10 | <1 | 0.27 | 10 | 0.12 | 185 | 3 | 0.06 | <1 | 380 | 10 | 0.02 | <2 | 2 | 14 |
| J998072 | | <10 | <1 | 0.21 | 10 | 0.20 | 175 | <1 | 0.07 | <1 | 400 | 4 | 0.02 | <2 | 2 | 15 |
| J998073 | | <10 | <1 | 0.27 | 10 | 0.14 | 224 | <1 | 0.06 | <1 | 400 | 5 | 0.07 | <2 | 2 | 15 |
| J998074 | | <10 | <1 | 0.27 | 10 | 0.13 | 203 | 1 | 0.06 | <1 | 390 | 3 | 0.09 | <2 | 2 | 11 |
| J998075 | | <10 | 1 | 0.33 | 10 | 0.17 | 235 | 3 | 0.07 | <1 | 390 | 5 | 0.09 | <2 | 2 | 11 |
| J998076 | | <10 | <1 | 0.28 | 10 | 0.27 | 302 | <1 | 0.07 | <1 | 490 | 4 | 0.16 | 2 | 3 | 12 |
| J998077 | | <10 | 1 | 0.34 | 10 | 0.34 | 358 | 2 | 0.08 | <1 | 560 | 4 | 0.35 | <2 | 2 | 15 |
| J998078 | | <10 | <1 | 0.43 | 10 | 0.59 | 415 | 3 | 0.06 | <1 | 350 | 3 | 0.36 | <2 | 1 | 19 |
| J998079 | | <10 | <1 | 0.38 | 10 | 0.33 | 338 | <1 | 0.07 | <1 | 270 | 2 | 0.13 | <2 | 2 | 9 |
| J998080 | | <10 | <1 | 0.53 | 10 | 0.49 | 305 | 4 | 0.05 | <1 | 250 | 3 | 0.13 | <2 | 4 | 12 |
| J998081 | | <10 | 1 | 0.31 | 20 | 0.31 | 333 | 1 | 0.07 | <1 | 240 | 4 | 0.06 | <2 | 4 | 16 |
| J998082 | | <10 | <1 | 0.36 | 20 | 0.42 | 291 | <1 | 0.06 | 2 | 290 | 7 | 0.02 | <2 | 3 | 14 |
| J998083 | | <10 | <1 | 0.38 | 10 | 0.47 | 288 | 4 | 0.05 | <1 | 280 | 3 | 0.19 | <2 | 4 | 12 |
| J998084 | | 10 | <1 | 0.45 | 10 | 0.58 | 272 | <1 | 0.09 | <1 | 540 | 2 | 0.04 | <2 | 5 | 8 |
| J998085 | | 10 | 1 | 0.24 | 10 | 0.40 | 314 | 1 | 0.10 | <1 | 450 | 2 | 0.18 | 2 | 6 | 6 |
| J998086 | | <10 | <1 | 0.46 | 10 | 0.46 | 243 | <1 | 0.07 | 3 | 310 | <2 | 0.30 | <2 | 4 | 6 |
| J998087 | | <10 | <1 | 0.60 | 10 | 0.49 | 227 | <1 | 0.09 | 4 | 320 | <2 | 0.15 | <2 | 4 | 7 |
| J998088 | | <10 | <1 | 0.32 | 10 | 0.29 | 191 | <1 | 0.07 | 3 | 290 | <2 | 0.31 | <2 | 2 | 8 |
| J998089 | | <10 | <1 | 0.09 | <10 | 12.25 | 201 | <1 | 0.01 | 5 | 170 | <2 | 0.02 | <2 | <1 | 47 |
| J998090 | | <10 | <1 | 0.24 | 10 | 0.33 | 167 | <1 | 0.06 | 3 | 290 | <2 | 0.39 | <2 | 2 | 9 |
| J998091 | | <10 | <1 | 0.17 | <10 | 0.55 | 230 | <1 | 0.04 | 5 | 440 | 10 | 1.43 | <2 | 3 | 11 |
| J998092 | | <10 | <1 | 0.64 | 10 | 0.68 | 493 | 137 | 0.02 | 24 | 960 | 41 | 2.66 | 6 | 8 | 32 |
| J998093 | | <10 | <1 | 0.13 | <10 | 0.19 | 79 | 7 | 0.09 | 16 | 220 | 29 | 2.49 | <2 | 2 | 18 |
| J998094 | | <10 | <1 | 0.01 | <10 | 12.20 | 196 | <1 | 0.01 | 4 | 160 | <2 | 0.02 | <2 | <1 | 48 |
| J998095 | | 10 | 80 | 0.04 | <10 | 0.04 | 63 | 30 | 0.01 | 17 | 80 | 1385 | >10.0 | 626 | 2 | 31 |

Comments: **CORRECTED COPY FOR Au-AA24 ON ALL SAMPLES**

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 25-SEP-2011**
**Account: F**

Project: Arcus TL-05-11

# CERTIFICATE OF ANALYSIS WH11175301

| Sample Description | Method Analyte Units LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 | Ag-OG46 Ag ppm 1 | Cu-OG46 Cu % 0.001 | Zn-OG46 Zn % 0.001 | WEI-25 Reject W kg 0.001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J998060 | | <20 | 0.02 | <10 | <10 | 10 | <10 | 54 | | | | 2.88 |
| J998061 | | <20 | 0.01 | <10 | <10 | 2 | <10 | 23 | | | | 4.81 |
| J998062 | | <20 | 0.01 | <10 | <10 | 8 | <10 | 28 | | | | 5.28 |
| J998063 | | <20 | 0.01 | <10 | <10 | 3 | <10 | 43 | | | | 7.52 |
| J998064 | | <20 | 0.01 | <10 | <10 | 5 | <10 | 45 | | | | 6.25 |
| J998065 | | <20 | 0.01 | <10 | <10 | 8 | <10 | 32 | | | | 3.33 |
| J998066 | | <20 | 0.01 | <10 | <10 | 4 | <10 | 49 | | | | 6.65 |
| J998067 | | <20 | 0.02 | <10 | <10 | 3 | <10 | 60 | | | | 4.44 |
| J998068 | | <20 | 0.02 | <10 | <10 | 4 | <10 | 54 | | | | 12.20 |
| J998069 | | <20 | 0.01 | <10 | <10 | 8 | <10 | 50 | | | | 1.710 |
| J998070 | | <20 | 0.09 | <10 | <10 | 84 | <10 | 2660 | | | | <0.001 |
| J998071 | | <20 | 0.01 | <10 | <10 | 3 | <10 | 55 | | | | 2.84 |
| J998072 | | <20 | 0.02 | <10 | <10 | 5 | <10 | 35 | | | | 5.25 |
| J998073 | | <20 | 0.01 | <10 | <10 | 3 | <10 | 38 | | | | 5.85 |
| J998074 | | <20 | 0.01 | <10 | <10 | 2 | <10 | 35 | | | | 7.37 |
| J998075 | | <20 | 0.02 | <10 | <10 | 3 | <10 | 33 | | | | 6.75 |
| J998076 | | <20 | 0.04 | <10 | <10 | 6 | <10 | 33 | | | | 5.78 |
| J998077 | | <20 | 0.07 | <10 | <10 | 5 | <10 | 38 | | | | 5.83 |
| J998078 | | <20 | 0.07 | <10 | <10 | 6 | <10 | 59 | | | | 5.74 |
| J998079 | | <20 | 0.06 | <10 | <10 | 2 | <10 | 41 | | | | 5.85 |
| J998080 | | <20 | 0.05 | <10 | <10 | 2 | <10 | 61 | | | | 8.38 |
| J998081 | | <20 | 0.02 | <10 | <10 | 1 | <10 | 38 | | | | 6.77 |
| J998082 | | <20 | 0.04 | <10 | <10 | 8 | <10 | 42 | | | | 7.06 |
| J998083 | | <20 | 0.03 | <10 | <10 | 4 | <10 | 58 | | | | 5.10 |
| J998084 | | <20 | 0.09 | <10 | <10 | 34 | <10 | 60 | | | | 7.33 |
| J998085 | | <20 | 0.05 | <10 | <10 | 14 | <10 | 99 | | | | 5.45 |
| J998086 | | <20 | 0.08 | <10 | <10 | 4 | <10 | 60 | | | | 6.36 |
| J998087 | | <20 | 0.10 | <10 | <10 | 6 | <10 | 75 | | | | 6.24 |
| J998088 | | <20 | 0.06 | <10 | <10 | 2 | <10 | 50 | | | | 6.16 |
| J998089 | | <20 | <0.01 | <10 | 10 | 1 | <10 | 17 | | | | 1.340 |
| J998090 | | <20 | 0.03 | <10 | <10 | 4 | <10 | 186 | | | | 8.09 |
| J998091 | | <20 | 0.01 | <10 | <10 | 17 | <10 | 266 | | | | 4.10 |
| J998092 | | <20 | 0.07 | <10 | <10 | 92 | 20 | 118 | | | | <0.001 |
| J998093 | | <20 | <0.01 | <10 | <10 | 8 | <10 | 81 | | | | 5.96 |
| J998094 | | <20 | <0.01 | <10 | 10 | 1 | <10 | 14 | | | | 1.210 |
| J998095 | | <20 | <0.01 | <10 | 10 | <1 | <10 | >10000 | 116 | 7.18 | 4.30 | 4.51 |

Comments: **CORRECTED COPY FOR Au-AA24 ON ALL SAMPLES**

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 25-SEP-2011**
**Account: F**

Project: Arcus TL-05-11

# CERTIFICATE OF ANALYSIS WH11175301

| Method | CERTIFICATE COMMENTS |
|---|---|
| ALL METHODS | NSS is non-sufficient sample. |

ALS Canada Ltd.
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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
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**VANCOUVER BC V6B 1L8**


**Finalized Date: 26-SEP-2011**
**Account: F**

# CERTIFICATE WH11175302

Project: Arcus TL-05-11

P.O. No.: Batch 10

This report is for 36 Crushed Rock samples submitted to our lab in Whitehorse, YT, Canada on 1-SEP-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| WEI-25 | Wt. of Crushed Reject |
| WSH-22 | "Wash" pulverizers |
| PUL-QC | Pulverizing QC Test |
| SPL-21 | Split sample - riffle splitter |
| PUL-31 | Pulverize split to 85% <75 um |
| LOG-24 | Pulp Login - Rcd w/o Barcode |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au-AA24 | Au 50g FA AA finish | AAS |
| ME-ICP41 | 35 Element Aqua Regia ICP-AES | ICP-AES |
| ME-OG46 | Ore Grade Elements - AquaRegia | ICP-AES |
| Cu-OG46 | Ore Grade Cu - Aqua Regia | VARIABLE |
| Zn-OG46 | Ore Grade Zn - Aqua Regia | VARIABLE |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 26-SEP-2011**
**Account: F**

Project: Arcus TL-05-11

# CERTIFICATE OF ANALYSIS WH11175302

| Sample Description | Method | WEI-21 | Au-AA24 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.005 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| J998096 | | 3.14 | 0.008 | <0.2 | 0.75 | 32 | <10 | 170 | <0.5 | <2 | 0.13 | <0.5 | 5 | 7 | 199 | 1.62 |
| J998097 | | 5.30 | <0.005 | <0.2 | 2.05 | 8 | <10 | 150 | <0.5 | <2 | 0.54 | 1.3 | 12 | 29 | 136 | 3.23 |
| J998098 | | 2.12 | 0.322 | 3.3 | 1.61 | 42 | <10 | 60 | <0.5 | <2 | 1.02 | 2.2 | 7 | 9 | 1485 | 2.99 |
| J998099 | | 5.52 | 0.230 | 10.9 | 0.73 | 20 | <10 | 20 | <0.5 | <2 | 0.03 | 3.6 | 7 | 8 | >10000 | 4.25 |
| J998100 | | 2.11 | 1.710 | 83.8 | 0.30 | 12 | <10 | 20 | <0.5 | <2 | 0.01 | 19.7 | 16 | 6 | >10000 | 16.5 |
| J998101 | | 1.98 | 0.911 | 17.9 | 0.47 | 8 | <10 | 20 | <0.5 | <2 | 0.01 | 14.8 | 19 | 8 | >10000 | 16.3 |
| J998102 | | 0.08 | 2.07 | 15.9 | 1.00 | 27 | <10 | 10 | <0.5 | 7 | 0.31 | 59.3 | 10 | 43 | 5330 | 9.47 |
| J998103 | | 6.23 | 1.270 | 26.7 | 0.37 | 71 | <10 | 10 | <0.5 | <2 | 0.01 | 41.9 | 16 | 7 | >10000 | 18.5 |
| J998104 | | 1.51 | 0.007 | <0.2 | 0.03 | <2 | <10 | 310 | <0.5 | <2 | 20.8 | <0.5 | <1 | <1 | 81 | 0.50 |
| J998105 | | 4.13 | 0.832 | 15.0 | 0.60 | 6 | <10 | 10 | <0.5 | 3 | 0.09 | 22.9 | 13 | 7 | 8620 | 9.35 |
| J998106 | | 2.97 | 0.594 | 1.5 | 0.37 | 9 | <10 | 10 | <0.5 | 8 | <0.01 | <0.5 | 15 | 4 | 4010 | 10.75 |
| J998107 | | 0.23 | 0.371 | 50.9 | 1.05 | 97 | <10 | 60 | <0.5 | 2 | 0.49 | 21.6 | 16 | 31 | 4250 | 4.52 |
| J998108 | | 3.83 | 0.439 | 3.1 | 0.42 | 8 | <10 | 20 | <0.5 | 18 | 0.02 | 1.6 | 15 | 3 | 6710 | 8.93 |
| J998109 | | 4.51 | 0.047 | 1.1 | 0.82 | 9 | <10 | 20 | <0.5 | <2 | 0.42 | 3.3 | 9 | 3 | 478 | 3.68 |
| J998110 | | 1.26 | <0.005 | <0.2 | 0.03 | 3 | <10 | 30 | <0.5 | <2 | 19.6 | <0.5 | 1 | <1 | 19 | 0.46 |
| J998111 | | 7.09 | 0.009 | 0.3 | 1.04 | <2 | <10 | 150 | <0.5 | <2 | 0.67 | 3.1 | 9 | 7 | 134 | 2.96 |
| J998112 | | 5.27 | 0.013 | 0.3 | 1.19 | 3 | <10 | 240 | <0.5 | <2 | 0.62 | <0.5 | 7 | 3 | 117 | 2.70 |
| J998113 | | 6.59 | 0.006 | <0.2 | 0.95 | 4 | <10 | 100 | <0.5 | <2 | 0.56 | <0.5 | 11 | 3 | 30 | 3.32 |
| J998114 | | 2.21 | <0.005 | 0.2 | 0.12 | <2 | <10 | 40 | <0.5 | <2 | 0.18 | <0.5 | 2 | 14 | 31 | 0.68 |
| J998115 | | 6.61 | <0.005 | 0.2 | 2.07 | 3 | <10 | 110 | <0.5 | <2 | 0.97 | <0.5 | 14 | 4 | 84 | 4.02 |
| J998116 | | 4.86 | <0.005 | <0.2 | 1.82 | 2 | <10 | 330 | <0.5 | <2 | 0.41 | <0.5 | 9 | 4 | 78 | 3.06 |
| J998117 | | 8.01 | <0.005 | 0.2 | 1.55 | <2 | <10 | 180 | <0.5 | <2 | 0.60 | <0.5 | 12 | 3 | 113 | 3.14 |
| J998118 | | 5.75 | <0.005 | <0.2 | 2.16 | 4 | <10 | 400 | <0.5 | <2 | 1.06 | <0.5 | 19 | 7 | 110 | 3.35 |
| J998119 | | 5.66 | 0.020 | 0.4 | 1.12 | <2 | <10 | 130 | <0.5 | <2 | 0.64 | <0.5 | 5 | 2 | 104 | 2.61 |
| J998120 | | 5.42 | 0.005 | 0.2 | 1.06 | 2 | <10 | 90 | <0.5 | <2 | 0.78 | <0.5 | 5 | 2 | 21 | 2.30 |
| J998121 | | 7.95 | <0.005 | <0.2 | 1.22 | 2 | <10 | 130 | <0.5 | <2 | 0.57 | <0.5 | 7 | 4 | 47 | 2.13 |
| J998122 | | 7.54 | <0.005 | <0.2 | 1.31 | <2 | <10 | 90 | <0.5 | <2 | 0.86 | <0.5 | 7 | 4 | 24 | 1.87 |
| J998123 | | 7.68 | <0.005 | <0.2 | 1.42 | 3 | <10 | 150 | <0.5 | <2 | 0.51 | <0.5 | 6 | 3 | 11 | 2.09 |
| J998124 | | 9.92 | <0.005 | <0.2 | 1.54 | <2 | <10 | 160 | <0.5 | <2 | 0.59 | <0.5 | 7 | 4 | 22 | 2.47 |
| J998125 | | 6.50 | <0.005 | <0.2 | 1.73 | <2 | <10 | 80 | <0.5 | <2 | 1.09 | <0.5 | 10 | 9 | 31 | 2.63 |
| J998126 | | 10.52 | <0.005 | <0.2 | 1.41 | 2 | <10 | 80 | <0.5 | <2 | 0.72 | <0.5 | 8 | 9 | 28 | 2.67 |
| J998127 | | 10.20 | <0.005 | <0.2 | 1.11 | 2 | <10 | 110 | <0.5 | <2 | 0.47 | <0.5 | 7 | 7 | 26 | 2.63 |
| J998128 | | 5.33 | <0.005 | <0.2 | 1.42 | <2 | <10 | 70 | <0.5 | <2 | 0.57 | <0.5 | 5 | 4 | 8 | 2.06 |
| J998129 | | 8.56 | <0.005 | <0.2 | 1.67 | 2 | <10 | 80 | <0.5 | <2 | 0.90 | <0.5 | 12 | 5 | 52 | 2.86 |
| J998130 | | 8.89 | <0.005 | 0.2 | 1.69 | <2 | <10 | 90 | <0.5 | <2 | 0.83 | <0.5 | 10 | 3 | 74 | 3.26 |
| J998131 | | 8.81 | <0.005 | 0.2 | 1.19 | 2 | <10 | 50 | <0.5 | <2 | 0.95 | <0.5 | 7 | 4 | 15 | 2.76 |

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**Finalized Date: 26-SEP-2011**
**Account: F**

Project: Arcus TL-05-11

# CERTIFICATE OF ANALYSIS WH11175302

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| J998096 | | <10 | <1 | 0.13 | 10 | 0.18 | 67 | <1 | 0.07 | 1 | 140 | 37 | 1.31 | 2 | 2 | 18 |
| J998097 | | <10 | <1 | 0.15 | <10 | 1.16 | 300 | <1 | 0.05 | 19 | 440 | 17 | 1.63 | 2 | 4 | 23 |
| J998098 | | 10 | 1 | 0.25 | 30 | 0.35 | 240 | 1 | 0.04 | 3 | 1120 | 97 | 2.18 | 2 | 5 | 80 |
| J998099 | | 10 | 3 | 0.17 | 10 | 0.10 | 141 | 8 | 0.09 | 3 | 310 | 441 | 3.35 | 4 | 3 | 60 |
| J998100 | | <10 | 22 | 0.07 | <10 | <0.01 | 12 | 20 | 0.04 | 19 | 170 | 782 | >10.0 | 4 | 3 | 56 |
| J998101 | | <10 | 8 | 0.11 | <10 | <0.01 | 18 | 38 | 0.07 | 37 | 50 | 157 | >10.0 | <2 | 2 | 40 |
| J998102 | | <10 | 2 | 0.10 | <10 | 1.00 | 353 | 12 | 0.02 | 22 | 110 | 255 | >10.0 | <2 | 2 | 7 |
| J998103 | | <10 | 17 | 0.03 | <10 | <0.01 | 17 | 71 | 0.10 | 33 | 40 | 240 | >10.0 | 37 | 2 | 34 |
| J998104 | | <10 | <1 | 0.01 | <10 | 12.65 | 213 | <1 | 0.01 | <1 | 180 | 2 | 0.08 | 2 | <1 | 54 |
| J998105 | | <10 | 11 | 0.23 | <10 | 0.04 | 12 | 19 | 0.05 | 28 | 30 | 19 | >10.0 | 3 | 2 | 26 |
| J998106 | | <10 | 1 | 0.15 | <10 | 0.01 | 17 | 20 | 0.03 | 1 | 10 | 8 | >10.0 | <2 | 1 | 20 |
| J998107 | | 10 | <1 | 0.52 | 10 | 0.67 | 469 | 152 | 0.04 | 23 | 890 | 2140 | 2.44 | 66 | 7 | 36 |
| J998108 | | <10 | 2 | 0.20 | <10 | 0.02 | 17 | 17 | 0.02 | 1 | 20 | 20 | >10.0 | 2 | 1 | 17 |
| J998109 | | <10 | <1 | 0.22 | <10 | 0.02 | 62 | 2 | 0.02 | 3 | 640 | 21 | 4.11 | <2 | 2 | 11 |
| J998110 | | <10 | <1 | 0.02 | 10 | 12.20 | 208 | <1 | <0.01 | 3 | 160 | 3 | 0.02 | <2 | <1 | 53 |
| J998111 | | <10 | <1 | 0.20 | 10 | 0.52 | 591 | 1 | 0.03 | 6 | 500 | 11 | 1.70 | <2 | 4 | 13 |
| J998112 | | <10 | <1 | 0.43 | 10 | 0.54 | 600 | <1 | 0.03 | 2 | 510 | 3 | 1.11 | <2 | 3 | 13 |
| J998113 | | <10 | <1 | 0.26 | 10 | 0.43 | 289 | 2 | 0.04 | 3 | 600 | 7 | 2.63 | <2 | 3 | 12 |
| J998114 | | <10 | <1 | 0.03 | <10 | 0.08 | 118 | <1 | <0.01 | 1 | 20 | 2 | 0.21 | <2 | 1 | 3 |
| J998115 | | <10 | <1 | 0.25 | 10 | 1.44 | 497 | 1 | 0.04 | 5 | 570 | 5 | 1.48 | <2 | 4 | 17 |
| J998116 | | <10 | <1 | 0.92 | 10 | 1.36 | 414 | 1 | 0.05 | 1 | 430 | 2 | 0.76 | <2 | 4 | 15 |
| J998117 | | <10 | <1 | 0.70 | 10 | 1.07 | 390 | 1 | 0.04 | 3 | 660 | 3 | 1.41 | <2 | 2 | 13 |
| J998118 | | <10 | <1 | 0.42 | <10 | 1.70 | 615 | 4 | 0.06 | 7 | 560 | <2 | 0.32 | <2 | 4 | 24 |
| J998119 | | <10 | <1 | 0.41 | 10 | 0.76 | 473 | 3 | 0.03 | <1 | 410 | 3 | 1.77 | <2 | 2 | 12 |
| J998120 | | <10 | <1 | 0.35 | 10 | 0.71 | 365 | 2 | 0.03 | <1 | 420 | 3 | 1.62 | <2 | 2 | 8 |
| J998121 | | <10 | <1 | 0.51 | 10 | 0.69 | 355 | 1 | 0.03 | 2 | 420 | <2 | 0.50 | <2 | 3 | 12 |
| J998122 | | <10 | <1 | 0.32 | 10 | 0.64 | 322 | 2 | 0.03 | 2 | 1560 | 2 | 0.15 | <2 | 3 | 14 |
| J998123 | | <10 | <1 | 0.60 | 10 | 0.76 | 265 | <1 | 0.04 | 1 | 370 | 2 | 0.24 | <2 | 3 | 11 |
| J998124 | | <10 | <1 | 0.61 | 10 | 0.91 | 320 | <1 | 0.04 | 1 | 490 | <2 | 0.09 | <2 | 2 | 19 |
| J998125 | | <10 | <1 | 0.24 | <10 | 1.18 | 484 | 1 | 0.07 | 5 | 530 | 2 | 0.07 | <2 | 4 | 22 |
| J998126 | | <10 | <1 | 0.23 | 10 | 0.82 | 354 | <1 | 0.06 | 6 | 450 | 2 | 0.03 | <2 | 4 | 19 |
| J998127 | | <10 | <1 | 0.34 | 10 | 0.65 | 348 | <1 | 0.06 | 4 | 420 | <2 | 0.11 | <2 | 4 | 12 |
| J998128 | | <10 | <1 | 0.15 | <10 | 0.75 | 347 | <1 | 0.06 | 1 | 430 | <2 | 0.01 | <2 | 2 | 19 |
| J998129 | | <10 | <1 | 0.35 | 10 | 1.10 | 478 | <1 | 0.05 | 2 | 440 | <2 | 0.13 | <2 | 4 | 14 |
| J998130 | | 10 | <1 | 0.39 | 10 | 1.22 | 453 | <1 | 0.11 | 2 | 530 | 2 | 0.05 | <2 | 7 | 18 |
| J998131 | | <10 | <1 | 0.20 | 10 | 0.76 | 538 | 1 | 0.06 | 2 | 450 | 2 | 0.04 | <2 | 7 | 17 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 26-SEP-2011**
**Account: F**

Project: Arcus TL-05-11

# CERTIFICATE OF ANALYSIS WH11175302

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | Cu-OG46 | Zn-OG46 | WEI-25 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn | Cu | Zn | Reject W |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm | % | % | kg |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 | 0.001 | 0.001 | 0.001 |
| J998096 | | <20 | <0.01 | <10 | <10 | 4 | <10 | 83 | | | 2.82 |
| J998097 | | <20 | 0.01 | <10 | <10 | 28 | <10 | 271 | | | 4.87 |
| J998098 | | <20 | 0.01 | <10 | <10 | 31 | <10 | 600 | | | 1.730 |
| J998099 | | <20 | 0.01 | <10 | <10 | 20 | <10 | 425 | 1.430 | | 4.92 |
| J998100 | | <20 | <0.01 | <10 | <10 | 4 | 10 | 2990 | 7.66 | | 1.760 |
| J998101 | | <20 | <0.01 | <10 | 10 | 6 | 10 | 1980 | 1.360 | | 1.650 |
| J998102 | | <20 | 0.02 | <10 | <10 | 16 | 10 | >10000 | | 1.300 | <0.001 |
| J998103 | | <20 | <0.01 | <10 | 10 | 3 | 20 | 8400 | 1.410 | | 5.87 |
| J998104 | | <20 | <0.01 | <10 | <10 | 2 | <10 | 51 | | | 1.120 |
| J998105 | | <20 | <0.01 | <10 | <10 | 5 | 10 | 5440 | | | 3.67 |
| J998106 | | <20 | 0.01 | <10 | <10 | 4 | <10 | 40 | | | 2.66 |
| J998107 | | <20 | 0.09 | <10 | <10 | 84 | 10 | 2570 | | | <0.001 |
| J998108 | | <20 | 0.02 | <10 | <10 | 6 | <10 | 455 | | | 3.46 |
| J998109 | | <20 | 0.01 | <10 | <10 | 11 | <10 | 805 | | | 3.98 |
| J998110 | | <20 | 0.01 | <10 | 10 | 3 | <10 | 24 | | | 0.870 |
| J998111 | | <20 | 0.02 | <10 | <10 | 13 | <10 | 844 | | | 4.90 |
| J998112 | | <20 | 0.05 | <10 | <10 | 20 | <10 | 341 | | | 4.92 |
| J998113 | | <20 | 0.02 | <10 | <10 | 17 | <10 | 220 | | | 6.09 |
| J998114 | | <20 | 0.01 | <10 | <10 | 5 | <10 | 109 | | | 1.810 |
| J998115 | | <20 | 0.05 | <10 | <10 | 65 | <10 | 154 | | | 6.22 |
| J998116 | | <20 | 0.15 | <10 | <10 | 61 | <10 | 148 | | | 4.51 |
| J998117 | | <20 | 0.10 | <10 | <10 | 47 | <10 | 183 | | | 7.44 |
| J998118 | | <20 | 0.12 | <10 | <10 | 92 | <10 | 132 | | | 5.36 |
| J998119 | | <20 | 0.04 | <10 | <10 | 10 | <10 | 158 | | | 5.26 |
| J998120 | | <20 | 0.03 | <10 | <10 | 9 | <10 | 148 | | | 5.02 |
| J998121 | | <20 | 0.06 | <10 | <10 | 22 | <10 | 172 | | | 7.44 |
| J998122 | | <20 | 0.04 | <10 | <10 | 19 | <10 | 81 | | | 7.13 |
| J998123 | | <20 | 0.09 | <10 | <10 | 24 | <10 | 79 | | | 7.29 |
| J998124 | | <20 | 0.12 | <10 | <10 | 38 | <10 | 81 | | | 9.49 |
| J998125 | | <20 | 0.09 | <10 | <10 | 41 | <10 | 86 | | | 6.12 |
| J998126 | | <20 | 0.08 | <10 | <10 | 42 | <10 | 77 | | | 10.05 |
| J998127 | | <20 | 0.07 | <10 | <10 | 30 | <10 | 68 | | | 9.71 |
| J998128 | | <20 | 0.04 | <10 | <10 | 15 | <10 | 70 | | | 4.95 |
| J998129 | | <20 | 0.08 | <10 | <10 | 53 | <10 | 90 | | | 8.13 |
| J998130 | | <20 | 0.11 | <10 | <10 | 80 | <10 | 66 | | | 8.48 |
| J998131 | | <20 | 0.04 | <10 | <10 | 32 | <10 | 66 | | | 8.37 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 2-OCT-2011**
**Account: F**

# CERTIFICATE WH11194163

Project: Arcus TL-05-11

P.O. No.: Batch 10

This report is for 36 Crushed Rock samples submitted to our lab in Whitehorse, YT, Canada on 22-SEP-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| LOG-22 | Sample login - Rcd w/o BarCode |
| CRU-31 | Fine crushing - 70% <2mm |
| WSH-22 | "Wash" pulverizers |
| FND-03 | Find Reject for Addn Analysis |
| PUL-QC | Pulverizing QC Test |
| PUL-31 | Pulverize split to 85% <75 um |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au-AA24 | Au 50g FA AA finish | AAS |
| ME-ICP41 | 35 Element Aqua Regia ICP-AES | ICP-AES |
| Zn-OG46 | Ore Grade Zn - Aqua Regia | VARIABLE |
| ME-OG46 | Ore Grade Elements - AquaRegia | ICP-AES |
| Cu-OG46 | Ore Grade Cu - Aqua Regia | VARIABLE |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**Finalized Date: 2-OCT-2011**
**Account: F**

Project: Arcus TL-05-11

# CERTIFICATE OF ANALYSIS WH11194163

| Sample Description | Method | Au-AA24 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe | Ga |
| | Units | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % | ppm |
| | LOR | 0.005 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 | 10 |
| J998096 | | 0.009 | 3.8 | 0.98 | 37 | <10 | 150 | <0.5 | <2 | 0.14 | 0.6 | 6 | 8 | 207 | 1.88 | <10 |
| J998097 | | <0.005 | 2.5 | 2.15 | 3 | <10 | 160 | <0.5 | <2 | 0.58 | 1.6 | 14 | 32 | 146 | 3.36 | <10 |
| J998098 | | 0.346 | 3.7 | 1.64 | 46 | <10 | 80 | <0.5 | <2 | 1.08 | 2.4 | 7 | 10 | 1575 | 3.13 | 10 |
| J998099 | | 0.208 | 10.9 | 0.75 | 21 | <10 | 30 | <0.5 | <2 | 0.04 | 3.3 | 8 | 8 | >10000 | 4.16 | 10 |
| J998100 | | 1.690 | 78.0 | 0.27 | 9 | <10 | 30 | <0.5 | 19 | 0.01 | 19.2 | 16 | 5 | >10000 | 16.1 | <10 |
| J998101 | | 0.912 | 18.4 | 0.38 | 9 | <10 | 40 | <0.5 | 18 | 0.01 | 13.4 | 18 | 6 | >10000 | 16.7 | <10 |
| J998102 | | 0.895 | 4.3 | 1.14 | 83 | <10 | 90 | <0.5 | <2 | 0.43 | 0.7 | 19 | 36 | 3890 | 4.99 | <10 |
| J998103 | | 1.560 | 24.5 | 0.39 | 65 | <10 | 20 | <0.5 | 10 | 0.01 | 39.6 | 14 | 7 | >10000 | 18.2 | <10 |
| J998104 | | <0.005 | 0.3 | 0.03 | <2 | <10 | 240 | <0.5 | <2 | 20.6 | <0.5 | <1 | 1 | 117 | 0.49 | <10 |
| J998105 | | 0.775 | 15.1 | 0.43 | 5 | <10 | 30 | <0.5 | 16 | 0.07 | 22.4 | 11 | 5 | 8780 | 8.70 | <10 |
| J998106 | | 0.554 | 1.8 | 0.40 | 8 | <10 | 20 | <0.5 | 7 | 0.01 | <0.5 | 17 | 4 | 4220 | 11.15 | <10 |
| J998107 | | 0.910 | 3.2 | 1.14 | 82 | <10 | 60 | <0.5 | <2 | 0.43 | 0.7 | 19 | 36 | 3860 | 4.98 | <10 |
| J998108 | | 0.494 | 3.4 | 0.45 | 8 | <10 | 20 | <0.5 | 15 | 0.02 | 1.4 | 16 | 4 | 7180 | 9.37 | <10 |
| J998109 | | 0.048 | 1.2 | 0.93 | 7 | <10 | 30 | <0.5 | <2 | 0.45 | 3.3 | 9 | 4 | 476 | 3.79 | <10 |
| J998110 | | <0.005 | <0.2 | 0.03 | <2 | <10 | 20 | <0.5 | <2 | 20.8 | <0.5 | <1 | 1 | 8 | 0.41 | <10 |
| J998111 | | 0.010 | 0.4 | 1.27 | <2 | <10 | 160 | <0.5 | <2 | 0.76 | 3.3 | 9 | 9 | 140 | 3.27 | <10 |
| J998112 | | 0.026 | 0.4 | 1.29 | <2 | <10 | 270 | <0.5 | <2 | 0.65 | <0.5 | 8 | 4 | 134 | 2.81 | <10 |
| J998113 | | 0.006 | 0.2 | 1.12 | <2 | <10 | 110 | <0.5 | <2 | 0.60 | <0.5 | 11 | 4 | 35 | 3.52 | <10 |
| J998114 | | <0.005 | 0.2 | 0.12 | <2 | <10 | 40 | <0.5 | <2 | 0.19 | <0.5 | 2 | 14 | 31 | 0.75 | <10 |
| J998115 | | <0.005 | 0.2 | 2.21 | <2 | <10 | 100 | <0.5 | <2 | 1.04 | <0.5 | 14 | 5 | 88 | 4.15 | <10 |
| J998116 | | <0.005 | <0.2 | 2.13 | <2 | <10 | 360 | <0.5 | <2 | 0.52 | <0.5 | 9 | 5 | 83 | 3.38 | <10 |
| J998117 | | <0.005 | 0.2 | 1.79 | <2 | <10 | 170 | <0.5 | <2 | 0.70 | <0.5 | 13 | 3 | 124 | 3.47 | <10 |
| J998118 | | <0.005 | <0.2 | 2.52 | <2 | <10 | 460 | <0.5 | <2 | 1.29 | <0.5 | 21 | 8 | 126 | 3.78 | 10 |
| J998119 | | 0.024 | 0.3 | 1.32 | <2 | <10 | 140 | <0.5 | <2 | 0.70 | <0.5 | 5 | 3 | 115 | 2.82 | <10 |
| J998120 | | 0.005 | <0.2 | 1.30 | <2 | <10 | 110 | <0.5 | <2 | 0.86 | <0.5 | 5 | 3 | 22 | 2.50 | <10 |
| J998121 | | <0.005 | <0.2 | 1.43 | <2 | <10 | 150 | <0.5 | <2 | 0.64 | <0.5 | 8 | 4 | 49 | 2.31 | <10 |
| J998122 | | <0.005 | <0.2 | 1.51 | <2 | <10 | 90 | <0.5 | <2 | 0.96 | <0.5 | 8 | 4 | 27 | 2.01 | <10 |
| J998123 | | <0.005 | <0.2 | 1.56 | <2 | <10 | 160 | <0.5 | <2 | 0.55 | <0.5 | 7 | 4 | 13 | 2.19 | <10 |
| J998124 | | <0.005 | <0.2 | 1.84 | <2 | <10 | 190 | <0.5 | <2 | 0.71 | <0.5 | 7 | 4 | 24 | 2.69 | <10 |
| J998125 | | <0.005 | <0.2 | 1.94 | <2 | <10 | 90 | <0.5 | <2 | 1.27 | <0.5 | 10 | 10 | 34 | 2.87 | <10 |
| J998126 | | <0.005 | <0.2 | 1.64 | <2 | <10 | 90 | <0.5 | <2 | 0.84 | <0.5 | 9 | 10 | 32 | 2.94 | <10 |
| J998127 | | <0.005 | <0.2 | 1.27 | <2 | <10 | 120 | <0.5 | <2 | 0.53 | <0.5 | 7 | 6 | 32 | 2.84 | <10 |
| J998128 | | <0.005 | <0.2 | 1.55 | <2 | <10 | 70 | <0.5 | <2 | 0.63 | <0.5 | 5 | 5 | 8 | 2.15 | <10 |
| J998129 | | <0.005 | <0.2 | 1.89 | <2 | <10 | 90 | <0.5 | <2 | 0.99 | <0.5 | 12 | 5 | 53 | 3.05 | <10 |
| J998130 | | <0.005 | <0.2 | 1.93 | <2 | <10 | 100 | <0.5 | <2 | 0.97 | <0.5 | 11 | 4 | 80 | 3.59 | 10 |
| J998131 | | <0.005 | <0.2 | 1.47 | <2 | <10 | 60 | <0.5 | <2 | 1.06 | <0.5 | 8 | 4 | 16 | 3.08 | <10 |

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**Finalized Date: 2-OCT-2011**
**Account: F**

Project: Arcus TL-05-11

# CERTIFICATE OF ANALYSIS WH11194163

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr | Th |
| | Units | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm |
| | LOR | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 | 20 |
| J998096 | | <1 | 0.18 | 10 | 0.22 | 93 | <1 | 0.09 | 9 | 150 | 144 | 1.47 | 4 | 2 | 20 | <20 |
| J998097 | | <1 | 0.16 | <10 | 1.26 | 315 | <1 | 0.05 | 20 | 470 | 74 | 1.71 | 3 | 5 | 24 | <20 |
| J998098 | | 1 | 0.25 | 30 | 0.38 | 242 | 2 | 0.04 | 4 | 1180 | 110 | 2.32 | 3 | 5 | 86 | <20 |
| J998099 | | 2 | 0.16 | 10 | 0.12 | 137 | 10 | 0.09 | 4 | 310 | 439 | 3.33 | 3 | 3 | 61 | <20 |
| J998100 | | 22 | 0.07 | <10 | 0.01 | 16 | 27 | 0.04 | 19 | 170 | 823 | >10.0 | 3 | 3 | 60 | <20 |
| J998101 | | 8 | 0.09 | <10 | 0.01 | 14 | 42 | 0.06 | 38 | 60 | 160 | >10.0 | 3 | 2 | 38 | <20 |
| J998102 | | <1 | 0.67 | 10 | 0.71 | 530 | 165 | 0.03 | 25 | 1050 | 48 | 2.98 | 8 | 9 | 35 | <20 |
| J998103 | | 17 | 0.03 | <10 | <0.01 | 24 | 82 | 0.11 | 31 | 50 | 219 | >10.0 | 37 | 2 | 31 | <20 |
| J998104 | | 1 | 0.01 | <10 | 12.75 | 212 | <1 | 0.02 | 1 | 170 | 4 | 0.09 | <2 | <1 | 57 | <20 |
| J998105 | | 10 | 0.17 | <10 | 0.03 | 14 | 20 | 0.04 | 26 | 30 | 22 | >10.0 | 2 | 1 | 26 | <20 |
| J998106 | | 1 | 0.16 | <10 | 0.02 | 19 | 24 | 0.04 | <1 | 10 | 13 | >10.0 | 4 | 1 | 18 | <20 |
| J998107 | | <1 | 0.67 | 10 | 0.71 | 528 | 164 | 0.03 | 26 | 1060 | 45 | 2.95 | 8 | 9 | 35 | <20 |
| J998108 | | 2 | 0.20 | <10 | 0.02 | 18 | 21 | 0.03 | <1 | 30 | 23 | >10.0 | 3 | 1 | 15 | <20 |
| J998109 | | <1 | 0.24 | <10 | 0.02 | 66 | 3 | 0.03 | 3 | 650 | 26 | 4.36 | <2 | 2 | 10 | <20 |
| J998110 | | <1 | 0.02 | <10 | 12.80 | 187 | <1 | 0.02 | <1 | 300 | <2 | 0.05 | <2 | <1 | 52 | <20 |
| J998111 | | <1 | 0.23 | 10 | 0.57 | 712 | 1 | 0.04 | 5 | 530 | 15 | 1.88 | <2 | 5 | 13 | <20 |
| J998112 | | <1 | 0.45 | 10 | 0.56 | 638 | <1 | 0.04 | 1 | 550 | 4 | 1.20 | <2 | 3 | 12 | <20 |
| J998113 | | <1 | 0.29 | 10 | 0.45 | 316 | 2 | 0.06 | 2 | 650 | 9 | 2.84 | <2 | 4 | 12 | <20 |
| J998114 | | <1 | 0.03 | <10 | 0.08 | 129 | <1 | 0.01 | 2 | 10 | 5 | 0.24 | <2 | 1 | 2 | <20 |
| J998115 | | <1 | 0.25 | 10 | 1.54 | 531 | 1 | 0.05 | 4 | 630 | 6 | 1.63 | <2 | 4 | 16 | <20 |
| J998116 | | <1 | 0.99 | 10 | 1.47 | 488 | 1 | 0.08 | 1 | 470 | 5 | 0.85 | <2 | 5 | 17 | <20 |
| J998117 | | <1 | 0.78 | 10 | 1.16 | 453 | 2 | 0.05 | 2 | 740 | 6 | 1.57 | <2 | 3 | 14 | <20 |
| J998118 | | <1 | 0.46 | <10 | 1.90 | 725 | 5 | 0.09 | 7 | 610 | 4 | 0.38 | <2 | 5 | 29 | <20 |
| J998119 | | <1 | 0.48 | 10 | 0.80 | 526 | 3 | 0.04 | <1 | 430 | 5 | 1.95 | <2 | 3 | 11 | <20 |
| J998120 | | <1 | 0.42 | 10 | 0.78 | 415 | 3 | 0.04 | <1 | 450 | 5 | 1.74 | <2 | 2 | 8 | <20 |
| J998121 | | <1 | 0.56 | 10 | 0.72 | 405 | 2 | 0.05 | 2 | 450 | 4 | 0.58 | <2 | 4 | 11 | <20 |
| J998122 | | <1 | 0.35 | <10 | 0.68 | 364 | 1 | 0.04 | 1 | 1710 | 3 | 0.19 | <2 | 3 | 14 | <20 |
| J998123 | | <1 | 0.62 | 10 | 0.79 | 286 | 1 | 0.06 | 1 | 390 | 5 | 0.28 | <2 | 3 | 11 | <20 |
| J998124 | | <1 | 0.67 | 10 | 0.95 | 383 | <1 | 0.05 | 1 | 510 | 4 | 0.13 | <2 | 3 | 22 | <20 |
| J998125 | | <1 | 0.26 | <10 | 1.27 | 543 | 1 | 0.09 | 5 | 570 | 2 | 0.10 | <2 | 5 | 24 | <20 |
| J998126 | | <1 | 0.26 | <10 | 0.87 | 405 | <1 | 0.09 | 5 | 480 | 2 | 0.07 | <2 | 5 | 20 | <20 |
| J998127 | | <1 | 0.37 | 10 | 0.69 | 390 | <1 | 0.08 | 1 | 470 | 3 | 0.15 | <2 | 4 | 12 | <20 |
| J998128 | | <1 | 0.16 | <10 | 0.77 | 377 | <1 | 0.07 | 1 | 450 | 3 | 0.04 | <2 | 3 | 18 | <20 |
| J998129 | | <1 | 0.39 | <10 | 1.15 | 528 | 1 | 0.07 | 2 | 470 | 3 | 0.17 | <2 | 5 | 14 | <20 |
| J998130 | | <1 | 0.44 | <10 | 1.33 | 517 | <1 | 0.15 | 2 | 550 | 4 | 0.08 | <2 | 9 | 19 | <20 |
| J998131 | | <1 | 0.25 | 10 | 0.83 | 606 | 1 | 0.09 | 1 | 490 | 3 | 0.07 | <2 | 8 | 17 | <20 |

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**Finalized Date: 2-OCT-2011**
**Account: F**

Project: Arcus TL-05-11

# CERTIFICATE OF ANALYSIS WH11194163

| Sample Description | Method / Analyte / Units / LOR | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 | Zn-OG46 Zn % 0.001 | Cu-OG46 Cu % 0.001 |
|---|---|---|---|---|---|---|---|---|---|
| J998096 | | <0.01 | <10 | <10 | 6 | <10 | 144 | | |
| J998097 | | 0.01 | <10 | <10 | 31 | <10 | 346 | | |
| J998098 | | 0.01 | <10 | <10 | 33 | <10 | 629 | | |
| J998099 | | 0.01 | <10 | <10 | 20 | <10 | 427 | | 1.310 |
| J998100 | | <0.01 | <10 | <10 | 5 | <10 | 3000 | | 7.58 |
| J998101 | | <0.01 | <10 | <10 | 5 | <10 | 1910 | | 1.310 |
| J998102 | | 0.08 | <10 | <10 | 98 | 20 | 133 | 0.012 | |
| J998103 | | <0.01 | <10 | 10 | 5 | <10 | 8130 | | 1.380 |
| J998104 | | <0.01 | <10 | <10 | <1 | <10 | 73 | | |
| J998105 | | <0.01 | <10 | <10 | 4 | <10 | 5300 | | |
| J998106 | | <0.01 | <10 | <10 | 4 | <10 | 68 | | |
| J998107 | | 0.08 | <10 | <10 | 99 | 20 | 125 | | |
| J998108 | | <0.01 | <10 | <10 | 6 | <10 | 439 | | |
| J998109 | | <0.01 | <10 | <10 | 12 | <10 | 791 | | |
| J998110 | | <0.01 | <10 | <10 | <1 | <10 | 18 | | |
| J998111 | | 0.01 | <10 | <10 | 15 | <10 | 894 | | |
| J998112 | | 0.05 | <10 | <10 | 21 | <10 | 369 | | |
| J998113 | | 0.01 | <10 | <10 | 18 | <10 | 238 | | |
| J998114 | | <0.01 | <10 | <10 | 5 | <10 | 115 | | |
| J998115 | | 0.04 | <10 | <10 | 69 | <10 | 166 | | |
| J998116 | | 0.15 | <10 | <10 | 69 | <10 | 161 | | |
| J998117 | | 0.10 | <10 | <10 | 53 | <10 | 201 | | |
| J998118 | | 0.13 | <10 | <10 | 108 | <10 | 150 | | |
| J998119 | | 0.03 | <10 | <10 | 11 | <10 | 172 | | |
| J998120 | | 0.02 | <10 | <10 | 10 | <10 | 167 | | |
| J998121 | | 0.06 | <10 | <10 | 24 | <10 | 186 | | |
| J998122 | | 0.03 | <10 | <10 | 20 | <10 | 88 | | |
| J998123 | | 0.08 | <10 | <10 | 26 | <10 | 85 | | |
| J998124 | | 0.12 | <10 | <10 | 43 | <10 | 87 | | |
| J998125 | | 0.09 | <10 | <10 | 46 | <10 | 94 | | |
| J998126 | | 0.08 | <10 | <10 | 47 | <10 | 85 | | |
| J998127 | | 0.07 | <10 | <10 | 34 | <10 | 74 | | |
| J998128 | | 0.03 | <10 | <10 | 16 | <10 | 73 | | |
| J998129 | | 0.07 | <10 | <10 | 58 | <10 | 97 | | |
| J998130 | | 0.12 | <10 | <10 | 91 | <10 | 73 | | |
| J998131 | | 0.03 | <10 | <10 | 36 | <10 | 73 | | |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 21-OCT-2011**
**Account: F**

# CERTIFICATE WH11203331

Project: Arcus TL-05-11

P.O. No.: Batch C

This report is for 36 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 5-OCT-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| FND-02 | Find Sample for Addn Analysis |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| PGM-ICP23 | Pt, Pd, Au 30g FA ICP | ICP-AES |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 21-OCT-2011**
**Account: F**

Project: Arcus TL-05-11

# CERTIFICATE OF ANALYSIS WH11203331

| Sample Description | Method Analyte Units LOR | PGM-ICP23 Au ppm 0.001 | PGM-ICP23 Pt ppm 0.005 | PGM-ICP23 Pd ppm 0.001 |
|---|---|---|---|---|
| J998060 | | <0.001 | <0.005 | 0.001 |
| J998061 | | 0.003 | <0.005 | <0.001 |
| J998062 | | <0.001 | <0.005 | <0.001 |
| J998063 | | <0.001 | <0.005 | <0.001 |
| J998064 | | <0.001 | 0.010 | <0.001 |
| J998065 | | 0.001 | <0.005 | 0.001 |
| J998066 | | <0.001 | 0.005 | 0.001 |
| J998067 | | <0.001 | <0.005 | 0.001 |
| J998068 | | <0.001 | 0.009 | 0.001 |
| J998069 | | <0.001 | 0.005 | <0.001 |
| J998070 | | 0.888 | 0.487 | 0.506 |
| J998071 | | <0.001 | <0.005 | <0.001 |
| J998072 | | <0.001 | <0.005 | <0.001 |
| J998073 | | <0.001 | <0.005 | <0.001 |
| J998074 | | <0.001 | <0.005 | <0.001 |
| J998075 | | <0.001 | <0.005 | <0.001 |
| J998076 | | 0.003 | <0.005 | <0.001 |
| J998077 | | <0.001 | <0.005 | 0.001 |
| J998078 | | <0.001 | <0.005 | <0.001 |
| J998079 | | <0.001 | <0.005 | <0.001 |
| J998080 | | <0.001 | <0.005 | <0.001 |
| J998081 | | 0.001 | <0.005 | 0.001 |
| J998082 | | <0.001 | <0.005 | <0.001 |
| J998083 | | <0.001 | <0.005 | <0.001 |
| J998084 | | <0.001 | <0.005 | <0.001 |
| J998085 | | <0.001 | <0.005 | <0.001 |
| J998086 | | <0.001 | <0.005 | <0.001 |
| J998087 | | <0.001 | <0.005 | <0.001 |
| J998088 | | <0.001 | <0.005 | <0.001 |
| J998089 | | <0.001 | 0.005 | <0.001 |
| J998090 | | 0.006 | <0.005 | <0.001 |
| J998091 | | 0.001 | 0.005 | <0.001 |
| J998092 | | 0.531 | 0.447 | 0.554 |
| J998093 | | 0.005 | 0.006 | 0.001 |
| J998094 | | <0.001 | <0.005 | 0.001 |
| J998095 | | 4.16 | <0.005 | <0.001 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
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**VANCOUVER BC V6B 1L8**


**Finalized Date: 22-OCT-2011**
**Account: F**

# CERTIFICATE WH11203332

Project: Arcus-TL-05-11

P.O. No.: Batch 10

This report is for 36 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 5-OCT-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| FND-02 | Find Sample for Addn Analysis |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| PGM-ICP23 | Pt, Pd, Au 30g FA ICP | ICP-AES |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 22-OCT-2011**
**Account: F**

Project: Arcus-TL-05-11

# CERTIFICATE OF ANALYSIS WH11203332

| Sample Description | Method Analyte Units LOR | PGM-ICP23 Au ppm 0.001 | PGM-ICP23 Pt ppm 0.005 | PGM-ICP23 Pd ppm 0.001 |
|---|---|---|---|---|
| J998096 | | 0.005 | <0.005 | 0.001 |
| J998097 | | 0.002 | <0.005 | <0.001 |
| J998098 | | 0.384 | <0.005 | <0.001 |
| J998099 | | 0.204 | <0.005 | 0.001 |
| J998100 | | 1.645 | <0.005 | 0.001 |
| J998101 | | 0.886 | <0.005 | <0.001 |
| J998102 | | 0.828 | 0.481 | 0.492 |
| J998103 | | 1.325 | <0.005 | 0.003 |
| J998104 | | 0.006 | <0.005 | <0.001 |
| J998105 | | 0.774 | 0.010 | 0.003 |
| J998106 | | 0.540 | 0.007 | <0.001 |
| J998107 | | 0.540 | 0.463 | 0.547 |
| J998108 | | 0.431 | 0.008 | 0.001 |
| J998109 | | 0.049 | <0.005 | 0.001 |
| J998110 | | 0.001 | <0.005 | 0.001 |
| J998111 | | 0.011 | <0.005 | 0.001 |
| J998112 | | 0.014 | <0.005 | 0.001 |
| J998113 | | 0.006 | <0.005 | <0.001 |
| J998114 | | 0.001 | <0.005 | <0.001 |
| J998115 | | 0.003 | <0.005 | 0.002 |
| J998116 | | <0.001 | <0.005 | 0.001 |
| J998117 | | 0.003 | <0.005 | <0.001 |
| J998118 | | 0.002 | <0.005 | 0.003 |
| J998119 | | 0.025 | <0.005 | <0.001 |
| J998120 | | 0.005 | <0.005 | <0.001 |
| J998121 | | <0.001 | <0.005 | 0.001 |
| J998122 | | <0.001 | <0.005 | <0.001 |
| J998123 | | <0.001 | <0.005 | <0.001 |
| J998124 | | <0.001 | <0.005 | <0.001 |
| J998125 | | 0.001 | <0.005 | 0.001 |
| J998126 | | <0.001 | <0.005 | 0.001 |
| J998127 | | <0.001 | <0.005 | <0.001 |
| J998128 | | 0.004 | <0.005 | <0.001 |
| J998129 | | 0.001 | <0.005 | <0.001 |
| J998130 | | 0.002 | <0.005 | 0.002 |
| J998131 | | <0.001 | <0.005 | <0.001 |

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**Finalized Date: 3-JUL-2011**
**Account: F**

# CERTIFICATE WH11111116

Project: Arcus - Touleary

P.O. No.:

This report is for 164 Soil samples submitted to our lab in Whitehorse, YT, Canada on 18-JUN-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| 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 |

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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

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method Analyte Units LOR | WEI-21 Recvd Wt. kg 0.02 | Au-ICP21 Au ppm 0.001 | ME-ICP41 Ag ppm 0.2 | ME-ICP41 Al % 0.01 | ME-ICP41 As ppm 2 | ME-ICP41 B ppm 10 | ME-ICP41 Ba ppm 10 | ME-ICP41 Be ppm 0.5 | ME-ICP41 Bi ppm 2 | ME-ICP41 Ca % 0.01 | ME-ICP41 Cd ppm 0.5 | ME-ICP41 Co ppm 1 | ME-ICP41 Cr ppm 1 | ME-ICP41 Cu ppm 1 | ME-ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CC144001 | | 0.14 | 0.001 | <0.2 | 1.96 | 8 | <10 | 170 | <0.5 | <2 | 0.28 | <0.5 | 9 | 38 | 18 | 2.84 |
| CC144002 | | 0.30 | 0.001 | <0.2 | 2.30 | 7 | <10 | 280 | <0.5 | <2 | 0.40 | <0.5 | 11 | 60 | 22 | 3.10 |
| CC144003 | | 0.10 | <0.001 | <0.2 | 2.26 | 5 | <10 | 250 | <0.5 | <2 | 0.49 | <0.5 | 15 | 41 | 41 | 3.31 |
| CC144004 | | 0.36 | 0.001 | <0.2 | 1.87 | 8 | <10 | 310 | <0.5 | <2 | 0.46 | <0.5 | 13 | 46 | 24 | 3.17 |
| CC144005 | | 0.26 | <0.001 | 0.2 | 1.98 | 5 | <10 | 230 | <0.5 | <2 | 0.40 | <0.5 | 14 | 45 | 21 | 2.92 |
| CC144006 | | 0.48 | 0.004 | <0.2 | 1.75 | 5 | <10 | 210 | <0.5 | <2 | 0.43 | <0.5 | 10 | 38 | 24 | 2.82 |
| CC144007 | | 0.04 | NSS | <0.2 | 1.90 | 9 | <10 | 130 | <0.5 | <2 | 0.26 | <0.5 | 9 | 47 | 15 | 3.13 |
| CC144008 | | 0.22 | 0.033 | 0.3 | 1.51 | 8 | <10 | 150 | <0.5 | <2 | 0.16 | <0.5 | 5 | 29 | 25 | 2.36 |
| CC144009 | | 0.38 | 0.313 | <0.2 | 1.96 | 9 | <10 | 150 | <0.5 | <2 | 0.25 | <0.5 | 12 | 37 | 21 | 2.95 |
| CC144010 | | 0.14 | 0.001 | <0.2 | 1.92 | 8 | <10 | 300 | <0.5 | <2 | 0.36 | <0.5 | 12 | 79 | 28 | 2.98 |
| CC144011 | | 0.16 | <0.001 | 0.2 | 2.27 | 8 | <10 | 250 | <0.5 | <2 | 0.39 | <0.5 | 13 | 93 | 32 | 3.42 |
| CC144012 | | 0.14 | 0.001 | <0.2 | 2.08 | 9 | <10 | 320 | <0.5 | <2 | 0.32 | <0.5 | 11 | 55 | 28 | 3.16 |
| CC144013 | | 0.18 | <0.001 | 0.2 | 1.95 | 13 | <10 | 330 | <0.5 | <2 | 0.38 | <0.5 | 10 | 36 | 23 | 3.15 |
| CC144014 | | 0.16 | 0.001 | <0.2 | 1.91 | 9 | <10 | 250 | <0.5 | <2 | 0.36 | <0.5 | 11 | 32 | 28 | 2.89 |
| CC144015 | | 0.12 | <0.001 | <0.2 | 2.44 | 10 | <10 | 160 | <0.5 | <2 | 0.26 | <0.5 | 10 | 35 | 36 | 3.35 |
| CC144016 | | 0.14 | 0.001 | <0.2 | 2.61 | 9 | <10 | 150 | <0.5 | <2 | 0.30 | <0.5 | 12 | 35 | 48 | 3.42 |
| CC144017 | | 0.14 | <0.001 | <0.2 | 2.70 | 11 | <10 | 190 | 0.5 | <2 | 0.28 | <0.5 | 13 | 37 | 57 | 3.63 |
| CC144018 | | 0.14 | <0.001 | <0.2 | 1.77 | 10 | <10 | 150 | <0.5 | <2 | 0.13 | <0.5 | 7 | 21 | 18 | 2.56 |
| CC144019 | | 0.26 | <0.001 | <0.2 | 1.42 | 7 | <10 | 130 | <0.5 | <2 | 0.40 | <0.5 | 11 | 33 | 29 | 2.48 |
| CC144020 | | 0.28 | <0.001 | <0.2 | 1.75 | 6 | <10 | 180 | <0.5 | <2 | 0.38 | <0.5 | 11 | 28 | 37 | 2.64 |
| CC144021 | | 0.20 | <0.001 | <0.2 | 2.08 | 10 | <10 | 180 | <0.5 | <2 | 0.21 | <0.5 | 10 | 36 | 17 | 3.12 |
| CC144022 | | 0.28 | 0.001 | <0.2 | 2.36 | 10 | <10 | 280 | <0.5 | <2 | 0.30 | <0.5 | 14 | 38 | 27 | 3.08 |
| CC144023 | | 0.18 | <0.001 | <0.2 | 2.35 | 7 | <10 | 350 | <0.5 | <2 | 0.42 | <0.5 | 16 | 198 | 27 | 3.06 |
| CC144024 | | 0.26 | <0.001 | <0.2 | 1.68 | 6 | <10 | 200 | <0.5 | <2 | 0.33 | <0.5 | 10 | 50 | 18 | 2.46 |
| CC144025 | | 0.28 | 0.002 | <0.2 | 1.79 | 7 | <10 | 180 | <0.5 | <2 | 0.27 | <0.5 | 8 | 37 | 18 | 2.59 |
| CC144026 | | 0.22 | <0.001 | <0.2 | 1.90 | 8 | <10 | 160 | <0.5 | <2 | 0.28 | <0.5 | 10 | 36 | 18 | 2.73 |
| CC144027 | | 0.20 | 0.001 | <0.2 | 2.07 | 8 | <10 | 180 | <0.5 | <2 | 0.29 | <0.5 | 10 | 33 | 22 | 2.87 |
| CC144028 | | 0.12 | 0.016 | <0.2 | 2.43 | 7 | <10 | 200 | 0.5 | <2 | 0.29 | <0.5 | 12 | 37 | 83 | 3.27 |
| CC144029 | | 0.10 | 0.001 | <0.2 | 1.69 | 10 | <10 | 300 | <0.5 | <2 | 0.28 | <0.5 | 9 | 32 | 23 | 2.61 |
| CC144030 | | 0.14 | <0.001 | <0.2 | 1.72 | 7 | <10 | 200 | <0.5 | <2 | 0.25 | <0.5 | 9 | 29 | 23 | 2.67 |
| CC144031 | | 0.12 | <0.001 | <0.2 | 2.21 | 10 | <10 | 170 | <0.5 | <2 | 0.21 | <0.5 | 8 | 30 | 20 | 3.07 |
| CC144032 | | 0.14 | 0.005 | <0.2 | 2.11 | 7 | <10 | 140 | <0.5 | <2 | 0.16 | <0.5 | 9 | 29 | 24 | 3.04 |
| CC144033 | | 0.08 | <0.001 | <0.2 | 2.06 | 9 | <10 | 150 | 0.5 | <2 | 0.21 | <0.5 | 9 | 26 | 31 | 2.95 |
| CC144034 | | 0.12 | 0.003 | <0.2 | 1.52 | 6 | <10 | 110 | <0.5 | <2 | 0.36 | <0.5 | 11 | 27 | 38 | 2.72 |
| CC144035 | | 0.22 | <0.001 | <0.2 | 1.91 | 9 | <10 | 230 | <0.5 | <2 | 0.36 | <0.5 | 10 | 37 | 25 | 2.71 |
| CC144036 | | 0.24 | 0.003 | <0.2 | 2.31 | 6 | <10 | 130 | <0.5 | <2 | 0.25 | <0.5 | 10 | 36 | 16 | 3.18 |
| CC144037 | | 0.36 | 0.002 | <0.2 | 2.11 | 9 | <10 | 240 | <0.5 | <2 | 0.30 | <0.5 | 9 | 35 | 24 | 2.97 |
| CC144038 | | 0.34 | 0.001 | <0.2 | 2.10 | 8 | <10 | 180 | <0.5 | 2 | 0.30 | <0.5 | 11 | 32 | 21 | 2.94 |
| CC144039 | | 0.38 | 0.002 | <0.2 | 1.82 | 7 | <10 | 220 | <0.5 | <2 | 0.37 | <0.5 | 11 | 37 | 23 | 2.74 |
| CC144040 | | Empty Bag | | | | | | | | | | | | | | |

***** See Appendix Page for comments regarding this certificate *****

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| CC144001 | | 10 | 1 | 0.05 | 10 | 0.74 | 259 | <1 | 0.01 | 26 | 680 | <2 | 0.01 | <2 | 4 | 17 |
| CC144002 | | 10 | <1 | 0.23 | 10 | 1.23 | 385 | <1 | 0.02 | 24 | 610 | <2 | 0.01 | <2 | 5 | 22 |
| CC144003 | | 10 | 1 | 0.10 | 10 | 0.97 | 624 | 1 | 0.03 | 23 | 880 | <2 | 0.04 | <2 | 5 | 31 |
| CC144004 | | 10 | <1 | 0.14 | 10 | 0.99 | 704 | 1 | 0.02 | 23 | 740 | 2 | 0.03 | <2 | 5 | 26 |
| CC144005 | | <10 | <1 | 0.23 | 10 | 1.14 | 504 | <1 | 0.02 | 16 | 710 | <2 | 0.02 | <2 | 5 | 18 |
| CC144006 | | 10 | <1 | 0.25 | 10 | 1.07 | 326 | <1 | 0.02 | 16 | 720 | <2 | 0.01 | <2 | 5 | 23 |
| CC144007 | | 10 | <1 | 0.15 | 10 | 1.02 | 271 | <1 | 0.02 | 17 | 450 | <2 | 0.01 | <2 | 4 | 15 |
| CC144008 | | 10 | <1 | 0.05 | 10 | 0.35 | 133 | 1 | 0.01 | 13 | 430 | 4 | 0.02 | 2 | 2 | 17 |
| CC144009 | | 10 | <1 | 0.08 | 10 | 0.65 | 717 | 1 | 0.01 | 21 | 660 | 2 | 0.01 | <2 | 3 | 16 |
| CC144010 | | 10 | <1 | 0.12 | 10 | 0.99 | 378 | <1 | 0.02 | 32 | 430 | 2 | <0.01 | <2 | 5 | 25 |
| CC144011 | | 10 | <1 | 0.21 | 10 | 1.32 | 373 | <1 | 0.01 | 38 | 700 | <2 | <0.01 | <2 | 4 | 23 |
| CC144012 | | 10 | <1 | 0.09 | 20 | 0.90 | 399 | 1 | 0.01 | 25 | 470 | 2 | 0.01 | 2 | 4 | 23 |
| CC144013 | | 10 | <1 | 0.09 | 10 | 0.82 | 394 | 1 | 0.01 | 19 | 520 | 2 | 0.01 | <2 | 3 | 25 |
| CC144014 | | <10 | <1 | 0.08 | 10 | 0.88 | 344 | <1 | 0.02 | 20 | 580 | <2 | 0.01 | <2 | 4 | 21 |
| CC144015 | | 10 | <1 | 0.07 | 10 | 0.79 | 319 | 1 | 0.02 | 21 | 390 | 2 | 0.01 | <2 | 5 | 18 |
| CC144016 | | 10 | <1 | 0.07 | 10 | 0.86 | 352 | <1 | 0.02 | 26 | 480 | 3 | 0.01 | <2 | 5 | 19 |
| CC144017 | | 10 | <1 | 0.08 | 10 | 0.92 | 418 | 1 | 0.02 | 26 | 480 | 2 | 0.01 | <2 | 6 | 20 |
| CC144018 | | 10 | <1 | 0.15 | 10 | 0.55 | 327 | 1 | 0.01 | 10 | 420 | 7 | <0.01 | <2 | 2 | 12 |
| CC144019 | | <10 | <1 | 0.14 | 10 | 0.83 | 318 | 1 | 0.01 | 16 | 810 | 3 | <0.01 | <2 | 3 | 20 |
| CC144020 | | <10 | <1 | 0.08 | 10 | 0.79 | 422 | 1 | 0.01 | 14 | 710 | 4 | <0.01 | <2 | 4 | 21 |
| CC144021 | | 10 | 1 | 0.10 | 10 | 0.65 | 306 | 1 | 0.01 | 17 | 360 | 6 | <0.01 | <2 | 4 | 18 |
| CC144022 | | 10 | <1 | 0.23 | 10 | 1.13 | 431 | <1 | 0.01 | 17 | 600 | 4 | <0.01 | <2 | 4 | 18 |
| CC144023 | | 10 | <1 | 0.27 | 10 | 1.70 | 396 | <1 | 0.01 | 69 | 790 | 4 | <0.01 | <2 | 4 | 26 |
| CC144024 | | <10 | <1 | 0.09 | 10 | 0.78 | 285 | <1 | 0.01 | 19 | 580 | 4 | <0.01 | <2 | 3 | 21 |
| CC144025 | | 10 | <1 | 0.06 | 10 | 0.68 | 255 | 1 | 0.01 | 15 | 530 | 6 | <0.01 | <2 | 3 | 19 |
| CC144026 | | 10 | <1 | 0.07 | 10 | 0.72 | 319 | <1 | 0.01 | 16 | 520 | 5 | <0.01 | <2 | 3 | 19 |
| CC144027 | | 10 | <1 | 0.07 | 10 | 0.71 | 325 | <1 | 0.01 | 16 | 610 | 6 | <0.01 | <2 | 4 | 20 |
| CC144028 | | 10 | 1 | 0.07 | 10 | 0.79 | 422 | <1 | 0.01 | 22 | 480 | 6 | <0.01 | <2 | 6 | 21 |
| CC144029 | | <10 | <1 | 0.05 | 20 | 0.58 | 370 | 1 | 0.01 | 15 | 410 | 7 | <0.01 | <2 | 6 | 23 |
| CC144030 | | <10 | <1 | 0.05 | 10 | 0.62 | 422 | <1 | 0.01 | 15 | 390 | 4 | <0.01 | <2 | 5 | 19 |
| CC144031 | | 10 | <1 | 0.06 | 10 | 0.60 | 309 | 1 | 0.01 | 17 | 390 | 7 | <0.01 | <2 | 4 | 16 |
| CC144032 | | 10 | <1 | 0.06 | 10 | 0.54 | 364 | 1 | 0.01 | 14 | 230 | 8 | <0.01 | <2 | 5 | 14 |
| CC144033 | | 10 | <1 | 0.07 | 20 | 0.56 | 376 | 1 | 0.01 | 14 | 370 | 8 | <0.01 | <2 | 4 | 16 |
| CC144034 | | 10 | <1 | 0.11 | 10 | 0.79 | 572 | <1 | 0.01 | 14 | 740 | 4 | 0.01 | <2 | 3 | 19 |
| CC144035 | | 10 | <1 | 0.11 | 10 | 0.79 | 297 | <1 | 0.01 | 18 | 770 | 4 | <0.01 | 2 | 5 | 24 |
| CC144036 | | 10 | <1 | 0.07 | 10 | 0.81 | 296 | <1 | 0.01 | 16 | 570 | 4 | <0.01 | <2 | 4 | 16 |
| CC144037 | | 10 | <1 | 0.07 | 10 | 0.73 | 351 | 1 | 0.01 | 16 | 590 | 5 | <0.01 | <2 | 5 | 22 |
| CC144038 | | 10 | 1 | 0.07 | 10 | 0.72 | 374 | 1 | 0.01 | 16 | 670 | 4 | <0.01 | <2 | 3 | 20 |
| CC144039 | | <10 | <1 | 0.15 | 10 | 0.92 | 373 | <1 | 0.01 | 17 | 720 | 3 | <0.01 | <2 | 4 | 21 |
| CC144040 | | | | | | | | | | | | | | | | |

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method Analyte Units LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| CC144001 | | <20 | 0.11 | <10 | <10 | 66 | <10 | 45 |
| CC144002 | | <20 | 0.16 | <10 | <10 | 79 | <10 | 54 |
| CC144003 | | <20 | 0.14 | <10 | <10 | 84 | <10 | 64 |
| CC144004 | | <20 | 0.12 | <10 | <10 | 70 | <10 | 76 |
| CC144005 | | <20 | 0.13 | <10 | <10 | 70 | <10 | 59 |
| CC144006 | | <20 | 0.15 | <10 | <10 | 73 | <10 | 57 |
| CC144007 | | <20 | 0.15 | <10 | <10 | 79 | <10 | 50 |
| CC144008 | | <20 | 0.07 | <10 | <10 | 68 | <10 | 32 |
| CC144009 | | <20 | 0.10 | <10 | <10 | 62 | <10 | 62 |
| CC144010 | | <20 | 0.14 | <10 | <10 | 69 | <10 | 53 |
| CC144011 | | <20 | 0.17 | <10 | <10 | 83 | <10 | 60 |
| CC144012 | | <20 | 0.13 | <10 | <10 | 74 | <10 | 57 |
| CC144013 | | <20 | 0.11 | <10 | <10 | 73 | <10 | 55 |
| CC144014 | | <20 | 0.13 | <10 | <10 | 70 | <10 | 52 |
| CC144015 | | <20 | 0.13 | <10 | <10 | 81 | <10 | 54 |
| CC144016 | | <20 | 0.14 | <10 | <10 | 81 | <10 | 58 |
| CC144017 | | <20 | 0.14 | <10 | <10 | 87 | <10 | 65 |
| CC144018 | | <20 | 0.09 | <10 | <10 | 42 | <10 | 100 |
| CC144019 | | <20 | 0.12 | <10 | <10 | 62 | <10 | 62 |
| CC144020 | | <20 | 0.11 | <10 | <10 | 62 | <10 | 54 |
| CC144021 | | <20 | 0.11 | <10 | <10 | 72 | <10 | 50 |
| CC144022 | | <20 | 0.15 | <10 | <10 | 74 | <10 | 61 |
| CC144023 | | <20 | 0.15 | <10 | <10 | 72 | <10 | 53 |
| CC144024 | | <20 | 0.11 | <10 | <10 | 59 | <10 | 47 |
| CC144025 | | <20 | 0.10 | <10 | <10 | 61 | <10 | 48 |
| CC144026 | | <20 | 0.11 | <10 | <10 | 64 | <10 | 49 |
| CC144027 | | <20 | 0.11 | <10 | <10 | 68 | <10 | 52 |
| CC144028 | | <20 | 0.13 | <10 | <10 | 85 | <10 | 60 |
| CC144029 | | <20 | 0.09 | <10 | <10 | 59 | <10 | 48 |
| CC144030 | | <20 | 0.10 | <10 | <10 | 59 | <10 | 49 |
| CC144031 | | <20 | 0.09 | <10 | <10 | 66 | <10 | 52 |
| CC144032 | | <20 | 0.09 | <10 | <10 | 68 | <10 | 55 |
| CC144033 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 55 |
| CC144034 | | <20 | 0.12 | <10 | <10 | 70 | <10 | 65 |
| CC144035 | | <20 | 0.12 | <10 | <10 | 63 | <10 | 55 |
| CC144036 | | <20 | 0.13 | <10 | <10 | 76 | <10 | 56 |
| CC144037 | | <20 | 0.11 | <10 | <10 | 70 | <10 | 54 |
| CC144038 | | <20 | 0.11 | <10 | <10 | 67 | <10 | 53 |
| CC144039 | | <20 | 0.14 | <10 | <10 | 70 | <10 | 55 |
| CC144040 | | | | | | | | |

***** See Appendix Page for comments regarding this certificate *****

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method / Analyte / Units / LOR | WEI-21 Recvd Wt. kg 0.02 | Au-ICP21 Au ppm 0.001 | ME-ICP41 Ag ppm 0.2 | ME-ICP41 Al % 0.01 | ME-ICP41 As ppm 2 | ME-ICP41 B ppm 10 | ME-ICP41 Ba ppm 10 | ME-ICP41 Be ppm 0.5 | ME-ICP41 Bi ppm 2 | ME-ICP41 Ca % 0.01 | ME-ICP41 Cd ppm 0.5 | ME-ICP41 Co ppm 1 | ME-ICP41 Cr ppm 1 | ME-ICP41 Cu ppm 1 | ME-ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CC144041 | | 0.34 | 0.001 | <0.2 | 2.11 | 6 | <10 | 200 | <0.5 | <2 | 0.36 | <0.5 | 12 | 30 | 21 | 2.99 |
| CC144042 | | 0.20 | <0.001 | <0.2 | 1.45 | 5 | <10 | 150 | <0.5 | <2 | 0.32 | <0.5 | 10 | 28 | 27 | 2.64 |
| CC144043 | | 0.26 | <0.001 | <0.2 | 2.39 | 10 | <10 | 130 | <0.5 | <2 | 0.16 | <0.5 | 9 | 34 | 26 | 3.24 |
| CC144044 | | 0.16 | 0.002 | <0.2 | 2.20 | 6 | <10 | 160 | <0.5 | <2 | 0.27 | <0.5 | 14 | 24 | 51 | 3.23 |
| CC144045 | | 0.24 | 0.001 | <0.2 | 2.38 | 9 | <10 | 160 | <0.5 | <2 | 0.17 | <0.5 | 11 | 31 | 37 | 3.20 |
| CC144046 | | 0.16 | 0.002 | <0.2 | 2.30 | 9 | <10 | 200 | <0.5 | <2 | 0.25 | <0.5 | 12 | 40 | 52 | 3.10 |
| CC144047 | | 0.16 | <0.001 | <0.2 | 2.36 | 10 | <10 | 190 | <0.5 | <2 | 0.26 | <0.5 | 12 | 35 | 34 | 3.15 |
| CC144048 | | 0.16 | 0.001 | <0.2 | 1.86 | 8 | <10 | 280 | <0.5 | <2 | 0.27 | <0.5 | 11 | 34 | 27 | 2.91 |
| CC144049 | | 0.24 | <0.001 | <0.2 | 1.79 | 7 | <10 | 340 | <0.5 | <2 | 0.32 | <0.5 | 10 | 42 | 31 | 2.95 |
| CC144050 | | 0.14 | 0.003 | <0.2 | 2.59 | 3 | <10 | 670 | 0.5 | <2 | 0.58 | <0.5 | 20 | 233 | 45 | 3.38 |
| CC144051 | | 0.26 | <0.001 | <0.2 | 2.09 | 8 | <10 | 360 | <0.5 | <2 | 0.38 | <0.5 | 13 | 88 | 33 | 3.11 |
| CC144052 | | 0.12 | <0.001 | <0.2 | 1.29 | 2 | <10 | 380 | <0.5 | <2 | 0.58 | <0.5 | 12 | 165 | 27 | 1.98 |
| CC144053 | | 0.30 | <0.001 | <0.2 | 2.02 | 6 | <10 | 190 | <0.5 | <2 | 0.22 | <0.5 | 9 | 31 | 21 | 2.87 |
| CC144054 | | 0.10 | <0.001 | <0.2 | 2.09 | 9 | <10 | 140 | <0.5 | <2 | 0.19 | <0.5 | 9 | 28 | 23 | 3.04 |
| CC144055 | | 0.06 | <0.001 | <0.2 | 1.84 | 10 | <10 | 140 | <0.5 | <2 | 0.23 | <0.5 | 9 | 28 | 37 | 2.60 |
| CC144056 | | 0.12 | <0.001 | <0.2 | 1.62 | 4 | <10 | 120 | <0.5 | <2 | 0.16 | <0.5 | 7 | 12 | 28 | 2.69 |
| CC144057 | | 0.06 | <0.001 | <0.2 | 1.04 | 9 | <10 | 90 | <0.5 | <2 | 0.16 | <0.5 | 5 | 18 | 22 | 1.96 |
| CC144058 | | 0.06 | <0.001 | <0.2 | 0.52 | 4 | <10 | 40 | <0.5 | <2 | 0.11 | <0.5 | 4 | 7 | 44 | 1.47 |
| CC144059 | | 0.12 | 0.001 | <0.2 | 1.21 | 5 | <10 | 190 | 0.5 | <2 | 0.23 | <0.5 | 8 | 15 | 34 | 3.56 |
| CC144060 | | 0.20 | 0.003 | <0.2 | 1.49 | 5 | <10 | 140 | <0.5 | <2 | 0.34 | <0.5 | 11 | 21 | 65 | 2.69 |
| CC144061 | | 0.16 | 0.001 | <0.2 | 2.06 | 7 | <10 | 160 | <0.5 | <2 | 0.28 | <0.5 | 10 | 27 | 83 | 2.99 |
| CC144062 | | Empty Bag | | | | | | | | | | | | | | |
| CC144063 | | 0.18 | 0.002 | <0.2 | 2.23 | 9 | <10 | 130 | <0.5 | <2 | 0.24 | <0.5 | 10 | 32 | 29 | 3.35 |
| CC144064 | | 0.24 | <0.001 | <0.2 | 2.09 | 6 | <10 | 250 | <0.5 | <2 | 0.34 | <0.5 | 11 | 33 | 25 | 2.94 |
| CC144065 | | 0.20 | 0.001 | <0.2 | 2.18 | 10 | <10 | 200 | <0.5 | <2 | 0.26 | <0.5 | 10 | 36 | 26 | 3.01 |
| CC144066 | | 0.24 | 0.001 | <0.2 | 2.46 | 8 | <10 | 180 | <0.5 | <2 | 0.23 | <0.5 | 11 | 38 | 24 | 3.30 |
| CC144067 | | 0.22 | 0.001 | <0.2 | 2.35 | 8 | <10 | 280 | <0.5 | <2 | 0.30 | <0.5 | 11 | 39 | 27 | 3.18 |
| CC144068 | | 0.28 | 0.001 | <0.2 | 2.34 | 11 | <10 | 200 | <0.5 | <2 | 0.28 | <0.5 | 11 | 41 | 25 | 3.19 |
| CC144069 | | 0.18 | <0.001 | <0.2 | 2.32 | 7 | <10 | 220 | <0.5 | <2 | 0.31 | <0.5 | 13 | 94 | 26 | 3.17 |
| CC144070 | | 0.14 | <0.001 | <0.2 | 2.12 | 6 | <10 | 400 | <0.5 | <2 | 0.45 | <0.5 | 14 | 142 | 31 | 3.03 |
| CC144071 | | 0.16 | 0.020 | <0.2 | 2.00 | 7 | <10 | 150 | <0.5 | <2 | 0.25 | <0.5 | 10 | 26 | 20 | 2.99 |
| CC144072 | | 0.20 | 0.003 | <0.2 | 1.84 | 6 | <10 | 190 | <0.5 | <2 | 0.24 | <0.5 | 8 | 29 | 23 | 2.77 |
| CC144073 | | 0.22 | 0.011 | <0.2 | 1.68 | 10 | <10 | 130 | <0.5 | <2 | 0.19 | <0.5 | 8 | 23 | 18 | 2.71 |
| CC144074 | | 0.24 | 0.003 | <0.2 | 2.11 | 9 | <10 | 160 | 0.5 | <2 | 0.17 | <0.5 | 9 | 29 | 20 | 2.95 |
| CC144075 | | 0.22 | 0.004 | <0.2 | 2.23 | 10 | <10 | 150 | <0.5 | <2 | 0.18 | <0.5 | 9 | 25 | 30 | 2.88 |
| CC144076 | | 0.18 | 0.001 | <0.2 | 1.86 | 7 | <10 | 130 | <0.5 | <2 | 0.13 | <0.5 | 7 | 17 | 13 | 2.59 |
| CC144077 | | 0.26 | 0.003 | <0.2 | 1.85 | 7 | <10 | 150 | <0.5 | <2 | 0.22 | <0.5 | 9 | 24 | 40 | 3.00 |
| CC144078 | | 0.08 | 0.014 | 0.2 | 1.74 | 10 | <10 | 240 | <0.5 | <2 | 0.28 | <0.5 | 8 | 24 | 181 | 2.77 |
| CC144088 | | 0.18 | 0.003 | <0.2 | 1.61 | 8 | <10 | 260 | 0.5 | <2 | 0.41 | <0.5 | 9 | 28 | 45 | 2.72 |
| CC144089 | | 0.16 | 0.010 | <0.2 | 2.04 | 8 | <10 | 140 | <0.5 | <2 | 0.24 | <0.5 | 12 | 29 | 43 | 2.82 |

***** See Appendix Page for comments regarding this certificate *****

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| CC144041 | | 10 | 1 | 0.12 | 10 | 0.94 | 333 | <1 | 0.01 | 16 | 690 | 4 | <0.01 | <2 | 4 | 23 |
| CC144042 | | <10 | <1 | 0.08 | 10 | 0.66 | 476 | <1 | 0.01 | 13 | 740 | 4 | <0.01 | <2 | 3 | 18 |
| CC144043 | | 10 | <1 | 0.06 | 10 | 0.61 | 273 | 1 | 0.01 | 18 | 260 | 7 | <0.01 | <2 | 5 | 15 |
| CC144044 | | 10 | <1 | 0.17 | 10 | 0.95 | 390 | <1 | 0.01 | 15 | 420 | 5 | <0.01 | <2 | 5 | 17 |
| CC144045 | | 10 | <1 | 0.06 | 10 | 0.69 | 349 | <1 | 0.01 | 18 | 300 | 7 | <0.01 | <2 | 5 | 15 |
| CC144046 | | 10 | <1 | 0.08 | 10 | 0.74 | 362 | <1 | 0.01 | 23 | 320 | 6 | <0.01 | <2 | 6 | 20 |
| CC144047 | | 10 | <1 | 0.09 | 10 | 0.86 | 441 | <1 | 0.01 | 20 | 470 | 3 | <0.01 | 2 | 4 | 20 |
| CC144048 | | 10 | <1 | 0.06 | 20 | 0.67 | 395 | <1 | 0.01 | 18 | 370 | 6 | <0.01 | <2 | 6 | 21 |
| CC144049 | | 10 | 1 | 0.14 | 20 | 0.78 | 419 | <1 | 0.01 | 23 | 500 | 6 | <0.01 | <2 | 4 | 23 |
| CC144050 | | 10 | 1 | 0.60 | 20 | 2.17 | 458 | <1 | 0.01 | 71 | 1400 | 5 | <0.01 | <2 | 4 | 36 |
| CC144051 | | 10 | <1 | 0.14 | 20 | 1.11 | 460 | <1 | 0.01 | 32 | 550 | 7 | <0.01 | <2 | 5 | 27 |
| CC144052 | | 10 | <1 | 0.54 | 20 | 1.00 | 332 | <1 | 0.01 | 24 | 2000 | 4 | <0.01 | <2 | 2 | 25 |
| CC144053 | | 10 | <1 | 0.06 | 10 | 0.66 | 359 | <1 | 0.01 | 12 | 400 | 6 | <0.01 | <2 | 4 | 17 |
| CC144054 | | 10 | <1 | 0.07 | 10 | 0.60 | 410 | 1 | 0.01 | 14 | 400 | 6 | <0.01 | <2 | 4 | 14 |
| CC144055 | | <10 | <1 | 0.05 | 10 | 0.53 | 337 | <1 | 0.01 | 18 | 450 | 6 | <0.01 | 2 | 4 | 17 |
| CC144056 | | 10 | 1 | 0.27 | 10 | 0.76 | 466 | 1 | 0.01 | 8 | 400 | 4 | 0.02 | <2 | 2 | 11 |
| CC144057 | | <10 | <1 | 0.05 | 10 | 0.29 | 222 | 1 | 0.01 | 9 | 500 | 6 | 0.01 | 2 | 1 | 13 |
| CC144058 | | <10 | <1 | 0.05 | 10 | 0.15 | 296 | 1 | 0.01 | 3 | 500 | 6 | 0.03 | 2 | 1 | 7 |
| CC144059 | | <10 | <1 | 0.06 | 20 | 0.47 | 555 | 1 | 0.01 | 9 | 610 | 7 | <0.01 | 4 | 10 | 12 |
| CC144060 | | <10 | <1 | 0.05 | 10 | 0.54 | 504 | 1 | 0.02 | 14 | 700 | 6 | 0.02 | <2 | 3 | 19 |
| CC144061 | | 10 | 1 | 0.07 | 10 | 0.69 | 297 | <1 | 0.01 | 17 | 680 | 4 | 0.01 | <2 | 5 | 20 |
| CC144062 | | | | | | | | | | | | | | | | |
| CC144063 | | <10 | 1 | 0.05 | 10 | 0.78 | 385 | <1 | 0.01 | 18 | 500 | 6 | <0.01 | 4 | 4 | 18 |
| CC144064 | | <10 | <1 | 0.14 | 10 | 0.92 | 363 | <1 | 0.01 | 18 | 670 | 5 | <0.01 | 2 | 4 | 21 |
| CC144065 | | 10 | <1 | 0.08 | 10 | 0.81 | 382 | <1 | 0.01 | 17 | 410 | 5 | 0.02 | <2 | 5 | 20 |
| CC144066 | | 10 | <1 | 0.07 | 10 | 0.81 | 368 | <1 | 0.01 | 18 | 390 | 6 | 0.02 | <2 | 5 | 19 |
| CC144067 | | 10 | 1 | 0.07 | 10 | 0.80 | 393 | <1 | 0.01 | 20 | 450 | 5 | 0.03 | <2 | 6 | 25 |
| CC144068 | | 10 | <1 | 0.07 | 10 | 0.85 | 338 | <1 | 0.01 | 18 | 400 | 5 | 0.03 | <2 | 5 | 22 |
| CC144069 | | 10 | <1 | 0.13 | 10 | 1.30 | 329 | <1 | 0.01 | 31 | 510 | 5 | 0.02 | <2 | 4 | 21 |
| CC144070 | | 10 | 1 | 0.30 | 10 | 1.41 | 396 | <1 | 0.02 | 45 | 770 | 5 | 0.02 | <2 | 4 | 29 |
| CC144071 | | 10 | <1 | 0.10 | 10 | 0.78 | 352 | <1 | 0.01 | 12 | 410 | 3 | 0.02 | <2 | 3 | 18 |
| CC144072 | | 10 | <1 | 0.07 | 10 | 0.59 | 347 | <1 | 0.01 | 17 | 300 | 7 | 0.02 | <2 | 5 | 19 |
| CC144073 | | 10 | <1 | 0.08 | 10 | 0.46 | 476 | 1 | 0.01 | 11 | 380 | 8 | 0.02 | <2 | 4 | 14 |
| CC144074 | | 10 | <1 | 0.08 | 10 | 0.57 | 371 | 1 | 0.01 | 17 | 350 | 7 | 0.02 | <2 | 5 | 16 |
| CC144075 | | 10 | <1 | 0.08 | 10 | 0.67 | 345 | 1 | 0.01 | 19 | 290 | 5 | 0.03 | <2 | 4 | 15 |
| CC144076 | | 10 | <1 | 0.11 | 10 | 0.52 | 298 | <1 | 0.01 | 10 | 250 | 4 | 0.03 | <2 | 3 | 11 |
| CC144077 | | 10 | <1 | 0.07 | 10 | 0.53 | 433 | 1 | 0.01 | 11 | 370 | 9 | 0.03 | <2 | 4 | 16 |
| CC144078 | | <10 | <1 | 0.08 | 20 | 0.52 | 300 | 1 | 0.02 | 14 | 650 | 8 | 0.04 | <2 | 4 | 19 |
| CC144088 | | <10 | <1 | 0.07 | 20 | 0.53 | 402 | 1 | 0.02 | 18 | 790 | 6 | 0.03 | <2 | 5 | 26 |
| CC144089 | | 10 | <1 | 0.06 | 20 | 0.54 | 304 | 1 | 0.01 | 18 | 540 | 9 | 0.03 | <2 | 5 | 16 |

***** See Appendix Page for comments regarding this certificate *****

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**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| CC144041 | | <20 | 0.14 | <10 | <10 | 71 | <10 | 58 |
| CC144042 | | <20 | 0.10 | <10 | <10 | 63 | <10 | 59 |
| CC144043 | | <20 | 0.11 | <10 | <10 | 71 | <10 | 57 |
| CC144044 | | <20 | 0.14 | <10 | <10 | 85 | <10 | 63 |
| CC144045 | | <20 | 0.11 | <10 | <10 | 73 | <10 | 54 |
| CC144046 | | <20 | 0.13 | <10 | <10 | 78 | <10 | 56 |
| CC144047 | | <20 | 0.12 | <10 | <10 | 72 | <10 | 58 |
| CC144048 | | <20 | 0.10 | <10 | <10 | 66 | <10 | 53 |
| CC144049 | | <20 | 0.10 | <10 | <10 | 61 | <10 | 60 |
| CC144050 | | <20 | 0.18 | <10 | <10 | 90 | <10 | 60 |
| CC144051 | | <20 | 0.13 | <10 | <10 | 75 | <10 | 60 |
| CC144052 | | <20 | 0.12 | <10 | <10 | 52 | <10 | 33 |
| CC144053 | | <20 | 0.10 | <10 | <10 | 63 | <10 | 54 |
| CC144054 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 57 |
| CC144055 | | <20 | 0.08 | <10 | <10 | 55 | <10 | 47 |
| CC144056 | | <20 | 0.11 | <10 | <10 | 41 | <10 | 66 |
| CC144057 | | <20 | 0.05 | <10 | <10 | 48 | <10 | 42 |
| CC144058 | | <20 | 0.03 | <10 | <10 | 23 | <10 | 61 |
| CC144059 | | <20 | 0.05 | <10 | <10 | 48 | <10 | 119 |
| CC144060 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 54 |
| CC144061 | | <20 | 0.09 | <10 | <10 | 71 | <10 | 52 |
| CC144062 | | | | | | | | |
| CC144063 | | <20 | 0.12 | <10 | <10 | 78 | <10 | 56 |
| CC144064 | | <20 | 0.13 | <10 | <10 | 71 | <10 | 55 |
| CC144065 | | <20 | 0.12 | <10 | <10 | 76 | <10 | 57 |
| CC144066 | | <20 | 0.13 | <10 | <10 | 82 | <10 | 58 |
| CC144067 | | <20 | 0.12 | <10 | <10 | 78 | <10 | 57 |
| CC144068 | | <20 | 0.13 | <10 | <10 | 78 | <10 | 57 |
| CC144069 | | <20 | 0.17 | <10 | <10 | 82 | <10 | 59 |
| CC144070 | | <20 | 0.15 | <10 | <10 | 75 | <10 | 60 |
| CC144071 | | <20 | 0.12 | <10 | <10 | 66 | <10 | 61 |
| CC144072 | | <20 | 0.10 | <10 | <10 | 56 | <10 | 57 |
| CC144073 | | <20 | 0.08 | <10 | <10 | 54 | <10 | 52 |
| CC144074 | | <20 | 0.10 | <10 | <10 | 55 | <10 | 60 |
| CC144075 | | <20 | 0.11 | <10 | <10 | 54 | <10 | 60 |
| CC144076 | | <20 | 0.08 | <10 | <10 | 31 | <10 | 70 |
| CC144077 | | <20 | 0.08 | <10 | <10 | 60 | <10 | 80 |
| CC144078 | | <20 | 0.08 | <10 | <10 | 50 | <10 | 114 |
| CC144088 | | <20 | 0.08 | <10 | <10 | 55 | <10 | 55 |
| CC144089 | | <20 | 0.09 | <10 | <10 | 57 | <10 | 56 |

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method Analyte Units LOR | WEI-21 Recvd Wt. kg 0.02 | Au-ICP21 Au ppm 0.001 | ME-ICP41 Ag ppm 0.2 | ME-ICP41 Al % 0.01 | ME-ICP41 As ppm 2 | ME-ICP41 B ppm 10 | ME-ICP41 Ba ppm 10 | ME-ICP41 Be ppm 0.5 | ME-ICP41 Bi ppm 2 | ME-ICP41 Ca % 0.01 | ME-ICP41 Cd ppm 0.5 | ME-ICP41 Co ppm 1 | ME-ICP41 Cr ppm 1 | ME-ICP41 Cu ppm 1 | ME-ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CC144090 | | 0.16 | 0.002 | <0.2 | 2.25 | 14 | <10 | 180 | <0.5 | <2 | 0.22 | <0.5 | 12 | 36 | 22 | 3.65 |
| CC144091 | | 0.22 | 0.002 | <0.2 | 1.70 | 9 | <10 | 120 | <0.5 | <2 | 0.15 | <0.5 | 9 | 23 | 18 | 2.39 |
| CC144092 | | 0.20 | 0.006 | <0.2 | 1.94 | 9 | <10 | 170 | <0.5 | <2 | 0.22 | <0.5 | 8 | 29 | 24 | 2.71 |
| CC144093 | | 0.18 | 0.002 | <0.2 | 1.83 | 10 | <10 | 170 | <0.5 | <2 | 0.20 | <0.5 | 8 | 28 | 24 | 2.69 |
| CC144094 | | 0.26 | 0.003 | <0.2 | 2.06 | 9 | <10 | 270 | <0.5 | <2 | 0.30 | <0.5 | 11 | 33 | 27 | 3.04 |
| CC144095 | | 0.22 | 0.003 | <0.2 | 1.95 | 8 | <10 | 300 | <0.5 | <2 | 0.27 | <0.5 | 11 | 32 | 26 | 2.93 |
| CC144096 | | 0.18 | 0.004 | 0.2 | 2.04 | 8 | <10 | 320 | <0.5 | <2 | 0.23 | <0.5 | 10 | 32 | 27 | 3.03 |
| CC144097 | | 0.24 | 0.001 | <0.2 | 1.93 | 5 | <10 | 170 | <0.5 | <2 | 0.27 | <0.5 | 10 | 32 | 21 | 2.73 |
| CC144098 | | 0.30 | <0.001 | <0.2 | 2.15 | 7 | <10 | 90 | <0.5 | <2 | 0.19 | <0.5 | 8 | 23 | 32 | 3.05 |
| CC144099 | | 0.24 | 0.004 | <0.2 | 1.92 | 7 | <10 | 180 | <0.5 | <2 | 0.15 | <0.5 | 7 | 23 | 27 | 3.07 |
| CC144100 | | 0.14 | 0.005 | <0.2 | 1.12 | 5 | <10 | 90 | <0.5 | <2 | 0.16 | <0.5 | 5 | 9 | 15 | 1.81 |
| CC144101 | | 0.18 | 0.002 | <0.2 | 1.65 | 6 | <10 | 130 | <0.5 | 2 | 0.15 | <0.5 | 6 | 17 | 24 | 2.79 |
| CC144102 | | 0.16 | 0.006 | <0.2 | 2.17 | 8 | <10 | 190 | <0.5 | <2 | 0.16 | <0.5 | 8 | 30 | 31 | 3.17 |
| CC144103 | | 0.26 | 0.013 | 0.4 | 1.42 | 5 | <10 | 770 | <0.5 | <2 | 0.21 | <0.5 | 7 | 21 | 44 | 2.88 |
| CC144104 | | 0.28 | 0.087 | 0.7 | 1.54 | 19 | <10 | 590 | <0.5 | <2 | 0.15 | <0.5 | 6 | 20 | 77 | 2.74 |
| CC144105 | | 0.08 | 0.018 | <0.2 | 1.45 | 7 | <10 | 170 | <0.5 | <2 | 0.11 | 0.5 | 9 | 12 | 57 | 3.66 |
| CC144106 | | 0.10 | 0.161 | 1.8 | 1.97 | 11 | <10 | 1760 | <0.5 | 2 | 0.11 | <0.5 | 8 | 26 | 18 | 2.67 |
| CC144107 | | 0.06 | 0.107 | 0.7 | 1.27 | 24 | <10 | 1430 | <0.5 | 2 | 0.14 | <0.5 | 4 | 21 | 19 | 2.55 |
| CC144108 | | 0.12 | 0.018 | 3.6 | 1.40 | 14 | <10 | 1860 | <0.5 | <2 | 0.12 | <0.5 | 11 | 17 | 32 | 2.90 |
| CC144109 | | 0.12 | 0.039 | 0.8 | 1.77 | 9 | <10 | 1670 | <0.5 | <2 | 0.14 | <0.5 | 12 | 20 | 31 | 2.90 |
| CC144110 | | 0.08 | 0.078 | 0.6 | 1.44 | 5 | <10 | 640 | <0.5 | 2 | 0.14 | <0.5 | 5 | 18 | 19 | 2.21 |
| CC144111 | | 0.10 | 0.009 | 0.3 | 1.84 | 6 | <10 | 720 | <0.5 | <2 | 0.16 | <0.5 | 7 | 18 | 40 | 2.88 |
| CC144112 | | 0.08 | 0.004 | <0.2 | 2.15 | 5 | <10 | 450 | <0.5 | <2 | 0.22 | <0.5 | 10 | 38 | 22 | 3.06 |
| CC144113 | | 0.12 | 0.004 | <0.2 | 1.73 | 3 | <10 | 150 | <0.5 | <2 | 0.24 | <0.5 | 8 | 8 | 23 | 2.21 |
| CC144114 | | 0.08 | 0.029 | 0.2 | 1.95 | 20 | <10 | 260 | <0.5 | <2 | 0.20 | <0.5 | 8 | 27 | 23 | 3.07 |
| CC144115 | | 0.14 | 0.011 | <0.2 | 2.00 | 7 | <10 | 130 | <0.5 | <2 | 0.13 | <0.5 | 7 | 23 | 25 | 2.91 |
| CC144116 | | 0.26 | 0.008 | <0.2 | 1.66 | 3 | <10 | 200 | <0.5 | <2 | 0.29 | <0.5 | 21 | 3 | 178 | 3.65 |
| CC144117 | | 0.18 | 0.006 | <0.2 | 1.73 | 6 | <10 | 300 | <0.5 | 2 | 0.31 | <0.5 | 17 | 27 | 40 | 2.78 |
| CC144118 | | 0.22 | 0.002 | <0.2 | 1.94 | 7 | <10 | 160 | 0.5 | 2 | 0.27 | <0.5 | 12 | 23 | 25 | 3.15 |
| CC144119 | | 0.24 | 0.001 | <0.2 | 1.21 | 5 | <10 | 60 | 0.6 | 2 | 0.09 | <0.5 | 8 | 4 | 27 | 3.04 |
| CC144120 | | 0.14 | 0.003 | <0.2 | 1.96 | 8 | <10 | 140 | <0.5 | 2 | 0.14 | <0.5 | 7 | 25 | 26 | 2.82 |
| CC144121 | | 0.12 | 0.002 | <0.2 | 2.19 | 5 | <10 | 140 | <0.5 | <2 | 0.21 | <0.5 | 9 | 23 | 42 | 3.06 |
| CC144122 | | 0.18 | 0.001 | <0.2 | 2.07 | 6 | <10 | 160 | <0.5 | 2 | 0.25 | <0.5 | 12 | 42 | 25 | 3.01 |
| CC144123 | | 0.10 | 0.002 | <0.2 | 1.63 | 7 | <10 | 180 | <0.5 | <2 | 0.23 | <0.5 | 10 | 29 | 21 | 2.62 |
| CC144124 | | 0.14 | 0.012 | <0.2 | 2.31 | 8 | <10 | 290 | 0.5 | <2 | 0.33 | <0.5 | 15 | 140 | 35 | 3.50 |
| CC144125 | | 0.12 | 0.001 | <0.2 | 2.12 | 4 | <10 | 580 | <0.5 | <2 | 0.60 | <0.5 | 16 | 200 | 31 | 2.73 |
| CC144126 | | 0.12 | 0.004 | 0.3 | 2.06 | 7 | <10 | 640 | 0.5 | 2 | 0.34 | <0.5 | 9 | 84 | 41 | 3.14 |
| CC144127 | | 0.14 | 0.001 | <0.2 | 2.35 | 7 | <10 | 350 | 0.5 | 2 | 0.34 | <0.5 | 13 | 123 | 33 | 3.61 |
| CC144128 | | 0.12 | 0.003 | <0.2 | 1.65 | 7 | <10 | 320 | <0.5 | <2 | 0.18 | <0.5 | 6 | 23 | 32 | 2.76 |
| CC144129 | | 0.08 | 0.002 | <0.2 | 1.75 | 4 | <10 | 190 | 0.5 | 2 | 0.19 | <0.5 | 9 | 18 | 52 | 2.95 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| CC144090 | | 10 | 1 | 0.06 | 10 | 0.59 | 523 | 1 | 0.01 | 24 | 400 | 9 | 0.03 | <2 | 4 | 21 |
| CC144091 | | <10 | <1 | 0.07 | 10 | 0.42 | 279 | 1 | 0.01 | 13 | 260 | 8 | 0.03 | <2 | 3 | 12 |
| CC144092 | | 10 | 1 | 0.06 | 20 | 0.53 | 305 | <1 | 0.01 | 16 | 320 | 6 | 0.01 | <2 | 5 | 17 |
| CC144093 | | 10 | 1 | 0.06 | 10 | 0.49 | 316 | 1 | 0.01 | 15 | 340 | 7 | 0.01 | <2 | 4 | 17 |
| CC144094 | | 10 | <1 | 0.07 | 10 | 0.70 | 362 | <1 | 0.01 | 17 | 510 | 6 | 0.01 | <2 | 5 | 21 |
| CC144095 | | 10 | <1 | 0.07 | 20 | 0.66 | 382 | <1 | 0.01 | 18 | 410 | 7 | 0.01 | <2 | 5 | 21 |
| CC144096 | | 10 | 1 | 0.07 | 20 | 0.56 | 414 | 1 | 0.01 | 14 | 390 | 8 | 0.01 | <2 | 4 | 20 |
| CC144097 | | 10 | <1 | 0.10 | 10 | 0.95 | 312 | <1 | 0.01 | 11 | 400 | 5 | 0.02 | <2 | 3 | 17 |
| CC144098 | | 10 | <1 | 0.10 | 10 | 0.82 | 268 | <1 | 0.01 | 10 | 360 | 5 | 0.03 | <2 | 3 | 13 |
| CC144099 | | 10 | 1 | 0.07 | 10 | 0.59 | 281 | 1 | 0.01 | 11 | 270 | 8 | 0.02 | <2 | 4 | 13 |
| CC144100 | | <10 | <1 | 0.11 | 10 | 0.43 | 305 | <1 | 0.01 | 4 | 420 | 5 | 0.02 | <2 | 2 | 7 |
| CC144101 | | 10 | <1 | 0.11 | 10 | 0.55 | 367 | 1 | 0.01 | 10 | 370 | 7 | 0.01 | 2 | 3 | 11 |
| CC144102 | | 10 | <1 | 0.06 | 10 | 0.60 | 348 | 1 | 0.02 | 17 | 440 | 9 | 0.02 | 2 | 4 | 15 |
| CC144103 | | <10 | <1 | 0.10 | 10 | 0.53 | 254 | 3 | 0.03 | 10 | 340 | 52 | 0.14 | <2 | 4 | 25 |
| CC144104 | | <10 | <1 | 0.05 | 10 | 0.46 | 262 | 2 | 0.02 | 12 | 360 | 47 | 0.08 | 5 | 3 | 21 |
| CC144105 | | 10 | <1 | 0.10 | 10 | 0.37 | 610 | 1 | 0.02 | 6 | 620 | 10 | 0.07 | 3 | 3 | 11 |
| CC144106 | | 10 | 3 | 0.04 | 10 | 0.38 | 275 | 13 | 0.02 | 13 | 340 | 26 | 0.05 | 10 | 3 | 23 |
| CC144107 | | <10 | 1 | 0.05 | 10 | 0.32 | 181 | 5 | 0.02 | 8 | 390 | 41 | 0.05 | 10 | 2 | 25 |
| CC144108 | | 10 | 1 | 0.04 | 10 | 0.34 | 727 | 3 | 0.02 | 7 | 480 | 26 | 0.05 | 3 | 3 | 25 |
| CC144109 | | <10 | <1 | 0.09 | 10 | 0.49 | 732 | 1 | 0.02 | 10 | 510 | 27 | 0.05 | 3 | 3 | 24 |
| CC144110 | | <10 | <1 | 0.07 | 10 | 0.39 | 255 | 1 | 0.02 | 8 | 360 | 16 | 0.02 | 4 | 2 | 15 |
| CC144111 | | 10 | <1 | 0.16 | 10 | 0.68 | 263 | 1 | 0.02 | 9 | 440 | 10 | 0.02 | 2 | 3 | 14 |
| CC144112 | | 10 | <1 | 0.17 | 10 | 1.08 | 317 | <1 | 0.02 | 11 | 410 | 4 | 0.02 | 2 | 3 | 15 |
| CC144113 | | <10 | <1 | 0.15 | 10 | 1.01 | 475 | 1 | 0.01 | 7 | 740 | 3 | 0.02 | 2 | 2 | 9 |
| CC144114 | | 10 | 1 | 0.07 | 10 | 0.55 | 252 | 4 | 0.02 | 17 | 540 | 59 | 0.06 | 6 | 13 | 20 |
| CC144115 | | <10 | <1 | 0.08 | 10 | 0.59 | 272 | <1 | 0.02 | 16 | 360 | 9 | 0.02 | 2 | 4 | 12 |
| CC144116 | | <10 | <1 | 0.16 | 20 | 1.16 | 899 | 1 | 0.01 | 4 | 550 | 9 | 0.02 | 2 | 5 | 13 |
| CC144117 | | 10 | <1 | 0.06 | 10 | 0.59 | 765 | 1 | 0.02 | 14 | 760 | 7 | 0.05 | 2 | 4 | 21 |
| CC144118 | | 10 | <1 | 0.05 | 10 | 0.61 | 538 | 1 | 0.02 | 18 | 690 | 7 | 0.02 | 2 | 6 | 17 |
| CC144119 | | <10 | <1 | 0.09 | <10 | 0.41 | 410 | 3 | 0.01 | 3 | 440 | 8 | 0.01 | <2 | 4 | 5 |
| CC144120 | | 10 | <1 | 0.09 | 10 | 0.66 | 297 | <1 | 0.01 | 14 | 270 | 6 | 0.01 | 2 | 4 | 13 |
| CC144121 | | 10 | <1 | 0.17 | 10 | 0.91 | 306 | <1 | 0.02 | 13 | 450 | 4 | 0.02 | 2 | 4 | 13 |
| CC144122 | | 10 | <1 | 0.10 | 10 | 0.94 | 364 | <1 | 0.02 | 17 | 440 | 8 | 0.02 | 2 | 3 | 17 |
| CC144123 | | 10 | <1 | 0.08 | 10 | 0.67 | 465 | <1 | 0.02 | 13 | 400 | 7 | 0.02 | <2 | 3 | 16 |
| CC144124 | | 10 | <1 | 0.24 | 10 | 1.30 | 481 | <1 | 0.02 | 50 | 490 | 6 | 0.01 | 2 | 5 | 25 |
| CC144125 | | <10 | <1 | 0.61 | 10 | 1.89 | 348 | <1 | 0.02 | 69 | 1670 | 2 | 0.02 | <2 | 2 | 28 |
| CC144126 | | 10 | <1 | 0.15 | 20 | 0.86 | 310 | 1 | 0.02 | 31 | 600 | 9 | 0.03 | <2 | 5 | 26 |
| CC144127 | | 10 | <1 | 0.15 | 20 | 1.23 | 437 | 1 | 0.02 | 39 | 720 | 8 | 0.02 | 3 | 5 | 22 |
| CC144128 | | <10 | 1 | 0.07 | 20 | 0.48 | 314 | 1 | 0.02 | 12 | 330 | 7 | 0.01 | 2 | 4 | 16 |
| CC144129 | | 10 | <1 | 0.13 | 10 | 0.65 | 468 | <1 | 0.01 | 11 | 430 | 5 | 0.02 | 3 | 4 | 16 |

***** See Appendix Page for comments regarding this certificate *****

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| CC144090 | | <20 | 0.10 | <10 | <10 | 72 | <10 | 56 |
| CC144091 | | <20 | 0.07 | <10 | <10 | 45 | <10 | 46 |
| CC144092 | | <20 | 0.09 | <10 | <10 | 57 | <10 | 49 |
| CC144093 | | <20 | 0.09 | <10 | <10 | 61 | <10 | 44 |
| CC144094 | | <20 | 0.11 | <10 | <10 | 70 | <10 | 56 |
| CC144095 | | <20 | 0.10 | <10 | <10 | 63 | <10 | 56 |
| CC144096 | | <20 | 0.09 | <10 | <10 | 69 | <10 | 52 |
| CC144097 | | <20 | 0.13 | <10 | <10 | 62 | <10 | 59 |
| CC144098 | | <20 | 0.13 | <10 | <10 | 72 | <10 | 67 |
| CC144099 | | <20 | 0.11 | <10 | <10 | 65 | <10 | 60 |
| CC144100 | | <20 | 0.07 | <10 | <10 | 26 | <10 | 54 |
| CC144101 | | <20 | 0.09 | <10 | <10 | 51 | <10 | 71 |
| CC144102 | | <20 | 0.10 | <10 | <10 | 63 | <10 | 68 |
| CC144103 | | <20 | 0.08 | <10 | <10 | 44 | <10 | 66 |
| CC144104 | | <20 | 0.06 | <10 | <10 | 39 | <10 | 91 |
| CC144105 | | <20 | 0.04 | <10 | <10 | 39 | <10 | 501 |
| CC144106 | | <20 | 0.07 | <10 | <10 | 51 | <10 | 50 |
| CC144107 | | <20 | 0.07 | <10 | <10 | 61 | <10 | 44 |
| CC144108 | | <20 | 0.07 | <10 | <10 | 66 | <10 | 84 |
| CC144109 | | <20 | 0.08 | <10 | <10 | 47 | <10 | 76 |
| CC144110 | | <20 | 0.08 | <10 | <10 | 48 | <10 | 54 |
| CC144111 | | <20 | 0.12 | <10 | <10 | 62 | <10 | 71 |
| CC144112 | | <20 | 0.14 | <10 | <10 | 72 | <10 | 65 |
| CC144113 | | <20 | 0.09 | <10 | <10 | 22 | <10 | 341 |
| CC144114 | | <20 | 0.09 | <10 | <10 | 62 | <10 | 65 |
| CC144115 | | <20 | 0.09 | <10 | <10 | 44 | <10 | 77 |
| CC144116 | | <20 | 0.05 | <10 | <10 | 46 | <10 | 246 |
| CC144117 | | <20 | 0.08 | <10 | <10 | 55 | <10 | 90 |
| CC144118 | | <20 | 0.07 | <10 | <10 | 53 | <10 | 76 |
| CC144119 | | <20 | 0.01 | <10 | <10 | 19 | <10 | 103 |
| CC144120 | | <20 | 0.11 | <10 | <10 | 56 | <10 | 82 |
| CC144121 | | <20 | 0.12 | <10 | <10 | 66 | <10 | 74 |
| CC144122 | | <20 | 0.13 | <10 | <10 | 69 | <10 | 65 |
| CC144123 | | <20 | 0.09 | <10 | <10 | 54 | <10 | 68 |
| CC144124 | | <20 | 0.14 | <10 | <10 | 76 | <10 | 71 |
| CC144125 | | <20 | 0.18 | <10 | <10 | 73 | <10 | 45 |
| CC144126 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 75 |
| CC144127 | | <20 | 0.13 | <10 | <10 | 81 | <10 | 84 |
| CC144128 | | <20 | 0.07 | <10 | <10 | 56 | <10 | 108 |
| CC144129 | | <20 | 0.09 | <10 | <10 | 55 | <10 | 141 |

***** See Appendix Page for comments regarding this certificate *****

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method Analyte Units LOR | WEI-21 Recvd Wt. kg 0.02 | Au-ICP21 Au ppm 0.001 | ME-ICP41 Ag ppm 0.2 | ME-ICP41 Al % 0.01 | ME-ICP41 As ppm 2 | ME-ICP41 B ppm 10 | ME-ICP41 Ba ppm 10 | ME-ICP41 Be ppm 0.5 | ME-ICP41 Bi ppm 2 | ME-ICP41 Ca % 0.01 | ME-ICP41 Cd ppm 0.5 | ME-ICP41 Co ppm 1 | ME-ICP41 Cr ppm 1 | ME-ICP41 Cu ppm 1 | ME-ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CC144130 | | 0.08 | <0.001 | <0.2 | 1.43 | 5 | <10 | 150 | <0.5 | <2 | 0.14 | <0.5 | 6 | 20 | 21 | 2.82 |
| CC144131 | | 0.08 | 0.003 | <0.2 | 1.46 | 6 | <10 | 150 | <0.5 | 2 | 0.12 | <0.5 | 3 | 16 | 18 | 2.60 |
| CC144132 | | 0.12 | 0.017 | 0.4 | 1.80 | 8 | <10 | 600 | <0.5 | 2 | 0.23 | <0.5 | 8 | 23 | 56 | 2.92 |
| CC144133 | | 0.18 | 0.039 | 0.2 | 1.54 | 7 | <10 | 260 | <0.5 | <2 | 0.10 | <0.5 | 7 | 33 | 31 | 4.13 |
| CC144134 | | 0.10 | 0.063 | 0.3 | 1.10 | 5 | <10 | 70 | <0.5 | <2 | 0.05 | <0.5 | 4 | 16 | 9 | 1.23 |
| CC144135 | | 0.12 | 0.021 | 0.2 | 1.79 | 6 | <10 | 310 | <0.5 | <2 | 0.17 | <0.5 | 9 | 36 | 39 | 3.18 |
| CC144136 | | 0.12 | 0.004 | <0.2 | 2.05 | 8 | <10 | 180 | <0.5 | 2 | 0.24 | <0.5 | 9 | 27 | 31 | 3.17 |
| CC144137 | | 0.14 | 0.005 | <0.2 | 1.99 | 3 | <10 | 180 | <0.5 | <2 | 0.26 | <0.5 | 12 | 29 | 46 | 3.04 |
| CC144138 | | 0.14 | 0.004 | <0.2 | 2.09 | 2 | <10 | 140 | <0.5 | <2 | 0.22 | <0.5 | 11 | 26 | 28 | 3.12 |
| CC144139 | | 0.12 | 0.003 | <0.2 | 1.48 | 5 | <10 | 270 | <0.5 | <2 | 0.31 | <0.5 | 8 | 24 | 32 | 2.41 |
| CC144140 | | 0.12 | 0.006 | <0.2 | 1.16 | 6 | <10 | 70 | <0.5 | <2 | 0.09 | <0.5 | 4 | 20 | 13 | 2.55 |
| CC144141 | | 0.28 | 0.104 | 0.9 | 0.52 | 4 | <10 | 460 | <0.5 | 2 | 0.05 | <0.5 | 4 | 5 | 33 | 1.90 |
| CC144142 | | 0.24 | 0.029 | 0.3 | 1.52 | 7 | <10 | 210 | <0.5 | <2 | 0.13 | <0.5 | 6 | 24 | 20 | 2.66 |
| CC144143 | | 0.28 | 0.009 | <0.2 | 2.02 | 8 | <10 | 220 | 0.5 | <2 | 0.17 | <0.5 | 10 | 28 | 45 | 2.90 |
| CC144144 | | 0.24 | 0.003 | <0.2 | 1.52 | <2 | <10 | 150 | <0.5 | <2 | 0.12 | <0.5 | 6 | 15 | 25 | 2.42 |
| CC144145 | | 0.24 | 0.002 | 0.2 | 1.83 | 4 | <10 | 180 | <0.5 | <2 | 0.16 | <0.5 | 9 | 22 | 32 | 2.87 |
| CC144146 | | 0.26 | 0.002 | <0.2 | 1.79 | 4 | <10 | 200 | <0.5 | <2 | 0.20 | <0.5 | 10 | 34 | 26 | 2.85 |
| CC144147 | | 0.20 | 0.003 | <0.2 | 1.65 | 8 | <10 | 250 | <0.5 | <2 | 0.26 | <0.5 | 10 | 63 | 29 | 3.29 |
| CC144148 | | 0.18 | 0.003 | <0.2 | 1.97 | 5 | <10 | 410 | <0.5 | <2 | 0.42 | <0.5 | 14 | 129 | 39 | 3.21 |
| CC144149 | | 0.22 | 0.005 | 0.3 | 1.49 | 7 | <10 | 240 | <0.5 | <2 | 0.25 | <0.5 | 10 | 30 | 27 | 2.84 |
| CC144150 | | 0.16 | 0.003 | <0.2 | 1.90 | 6 | <10 | 140 | <0.5 | <2 | 0.24 | <0.5 | 11 | 31 | 30 | 2.60 |
| CC144151 | | 0.18 | 0.004 | <0.2 | 1.80 | 6 | <10 | 120 | <0.5 | <2 | 0.13 | <0.5 | 10 | 23 | 44 | 2.61 |
| CC144152 | | 0.22 | 0.005 | <0.2 | 1.94 | 8 | <10 | 140 | <0.5 | <2 | 0.13 | <0.5 | 8 | 24 | 30 | 2.82 |
| CC144153 | | 0.18 | 0.004 | <0.2 | 1.72 | 6 | <10 | 160 | <0.5 | <2 | 0.15 | <0.5 | 7 | 22 | 29 | 2.77 |
| CC144154 | | 0.22 | 0.002 | <0.2 | 1.42 | <2 | <10 | 100 | <0.5 | <2 | 0.10 | <0.5 | 5 | 2 | 19 | 1.94 |
| CC144155 | | 0.28 | 0.031 | 0.2 | 1.68 | 7 | <10 | 170 | <0.5 | <2 | 0.19 | <0.5 | 9 | 24 | 33 | 2.96 |
| CC144156 | | 0.26 | 0.004 | <0.2 | 2.15 | 7 | <10 | 150 | <0.5 | <2 | 0.18 | <0.5 | 12 | 27 | 25 | 2.92 |
| CC144157 | | Empty Bag | | | | | | | | | | | | | | |
| CC144158 | | 0.16 | 0.022 | <0.2 | 2.12 | 3 | <10 | 120 | <0.5 | <2 | 0.13 | <0.5 | 10 | 19 | 132 | 3.52 |
| CC144159 | | 0.16 | 0.009 | <0.2 | 2.36 | 10 | <10 | 220 | 0.5 | <2 | 0.12 | <0.5 | 9 | 32 | 33 | 3.40 |
| CC144160 | | 0.18 | <0.001 | <0.2 | 2.03 | 9 | <10 | 130 | 0.5 | <2 | 0.14 | <0.5 | 10 | 26 | 33 | 3.25 |
| CC144161 | | 0.16 | 0.005 | <0.2 | 2.06 | 4 | <10 | 130 | 0.6 | <2 | 0.13 | <0.5 | 9 | 26 | 38 | 3.10 |
| CC144162 | | 0.20 | 0.002 | <0.2 | 1.95 | 8 | <10 | 150 | 0.5 | <2 | 0.16 | <0.5 | 10 | 28 | 38 | 3.23 |
| CC144163 | | 0.22 | 0.005 | <0.2 | 1.93 | 2 | <10 | 100 | <0.5 | <2 | 0.17 | <0.5 | 10 | 17 | 18 | 3.57 |
| CC144164 | | 0.10 | 0.006 | 0.2 | 2.41 | 10 | <10 | 140 | <0.5 | <2 | 0.13 | <0.5 | 10 | 35 | 19 | 3.28 |
| CC144165 | | 0.14 | 0.010 | <0.2 | 2.26 | 8 | <10 | 150 | 0.5 | <2 | 0.18 | <0.5 | 8 | 28 | 31 | 3.19 |
| CC144166 | | 0.18 | 0.005 | <0.2 | 1.97 | 6 | <10 | 130 | 0.5 | <2 | 0.15 | <0.5 | 10 | 27 | 38 | 3.24 |
| CC144167 | | 0.14 | 0.007 | <0.2 | 1.75 | 6 | <10 | 180 | 0.5 | <2 | 0.28 | <0.5 | 10 | 30 | 31 | 3.12 |
| CC144168 | | 0.18 | 0.002 | <0.2 | 1.91 | 6 | <10 | 190 | <0.5 | <2 | 0.24 | <0.5 | 12 | 31 | 22 | 2.93 |
| CC144169 | | 0.14 | 0.001 | <0.2 | 1.64 | 6 | <10 | 240 | <0.5 | <2 | 0.30 | <0.5 | 10 | 35 | 22 | 2.83 |

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| CC144130 | | 10 | <1 | 0.08 | 10 | 0.44 | 415 | 1 | 0.02 | 8 | 360 | 6 | 0.02 | <2 | 3 | 13 |
| CC144131 | | 10 | <1 | 0.11 | 10 | 0.48 | 248 | 1 | 0.01 | 8 | 350 | 5 | 0.01 | 2 | 2 | 11 |
| CC144132 | | 10 | <1 | 0.17 | 10 | 0.66 | 313 | <1 | 0.02 | 15 | 540 | 9 | 0.03 | 3 | 5 | 20 |
| CC144133 | | 10 | <1 | 0.24 | 20 | 0.35 | 195 | 7 | 0.03 | 13 | 370 | 19 | 0.44 | <2 | 4 | 31 |
| CC144134 | | <10 | <1 | 0.03 | <10 | 0.18 | 132 | 1 | 0.01 | 7 | 240 | 3 | 0.03 | 3 | 2 | 7 |
| CC144135 | | <10 | <1 | 0.15 | 10 | 0.94 | 363 | 4 | 0.02 | 21 | 500 | 25 | 0.06 | 3 | 3 | 15 |
| CC144136 | | 10 | <1 | 0.06 | 10 | 0.64 | 428 | 1 | 0.02 | 17 | 530 | 7 | 0.02 | 2 | 5 | 16 |
| CC144137 | | 10 | <1 | 0.11 | 10 | 0.81 | 335 | <1 | 0.02 | 20 | 530 | 8 | <0.01 | 2 | 4 | 16 |
| CC144138 | | 10 | <1 | 0.12 | 10 | 0.80 | 353 | <1 | 0.02 | 21 | 460 | 5 | 0.01 | 5 | 4 | 13 |
| CC144139 | | <10 | <1 | 0.05 | 10 | 0.52 | 244 | <1 | 0.02 | 15 | 650 | 5 | 0.01 | 4 | 3 | 20 |
| CC144140 | | 10 | 1 | 0.03 | 10 | 0.21 | 109 | 2 | 0.01 | 8 | 280 | 9 | 0.01 | 3 | 2 | 11 |
| CC144141 | | <10 | <1 | 0.10 | 10 | 0.16 | 86 | 12 | 0.01 | 3 | 330 | 27 | 0.18 | 5 | 2 | 9 |
| CC144142 | | 10 | <1 | 0.05 | 10 | 0.37 | 173 | 2 | 0.01 | 12 | 680 | 16 | 0.02 | 4 | 2 | 12 |
| CC144143 | | <10 | 1 | 0.07 | 10 | 0.62 | 318 | <1 | 0.02 | 21 | 380 | 7 | <0.01 | 3 | 4 | 14 |
| CC144144 | | <10 | <1 | 0.17 | 10 | 0.61 | 257 | <1 | 0.01 | 10 | 280 | 3 | <0.01 | 3 | 2 | 9 |
| CC144145 | | 10 | 1 | 0.11 | 10 | 0.72 | 333 | <1 | 0.01 | 11 | 310 | 6 | <0.01 | 3 | 3 | 13 |
| CC144146 | | 10 | <1 | 0.10 | 10 | 0.81 | 345 | <1 | 0.02 | 15 | 350 | 5 | <0.01 | 4 | 3 | 14 |
| CC144147 | | 10 | 1 | 0.07 | 10 | 0.70 | 386 | 1 | 0.02 | 24 | 450 | 11 | <0.01 | 3 | 4 | 18 |
| CC144148 | | 10 | <1 | 0.18 | 10 | 1.29 | 395 | <1 | 0.02 | 42 | 790 | 7 | <0.01 | 2 | 4 | 24 |
| CC144149 | | 10 | <1 | 0.07 | 10 | 0.66 | 323 | <1 | 0.02 | 14 | 430 | 6 | <0.01 | 3 | 4 | 17 |
| CC144150 | | 10 | <1 | 0.17 | 10 | 0.93 | 344 | <1 | 0.02 | 17 | 580 | 4 | <0.01 | 2 | 3 | 11 |
| CC144151 | | 10 | <1 | 0.09 | 10 | 0.52 | 369 | <1 | 0.01 | 16 | 340 | 7 | <0.01 | 2 | 4 | 10 |
| CC144152 | | 10 | <1 | 0.11 | 20 | 0.53 | 369 | <1 | 0.01 | 15 | 360 | 6 | <0.01 | 3 | 5 | 11 |
| CC144153 | | <10 | <1 | 0.11 | 10 | 0.62 | 280 | <1 | 0.01 | 14 | 370 | 6 | <0.01 | 2 | 4 | 14 |
| CC144154 | | <10 | <1 | 0.48 | <10 | 0.64 | 207 | <1 | 0.01 | 3 | 400 | 2 | <0.01 | <2 | 2 | 3 |
| CC144155 | | 10 | <1 | 0.07 | 10 | 0.49 | 330 | 2 | 0.02 | 14 | 640 | 10 | 0.03 | 2 | 4 | 15 |
| CC144156 | | <10 | <1 | 0.07 | 10 | 0.70 | 341 | <1 | 0.02 | 21 | 320 | 3 | 0.01 | 5 | 4 | 14 |
| CC144157 | | | | | | | | | | | | | | | | |
| CC144158 | | 10 | 1 | 0.05 | 10 | 0.86 | 214 | 1 | 0.02 | 12 | 300 | 8 | 0.06 | 4 | 6 | 24 |
| CC144159 | | 10 | 1 | 0.07 | 10 | 0.56 | 286 | <1 | 0.02 | 16 | 410 | 14 | 0.01 | 3 | 6 | 14 |
| CC144160 | | <10 | <1 | 0.09 | 10 | 0.58 | 280 | <1 | 0.02 | 17 | 360 | 8 | <0.01 | 3 | 4 | 14 |
| CC144161 | | <10 | <1 | 0.07 | 10 | 0.56 | 305 | <1 | 0.02 | 18 | 330 | 8 | <0.01 | 4 | 4 | 12 |
| CC144162 | | 10 | 1 | 0.08 | 10 | 0.57 | 359 | <1 | 0.01 | 17 | 290 | 8 | <0.01 | 6 | 4 | 13 |
| CC144163 | | 10 | 1 | 0.12 | 10 | 0.88 | 442 | <1 | 0.01 | 12 | 460 | 6 | 0.01 | 6 | 4 | 9 |
| CC144164 | | <10 | <1 | 0.04 | 10 | 0.54 | 259 | <1 | 0.02 | 20 | 370 | 10 | 0.01 | 2 | 4 | 13 |
| CC144165 | | 10 | <1 | 0.08 | 10 | 0.61 | 298 | 1 | 0.01 | 18 | 350 | 9 | <0.01 | <2 | 4 | 16 |
| CC144166 | | <10 | <1 | 0.06 | 10 | 0.51 | 393 | <1 | 0.02 | 18 | 380 | 8 | 0.01 | 4 | 5 | 12 |
| CC144167 | | <10 | <1 | 0.05 | 10 | 0.57 | 344 | <1 | 0.02 | 17 | 410 | 7 | <0.01 | 3 | 5 | 18 |
| CC144168 | | 10 | 1 | 0.05 | 10 | 0.55 | 472 | <1 | 0.02 | 19 | 380 | 9 | <0.01 | 4 | 4 | 17 |
| CC144169 | | 10 | 1 | 0.05 | 10 | 0.62 | 363 | <1 | 0.02 | 21 | 320 | 7 | <0.01 | 2 | 5 | 22 |

***** See Appendix Page for comments regarding this certificate *****

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method Analyte Units LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| CC144130 | | <20 | 0.09 | <10 | <10 | 55 | <10 | 90 |
| CC144131 | | <20 | 0.10 | <10 | <10 | 48 | <10 | 89 |
| CC144132 | | <20 | 0.10 | <10 | <10 | 45 | <10 | 127 |
| CC144133 | | <20 | 0.06 | <10 | <10 | 48 | <10 | 57 |
| CC144134 | | <20 | 0.04 | <10 | <10 | 23 | <10 | 20 |
| CC144135 | | <20 | 0.08 | <10 | <10 | 50 | <10 | 340 |
| CC144136 | | <20 | 0.10 | <10 | <10 | 61 | <10 | 67 |
| CC144137 | | <20 | 0.12 | <10 | <10 | 66 | <10 | 70 |
| CC144138 | | <20 | 0.12 | <10 | <10 | 59 | <10 | 68 |
| CC144139 | | <20 | 0.08 | <10 | <10 | 46 | <10 | 57 |
| CC144140 | | <20 | 0.06 | <10 | <10 | 59 | <10 | 29 |
| CC144141 | | <20 | 0.02 | <10 | <10 | 15 | <10 | 115 |
| CC144142 | | <20 | 0.06 | <10 | <10 | 53 | <10 | 56 |
| CC144143 | | <20 | 0.09 | <10 | <10 | 53 | <10 | 84 |
| CC144144 | | <20 | 0.09 | <10 | <10 | 36 | <10 | 88 |
| CC144145 | | <20 | 0.11 | <10 | <10 | 58 | <10 | 81 |
| CC144146 | | <20 | 0.12 | <10 | <10 | 63 | <10 | 65 |
| CC144147 | | <20 | 0.08 | <10 | <10 | 67 | <10 | 86 |
| CC144148 | | <20 | 0.13 | <10 | <10 | 75 | <10 | 70 |
| CC144149 | | <20 | 0.08 | <10 | <10 | 59 | <10 | 69 |
| CC144150 | | <20 | 0.13 | <10 | <10 | 60 | <10 | 67 |
| CC144151 | | <20 | 0.08 | <10 | <10 | 44 | <10 | 90 |
| CC144152 | | <20 | 0.10 | <10 | <10 | 44 | <10 | 76 |
| CC144153 | | <20 | 0.09 | <10 | <10 | 43 | <10 | 96 |
| CC144154 | | <20 | 0.12 | <10 | <10 | 6 | <10 | 113 |
| CC144155 | | <20 | 0.07 | <10 | <10 | 51 | <10 | 80 |
| CC144156 | | <20 | 0.10 | <10 | <10 | 50 | <10 | 86 |
| CC144157 | | | | | | | | |
| CC144158 | | <20 | 0.07 | <10 | <10 | 80 | <10 | 60 |
| CC144159 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 94 |
| CC144160 | | <20 | 0.09 | <10 | <10 | 50 | <10 | 107 |
| CC144161 | | <20 | 0.08 | <10 | <10 | 47 | <10 | 119 |
| CC144162 | | <20 | 0.08 | <10 | <10 | 50 | <10 | 126 |
| CC144163 | | <20 | 0.09 | <10 | <10 | 47 | <10 | 73 |
| CC144164 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 58 |
| CC144165 | | <20 | 0.12 | <10 | <10 | 58 | <10 | 84 |
| CC144166 | | <20 | 0.07 | <10 | <10 | 52 | <10 | 123 |
| CC144167 | | <20 | 0.08 | <10 | <10 | 60 | <10 | 101 |
| CC144168 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 59 |
| CC144169 | | <20 | 0.09 | <10 | <10 | 60 | <10 | 55 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| CC144170 | | 0.14 | <0.001 | <0.2 | 1.86 | 8 | <10 | 210 | <0.5 | <2 | 0.28 | <0.5 | 11 | 66 | 24 | 3.01 |
| CC144172 | | 0.12 | <0.001 | 0.3 | 0.93 | 3 | <10 | 150 | <0.5 | <2 | 0.14 | <0.5 | 9 | 15 | 13 | 1.79 |
| CC144173 | | 0.14 | 0.001 | <0.2 | 1.81 | 7 | <10 | 290 | <0.5 | <2 | 0.21 | <0.5 | 10 | 39 | 24 | 3.03 |
| CC144174 | | 0.20 | <0.001 | <0.2 | 2.53 | 4 | <10 | 340 | 0.6 | <2 | 0.48 | <0.5 | 18 | 196 | 37 | 3.68 |

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Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| CC144170 | | 10 | <1 | 0.07 | 10 | 0.82 | 350 | <1 | 0.02 | 27 | 380 | 8 | <0.01 | 3 | 3 | 21 |
| CC144172 | | <10 | <1 | 0.05 | 10 | 0.19 | 641 | 1 | 0.02 | 8 | 500 | 10 | 0.01 | 4 | 1 | 13 |
| CC144173 | | <10 | <1 | 0.06 | 10 | 0.58 | 364 | 1 | 0.02 | 19 | 350 | 10 | <0.01 | 2 | 4 | 18 |
| CC144174 | | 10 | 1 | 0.29 | 20 | 1.78 | 513 | <1 | 0.02 | 64 | 870 | 7 | <0.01 | 2 | 5 | 28 |

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**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| CC144170 | | <20 | 0.11 | <10 | <10 | 65 | <10 | 54 |
| CC144172 | | <20 | 0.05 | <10 | <10 | 46 | <10 | 52 |
| CC144173 | | <20 | 0.08 | <10 | <10 | 61 | <10 | 73 |
| CC144174 | | <20 | 0.16 | <10 | <10 | 79 | <10 | 75 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 3-JUL-2011**
**Account: F**

Project: Arcus - Touleary

# CERTIFICATE OF ANALYSIS WH11111116

| Method | CERTIFICATE COMMENTS |
|---|---|
| ALL METHODS | NSS is non-sufficient sample. |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
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**VANCOUVER BC V6B 1L8**


**Finalized Date: 29-JUN-2011**
**Account: F**

# CERTIFICATE WH11115588

Project: Arcus-TL-01-11

P.O. No.: Batch 1

This report is for 36 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 23-JUN-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| CRU-QC | Crushing QC Test |
| PUL-QC | Pulverizing QC Test |
| CRU-31 | Fine crushing - 70% <2mm |
| SPL-21 | Split sample - riffle splitter |
| PUL-31 | Pulverize split to 85% <75 um |
| LOG-24 | Pulp Login - Rcd w/o Barcode |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au-AA24 | Au 50g FA AA finish | AAS |
| ME-ICP41 | 35 Element Aqua Regia ICP-AES | ICP-AES |
| ME-OG46 | Ore Grade Elements - AquaRegia | ICP-AES |
| Cu-OG46 | Ore Grade Cu - Aqua Regia | VARIABLE |
| Zn-OG46 | Ore Grade Zn - Aqua Regia | VARIABLE |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**Finalized Date: 29-JUN-2011**
**Account: F**

Project: Arcus-TL-01-11

# CERTIFICATE OF ANALYSIS WH11115588

| Sample Description | Method | WEI-21 | Au-AA24 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.005 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| J997800 | | 6.48 | <0.005 | <0.2 | 1.39 | <2 | <10 | 110 | <0.5 | <2 | 0.42 | <0.5 | 6 | 4 | 21 | 2.81 |
| J997801 | | 7.05 | <0.005 | <0.2 | 1.23 | <2 | <10 | 100 | <0.5 | <2 | 0.35 | 0.6 | 6 | 3 | 31 | 2.36 |
| J997802 | | 4.50 | <0.005 | <0.2 | 1.34 | <2 | <10 | 70 | 0.5 | <2 | 0.38 | 0.9 | 6 | 3 | 54 | 2.61 |
| J997803 | | 5.06 | <0.005 | 0.2 | 1.62 | 2 | <10 | 200 | <0.5 | <2 | 0.66 | <0.5 | 13 | 3 | 80 | 3.36 |
| J997804 | | 10.48 | <0.005 | <0.2 | 1.30 | <2 | <10 | 150 | <0.5 | <2 | 0.29 | <0.5 | 2 | 3 | 12 | 2.14 |
| J997805 | | 3.12 | <0.005 | <0.2 | 2.62 | 2 | <10 | 110 | <0.5 | <2 | 1.04 | <0.5 | 19 | 25 | 163 | 4.64 |
| J997806 | | 3.30 | <0.005 | <0.2 | 2.61 | 2 | <10 | 30 | <0.5 | <2 | 1.06 | <0.5 | 21 | 16 | 192 | 4.79 |
| J997807 | | 3.74 | <0.005 | <0.2 | 1.71 | 2 | <10 | 80 | <0.5 | <2 | 1.03 | 1.6 | 19 | 13 | 141 | 3.95 |
| J997808 | | 9.07 | <0.005 | <0.2 | 2.11 | 2 | <10 | 30 | <0.5 | <2 | 1.20 | <0.5 | 18 | 12 | 122 | 4.20 |
| J997809 | | 9.96 | <0.005 | <0.2 | 2.13 | <2 | <10 | 50 | <0.5 | <2 | 1.31 | 0.5 | 22 | 3 | 237 | 4.38 |
| J997810 | | 4.05 | <0.005 | <0.2 | 1.03 | <2 | <10 | 90 | <0.5 | <2 | 0.23 | <0.5 | 3 | 3 | 46 | 2.13 |
| J997811 | | 5.93 | <0.005 | <0.2 | 1.35 | 3 | <10 | 80 | <0.5 | <2 | 0.18 | <0.5 | 2 | 3 | 32 | 2.04 |
| J997812 | | 4.89 | <0.005 | 0.2 | 1.57 | 3 | <10 | 110 | <0.5 | <2 | 0.09 | <0.5 | 2 | 4 | 59 | 3.44 |
| J997813 | | 1.17 | <0.005 | 0.3 | 0.03 | <2 | <10 | 10 | <0.5 | <2 | 18.9 | <0.5 | 1 | 1 | 10 | 0.47 |
| J997814 | | 6.74 | 0.010 | 0.2 | 1.28 | 5 | <10 | 180 | <0.5 | <2 | 0.08 | <0.5 | 3 | 4 | 100 | 4.54 |
| J997815 | | 5.40 | 0.006 | 0.5 | 0.55 | <2 | <10 | 100 | <0.5 | <2 | 0.05 | <0.5 | 4 | 3 | 68 | 2.06 |
| J997816 | | 4.89 | 0.024 | 1.0 | 0.65 | <2 | <10 | 100 | <0.5 | <2 | 0.02 | <0.5 | 5 | 3 | 161 | 2.28 |
| J997817 | | 4.66 | 0.088 | 1.3 | 0.81 | 2 | <10 | 90 | <0.5 | <2 | 0.08 | 0.5 | 8 | 8 | 285 | 2.64 |
| J997818 | | 0.08 | 2.10 | 14.2 | 0.95 | 26 | <10 | 40 | <0.5 | 5 | 0.30 | 53.8 | 10 | 40 | 4800 | 8.95 |
| J997819 | | 7.30 | 0.013 | <0.2 | 1.89 | 2 | <10 | 290 | <0.5 | 2 | 0.19 | <0.5 | 7 | 4 | 160 | 3.95 |
| J997820 | | 2.50 | 0.079 | 0.6 | 0.50 | 2 | <10 | 30 | <0.5 | 2 | 0.01 | <0.5 | 5 | 2 | 316 | 6.10 |
| J997821 | | 2.89 | 0.010 | <0.2 | 2.00 | 16 | <10 | 220 | <0.5 | <2 | 0.39 | <0.5 | 5 | 4 | 243 | 4.26 |
| J997822 | | 2.08 | 0.038 | 1.6 | 0.56 | 109 | <10 | 620 | <0.5 | <2 | 0.02 | <0.5 | 1 | 5 | 49 | 1.81 |
| J997823 | | 2.31 | <0.005 | <0.2 | 2.72 | 66 | <10 | 1200 | <0.5 | <2 | 0.95 | 1.1 | 19 | 3 | 304 | 4.65 |
| J997824 | | 7.67 | 0.006 | <0.2 | 3.02 | 37 | <10 | 120 | <0.5 | <2 | 0.82 | 0.8 | 20 | 4 | 525 | 5.31 |
| J997825 | | 4.87 | 0.033 | 0.4 | 1.29 | 110 | <10 | 970 | <0.5 | <2 | 0.15 | <0.5 | 4 | 6 | 205 | 2.48 |
| J997826 | | 4.54 | 0.005 | <0.2 | 2.67 | 9 | <10 | 190 | <0.5 | <2 | 0.96 | 2.8 | 22 | 4 | 673 | 5.00 |
| J997827 | | 5.89 | 0.010 | <0.2 | 1.58 | 2 | <10 | 260 | <0.5 | <2 | 0.56 | 0.8 | 6 | 5 | 182 | 2.30 |
| J997828 | | 3.21 | 0.009 | <0.2 | 1.48 | 2 | <10 | 610 | <0.5 | <2 | 0.50 | 2.0 | 6 | 5 | 532 | 2.91 |
| J997829 | | 5.11 | 0.864 | 19.6 | 0.46 | 15 | <10 | 40 | <0.5 | <2 | 0.03 | 20.0 | 9 | 4 | >10000 | 9.32 |
| J997830 | | 1.30 | 0.005 | 0.2 | 0.03 | 2 | <10 | 170 | <0.5 | <2 | 19.0 | <0.5 | 1 | 1 | 59 | 0.44 |
| J997831 | | 5.99 | 0.730 | 8.9 | 0.79 | 23 | <10 | 40 | <0.5 | 5 | 0.10 | 5.5 | 13 | 6 | >10000 | 9.28 |
| J997832 | | 0.23 | 0.348 | 50.6 | 1.10 | 97 | <10 | 60 | <0.5 | 2 | 0.50 | 20.7 | 16 | 32 | 4170 | 4.51 |
| J997833 | | 7.16 | 0.020 | 0.5 | 1.38 | 36 | <10 | 30 | <0.5 | <2 | 0.21 | 0.5 | 13 | 8 | 2650 | 5.77 |
| J997834 | | 9.67 | 0.044 | 1.2 | 0.94 | 4 | <10 | 40 | <0.5 | <2 | 0.55 | 1.7 | 10 | 9 | 1150 | 4.42 |
| J997835 | | 8.78 | 0.044 | 0.3 | 0.77 | 3 | <10 | 50 | <0.5 | <2 | 1.26 | 4.8 | 8 | 2 | 323 | 3.69 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 29-JUN-2011**
**Account: F**

Project: Arcus-TL-01-11

# CERTIFICATE OF ANALYSIS WH11115588

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| J997800 | | 10 | <1 | 0.31 | 10 | 0.68 | 430 | <1 | 0.08 | <1 | 400 | <2 | 0.01 | <2 | 5 | 14 |
| J997801 | | <10 | <1 | 0.23 | 10 | 0.71 | 514 | <1 | 0.05 | 1 | 340 | <2 | 0.01 | <2 | 3 | 19 |
| J997802 | | <10 | <1 | 0.13 | 10 | 0.75 | 631 | <1 | 0.07 | 1 | 370 | <2 | 0.01 | <2 | 5 | 17 |
| J997803 | | <10 | <1 | 0.34 | 10 | 0.92 | 496 | <1 | 0.07 | 1 | 510 | <2 | 0.05 | <2 | 4 | 24 |
| J997804 | | <10 | <1 | 0.44 | 10 | 0.72 | 345 | <1 | 0.07 | <1 | 330 | <2 | 0.02 | <2 | 3 | 12 |
| J997805 | | 10 | 1 | 0.32 | <10 | 1.86 | 543 | <1 | 0.22 | 13 | 620 | <2 | 0.09 | <2 | 14 | 12 |
| J997806 | | 10 | 1 | 0.09 | <10 | 1.89 | 536 | <1 | 0.21 | 11 | 620 | <2 | 0.11 | <2 | 14 | 12 |
| J997807 | | 10 | 1 | 0.09 | 10 | 0.94 | 1100 | <1 | 0.12 | 8 | 510 | <2 | 0.01 | 2 | 9 | 57 |
| J997808 | | 10 | <1 | 0.10 | <10 | 1.38 | 692 | <1 | 0.22 | 8 | 620 | <2 | 0.06 | <2 | 12 | 15 |
| J997809 | | 10 | 1 | 0.18 | <10 | 1.35 | 693 | <1 | 0.23 | 6 | 580 | <2 | 0.18 | <2 | 13 | 23 |
| J997810 | | <10 | <1 | 0.20 | 10 | 0.38 | 256 | <1 | 0.05 | <1 | 310 | <2 | 0.02 | <2 | 3 | 11 |
| J997811 | | <10 | <1 | 0.18 | 10 | 0.55 | 200 | <1 | 0.03 | <1 | 300 | <2 | 0.09 | <2 | 3 | 9 |
| J997812 | | <10 | <1 | 0.18 | 10 | 0.58 | 159 | <1 | 0.02 | <1 | 340 | 7 | 0.07 | <2 | 5 | 13 |
| J997813 | | <10 | <1 | 0.01 | 10 | 11.80 | 197 | <1 | 0.01 | <1 | 170 | <2 | 0.03 | <2 | <1 | 43 |
| J997814 | | <10 | <1 | 0.26 | 10 | 0.38 | 117 | 5 | 0.05 | <1 | 420 | 6 | 0.17 | <2 | 4 | 17 |
| J997815 | | <10 | <1 | 0.11 | <10 | 0.06 | 23 | 16 | 0.13 | 2 | 90 | 13 | 1.92 | <2 | 1 | 16 |
| J997816 | | <10 | 2 | 0.19 | 10 | 0.14 | 31 | 5 | 0.07 | 3 | 190 | 17 | 2.11 | <2 | 1 | 16 |
| J997817 | | <10 | 1 | 0.21 | 10 | 0.25 | 58 | 4 | 0.07 | 8 | 640 | 27 | 2.04 | <2 | 2 | 15 |
| J997818 | | <10 | 2 | 0.10 | <10 | 1.00 | 327 | 13 | 0.01 | 19 | 100 | 231 | >10.0 | <2 | 2 | 6 |
| J997819 | | <10 | <1 | 0.18 | 10 | 0.94 | 345 | <1 | 0.04 | 2 | 560 | 5 | 0.95 | <2 | 4 | 14 |
| J997820 | | <10 | <1 | 0.23 | <10 | 0.02 | 18 | 4 | 0.04 | <1 | 120 | <2 | 6.91 | <2 | 1 | 10 |
| J997821 | | 10 | <1 | 0.20 | 10 | 0.84 | 364 | <1 | 0.05 | <1 | 1900 | 7 | 0.30 | <2 | 9 | 16 |
| J997822 | | <10 | <1 | 0.24 | <10 | 0.09 | 81 | 3 | 0.06 | <1 | 250 | 54 | 0.32 | 4 | 3 | 49 |
| J997823 | | 10 | <1 | 0.05 | <10 | 1.49 | 960 | <1 | 0.02 | 3 | 610 | 64 | 0.07 | <2 | 7 | 79 |
| J997824 | | 10 | 1 | 0.07 | <10 | 2.22 | 695 | <1 | 0.07 | 2 | 660 | 13 | 0.04 | <2 | 9 | 36 |
| J997825 | | <10 | <1 | 0.18 | 10 | 0.64 | 178 | 5 | 0.08 | <1 | 450 | 118 | 0.34 | <2 | 3 | 40 |
| J997826 | | 10 | 1 | 0.08 | <10 | 1.90 | 724 | <1 | 0.05 | 4 | 640 | 6 | 0.52 | <2 | 7 | 32 |
| J997827 | | <10 | <1 | 0.24 | 10 | 0.66 | 367 | <1 | 0.07 | <1 | 600 | 11 | 0.24 | <2 | 3 | 15 |
| J997828 | | <10 | <1 | 0.19 | 10 | 0.50 | 491 | <1 | 0.05 | <1 | 550 | 21 | 0.43 | <2 | 4 | 18 |
| J997829 | | <10 | 17 | 0.12 | <10 | 0.02 | 47 | 36 | 0.02 | 11 | 240 | 542 | >10.0 | <2 | 3 | 52 |
| J997830 | | <10 | <1 | 0.02 | 10 | 11.90 | 194 | <1 | 0.01 | <1 | 170 | 2 | 0.05 | <2 | <1 | 49 |
| J997831 | | <10 | 5 | 0.20 | <10 | 0.13 | 105 | 23 | 0.03 | 14 | 250 | 34 | >10.0 | <2 | 4 | 54 |
| J997832 | | 10 | <1 | 0.54 | 10 | 0.68 | 463 | 168 | 0.04 | 22 | 850 | 2060 | 2.42 | 63 | 7 | 33 |
| J997833 | | <10 | 1 | 0.30 | 10 | 0.39 | 211 | 4 | 0.03 | 14 | 460 | 28 | 5.34 | <2 | 4 | 49 |
| J997834 | | <10 | <1 | 0.26 | 10 | 0.30 | 330 | 12 | 0.04 | 29 | 320 | 7 | 3.83 | <2 | 2 | 18 |
| J997835 | | <10 | 1 | 0.27 | 10 | 0.45 | 694 | 3 | 0.03 | <1 | 520 | 27 | 2.98 | <2 | 5 | 18 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 29-JUN-2011**
**Account: F**

Project: Arcus-TL-01-11

# CERTIFICATE OF ANALYSIS WH11115588

| Sample Description | Method Analyte Units LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 | Cu-OG46 Cu % 0.001 | Zn-OG46 Zn % 0.001 |
|---|---|---|---|---|---|---|---|---|---|---|
| J997800 | | <20 | 0.06 | <10 | <10 | 36 | <10 | 110 | | |
| J997801 | | <20 | 0.06 | <10 | <10 | 32 | <10 | 165 | | |
| J997802 | | <20 | 0.06 | <10 | <10 | 48 | <10 | 272 | | |
| J997803 | | <20 | 0.15 | <10 | <10 | 79 | <10 | 151 | | |
| J997804 | | <20 | 0.08 | <10 | <10 | 9 | <10 | 105 | | |
| J997805 | | <20 | 0.16 | <10 | <10 | 186 | <10 | 95 | | |
| J997806 | | <20 | 0.13 | <10 | <10 | 182 | <10 | 128 | | |
| J997807 | | <20 | 0.14 | <10 | <10 | 110 | <10 | 266 | | |
| J997808 | | <20 | 0.13 | <10 | <10 | 161 | <10 | 141 | | |
| J997809 | | <20 | 0.15 | <10 | <10 | 157 | <10 | 162 | | |
| J997810 | | <20 | 0.04 | <10 | <10 | 7 | <10 | 123 | | |
| J997811 | | <20 | 0.01 | <10 | <10 | 2 | <10 | 113 | | |
| J997812 | | <20 | 0.01 | <10 | <10 | 17 | <10 | 114 | | |
| J997813 | | <20 | <0.01 | <10 | <10 | <1 | <10 | 14 | | |
| J997814 | | <20 | <0.01 | <10 | <10 | 13 | <10 | 115 | | |
| J997815 | | <20 | <0.01 | <10 | <10 | 4 | <10 | 64 | | |
| J997816 | | <20 | <0.01 | <10 | <10 | 5 | <10 | 91 | | |
| J997817 | | <20 | <0.01 | <10 | <10 | 8 | <10 | 143 | | |
| J997818 | | <20 | 0.02 | <10 | <10 | 16 | <10 | >10000 | | 1.315 |
| J997819 | | <20 | 0.01 | <10 | <10 | 22 | <10 | 273 | | |
| J997820 | | <20 | <0.01 | <10 | <10 | 4 | <10 | 8 | | |
| J997821 | | <20 | 0.01 | <10 | <10 | 46 | <10 | 314 | | |
| J997822 | | <20 | 0.01 | <10 | <10 | 18 | <10 | 25 | | |
| J997823 | | <20 | 0.04 | <10 | <10 | 101 | <10 | 479 | | |
| J997824 | | <20 | 0.09 | <10 | <10 | 145 | <10 | 310 | | |
| J997825 | | <20 | 0.02 | <10 | <10 | 20 | <10 | 124 | | |
| J997826 | | <20 | 0.07 | <10 | <10 | 118 | <10 | 622 | | |
| J997827 | | <20 | 0.02 | <10 | <10 | 20 | <10 | 221 | | |
| J997828 | | <20 | 0.02 | <10 | <10 | 24 | <10 | 633 | | |
| J997829 | | <20 | <0.01 | <10 | 10 | 9 | 10 | 5650 | 1.615 | |
| J997830 | | <20 | <0.01 | <10 | <10 | <1 | <10 | 30 | | |
| J997831 | | <20 | 0.01 | <10 | <10 | 15 | <10 | 2330 | 1.095 | |
| J997832 | | <20 | 0.09 | <10 | <10 | 85 | <10 | 2610 | | |
| J997833 | | <20 | 0.01 | <10 | <10 | 23 | <10 | 189 | | |
| J997834 | | <20 | 0.01 | <10 | <10 | 7 | <10 | 463 | | |
| J997835 | | <20 | <0.01 | <10 | <10 | 15 | <10 | 1090 | | |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 13-JUL-2011**
**This copy reported on**
**16-AUG-2011**
**Account: F**

# CERTIFICATE WH11122214

Project: Arcus - TL-02-11 Batch 2

P.O. No.:

This report is for 36 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 1-JUL-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| CRU-QC | Crushing QC Test |
| PUL-QC | Pulverizing QC Test |
| CRU-31 | Fine crushing - 70% <2mm |
| SPL-21 | Split sample - riffle splitter |
| PUL-31 | Pulverize split to 85% <75 um |
| LOG-24 | Pulp Login - Rcd w/o Barcode |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au-AA24 | Au 50g FA AA finish | AAS |
| ME-ICP41 | 35 Element Aqua Regia ICP-AES | ICP-AES |
| ME-OG46 | Ore Grade Elements - AquaRegia | ICP-AES |
| Zn-OG46 | Ore Grade Zn - Aqua Regia | VARIABLE |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 13-JUL-2011**
**Account: F**

Project: Arcus - TL-02-11 Batch 2

# CERTIFICATE OF ANALYSIS WH11122214

| Sample Description | Method | WEI-21 | Au-AA24 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.005 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| J997836 | | 4.70 | <0.005 | <0.2 | 1.06 | 12 | <10 | 140 | <0.5 | <2 | 0.29 | <0.5 | 2 | 3 | 9 | 1.37 |
| J997837 | | 7.64 | <0.005 | <0.2 | 1.78 | <2 | <10 | 260 | <0.5 | <2 | 0.93 | <0.5 | 12 | 3 | 74 | 4.04 |
| J997838 | | 4.12 | <0.005 | 0.2 | 2.39 | <2 | <10 | 400 | <0.5 | <2 | 1.00 | <0.5 | 20 | 4 | 144 | 5.53 |
| J997839 | | 6.12 | <0.005 | <0.2 | 1.71 | <2 | <10 | 240 | <0.5 | <2 | 0.42 | <0.5 | 3 | 8 | 7 | 2.25 |
| J997840 | | 10.55 | <0.005 | <0.2 | 0.82 | <2 | <10 | 110 | <0.5 | <2 | 0.21 | <0.5 | 5 | 3 | 7 | 1.26 |
| J997841 | | 8.37 | <0.005 | <0.2 | 1.10 | <2 | <10 | 130 | <0.5 | <2 | 0.33 | <0.5 | 2 | 3 | 5 | 1.94 |
| J997842 | | 9.77 | <0.005 | 0.2 | 2.43 | <2 | <10 | 170 | <0.5 | <2 | 1.19 | <0.5 | 20 | 3 | 142 | 5.02 |
| J997843 | | 10.77 | <0.005 | <0.2 | 1.67 | <2 | <10 | 240 | <0.5 | <2 | 0.56 | <0.5 | 7 | 8 | 46 | 3.09 |
| J997844 | | 9.45 | <0.005 | <0.2 | 1.47 | <2 | <10 | 290 | <0.5 | <2 | 0.44 | <0.5 | 2 | 5 | 1 | 2.06 |
| J997845 | | 9.79 | <0.005 | <0.2 | 1.23 | <2 | <10 | 210 | <0.5 | <2 | 0.46 | <0.5 | 1 | 5 | 3 | 2.04 |
| J997846 | | 0.27 | 0.358 | 50.6 | 1.19 | 101 | <10 | 70 | <0.5 | <2 | 0.51 | 21.7 | 16 | 31 | 4370 | 4.59 |
| J997847 | | 6.08 | <0.005 | 0.2 | 1.14 | <2 | <10 | 290 | <0.5 | <2 | 0.27 | <0.5 | 1 | 5 | 13 | 1.89 |
| J997848 | | 5.60 | <0.005 | <0.2 | 1.04 | <2 | <10 | 160 | <0.5 | <2 | 0.29 | <0.5 | 2 | 4 | 9 | 2.70 |
| J997849 | | 6.09 | <0.005 | 0.2 | 1.12 | <2 | <10 | 250 | <0.5 | <2 | 0.26 | <0.5 | 1 | 4 | 2 | 2.19 |
| J997850 | | 5.78 | <0.005 | 0.2 | 1.00 | <2 | <10 | 170 | <0.5 | <2 | 0.23 | <0.5 | 1 | 5 | 3 | 1.58 |
| J997851 | | 6.35 | <0.005 | <0.2 | 1.12 | <2 | <10 | 130 | <0.5 | <2 | 0.29 | <0.5 | 1 | 4 | 4 | 1.56 |
| J997852 | | 5.21 | <0.005 | <0.2 | 1.24 | <2 | <10 | 160 | <0.5 | <2 | 0.24 | <0.5 | 1 | 5 | 9 | 1.84 |
| J997853 | | 5.07 | <0.005 | <0.2 | 1.60 | <2 | <10 | 130 | <0.5 | <2 | 0.71 | <0.5 | 5 | 6 | 44 | 2.42 |
| J997854 | | 5.44 | <0.005 | <0.2 | 2.12 | <2 | <10 | 350 | <0.5 | <2 | 0.59 | <0.5 | 10 | 10 | 66 | 3.32 |
| J997855 | | 3.05 | <0.005 | <0.2 | 1.56 | <2 | <10 | 210 | <0.5 | <2 | 0.22 | <0.5 | 3 | 3 | 11 | 2.28 |
| J997856 | | 3.78 | <0.005 | <0.2 | 1.24 | 2 | <10 | 120 | <0.5 | <2 | 0.26 | <0.5 | 3 | 6 | 6 | 2.15 |
| J997857 | | 4.78 | <0.005 | <0.2 | 1.18 | <2 | <10 | 130 | <0.5 | <2 | 0.26 | <0.5 | 3 | 5 | 16 | 2.13 |
| J997858 | | 3.20 | <0.005 | <0.2 | 1.38 | <2 | <10 | 70 | <0.5 | <2 | 0.31 | <0.5 | 3 | 3 | 42 | 2.48 |
| J997859 | | 2.76 | <0.005 | <0.2 | 1.54 | <2 | <10 | 60 | <0.5 | <2 | 0.29 | <0.5 | 2 | 5 | 17 | 2.26 |
| J997860 | | 1.48 | <0.005 | <0.2 | 0.03 | <2 | <10 | 20 | <0.5 | <2 | 18.8 | <0.5 | <1 | <1 | 1 | 0.40 |
| J997861 | | 3.96 | <0.005 | <0.2 | 1.65 | <2 | <10 | 50 | <0.5 | <2 | 0.26 | <0.5 | 4 | 4 | 35 | 2.65 |
| J997862 | | 8.51 | 0.032 | 0.9 | 1.96 | <2 | <10 | 740 | <0.5 | <2 | 0.44 | 0.9 | 8 | 13 | 117 | 3.47 |
| J997863 | | 6.76 | 0.020 | 0.9 | 0.76 | 3 | <10 | 90 | <0.5 | <2 | 0.05 | 0.7 | 6 | 5 | 109 | 3.34 |
| J997864 | | 1.54 | <0.005 | <0.2 | 0.03 | 2 | <10 | 20 | <0.5 | <2 | 18.9 | <0.5 | 1 | 1 | 3 | 0.45 |
| J997865 | | 5.53 | <0.005 | <0.2 | 1.44 | 3 | <10 | 180 | <0.5 | <2 | 0.47 | 0.7 | 5 | 6 | 152 | 2.20 |
| J997866 | | 4.79 | 0.037 | 0.8 | 1.70 | 3 | <10 | 180 | <0.5 | <2 | 0.22 | <0.5 | 7 | 7 | 596 | 3.42 |
| J997867 | | 6.36 | <0.005 | 0.2 | 1.61 | 10 | <10 | 410 | <0.5 | <2 | 0.32 | 0.5 | 4 | 6 | 130 | 2.18 |
| J997868 | | 5.35 | 0.119 | 1.0 | 0.55 | 9 | <10 | 40 | <0.5 | <2 | 0.01 | <0.5 | 10 | 8 | 1890 | 6.76 |
| J997869 | | 3.27 | 0.088 | 10.8 | 0.48 | 22 | <10 | 30 | <0.5 | <2 | 0.02 | <0.5 | 9 | 11 | 769 | 6.83 |
| J997870 | | 0.12 | 2.15 | 14.4 | 0.94 | 26 | <10 | 40 | <0.5 | 2 | 0.31 | 55.6 | 10 | 41 | 4890 | 9.33 |
| J997871 | | 1.82 | 0.005 | 0.3 | 1.06 | 15 | <10 | 510 | <0.5 | <2 | 0.33 | <0.5 | 5 | 14 | 126 | 1.69 |

Comments: ***Corrected copy with Project Name changed to Arcus - TL-02-11 Batch 2 ***

ALS Canada Ltd.
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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 13-JUL-2011**
**Account: F**

Project: Arcus - TL-02-11 Batch 2

# CERTIFICATE OF ANALYSIS WH11122214

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| J997836 | | <10 | <1 | 0.43 | 10 | 0.46 | 241 | <1 | 0.08 | <1 | 240 | 2 | <0.01 | <2 | 3 | 13 |
| J997837 | | <10 | <1 | 0.82 | <10 | 0.91 | 588 | <1 | 0.11 | 2 | 460 | <2 | 0.05 | <2 | 6 | 15 |
| J997838 | | 10 | <1 | 1.14 | <10 | 1.43 | 797 | <1 | 0.13 | 4 | 650 | <2 | 0.06 | 2 | 10 | 17 |
| J997839 | | <10 | <1 | 0.71 | 10 | 0.94 | 460 | <1 | 0.09 | <1 | 290 | 2 | <0.01 | <2 | 4 | 12 |
| J997840 | | <10 | <1 | 0.31 | 10 | 0.18 | 335 | <1 | 0.07 | 1 | 340 | 5 | <0.01 | <2 | 3 | 9 |
| J997841 | | <10 | <1 | 0.41 | 10 | 0.36 | 418 | <1 | 0.09 | <1 | 310 | 2 | 0.05 | <2 | 3 | 13 |
| J997842 | | 10 | <1 | 0.39 | <10 | 1.70 | 833 | <1 | 0.16 | 6 | 610 | 2 | 0.02 | <2 | 12 | 27 |
| J997843 | | <10 | <1 | 0.57 | 10 | 0.90 | 738 | <1 | 0.07 | 4 | 370 | 2 | 0.01 | <2 | 4 | 21 |
| J997844 | | <10 | <1 | 0.80 | 10 | 0.78 | 529 | <1 | 0.09 | <1 | 270 | 3 | 0.10 | <2 | 2 | 14 |
| J997845 | | <10 | <1 | 0.49 | 10 | 0.56 | 429 | <1 | 0.09 | <1 | 300 | 2 | 0.05 | <2 | 3 | 19 |
| J997846 | | <10 | 1 | 0.54 | 10 | 0.68 | 493 | 171 | 0.04 | 22 | 870 | 2110 | 2.51 | 67 | 7 | 36 |
| J997847 | | <10 | <1 | 0.64 | 10 | 0.46 | 341 | <1 | 0.08 | <1 | 250 | 4 | 0.03 | <2 | 3 | 11 |
| J997848 | | <10 | <1 | 0.44 | 10 | 0.39 | 325 | <1 | 0.08 | <1 | 320 | 2 | 0.02 | <2 | 3 | 11 |
| J997849 | | <10 | <1 | 0.55 | 10 | 0.48 | 333 | <1 | 0.09 | <1 | 240 | 2 | 0.05 | <2 | 3 | 12 |
| J997850 | | <10 | <1 | 0.41 | 10 | 0.38 | 291 | <1 | 0.08 | <1 | 200 | <2 | 0.04 | <2 | 2 | 10 |
| J997851 | | <10 | <1 | 0.39 | 10 | 0.49 | 256 | <1 | 0.06 | <1 | 200 | 3 | 0.02 | 2 | 3 | 12 |
| J997852 | | <10 | <1 | 0.44 | 10 | 0.53 | 298 | <1 | 0.07 | <1 | 200 | 2 | 0.06 | <2 | 3 | 9 |
| J997853 | | <10 | <1 | 0.36 | 10 | 0.89 | 441 | <1 | 0.09 | 1 | 280 | 2 | 0.06 | <2 | 5 | 16 |
| J997854 | | 10 | <1 | 0.92 | 10 | 1.33 | 602 | <1 | 0.11 | 5 | 410 | <2 | 0.14 | <2 | 6 | 16 |
| J997855 | | <10 | <1 | 0.64 | 10 | 0.88 | 452 | <1 | 0.08 | <1 | 350 | <2 | 0.25 | <2 | 3 | 9 |
| J997856 | | <10 | <1 | 0.42 | 10 | 0.61 | 376 | <1 | 0.08 | 1 | 300 | <2 | 0.04 | <2 | 3 | 10 |
| J997857 | | <10 | <1 | 0.47 | 10 | 0.49 | 267 | <1 | 0.08 | 1 | 310 | 4 | 0.10 | <2 | 2 | 9 |
| J997858 | | <10 | <1 | 0.25 | 10 | 0.53 | 328 | <1 | 0.04 | 2 | 280 | 3 | <0.01 | 2 | 3 | 13 |
| J997859 | | <10 | <1 | 0.19 | <10 | 0.88 | 322 | 1 | 0.07 | <1 | 320 | 3 | 0.14 | <2 | 2 | 10 |
| J997860 | | <10 | <1 | 0.02 | <10 | 11.45 | 177 | <1 | 0.01 | <1 | 150 | <2 | 0.03 | <2 | <1 | 47 |
| J997861 | | <10 | <1 | 0.21 | 10 | 0.96 | 277 | 2 | 0.06 | <1 | 350 | 7 | 0.18 | <2 | 3 | 11 |
| J997862 | | <10 | 1 | 0.17 | <10 | 1.03 | 300 | <1 | 0.05 | 5 | 850 | 9 | 0.48 | <2 | 3 | 21 |
| J997863 | | <10 | <1 | 0.19 | 10 | 0.13 | 45 | 5 | 0.14 | 5 | 340 | 13 | 2.94 | <2 | 2 | 21 |
| J997864 | | <10 | <1 | 0.02 | <10 | 11.45 | 195 | <1 | 0.01 | 1 | 160 | 2 | 0.04 | <2 | <1 | 51 |
| J997865 | | <10 | <1 | 0.17 | 10 | 0.72 | 324 | 1 | 0.05 | 3 | 350 | 12 | 0.68 | <2 | 2 | 22 |
| J997866 | | <10 | <1 | 0.19 | <10 | 1.17 | 334 | <1 | 0.06 | 6 | 290 | 12 | 1.82 | <2 | 2 | 18 |
| J997867 | | <10 | <1 | 0.16 | 10 | 0.62 | 377 | <1 | 0.06 | 1 | 380 | 22 | 0.15 | <2 | 3 | 33 |
| J997868 | | <10 | 2 | 0.24 | <10 | 0.03 | 25 | 8 | 0.05 | 31 | 140 | 22 | 7.47 | 2 | 1 | 43 |
| J997869 | | <10 | 1 | 0.19 | <10 | 0.05 | 70 | 15 | 0.05 | 29 | 100 | 24 | 7.11 | <2 | 1 | 26 |
| J997870 | | <10 | 1 | 0.11 | <10 | 0.98 | 325 | 13 | 0.02 | 23 | 100 | 244 | 9.99 | <2 | 2 | 12 |
| J997871 | | <10 | <1 | 0.13 | <10 | 0.49 | 287 | 2 | 0.03 | 2 | 300 | 25 | 0.41 | <2 | 2 | 29 |

Comments: ***Corrected copy with Project Name changed to Arcus - TL-02-11 Batch 2 ***

ALS Canada Ltd.
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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 13-JUL-2011**
**Account: F**

Project: Arcus - TL-02-11 Batch 2

# CERTIFICATE OF ANALYSIS WH11122214

| Sample Description | Method Analyte Units LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 | Zn-OG46 Zn % 0.001 |
|---|---|---|---|---|---|---|---|---|---|
| J997836 | | <20 | 0.07 | <10 | <10 | 7 | <10 | 44 | |
| J997837 | | <20 | 0.18 | <10 | <10 | 123 | <10 | 74 | |
| J997838 | | <20 | 0.24 | <10 | <10 | 195 | <10 | 100 | |
| J997839 | | <20 | 0.11 | <10 | <10 | 11 | <10 | 84 | |
| J997840 | | <20 | 0.03 | <10 | <10 | 4 | <10 | 54 | |
| J997841 | | <20 | 0.08 | <10 | <10 | 3 | <10 | 68 | |
| J997842 | | <20 | 0.23 | <10 | <10 | 168 | <10 | 124 | |
| J997843 | | <20 | 0.19 | <10 | <10 | 45 | <10 | 140 | |
| J997844 | | <20 | 0.15 | <10 | <10 | 6 | <10 | 104 | |
| J997845 | | <20 | 0.10 | <10 | <10 | 5 | <10 | 78 | |
| J997846 | | <20 | 0.09 | <10 | <10 | 90 | <10 | 2610 | |
| J997847 | | <20 | 0.11 | <10 | <10 | 3 | <10 | 82 | |
| J997848 | | <20 | 0.06 | <10 | <10 | 5 | <10 | 73 | |
| J997849 | | <20 | 0.09 | <10 | <10 | 3 | <10 | 69 | |
| J997850 | | <20 | 0.05 | <10 | <10 | 2 | <10 | 51 | |
| J997851 | | <20 | 0.04 | <10 | <10 | 2 | <10 | 56 | |
| J997852 | | <20 | 0.05 | <10 | <10 | 2 | <10 | 74 | |
| J997853 | | <20 | 0.06 | <10 | <10 | 39 | <10 | 80 | |
| J997854 | | <20 | 0.16 | <10 | <10 | 69 | <10 | 129 | |
| J997855 | | <20 | 0.09 | <10 | <10 | 6 | <10 | 111 | |
| J997856 | | <20 | 0.06 | <10 | <10 | 3 | <10 | 98 | |
| J997857 | | <20 | 0.06 | <10 | <10 | 2 | <10 | 151 | |
| J997858 | | <20 | 0.01 | <10 | <10 | 3 | <10 | 240 | |
| J997859 | | <20 | 0.02 | <10 | <10 | 2 | <10 | 140 | |
| J997860 | | <20 | <0.01 | <10 | 20 | <1 | <10 | 20 | |
| J997861 | | <20 | 0.01 | <10 | <10 | 5 | <10 | 188 | |
| J997862 | | <20 | 0.02 | <10 | <10 | 26 | <10 | 211 | |
| J997863 | | <20 | <0.01 | <10 | <10 | 7 | <10 | 134 | |
| J997864 | | <20 | <0.01 | <10 | 20 | <1 | <10 | 73 | |
| J997865 | | <20 | 0.01 | <10 | <10 | 12 | <10 | 267 | |
| J997866 | | <20 | 0.01 | <10 | <10 | 14 | <10 | 299 | |
| J997867 | | <20 | 0.01 | <10 | <10 | 17 | <10 | 118 | |
| J997868 | | <20 | <0.01 | <10 | <10 | 6 | <10 | 106 | |
| J997869 | | <20 | <0.01 | <10 | <10 | 5 | <10 | 43 | |
| J997870 | | <20 | 0.02 | <10 | <10 | 16 | <10 | >10000 | 1.315 |
| J997871 | | <20 | 0.01 | <10 | <10 | 17 | <10 | 91 | |

Comments: ***Corrected copy with Project Name changed to Arcus - TL-02-11 Batch 2 ***

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 10-JUL-2011**
**Account: F**

# CERTIFICATE WH11122216

Project: Arcus-Touleary Grid A

P.O. No.: Batch 2

This report is for 70 Soil samples submitted to our lab in Whitehorse, YT, Canada on 1-JUL-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| 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: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 10-JUL-2011**
**Account: F**

Project: Arcus-Touleary Grid A

# CERTIFICATE OF ANALYSIS WH11122216

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| CC144079 | | 0.12 | 0.003 | 0.3 | 2.15 | 6 | <10 | 360 | <0.5 | <2 | 0.34 | <0.5 | 12 | 142 | 31 | 3.10 |
| CC144080 | | 0.10 | 0.001 | 0.2 | 2.07 | 4 | <10 | 310 | <0.5 | 2 | 0.47 | <0.5 | 15 | 137 | 32 | 2.91 |
| CC144081 | | 0.20 | 0.004 | <0.2 | 2.27 | 11 | <10 | 340 | 0.5 | <2 | 0.30 | <0.5 | 9 | 40 | 24 | 3.14 |
| CC144082 | | 0.18 | 0.005 | <0.2 | 2.08 | 9 | <10 | 250 | 0.6 | <2 | 0.36 | <0.5 | 10 | 38 | 30 | 3.08 |
| CC144083 | | 0.23 | 0.003 | <0.2 | 2.10 | 8 | <10 | 200 | 0.5 | <2 | 0.21 | <0.5 | 9 | 33 | 25 | 2.98 |
| CC144084 | | 0.25 | 0.003 | <0.2 | 2.25 | 7 | <10 | 130 | <0.5 | <2 | 0.12 | <0.5 | 8 | 32 | 18 | 2.98 |
| CC144085 | | 0.10 | 0.005 | <0.2 | 1.06 | 6 | <10 | 100 | <0.5 | <2 | 0.09 | <0.5 | 6 | 14 | 67 | 2.97 |
| CC144086 | | 0.09 | 0.034 | 0.3 | 0.48 | 3 | <10 | 80 | <0.5 | <2 | 0.03 | <0.5 | 1 | 7 | 17 | 1.78 |
| CC144087 | | 0.13 | 0.030 | 0.4 | 0.90 | 26 | <10 | 140 | <0.5 | <2 | 0.06 | <0.5 | 1 | 11 | 71 | 4.94 |
| CC144171 | | 0.24 | 0.004 | <0.2 | 1.93 | 8 | <10 | 230 | 0.5 | <2 | 0.30 | <0.5 | 9 | 28 | 22 | 3.15 |
| CC144175 | | 0.15 | 0.002 | <0.2 | 0.79 | 9 | <10 | 60 | <0.5 | <2 | 0.06 | <0.5 | 3 | 17 | 11 | 1.87 |
| CC144176 | | 0.13 | 0.002 | 0.2 | 2.01 | 8 | <10 | 220 | 0.5 | 2 | 0.17 | <0.5 | 11 | 31 | 18 | 3.20 |
| CC144177 | | 0.22 | 0.004 | <0.2 | 1.97 | 8 | <10 | 180 | 0.5 | <2 | 0.28 | <0.5 | 9 | 35 | 24 | 2.86 |
| CC144178 | | 0.16 | 0.003 | 0.2 | 2.10 | 8 | <10 | 240 | <0.5 | <2 | 0.38 | <0.5 | 10 | 39 | 22 | 3.14 |
| CC144179 | | 0.14 | <0.001 | 0.3 | 1.69 | 13 | <10 | 160 | <0.5 | <2 | 0.17 | <0.5 | 7 | 32 | 13 | 3.72 |
| CC144180 | | 0.18 | 0.003 | 0.2 | 1.52 | 8 | <10 | 350 | <0.5 | 2 | 0.21 | <0.5 | 5 | 30 | 15 | 2.63 |
| CC144181 | | 0.13 | 0.004 | 0.2 | 2.03 | 10 | <10 | 340 | <0.5 | <2 | 0.37 | <0.5 | 11 | 42 | 25 | 2.98 |
| CC144182 | | 0.22 | 0.002 | 0.2 | 2.18 | 8 | <10 | 300 | <0.5 | <2 | 0.31 | <0.5 | 10 | 36 | 23 | 3.07 |
| CC144183 | | 0.24 | 0.003 | <0.2 | 2.03 | 9 | <10 | 280 | <0.5 | <2 | 0.29 | <0.5 | 9 | 34 | 19 | 3.00 |
| CC144184 | | 0.16 | 0.004 | 0.2 | 2.27 | 11 | <10 | 220 | 0.5 | <2 | 0.31 | <0.5 | 10 | 37 | 28 | 3.11 |
| CC144185 | | 0.23 | 0.002 | <0.2 | 1.81 | 14 | <10 | 90 | <0.5 | <2 | 0.12 | <0.5 | 5 | 30 | 14 | 3.85 |
| CC144186 | | 0.06 | 0.002 | <0.2 | 2.02 | 7 | <10 | 190 | 0.5 | <2 | 0.25 | <0.5 | 8 | 32 | 19 | 3.05 |
| CC144187 | | 0.08 | 0.001 | <0.2 | 0.76 | 3 | <10 | 60 | <0.5 | <2 | 0.08 | <0.5 | 2 | 15 | 12 | 1.76 |
| CC144188 | | 0.06 | 0.002 | 0.3 | 2.24 | 10 | <10 | 260 | 0.6 | <2 | 0.40 | <0.5 | 10 | 33 | 52 | 3.21 |
| CC144189 | | 0.19 | 0.001 | 0.2 | 1.73 | 8 | <10 | 130 | 0.5 | <2 | 0.20 | <0.5 | 8 | 26 | 19 | 2.66 |
| CC144190 | | 0.29 | 0.012 | 0.3 | 1.52 | 23 | <10 | 320 | <0.5 | <2 | 0.18 | <0.5 | 7 | 26 | 23 | 2.68 |
| CC144191 | | 0.20 | 0.001 | <0.2 | 2.25 | 10 | <10 | 160 | <0.5 | <2 | 0.34 | <0.5 | 11 | 41 | 15 | 3.65 |
| CC144192 | | 0.17 | 0.003 | <0.2 | 2.14 | 11 | <10 | 160 | <0.5 | <2 | 0.14 | <0.5 | 8 | 48 | 14 | 3.61 |
| CC144193 | | 0.18 | 0.009 | <0.2 | 2.05 | 9 | <10 | 340 | 0.5 | <2 | 0.21 | <0.5 | 8 | 41 | 27 | 2.99 |
| CC144194 | | 0.12 | 0.001 | 0.2 | 2.43 | 10 | <10 | 290 | 0.5 | <2 | 0.26 | <0.5 | 12 | 120 | 28 | 3.43 |
| CC144195 | | 0.11 | <0.001 | <0.2 | 3.02 | 7 | <10 | 260 | 0.5 | 2 | 0.25 | <0.5 | 21 | 408 | 18 | 3.97 |
| CC144196 | | 0.09 | 0.004 | 0.3 | 2.82 | 14 | <10 | 210 | 0.7 | <2 | 0.21 | <0.5 | 10 | 55 | 27 | 3.54 |
| CC144197 | | 0.09 | <0.001 | <0.2 | 1.56 | 10 | <10 | 90 | <0.5 | <2 | 0.10 | <0.5 | 5 | 33 | 12 | 3.41 |
| CC144198 | | 0.09 | 0.002 | <0.2 | 0.85 | 6 | <10 | 60 | <0.5 | 2 | 0.09 | <0.5 | 3 | 17 | 12 | 1.85 |
| CC144199 | | 0.08 | 0.002 | <0.2 | 1.99 | 6 | <10 | 230 | <0.5 | <2 | 0.35 | <0.5 | 8 | 34 | 16 | 2.82 |
| CC144200 | | 0.13 | 0.005 | <0.2 | 1.74 | 11 | <10 | 160 | 0.5 | <2 | 0.17 | <0.5 | 9 | 40 | 23 | 3.11 |
| CC144201 | | 0.25 | 0.001 | <0.2 | 2.70 | 9 | <10 | 530 | 0.5 | <2 | 0.51 | <0.5 | 18 | 220 | 39 | 3.67 |
| CC144202 | | 0.29 | 0.002 | <0.2 | 2.62 | 9 | <10 | 320 | 0.7 | <2 | 0.20 | <0.5 | 13 | 49 | 29 | 3.50 |
| CC144203 | | 0.34 | 0.005 | <0.2 | 2.11 | 9 | <10 | 180 | <0.5 | <2 | 0.24 | <0.5 | 9 | 34 | 24 | 2.87 |
| CC144204 | | 0.22 | 0.003 | <0.2 | 2.25 | 10 | <10 | 180 | 0.5 | <2 | 0.22 | <0.5 | 10 | 35 | 25 | 3.07 |

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**Finalized Date: 10-JUL-2011**
**Account: F**

Project: Arcus-Touleary Grid A

# CERTIFICATE OF ANALYSIS WH11122216

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| CC144079 | | 10 | <1 | 0.32 | 20 | 1.34 | 350 | <1 | <0.01 | 39 | 640 | 9 | 0.01 | <2 | 3 | 25 |
| CC144080 | | 10 | <1 | 0.46 | 20 | 1.47 | 495 | <1 | <0.01 | 28 | 1290 | 10 | <0.01 | <2 | 4 | 33 |
| CC144081 | | 10 | <1 | 0.06 | 10 | 0.61 | 339 | <1 | <0.01 | 22 | 450 | 9 | <0.01 | <2 | 5 | 23 |
| CC144082 | | 10 | <1 | 0.07 | 20 | 0.69 | 411 | <1 | <0.01 | 22 | 440 | 6 | <0.01 | <2 | 7 | 27 |
| CC144083 | | <10 | <1 | 0.05 | 20 | 0.57 | 379 | <1 | <0.01 | 22 | 290 | 8 | <0.01 | <2 | 5 | 17 |
| CC144084 | | 10 | 1 | 0.05 | 10 | 0.41 | 317 | 1 | <0.01 | 16 | 230 | 8 | 0.01 | <2 | 4 | 15 |
| CC144085 | | <10 | <1 | 0.09 | 10 | 0.23 | 359 | 1 | <0.01 | 9 | 570 | 7 | 0.03 | <2 | 1 | 9 |
| CC144086 | | <10 | <1 | 0.07 | 10 | 0.11 | 41 | 2 | <0.01 | 4 | 300 | 9 | 0.13 | <2 | 1 | 18 |
| CC144087 | | <10 | 1 | 0.21 | 10 | 0.28 | 98 | 2 | 0.01 | 3 | 710 | 10 | 0.44 | 2 | 1 | 28 |
| CC144171 | | <10 | <1 | 0.08 | 20 | 0.56 | 554 | <1 | <0.01 | 19 | 510 | 7 | 0.01 | <2 | 6 | 19 |
| CC144175 | | 10 | <1 | 0.04 | 10 | 0.11 | 171 | 1 | <0.01 | 7 | 250 | 8 | <0.01 | <2 | 2 | 9 |
| CC144176 | | 10 | 1 | 0.04 | 10 | 0.35 | 894 | 1 | <0.01 | 14 | 280 | 11 | 0.01 | <2 | 3 | 14 |
| CC144177 | | <10 | <1 | 0.06 | 20 | 0.63 | 351 | <1 | <0.01 | 21 | 260 | 7 | <0.01 | <2 | 6 | 25 |
| CC144178 | | 10 | <1 | 0.05 | 10 | 0.73 | 354 | <1 | <0.01 | 20 | 390 | 7 | <0.01 | <2 | 6 | 30 |
| CC144179 | | 10 | <1 | 0.06 | 10 | 0.39 | 351 | 1 | <0.01 | 12 | 670 | 10 | 0.01 | <2 | 3 | 16 |
| CC144180 | | 10 | <1 | 0.09 | 10 | 0.44 | 260 | <1 | <0.01 | 15 | 250 | 11 | <0.01 | <2 | 3 | 21 |
| CC144181 | | <10 | <1 | 0.05 | 20 | 0.77 | 464 | <1 | <0.01 | 20 | 450 | 7 | <0.01 | <2 | 6 | 26 |
| CC144182 | | 10 | <1 | 0.05 | 10 | 0.65 | 408 | <1 | <0.01 | 19 | 370 | 8 | <0.01 | <2 | 4 | 23 |
| CC144183 | | 10 | <1 | 0.05 | 10 | 0.59 | 340 | <1 | <0.01 | 20 | 460 | 8 | <0.01 | <2 | 4 | 21 |
| CC144184 | | 10 | <1 | 0.05 | 10 | 0.62 | 373 | <1 | <0.01 | 27 | 490 | 10 | <0.01 | <2 | 5 | 23 |
| CC144185 | | 10 | <1 | 0.05 | 10 | 0.36 | 223 | 1 | <0.01 | 13 | 310 | 11 | <0.01 | <2 | 3 | 13 |
| CC144186 | | <10 | <1 | 0.06 | 20 | 0.55 | 482 | <1 | <0.01 | 21 | 420 | 6 | <0.01 | <2 | 5 | 17 |
| CC144187 | | 10 | <1 | 0.05 | 10 | 0.14 | 122 | 1 | <0.01 | 7 | 420 | 7 | 0.02 | <2 | 1 | 8 |
| CC144188 | | 10 | <1 | 0.08 | 20 | 0.56 | 649 | 1 | 0.01 | 21 | 810 | 38 | 0.04 | <2 | 4 | 27 |
| CC144189 | | 10 | 1 | 0.06 | 10 | 0.46 | 390 | <1 | <0.01 | 18 | 420 | 7 | 0.01 | <2 | 3 | 14 |
| CC144190 | | <10 | <1 | 0.06 | 10 | 0.34 | 242 | <1 | <0.01 | 19 | 500 | 16 | 0.02 | <2 | 2 | 17 |
| CC144191 | | 10 | 1 | 0.07 | 10 | 1.18 | 356 | <1 | 0.01 | 15 | 520 | 6 | 0.01 | <2 | 4 | 28 |
| CC144192 | | 10 | <1 | 0.06 | 10 | 0.60 | 225 | <1 | <0.01 | 20 | 300 | 9 | <0.01 | 2 | 4 | 15 |
| CC144193 | | <10 | 1 | 0.09 | 20 | 0.56 | 360 | <1 | <0.01 | 24 | 330 | 11 | <0.01 | <2 | 5 | 18 |
| CC144194 | | 10 | <1 | 0.09 | 20 | 1.00 | 348 | <1 | <0.01 | 42 | 360 | 10 | <0.01 | <2 | 5 | 23 |
| CC144195 | | 10 | <1 | 0.65 | 10 | 3.09 | 470 | <1 | <0.01 | 110 | 470 | 6 | <0.01 | <2 | 5 | 15 |
| CC144196 | | 10 | <1 | 0.07 | 20 | 0.57 | 262 | <1 | <0.01 | 27 | 440 | 11 | 0.01 | <2 | 6 | 20 |
| CC144197 | | 10 | <1 | 0.06 | 10 | 0.32 | 284 | <1 | <0.01 | 13 | 450 | 9 | 0.01 | <2 | 2 | 11 |
| CC144198 | | 10 | 1 | 0.05 | 10 | 0.25 | 153 | 1 | <0.01 | 7 | 250 | 8 | 0.01 | <2 | 2 | 10 |
| CC144199 | | 10 | 1 | 0.10 | 10 | 0.93 | 269 | <1 | 0.01 | 15 | 490 | 5 | 0.03 | <2 | 3 | 24 |
| CC144200 | | <10 | <1 | 0.09 | 20 | 0.49 | 379 | <1 | 0.02 | 27 | 430 | 10 | 0.04 | 2 | 3 | 15 |
| CC144201 | | 10 | <1 | 0.55 | 10 | 2.01 | 466 | <1 | 0.02 | 63 | 1280 | 9 | 0.03 | <2 | 4 | 35 |
| CC144202 | | 10 | <1 | 0.06 | 20 | 0.67 | 481 | <1 | 0.02 | 24 | 280 | 10 | 0.03 | <2 | 5 | 18 |
| CC144203 | | 10 | <1 | 0.06 | 10 | 0.56 | 258 | <1 | 0.02 | 19 | 350 | 7 | 0.03 | <2 | 5 | 21 |
| CC144204 | | 10 | <1 | 0.06 | 10 | 0.55 | 321 | <1 | 0.02 | 21 | 440 | 8 | 0.05 | 2 | 5 | 20 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 10-JUL-2011**
**Account: F**

Project: Arcus-Touleary Grid A

# CERTIFICATE OF ANALYSIS WH11122216

| Sample Description | Method Analyte Units LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| CC144079 | | <20 | 0.15 | <10 | <10 | 76 | <10 | 58 |
| CC144080 | | <20 | 0.16 | <10 | <10 | 69 | <10 | 53 |
| CC144081 | | <20 | 0.10 | <10 | <10 | 70 | <10 | 55 |
| CC144082 | | <20 | 0.09 | <10 | <10 | 67 | <10 | 56 |
| CC144083 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 59 |
| CC144084 | | <20 | 0.08 | <10 | <10 | 62 | <10 | 64 |
| CC144085 | | <20 | 0.03 | <10 | <10 | 39 | <10 | 195 |
| CC144086 | | <20 | 0.01 | <10 | <10 | 12 | <10 | 19 |
| CC144087 | | <20 | 0.01 | <10 | <10 | 28 | <10 | 57 |
| CC144171 | | <20 | 0.08 | <10 | <10 | 56 | <10 | 67 |
| CC144175 | | <20 | 0.11 | <10 | <10 | 91 | <10 | 41 |
| CC144176 | | <20 | 0.08 | <10 | <10 | 78 | <10 | 61 |
| CC144177 | | <20 | 0.10 | <10 | <10 | 63 | <10 | 54 |
| CC144178 | | <20 | 0.12 | <10 | <10 | 75 | <10 | 53 |
| CC144179 | | <20 | 0.10 | <10 | <10 | 92 | <10 | 45 |
| CC144180 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 53 |
| CC144181 | | <20 | 0.11 | <10 | <10 | 71 | <10 | 55 |
| CC144182 | | <20 | 0.10 | <10 | <10 | 74 | <10 | 53 |
| CC144183 | | <20 | 0.09 | <10 | <10 | 66 | <10 | 53 |
| CC144184 | | <20 | 0.10 | <10 | <10 | 69 | <10 | 55 |
| CC144185 | | <20 | 0.11 | <10 | <10 | 96 | <10 | 43 |
| CC144186 | | <20 | 0.09 | <10 | <10 | 58 | <10 | 65 |
| CC144187 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 28 |
| CC144188 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 114 |
| CC144189 | | <20 | 0.08 | <10 | <10 | 49 | <10 | 61 |
| CC144190 | | <20 | 0.04 | <10 | <10 | 53 | <10 | 60 |
| CC144191 | | <20 | 0.16 | <10 | <10 | 87 | <10 | 66 |
| CC144192 | | <20 | 0.12 | <10 | <10 | 79 | <10 | 48 |
| CC144193 | | <20 | 0.09 | <10 | <10 | 60 | <10 | 64 |
| CC144194 | | <20 | 0.14 | <10 | <10 | 79 | <10 | 63 |
| CC144195 | | <20 | 0.29 | <10 | <10 | 92 | <10 | 92 |
| CC144196 | | <20 | 0.11 | <10 | <10 | 73 | <10 | 57 |
| CC144197 | | <20 | 0.08 | <10 | <10 | 70 | <10 | 48 |
| CC144198 | | <20 | 0.12 | <10 | <10 | 61 | <10 | 27 |
| CC144199 | | <20 | 0.12 | <10 | <10 | 75 | <10 | 64 |
| CC144200 | | <20 | 0.07 | <10 | <10 | 54 | <10 | 61 |
| CC144201 | | <20 | 0.19 | <10 | <10 | 96 | <10 | 61 |
| CC144202 | | <20 | 0.11 | <10 | <10 | 79 | <10 | 61 |
| CC144203 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 48 |
| CC144204 | | <20 | 0.09 | <10 | <10 | 67 | <10 | 50 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 10-JUL-2011**
**Account: F**

Project: Arcus-Touleary Grid A

# CERTIFICATE OF ANALYSIS WH11122216

| Sample Description | Method | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.001 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| CC144205 | | 0.19 | 0.002 | <0.2 | 2.06 | 9 | <10 | 180 | 0.7 | <2 | 0.19 | <0.5 | 8 | 30 | 23 | 2.91 |
| CC144206 | | 0.23 | 0.002 | <0.2 | 1.82 | 9 | <10 | 140 | 0.5 | <2 | 0.09 | <0.5 | 8 | 20 | 18 | 3.58 |
| CC144207 | | 0.24 | <0.001 | <0.2 | 1.39 | 4 | <10 | 90 | <0.5 | <2 | 0.22 | <0.5 | 7 | 18 | 15 | 2.39 |
| CC144208 | | 0.29 | 0.002 | <0.2 | 1.61 | 8 | <10 | 170 | <0.5 | <2 | 0.29 | <0.5 | 8 | 24 | 19 | 2.64 |
| CC144209 | | 0.14 | 0.004 | <0.2 | 1.42 | 7 | <10 | 110 | <0.5 | <2 | 0.15 | <0.5 | 7 | 22 | 13 | 3.07 |
| CC144210 | | 0.24 | 0.002 | 0.2 | 1.97 | 9 | <10 | 200 | 0.5 | <2 | 0.18 | <0.5 | 6 | 28 | 16 | 2.90 |
| CC144211 | | 0.18 | 0.004 | <0.2 | 2.01 | 10 | <10 | 200 | <0.5 | <2 | 0.29 | <0.5 | 10 | 36 | 26 | 3.03 |
| CC144212 | | 0.35 | 0.001 | 0.2 | 2.03 | 6 | <10 | 360 | <0.5 | <2 | 0.33 | <0.5 | 10 | 34 | 25 | 2.92 |
| CC144213 | | 0.21 | 0.003 | 0.2 | 1.84 | 11 | <10 | 310 | 0.5 | <2 | 0.30 | <0.5 | 11 | 38 | 33 | 3.11 |
| CC144214 | | 0.16 | 0.021 | 0.2 | 2.22 | 9 | <10 | 590 | 0.6 | <2 | 0.58 | <0.5 | 18 | 179 | 54 | 3.52 |
| CC144215 | | 0.20 | 0.007 | 0.2 | 2.20 | 14 | <10 | 430 | 0.7 | <2 | 0.42 | <0.5 | 11 | 81 | 48 | 3.59 |
| CC144216 | | 0.19 | 0.005 | 0.3 | 2.32 | 11 | <10 | 220 | 0.5 | <2 | 0.20 | <0.5 | 10 | 44 | 35 | 3.47 |
| CC144217 | | 0.36 | 0.001 | 0.2 | 1.93 | 46 | <10 | 370 | 0.5 | <2 | 0.25 | <0.5 | 9 | 48 | 27 | 3.20 |
| CC144218 | | 0.26 | 0.002 | <0.2 | 2.15 | 11 | <10 | 140 | <0.5 | <2 | 0.16 | <0.5 | 7 | 34 | 17 | 3.35 |
| CC144219 | | 0.23 | 0.004 | 0.2 | 2.20 | 9 | <10 | 170 | 0.5 | <2 | 0.26 | <0.5 | 9 | 35 | 23 | 3.27 |
| CC144220 | | 0.23 | 0.001 | <0.2 | 1.58 | 7 | <10 | 140 | <0.5 | <2 | 0.21 | <0.5 | 6 | 23 | 18 | 2.67 |
| CC144221 | | 0.19 | 0.009 | 0.2 | 1.42 | 7 | <10 | 130 | <0.5 | <2 | 0.22 | <0.5 | 9 | 22 | 14 | 3.16 |
| CC144222 | | 0.25 | 0.002 | 0.2 | 2.00 | 7 | <10 | 170 | <0.5 | <2 | 0.28 | <0.5 | 9 | 33 | 18 | 3.26 |
| CC144223 | | Empty Bag | | | | | | | | | | | | | | |
| CC144224 | | 0.07 | 0.011 | 0.2 | 2.02 | 9 | <10 | 320 | 0.6 | <2 | 0.17 | <0.5 | 6 | 38 | 18 | 3.05 |
| CC144225 | | 0.34 | 0.003 | 0.2 | 2.05 | 10 | <10 | 230 | <0.5 | <2 | 0.12 | <0.5 | 7 | 35 | 21 | 3.35 |
| CC144226 | | 0.17 | 0.004 | 0.2 | 2.49 | 12 | <10 | 340 | 0.6 | <2 | 0.27 | <0.5 | 11 | 75 | 32 | 3.48 |
| CC144227 | | 0.16 | 0.002 | <0.2 | 2.17 | 10 | <10 | 320 | 0.5 | <2 | 0.31 | <0.5 | 12 | 71 | 30 | 3.24 |
| CC144228 | | 0.23 | 0.003 | 0.3 | 1.96 | 9 | <10 | 240 | <0.5 | <2 | 0.30 | <0.5 | 10 | 59 | 24 | 3.05 |
| CC144229 | | 0.25 | 0.002 | <0.2 | 1.83 | 6 | <10 | 280 | <0.5 | <2 | 0.20 | <0.5 | 9 | 55 | 20 | 3.21 |
| CC144230 | | 0.08 | 0.002 | 0.3 | 1.56 | 11 | <10 | 170 | <0.5 | <2 | 0.11 | <0.5 | 6 | 33 | 18 | 2.45 |
| CC144231 | | 0.26 | 0.017 | 0.2 | 1.40 | 8 | <10 | 360 | <0.5 | <2 | 0.27 | <0.5 | 8 | 49 | 27 | 2.48 |
| CC144232 | | 0.16 | 0.002 | 0.3 | 1.55 | 9 | <10 | 370 | <0.5 | <2 | 0.21 | <0.5 | 10 | 54 | 17 | 3.17 |
| CC144233 | | 0.13 | 0.002 | <0.2 | 1.94 | 11 | <10 | 110 | <0.5 | <2 | 0.13 | <0.5 | 7 | 47 | 15 | 3.66 |
| CC144234 | | 0.15 | 0.002 | 0.3 | 2.18 | 10 | <10 | 270 | 0.5 | <2 | 0.33 | <0.5 | 11 | 81 | 32 | 3.20 |

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**Finalized Date: 10-JUL-2011**
**Account: F**

Project: Arcus-Touleary Grid A

# CERTIFICATE OF ANALYSIS WH11122216

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| CC144205 | | 10 | <1 | 0.07 | 20 | 0.46 | 300 | <1 | 0.02 | 20 | 230 | 8 | 0.05 | <2 | 5 | 19 |
| CC144206 | | <10 | <1 | 0.06 | 10 | 0.31 | 437 | <1 | 0.01 | 12 | 150 | 7 | 0.05 | 3 | 6 | 11 |
| CC144207 | | <10 | <1 | 0.09 | 10 | 0.49 | 353 | <1 | 0.01 | 12 | 400 | 4 | 0.06 | <2 | 3 | 14 |
| CC144208 | | <10 | <1 | 0.06 | 20 | 0.48 | 424 | <1 | 0.02 | 17 | 580 | 5 | 0.02 | <2 | 4 | 19 |
| CC144209 | | <10 | <1 | 0.06 | 10 | 0.35 | 571 | 2 | 0.01 | 13 | 460 | 8 | 0.01 | <2 | 3 | 10 |
| CC144210 | | <10 | <1 | 0.08 | 10 | 0.58 | 336 | <1 | 0.01 | 18 | 190 | 7 | <0.01 | <2 | 4 | 16 |
| CC144211 | | 10 | <1 | 0.05 | 10 | 0.73 | 344 | <1 | 0.01 | 20 | 290 | 7 | <0.01 | <2 | 5 | 25 |
| CC144212 | | <10 | <1 | 0.05 | 10 | 0.65 | 397 | 1 | 0.01 | 19 | 420 | 9 | <0.01 | <2 | 5 | 22 |
| CC144213 | | <10 | <1 | 0.07 | 20 | 0.72 | 375 | <1 | 0.01 | 21 | 310 | 11 | <0.01 | <2 | 6 | 25 |
| CC144214 | | 10 | <1 | 0.24 | 20 | 1.77 | 477 | <1 | <0.01 | 61 | 1010 | 14 | <0.01 | 2 | 5 | 35 |
| CC144215 | | 10 | <1 | 0.07 | 30 | 0.88 | 482 | <1 | 0.01 | 36 | 370 | 14 | <0.01 | <2 | 11 | 33 |
| CC144216 | | 10 | <1 | 0.06 | 10 | 0.64 | 351 | 1 | 0.01 | 23 | 320 | 16 | <0.01 | 2 | 5 | 17 |
| CC144217 | | <10 | <1 | 0.09 | 20 | 0.73 | 373 | 1 | <0.01 | 27 | 290 | 13 | <0.01 | <2 | 4 | 19 |
| CC144218 | | 10 | <1 | 0.05 | 10 | 0.55 | 226 | 1 | 0.01 | 17 | 300 | 10 | <0.01 | 2 | 4 | 16 |
| CC144219 | | 10 | <1 | 0.06 | 10 | 0.72 | 362 | 1 | 0.01 | 20 | 320 | 7 | <0.01 | <2 | 5 | 20 |
| CC144220 | | <10 | <1 | 0.05 | 10 | 0.38 | 282 | 1 | 0.01 | 15 | 410 | 9 | <0.01 | <2 | 3 | 14 |
| CC144221 | | <10 | <1 | 0.07 | 10 | 0.40 | 695 | 1 | 0.01 | 15 | 420 | 12 | <0.01 | <2 | 4 | 14 |
| CC144222 | | 10 | <1 | 0.10 | 10 | 0.91 | 271 | 1 | 0.01 | 15 | 540 | 6 | <0.01 | <2 | 3 | 18 |
| CC144223 | | | | | | | | | | | | | | | | |
| CC144224 | | 10 | <1 | 0.08 | 20 | 0.54 | 249 | 1 | <0.01 | 23 | 250 | 14 | <0.01 | <2 | 4 | 15 |
| CC144225 | | 10 | <1 | 0.09 | 10 | 0.44 | 266 | 1 | <0.01 | 19 | 280 | 13 | <0.01 | <2 | 4 | 12 |
| CC144226 | | 10 | <1 | 0.10 | 20 | 0.89 | 390 | <1 | 0.01 | 35 | 360 | 12 | <0.01 | <2 | 5 | 21 |
| CC144227 | | 10 | <1 | 0.10 | 10 | 1.06 | 386 | <1 | 0.01 | 39 | 310 | 8 | <0.01 | 2 | 5 | 24 |
| CC144228 | | 10 | <1 | 0.09 | 20 | 0.73 | 308 | <1 | 0.01 | 25 | 820 | 9 | <0.01 | <2 | 4 | 22 |
| CC144229 | | 10 | <1 | 0.22 | 10 | 0.65 | 414 | 2 | 0.01 | 27 | 430 | 10 | <0.01 | <2 | 4 | 15 |
| CC144230 | | 10 | <1 | 0.07 | 10 | 0.48 | 160 | 1 | 0.01 | 15 | 340 | 11 | 0.02 | <2 | 3 | 10 |
| CC144231 | | <10 | <1 | 0.09 | 40 | 0.54 | 453 | 1 | 0.01 | 30 | 460 | 15 | <0.01 | 2 | 3 | 20 |
| CC144232 | | 10 | <1 | 0.08 | 10 | 0.57 | 738 | 1 | <0.01 | 18 | 990 | 10 | <0.01 | <2 | 2 | 17 |
| CC144233 | | 10 | <1 | 0.05 | 10 | 0.57 | 218 | 1 | 0.01 | 18 | 390 | 11 | 0.01 | <2 | 3 | 13 |
| CC144234 | | 10 | <1 | 0.07 | 10 | 0.85 | 321 | <1 | 0.01 | 32 | 820 | 7 | <0.01 | <2 | 4 | 23 |

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Project: Arcus-Touleary Grid A

# CERTIFICATE OF ANALYSIS WH11122216

| Sample Description | Method Analyte Units LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| CC144205 | | <20 | 0.06 | <10 | <10 | 55 | <10 | 50 |
| CC144206 | | <20 | 0.03 | <10 | <10 | 35 | <10 | 73 |
| CC144207 | | <20 | 0.09 | <10 | <10 | 42 | <10 | 60 |
| CC144208 | | <20 | 0.08 | <10 | <10 | 49 | <10 | 58 |
| CC144209 | | <20 | 0.06 | <10 | <10 | 48 | <10 | 66 |
| CC144210 | | <20 | 0.08 | <10 | <10 | 48 | <10 | 59 |
| CC144211 | | <20 | 0.11 | <10 | <10 | 69 | <10 | 51 |
| CC144212 | | <20 | 0.09 | <10 | <10 | 67 | <10 | 48 |
| CC144213 | | <20 | 0.09 | <10 | <10 | 63 | <10 | 56 |
| CC144214 | | <20 | 0.16 | <10 | <10 | 81 | <10 | 65 |
| CC144215 | | <20 | 0.12 | <10 | <10 | 75 | <10 | 75 |
| CC144216 | | <20 | 0.10 | <10 | <10 | 70 | <10 | 68 |
| CC144217 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 70 |
| CC144218 | | <20 | 0.09 | <10 | <10 | 71 | <10 | 51 |
| CC144219 | | <20 | 0.09 | <10 | <10 | 69 | <10 | 53 |
| CC144220 | | <20 | 0.07 | <10 | <10 | 50 | <10 | 51 |
| CC144221 | | <20 | 0.06 | <10 | <10 | 49 | <10 | 100 |
| CC144222 | | <20 | 0.14 | <10 | <10 | 82 | <10 | 58 |
| CC144223 | | | | | | | | |
| CC144224 | | <20 | 0.07 | <10 | <10 | 55 | <10 | 58 |
| CC144225 | | <20 | 0.09 | <10 | <10 | 72 | <10 | 59 |
| CC144226 | | <20 | 0.12 | <10 | <10 | 72 | <10 | 63 |
| CC144227 | | <20 | 0.14 | <10 | <10 | 71 | <10 | 67 |
| CC144228 | | <20 | 0.11 | <10 | <10 | 68 | <10 | 55 |
| CC144229 | | <20 | 0.12 | <10 | <10 | 70 | <10 | 64 |
| CC144230 | | <20 | 0.08 | <10 | <10 | 62 | <10 | 51 |
| CC144231 | | <20 | 0.09 | <10 | <10 | 51 | <10 | 65 |
| CC144232 | | <20 | 0.11 | <10 | <10 | 88 | <10 | 37 |
| CC144233 | | <20 | 0.11 | <10 | <10 | 77 | <10 | 45 |
| CC144234 | | <20 | 0.12 | <10 | <10 | 71 | <10 | 49 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-JUL-2011**
**Account: F**

# CERTIFICATE WH11126876

Project: Arcus-TL-03-11

P.O. No.: Batch 5

This report is for 36 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 7-JUL-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| CRU-QC | Crushing QC Test |
| PUL-QC | Pulverizing QC Test |
| CRU-31 | Fine crushing - 70% <2mm |
| SPL-21 | Split sample - riffle splitter |
| PUL-31 | Pulverize split to 85% <75 um |
| LOG-24 | Pulp Login - Rcd w/o Barcode |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au-AA24 | Au 50g FA AA finish | AAS |
| ME-ICP41 | 35 Element Aqua Regia ICP-AES | ICP-AES |
| ME-OG46 | Ore Grade Elements - AquaRegia | ICP-AES |
| Cu-OG46 | Ore Grade Cu - Aqua Regia | VARIABLE |
| Zn-OG46 | Ore Grade Zn - Aqua Regia | VARIABLE |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
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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

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**Finalized Date: 17-JUL-2011**
**Account: F**

Project: Arcus-TL-03-11

# CERTIFICATE OF ANALYSIS WH11126876

| Sample Description | Method | WEI-21 | Au-AA24 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.005 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| J997944 | | 6.88 | <0.005 | 0.2 | 2.13 | <2 | <10 | 40 | <0.5 | 3 | 1.43 | <0.5 | 18 | 4 | 112 | 4.47 |
| J997945 | | 3.75 | 0.007 | <0.2 | 1.33 | <2 | <10 | 100 | <0.5 | 2 | 0.59 | <0.5 | 2 | 3 | 9 | 2.10 |
| J997946 | | 4.38 | <0.005 | <0.2 | 1.27 | <2 | <10 | 70 | <0.5 | 3 | 0.45 | <0.5 | 4 | 5 | 24 | 2.13 |
| J997947 | | 5.80 | <0.005 | 0.2 | 2.07 | 2 | <10 | 30 | <0.5 | 2 | 1.55 | <0.5 | 20 | 5 | 226 | 4.37 |
| J997948 | | 3.15 | <0.005 | 0.2 | 2.49 | <2 | <10 | 50 | <0.5 | 4 | 0.92 | <0.5 | 19 | 7 | 106 | 4.73 |
| J997949 | | 3.46 | <0.005 | <0.2 | 1.39 | <2 | <10 | 70 | 0.5 | 2 | 0.43 | 0.5 | 5 | 6 | 32 | 2.14 |
| J997950 | | 3.39 | <0.005 | <0.2 | 1.34 | <2 | <10 | 40 | <0.5 | 3 | 0.32 | 0.5 | 5 | 2 | 85 | 2.43 |
| J997951 | | 3.20 | <0.005 | <0.2 | 1.34 | <2 | <10 | 40 | <0.5 | 3 | 0.23 | 0.6 | 4 | 2 | 45 | 2.78 |
| J997952 | | 4.06 | <0.005 | <0.2 | 1.19 | <2 | <10 | 70 | <0.5 | <2 | 0.11 | <0.5 | 3 | 2 | 71 | 2.85 |
| J997953 | | 0.08 | 2.16 | 15.1 | 0.94 | 25 | <10 | 20 | <0.5 | 5 | 0.31 | 58.2 | 11 | 41 | 4920 | 9.52 |
| J997954 | | 3.28 | <0.005 | <0.2 | 1.57 | 2 | <10 | 60 | <0.5 | <2 | 0.18 | <0.5 | 4 | 4 | 86 | 2.73 |
| J997955 | | 2.05 | <0.005 | <0.2 | 0.74 | <2 | <10 | 70 | <0.5 | <2 | 0.03 | <0.5 | 2 | 5 | 80 | 2.45 |
| J997956 | | 1.59 | <0.005 | <0.2 | 0.03 | <2 | <10 | <10 | <0.5 | <2 | 20.3 | <0.5 | <1 | <1 | 2 | 0.46 |
| J997957 | | 3.81 | <0.005 | <0.2 | 1.12 | <2 | <10 | 30 | <0.5 | <2 | 0.23 | <0.5 | 3 | 5 | 58 | 1.83 |
| J997958 | | 4.04 | <0.005 | <0.2 | 1.11 | <2 | <10 | 60 | <0.5 | <2 | 0.31 | <0.5 | 6 | 5 | 44 | 2.45 |
| J997959 | | 5.30 | <0.005 | <0.2 | 0.92 | <2 | <10 | 80 | <0.5 | <2 | 0.22 | <0.5 | 5 | 5 | 66 | 2.03 |
| J997960 | | 5.18 | <0.005 | <0.2 | 1.04 | <2 | <10 | 90 | <0.5 | <2 | 0.24 | <0.5 | 5 | 5 | 137 | 2.25 |
| J997961 | | 2.32 | <0.005 | <0.2 | 1.23 | <2 | <10 | 80 | <0.5 | <2 | 0.34 | <0.5 | 5 | 5 | 73 | 1.98 |
| J997962 | | 2.95 | <0.005 | <0.2 | 1.61 | <2 | <10 | 220 | <0.5 | <2 | 0.33 | <0.5 | 5 | 6 | 167 | 2.46 |
| J997963 | | 1.90 | 0.312 | 3.0 | 0.39 | 3 | <10 | 20 | <0.5 | 4 | 0.01 | <0.5 | 8 | 6 | 2020 | 7.25 |
| J997964 | | 1.66 | 0.169 | 2.1 | 0.60 | <2 | <10 | 50 | <0.5 | <2 | 0.12 | 0.8 | 6 | 10 | 864 | 3.57 |
| J997965 | | 0.08 | 2.07 | 14.0 | 0.92 | 23 | <10 | 30 | <0.5 | 5 | 0.29 | 55.7 | 10 | 40 | 4830 | 9.12 |
| J997966 | | 1.82 | 0.268 | 6.8 | 0.55 | 3 | <10 | 40 | <0.5 | <2 | 0.01 | <0.5 | 8 | 9 | 965 | 7.06 |
| J997967 | | 1.33 | 1.150 | 36.4 | 0.52 | 10 | <10 | 40 | <0.5 | 18 | 0.01 | 148.0 | 3 | 2 | >10000 | 15.9 |
| J997968 | | 0.97 | <0.005 | <0.2 | 0.02 | <2 | <10 | 140 | <0.5 | <2 | 19.7 | <0.5 | <1 | 1 | 32 | 0.45 |
| J997969 | | 2.46 | 0.008 | 0.3 | 1.46 | 2 | <10 | 1010 | <0.5 | <2 | 0.22 | 1.3 | 3 | 6 | 165 | 2.47 |
| J997970 | | 3.53 | 0.007 | <0.2 | 2.10 | 3 | <10 | 170 | <0.5 | <2 | 0.41 | 0.9 | 13 | 4 | 264 | 3.50 |
| J997971 | | 4.70 | 0.006 | <0.2 | 1.31 | 2 | <10 | 70 | <0.5 | <2 | 0.25 | 3.3 | 8 | 4 | 249 | 3.14 |
| J997972 | | 4.04 | 0.005 | <0.2 | 1.50 | <2 | <10 | 50 | <0.5 | <2 | 0.52 | 1.6 | 8 | 8 | 171 | 2.79 |
| J997973 | | 4.40 | <0.005 | <0.2 | 1.48 | <2 | <10 | 80 | <0.5 | <2 | 0.33 | 2.8 | 8 | 6 | 258 | 3.37 |
| J997974 | | 4.12 | <0.005 | <0.2 | 1.46 | <2 | <10 | 100 | <0.5 | <2 | 0.51 | 2.0 | 8 | 8 | 55 | 2.92 |
| J997975 | | 1.16 | 0.086 | <0.2 | 1.12 | <2 | <10 | 110 | <0.5 | <2 | 0.26 | 3.2 | 6 | 7 | 86 | 3.24 |
| J997976 | | 6.04 | <0.005 | <0.2 | 1.56 | <2 | <10 | 140 | <0.5 | <2 | 0.75 | 1.3 | 10 | 6 | 73 | 2.97 |
| J997977 | | 5.34 | <0.005 | <0.2 | 1.42 | <2 | <10 | 60 | <0.5 | <2 | 0.44 | 1.3 | 6 | 6 | 123 | 2.64 |
| J997978 | | 3.99 | 0.318 | 3.6 | 1.13 | <2 | <10 | 90 | <0.5 | <2 | 0.19 | 3.8 | 8 | 5 | 1750 | 3.29 |
| J997979 | | 8.18 | 0.041 | 1.0 | 1.10 | <2 | <10 | 540 | <0.5 | <2 | 0.23 | 3.3 | 4 | 5 | 1160 | 2.21 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-JUL-2011**
**Account: F**

Project: Arcus-TL-03-11

# CERTIFICATE OF ANALYSIS WH11126876

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| J997944 | | 10 | <1 | 0.10 | <10 | 1.36 | 606 | <1 | 0.21 | 4 | 690 | 4 | 0.03 | <2 | 12 | 27 |
| J997945 | | 10 | <1 | 0.22 | 10 | 1.01 | 456 | <1 | 0.07 | <1 | 230 | 4 | 0.05 | <2 | 3 | 20 |
| J997946 | | <10 | <1 | 0.15 | 10 | 0.76 | 365 | <1 | 0.05 | 1 | 210 | 3 | 0.03 | <2 | 2 | 18 |
| J997947 | | 10 | <1 | 0.08 | <10 | 1.13 | 601 | <1 | 0.24 | 5 | 750 | 2 | 0.10 | <2 | 12 | 33 |
| J997948 | | 10 | <1 | 0.06 | <10 | 1.60 | 736 | <1 | 0.09 | 7 | 500 | 3 | 0.02 | <2 | 13 | 25 |
| J997949 | | 10 | <1 | 0.12 | 10 | 0.83 | 554 | <1 | 0.04 | 3 | 300 | 4 | 0.03 | <2 | 2 | 22 |
| J997950 | | <10 | <1 | 0.20 | 10 | 0.54 | 397 | 1 | 0.04 | 1 | 330 | 4 | 0.02 | <2 | 3 | 13 |
| J997951 | | 10 | <1 | 0.17 | 10 | 0.72 | 580 | <1 | 0.06 | 1 | 440 | 5 | 0.03 | <2 | 4 | 9 |
| J997952 | | 10 | <1 | 0.17 | 10 | 0.43 | 258 | <1 | 0.08 | 2 | 280 | 3 | 0.19 | <2 | 4 | 19 |
| J997953 | | <10 | 1 | 0.10 | <10 | 0.94 | 339 | 12 | 0.02 | 21 | 110 | 249 | >10.0 | <2 | 2 | 7 |
| J997954 | | <10 | <1 | 0.19 | 10 | 0.67 | 295 | <1 | 0.05 | 1 | 430 | 5 | 0.41 | <2 | 4 | 23 |
| J997955 | | <10 | <1 | 0.23 | 10 | 0.19 | 97 | 3 | 0.07 | <1 | 220 | 2 | 0.84 | <2 | 3 | 25 |
| J997956 | | <10 | <1 | 0.01 | 10 | 12.45 | 211 | <1 | 0.02 | <1 | 200 | <2 | <0.01 | <2 | <1 | 48 |
| J997957 | | <10 | <1 | 0.18 | 10 | 0.65 | 250 | 1 | 0.04 | <1 | 260 | <2 | 0.18 | <2 | 2 | 8 |
| J997958 | | 10 | <1 | 0.29 | <10 | 0.61 | 307 | <1 | 0.07 | <1 | 340 | <2 | 0.25 | <2 | 3 | 7 |
| J997959 | | <10 | <1 | 0.34 | <10 | 0.43 | 214 | <1 | 0.07 | <1 | 380 | <2 | 0.26 | <2 | 2 | 8 |
| J997960 | | <10 | <1 | 0.37 | <10 | 0.48 | 250 | <1 | 0.07 | <1 | 410 | <2 | 0.18 | <2 | 2 | 8 |
| J997961 | | <10 | <1 | 0.19 | <10 | 0.62 | 274 | <1 | 0.06 | <1 | 430 | 4 | 0.03 | <2 | 2 | 17 |
| J997962 | | <10 | <1 | 0.14 | 10 | 0.88 | 333 | <1 | 0.07 | 1 | 560 | 7 | 0.04 | <2 | 3 | 15 |
| J997963 | | <10 | 4 | 0.19 | <10 | 0.01 | 22 | 7 | 0.04 | 17 | 170 | 113 | 8.19 | 2 | 3 | 66 |
| J997964 | | <10 | <1 | 0.20 | 10 | 0.05 | 60 | <1 | 0.04 | 12 | 950 | 29 | 3.24 | <2 | 1 | 14 |
| J997965 | | <10 | 1 | 0.10 | <10 | 0.91 | 328 | 12 | 0.03 | 19 | 110 | 240 | >10.0 | <2 | 2 | 6 |
| J997966 | | <10 | 5 | 0.21 | <10 | 0.04 | 66 | 14 | 0.06 | 16 | 180 | 185 | 7.62 | <2 | 2 | 62 |
| J997967 | | 10 | 64 | 0.09 | <10 | 0.11 | 89 | 52 | 0.03 | 12 | 250 | 803 | >10.0 | 2 | 3 | 46 |
| J997968 | | <10 | <1 | 0.01 | 10 | 11.90 | 200 | <1 | 0.03 | <1 | 170 | 3 | 0.03 | <2 | <1 | 49 |
| J997969 | | <10 | <1 | 0.18 | 10 | 0.63 | 318 | <1 | 0.04 | <1 | 500 | 87 | 0.23 | <2 | 4 | 37 |
| J997970 | | 10 | <1 | 0.11 | <10 | 1.12 | 575 | <1 | 0.05 | 3 | 520 | 14 | 0.22 | <2 | 3 | 27 |
| J997971 | | <10 | <1 | 0.17 | 10 | 0.56 | 450 | <1 | 0.05 | 1 | 430 | 6 | 0.25 | <2 | 4 | 7 |
| J997972 | | <10 | <1 | 0.15 | 10 | 0.78 | 480 | <1 | 0.06 | 2 | 430 | 3 | 0.17 | <2 | 3 | 8 |
| J997973 | | <10 | <1 | 0.20 | 10 | 0.62 | 517 | <1 | 0.06 | 1 | 630 | 4 | 0.13 | <2 | 4 | 8 |
| J997974 | | <10 | <1 | 0.19 | <10 | 0.59 | 506 | <1 | 0.05 | 1 | 720 | 3 | 0.11 | <2 | 3 | 12 |
| J997975 | | <10 | <1 | 0.16 | 10 | 0.42 | 566 | <1 | 0.06 | 1 | 620 | 4 | 0.11 | <2 | 3 | 7 |
| J997976 | | <10 | <1 | 0.15 | <10 | 0.71 | 557 | <1 | 0.05 | 1 | 700 | 5 | 0.26 | <2 | 3 | 15 |
| J997977 | | <10 | <1 | 0.13 | <10 | 0.64 | 510 | <1 | 0.06 | <1 | 460 | 4 | 0.08 | <2 | 3 | 11 |
| J997978 | | <10 | <1 | 0.17 | 10 | 0.46 | 317 | <1 | 0.04 | 3 | 500 | 33 | 1.10 | <2 | 3 | 85 |
| J997979 | | <10 | <1 | 0.20 | 10 | 0.36 | 506 | <1 | 0.04 | 1 | 280 | 74 | 0.58 | <2 | 2 | 20 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 17-JUL-2011**
**Account: F**

Project: Arcus-TL-03-11

# CERTIFICATE OF ANALYSIS WH11126876

| Sample Description | Method Analyte Units LOR | ME-ICP41 Th ppm 20 | ME-ICP41 Ti % 0.01 | ME-ICP41 Tl ppm 10 | ME-ICP41 U ppm 10 | ME-ICP41 V ppm 1 | ME-ICP41 W ppm 10 | ME-ICP41 Zn ppm 2 | Cu-OG46 Cu % 0.001 | Zn-OG46 Zn % 0.001 |
|---|---|---|---|---|---|---|---|---|---|---|
| J997944 | | <20 | 0.16 | <10 | <10 | 156 | <10 | 82 | | |
| J997945 | | <20 | 0.13 | <10 | <10 | 10 | <10 | 70 | | |
| J997946 | | <20 | 0.11 | <10 | <10 | 23 | <10 | 91 | | |
| J997947 | | <20 | 0.13 | <10 | <10 | 155 | <10 | 85 | | |
| J997948 | | <20 | 0.11 | <10 | <10 | 136 | <10 | 157 | | |
| J997949 | | <20 | 0.05 | <10 | <10 | 19 | <10 | 166 | | |
| J997950 | | <20 | 0.04 | <10 | <10 | 9 | <10 | 131 | | |
| J997951 | | <20 | 0.02 | <10 | <10 | 9 | <10 | 178 | | |
| J997952 | | <20 | 0.05 | <10 | <10 | 4 | <10 | 98 | | |
| J997953 | | <20 | 0.02 | <10 | <10 | 16 | <10 | >10000 | | 1.290 |
| J997954 | | <20 | 0.08 | <10 | <10 | 17 | <10 | 123 | | |
| J997955 | | <20 | 0.01 | <10 | <10 | 5 | <10 | 45 | | |
| J997956 | | <20 | <0.01 | <10 | <10 | 2 | <10 | 19 | | |
| J997957 | | <20 | 0.02 | <10 | <10 | 3 | <10 | 107 | | |
| J997958 | | <20 | 0.08 | <10 | <10 | 28 | <10 | 139 | | |
| J997959 | | <20 | 0.07 | <10 | <10 | 22 | <10 | 72 | | |
| J997960 | | <20 | 0.08 | <10 | <10 | 26 | <10 | 81 | | |
| J997961 | | <20 | 0.05 | <10 | <10 | 19 | <10 | 78 | | |
| J997962 | | <20 | 0.04 | <10 | <10 | 22 | <10 | 168 | | |
| J997963 | | <20 | <0.01 | <10 | <10 | 4 | <10 | 20 | | |
| J997964 | | <20 | <0.01 | <10 | <10 | 9 | <10 | 141 | | |
| J997965 | | <20 | 0.02 | <10 | <10 | 15 | 10 | >10000 | | 1.305 |
| J997966 | | <20 | <0.01 | <10 | <10 | 6 | <10 | 53 | | |
| J997967 | | <20 | <0.01 | <10 | <10 | 8 | <10 | >10000 | 1.420 | 2.81 |
| J997968 | | <20 | <0.01 | <10 | <10 | 2 | <10 | 46 | | |
| J997969 | | <20 | 0.02 | <10 | <10 | 24 | <10 | 268 | | |
| J997970 | | <20 | 0.02 | <10 | <10 | 65 | <10 | 247 | | |
| J997971 | | <20 | 0.01 | <10 | <10 | 20 | <10 | 821 | | |
| J997972 | | <20 | 0.01 | <10 | <10 | 21 | <10 | 378 | | |
| J997973 | | <20 | 0.01 | <10 | <10 | 25 | <10 | 656 | | |
| J997974 | | <20 | 0.02 | <10 | <10 | 24 | <10 | 425 | | |
| J997975 | | <20 | 0.01 | <10 | <10 | 22 | <10 | 968 | | |
| J997976 | | <20 | 0.02 | <10 | <10 | 28 | <10 | 406 | | |
| J997977 | | <20 | 0.01 | <10 | <10 | 18 | <10 | 506 | | |
| J997978 | | <20 | 0.01 | <10 | <10 | 17 | <10 | 1060 | | |
| J997979 | | <20 | 0.01 | <10 | <10 | 4 | <10 | 994 | | |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
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**VANCOUVER BC V6B 1L8**


**Finalized Date: 18-JUL-2011**
**Account: F**

# CERTIFICATE WH11129144

Project: Arcus-TL-03/05-11

P.O. No.:

This report is for 36 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 9-JUL-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| CRU-QC | Crushing QC Test |
| PUL-QC | Pulverizing QC Test |
| CRU-31 | Fine crushing - 70% <2mm |
| SPL-21 | Split sample - riffle splitter |
| PUL-31 | Pulverize split to 85% <75 um |
| LOG-24 | Pulp Login - Rcd w/o Barcode |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au-AA24 | Au 50g FA AA finish | AAS |
| ME-ICP41 | 35 Element Aqua Regia ICP-AES | ICP-AES |
| ME-OG46 | Ore Grade Elements - AquaRegia | ICP-AES |
| Cu-OG46 | Ore Grade Cu - Aqua Regia | VARIABLE |
| Zn-OG46 | Ore Grade Zn - Aqua Regia | VARIABLE |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
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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

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**Finalized Date: 18-JUL-2011**
**Account: F**

Project: Arcus-TL-03/05-11

# CERTIFICATE OF ANALYSIS WH11129144

| Sample Description | Method | WEI-21 | Au-AA24 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.005 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| J997980 | | 1.39 | 2.18 | 73.9 | 0.41 | 6 | <10 | 20 | <0.5 | 18 | 0.28 | 47.7 | 6 | 29 | >10000 | 7.62 |
| J997981 | | 2.78 | 0.140 | 3.2 | 0.88 | 3 | <10 | 40 | <0.5 | <2 | 0.10 | 25.2 | 10 | 7 | 2420 | 6.19 |
| J997982 | | 4.18 | 0.015 | 0.3 | 1.12 | <2 | <10 | 260 | <0.5 | <2 | 0.26 | 2.3 | 5 | 7 | 365 | 2.28 |
| J997983 | | 2.80 | 0.010 | 0.2 | 0.84 | <2 | <10 | 40 | <0.5 | <2 | 0.34 | <0.5 | 7 | 4 | 98 | 3.96 |
| J997984 | | 2.46 | 0.012 | 0.3 | 1.36 | 2 | <10 | 60 | <0.5 | <2 | 0.50 | <0.5 | 12 | 6 | 89 | 4.15 |
| J997985 | | 4.25 | 0.008 | <0.2 | 0.59 | <2 | <10 | 100 | <0.5 | <2 | 0.64 | 1.5 | 9 | 4 | 215 | 2.78 |
| J997986 | | 2.84 | 0.026 | 0.5 | 0.80 | 2 | <10 | 30 | <0.5 | <2 | 0.90 | 0.6 | 10 | 6 | 120 | 4.48 |
| J997987 | | 3.61 | 0.217 | 4.1 | 0.62 | 3 | <10 | 20 | <0.5 | <2 | 0.16 | 25.7 | 22 | 13 | 811 | 7.54 |
| J997988 | | 3.05 | 0.100 | 3.4 | 0.72 | <2 | <10 | 30 | <0.5 | <2 | 0.98 | 3.4 | 4 | 4 | 765 | 3.82 |
| J997989 | | 3.58 | 0.136 | 1.1 | 0.59 | 3 | <10 | 30 | <0.5 | <2 | 0.78 | 3.3 | 7 | 3 | 932 | 4.38 |
| J997990 | | 1.30 | <0.005 | <0.2 | 0.04 | 2 | <10 | 20 | <0.5 | <2 | 19.4 | <0.5 | <1 | 1 | 6 | 0.45 |
| J997991 | | 4.59 | 0.025 | 0.2 | 0.52 | 3 | <10 | 80 | <0.5 | <2 | 1.95 | 1.5 | 7 | 2 | 81 | 2.93 |
| J997992 | | 0.08 | 2.15 | 14.9 | 1.03 | 27 | <10 | 30 | <0.5 | 2 | 0.32 | 58.3 | 11 | 45 | 5120 | 9.39 |
| J997993 | | 3.18 | <0.005 | 0.2 | 1.87 | 6 | <10 | 190 | <0.5 | <2 | 2.07 | <0.5 | 15 | 25 | 24 | 3.00 |
| J997994 | | 3.44 | 0.005 | <0.2 | 1.97 | 3 | <10 | 100 | <0.5 | <2 | 1.81 | <0.5 | 15 | 17 | 38 | 4.25 |
| J997995 | | 3.75 | 0.013 | <0.2 | 1.34 | 4 | <10 | 80 | <0.5 | <2 | 1.45 | <0.5 | 10 | 4 | 20 | 3.95 |
| J997996 | | 5.41 | <0.005 | <0.2 | 2.73 | 2 | <10 | 330 | <0.5 | <2 | 1.46 | <0.5 | 19 | 5 | 114 | 4.48 |
| J997997 | | 4.35 | <0.005 | <0.2 | 1.79 | <2 | <10 | 210 | <0.5 | <2 | 0.78 | <0.5 | 5 | 6 | 12 | 2.36 |
| J997998 | | 5.87 | <0.005 | <0.2 | 1.21 | <2 | <10 | 70 | <0.5 | <2 | 1.55 | <0.5 | 5 | 4 | 13 | 2.88 |
| J997999 | | 2.77 | <0.005 | <0.2 | 1.22 | 2 | <10 | 110 | <0.5 | <2 | 2.36 | <0.5 | 4 | 3 | 48 | 3.08 |
| J998000 | | 2.77 | <0.005 | <0.2 | 0.62 | 2 | <10 | 120 | <0.5 | <2 | 2.51 | <0.5 | 5 | 2 | 55 | 3.12 |
| J998001 | | 3.10 | <0.005 | <0.2 | 0.76 | 2 | <10 | 100 | <0.5 | <2 | 1.00 | <0.5 | 4 | 2 | 40 | 3.23 |
| J998002 | | 4.29 | 0.018 | 0.2 | 0.83 | <2 | <10 | 130 | <0.5 | <2 | 1.46 | <0.5 | 5 | 3 | 164 | 2.91 |
| J998003 | | 6.72 | 0.012 | <0.2 | 0.78 | 4 | <10 | 120 | <0.5 | <2 | 1.45 | 0.7 | 12 | 3 | 157 | 2.85 |
| J998004 | | 4.78 | <0.005 | <0.2 | 1.61 | 3 | <10 | 120 | <0.5 | <2 | 1.02 | <0.5 | 6 | 9 | 13 | 2.42 |
| J998005 | | 7.01 | <0.005 | <0.2 | 1.93 | 3 | <10 | 50 | <0.5 | <2 | 1.19 | <0.5 | 19 | 12 | 58 | 4.07 |
| J998006 | | 8.55 | <0.005 | <0.2 | 1.36 | <2 | <10 | 100 | <0.5 | <2 | 1.09 | <0.5 | 5 | 4 | 5 | 2.47 |
| J998007 | | 1.25 | <0.005 | <0.2 | 0.04 | <2 | <10 | 10 | <0.5 | <2 | 19.0 | <0.5 | <1 | 1 | <1 | 0.43 |
| J998008 | | 5.85 | <0.005 | <0.2 | 0.84 | <2 | <10 | 190 | <0.5 | <2 | 0.20 | <0.5 | 2 | 5 | 5 | 1.89 |
| J998009 | | 10.14 | <0.005 | <0.2 | 1.20 | <2 | <10 | 210 | <0.5 | <2 | 0.25 | <0.5 | 2 | 7 | 6 | 2.36 |
| J998010 | | 10.09 | <0.005 | <0.2 | 1.09 | <2 | <10 | 210 | <0.5 | <2 | 0.23 | <0.5 | 2 | 4 | 5 | 1.91 |
| J998011 | | 8.61 | <0.005 | <0.2 | 1.16 | 2 | <10 | 190 | <0.5 | <2 | 0.26 | <0.5 | 2 | 4 | 10 | 1.90 |
| J998012 | | 8.40 | <0.005 | <0.2 | 1.20 | <2 | <10 | 170 | <0.5 | <2 | 0.30 | <0.5 | 2 | 5 | 4 | 1.79 |
| J998013 | | 4.59 | <0.005 | <0.2 | 1.05 | <2 | <10 | 150 | <0.5 | <2 | 0.22 | <0.5 | 2 | 6 | 11 | 1.72 |
| J998014 | | 0.23 | 0.376 | 53.3 | 1.18 | 103 | <10 | 60 | <0.5 | <2 | 0.52 | 22.4 | 17 | 33 | 4360 | 4.64 |
| J998015 | | 3.56 | <0.005 | <0.2 | 1.17 | <2 | <10 | 170 | <0.5 | <2 | 0.35 | <0.5 | 2 | 6 | 24 | 1.61 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 18-JUL-2011**
**Account: F**

Project: Arcus-TL-03/05-11

# CERTIFICATE OF ANALYSIS WH11129144

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| J997980 | | <10 | 10 | 0.06 | <10 | 0.15 | 151 | 13 | 0.01 | 12 | 1430 | 5390 | 9.27 | 4 | 2 | 108 |
| J997981 | | <10 | 3 | 0.23 | <10 | 0.29 | 278 | 16 | 0.03 | 31 | 340 | 166 | 6.76 | 2 | 2 | 64 |
| J997982 | | <10 | 1 | 0.18 | 10 | 0.46 | 393 | 1 | 0.03 | 5 | 220 | 35 | 0.66 | <2 | 2 | 22 |
| J997983 | | <10 | <1 | 0.18 | 10 | 0.27 | 213 | 1 | 0.06 | 6 | 350 | 9 | 3.55 | <2 | 2 | 13 |
| J997984 | | <10 | 1 | 0.24 | 10 | 0.61 | 292 | 1 | 0.05 | 6 | 620 | 9 | 2.83 | <2 | 3 | 14 |
| J997985 | | <10 | 1 | 0.15 | 20 | 0.19 | 321 | 5 | 0.06 | 10 | 230 | 9 | 2.41 | <2 | 3 | 12 |
| J997986 | | <10 | <1 | 0.23 | 10 | 0.27 | 443 | 5 | 0.04 | 14 | 260 | 14 | 4.19 | <2 | 3 | 15 |
| J997987 | | <10 | 6 | 0.24 | <10 | 0.07 | 56 | 20 | 0.08 | 73 | 300 | 74 | 9.39 | <2 | 2 | 46 |
| J997988 | | <10 | 2 | 0.26 | 10 | 0.39 | 306 | 8 | 0.06 | 2 | 530 | 17 | 3.12 | <2 | 3 | 22 |
| J997989 | | <10 | 1 | 0.26 | 10 | 0.26 | 692 | 5 | 0.04 | 1 | 560 | 18 | 4.44 | <2 | 3 | 12 |
| J997990 | | <10 | <1 | 0.02 | <10 | 12.15 | 206 | <1 | 0.01 | 2 | 190 | <2 | 0.03 | <2 | <1 | 49 |
| J997991 | | <10 | 1 | 0.25 | 10 | 0.71 | 2200 | 3 | 0.03 | 1 | 700 | 7 | 2.88 | <2 | 3 | 15 |
| J997992 | | <10 | 1 | 0.11 | <10 | 1.06 | 365 | 14 | 0.02 | 24 | 110 | 254 | >10.0 | <2 | 2 | 8 |
| J997993 | | <10 | 1 | 0.28 | <10 | 1.63 | 820 | <1 | 0.04 | 18 | 470 | 11 | 1.16 | 2 | 7 | 28 |
| J997994 | | <10 | <1 | 0.30 | 10 | 1.64 | 929 | 1 | 0.03 | 13 | 460 | 11 | 2.84 | <2 | 6 | 21 |
| J997995 | | <10 | <1 | 0.49 | 10 | 1.06 | 853 | 1 | 0.04 | 3 | 430 | 7 | 3.20 | <2 | 4 | 16 |
| J997996 | | 10 | <1 | 0.84 | <10 | 1.89 | 749 | <1 | 0.14 | 4 | 670 | 2 | 0.20 | 2 | 8 | 27 |
| J997997 | | <10 | <1 | 0.95 | 10 | 1.26 | 514 | 1 | 0.05 | 2 | 420 | 4 | 0.27 | <2 | 4 | 15 |
| J997998 | | <10 | <1 | 0.38 | 10 | 1.04 | 609 | 2 | 0.04 | 2 | 470 | 4 | 1.93 | <2 | 5 | 20 |
| J997999 | | <10 | <1 | 0.30 | 10 | 1.46 | 1165 | 1 | 0.03 | 1 | 480 | 4 | 1.07 | <2 | 6 | 30 |
| J998000 | | <10 | <1 | 0.24 | 10 | 1.18 | 1155 | 1 | 0.03 | <1 | 410 | 4 | 1.98 | <2 | 4 | 26 |
| J998001 | | <10 | <1 | 0.31 | 10 | 0.55 | 556 | 1 | 0.04 | <1 | 370 | 5 | 2.62 | <2 | 3 | 12 |
| J998002 | | <10 | <1 | 0.37 | 10 | 0.62 | 804 | 1 | 0.05 | <1 | 390 | 7 | 2.11 | <2 | 2 | 15 |
| J998003 | | <10 | <1 | 0.33 | 10 | 0.64 | 807 | 2 | 0.03 | 3 | 440 | 7 | 1.63 | <2 | 5 | 17 |
| J998004 | | <10 | <1 | 0.39 | 10 | 0.93 | 538 | 1 | 0.04 | 4 | 420 | 8 | 0.45 | <2 | 5 | 18 |
| J998005 | | 10 | <1 | 0.19 | 10 | 1.39 | 677 | <1 | 0.08 | 8 | 700 | 4 | 0.71 | <2 | 9 | 20 |
| J998006 | | <10 | <1 | 0.24 | 10 | 0.74 | 583 | <1 | 0.04 | 1 | 420 | 3 | 0.10 | <2 | 4 | 21 |
| J998007 | | <10 | <1 | 0.01 | <10 | 11.90 | 198 | <1 | 0.01 | 2 | 180 | <2 | 0.02 | <2 | <1 | 46 |
| J998008 | | <10 | <1 | 0.41 | 10 | 0.34 | 467 | <1 | 0.07 | 1 | 310 | 3 | <0.01 | <2 | 3 | 8 |
| J998009 | | <10 | <1 | 0.55 | 10 | 0.44 | 516 | <1 | 0.09 | 2 | 320 | 4 | <0.01 | <2 | 3 | 13 |
| J998010 | | <10 | <1 | 0.52 | 10 | 0.49 | 342 | <1 | 0.05 | <1 | 290 | 3 | 0.01 | <2 | 2 | 13 |
| J998011 | | <10 | <1 | 0.52 | 10 | 0.50 | 351 | <1 | 0.05 | 1 | 260 | 3 | <0.01 | <2 | 2 | 15 |
| J998012 | | <10 | <1 | 0.53 | 10 | 0.59 | 296 | <1 | 0.07 | 1 | 260 | 3 | 0.03 | <2 | 3 | 12 |
| J998013 | | <10 | <1 | 0.47 | 10 | 0.48 | 287 | <1 | 0.06 | 1 | 220 | 3 | 0.01 | <2 | 2 | 13 |
| J998014 | | 10 | 1 | 0.57 | 10 | 0.70 | 500 | 171 | 0.04 | 25 | 910 | 2160 | 2.50 | 67 | 7 | 37 |
| J998015 | | <10 | <1 | 0.58 | 10 | 0.52 | 519 | <1 | 0.05 | 1 | 220 | 4 | <0.01 | <2 | 2 | 13 |

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 18-JUL-2011**
**Account: F**

Project: Arcus-TL-03/05-11

# CERTIFICATE OF ANALYSIS WH11129144

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | Cu-OG46 | Zn-OG46 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn | Cu | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm | % | % |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 | 0.001 | 0.001 |
| J997980 | | <20 | <0.01 | <10 | <10 | 22 | <10 | 9290 | 4.01 | |
| J997981 | | <20 | 0.01 | <10 | <10 | 5 | <10 | 4540 | | |
| J997982 | | <20 | 0.01 | <10 | <10 | 3 | <10 | 737 | | |
| J997983 | | <20 | <0.01 | <10 | <10 | 3 | <10 | 162 | | |
| J997984 | | <20 | 0.01 | <10 | <10 | 22 | <10 | 182 | | |
| J997985 | | <20 | <0.01 | <10 | <10 | 5 | <10 | 259 | | |
| J997986 | | <20 | <0.01 | <10 | <10 | 7 | <10 | 139 | | |
| J997987 | | <20 | <0.01 | <10 | <10 | 9 | <10 | 5330 | | |
| J997988 | | <20 | 0.01 | <10 | <10 | 9 | <10 | 890 | | |
| J997989 | | <20 | <0.01 | <10 | <10 | 5 | <10 | 980 | | |
| J997990 | | <20 | <0.01 | <10 | <10 | 1 | <10 | 19 | | |
| J997991 | | <20 | <0.01 | <10 | <10 | 6 | <10 | 667 | | |
| J997992 | | <20 | 0.02 | <10 | <10 | 16 | <10 | >10000 | | 1.360 |
| J997993 | | <20 | 0.02 | <10 | <10 | 51 | <10 | 228 | | |
| J997994 | | <20 | 0.01 | <10 | <10 | 47 | <10 | 194 | | |
| J997995 | | <20 | 0.02 | <10 | <10 | 28 | <10 | 207 | | |
| J997996 | | <20 | 0.15 | <10 | <10 | 139 | <10 | 132 | | |
| J997997 | | <20 | 0.10 | <10 | <10 | 26 | <10 | 120 | | |
| J997998 | | <20 | 0.01 | <10 | <10 | 12 | <10 | 135 | | |
| J997999 | | <20 | 0.01 | <10 | <10 | 14 | <10 | 203 | | |
| J998000 | | <20 | <0.01 | <10 | <10 | 8 | <10 | 123 | | |
| J998001 | | <20 | <0.01 | <10 | <10 | 5 | <10 | 87 | | |
| J998002 | | <20 | <0.01 | <10 | <10 | 4 | <10 | 148 | | |
| J998003 | | <20 | <0.01 | <10 | <10 | 13 | <10 | 282 | | |
| J998004 | | <20 | 0.02 | <10 | <10 | 20 | <10 | 120 | | |
| J998005 | | <20 | 0.06 | <10 | <10 | 89 | <10 | 90 | | |
| J998006 | | <20 | 0.03 | <10 | <10 | 18 | <10 | 71 | | |
| J998007 | | <20 | <0.01 | <10 | <10 | 2 | <10 | 15 | | |
| J998008 | | <20 | 0.06 | <10 | <10 | 3 | <10 | 67 | | |
| J998009 | | <20 | 0.08 | <10 | <10 | 3 | <10 | 98 | | |
| J998010 | | <20 | 0.08 | <10 | <10 | 3 | <10 | 97 | | |
| J998011 | | <20 | 0.09 | <10 | <10 | 6 | <10 | 100 | | |
| J998012 | | <20 | 0.08 | <10 | <10 | 2 | <10 | 71 | | |
| J998013 | | <20 | 0.07 | <10 | <10 | 2 | <10 | 92 | | |
| J998014 | | <20 | 0.09 | <10 | <10 | 89 | <10 | 2660 | | |
| J998015 | | <20 | 0.08 | <10 | <10 | 1 | <10 | 100 | | |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 15-JUL-2011**
**Account: F**

# CERTIFICATE WH11129848

Project: Touleary

P.O. No.:

This report is for 3 Rock samples submitted to our lab in Whitehorse, YT, Canada on 10-JUL-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| CRU-31 | Fine crushing - 70% <2mm |
| SPL-21 | Split sample - riffle splitter |
| PUL-31 | Pulverize split to 85% <75 um |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au-AA24 | Au 50g FA AA finish | AAS |
| ME-ICP41 | 35 Element Aqua Regia ICP-AES | ICP-AES |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**1016-510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 15-JUL-2011**
**Account: F**

Project: Touleary

# CERTIFICATE OF ANALYSIS WH11129848

| Sample Description | Method | WEI-21 | Au-AA24 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.005 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| J999740 | | 0.73 | <0.005 | <0.2 | 0.31 | 3 | <10 | 120 | <0.5 | <2 | 0.03 | <0.5 | 1 | 4 | 7 | 1.48 |
| J999742 | | 0.44 | <0.005 | 1.3 | 0.45 | 2 | <10 | 90 | <0.5 | <2 | 0.03 | <0.5 | 2 | 11 | 83 | 2.79 |
| J999743 | | 0.31 | <0.005 | <0.2 | 0.56 | <2 | <10 | 180 | <0.5 | <2 | 0.09 | <0.5 | 2 | 3 | 12 | 1.43 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 15-JUL-2011**
**Account: F**

Project: Touleary

# CERTIFICATE OF ANALYSIS WH11129848

| Sample Description | Method | 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 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| J999740 | | <10 | 1 | 0.16 | 20 | <0.01 | 82 | 21 | 0.07 | <1 | 120 | <2 | 0.23 | <2 | 1 | 8 |
| J999742 | | <10 | <1 | 0.17 | 20 | 0.13 | 65 | 23 | 0.09 | <1 | 230 | 5 | 1.05 | 8 | 2 | 18 |
| J999743 | | <10 | <1 | 0.33 | <10 | 0.07 | 197 | <1 | 0.05 | <1 | 270 | 2 | 0.11 | <2 | 1 | 9 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 15-JUL-2011**
**Account: F**

Project: Touleary

# CERTIFICATE OF ANALYSIS WH11129848

| Sample Description | Method | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 | ME-ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| J999740 | | <20 | <0.01 | <10 | <10 | 1 | <10 | <2 |
| J999742 | | <20 | <0.01 | <10 | <10 | 8 | <10 | 6 |
| J999743 | | <20 | 0.02 | <10 | <10 | 2 | <10 | 12 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 14- JUL- 2011**
**Account: F**

# CERTIFICATE WH11122215

Project: Arcus

P.O. No.: Arcus- TL- 01- 11/TL- 02- 11 Batch3

This report is for 36 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 1- JUL- 2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI- 21 | Received Sample Weight |
| LOG- 22 | Sample login - Rcd w/o BarCode |
| CRU- QC | Crushing QC Test |
| PUL- QC | Pulverizing QC Test |
| CRU- 31 | Fine crushing - 70% < 2mm |
| SPL- 21 | Split sample - riffle splitter |
| PUL- 31 | Pulverize split to 85% < 75 um |
| LOG- 24 | Pulp Login - Rcd w/o Barcode |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au- AA24 | Au 50g FA AA finish | AAS |
| ME- ICP41 | 35 Element Aqua Regia ICP- AES | ICP- AES |
| ME- OG46 | Ore Grade Elements - AquaRegia | ICP- AES |
| Cu- OG46 | Ore Grade Cu - Aqua Regia | VARIABLE |
| Zn- OG46 | Ore Grade Zn - Aqua Regia | VARIABLE |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 14- JUL- 2011**
**Account: F**

Project: Arcus

# CERTIFICATE OF ANALYSIS WH11122215

| Sample Description | Method | WEI- 21 | Au- AA24 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.005 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| J997872 | | 2.40 | 0.006 | <0.2 | 3.48 | 50 | <10 | 400 | <0.5 | <2 | 0.69 | 0.6 | 19 | 6 | 949 | 5.89 |
| J997873 | | 7.84 | 0.005 | 0.2 | 1.66 | 37 | <10 | 240 | <0.5 | <2 | 0.42 | 0.5 | 8 | 8 | 535 | 2.85 |
| J997874 | | 2.64 | <0.005 | 0.2 | 1.70 | 17 | <10 | 210 | <0.5 | <2 | 0.53 | 1.4 | 8 | 7 | 529 | 3.25 |
| J997875 | | 9.36 | <0.005 | <0.2 | 1.43 | 3 | <10 | 190 | <0.5 | <2 | 0.58 | 0.8 | 8 | 7 | 187 | 2.49 |
| J997876 | | 8.51 | 0.103 | 0.8 | 1.70 | 23 | <10 | 920 | <0.5 | <2 | 0.37 | 1.5 | 6 | 7 | 895 | 3.00 |
| J997877 | | 7.58 | 2.01 | 32.9 | 0.26 | 18 | <10 | 40 | <0.5 | <2 | 0.01 | 70.1 | 9 | 6 | >10000 | 14.8 |
| J997878 | | 1.58 | <0.005 | <0.2 | 0.03 | <2 | <10 | 140 | <0.5 | <2 | 18.6 | <0.5 | 1 | <1 | 34 | 0.40 |
| J997879 | | 4.60 | 0.022 | 0.4 | 1.34 | 36 | <10 | 90 | <0.5 | <2 | 0.15 | 0.5 | 6 | 8 | 845 | 3.36 |
| J997880 | | 2.90 | 0.221 | 4.4 | 0.76 | 9 | <10 | 30 | <0.5 | <2 | 0.16 | 2.3 | 17 | 13 | 4850 | 10.35 |
| J997881 | | 5.85 | 0.019 | 0.3 | 1.32 | 8 | <10 | 100 | <0.5 | <2 | 0.60 | 0.6 | 8 | 6 | 667 | 3.74 |
| J997882 | | 5.34 | 0.164 | 4.0 | 0.65 | 4 | <10 | 70 | <0.5 | <2 | 0.13 | 17.6 | 11 | 13 | 1200 | 6.61 |
| J997883 | | 5.24 | 0.030 | 0.9 | 2.14 | 4 | <10 | 90 | <0.5 | <2 | 2.12 | 1.3 | 16 | 3 | 260 | 6.12 |
| J997884 | | 2.94 | 0.214 | 1.8 | 0.75 | 2 | <10 | 30 | <0.5 | <2 | 0.47 | 2.8 | 10 | 2 | 2290 | 5.80 |
| J997885 | | 4.80 | 0.023 | 0.2 | 0.96 | <2 | <10 | 50 | <0.5 | <2 | 1.61 | 0.7 | 6 | <1 | 154 | 3.59 |
| J997886 | | 0.26 | 0.319 | 56.3 | 1.19 | 106 | <10 | 70 | <0.5 | 2 | 0.53 | 23.1 | 17 | 31 | 4470 | 4.94 |
| J997887 | | 3.72 | 0.014 | 0.2 | 0.81 | 3 | <10 | 110 | <0.5 | <2 | 1.74 | 0.6 | 8 | <1 | 65 | 2.47 |
| J997888 | | 2.71 | 0.011 | 0.4 | 1.07 | 6 | <10 | 70 | <0.5 | <2 | 0.91 | 1.8 | 14 | 2 | 29 | 4.01 |
| J997889 | | 8.62 | <0.005 | <0.2 | 2.15 | 3 | <10 | 160 | <0.5 | <2 | 0.68 | <0.5 | 14 | 20 | 232 | 3.84 |
| J997890 | | 1.37 | <0.005 | <0.2 | 0.04 | <2 | <10 | 20 | <0.5 | <2 | 20.4 | <0.5 | 1 | <1 | 3 | 0.45 |
| J997891 | | 4.00 | 0.006 | <0.2 | 2.53 | <2 | <10 | 180 | <0.5 | 2 | 1.23 | <0.5 | 17 | <1 | 132 | 3.78 |
| J997892 | | 8.15 | 0.008 | 0.2 | 3.11 | <2 | <10 | 260 | <0.5 | <2 | 1.87 | <0.5 | 22 | 3 | 230 | 5.29 |
| J997893 | | 4.19 | 0.012 | 0.5 | 2.07 | 5 | <10 | 170 | <0.5 | <2 | 1.22 | 1.1 | 21 | 4 | 215 | 4.10 |
| J997894 | | 5.36 | 0.006 | <0.2 | 1.39 | 3 | <10 | 130 | <0.5 | <2 | 1.10 | <0.5 | 13 | 18 | 23 | 3.19 |
| J997895 | | 7.53 | <0.005 | <0.2 | 1.20 | <2 | <10 | 80 | <0.5 | <2 | 0.73 | 1.2 | 9 | 5 | 437 | 2.43 |
| J997896 | | 8.26 | <0.005 | <0.2 | 1.50 | <2 | <10 | 120 | <0.5 | <2 | 0.83 | <0.5 | 6 | 3 | 37 | 2.59 |
| J997897 | | 8.31 | <0.005 | <0.2 | 1.49 | <2 | <10 | 170 | <0.5 | <2 | 1.06 | <0.5 | 5 | 3 | 54 | 2.04 |
| J997898 | | 2.21 | 0.011 | 0.2 | 0.66 | <2 | <10 | 60 | <0.5 | <2 | 0.32 | <0.5 | 6 | 1 | 22 | 3.11 |
| J997899 | | 0.26 | 0.348 | 50.1 | 1.08 | 90 | <10 | 60 | <0.5 | <2 | 0.48 | 20.6 | 16 | 31 | 4130 | 4.49 |
| J997900 | | 4.52 | 0.005 | 0.2 | 0.99 | 4 | <10 | 80 | <0.5 | <2 | 1.20 | <0.5 | 6 | 3 | 26 | 2.60 |
| J997901 | | 4.41 | <0.005 | 0.3 | 1.65 | 3 | <10 | 60 | <0.5 | <2 | 0.67 | <0.5 | 13 | 5 | 53 | 3.40 |
| J997902 | | 3.22 | 0.005 | 0.2 | 1.95 | 5 | <10 | 60 | <0.5 | <2 | 1.28 | <0.5 | 20 | 23 | 60 | 4.12 |
| J997903 | | 7.50 | <0.005 | <0.2 | 1.54 | 4 | <10 | 70 | <0.5 | <2 | 0.65 | <0.5 | 5 | 3 | 8 | 2.19 |
| J997904 | | 6.36 | <0.005 | <0.2 | 1.53 | <2 | <10 | 60 | <0.5 | <2 | 0.75 | <0.5 | 5 | 3 | 4 | 2.22 |
| J997905 | | 5.66 | <0.005 | <0.2 | 1.32 | <2 | <10 | 60 | <0.5 | <2 | 0.85 | <0.5 | 5 | 4 | 12 | 2.92 |
| J997906 | | 6.80 | <0.005 | <0.2 | 1.27 | 2 | <10 | 60 | <0.5 | <2 | 0.58 | <0.5 | 6 | 3 | 9 | 2.92 |
| J997907 | | 1.60 | <0.005 | <0.2 | 1.99 | <2 | <10 | 50 | <0.5 | <2 | 0.39 | <0.5 | 8 | 3 | 49 | 3.68 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 14- JUL- 2011**
**Account: F**

Project: Arcus

# CERTIFICATE OF ANALYSIS WH11122215

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| J997872 | | 10 | <1 | 0.25 | <10 | 2.36 | 700 | <1 | 0.08 | 6 | 710 | 20 | 0.14 | 2 | 7 | 35 |
| J997873 | | <10 | <1 | 0.19 | <10 | 0.77 | 365 | <1 | 0.05 | 2 | 600 | 15 | 0.42 | <2 | 4 | 22 |
| J997874 | | <10 | <1 | 0.19 | <10 | 0.90 | 437 | <1 | 0.07 | 2 | 630 | 12 | 0.15 | <2 | 4 | 28 |
| J997875 | | <10 | <1 | 0.21 | <10 | 0.66 | 429 | 1 | 0.07 | 2 | 560 | 8 | 0.29 | <2 | 3 | 18 |
| J997876 | | <10 | <1 | 0.16 | <10 | 0.83 | 446 | 1 | 0.04 | 4 | 570 | 21 | 0.35 | <2 | 3 | 58 |
| J997877 | | <10 | 18 | 0.08 | <10 | 0.01 | 24 | 53 | 0.03 | 19 | 80 | 765 | >10.0 | 2 | 1 | 48 |
| J997878 | | <10 | <1 | 0.01 | <10 | 11.20 | 174 | <1 | 0.01 | <1 | 130 | 3 | 0.03 | <2 | <1 | 45 |
| J997879 | | <10 | 1 | 0.16 | 10 | 0.44 | 239 | <1 | 0.06 | 5 | 380 | 26 | 2.16 | <2 | 4 | 26 |
| J997880 | | <10 | 2 | 0.24 | <10 | 0.10 | 28 | 24 | 0.07 | 55 | 480 | 10 | >10.0 | <2 | 2 | 23 |
| J997881 | | <10 | <1 | 0.24 | 10 | 0.52 | 459 | 5 | 0.05 | 10 | 370 | 14 | 2.61 | <2 | 3 | 27 |
| J997882 | | <10 | 6 | 0.25 | <10 | 0.04 | 41 | 18 | 0.07 | 40 | 360 | 16 | 7.52 | <2 | 2 | 80 |
| J997883 | | 10 | <1 | 0.27 | 10 | 1.52 | 816 | 1 | 0.05 | 4 | 650 | 35 | 3.34 | <2 | 12 | 29 |
| J997884 | | <10 | 1 | 0.34 | 10 | 0.19 | 197 | 5 | 0.04 | 1 | 630 | 10 | 6.09 | <2 | 2 | 14 |
| J997885 | | <10 | 1 | 0.33 | 10 | 0.64 | 1270 | 1 | 0.02 | <1 | 610 | 10 | 2.96 | <2 | 4 | 15 |
| J997886 | | 10 | <1 | 0.58 | 10 | 0.69 | 521 | 182 | 0.03 | 21 | 890 | 2290 | 2.49 | 68 | 7 | 35 |
| J997887 | | <10 | 1 | 0.37 | 10 | 0.62 | 1430 | 3 | 0.02 | <1 | 660 | 7 | 2.28 | <2 | 3 | 11 |
| J997888 | | <10 | 1 | 0.34 | 10 | 0.52 | 623 | 5 | 0.04 | 2 | 390 | 8 | 3.78 | <2 | 4 | 8 |
| J997889 | | 10 | <1 | 0.88 | <10 | 1.52 | 685 | 2 | 0.06 | 12 | 450 | 5 | 1.75 | <2 | 5 | 15 |
| J997890 | | <10 | <1 | 0.02 | <10 | 11.95 | 221 | <1 | <0.01 | <1 | 190 | 2 | 0.05 | <2 | <1 | 44 |
| J997891 | | 10 | <1 | 0.42 | <10 | 1.53 | 504 | <1 | 0.13 | 1 | 640 | 2 | 0.11 | <2 | 6 | 18 |
| J997892 | | <10 | 1 | 0.23 | <10 | 2.36 | 1090 | <1 | 0.02 | 8 | 640 | 12 | 0.08 | <2 | 8 | 51 |
| J997893 | | 10 | 1 | 0.45 | <10 | 1.56 | 738 | 4 | 0.04 | 5 | 450 | 4 | 1.64 | <2 | 5 | 25 |
| J997894 | | <10 | <1 | 0.39 | 10 | 1.08 | 607 | 3 | 0.05 | 12 | 440 | 8 | 2.05 | 2 | 6 | 18 |
| J997895 | | <10 | <1 | 0.38 | 10 | 0.79 | 415 | 1 | 0.03 | 3 | 440 | 3 | 0.56 | <2 | 3 | 12 |
| J997896 | | <10 | 1 | 0.60 | 10 | 1.08 | 469 | 1 | 0.04 | <1 | 450 | 3 | 1.56 | <2 | 4 | 12 |
| J997897 | | <10 | <1 | 0.31 | 10 | 1.01 | 511 | <1 | 0.03 | <1 | 390 | 3 | 0.51 | <2 | 4 | 15 |
| J997898 | | <10 | <1 | 0.26 | 10 | 0.13 | 111 | 3 | 0.06 | <1 | 380 | 4 | 3.31 | 2 | 2 | 10 |
| J997899 | | <10 | <1 | 0.52 | 10 | 0.66 | 456 | 165 | 0.04 | 23 | 840 | 2070 | 2.46 | 62 | 7 | 33 |
| J997900 | | <10 | <1 | 0.30 | 10 | 0.55 | 515 | 2 | 0.03 | <1 | 380 | 9 | 1.94 | 2 | 5 | 16 |
| J997901 | | <10 | 1 | 0.20 | 10 | 1.15 | 600 | 2 | 0.04 | 3 | 570 | 5 | 1.01 | <2 | 5 | 14 |
| J997902 | | 10 | <1 | 0.11 | <10 | 1.51 | 654 | <1 | 0.18 | 11 | 770 | 2 | 0.71 | <2 | 10 | 12 |
| J997903 | | <10 | <1 | 0.22 | <10 | 0.92 | 412 | <1 | 0.05 | <1 | 440 | <2 | 0.03 | <2 | 3 | 14 |
| J997904 | | <10 | <1 | 0.17 | <10 | 0.98 | 452 | <1 | 0.05 | <1 | 400 | 2 | 0.05 | <2 | 4 | 15 |
| J997905 | | <10 | <1 | 0.17 | 10 | 0.71 | 471 | <1 | 0.07 | 2 | 400 | 4 | 0.01 | <2 | 4 | 17 |
| J997906 | | <10 | <1 | 0.18 | 10 | 0.76 | 447 | <1 | 0.07 | 1 | 430 | 3 | <0.01 | <2 | 4 | 11 |
| J997907 | | 10 | <1 | 0.16 | 10 | 1.57 | 467 | <1 | 0.05 | 2 | 330 | 6 | 0.03 | <2 | 5 | 11 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 14- JUL- 2011**
**Account: F**

Project: Arcus

# CERTIFICATE OF ANALYSIS WH11122215

| Sample Description | Method | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | Cu- OG46 | Zn- OG46 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn | Cu | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm | % | % |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 | 0.001 | 0.001 |
| J997872 | | <20 | 0.08 | <10 | <10 | 142 | <10 | 404 | | |
| J997873 | | <20 | 0.03 | <10 | <10 | 33 | <10 | 213 | | |
| J997874 | | <20 | 0.05 | <10 | <10 | 30 | <10 | 400 | | |
| J997875 | | <20 | 0.05 | <10 | <10 | 23 | <10 | 216 | | |
| J997876 | | <20 | 0.03 | <10 | <10 | 25 | <10 | 464 | | |
| J997877 | | <20 | <0.01 | <10 | 10 | 5 | <10 | >10000 | 2.38 | 1.375 |
| J997878 | | <20 | <0.01 | <10 | 20 | 1 | <10 | 31 | | |
| J997879 | | <20 | 0.01 | <10 | <10 | 10 | <10 | 220 | | |
| J997880 | | <20 | <0.01 | <10 | <10 | 9 | <10 | 542 | | |
| J997881 | | <20 | 0.01 | <10 | <10 | 16 | <10 | 294 | | |
| J997882 | | <20 | <0.01 | <10 | <10 | 7 | <10 | 4340 | | |
| J997883 | | <20 | 0.01 | <10 | <10 | 88 | <10 | 512 | | |
| J997884 | | <20 | <0.01 | <10 | <10 | 9 | <10 | 857 | | |
| J997885 | | <20 | 0.01 | <10 | <10 | 8 | <10 | 423 | | |
| J997886 | | <20 | 0.09 | <10 | <10 | 92 | <10 | 2750 | | |
| J997887 | | <20 | <0.01 | <10 | <10 | 10 | <10 | 338 | | |
| J997888 | | <20 | <0.01 | <10 | <10 | 23 | <10 | 287 | | |
| J997889 | | <20 | 0.10 | <10 | <10 | 56 | <10 | 293 | | |
| J997890 | | <20 | <0.01 | <10 | 20 | 2 | <10 | 20 | | |
| J997891 | | <20 | 0.14 | <10 | <10 | 108 | <10 | 97 | | |
| J997892 | | <20 | 0.06 | <10 | <10 | 135 | <10 | 239 | | |
| J997893 | | <20 | 0.04 | <10 | <10 | 72 | <10 | 370 | | |
| J997894 | | <20 | 0.03 | <10 | <10 | 40 | <10 | 196 | | |
| J997895 | | <20 | 0.02 | <10 | <10 | 17 | <10 | 432 | | |
| J997896 | | <20 | 0.04 | <10 | <10 | 14 | <10 | 145 | | |
| J997897 | | <20 | 0.02 | <10 | <10 | 10 | <10 | 139 | | |
| J997898 | | <20 | <0.01 | <10 | <10 | 4 | <10 | 50 | | |
| J997899 | | <20 | 0.08 | <10 | <10 | 85 | 10 | 2480 | | |
| J997900 | | <20 | 0.01 | <10 | <10 | 10 | <10 | 150 | | |
| J997901 | | <20 | 0.03 | <10 | <10 | 48 | <10 | 154 | | |
| J997902 | | <20 | 0.12 | <10 | <10 | 129 | <10 | 65 | | |
| J997903 | | <20 | 0.03 | <10 | <10 | 17 | <10 | 81 | | |
| J997904 | | <20 | 0.02 | <10 | <10 | 16 | <10 | 67 | | |
| J997905 | | <20 | 0.03 | <10 | <10 | 23 | <10 | 72 | | |
| J997906 | | <20 | 0.05 | <10 | <10 | 25 | <10 | 69 | | |
| J997907 | | <20 | 0.04 | <10 | <10 | 52 | <10 | 79 | | |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 9- JUL- 2011**
**Account: F**

# CERTIFICATE WH11123023

Project: Arcus

P.O. No.: TL- 01- 11/TL- 03- 11 BATCH 4

This report is for 36 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 3- JUL- 2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI- 21 | Received Sample Weight |
| LOG- 22 | Sample login - Rcd w/o BarCode |
| CRU- QC | Crushing QC Test |
| PUL- QC | Pulverizing QC Test |
| CRU- 31 | Fine crushing - 70% < 2mm |
| SPL- 21 | Split sample - riffle splitter |
| PUL- 31 | Pulverize split to 85% < 75 um |
| LOG- 24 | Pulp Login - Rcd w/o Barcode |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| Au- AA24 | Au 50g FA AA finish | AAS |
| ME- ICP41 | 35 Element Aqua Regia ICP- AES | ICP- AES |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 9- JUL- 2011**
**Account: F**

Project: Arcus

# CERTIFICATE OF ANALYSIS WH11123023

| Sample Description | Method | WEI- 21 | Au- AA24 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Recvd Wt. | Au | Ag | Al | As | B | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe |
| | Units | kg | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % |
| | LOR | 0.02 | 0.005 | 0.2 | 0.01 | 2 | 10 | 10 | 0.5 | 2 | 0.01 | 0.5 | 1 | 1 | 1 | 0.01 |
| J997908 | | 6.79 | <0.005 | <0.2 | 1.64 | 4 | <10 | 70 | <0.5 | <2 | 0.86 | <0.5 | 6 | 7 | 12 | 2.79 |
| J997909 | | 5.29 | <0.005 | <0.2 | 1.65 | 2 | <10 | 80 | <0.5 | <2 | 0.61 | <0.5 | 5 | 6 | 6 | 2.50 |
| J997910 | | 4.71 | <0.005 | <0.2 | 1.45 | 2 | <10 | 50 | <0.5 | <2 | 0.74 | <0.5 | 4 | 6 | 6 | 2.78 |
| J997911 | | 2.85 | <0.005 | <0.2 | 1.30 | 4 | 10 | 100 | 0.5 | <2 | 1.71 | <0.5 | 4 | 7 | 24 | 2.28 |
| J997912 | | 3.54 | <0.005 | 0.3 | 2.60 | 4 | 10 | 30 | 0.5 | <2 | 2.89 | <0.5 | 20 | 30 | 198 | 4.79 |
| J997913 | | 4.71 | <0.005 | <0.2 | 1.34 | <2 | <10 | 200 | <0.5 | <2 | 0.69 | <0.5 | 5 | 7 | 10 | 2.77 |
| J997914 | | 7.69 | <0.005 | <0.2 | 1.20 | 3 | <10 | 140 | <0.5 | <2 | 0.91 | <0.5 | 6 | 6 | 11 | 2.84 |
| J997915 | | 2.85 | <0.005 | <0.2 | 1.38 | 3 | <10 | 70 | 0.5 | <2 | 0.99 | <0.5 | 6 | 3 | 7 | 2.90 |
| J997916 | | 0.23 | 0.347 | 55.3 | 1.18 | 104 | <10 | 70 | <0.5 | 2 | 0.53 | 22.6 | 18 | 33 | 4470 | 4.89 |
| J997917 | | 2.85 | <0.005 | <0.2 | 0.92 | 3 | <10 | 70 | <0.5 | <2 | 1.45 | <0.5 | 5 | 3 | 11 | 2.69 |
| J997918 | | 1.14 | <0.005 | <0.2 | 0.03 | <2 | <10 | 20 | <0.5 | <2 | 19.3 | <0.5 | <1 | <1 | 2 | 0.46 |
| J997919 | | 6.19 | <0.005 | <0.2 | 1.34 | 2 | <10 | 90 | <0.5 | 2 | 0.75 | <0.5 | 6 | 6 | 11 | 2.88 |
| J997920 | | 3.62 | <0.005 | <0.2 | 1.81 | <2 | <10 | 70 | <0.5 | <2 | 1.65 | <0.5 | 13 | 21 | 103 | 3.58 |
| J997921 | | 9.91 | <0.005 | <0.2 | 1.42 | <2 | <10 | 90 | <0.5 | <2 | 0.75 | <0.5 | 9 | 5 | 12 | 2.90 |
| J997922 | | 5.45 | <0.005 | <0.2 | 1.69 | <2 | <10 | 100 | <0.5 | <2 | 1.21 | <0.5 | 9 | 5 | 34 | 3.26 |
| J997923 | | 3.88 | <0.005 | <0.2 | 0.86 | <2 | <10 | 90 | <0.5 | <2 | 1.25 | <0.5 | 7 | 4 | 7 | 2.87 |
| J997924 | | 3.76 | <0.005 | <0.2 | 1.41 | 2 | <10 | 160 | <0.5 | <2 | 0.52 | <0.5 | 9 | 7 | 15 | 3.36 |
| J997925 | | 1.25 | <0.005 | <0.2 | 0.59 | 4 | <10 | 50 | <0.5 | 2 | 0.90 | <0.5 | 8 | 3 | 23 | 3.38 |
| J997926 | | 6.19 | <0.005 | <0.2 | 1.04 | 4 | <10 | 100 | <0.5 | <2 | 0.69 | <0.5 | 7 | 5 | 11 | 3.09 |
| J997927 | | 2.47 | <0.005 | <0.2 | 1.50 | 3 | <10 | 150 | <0.5 | 2 | 0.67 | <0.5 | 8 | 12 | 30 | 3.45 |
| J997928 | | 3.68 | <0.005 | <0.2 | 1.54 | 4 | <10 | 140 | <0.5 | 2 | 1.22 | <0.5 | 8 | 7 | 33 | 3.11 |
| J997929 | | 2.81 | <0.005 | <0.2 | 1.58 | 2 | <10 | 140 | <0.5 | <2 | 0.67 | <0.5 | 7 | 7 | 17 | 3.14 |
| J997930 | | 2.39 | <0.005 | <0.2 | 1.92 | 9 | <10 | 60 | 0.5 | <2 | 0.92 | <0.5 | 15 | 14 | 34 | 4.51 |
| J997931 | | 5.85 | <0.005 | <0.2 | 2.17 | 2 | <10 | 220 | <0.5 | 2 | 0.90 | <0.5 | 19 | 21 | 32 | 3.99 |
| J997932 | | 3.47 | <0.005 | <0.2 | 2.02 | 2 | <10 | 130 | <0.5 | <2 | 0.95 | <0.5 | 17 | 15 | 57 | 3.72 |
| J997933 | | 5.85 | <0.005 | <0.2 | 1.85 | <2 | <10 | 180 | <0.5 | <2 | 1.13 | <0.5 | 26 | 19 | 71 | 3.61 |
| J997934 | | 3.40 | <0.005 | <0.2 | 2.10 | 2 | <10 | 120 | <0.5 | <2 | 1.61 | <0.5 | 16 | 6 | 130 | 4.07 |
| J997935 | | 7.86 | <0.005 | <0.2 | 2.01 | <2 | <10 | 180 | <0.5 | 2 | 1.18 | <0.5 | 14 | 8 | 22 | 3.33 |
| J997936 | | 2.42 | <0.005 | <0.2 | 2.05 | <2 | <10 | 110 | <0.5 | 2 | 1.56 | <0.5 | 12 | 42 | 21 | 2.73 |
| J997937 | | 5.96 | <0.005 | <0.2 | 2.34 | <2 | <10 | 80 | <0.5 | <2 | 1.43 | <0.5 | 17 | 59 | 70 | 3.12 |
| J997938 | | 0.75 | <0.005 | <0.2 | 0.03 | <2 | <10 | 10 | <0.5 | <2 | 20.6 | <0.5 | 1 | <1 | 1 | 0.50 |
| J997939 | | 3.45 | <0.005 | <0.2 | 1.44 | 3 | <10 | 90 | <0.5 | <2 | 0.45 | <0.5 | 7 | 8 | 41 | 3.01 |
| J997940 | | 0.23 | 0.336 | 53.5 | 1.14 | 96 | <10 | 60 | <0.5 | 3 | 0.52 | 22.1 | 17 | 32 | 4320 | 4.79 |
| J997941 | | 2.16 | <0.005 | <0.2 | 1.79 | 2 | <10 | 90 | <0.5 | <2 | 0.43 | <0.5 | 7 | 11 | 47 | 3.70 |
| J997942 | | 5.90 | <0.005 | <0.2 | 1.46 | 2 | <10 | 120 | <0.5 | <2 | 0.47 | <0.5 | 3 | 6 | 9 | 2.61 |
| J997943 | | 4.47 | <0.005 | <0.2 | 1.44 | <2 | <10 | 160 | <0.5 | <2 | 0.50 | <0.5 | 2 | 5 | 8 | 2.59 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 9- JUL- 2011**
**Account: F**

Project: Arcus

# CERTIFICATE OF ANALYSIS WH11123023

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| J997908 | | 10 | <1 | 0.19 | <10 | 0.96 | 560 | 1 | 0.06 | 1 | 500 | 4 | 0.12 | <2 | 4 | 18 |
| J997909 | | <10 | <1 | 0.20 | <10 | 0.95 | 441 | <1 | 0.07 | 2 | 430 | 4 | 0.04 | <2 | 3 | 15 |
| J997910 | | 10 | <1 | 0.17 | 10 | 0.86 | 528 | <1 | 0.07 | 2 | 410 | 3 | 0.03 | <2 | 4 | 19 |
| J997911 | | <10 | <1 | 0.21 | 10 | 0.61 | 614 | <1 | 0.05 | 4 | 450 | 5 | 0.07 | <2 | 7 | 24 |
| J997912 | | 10 | <1 | 0.11 | <10 | 1.73 | 1140 | <1 | 0.08 | 20 | 640 | 7 | 0.08 | <2 | 15 | 50 |
| J997913 | | 10 | <1 | 0.23 | 10 | 0.78 | 434 | 1 | 0.08 | 5 | 440 | 5 | 0.01 | <2 | 5 | 14 |
| J997914 | | <10 | <1 | 0.19 | 10 | 0.68 | 485 | <1 | 0.07 | 1 | 440 | 2 | 0.04 | <2 | 6 | 15 |
| J997915 | | <10 | <1 | 0.24 | 10 | 0.74 | 568 | <1 | 0.05 | 1 | 440 | 4 | 0.01 | <2 | 7 | 19 |
| J997916 | | 10 | <1 | 0.57 | 10 | 0.73 | 506 | 177 | 0.05 | 24 | 920 | 2240 | 2.57 | 64 | 7 | 35 |
| J997917 | | <10 | <1 | 0.16 | 10 | 0.69 | 531 | <1 | 0.07 | 1 | 420 | 5 | 0.11 | 2 | 8 | 22 |
| J997918 | | <10 | <1 | 0.01 | <10 | 12.60 | 207 | <1 | 0.02 | 2 | 170 | <2 | 0.02 | 2 | <1 | 48 |
| J997919 | | 10 | <1 | 0.23 | 10 | 0.91 | 446 | <1 | 0.08 | 1 | 420 | 2 | 0.08 | <2 | 5 | 13 |
| J997920 | | 10 | <1 | 0.09 | <10 | 1.47 | 729 | <1 | 0.16 | 9 | 560 | <2 | 0.10 | <2 | 9 | 16 |
| J997921 | | <10 | <1 | 0.24 | 10 | 0.89 | 528 | <1 | 0.06 | 2 | 430 | <2 | 0.10 | <2 | 4 | 17 |
| J997922 | | 10 | <1 | 0.30 | 10 | 1.04 | 632 | <1 | 0.08 | 3 | 500 | <2 | 0.02 | <2 | 7 | 25 |
| J997923 | | <10 | <1 | 0.27 | 20 | 0.69 | 555 | <1 | 0.06 | 1 | 440 | 2 | 0.03 | <2 | 9 | 28 |
| J997924 | | 10 | <1 | 0.41 | 10 | 0.89 | 502 | <1 | 0.07 | 2 | 460 | 2 | 0.03 | <2 | 6 | 19 |
| J997925 | | <10 | <1 | 0.21 | 10 | 0.42 | 943 | <1 | 0.06 | 1 | 410 | 8 | 0.06 | 3 | 9 | 15 |
| J997926 | | <10 | <1 | 0.34 | 20 | 0.59 | 711 | 1 | 0.06 | 1 | 430 | 3 | 0.03 | 4 | 8 | 14 |
| J997927 | | 10 | 4 | 0.42 | 10 | 1.02 | 647 | <1 | 0.07 | 2 | 440 | 3 | 0.09 | 4 | 8 | 27 |
| J997928 | | 10 | 2 | 0.34 | 10 | 1.14 | 756 | 1 | 0.08 | 2 | 490 | 3 | 0.03 | 4 | 7 | 51 |
| J997929 | | 10 | 2 | 0.40 | 10 | 0.97 | 530 | <1 | 0.08 | 1 | 440 | <2 | 0.06 | 4 | 7 | 36 |
| J997930 | | 10 | 9 | 0.22 | 10 | 1.29 | 943 | <1 | 0.03 | 7 | 560 | 6 | 0.16 | 14 | 13 | 79 |
| J997931 | | 10 | <1 | 0.59 | <10 | 1.56 | 481 | 1 | 0.06 | 12 | 410 | <2 | 0.41 | 2 | 7 | 43 |
| J997932 | | 10 | <1 | 0.27 | <10 | 1.48 | 463 | 2 | 0.05 | 9 | 380 | 2 | 0.34 | 2 | 6 | 34 |
| J997933 | | <10 | <1 | 0.48 | <10 | 1.41 | 399 | 2 | 0.09 | 22 | 390 | <2 | 1.34 | <2 | 5 | 31 |
| J997934 | | 10 | <1 | 0.27 | <10 | 1.40 | 542 | <1 | 0.26 | 6 | 560 | <2 | 0.08 | <2 | 12 | 22 |
| J997935 | | 10 | <1 | 0.47 | <10 | 1.37 | 400 | 1 | 0.15 | 4 | 440 | <2 | 0.34 | <2 | 8 | 25 |
| J997936 | | 10 | <1 | 0.29 | <10 | 1.68 | 421 | 1 | 0.23 | 15 | 200 | 2 | 0.03 | <2 | 11 | 23 |
| J997937 | | 10 | <1 | 0.30 | <10 | 2.12 | 378 | 3 | 0.20 | 24 | 300 | <2 | 0.05 | <2 | 12 | 18 |
| J997938 | | <10 | <1 | 0.01 | <10 | 12.95 | 215 | <1 | 0.02 | 2 | 170 | <2 | 0.03 | <2 | <1 | 48 |
| J997939 | | 10 | <1 | 0.20 | 10 | 0.69 | 581 | <1 | 0.08 | 5 | 350 | 8 | <0.01 | <2 | 6 | 24 |
| J997940 | | 10 | <1 | 0.55 | 10 | 0.72 | 495 | 176 | 0.04 | 24 | 900 | 2180 | 2.48 | 66 | 7 | 34 |
| J997941 | | 10 | <1 | 0.23 | 10 | 0.94 | 651 | <1 | 0.07 | 6 | 410 | 4 | <0.01 | <2 | 6 | 19 |
| J997942 | | 10 | <1 | 0.26 | 10 | 0.87 | 619 | <1 | 0.06 | 2 | 320 | 2 | <0.01 | <2 | 3 | 23 |
| J997943 | | 10 | <1 | 0.21 | 10 | 0.89 | 522 | <1 | 0.06 | <1 | 300 | 5 | 0.03 | <2 | 3 | 25 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 9- JUL- 2011**
**Account: F**

Project: Arcus

# CERTIFICATE OF ANALYSIS WH11123023

| Sample Description | Method Analyte Units LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| J997908 | | <20 | 0.03 | <10 | <10 | 24 | <10 | 75 |
| J997909 | | <20 | 0.03 | <10 | <10 | 18 | <10 | 68 |
| J997910 | | <20 | 0.03 | <10 | <10 | 27 | <10 | 73 |
| J997911 | | <20 | 0.01 | <10 | <10 | 33 | <10 | 52 |
| J997912 | | <20 | 0.07 | <10 | <10 | 162 | <10 | 94 |
| J997913 | | <20 | 0.03 | <10 | <10 | 26 | <10 | 65 |
| J997914 | | <20 | 0.03 | <10 | <10 | 28 | <10 | 66 |
| J997915 | | <20 | 0.01 | <10 | <10 | 26 | <10 | 77 |
| J997916 | | <20 | 0.09 | <10 | <10 | 90 | <10 | 2910 |
| J997917 | | <20 | 0.01 | <10 | <10 | 27 | <10 | 78 |
| J997918 | | <20 | <0.01 | <10 | 20 | 2 | <10 | 16 |
| J997919 | | <20 | 0.03 | <10 | <10 | 23 | <10 | 73 |
| J997920 | | <20 | 0.08 | <10 | <10 | 118 | <10 | 71 |
| J997921 | | <20 | 0.05 | <10 | <10 | 22 | <10 | 72 |
| J997922 | | <20 | 0.05 | <10 | <10 | 47 | <10 | 73 |
| J997923 | | <20 | 0.03 | <10 | <10 | 24 | <10 | 74 |
| J997924 | | <20 | 0.06 | <10 | <10 | 40 | <10 | 77 |
| J997925 | | <20 | 0.02 | <10 | <10 | 31 | <10 | 59 |
| J997926 | | <20 | 0.04 | <10 | <10 | 32 | <10 | 63 |
| J997927 | | <20 | 0.05 | <10 | <10 | 40 | <10 | 71 |
| J997928 | | <20 | 0.07 | <10 | <10 | 51 | <10 | 69 |
| J997929 | | <20 | 0.05 | <10 | <10 | 30 | <10 | 67 |
| J997930 | | <20 | 0.02 | <10 | <10 | 109 | <10 | 84 |
| J997931 | | <20 | 0.10 | <10 | <10 | 105 | <10 | 74 |
| J997932 | | <20 | 0.08 | <10 | <10 | 88 | <10 | 93 |
| J997933 | | <20 | 0.15 | <10 | <10 | 81 | <10 | 62 |
| J997934 | | <20 | 0.15 | <10 | <10 | 150 | <10 | 63 |
| J997935 | | <20 | 0.16 | <10 | <10 | 105 | <10 | 64 |
| J997936 | | <20 | 0.09 | <10 | <10 | 115 | <10 | 48 |
| J997937 | | <20 | 0.09 | <10 | <10 | 124 | <10 | 51 |
| J997938 | | <20 | <0.01 | <10 | 20 | 2 | <10 | 17 |
| J997939 | | <20 | 0.06 | <10 | <10 | 57 | <10 | 97 |
| J997940 | | <20 | 0.09 | <10 | <10 | 87 | <10 | 2810 |
| J997941 | | <20 | 0.05 | <10 | <10 | 66 | <10 | 93 |
| J997942 | | <20 | 0.10 | <10 | <10 | 13 | <10 | 92 |
| J997943 | | <20 | 0.14 | <10 | <10 | 10 | <10 | 78 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

# CERTIFICATE WH11158346

Project: Arcus - Tooleary

P.O. No.:

This report is for 147 Soil samples submitted to our lab in Whitehorse, YT, Canada on 13- AUG- 2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI- 21 | Received Sample Weight |
| LOG- 22 | Sample login - Rcd w/o BarCode |
| 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: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158346

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg 0.02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ20541 | | 0.26 | <0.001 | <0.2 | 2.10 | 4 | <10 | 320 | <0.5 | <2 | 0.46 | <0.5 | 14 | 85 | 53 | 3.14 |
| ZZ20542 | | 0.26 | <0.001 | <0.2 | 1.98 | 4 | <10 | 320 | <0.5 | <2 | 0.44 | <0.5 | 14 | 78 | 51 | 3.13 |
| ZZ20543 | | 0.24 | 0.001 | <0.2 | 2.08 | 4 | <10 | 310 | <0.5 | 3 | 0.43 | <0.5 | 13 | 88 | 51 | 3.16 |
| ZZ20544 | | 0.22 | 0.002 | <0.2 | 1.94 | 5 | <10 | 250 | <0.5 | <2 | 0.34 | <0.5 | 12 | 89 | 46 | 3.01 |
| ZZ20545 | | 0.16 | 0.001 | <0.2 | 1.63 | 4 | <10 | 610 | <0.5 | <2 | 0.84 | <0.5 | 11 | 30 | 48 | 2.40 |
| ZZ20546 | | 0.22 | <0.001 | <0.2 | 1.89 | 8 | <10 | 350 | <0.5 | 2 | 0.32 | <0.5 | 10 | 38 | 27 | 2.95 |
| ZZ20547 | | 0.22 | <0.001 | <0.2 | 1.55 | 5 | <10 | 290 | <0.5 | <2 | 0.23 | <0.5 | 8 | 30 | 20 | 2.60 |
| ZZ20548 | | 0.28 | <0.001 | <0.2 | 1.48 | 3 | <10 | 470 | <0.5 | <2 | 0.30 | <0.5 | 14 | 193 | 23 | 2.68 |
| ZZ20549 | | 0.22 | 0.001 | <0.2 | 1.70 | 7 | <10 | 480 | <0.5 | 2 | 0.24 | <0.5 | 14 | 32 | 23 | 2.79 |
| ZZ20550 | | 0.26 | <0.001 | <0.2 | 1.82 | 6 | <10 | 410 | <0.5 | <2 | 0.35 | <0.5 | 11 | 34 | 35 | 2.92 |
| ZZ20551 | | 0.26 | 0.001 | <0.2 | 1.74 | 5 | <10 | 360 | <0.5 | <2 | 0.20 | <0.5 | 10 | 34 | 17 | 2.76 |
| ZZ20552 | | 0.20 | 0.001 | <0.2 | 1.88 | 6 | <10 | 230 | <0.5 | 2 | 0.25 | <0.5 | 10 | 38 | 38 | 3.08 |
| ZZ20553 | | 0.30 | 0.001 | <0.2 | 2.09 | 9 | <10 | 230 | <0.5 | 2 | 0.32 | <0.5 | 12 | 44 | 52 | 3.29 |
| ZZ20554 | | 0.18 | 0.002 | 0.2 | 1.71 | 4 | <10 | 250 | <0.5 | <2 | 0.43 | <0.5 | 17 | 29 | 68 | 3.09 |
| ZZ20571 | | 0.12 | 0.010 | 0.2 | 1.22 | 8 | <10 | 650 | <0.5 | <2 | 2.24 | 1.5 | 8 | 70 | 92 | 1.60 |
| ZZ20572 | | 0.22 | 0.004 | 0.2 | 1.21 | 5 | <10 | 250 | <0.5 | <2 | 1.07 | <0.5 | 11 | 21 | 73 | 2.29 |
| ZZ20573 | | 0.16 | 0.001 | <0.2 | 2.03 | <2 | <10 | 320 | <0.5 | 2 | 0.20 | <0.5 | 14 | 20 | 50 | 4.73 |
| ZZ20574 | | 0.16 | 0.001 | <0.2 | 3.36 | 4 | <10 | 820 | <0.5 | <2 | 0.76 | <0.5 | 24 | 93 | 82 | 6.42 |
| ZZ20575 | | 0.14 | 0.001 | <0.2 | 1.66 | 8 | <10 | 180 | <0.5 | <2 | 1.73 | <0.5 | 14 | 32 | 54 | 2.92 |
| ZZ20576 | | 0.20 | 0.005 | <0.2 | 1.61 | 6 | <10 | 190 | <0.5 | <2 | 0.86 | <0.5 | 13 | 38 | 46 | 2.77 |
| ZZ20577 | | 0.16 | 0.002 | <0.2 | 1.41 | 6 | <10 | 180 | <0.5 | 2 | 0.55 | <0.5 | 9 | 29 | 40 | 2.43 |
| ZZ20578 | | 0.14 | 0.002 | <0.2 | 1.59 | 5 | <10 | 250 | <0.5 | <2 | 1.29 | <0.5 | 11 | 31 | 47 | 2.63 |
| ZZ20579 | | 0.16 | 0.001 | <0.2 | 1.93 | 6 | <10 | 530 | 0.7 | 2 | 1.01 | <0.5 | 16 | 173 | 37 | 3.22 |
| ZZ20580 | | 0.20 | 0.049 | <0.2 | 1.73 | 8 | <10 | 440 | 0.5 | <2 | 0.58 | <0.5 | 13 | 62 | 33 | 2.89 |
| ZZ20611 | | 0.12 | 0.002 | <0.2 | 1.48 | 4 | <10 | 700 | <0.5 | <2 | 1.61 | <0.5 | 11 | 120 | 37 | 2.38 |
| ZZ20612 | | 0.20 | 0.002 | <0.2 | 2.20 | 5 | <10 | 620 | 0.5 | <2 | 1.19 | <0.5 | 17 | 205 | 55 | 3.05 |
| ZZ20613 | | 0.16 | 0.002 | 0.2 | 1.91 | 5 | <10 | 920 | 0.6 | 2 | 1.04 | <0.5 | 15 | 110 | 71 | 3.11 |
| ZZ20614 | | 0.20 | <0.001 | <0.2 | 2.10 | 4 | <10 | 650 | <0.5 | <2 | 0.45 | <0.5 | 15 | 81 | 21 | 3.47 |
| ZZ20615 | | 0.08 | 0.002 | <0.2 | 1.04 | 11 | <10 | 280 | <0.5 | <2 | 2.20 | <0.5 | 10 | 28 | 31 | 2.13 |
| ZZ20616 | | 0.18 | 0.002 | <0.2 | 1.47 | 4 | <10 | 400 | <0.5 | <2 | 1.15 | <0.5 | 12 | 30 | 36 | 2.89 |
| ZZ20617 | | 0.12 | 0.001 | <0.2 | 1.45 | 4 | <10 | 460 | <0.5 | <2 | 1.42 | <0.5 | 12 | 30 | 48 | 2.68 |
| ZZ20618 | | 0.22 | 0.003 | <0.2 | 1.61 | 5 | <10 | 220 | <0.5 | <2 | 0.65 | <0.5 | 12 | 28 | 73 | 2.73 |
| ZZ20619 | | 0.16 | 0.004 | <0.2 | 1.95 | 4 | <10 | 200 | <0.5 | <2 | 0.76 | <0.5 | 15 | 31 | 115 | 3.37 |
| ZZ20620 | | 0.18 | 0.004 | <0.2 | 1.54 | 4 | <10 | 330 | <0.5 | <2 | 0.67 | <0.5 | 11 | 31 | 97 | 2.55 |
| ZZ20621 | | 0.18 | 0.002 | <0.2 | 1.43 | 3 | <10 | 240 | <0.5 | <2 | 0.63 | <0.5 | 10 | 33 | 42 | 2.59 |
| ZZ20622 | | 0.14 | 0.002 | <0.2 | 1.78 | 5 | <10 | 290 | <0.5 | 2 | 1.00 | <0.5 | 10 | 34 | 57 | 2.65 |
| ZZ20623 | | 0.24 | 0.003 | <0.2 | 1.60 | 5 | <10 | 230 | <0.5 | <2 | 0.43 | <0.5 | 9 | 29 | 42 | 2.58 |
| ZZ20624 | | 0.22 | 0.003 | <0.2 | 1.43 | 5 | <10 | 200 | <0.5 | <2 | 0.41 | <0.5 | 7 | 26 | 32 | 2.44 |
| ZZ20625 | | 0.26 | 0.001 | 0.2 | 1.66 | 2 | <10 | 280 | <0.5 | <2 | 0.67 | <0.5 | 12 | 31 | 67 | 2.89 |
| ZZ20626 | | 0.24 | 0.002 | <0.2 | 1.46 | 6 | <10 | 250 | <0.5 | <2 | 0.32 | <0.5 | 8 | 28 | 36 | 2.51 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158346

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ20541 | | 10 | <1 | 0.18 | 10 | 0.94 | 409 | <1 | 0.03 | 38 | 450 | 6 | 0.02 | <2 | 4 | 36 |
| ZZ20542 | | 10 | 1 | 0.22 | 10 | 0.94 | 523 | <1 | 0.02 | 34 | 490 | 7 | 0.02 | <2 | 4 | 36 |
| ZZ20543 | | 10 | <1 | 0.16 | <10 | 0.97 | 453 | <1 | 0.03 | 37 | 410 | 6 | 0.02 | 2 | 4 | 35 |
| ZZ20544 | | 10 | <1 | 0.19 | <10 | 1.03 | 439 | <1 | 0.02 | 38 | 370 | 5 | 0.01 | <2 | 3 | 28 |
| ZZ20545 | | <10 | <1 | 0.07 | <10 | 0.64 | 731 | <1 | 0.04 | 18 | 450 | 5 | 0.03 | <2 | 4 | 45 |
| ZZ20546 | | 10 | <1 | 0.09 | 10 | 0.58 | 418 | <1 | 0.02 | 20 | 390 | 7 | 0.02 | <2 | 4 | 26 |
| ZZ20547 | | <10 | 1 | 0.06 | 10 | 0.52 | 213 | <1 | 0.02 | 16 | 250 | 6 | 0.01 | <2 | 3 | 19 |
| ZZ20548 | | <10 | <1 | 0.06 | <10 | 0.81 | 719 | <1 | 0.02 | 45 | 400 | 3 | 0.01 | <2 | 4 | 18 |
| ZZ20549 | | 10 | <1 | 0.04 | 10 | 0.45 | 462 | <1 | 0.03 | 18 | 270 | 6 | 0.02 | <2 | 3 | 22 |
| ZZ20550 | | 10 | 1 | 0.04 | <10 | 0.67 | 427 | <1 | 0.03 | 17 | 310 | 5 | 0.01 | <2 | 3 | 25 |
| ZZ20551 | | 10 | <1 | 0.07 | 10 | 0.51 | 288 | <1 | 0.02 | 19 | 510 | 7 | 0.02 | <2 | 3 | 19 |
| ZZ20552 | | 10 | 1 | 0.05 | 10 | 0.83 | 267 | <1 | 0.02 | 26 | 290 | 10 | 0.02 | <2 | 4 | 19 |
| ZZ20553 | | 10 | <1 | 0.07 | 10 | 0.92 | 298 | <1 | 0.02 | 22 | 460 | 8 | 0.01 | <2 | 4 | 22 |
| ZZ20554 | | 10 | 1 | 0.13 | <10 | 0.87 | 620 | <1 | 0.03 | 17 | 700 | 5 | 0.02 | <2 | 3 | 27 |
| ZZ20571 | | <10 | <1 | 0.14 | 30 | 0.73 | 313 | <1 | 0.03 | 32 | 920 | 18 | 0.26 | <2 | 4 | 92 |
| ZZ20572 | | <10 | <1 | 0.07 | 10 | 0.52 | 415 | <1 | 0.03 | 15 | 700 | 5 | 0.06 | <2 | 4 | 39 |
| ZZ20573 | | 10 | <1 | 0.53 | 10 | 1.31 | 358 | 1 | 0.02 | 9 | 700 | 3 | 0.02 | <2 | 11 | 8 |
| ZZ20574 | | 20 | <1 | 1.49 | <10 | 2.64 | 883 | 1 | 0.03 | 41 | 1770 | 2 | 0.03 | <2 | 13 | 25 |
| ZZ20575 | | 10 | 1 | 0.07 | <10 | 0.78 | 512 | <1 | 0.04 | 19 | 800 | 5 | 0.08 | <2 | 6 | 60 |
| ZZ20576 | | 10 | 1 | 0.05 | 10 | 0.73 | 365 | <1 | 0.03 | 21 | 770 | 4 | 0.05 | 2 | 5 | 48 |
| ZZ20577 | | 10 | <1 | 0.06 | 10 | 0.54 | 236 | <1 | 0.03 | 15 | 500 | 5 | 0.04 | <2 | 4 | 33 |
| ZZ20578 | | <10 | 1 | 0.05 | 10 | 0.61 | 503 | <1 | 0.03 | 19 | 730 | 6 | 0.06 | <2 | 5 | 53 |
| ZZ20579 | | 10 | 1 | 0.14 | 20 | 1.48 | 479 | <1 | 0.03 | 59 | 920 | 9 | 0.05 | <2 | 8 | 48 |
| ZZ20580 | | 10 | <1 | 0.08 | 20 | 0.73 | 328 | <1 | 0.03 | 29 | 300 | 10 | 0.03 | <2 | 5 | 32 |
| ZZ20611 | | <10 | <1 | 0.23 | 10 | 1.27 | 306 | <1 | 0.04 | 43 | 670 | 6 | 0.10 | <2 | 4 | 87 |
| ZZ20612 | | 10 | <1 | 0.34 | 20 | 1.86 | 449 | <1 | 0.03 | 80 | 880 | 6 | 0.04 | <2 | 5 | 51 |
| ZZ20613 | | 10 | <1 | 0.34 | 30 | 1.21 | 694 | <1 | 0.04 | 55 | 490 | 4 | 0.04 | <2 | 6 | 45 |
| ZZ20614 | | 10 | 1 | 0.51 | 10 | 1.45 | 367 | <1 | 0.03 | 35 | 570 | 7 | 0.02 | <2 | 3 | 21 |
| ZZ20615 | | <10 | <1 | 0.14 | 10 | 0.53 | 434 | <1 | 0.03 | 25 | 570 | 7 | 0.09 | <2 | 3 | 64 |
| ZZ20616 | | <10 | 1 | 0.18 | 20 | 0.74 | 477 | <1 | 0.03 | 21 | 650 | 8 | 0.04 | <2 | 5 | 43 |
| ZZ20617 | | <10 | <1 | 0.16 | 10 | 0.65 | 492 | <1 | 0.03 | 18 | 640 | 5 | 0.06 | <2 | 5 | 65 |
| ZZ20618 | | 10 | 1 | 0.20 | 10 | 0.76 | 467 | <1 | 0.03 | 18 | 670 | 4 | 0.02 | <2 | 4 | 33 |
| ZZ20619 | | 10 | 1 | 0.46 | <10 | 1.25 | 443 | <1 | 0.03 | 22 | 1340 | 4 | 0.03 | <2 | 3 | 35 |
| ZZ20620 | | <10 | <1 | 0.07 | 10 | 0.68 | 540 | <1 | 0.03 | 23 | 380 | 4 | 0.02 | <2 | 5 | 37 |
| ZZ20621 | | <10 | <1 | 0.16 | 10 | 0.74 | 272 | <1 | 0.03 | 20 | 450 | 4 | 0.02 | <2 | 4 | 35 |
| ZZ20622 | | 10 | 1 | 0.07 | 10 | 0.79 | 257 | <1 | 0.03 | 20 | 630 | 4 | 0.04 | <2 | 5 | 50 |
| ZZ20623 | | 10 | <1 | 0.05 | 10 | 0.62 | 234 | <1 | 0.02 | 17 | 460 | 5 | 0.01 | <2 | 4 | 25 |
| ZZ20624 | | 10 | <1 | 0.06 | 10 | 0.58 | 207 | <1 | 0.03 | 14 | 340 | 3 | 0.02 | <2 | 3 | 24 |
| ZZ20625 | | <10 | <1 | 0.18 | 10 | 0.89 | 366 | <1 | 0.03 | 17 | 940 | 4 | 0.03 | <2 | 5 | 31 |
| ZZ20626 | | 10 | 1 | 0.09 | 10 | 0.57 | 259 | 1 | 0.02 | 16 | 360 | 6 | 0.02 | <2 | 4 | 22 |

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**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158346

| Sample Description | Method / Analyte / Units / LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ20541 | | <20 | 0.10 | <10 | <10 | 73 | <10 | 57 |
| ZZ20542 | | <20 | 0.10 | <10 | <10 | 71 | <10 | 57 |
| ZZ20543 | | <20 | 0.10 | <10 | <10 | 72 | <10 | 59 |
| ZZ20544 | | <20 | 0.11 | <10 | <10 | 68 | <10 | 58 |
| ZZ20545 | | <20 | 0.07 | <10 | <10 | 57 | <10 | 38 |
| ZZ20546 | | <20 | 0.08 | <10 | <10 | 74 | <10 | 49 |
| ZZ20547 | | <20 | 0.08 | <10 | <10 | 62 | <10 | 45 |
| ZZ20548 | | <20 | 0.08 | <10 | <10 | 60 | <10 | 33 |
| ZZ20549 | | <20 | 0.08 | <10 | <10 | 69 | <10 | 35 |
| ZZ20550 | | <20 | 0.12 | <10 | <10 | 78 | <10 | 41 |
| ZZ20551 | | <20 | 0.08 | <10 | <10 | 65 | <10 | 62 |
| ZZ20552 | | <20 | 0.13 | <10 | <10 | 85 | <10 | 55 |
| ZZ20553 | | <20 | 0.14 | <10 | <10 | 87 | <10 | 60 |
| ZZ20554 | | <20 | 0.14 | <10 | <10 | 82 | <10 | 52 |
| ZZ20571 | | <20 | 0.06 | <10 | <10 | 33 | <10 | 58 |
| ZZ20572 | | <20 | 0.08 | <10 | <10 | 56 | <10 | 34 |
| ZZ20573 | | <20 | 0.15 | <10 | <10 | 100 | <10 | 62 |
| ZZ20574 | | <20 | 0.27 | <10 | <10 | 168 | <10 | 134 |
| ZZ20575 | | <20 | 0.06 | <10 | <10 | 70 | <10 | 50 |
| ZZ20576 | | <20 | 0.07 | <10 | <10 | 64 | <10 | 48 |
| ZZ20577 | | <20 | 0.06 | <10 | <10 | 60 | <10 | 40 |
| ZZ20578 | | <20 | 0.05 | <10 | <10 | 60 | <10 | 45 |
| ZZ20579 | | <20 | 0.09 | <10 | <10 | 73 | <10 | 61 |
| ZZ20580 | | <20 | 0.09 | <10 | <10 | 61 | <10 | 53 |
| ZZ20611 | | <20 | 0.11 | <10 | <10 | 54 | <10 | 43 |
| ZZ20612 | | <20 | 0.14 | <10 | <10 | 70 | <10 | 56 |
| ZZ20613 | | <20 | 0.13 | <10 | <10 | 71 | <10 | 55 |
| ZZ20614 | | <20 | 0.19 | <10 | <10 | 83 | <10 | 60 |
| ZZ20615 | | <20 | 0.05 | <10 | <10 | 35 | <10 | 50 |
| ZZ20616 | | <20 | 0.08 | <10 | <10 | 56 | <10 | 59 |
| ZZ20617 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 53 |
| ZZ20618 | | <20 | 0.11 | <10 | <10 | 67 | <10 | 54 |
| ZZ20619 | | <20 | 0.15 | <10 | <10 | 85 | <10 | 64 |
| ZZ20620 | | <20 | 0.09 | <10 | <10 | 62 | <10 | 44 |
| ZZ20621 | | <20 | 0.12 | <10 | <10 | 59 | <10 | 47 |
| ZZ20622 | | <20 | 0.08 | <10 | <10 | 62 | <10 | 54 |
| ZZ20623 | | <20 | 0.07 | <10 | <10 | 61 | <10 | 45 |
| ZZ20624 | | <20 | 0.08 | <10 | <10 | 60 | <10 | 42 |
| ZZ20625 | | <20 | 0.10 | <10 | <10 | 63 | <10 | 56 |
| ZZ20626 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 40 |

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# CERTIFICATE OF ANALYSIS WH11158346

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg 0.02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ20627 | | 0.22 | 0.001 | <0.2 | 1.85 | 3 | <10 | 230 | <0.5 | <2 | 0.37 | <0.5 | 10 | 24 | 65 | 2.95 |
| ZZ20628 | | 0.26 | 0.002 | <0.2 | 1.58 | 6 | <10 | 250 | <0.5 | <2 | 0.46 | <0.5 | 8 | 28 | 30 | 2.62 |
| ZZ20629 | | 0.28 | 0.005 | <0.2 | 1.81 | 3 | <10 | 320 | 1.1 | <2 | 1.09 | <0.5 | 12 | 66 | 15 | 3.36 |
| ZZ20630 | | 0.12 | <0.001 | <0.2 | 0.86 | 6 | <10 | 160 | 0.6 | 3 | 0.74 | <0.5 | 5 | 11 | 13 | 2.14 |
| ZZ20651 | | 0.20 | 0.001 | <0.2 | 1.90 | 9 | <10 | 170 | <0.5 | <2 | 0.18 | <0.5 | 11 | 29 | 22 | 3.11 |
| ZZ20652 | | 0.16 | 0.001 | <0.2 | 1.60 | 3 | <10 | 200 | <0.5 | <2 | 0.21 | <0.5 | 14 | 26 | 21 | 3.33 |
| ZZ20653 | | 0.22 | 0.001 | 0.2 | 1.99 | 9 | <10 | 240 | <0.5 | <2 | 0.22 | 1.6 | 9 | 33 | 15 | 3.01 |
| ZZ20654 | | 0.18 | 0.002 | 0.5 | 1.75 | 6 | <10 | 270 | <0.5 | <2 | 0.24 | 0.6 | 8 | 23 | 15 | 2.42 |
| ZZ20655 | | 0.22 | 0.002 | <0.2 | 2.07 | 8 | <10 | 260 | <0.5 | <2 | 0.18 | 0.6 | 11 | 29 | 14 | 3.07 |
| ZZ20656 | | 0.16 | 0.002 | 1.0 | 1.46 | 4 | <10 | 310 | <0.5 | <2 | 0.31 | 3.9 | 17 | 25 | 17 | 2.58 |
| ZZ20657 | | 0.18 | 0.003 | <0.2 | 1.75 | 11 | <10 | 240 | <0.5 | <2 | 0.34 | <0.5 | 11 | 40 | 18 | 2.95 |
| ZZ20658 | | 0.20 | 0.002 | <0.2 | 1.83 | 13 | <10 | 370 | 0.5 | <2 | 0.67 | <0.5 | 15 | 39 | 29 | 3.19 |
| ZZ20659 | | 0.14 | 0.002 | <0.2 | 1.81 | 5 | <10 | 480 | <0.5 | <2 | 0.66 | <0.5 | 15 | 24 | 23 | 3.18 |
| ZZ20660 | | 0.26 | 0.003 | <0.2 | 1.74 | 6 | <10 | 430 | <0.5 | <2 | 0.81 | <0.5 | 12 | 33 | 34 | 3.07 |
| ZZ20661 | | 0.14 | <0.001 | <0.2 | 0.63 | <2 | <10 | 120 | <0.5 | <2 | 0.19 | <0.5 | 6 | 13 | 11 | 1.44 |
| ZZ20662 | | 0.16 | 0.001 | <0.2 | 1.07 | 4 | <10 | 130 | <0.5 | <2 | 0.25 | <0.5 | 7 | 20 | 15 | 2.26 |
| ZZ20663 | | 0.16 | 0.001 | 0.2 | 1.01 | 6 | <10 | 120 | <0.5 | <2 | 0.23 | <0.5 | 8 | 19 | 18 | 2.13 |
| ZZ20664 | | 0.20 | 0.001 | 0.3 | 1.17 | 3 | <10 | 120 | <0.5 | <2 | 0.32 | <0.5 | 8 | 24 | 22 | 2.13 |
| ZZ20665 | | 0.16 | 0.001 | 0.2 | 1.79 | 7 | <10 | 200 | <0.5 | <2 | 0.48 | <0.5 | 12 | 31 | 33 | 2.82 |
| ZZ20666 | | 0.22 | 0.001 | <0.2 | 1.60 | 6 | <10 | 250 | <0.5 | <2 | 0.39 | <0.5 | 12 | 28 | 24 | 2.65 |
| ZZ20667 | | 0.22 | 0.003 | <0.2 | 1.91 | 9 | <10 | 180 | <0.5 | <2 | 0.50 | <0.5 | 13 | 41 | 40 | 3.16 |
| ZZ20668 | | 0.28 | 0.002 | <0.2 | 1.45 | 6 | <10 | 140 | <0.5 | <2 | 0.28 | <0.5 | 10 | 26 | 22 | 2.55 |
| ZZ20669 | | 0.20 | <0.001 | <0.2 | 1.80 | 4 | <10 | 190 | <0.5 | <2 | 0.57 | <0.5 | 14 | 31 | 25 | 3.03 |
| ZZ20670 | | 0.14 | 0.001 | <0.2 | 1.27 | 6 | <10 | 190 | <0.5 | <2 | 1.31 | <0.5 | 11 | 23 | 41 | 2.12 |
| ZZ20671 | | 0.10 | 0.003 | <0.2 | 1.52 | 6 | <10 | 200 | <0.5 | <2 | 1.01 | <0.5 | 13 | 29 | 30 | 2.53 |
| ZZ20672 | | 0.18 | 0.003 | <0.2 | 1.54 | 6 | <10 | 270 | <0.5 | <2 | 0.97 | <0.5 | 11 | 33 | 22 | 2.52 |
| ZZ20673 | | 0.18 | <0.001 | <0.2 | 2.17 | 4 | <10 | 550 | <0.5 | <2 | 0.67 | <0.5 | 18 | 235 | 34 | 3.11 |
| ZZ20674 | | 0.16 | 0.002 | <0.2 | 1.95 | 4 | <10 | 570 | <0.5 | <2 | 0.55 | <0.5 | 14 | 138 | 32 | 2.89 |
| ZZ20675 | | 0.14 | 0.003 | <0.2 | 2.16 | 6 | <10 | 670 | 0.5 | <2 | 0.68 | <0.5 | 19 | 172 | 42 | 3.11 |
| ZZ20676 | | 0.16 | 0.001 | <0.2 | 1.77 | 4 | <10 | 830 | <0.5 | <2 | 0.60 | <0.5 | 14 | 102 | 17 | 2.77 |
| ZZ20677 | | 0.10 | 0.001 | <0.2 | 1.65 | 7 | <10 | 550 | <0.5 | <2 | 1.60 | <0.5 | 11 | 55 | 37 | 2.57 |
| ZZ20678 | | 0.20 | 0.003 | <0.2 | 1.60 | 6 | <10 | 360 | <0.5 | <2 | 0.95 | <0.5 | 14 | 40 | 36 | 3.40 |
| ZZ20679 | | 0.18 | 0.001 | <0.2 | 1.65 | 6 | <10 | 180 | <0.5 | <2 | 0.48 | <0.5 | 11 | 31 | 39 | 2.88 |
| ZZ20680 | | 0.18 | 0.001 | 0.2 | 1.71 | 3 | <10 | 190 | <0.5 | <2 | 0.29 | <0.5 | 13 | 24 | 57 | 2.71 |
| ZZ20681 | | 0.16 | 0.001 | <0.2 | 1.62 | 4 | <10 | 200 | <0.5 | <2 | 0.38 | <0.5 | 11 | 26 | 51 | 2.64 |
| ZZ20682 | | 0.30 | <0.001 | <0.2 | 1.71 | 6 | <10 | 150 | <0.5 | <2 | 0.25 | <0.5 | 12 | 30 | 58 | 2.87 |
| ZZ20683 | | 0.22 | 0.003 | <0.2 | 1.59 | 9 | <10 | 310 | <0.5 | <2 | 0.41 | <0.5 | 10 | 35 | 28 | 2.87 |
| ZZ20684 | | 0.16 | <0.001 | <0.2 | 1.59 | 5 | <10 | 160 | <0.5 | 2 | 0.39 | <0.5 | 8 | 27 | 26 | 2.43 |
| ZZ20685 | | 0.24 | 0.001 | <0.2 | 1.65 | 5 | <10 | 220 | <0.5 | <2 | 0.54 | <0.5 | 10 | 32 | 48 | 2.46 |
| ZZ20686 | | 0.18 | 0.003 | <0.2 | 1.87 | 4 | <10 | 210 | <0.5 | <2 | 0.49 | <0.5 | 11 | 35 | 56 | 2.67 |

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| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ20627 | | 10 | <1 | 0.29 | 10 | 0.91 | 240 | 1 | 0.03 | 14 | 640 | 4 | 0.06 | <2 | 5 | 45 |
| ZZ20628 | | <10 | <1 | 0.18 | 10 | 0.68 | 327 | <1 | 0.03 | 15 | 460 | 4 | 0.02 | <2 | 4 | 28 |
| ZZ20629 | | 10 | <1 | 0.64 | 80 | 1.25 | 675 | 2 | 0.02 | 17 | 870 | 12 | 0.04 | 2 | 8 | 46 |
| ZZ20630 | | <10 | <1 | 0.09 | 70 | 0.20 | 539 | 4 | 0.02 | 5 | 460 | 18 | 0.05 | <2 | 2 | 38 |
| ZZ20651 | | 10 | <1 | 0.06 | 10 | 0.52 | 533 | <1 | 0.02 | 17 | 370 | 6 | 0.02 | <2 | 3 | 15 |
| ZZ20652 | | 10 | 1 | 0.05 | <10 | 0.47 | 531 | <1 | 0.03 | 16 | 800 | 7 | 0.02 | <2 | 3 | 16 |
| ZZ20653 | | 10 | 1 | 0.04 | 10 | 0.48 | 671 | <1 | 0.02 | 18 | 380 | 19 | 0.02 | <2 | 3 | 20 |
| ZZ20654 | | 10 | <1 | 0.05 | 10 | 0.26 | 225 | 1 | 0.01 | 13 | 480 | 23 | <0.01 | <2 | 3 | 21 |
| ZZ20655 | | 10 | <1 | 0.18 | 10 | 0.67 | 593 | 1 | 0.01 | 15 | 710 | 13 | <0.01 | <2 | 3 | 18 |
| ZZ20656 | | <10 | <1 | 0.12 | 10 | 0.39 | 1775 | 1 | 0.02 | 13 | 2080 | 11 | <0.01 | <2 | 3 | 31 |
| ZZ20657 | | <10 | <1 | 0.13 | 10 | 0.61 | 293 | 1 | 0.02 | 29 | 280 | 8 | <0.01 | 2 | 4 | 25 |
| ZZ20658 | | 10 | <1 | 0.32 | 30 | 0.74 | 766 | 1 | 0.02 | 30 | 600 | 7 | 0.01 | 2 | 5 | 37 |
| ZZ20659 | | <10 | <1 | 0.24 | 10 | 0.60 | 1080 | 1 | 0.02 | 14 | 350 | 5 | <0.01 | 2 | 5 | 33 |
| ZZ20660 | | <10 | <1 | 0.25 | 20 | 0.83 | 464 | 1 | 0.03 | 20 | 730 | 5 | 0.02 | <2 | 6 | 41 |
| ZZ20661 | | <10 | <1 | 0.06 | <10 | 0.17 | 324 | <1 | 0.02 | 7 | 690 | 5 | <0.01 | <2 | 1 | 13 |
| ZZ20662 | | 10 | <1 | 0.08 | <10 | 0.33 | 225 | 1 | 0.01 | 10 | 760 | 9 | <0.01 | <2 | 2 | 16 |
| ZZ20663 | | <10 | <1 | 0.08 | <10 | 0.30 | 381 | 1 | 0.02 | 9 | 580 | 7 | 0.01 | 2 | 2 | 15 |
| ZZ20664 | | <10 | <1 | 0.08 | <10 | 0.50 | 285 | 1 | 0.02 | 12 | 400 | 6 | <0.01 | <2 | 3 | 22 |
| ZZ20665 | | 10 | <1 | 0.06 | 10 | 0.71 | 286 | <1 | 0.02 | 18 | 1020 | 5 | 0.01 | <2 | 4 | 33 |
| ZZ20666 | | <10 | <1 | 0.09 | 10 | 0.55 | 836 | <1 | 0.02 | 17 | 900 | 4 | <0.01 | <2 | 3 | 24 |
| ZZ20667 | | 10 | <1 | 0.13 | 10 | 0.81 | 442 | 1 | 0.03 | 22 | 680 | 6 | <0.01 | <2 | 5 | 28 |
| ZZ20668 | | <10 | <1 | 0.06 | 10 | 0.43 | 205 | <1 | 0.02 | 15 | 650 | 5 | <0.01 | <2 | 3 | 23 |
| ZZ20669 | | 10 | <1 | 0.08 | <10 | 0.79 | 342 | <1 | 0.03 | 16 | 750 | 4 | <0.01 | 2 | 4 | 42 |
| ZZ20670 | | <10 | <1 | 0.04 | 10 | 0.48 | 392 | 1 | 0.03 | 15 | 630 | 4 | 0.06 | 2 | 4 | 56 |
| ZZ20671 | | <10 | 1 | 0.05 | 10 | 0.53 | 434 | 1 | 0.02 | 17 | 620 | 3 | 0.04 | <2 | 4 | 44 |
| ZZ20672 | | <10 | <1 | 0.05 | 10 | 0.63 | 483 | <1 | 0.02 | 17 | 500 | 5 | 0.02 | <2 | 5 | 43 |
| ZZ20673 | | 10 | <1 | 0.36 | 20 | 1.78 | 314 | <1 | 0.02 | 74 | 1170 | 6 | <0.01 | <2 | 4 | 39 |
| ZZ20674 | | 10 | <1 | 0.22 | 10 | 1.27 | 283 | <1 | 0.02 | 53 | 660 | 6 | 0.01 | <2 | 3 | 35 |
| ZZ20675 | | 10 | <1 | 0.29 | 10 | 1.58 | 845 | <1 | 0.02 | 64 | 420 | 5 | <0.01 | <2 | 4 | 36 |
| ZZ20676 | | 10 | <1 | 0.11 | 10 | 1.09 | 603 | <1 | 0.02 | 42 | 500 | 4 | <0.01 | <2 | 3 | 39 |
| ZZ20677 | | 10 | <1 | 0.23 | 20 | 0.86 | 356 | <1 | 0.03 | 29 | 570 | 4 | 0.04 | <2 | 5 | 58 |
| ZZ20678 | | 10 | <1 | 0.17 | 10 | 0.82 | 480 | 1 | 0.03 | 20 | 750 | 5 | 0.02 | 2 | 6 | 38 |
| ZZ20679 | | 10 | <1 | 0.15 | 10 | 0.84 | 289 | 1 | 0.02 | 17 | 770 | 3 | <0.01 | <2 | 4 | 28 |
| ZZ20680 | | 10 | <1 | 0.12 | <10 | 0.78 | 328 | <1 | 0.02 | 15 | 610 | 4 | <0.01 | <2 | 3 | 22 |
| ZZ20681 | | 10 | <1 | 0.13 | 10 | 0.67 | 611 | <1 | 0.02 | 16 | 490 | 4 | <0.01 | <2 | 3 | 28 |
| ZZ20682 | | 10 | <1 | 0.13 | 10 | 0.62 | 186 | <1 | 0.01 | 17 | 340 | 5 | <0.01 | <2 | 3 | 19 |
| ZZ20683 | | <10 | <1 | 0.13 | 10 | 0.64 | 328 | <1 | 0.02 | 18 | 400 | 5 | <0.01 | <2 | 5 | 26 |
| ZZ20684 | | 10 | <1 | 0.07 | 10 | 0.59 | 186 | <1 | 0.02 | 15 | 280 | 3 | <0.01 | <2 | 3 | 25 |
| ZZ20685 | | <10 | <1 | 0.05 | 10 | 0.68 | 666 | <1 | 0.02 | 18 | 510 | 4 | <0.01 | 2 | 4 | 36 |
| ZZ20686 | | 10 | <1 | 0.06 | 10 | 0.77 | 235 | <1 | 0.02 | 16 | 600 | 3 | <0.01 | <2 | 4 | 33 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158346

| Sample Description | Method Analyte Units LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ20627 | | <20 | 0.11 | <10 | <10 | 71 | <10 | 51 |
| ZZ20628 | | <20 | 0.11 | <10 | <10 | 59 | <10 | 50 |
| ZZ20629 | | 40 | 0.12 | <10 | <10 | 59 | <10 | 60 |
| ZZ20630 | | 20 | 0.03 | <10 | <10 | 24 | <10 | 42 |
| ZZ20651 | | <20 | 0.08 | <10 | <10 | 73 | <10 | 66 |
| ZZ20652 | | <20 | 0.11 | <10 | <10 | 73 | <10 | 70 |
| ZZ20653 | | <20 | 0.07 | <10 | <10 | 76 | <10 | 118 |
| ZZ20654 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 98 |
| ZZ20655 | | <20 | 0.12 | <10 | <10 | 70 | <10 | 79 |
| ZZ20656 | | <20 | 0.08 | <10 | <10 | 56 | <10 | 133 |
| ZZ20657 | | <20 | 0.09 | <10 | <10 | 55 | <10 | 52 |
| ZZ20658 | | <20 | 0.08 | <10 | <10 | 50 | <10 | 74 |
| ZZ20659 | | <20 | 0.06 | <10 | <10 | 62 | <10 | 55 |
| ZZ20660 | | <20 | 0.10 | <10 | <10 | 63 | <10 | 64 |
| ZZ20661 | | <20 | 0.06 | <10 | <10 | 38 | <10 | 31 |
| ZZ20662 | | <20 | 0.08 | <10 | <10 | 56 | <10 | 43 |
| ZZ20663 | | <20 | 0.07 | <10 | <10 | 56 | <10 | 42 |
| ZZ20664 | | <20 | 0.08 | <10 | <10 | 59 | <10 | 36 |
| ZZ20665 | | <20 | 0.08 | <10 | <10 | 69 | <10 | 41 |
| ZZ20666 | | <20 | 0.08 | <10 | <10 | 62 | <10 | 40 |
| ZZ20667 | | <20 | 0.10 | <10 | <10 | 78 | <10 | 50 |
| ZZ20668 | | <20 | 0.08 | <10 | <10 | 61 | <10 | 36 |
| ZZ20669 | | <20 | 0.10 | <10 | <10 | 74 | <10 | 43 |
| ZZ20670 | | <20 | 0.06 | <10 | <10 | 49 | <10 | 36 |
| ZZ20671 | | <20 | 0.07 | <10 | <10 | 56 | <10 | 40 |
| ZZ20672 | | <20 | 0.07 | <10 | <10 | 58 | <10 | 50 |
| ZZ20673 | | <20 | 0.17 | <10 | <10 | 77 | <10 | 54 |
| ZZ20674 | | <20 | 0.15 | <10 | <10 | 66 | <10 | 45 |
| ZZ20675 | | <20 | 0.17 | <10 | <10 | 76 | <10 | 48 |
| ZZ20676 | | <20 | 0.14 | <10 | <10 | 68 | <10 | 43 |
| ZZ20677 | | <20 | 0.09 | <10 | <10 | 55 | <10 | 48 |
| ZZ20678 | | <20 | 0.09 | <10 | <10 | 69 | <10 | 60 |
| ZZ20679 | | <20 | 0.12 | <10 | <10 | 76 | <10 | 48 |
| ZZ20680 | | <20 | 0.13 | <10 | <10 | 66 | <10 | 46 |
| ZZ20681 | | <20 | 0.11 | <10 | <10 | 65 | <10 | 45 |
| ZZ20682 | | <20 | 0.11 | <10 | <10 | 72 | <10 | 44 |
| ZZ20683 | | <20 | 0.10 | <10 | <10 | 67 | <10 | 48 |
| ZZ20684 | | <20 | 0.09 | <10 | <10 | 59 | <10 | 41 |
| ZZ20685 | | <20 | 0.08 | <10 | <10 | 61 | <10 | 41 |
| ZZ20686 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 45 |

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**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158346

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg 0.02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ20687 | | 0.20 | 0.004 | 0.3 | 1.47 | 4 | <10 | 170 | <0.5 | <2 | 0.29 | <0.5 | 8 | 20 | 34 | 2.15 |
| ZZ20688 | | 0.26 | 0.002 | <0.2 | 1.72 | 3 | <10 | 260 | <0.5 | <2 | 0.34 | <0.5 | 12 | 30 | 47 | 2.58 |
| ZZ20689 | | 0.16 | 0.006 | <0.2 | 1.57 | 3 | <10 | 220 | <0.5 | <2 | 0.37 | <0.5 | 17 | 28 | 49 | 2.73 |
| ZZ20690 | | 0.24 | 0.001 | <0.2 | 1.77 | 8 | <10 | 210 | <0.5 | <2 | 0.24 | <0.5 | 9 | 27 | 26 | 2.99 |
| ZZ20691 | | 0.24 | 0.001 | <0.2 | 1.57 | 7 | <10 | 400 | <0.5 | <2 | 0.28 | <0.5 | 9 | 24 | 12 | 2.99 |
| ZZ20692 | | 0.22 | 0.001 | <0.2 | 1.77 | 4 | <10 | 290 | <0.5 | 2 | 0.17 | <0.5 | 10 | 17 | 13 | 3.38 |
| ZZ20693 | | 0.22 | 0.002 | <0.2 | 1.58 | 8 | <10 | 290 | <0.5 | <2 | 0.37 | <0.5 | 9 | 27 | 22 | 3.00 |
| ZZ20694 | | 0.18 | 0.047 | <0.2 | 1.49 | 8 | <10 | 360 | <0.5 | <2 | 0.61 | <0.5 | 9 | 27 | 20 | 2.86 |
| ZZ20695 | | 0.28 | 0.002 | <0.2 | 1.45 | 6 | <10 | 220 | <0.5 | <2 | 0.24 | <0.5 | 8 | 26 | 12 | 2.58 |
| ZZ20696 | | 0.08 | 0.001 | 0.2 | 1.28 | 5 | <10 | 570 | <0.5 | <2 | 0.68 | <0.5 | 10 | 22 | 24 | 2.32 |
| ZZ20697 | | 0.32 | 0.005 | <0.2 | 1.71 | 6 | <10 | 290 | <0.5 | <2 | 0.18 | <0.5 | 10 | 27 | 13 | 3.08 |
| ZZ20698 | | 0.24 | 0.004 | 0.2 | 1.67 | 5 | <10 | 500 | <0.5 | 2 | 0.27 | <0.5 | 12 | 29 | 15 | 2.87 |
| ZZ20699 | | 0.30 | 0.001 | 0.2 | 1.45 | 6 | <10 | 510 | <0.5 | <2 | 0.21 | <0.5 | 11 | 24 | 12 | 2.85 |
| ZZ20700 | | 0.24 | 0.005 | 0.2 | 1.60 | 7 | <10 | 520 | <0.5 | <2 | 0.23 | <0.5 | 10 | 29 | 16 | 2.94 |
| ZZ20701 | | 0.24 | 0.003 | <0.2 | 1.94 | 6 | <10 | 160 | <0.5 | <2 | 0.24 | <0.5 | 9 | 32 | 37 | 3.38 |
| ZZ20702 | | 0.22 | 0.001 | <0.2 | 2.24 | 5 | <10 | 380 | <0.5 | <2 | 0.55 | <0.5 | 13 | 36 | 84 | 3.98 |
| ZZ20703 | | 0.24 | 0.003 | <0.2 | 2.11 | 6 | <10 | 200 | <0.5 | <2 | 0.37 | <0.5 | 12 | 36 | 63 | 3.78 |
| ZZ20704 | | 0.22 | 0.003 | <0.2 | 1.57 | 6 | <10 | 190 | <0.5 | 2 | 0.32 | <0.5 | 10 | 30 | 37 | 2.91 |
| ZZ20705 | | 0.24 | 0.002 | 0.2 | 1.57 | 5 | <10 | 280 | <0.5 | <2 | 0.26 | 0.5 | 9 | 28 | 12 | 2.63 |
| ZZ20706 | | 0.30 | 0.002 | 0.2 | 1.59 | 7 | <10 | 250 | <0.5 | <2 | 0.17 | 0.8 | 10 | 27 | 12 | 2.55 |
| ZZ20707 | | 0.32 | 0.002 | 0.2 | 1.79 | 6 | <10 | 210 | <0.5 | <2 | 0.17 | <0.5 | 9 | 32 | 13 | 2.83 |
| ZZ20708 | | 0.30 | 0.002 | 0.3 | 1.72 | 7 | <10 | 160 | <0.5 | <2 | 0.19 | 0.5 | 7 | 29 | 13 | 2.73 |
| ZZ20709 | | 0.38 | 0.003 | 0.2 | 1.91 | 9 | <10 | 150 | <0.5 | 2 | 0.18 | <0.5 | 8 | 36 | 21 | 2.92 |
| ZZ20710 | | 0.30 | 0.003 | 0.4 | 1.84 | 8 | <10 | 160 | <0.5 | <2 | 0.20 | <0.5 | 9 | 34 | 17 | 2.84 |
| ZZ20711 | | 0.32 | 0.005 | <0.2 | 1.65 | 2 | <10 | 270 | <0.5 | 2 | 0.48 | <0.5 | 11 | 37 | 51 | 2.90 |
| ZZ20712 | | 0.20 | 0.001 | <0.2 | 1.57 | 3 | <10 | 310 | <0.5 | <2 | 0.33 | <0.5 | 9 | 30 | 24 | 2.82 |
| ZZ20713 | | 0.24 | 0.003 | <0.2 | 1.90 | 7 | <10 | 240 | <0.5 | <2 | 0.33 | <0.5 | 9 | 33 | 32 | 3.47 |
| ZZ20714 | | 0.26 | 0.003 | <0.2 | 1.39 | 5 | <10 | 250 | <0.5 | <2 | 0.22 | <0.5 | 11 | 24 | 18 | 2.76 |
| ZZ20715 | | 0.16 | 0.002 | <0.2 | 0.91 | 3 | <10 | 220 | <0.5 | 2 | 0.17 | <0.5 | 5 | 16 | 14 | 1.85 |
| ZZ20716 | | 0.24 | 0.003 | <0.2 | 1.51 | 6 | <10 | 340 | <0.5 | <2 | 0.42 | <0.5 | 9 | 34 | 19 | 2.59 |
| ZZ20717 | | 0.24 | 0.004 | <0.2 | 2.03 | 12 | <10 | 250 | <0.5 | 2 | 0.35 | <0.5 | 12 | 47 | 24 | 3.43 |
| ZZ20718 | | 0.22 | 0.005 | <0.2 | 1.57 | 9 | <10 | 540 | <0.5 | <2 | 0.23 | <0.5 | 11 | 44 | 40 | 3.20 |
| ZZ20719 | | 0.26 | 0.002 | <0.2 | 1.77 | 6 | <10 | 210 | <0.5 | 2 | 0.62 | <0.5 | 16 | 36 | 26 | 3.74 |
| ZZ20720 | | 0.18 | 0.003 | <0.2 | 1.50 | 6 | <10 | 260 | <0.5 | <2 | 0.40 | <0.5 | 8 | 24 | 37 | 3.05 |
| ZZ20721 | | 0.18 | 0.001 | <0.2 | 1.48 | 4 | <10 | 250 | <0.5 | <2 | 0.33 | <0.5 | 11 | 53 | 28 | 2.44 |
| ZZ20722 | | 0.24 | 0.003 | <0.2 | 1.84 | 8 | <10 | 190 | <0.5 | 2 | 0.17 | <0.5 | 9 | 33 | 24 | 2.86 |
| ZZ20723 | | 0.18 | 0.005 | <0.2 | 1.86 | 8 | <10 | 260 | <0.5 | 2 | 0.19 | <0.5 | 10 | 33 | 19 | 2.89 |
| ZZ20724 | | 0.22 | 0.004 | <0.2 | 1.62 | 9 | <10 | 230 | <0.5 | <2 | 0.24 | <0.5 | 8 | 31 | 17 | 2.76 |
| ZZ20725 | | 0.22 | 0.001 | <0.2 | 1.37 | 6 | <10 | 230 | <0.5 | 2 | 0.27 | <0.5 | 7 | 27 | 13 | 2.47 |
| ZZ20726 | | 0.24 | 0.002 | <0.2 | 1.40 | 6 | <10 | 200 | <0.5 | <2 | 0.25 | <0.5 | 7 | 28 | 17 | 2.38 |

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**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158346

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ20687 | | 10 | <1 | 0.09 | <10 | 0.62 | 186 | 1 | 0.02 | 12 | 330 | 3 | 0.01 | <2 | 3 | 23 |
| ZZ20688 | | 10 | <1 | 0.13 | 10 | 0.72 | 478 | 1 | 0.02 | 17 | 470 | 4 | <0.01 | <2 | 3 | 24 |
| ZZ20689 | | <10 | <1 | 0.25 | 10 | 0.77 | 733 | 2 | 0.02 | 12 | 450 | 3 | 0.05 | <2 | 5 | 33 |
| ZZ20690 | | 10 | <1 | 0.14 | 10 | 0.62 | 252 | <1 | 0.01 | 18 | 430 | 11 | <0.01 | 2 | 3 | 19 |
| ZZ20691 | | <10 | <1 | 0.41 | 10 | 0.56 | 481 | <1 | 0.01 | 14 | 390 | 7 | <0.01 | 2 | 3 | 22 |
| ZZ20692 | | <10 | <1 | 0.67 | <10 | 0.74 | 446 | <1 | 0.01 | 10 | 420 | 5 | <0.01 | <2 | 2 | 14 |
| ZZ20693 | | <10 | 1 | 0.23 | 10 | 0.58 | 416 | <1 | 0.02 | 18 | 400 | 8 | 0.02 | 2 | 4 | 29 |
| ZZ20694 | | <10 | <1 | 0.20 | 10 | 0.55 | 464 | <1 | 0.02 | 17 | 520 | 9 | 0.02 | <2 | 4 | 39 |
| ZZ20695 | | <10 | <1 | 0.13 | 10 | 0.45 | 472 | <1 | 0.01 | 15 | 170 | 11 | <0.01 | <2 | 3 | 20 |
| ZZ20696 | | <10 | 1 | 0.21 | 20 | 0.43 | 1235 | <1 | 0.02 | 16 | 580 | 9 | 0.01 | <2 | 4 | 38 |
| ZZ20697 | | <10 | 1 | 0.26 | 10 | 0.53 | 644 | <1 | 0.01 | 16 | 310 | 8 | <0.01 | <2 | 3 | 17 |
| ZZ20698 | | <10 | 1 | 0.13 | 10 | 0.46 | 1425 | <1 | 0.01 | 19 | 320 | 8 | <0.01 | <2 | 4 | 26 |
| ZZ20699 | | <10 | <1 | 0.25 | 10 | 0.50 | 731 | <1 | 0.01 | 14 | 290 | 8 | <0.01 | <2 | 3 | 18 |
| ZZ20700 | | <10 | <1 | 0.30 | 10 | 0.62 | 413 | <1 | 0.01 | 16 | 370 | 5 | <0.01 | 2 | 3 | 21 |
| ZZ20701 | | 10 | <1 | 0.08 | 10 | 0.78 | 288 | <1 | 0.01 | 16 | 260 | 6 | <0.01 | <2 | 4 | 18 |
| ZZ20702 | | 10 | <1 | 0.19 | 10 | 1.13 | 429 | <1 | 0.02 | 18 | 520 | 7 | 0.01 | <2 | 7 | 29 |
| ZZ20703 | | 10 | <1 | 0.21 | <10 | 0.98 | 354 | <1 | 0.01 | 19 | 550 | 7 | <0.01 | <2 | 5 | 20 |
| ZZ20704 | | 10 | <1 | 0.14 | 10 | 0.57 | 369 | <1 | 0.02 | 16 | 280 | 10 | 0.01 | <2 | 4 | 21 |
| ZZ20705 | | 10 | 1 | 0.07 | 10 | 0.50 | 405 | <1 | 0.01 | 15 | 210 | 10 | <0.01 | <2 | 3 | 23 |
| ZZ20706 | | 10 | <1 | 0.05 | 10 | 0.42 | 517 | 1 | 0.01 | 16 | 200 | 13 | <0.01 | <2 | 3 | 18 |
| ZZ20707 | | 10 | <1 | 0.06 | 10 | 0.48 | 271 | <1 | 0.01 | 17 | 230 | 12 | <0.01 | <2 | 3 | 18 |
| ZZ20708 | | 10 | 1 | 0.06 | 10 | 0.48 | 225 | <1 | 0.01 | 16 | 190 | 11 | <0.01 | <2 | 3 | 19 |
| ZZ20709 | | 10 | <1 | 0.08 | 10 | 0.61 | 233 | <1 | 0.01 | 20 | 190 | 14 | <0.01 | <2 | 3 | 17 |
| ZZ20710 | | 10 | 1 | 0.07 | 10 | 0.57 | 239 | <1 | 0.01 | 19 | 260 | 13 | <0.01 | <2 | 3 | 18 |
| ZZ20711 | | 10 | <1 | 0.09 | 10 | 0.81 | 480 | <1 | 0.02 | 22 | 810 | 4 | <0.01 | <2 | 4 | 25 |
| ZZ20712 | | 10 | <1 | 0.12 | 10 | 0.70 | 341 | <1 | 0.02 | 14 | 480 | 7 | 0.01 | <2 | 4 | 19 |
| ZZ20713 | | 10 | <1 | 0.17 | 10 | 0.81 | 272 | <1 | 0.02 | 16 | 430 | 5 | 0.01 | <2 | 5 | 20 |
| ZZ20714 | | 10 | <1 | 0.07 | 10 | 0.39 | 776 | 1 | 0.01 | 12 | 230 | 7 | <0.01 | <2 | 3 | 18 |
| ZZ20715 | | <10 | 1 | 0.07 | <10 | 0.29 | 190 | <1 | 0.02 | 8 | 200 | 5 | 0.01 | <2 | 2 | 15 |
| ZZ20716 | | 10 | 1 | 0.08 | 10 | 0.49 | 550 | <1 | 0.01 | 26 | 390 | 7 | 0.01 | <2 | 3 | 26 |
| ZZ20717 | | 10 | <1 | 0.11 | 10 | 0.68 | 326 | <1 | 0.01 | 35 | 480 | 10 | <0.01 | <2 | 4 | 23 |
| ZZ20718 | | 10 | <1 | 0.08 | 10 | 0.47 | 447 | 2 | 0.01 | 41 | 480 | 8 | 0.01 | <2 | 4 | 21 |
| ZZ20719 | | 10 | <1 | 0.05 | 10 | 0.72 | 534 | <1 | 0.02 | 19 | 760 | 4 | 0.01 | <2 | 7 | 26 |
| ZZ20720 | | 10 | <1 | 0.08 | 10 | 0.55 | 241 | <1 | 0.01 | 14 | 440 | 8 | 0.01 | <2 | 4 | 21 |
| ZZ20721 | | 10 | <1 | 0.10 | <10 | 0.80 | 699 | <1 | 0.01 | 21 | 720 | 5 | 0.01 | <2 | 2 | 27 |
| ZZ20722 | | 10 | <1 | 0.05 | 10 | 0.57 | 227 | <1 | 0.01 | 20 | 280 | 7 | <0.01 | <2 | 3 | 16 |
| ZZ20723 | | <10 | <1 | 0.12 | 10 | 0.52 | 324 | <1 | 0.01 | 20 | 460 | 8 | <0.01 | <2 | 3 | 19 |
| ZZ20724 | | <10 | <1 | 0.07 | 10 | 0.48 | 263 | <1 | 0.01 | 18 | 400 | 7 | <0.01 | <2 | 2 | 24 |
| ZZ20725 | | <10 | <1 | 0.07 | 10 | 0.42 | 195 | <1 | 0.01 | 15 | 290 | 6 | <0.01 | <2 | 2 | 24 |
| ZZ20726 | | <10 | <1 | 0.05 | 10 | 0.47 | 215 | <1 | 0.01 | 16 | 190 | 7 | <0.01 | <2 | 2 | 24 |

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# CERTIFICATE OF ANALYSIS WH11158346

| Sample Description | Method Analyte Units LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ20687 | | <20 | 0.09 | <10 | <10 | 54 | <10 | 37 |
| ZZ20688 | | <20 | 0.12 | <10 | <10 | 66 | <10 | 43 |
| ZZ20689 | | <20 | 0.10 | <10 | <10 | 71 | <10 | 45 |
| ZZ20690 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 50 |
| ZZ20691 | | <20 | 0.14 | <10 | <10 | 53 | <10 | 63 |
| ZZ20692 | | <20 | 0.20 | <10 | <10 | 57 | <10 | 83 |
| ZZ20693 | | <20 | 0.12 | <10 | <10 | 59 | <10 | 56 |
| ZZ20694 | | <20 | 0.12 | <10 | <10 | 57 | <10 | 52 |
| ZZ20695 | | <20 | 0.10 | <10 | <10 | 56 | <10 | 48 |
| ZZ20696 | | <20 | 0.10 | <10 | <10 | 53 | <10 | 38 |
| ZZ20697 | | <20 | 0.12 | <10 | <10 | 56 | <10 | 62 |
| ZZ20698 | | <20 | 0.09 | <10 | <10 | 59 | <10 | 55 |
| ZZ20699 | | <20 | 0.11 | <10 | <10 | 57 | <10 | 56 |
| ZZ20700 | | <20 | 0.13 | <10 | <10 | 59 | <10 | 57 |
| ZZ20701 | | <20 | 0.13 | <10 | <10 | 81 | <10 | 62 |
| ZZ20702 | | <20 | 0.12 | <10 | <10 | 90 | <10 | 114 |
| ZZ20703 | | <20 | 0.13 | <10 | <10 | 86 | <10 | 90 |
| ZZ20704 | | <20 | 0.12 | <10 | <10 | 71 | <10 | 53 |
| ZZ20705 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 58 |
| ZZ20706 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 53 |
| ZZ20707 | | <20 | 0.08 | <10 | <10 | 68 | <10 | 56 |
| ZZ20708 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 51 |
| ZZ20709 | | <20 | 0.10 | <10 | <10 | 67 | <10 | 55 |
| ZZ20710 | | <20 | 0.09 | <10 | <10 | 69 | <10 | 55 |
| ZZ20711 | | <20 | 0.12 | <10 | <10 | 74 | <10 | 55 |
| ZZ20712 | | <20 | 0.12 | <10 | <10 | 70 | <10 | 51 |
| ZZ20713 | | <20 | 0.13 | <10 | <10 | 83 | <10 | 64 |
| ZZ20714 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 42 |
| ZZ20715 | | <20 | 0.08 | <10 | <10 | 46 | <10 | 30 |
| ZZ20716 | | <20 | 0.08 | <10 | <10 | 53 | <10 | 48 |
| ZZ20717 | | <20 | 0.10 | <10 | <10 | 64 | <10 | 59 |
| ZZ20718 | | <20 | 0.06 | <10 | <10 | 59 | <10 | 72 |
| ZZ20719 | | <20 | 0.05 | <10 | <10 | 82 | <10 | 57 |
| ZZ20720 | | <20 | 0.06 | <10 | <10 | 64 | <10 | 55 |
| ZZ20721 | | <20 | 0.10 | <10 | <10 | 59 | <10 | 41 |
| ZZ20722 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 47 |
| ZZ20723 | | <20 | 0.08 | <10 | <10 | 67 | <10 | 45 |
| ZZ20724 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 43 |
| ZZ20725 | | <20 | 0.07 | <10 | <10 | 58 | <10 | 41 |
| ZZ20726 | | <20 | 0.06 | <10 | <10 | 58 | <10 | 38 |

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**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158346

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg 0.02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ20727 | | 0.24 | 0.003 | <0.2 | 1.57 | 6 | <10 | 140 | <0.5 | <2 | 0.21 | <0.5 | 7 | 25 | 17 | 2.45 |
| ZZ20728 | | 0.20 | 0.002 | <0.2 | 1.45 | 5 | <10 | 210 | <0.5 | <2 | 0.21 | <0.5 | 7 | 29 | 24 | 2.35 |
| ZZ20729 | | 0.24 | 0.002 | <0.2 | 1.73 | 6 | <10 | 240 | <0.5 | <2 | 0.26 | <0.5 | 10 | 36 | 39 | 2.73 |
| ZZ20730 | | 0.18 | 0.002 | <0.2 | 1.75 | 6 | <10 | 550 | <0.5 | <2 | 0.47 | <0.5 | 13 | 35 | 23 | 3.13 |
| ZZ20731 | | 0.16 | 0.002 | <0.2 | 1.39 | 6 | <10 | 440 | <0.5 | <2 | 0.21 | <0.5 | 7 | 23 | 13 | 2.55 |
| ZZ20732 | | 0.22 | 0.001 | <0.2 | 1.62 | 6 | <10 | 620 | <0.5 | <2 | 0.34 | <0.5 | 12 | 31 | 25 | 2.99 |
| ZZ20733 | | 0.20 | 0.002 | <0.2 | 1.96 | 8 | <10 | 260 | <0.5 | <2 | 0.21 | <0.5 | 8 | 35 | 20 | 3.08 |
| ZZ20734 | | 0.20 | 0.006 | <0.2 | 2.02 | 9 | <10 | 260 | <0.5 | <2 | 0.31 | <0.5 | 12 | 40 | 44 | 3.35 |
| ZZ20735 | | 0.20 | 0.002 | <0.2 | 1.78 | 7 | <10 | 400 | <0.5 | <2 | 0.29 | <0.5 | 11 | 32 | 23 | 3.18 |
| ZZ20736 | | 0.22 | 0.004 | 0.2 | 1.89 | 11 | <10 | 300 | <0.5 | <2 | 0.28 | <0.5 | 10 | 30 | 18 | 3.14 |
| ZZ20737 | | 0.24 | 0.002 | 0.2 | 2.18 | 9 | <10 | 270 | <0.5 | <2 | 0.22 | <0.5 | 9 | 31 | 24 | 3.68 |
| ZZ20738 | | 0.22 | 0.015 | <0.2 | 2.02 | 9 | <10 | 300 | <0.5 | <2 | 0.24 | <0.5 | 8 | 32 | 14 | 3.11 |
| ZZ20739 | | 0.20 | 0.003 | <0.2 | 2.42 | 6 | <10 | 400 | 0.5 | <2 | 0.39 | <0.5 | 16 | 38 | 18 | 4.51 |
| ZZ20740 | | 0.18 | 0.004 | <0.2 | 1.89 | 8 | <10 | 240 | <0.5 | <2 | 0.15 | <0.5 | 8 | 30 | 14 | 3.07 |
| ZZ20741 | | 0.26 | 0.002 | <0.2 | 1.98 | 8 | <10 | 170 | <0.5 | <2 | 0.30 | <0.5 | 13 | 55 | 22 | 3.41 |
| ZZ20742 | | 0.20 | 0.006 | 0.2 | 1.72 | 10 | <10 | 370 | <0.5 | <2 | 0.19 | <0.5 | 10 | 29 | 15 | 3.12 |
| ZZ20743 | | 0.24 | 0.001 | 0.3 | 2.10 | 9 | <10 | 360 | 0.5 | <2 | 0.17 | <0.5 | 11 | 39 | 20 | 3.38 |
| ZZ20744 | | 0.22 | 0.002 | 0.2 | 1.24 | 4 | <10 | 330 | <0.5 | <2 | 0.38 | <0.5 | 7 | 29 | 15 | 1.91 |
| ZZ20745 | | 0.16 | 0.002 | <0.2 | 1.65 | 8 | <10 | 190 | <0.5 | <2 | 0.29 | <0.5 | 9 | 30 | 16 | 3.15 |
| ZZ20746 | | 0.22 | 0.002 | <0.2 | 2.19 | 8 | <10 | 290 | <0.5 | <2 | 0.25 | <0.5 | 14 | 29 | 21 | 3.68 |
| ZZ20747 | | 0.20 | 0.002 | <0.2 | 1.71 | 6 | <10 | 340 | <0.5 | <2 | 0.28 | <0.5 | 9 | 25 | 17 | 3.37 |
| ZZ20748 | | 0.22 | 0.002 | <0.2 | 2.01 | 8 | <10 | 240 | <0.5 | <2 | 0.20 | <0.5 | 11 | 29 | 19 | 3.30 |
| ZZ20749 | | 0.24 | 0.001 | 0.2 | 2.29 | 7 | <10 | 230 | <0.5 | <2 | 0.28 | <0.5 | 12 | 51 | 59 | 3.88 |
| ZZ20750 | | 0.26 | 0.002 | 0.3 | 2.12 | 8 | <10 | 190 | <0.5 | <2 | 0.28 | <0.5 | 11 | 27 | 31 | 3.54 |
| ZZ20751 | | 0.22 | 0.002 | <0.2 | 1.95 | 8 | <10 | 250 | 0.6 | <2 | 0.41 | <0.5 | 13 | 32 | 23 | 3.38 |
| ZZ20752 | | 0.18 | 0.002 | 0.2 | 2.00 | 8 | <10 | 240 | 0.6 | <2 | 0.42 | <0.5 | 14 | 33 | 22 | 3.53 |
| ZZ20753 | | 0.14 | 0.002 | 0.2 | 1.83 | 4 | <10 | 460 | 0.5 | <2 | 0.39 | <0.5 | 12 | 25 | 27 | 2.93 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158346

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ20727 | | <10 | <1 | 0.04 | 10 | 0.44 | 196 | <1 | 0.02 | 14 | 280 | 5 | <0.01 | <2 | 2 | 17 |
| ZZ20728 | | <10 | <1 | 0.03 | 10 | 0.49 | 258 | <1 | 0.02 | 15 | 180 | 5 | <0.01 | <2 | 3 | 20 |
| ZZ20729 | | 10 | <1 | 0.10 | 10 | 0.79 | 225 | <1 | 0.02 | 20 | 120 | 4 | <0.01 | <2 | 4 | 22 |
| ZZ20730 | | 10 | <1 | 0.08 | 10 | 0.58 | 622 | <1 | 0.02 | 18 | 240 | 6 | <0.01 | <2 | 5 | 25 |
| ZZ20731 | | 10 | <1 | 0.06 | 10 | 0.40 | 360 | 1 | 0.02 | 11 | 310 | 7 | <0.01 | <2 | 2 | 16 |
| ZZ20732 | | 10 | <1 | 0.26 | 10 | 0.64 | 1180 | 1 | 0.02 | 19 | 450 | 7 | 0.01 | <2 | 4 | 24 |
| ZZ20733 | | 10 | <1 | 0.05 | 10 | 0.56 | 284 | 1 | 0.01 | 19 | 270 | 7 | 0.01 | <2 | 3 | 19 |
| ZZ20734 | | 10 | <1 | 0.07 | 10 | 0.73 | 268 | <1 | 0.02 | 22 | 240 | 6 | 0.01 | <2 | 4 | 25 |
| ZZ20735 | | 10 | <1 | 0.06 | 10 | 0.61 | 356 | 1 | 0.02 | 17 | 280 | 6 | 0.01 | <2 | 3 | 23 |
| ZZ20736 | | 10 | <1 | 0.07 | 10 | 0.43 | 550 | 1 | 0.01 | 19 | 850 | 9 | 0.01 | <2 | 2 | 21 |
| ZZ20737 | | 10 | <1 | 0.14 | 10 | 0.72 | 387 | 1 | 0.01 | 17 | 440 | 5 | <0.01 | <2 | 4 | 17 |
| ZZ20738 | | 10 | <1 | 0.05 | 10 | 0.47 | 267 | 1 | 0.01 | 15 | 300 | 8 | 0.01 | <2 | 3 | 19 |
| ZZ20739 | | 10 | <1 | 0.08 | 10 | 0.63 | 678 | 1 | 0.01 | 10 | 390 | 10 | 0.01 | <2 | 6 | 24 |
| ZZ20740 | | 10 | <1 | 0.06 | 10 | 0.48 | 249 | 1 | 0.01 | 16 | 250 | 7 | <0.01 | <2 | 3 | 13 |
| ZZ20741 | | 10 | <1 | 0.10 | 10 | 0.65 | 264 | <1 | 0.02 | 57 | 760 | 9 | <0.01 | <2 | 3 | 16 |
| ZZ20742 | | 10 | <1 | 0.06 | 10 | 0.43 | 569 | 1 | 0.01 | 17 | 780 | 8 | 0.01 | <2 | 3 | 16 |
| ZZ20743 | | 10 | <1 | 0.08 | 10 | 0.50 | 377 | 1 | 0.01 | 23 | 290 | 9 | <0.01 | <2 | 4 | 14 |
| ZZ20744 | | 10 | <1 | 0.04 | 10 | 0.46 | 404 | <1 | 0.02 | 11 | 280 | 7 | 0.01 | <2 | 3 | 21 |
| ZZ20745 | | 10 | <1 | 0.08 | 10 | 0.61 | 626 | 1 | 0.02 | 17 | 630 | 6 | 0.01 | <2 | 3 | 19 |
| ZZ20746 | | 10 | <1 | 0.07 | 10 | 0.78 | 497 | 1 | 0.02 | 16 | 590 | 10 | <0.01 | <2 | 4 | 20 |
| ZZ20747 | | 10 | <1 | 0.08 | 10 | 0.62 | 865 | 1 | 0.02 | 11 | 450 | 6 | 0.01 | <2 | 5 | 20 |
| ZZ20748 | | 10 | <1 | 0.23 | 10 | 0.85 | 347 | <1 | 0.02 | 16 | 340 | 5 | <0.01 | <2 | 3 | 16 |
| ZZ20749 | | 10 | <1 | 0.12 | 10 | 0.82 | 475 | 1 | 0.02 | 25 | 360 | 7 | 0.01 | <2 | 5 | 22 |
| ZZ20750 | | 10 | <1 | 0.06 | 10 | 0.57 | 313 | 1 | 0.02 | 15 | 510 | 7 | 0.01 | <2 | 4 | 20 |
| ZZ20751 | | 10 | <1 | 0.43 | 40 | 0.59 | 648 | <1 | 0.02 | 23 | 330 | 11 | 0.01 | <2 | 5 | 26 |
| ZZ20752 | | 10 | <1 | 0.45 | 40 | 0.62 | 654 | 1 | 0.02 | 24 | 350 | 11 | 0.01 | <2 | 5 | 26 |
| ZZ20753 | | 10 | <1 | 0.26 | 30 | 0.49 | 1045 | 1 | 0.02 | 21 | 590 | 10 | 0.01 | <2 | 4 | 27 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158346

| Sample Description | Method | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ20727 | | <20 | 0.06 | <10 | <10 | 59 | <10 | 37 |
| ZZ20728 | | <20 | 0.08 | <10 | <10 | 59 | <10 | 36 |
| ZZ20729 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 42 |
| ZZ20730 | | <20 | 0.07 | <10 | <10 | 70 | <10 | 47 |
| ZZ20731 | | <20 | 0.07 | <10 | <10 | 59 | <10 | 39 |
| ZZ20732 | | <20 | 0.10 | <10 | <10 | 69 | <10 | 52 |
| ZZ20733 | | <20 | 0.08 | <10 | <10 | 74 | <10 | 48 |
| ZZ20734 | | <20 | 0.09 | <10 | <10 | 76 | <10 | 50 |
| ZZ20735 | | <20 | 0.09 | <10 | <10 | 78 | <10 | 48 |
| ZZ20736 | | <20 | 0.07 | <10 | <10 | 69 | <10 | 56 |
| ZZ20737 | | <20 | 0.11 | <10 | <10 | 82 | <10 | 70 |
| ZZ20738 | | <20 | 0.08 | <10 | <10 | 72 | <10 | 55 |
| ZZ20739 | | <20 | 0.04 | <10 | <10 | 85 | <10 | 63 |
| ZZ20740 | | <20 | 0.06 | <10 | <10 | 67 | <10 | 49 |
| ZZ20741 | | <20 | 0.12 | <10 | <10 | 69 | <10 | 65 |
| ZZ20742 | | <20 | 0.07 | <10 | <10 | 71 | <10 | 66 |
| ZZ20743 | | <20 | 0.08 | <10 | <10 | 74 | <10 | 63 |
| ZZ20744 | | <20 | 0.08 | <10 | <10 | 49 | <10 | 29 |
| ZZ20745 | | <20 | 0.08 | <10 | <10 | 73 | <10 | 54 |
| ZZ20746 | | <20 | 0.11 | <10 | <10 | 80 | <10 | 118 |
| ZZ20747 | | <20 | 0.07 | <10 | <10 | 77 | <10 | 67 |
| ZZ20748 | | <20 | 0.14 | <10 | <10 | 73 | <10 | 60 |
| ZZ20749 | | <20 | 0.12 | <10 | <10 | 86 | <10 | 71 |
| ZZ20750 | | <20 | 0.09 | <10 | <10 | 75 | <10 | 65 |
| ZZ20751 | | <20 | 0.11 | <10 | <10 | 50 | <10 | 68 |
| ZZ20752 | | <20 | 0.11 | <10 | <10 | 51 | <10 | 69 |
| ZZ20753 | | <20 | 0.09 | <10 | <10 | 41 | <10 | 77 |

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**Finalized Date: 15- SEP- 2011**
**Account: F**

# CERTIFICATE WH11158347

Project: Arcus - Tooleary

P.O. No.:

This report is for 186 Soil samples submitted to our lab in Whitehorse, YT, Canada on 13- AUG- 2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI- 21 | Received Sample Weight |
| LOG- 22 | Sample login - Rcd w/o BarCode |
| 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: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**Finalized Date: 15- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg 0.02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ20755 | | 0.24 | 0.003 | 0.2 | 1.60 | 9 | <10 | 230 | 0.6 | 3 | 0.40 | <0.5 | 15 | 35 | 23 | 3.04 |
| ZZ20756 | | 0.20 | <0.001 | <0.2 | 1.41 | 7 | <10 | 160 | <0.5 | 2 | 0.27 | <0.5 | 10 | 28 | 14 | 2.48 |
| ZZ20757 | | 0.16 | 0.002 | <0.2 | 1.93 | 5 | <10 | 240 | <0.5 | 2 | 0.48 | <0.5 | 18 | 76 | 49 | 2.96 |
| ZZ20758 | | 0.26 | 0.001 | <0.2 | 1.69 | 7 | <10 | 240 | 0.5 | 2 | 0.29 | <0.5 | 14 | 34 | 24 | 2.90 |
| ZZ20759 | | 0.22 | 0.001 | <0.2 | 1.43 | 6 | <10 | 220 | <0.5 | 2 | 0.29 | <0.5 | 12 | 32 | 17 | 2.77 |
| ZZ20760 | | 0.18 | 0.001 | <0.2 | 1.59 | 29 | <10 | 260 | 0.6 | <2 | 0.45 | <0.5 | 14 | 33 | 22 | 2.75 |
| ZZ20761 | | 0.24 | 0.003 | <0.2 | 1.57 | 7 | <10 | 170 | <0.5 | 2 | 0.35 | <0.5 | 13 | 31 | 20 | 2.93 |
| ZZ20762 | | 0.18 | 0.002 | <0.2 | 1.36 | 4 | <10 | 200 | <0.5 | <2 | 0.41 | <0.5 | 14 | 27 | 20 | 2.56 |
| ZZ20763 | | 0.20 | 0.004 | <0.2 | 1.76 | 3 | <10 | 310 | <0.5 | <2 | 0.50 | <0.5 | 14 | 31 | 27 | 3.03 |
| ZZ20764 | | 0.22 | <0.001 | <0.2 | 1.64 | 4 | <10 | 190 | 0.6 | <2 | 0.27 | <0.5 | 12 | 31 | 21 | 2.79 |
| ZZ20765 | | 0.28 | 0.004 | <0.2 | 1.78 | 13 | <10 | 210 | 1.1 | 2 | 0.42 | <0.5 | 13 | 41 | 34 | 3.24 |
| ZZ20766 | | 0.28 | 0.003 | <0.2 | 1.54 | 12 | <10 | 170 | 0.7 | 3 | 0.45 | <0.5 | 11 | 36 | 20 | 3.02 |
| ZZ20767 | | 0.22 | 0.007 | <0.2 | 1.39 | 10 | <10 | 220 | 0.6 | <2 | 0.55 | <0.5 | 10 | 30 | 24 | 2.72 |
| ZZ20768 | | 0.24 | 0.001 | <0.2 | 2.67 | 4 | <10 | 240 | 0.6 | 2 | 0.34 | <0.5 | 15 | 54 | 10 | 3.90 |
| ZZ20769 | | 0.22 | <0.001 | <0.2 | 1.51 | 7 | <10 | 230 | <0.5 | 2 | 0.15 | <0.5 | 10 | 30 | 15 | 2.60 |
| ZZ20770 | | 0.18 | 0.003 | <0.2 | 1.29 | 5 | <10 | 170 | <0.5 | 3 | 0.21 | <0.5 | 8 | 23 | 36 | 2.33 |
| ZZ20771 | | 0.22 | <0.001 | <0.2 | 1.44 | 5 | <10 | 270 | <0.5 | <2 | 0.22 | <0.5 | 11 | 32 | 15 | 2.42 |
| ZZ20772 | | 0.22 | <0.001 | <0.2 | 1.91 | 9 | <10 | 260 | 0.7 | <2 | 0.47 | <0.5 | 11 | 83 | 24 | 3.12 |
| ZZ20773 | | 0.22 | 0.001 | <0.2 | 1.95 | 8 | <10 | 270 | 0.7 | <2 | 0.47 | <0.5 | 12 | 80 | 23 | 3.11 |
| ZZ20774 | | 0.20 | 0.001 | <0.2 | 1.64 | 8 | <10 | 400 | 0.5 | <2 | 0.41 | <0.5 | 9 | 40 | 25 | 2.82 |
| ZZ20775 | | 0.20 | <0.001 | <0.2 | 1.64 | 4 | <10 | 200 | <0.5 | <2 | 0.29 | <0.5 | 7 | 28 | 14 | 2.66 |
| ZZ20776 | | 0.24 | 0.001 | <0.2 | 1.80 | 8 | <10 | 180 | <0.5 | <2 | 0.28 | <0.5 | 8 | 42 | 35 | 2.97 |
| ZZ20777 | | 0.30 | 0.004 | <0.2 | 1.79 | 15 | <10 | 240 | 0.5 | <2 | 0.38 | <0.5 | 10 | 40 | 28 | 3.07 |
| ZZ20778 | | 0.30 | 0.002 | <0.2 | 1.67 | 9 | <10 | 260 | <0.5 | <2 | 0.37 | <0.5 | 8 | 33 | 28 | 2.86 |
| ZZ20779 | | 0.18 | 0.004 | <0.2 | 1.86 | 10 | <10 | 210 | <0.5 | <2 | 0.31 | <0.5 | 8 | 36 | 18 | 2.98 |
| ZZ20780 | | 0.20 | 0.001 | 0.2 | 1.68 | 4 | <10 | 350 | <0.5 | <2 | 0.38 | <0.5 | 12 | 35 | 16 | 2.74 |
| ZZ20781 | | 0.18 | 0.002 | <0.2 | 1.72 | 5 | <10 | 220 | <0.5 | <2 | 0.23 | <0.5 | 9 | 32 | 13 | 2.83 |
| ZZ20782 | | 0.24 | 0.001 | <0.2 | 1.66 | 9 | <10 | 230 | <0.5 | <2 | 0.34 | <0.5 | 11 | 30 | 20 | 3.00 |
| ZZ20783 | | 0.22 | <0.001 | <0.2 | 2.72 | <2 | <10 | 320 | <0.5 | <2 | 0.58 | <0.5 | 21 | 39 | 43 | 4.29 |
| ZZ20784 | | 0.20 | 0.002 | <0.2 | 1.90 | 3 | <10 | 260 | <0.5 | <2 | 0.39 | <0.5 | 12 | 59 | 18 | 2.93 |
| ZZ20785 | | 0.20 | 0.001 | <0.2 | 2.05 | 4 | <10 | 300 | <0.5 | <2 | 0.42 | <0.5 | 14 | 60 | 20 | 3.09 |
| ZZ20786 | | 0.20 | 0.001 | <0.2 | 2.00 | 5 | <10 | 290 | <0.5 | <2 | 0.43 | <0.5 | 13 | 60 | 18 | 2.97 |
| ZZ20787 | | 0.20 | 0.001 | <0.2 | 1.83 | 8 | <10 | 300 | 0.5 | <2 | 0.45 | <0.5 | 11 | 35 | 18 | 3.15 |
| ZZ20788 | | 0.16 | 0.001 | <0.2 | 1.94 | 6 | <10 | 230 | <0.5 | <2 | 0.46 | <0.5 | 11 | 31 | 35 | 3.12 |
| ZZ20789 | | 0.24 | 0.002 | <0.2 | 1.67 | 8 | <10 | 260 | <0.5 | <2 | 0.43 | <0.5 | 11 | 35 | 30 | 3.00 |
| ZZ20790 | | 0.20 | <0.001 | 0.2 | 1.87 | 9 | <10 | 190 | <0.5 | <2 | 0.36 | <0.5 | 13 | 35 | 34 | 3.44 |
| ZZ20791 | | 0.24 | 0.001 | <0.2 | 1.85 | 7 | <10 | 230 | 0.7 | <2 | 0.24 | <0.5 | 12 | 42 | 26 | 3.11 |
| ZZ20792 | | 0.22 | 0.001 | <0.2 | 1.86 | 8 | <10 | 180 | 0.6 | <2 | 0.21 | <0.5 | 11 | 43 | 26 | 3.29 |
| ZZ20793 | | 0.20 | <0.001 | <0.2 | 2.01 | 7 | <10 | 240 | 0.6 | <2 | 0.35 | <0.5 | 12 | 51 | 27 | 3.51 |
| ZZ20794 | | 0.26 | 0.001 | <0.2 | 2.13 | 10 | <10 | 250 | 0.8 | <2 | 0.40 | <0.5 | 12 | 57 | 34 | 3.62 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 15- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ20755 | | 10 | 1 | 0.31 | 20 | 0.54 | 476 | 1 | 0.01 | 28 | 290 | 7 | 0.01 | <2 | 5 | 27 |
| ZZ20756 | | 10 | <1 | 0.07 | 10 | 0.41 | 236 | <1 | 0.01 | 18 | 210 | 4 | 0.01 | <2 | 3 | 23 |
| ZZ20757 | | 10 | <1 | 0.64 | 20 | 1.06 | 353 | <1 | 0.02 | 43 | 670 | 5 | 0.04 | <2 | 4 | 30 |
| ZZ20758 | | 10 | 1 | 0.27 | 30 | 0.61 | 430 | 1 | 0.01 | 28 | 300 | 5 | 0.02 | <2 | 5 | 24 |
| ZZ20759 | | 10 | <1 | 0.31 | 20 | 0.54 | 374 | <1 | 0.01 | 20 | 480 | 7 | 0.01 | <2 | 4 | 21 |
| ZZ20760 | | 10 | 1 | 0.23 | 20 | 0.49 | 495 | <1 | 0.01 | 23 | 370 | 9 | 0.02 | <2 | 5 | 30 |
| ZZ20761 | | 10 | <1 | 0.34 | 20 | 0.64 | 370 | <1 | 0.01 | 24 | 300 | 5 | 0.03 | <2 | 4 | 27 |
| ZZ20762 | | <10 | <1 | 0.32 | 20 | 0.49 | 471 | <1 | 0.01 | 22 | 450 | 5 | 0.02 | <2 | 4 | 29 |
| ZZ20763 | | 10 | 1 | 0.61 | 40 | 0.73 | 494 | <1 | 0.01 | 27 | 490 | 6 | 0.04 | <2 | 4 | 36 |
| ZZ20764 | | 10 | 1 | 0.05 | 10 | 0.49 | 389 | <1 | 0.01 | 21 | 260 | 7 | <0.01 | 2 | 3 | 20 |
| ZZ20765 | | 10 | <1 | 0.06 | 40 | 0.60 | 368 | 1 | 0.01 | 30 | 360 | 10 | <0.01 | <2 | 7 | 28 |
| ZZ20766 | | 10 | 1 | 0.09 | 20 | 0.53 | 262 | <1 | 0.01 | 24 | 350 | 14 | 0.01 | <2 | 5 | 26 |
| ZZ20767 | | <10 | <1 | 0.09 | 20 | 0.48 | 255 | <1 | 0.02 | 22 | 390 | 7 | 0.01 | <2 | 5 | 29 |
| ZZ20768 | | 10 | <1 | 0.77 | 10 | 1.38 | 281 | <1 | 0.01 | 29 | 960 | <2 | 0.01 | <2 | 3 | 21 |
| ZZ20769 | | 10 | <1 | 0.07 | 10 | 0.42 | 483 | 1 | 0.01 | 20 | 350 | 5 | 0.01 | <2 | 3 | 18 |
| ZZ20770 | | <10 | 1 | 0.08 | <10 | 0.42 | 192 | 1 | 0.01 | 12 | 240 | 2 | <0.01 | <2 | 3 | 17 |
| ZZ20771 | | 10 | 1 | 0.06 | 10 | 0.44 | 244 | <1 | 0.01 | 17 | 150 | 4 | 0.01 | <2 | 3 | 23 |
| ZZ20772 | | 10 | 1 | 0.08 | 10 | 1.02 | 425 | <1 | 0.01 | 39 | 350 | 5 | <0.01 | <2 | 6 | 28 |
| ZZ20773 | | 10 | <1 | 0.08 | 10 | 1.01 | 426 | <1 | 0.02 | 37 | 270 | 7 | 0.01 | <2 | 6 | 29 |
| ZZ20774 | | <10 | <1 | 0.12 | 20 | 0.50 | 502 | <1 | 0.03 | 23 | 260 | 9 | 0.01 | <2 | 6 | 29 |
| ZZ20775 | | 10 | <1 | 0.06 | 10 | 0.46 | 278 | <1 | 0.03 | 15 | 430 | 5 | 0.01 | <2 | 3 | 24 |
| ZZ20776 | | 10 | <1 | 0.11 | 10 | 0.57 | 244 | 3 | 0.02 | 25 | 200 | 5 | 0.01 | <2 | 4 | 19 |
| ZZ20777 | | 10 | <1 | 0.12 | 10 | 0.58 | 325 | <1 | 0.03 | 25 | 450 | 6 | 0.01 | <2 | 5 | 29 |
| ZZ20778 | | 10 | <1 | 0.10 | 10 | 0.52 | 454 | <1 | 0.02 | 18 | 300 | 6 | 0.01 | <2 | 4 | 28 |
| ZZ20779 | | 10 | <1 | 0.13 | 10 | 0.52 | 291 | <1 | 0.02 | 21 | 490 | 8 | 0.01 | <2 | 4 | 26 |
| ZZ20780 | | 10 | 1 | 0.07 | 10 | 0.62 | 480 | 1 | 0.03 | 16 | 360 | 4 | 0.01 | <2 | 4 | 33 |
| ZZ20781 | | 10 | <1 | 0.08 | 10 | 0.51 | 367 | 1 | 0.02 | 15 | 210 | 6 | 0.01 | <2 | 3 | 22 |
| ZZ20782 | | 10 | <1 | 0.13 | 10 | 0.69 | 576 | <1 | 0.03 | 16 | 340 | 5 | 0.01 | <2 | 5 | 28 |
| ZZ20783 | | 10 | <1 | 0.66 | <10 | 2.19 | 502 | <1 | 0.03 | 19 | 760 | 4 | 0.01 | <2 | 3 | 32 |
| ZZ20784 | | 10 | <1 | 0.24 | 10 | 1.00 | 383 | <1 | 0.02 | 23 | 240 | 5 | 0.01 | <2 | 3 | 34 |
| ZZ20785 | | 10 | <1 | 0.23 | 10 | 1.07 | 526 | <1 | 0.02 | 26 | 250 | 5 | 0.01 | <2 | 3 | 36 |
| ZZ20786 | | 10 | <1 | 0.21 | 10 | 1.03 | 487 | <1 | 0.02 | 24 | 230 | 4 | 0.01 | <2 | 3 | 36 |
| ZZ20787 | | 10 | <1 | 0.10 | 10 | 0.58 | 602 | <1 | 0.03 | 22 | 280 | 9 | 0.01 | 2 | 5 | 30 |
| ZZ20788 | | 10 | <1 | 0.07 | 10 | 0.67 | 368 | <1 | 0.03 | 19 | 300 | 6 | 0.02 | <2 | 4 | 42 |
| ZZ20789 | | 10 | <1 | 0.11 | 10 | 0.62 | 599 | <1 | 0.03 | 21 | 300 | 6 | 0.01 | <2 | 6 | 30 |
| ZZ20790 | | 10 | <1 | 0.09 | 10 | 0.69 | 425 | 1 | 0.03 | 20 | 450 | 6 | 0.01 | <2 | 3 | 25 |
| ZZ20791 | | 10 | <1 | 0.07 | 10 | 0.67 | 220 | 1 | 0.03 | 34 | 340 | 7 | 0.01 | <2 | 4 | 23 |
| ZZ20792 | | 10 | <1 | 0.06 | 10 | 0.68 | 217 | 1 | 0.02 | 31 | 400 | 8 | 0.01 | <2 | 4 | 19 |
| ZZ20793 | | 10 | <1 | 0.06 | 10 | 0.82 | 216 | 1 | 0.02 | 40 | 290 | 8 | 0.01 | <2 | 4 | 30 |
| ZZ20794 | | 10 | 1 | 0.09 | 20 | 0.94 | 233 | 1 | 0.03 | 46 | 470 | 9 | 0.01 | <2 | 5 | 32 |

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**Finalized Date: 15- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method Analyte Units LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ20755 | | <20 | 0.09 | <10 | <10 | 52 | <10 | 61 |
| ZZ20756 | | <20 | 0.06 | <10 | <10 | 55 | <10 | 43 |
| ZZ20757 | | <20 | 0.12 | <10 | <10 | 58 | <10 | 58 |
| ZZ20758 | | <20 | 0.10 | <10 | <10 | 51 | <10 | 62 |
| ZZ20759 | | <20 | 0.10 | <10 | <10 | 50 | <10 | 60 |
| ZZ20760 | | <20 | 0.06 | <10 | <10 | 46 | <10 | 60 |
| ZZ20761 | | <20 | 0.09 | <10 | <10 | 44 | <10 | 62 |
| ZZ20762 | | <20 | 0.08 | <10 | <10 | 42 | <10 | 53 |
| ZZ20763 | | <20 | 0.12 | <10 | <10 | 43 | <10 | 80 |
| ZZ20764 | | <20 | 0.06 | <10 | <10 | 50 | <10 | 49 |
| ZZ20765 | | <20 | 0.08 | <10 | <10 | 62 | <10 | 68 |
| ZZ20766 | | <20 | 0.07 | <10 | <10 | 58 | <10 | 54 |
| ZZ20767 | | <20 | 0.07 | <10 | <10 | 50 | <10 | 48 |
| ZZ20768 | | <20 | 0.22 | <10 | <10 | 64 | <10 | 50 |
| ZZ20769 | | <20 | 0.06 | <10 | <10 | 57 | <10 | 46 |
| ZZ20770 | | <20 | 0.07 | <10 | <10 | 58 | <10 | 38 |
| ZZ20771 | | <20 | 0.08 | <10 | <10 | 57 | <10 | 41 |
| ZZ20772 | | <20 | 0.08 | <10 | <10 | 65 | <10 | 63 |
| ZZ20773 | | <20 | 0.08 | <10 | <10 | 67 | <10 | 62 |
| ZZ20774 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 52 |
| ZZ20775 | | <20 | 0.07 | <10 | <10 | 61 | <10 | 46 |
| ZZ20776 | | <20 | 0.09 | <10 | <10 | 70 | <10 | 50 |
| ZZ20777 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 55 |
| ZZ20778 | | <20 | 0.09 | <10 | <10 | 66 | <10 | 54 |
| ZZ20779 | | <20 | 0.09 | <10 | <10 | 64 | <10 | 57 |
| ZZ20780 | | <20 | 0.10 | <10 | <10 | 67 | <10 | 61 |
| ZZ20781 | | <20 | 0.08 | <10 | <10 | 62 | <10 | 57 |
| ZZ20782 | | <20 | 0.09 | <10 | <10 | 63 | <10 | 48 |
| ZZ20783 | | <20 | 0.28 | <10 | <10 | 96 | <10 | 77 |
| ZZ20784 | | <20 | 0.14 | <10 | <10 | 65 | <10 | 50 |
| ZZ20785 | | <20 | 0.15 | <10 | <10 | 66 | <10 | 56 |
| ZZ20786 | | <20 | 0.15 | <10 | <10 | 65 | <10 | 53 |
| ZZ20787 | | <20 | 0.10 | <10 | <10 | 64 | <10 | 58 |
| ZZ20788 | | <20 | 0.09 | <10 | <10 | 69 | <10 | 57 |
| ZZ20789 | | <20 | 0.09 | <10 | <10 | 64 | <10 | 54 |
| ZZ20790 | | <20 | 0.12 | <10 | <10 | 82 | <10 | 64 |
| ZZ20791 | | <20 | 0.10 | <10 | <10 | 60 | <10 | 46 |
| ZZ20792 | | <20 | 0.09 | <10 | <10 | 61 | <10 | 52 |
| ZZ20793 | | <20 | 0.11 | <10 | <10 | 74 | <10 | 54 |
| ZZ20794 | | <20 | 0.12 | <10 | <10 | 73 | <10 | 58 |

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**Finalized Date: 15- SEP- 2011**
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# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg 0.02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ20795 | | 0.20 | 0.013 | <0.2 | 2.19 | 10 | <10 | 240 | 0.8 | <2 | 0.37 | <0.5 | 14 | 51 | 38 | 3.61 |
| ZZ20796 | | 0.16 | 0.004 | <0.2 | 1.68 | 10 | <10 | 250 | 0.6 | <2 | 0.76 | <0.5 | 9 | 31 | 20 | 2.78 |
| ZZ20797 | | 0.26 | <0.001 | <0.2 | 2.12 | 11 | <10 | 200 | 1.0 | <2 | 0.35 | <0.5 | 12 | 43 | 28 | 3.54 |
| ZZ20798 | | 0.20 | <0.001 | <0.2 | 1.78 | 8 | <10 | 190 | 1.2 | <2 | 0.51 | <0.5 | 11 | 39 | 22 | 3.05 |
| ZZ20799 | | 0.24 | 0.001 | <0.2 | 1.80 | 8 | <10 | 200 | 1.2 | <2 | 0.52 | <0.5 | 10 | 36 | 22 | 3.14 |
| ZZ20800 | | 0.18 | 0.001 | <0.2 | 1.69 | 9 | <10 | 200 | 1.2 | <2 | 0.54 | <0.5 | 9 | 34 | 22 | 2.96 |
| ZZ20801 | | 0.20 | 0.002 | <0.2 | 1.91 | 7 | <10 | 240 | 0.7 | <2 | 0.39 | <0.5 | 12 | 37 | 24 | 3.18 |
| ZZ20802 | | 0.16 | <0.001 | <0.2 | 1.83 | 9 | <10 | 230 | 0.6 | <2 | 0.37 | <0.5 | 10 | 35 | 22 | 3.10 |
| ZZ20803 | | 0.16 | 0.002 | 0.2 | 1.97 | 26 | <10 | 320 | 1.1 | <2 | 0.56 | <0.5 | 22 | 34 | 51 | 3.47 |
| ZZ20804 | | 0.20 | 0.005 | <0.2 | 1.81 | 13 | <10 | 240 | 0.5 | <2 | 0.45 | <0.5 | 12 | 59 | 39 | 3.18 |
| ZZ20805 | | 0.24 | 0.002 | <0.2 | 2.46 | 6 | <10 | 370 | 0.5 | <2 | 0.51 | <0.5 | 17 | 129 | 24 | 3.72 |
| ZZ20806 | | 0.22 | <0.001 | 0.2 | 2.14 | 5 | <10 | 430 | 0.5 | <2 | 0.62 | <0.5 | 13 | 93 | 23 | 3.31 |
| ZZ20807 | | 0.18 | 0.002 | 0.2 | 2.08 | 10 | <10 | 250 | <0.5 | <2 | 0.30 | <0.5 | 15 | 40 | 41 | 3.57 |
| ZZ20808 | | 0.26 | 0.003 | <0.2 | 1.79 | 7 | <10 | 210 | <0.5 | <2 | 0.36 | <0.5 | 11 | 42 | 19 | 3.31 |
| ZZ20809 | | 0.20 | 0.002 | <0.2 | 1.65 | 5 | <10 | 190 | <0.5 | <2 | 0.27 | <0.5 | 9 | 27 | 14 | 2.82 |
| ZZ20810 | | 0.14 | 0.001 | 0.2 | 1.50 | 8 | <10 | 320 | <0.5 | 3 | 1.09 | <0.5 | 10 | 27 | 38 | 2.94 |
| ZZ20811 | | 0.24 | <0.001 | 0.4 | 1.89 | 6 | <10 | 210 | <0.5 | 2 | 0.25 | <0.5 | 11 | 32 | 19 | 2.84 |
| ZZ20812 | | 0.32 | 0.005 | <0.2 | 1.42 | 6 | <10 | 220 | <0.5 | <2 | 0.31 | <0.5 | 11 | 30 | 14 | 2.60 |
| ZZ20813 | | 0.18 | 0.004 | <0.2 | 1.50 | 4 | <10 | 200 | <0.5 | 2 | 0.31 | <0.5 | 10 | 27 | 18 | 2.69 |
| ZZ20814 | | 0.22 | <0.001 | <0.2 | 1.60 | 8 | <10 | 220 | <0.5 | 3 | 0.25 | <0.5 | 10 | 29 | 15 | 2.79 |
| ZZ20815 | | 0.28 | 0.001 | <0.2 | 1.46 | 7 | <10 | 210 | <0.5 | 2 | 0.30 | <0.5 | 11 | 31 | 17 | 2.68 |
| ZZ20816 | | 0.30 | <0.001 | 0.2 | 1.47 | 5 | <10 | 270 | <0.5 | 3 | 0.26 | <0.5 | 10 | 30 | 14 | 2.73 |
| ZZ20817 | | 0.28 | 0.005 | 0.4 | 1.51 | 9 | <10 | 180 | <0.5 | <2 | 0.37 | <0.5 | 11 | 32 | 18 | 2.76 |
| ZZ20818 | | 0.22 | 0.001 | 0.2 | 1.61 | 10 | <10 | 220 | 0.5 | 2 | 0.39 | <0.5 | 11 | 35 | 20 | 2.93 |
| ZZ20819 | | 0.30 | 0.001 | 0.2 | 1.68 | 4 | <10 | 240 | 0.5 | 3 | 0.43 | <0.5 | 11 | 32 | 19 | 2.81 |
| ZZ20820 | | 0.18 | <0.001 | 0.2 | 1.56 | 5 | <10 | 190 | <0.5 | 2 | 0.46 | <0.5 | 10 | 29 | 19 | 2.66 |
| ZZ20821 | | 0.20 | <0.001 | 0.3 | 1.94 | 5 | <10 | 200 | <0.5 | 2 | 0.30 | <0.5 | 11 | 36 | 23 | 3.04 |
| ZZ20822 | | 0.34 | <0.001 | 0.2 | 1.47 | 5 | <10 | 190 | <0.5 | 3 | 0.25 | <0.5 | 11 | 28 | 14 | 2.55 |
| ZZ20823 | | 0.24 | <0.001 | 0.2 | 1.49 | 6 | <10 | 210 | <0.5 | 2 | 0.35 | <0.5 | 10 | 33 | 16 | 2.61 |
| ZZ20824 | | 0.32 | <0.001 | 0.3 | 1.57 | 6 | <10 | 190 | <0.5 | <2 | 0.33 | <0.5 | 12 | 39 | 18 | 2.93 |
| ZZ20825 | | 0.22 | 0.002 | 0.3 | 1.51 | 8 | <10 | 190 | <0.5 | 4 | 0.34 | <0.5 | 11 | 33 | 15 | 2.84 |
| ZZ20826 | | 0.24 | <0.001 | <0.2 | 1.50 | 6 | <10 | 170 | <0.5 | 3 | 0.26 | <0.5 | 10 | 26 | 13 | 2.85 |
| ZZ20827 | | 0.30 | 0.002 | 0.2 | 1.22 | 4 | <10 | 220 | <0.5 | 3 | 0.28 | <0.5 | 8 | 25 | 10 | 2.32 |
| ZZ20828 | | 0.20 | 0.004 | <0.2 | 1.49 | 6 | <10 | 340 | <0.5 | 3 | 0.80 | <0.5 | 10 | 27 | 31 | 2.48 |
| ZZ20829 | | 0.26 | 0.002 | 0.2 | 1.59 | 6 | <10 | 260 | <0.5 | 2 | 0.53 | <0.5 | 10 | 28 | 24 | 2.64 |
| ZZ20830 | | 0.16 | 0.003 | <0.2 | 1.48 | 5 | <10 | 230 | <0.5 | 3 | 0.53 | <0.5 | 9 | 27 | 29 | 2.50 |
| ZZ20831 | | 0.18 | 0.002 | 0.2 | 1.63 | 6 | <10 | 360 | <0.5 | 3 | 0.89 | <0.5 | 10 | 32 | 39 | 2.63 |
| ZZ20832 | | 0.32 | 0.002 | <0.2 | 1.62 | 8 | <10 | 250 | <0.5 | 3 | 0.51 | <0.5 | 10 | 32 | 28 | 2.67 |
| ZZ20833 | | 0.12 | 0.010 | <0.2 | 1.36 | 5 | <10 | 270 | <0.5 | 2 | 1.03 | <0.5 | 9 | 26 | 23 | 2.27 |
| ZZ20834 | | 0.22 | 0.003 | <0.2 | 1.70 | 8 | <10 | 210 | <0.5 | <2 | 0.45 | <0.5 | 10 | 30 | 19 | 3.05 |

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# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method Analyte Units LOR | ME- ICP41 Ga ppm 10 | ME- ICP41 Hg ppm 1 | ME- ICP41 K % 0.01 | ME- ICP41 La ppm 10 | ME- ICP41 Mg % 0.01 | ME- ICP41 Mn ppm 5 | ME- ICP41 Mo ppm 1 | ME- ICP41 Na % 0.01 | ME- ICP41 Ni ppm 1 | ME- ICP41 P ppm 10 | ME- ICP41 Pb ppm 2 | ME- ICP41 S % 0.01 | ME- ICP41 Sb ppm 2 | ME- ICP41 Sc ppm 1 | ME- ICP41 Sr ppm 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ20795 | | 10 | <1 | 0.08 | 10 | 0.93 | 246 | 1 | 0.03 | 40 | 690 | 9 | 0.02 | <2 | 4 | 29 |
| ZZ20796 | | 10 | <1 | 0.09 | 30 | 0.50 | 251 | 1 | 0.03 | 22 | 450 | 11 | 0.02 | <2 | 4 | 40 |
| ZZ20797 | | 10 | 1 | 0.08 | 10 | 0.77 | 217 | 1 | 0.02 | 37 | 380 | 14 | 0.01 | <2 | 4 | 24 |
| ZZ20798 | | 10 | <1 | 0.08 | 30 | 0.46 | 388 | 2 | 0.03 | 28 | 250 | 15 | 0.01 | 2 | 5 | 28 |
| ZZ20799 | | 10 | 1 | 0.09 | 30 | 0.47 | 386 | 1 | 0.03 | 27 | 220 | 14 | 0.01 | <2 | 5 | 28 |
| ZZ20800 | | 10 | <1 | 0.09 | 40 | 0.44 | 303 | 1 | 0.03 | 25 | 230 | 12 | 0.02 | 2 | 4 | 29 |
| ZZ20801 | | 10 | <1 | 0.10 | 20 | 0.56 | 315 | 1 | 0.02 | 29 | 240 | 14 | 0.01 | <2 | 4 | 24 |
| ZZ20802 | | 10 | <1 | 0.08 | 10 | 0.51 | 263 | 1 | 0.02 | 26 | 290 | 13 | 0.01 | <2 | 3 | 21 |
| ZZ20803 | | 10 | 1 | 0.16 | 20 | 0.42 | 573 | 1 | 0.03 | 70 | 610 | 10 | 0.02 | <2 | 4 | 31 |
| ZZ20804 | | 10 | 1 | 0.26 | 20 | 0.90 | 404 | <1 | 0.03 | 40 | 310 | 10 | 0.01 | <2 | 6 | 50 |
| ZZ20805 | | 10 | <1 | 0.55 | 10 | 1.41 | 775 | <1 | 0.03 | 57 | 340 | 11 | 0.01 | <2 | 4 | 59 |
| ZZ20806 | | 10 | <1 | 0.48 | 10 | 1.06 | 604 | <1 | 0.03 | 48 | 620 | 8 | 0.01 | <2 | 3 | 39 |
| ZZ20807 | | 10 | <1 | 0.13 | 10 | 0.72 | 250 | <1 | 0.03 | 28 | 260 | 7 | 0.01 | <2 | 5 | 27 |
| ZZ20808 | | <10 | <1 | 0.09 | 10 | 0.62 | 197 | <1 | 0.04 | 23 | 180 | 5 | 0.01 | <2 | 8 | 23 |
| ZZ20809 | | 10 | <1 | 0.06 | 10 | 0.48 | 311 | <1 | 0.04 | 14 | 290 | 6 | 0.01 | <2 | 4 | 19 |
| ZZ20810 | | <10 | <1 | 0.22 | 20 | 0.66 | 625 | 1 | 0.02 | 25 | 470 | 34 | 0.02 | <2 | 5 | 42 |
| ZZ20811 | | 10 | <1 | 0.08 | 10 | 0.58 | 416 | 1 | 0.01 | 25 | 310 | 12 | <0.01 | <2 | 3 | 20 |
| ZZ20812 | | <10 | <1 | 0.09 | 10 | 0.38 | 488 | 1 | 0.01 | 16 | 160 | 8 | <0.01 | <2 | 4 | 24 |
| ZZ20813 | | <10 | 1 | 0.15 | 10 | 0.52 | 556 | <1 | 0.02 | 20 | 250 | 9 | <0.01 | <2 | 3 | 23 |
| ZZ20814 | | 10 | 1 | 0.14 | 10 | 0.52 | 398 | 1 | 0.01 | 19 | 190 | 10 | <0.01 | <2 | 3 | 20 |
| ZZ20815 | | <10 | <1 | 0.12 | 10 | 0.47 | 519 | 1 | 0.02 | 20 | 130 | 10 | <0.01 | <2 | 5 | 23 |
| ZZ20816 | | <10 | <1 | 0.16 | 10 | 0.48 | 360 | <1 | 0.01 | 20 | 330 | 12 | <0.01 | <2 | 3 | 21 |
| ZZ20817 | | <10 | 1 | 0.21 | 10 | 0.53 | 321 | <1 | 0.02 | 20 | 210 | 9 | <0.01 | <2 | 4 | 25 |
| ZZ20818 | | <10 | <1 | 0.15 | 10 | 0.51 | 482 | 1 | 0.02 | 22 | 230 | 11 | <0.01 | <2 | 5 | 27 |
| ZZ20819 | | 10 | 1 | 0.09 | 10 | 0.48 | 567 | 1 | 0.02 | 19 | 180 | 10 | <0.01 | <2 | 4 | 27 |
| ZZ20820 | | 10 | <1 | 0.22 | 10 | 0.52 | 380 | 1 | 0.02 | 19 | 230 | 12 | <0.01 | <2 | 4 | 26 |
| ZZ20821 | | 10 | <1 | 0.16 | 10 | 0.74 | 321 | 1 | 0.01 | 27 | 420 | 16 | <0.01 | <2 | 3 | 20 |
| ZZ20822 | | <10 | <1 | 0.22 | 10 | 0.55 | 218 | <1 | 0.01 | 18 | 140 | 10 | <0.01 | <2 | 3 | 21 |
| ZZ20823 | | 10 | 1 | 0.28 | 10 | 0.55 | 422 | <1 | 0.01 | 19 | 220 | 12 | <0.01 | <2 | 3 | 25 |
| ZZ20824 | | 10 | <1 | 0.44 | 10 | 0.64 | 367 | <1 | 0.01 | 23 | 330 | 10 | <0.01 | <2 | 4 | 20 |
| ZZ20825 | | 10 | 1 | 0.20 | 10 | 0.50 | 342 | <1 | 0.01 | 20 | 240 | 21 | <0.01 | <2 | 4 | 20 |
| ZZ20826 | | <10 | <1 | 0.17 | 10 | 0.45 | 280 | 1 | 0.01 | 16 | 240 | 9 | <0.01 | 2 | 3 | 16 |
| ZZ20827 | | <10 | <1 | 0.12 | 10 | 0.41 | 349 | <1 | 0.01 | 15 | 200 | 7 | <0.01 | <2 | 2 | 22 |
| ZZ20828 | | <10 | <1 | 0.04 | 10 | 0.51 | 458 | <1 | 0.02 | 19 | 750 | 6 | 0.01 | <2 | 5 | 50 |
| ZZ20829 | | <10 | 1 | 0.04 | 10 | 0.58 | 357 | 1 | 0.02 | 14 | 540 | 6 | <0.01 | <2 | 4 | 32 |
| ZZ20830 | | <10 | <1 | 0.05 | 10 | 0.56 | 262 | 1 | 0.02 | 15 | 680 | 6 | 0.01 | <2 | 3 | 33 |
| ZZ20831 | | <10 | <1 | 0.05 | 10 | 0.60 | 371 | 1 | 0.02 | 18 | 760 | 6 | 0.02 | <2 | 5 | 49 |
| ZZ20832 | | 10 | <1 | 0.05 | 10 | 0.59 | 294 | 1 | 0.02 | 18 | 540 | 6 | <0.01 | <2 | 4 | 30 |
| ZZ20833 | | <10 | <1 | 0.07 | 10 | 0.55 | 392 | <1 | 0.02 | 13 | 590 | 6 | 0.03 | <2 | 4 | 49 |
| ZZ20834 | | 10 | <1 | 0.11 | 10 | 0.65 | 266 | 1 | 0.02 | 15 | 490 | 7 | <0.01 | <2 | 4 | 27 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 15- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ20795 | | <20 | 0.10 | <10 | <10 | 66 | <10 | 63 |
| ZZ20796 | | <20 | 0.07 | <10 | <10 | 52 | <10 | 54 |
| ZZ20797 | | <20 | 0.08 | <10 | <10 | 49 | <10 | 97 |
| ZZ20798 | | <20 | 0.05 | <10 | <10 | 56 | <10 | 62 |
| ZZ20799 | | <20 | 0.05 | <10 | <10 | 55 | <10 | 58 |
| ZZ20800 | | <20 | 0.05 | <10 | <10 | 53 | <10 | 55 |
| ZZ20801 | | <20 | 0.05 | <10 | <10 | 56 | <10 | 60 |
| ZZ20802 | | <20 | 0.04 | <10 | <10 | 55 | <10 | 58 |
| ZZ20803 | | <20 | 0.04 | <10 | <10 | 54 | <10 | 58 |
| ZZ20804 | | <20 | 0.13 | <10 | <10 | 69 | <10 | 85 |
| ZZ20805 | | <20 | 0.20 | <10 | <10 | 81 | <10 | 136 |
| ZZ20806 | | <20 | 0.15 | <10 | <10 | 70 | <10 | 97 |
| ZZ20807 | | <20 | 0.14 | <10 | <10 | 92 | <10 | 57 |
| ZZ20808 | | <20 | 0.12 | <10 | <10 | 100 | <10 | 45 |
| ZZ20809 | | <20 | 0.10 | <10 | <10 | 80 | <10 | 47 |
| ZZ20810 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 113 |
| ZZ20811 | | <20 | 0.08 | <10 | <10 | 57 | <10 | 74 |
| ZZ20812 | | <20 | 0.07 | <10 | <10 | 54 | <10 | 43 |
| ZZ20813 | | <20 | 0.09 | <10 | <10 | 47 | <10 | 49 |
| ZZ20814 | | <20 | 0.10 | <10 | <10 | 53 | <10 | 57 |
| ZZ20815 | | <20 | 0.09 | <10 | <10 | 54 | <10 | 47 |
| ZZ20816 | | <20 | 0.09 | <10 | <10 | 51 | <10 | 58 |
| ZZ20817 | | <20 | 0.09 | <10 | <10 | 54 | <10 | 52 |
| ZZ20818 | | <20 | 0.08 | <10 | <10 | 56 | <10 | 53 |
| ZZ20819 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 47 |
| ZZ20820 | | <20 | 0.10 | <10 | <10 | 54 | <10 | 52 |
| ZZ20821 | | <20 | 0.11 | <10 | <10 | 53 | <10 | 78 |
| ZZ20822 | | <20 | 0.09 | <10 | <10 | 47 | <10 | 51 |
| ZZ20823 | | <20 | 0.10 | <10 | <10 | 52 | <10 | 54 |
| ZZ20824 | | <20 | 0.12 | <10 | <10 | 55 | <10 | 61 |
| ZZ20825 | | <20 | 0.08 | <10 | <10 | 51 | <10 | 58 |
| ZZ20826 | | <20 | 0.08 | <10 | <10 | 42 | <10 | 52 |
| ZZ20827 | | <20 | 0.08 | <10 | <10 | 50 | <10 | 40 |
| ZZ20828 | | <20 | 0.07 | <10 | <10 | 55 | <10 | 47 |
| ZZ20829 | | <20 | 0.09 | <10 | <10 | 67 | <10 | 50 |
| ZZ20830 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 49 |
| ZZ20831 | | <20 | 0.07 | <10 | <10 | 59 | <10 | 55 |
| ZZ20832 | | <20 | 0.08 | <10 | <10 | 65 | <10 | 51 |
| ZZ20833 | | <20 | 0.07 | <10 | <10 | 53 | <10 | 51 |
| ZZ20834 | | <20 | 0.09 | <10 | <10 | 69 | <10 | 57 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 15- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg 0.02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ20835 | | 0.24 | 0.002 | <0.2 | 1.60 | 8 | <10 | 360 | <0.5 | 2 | 0.57 | <0.5 | 13 | 30 | 27 | 3.06 |
| ZZ20836 | | 0.18 | <0.001 | 0.3 | 1.28 | 2 | <10 | 430 | 0.6 | 2 | 0.88 | 0.5 | 15 | 24 | 45 | 4.11 |
| ZZ20837 | | 0.22 | <0.001 | 0.2 | 2.01 | 4 | <10 | 390 | 0.5 | 2 | 0.37 | <0.5 | 12 | 25 | 22 | 3.59 |
| ZZ20838 | | 0.22 | 0.001 | 0.2 | 1.69 | 7 | <10 | 370 | <0.5 | 2 | 0.33 | <0.5 | 11 | 30 | 17 | 3.04 |
| ZZ20839 | | 0.32 | 0.002 | 0.3 | 1.88 | 7 | <10 | 350 | <0.5 | 2 | 0.26 | <0.5 | 10 | 30 | 21 | 3.14 |
| ZZ20840 | | 0.12 | 0.001 | 0.3 | 1.69 | 5 | <10 | 440 | <0.5 | 2 | 0.33 | <0.5 | 10 | 23 | 19 | 3.00 |
| ZZ20841 | | 0.30 | <0.001 | 0.3 | 1.80 | 8 | <10 | 360 | <0.5 | 2 | 0.31 | <0.5 | 11 | 30 | 20 | 3.13 |
| ZZ20842 | | 0.28 | <0.001 | 0.3 | 1.55 | 4 | <10 | 330 | <0.5 | <2 | 0.23 | <0.5 | 8 | 26 | 13 | 2.68 |
| ZZ20843 | | 0.18 | <0.001 | 0.3 | 1.73 | 5 | <10 | 330 | <0.5 | <2 | 0.32 | <0.5 | 12 | 29 | 15 | 2.91 |
| ZZ20844 | | 0.24 | <0.001 | 0.2 | 1.62 | 4 | <10 | 220 | <0.5 | 2 | 0.28 | <0.5 | 8 | 24 | 13 | 2.86 |
| ZZ20845 | | 0.22 | <0.001 | 0.2 | 1.85 | 4 | <10 | 180 | <0.5 | 2 | 0.28 | <0.5 | 9 | 19 | 10 | 3.08 |
| ZZ20846 | | 0.28 | 0.009 | <0.2 | 2.08 | 9 | <10 | 210 | 0.7 | 2 | 0.32 | <0.5 | 14 | 44 | 29 | 3.39 |
| ZZ20847 | | 0.24 | <0.001 | 0.2 | 2.46 | 4 | <10 | 230 | <0.5 | 2 | 0.43 | <0.5 | 11 | 26 | 22 | 3.54 |
| ZZ20848 | | 0.24 | <0.001 | 0.2 | 2.25 | 7 | <10 | 230 | 0.6 | 2 | 0.54 | <0.5 | 13 | 46 | 25 | 3.51 |
| ZZ20849 | | 0.26 | 0.003 | 0.2 | 2.02 | 8 | <10 | 310 | 0.5 | 2 | 0.52 | <0.5 | 13 | 34 | 27 | 3.44 |
| ZZ20850 | | 0.20 | <0.001 | <0.2 | 2.15 | 3 | <10 | 490 | <0.5 | 2 | 0.72 | <0.5 | 16 | 29 | 37 | 3.37 |
| ZZ20851 | | 0.24 | <0.001 | <0.2 | 1.99 | 5 | <10 | 560 | 0.5 | <2 | 0.45 | <0.5 | 12 | 24 | 21 | 3.68 |
| ZZ20852 | | 0.14 | 0.001 | <0.2 | 1.81 | 3 | <10 | 310 | <0.5 | 2 | 0.44 | <0.5 | 11 | 27 | 27 | 3.20 |
| ZZ20853 | | 0.16 | 0.002 | <0.2 | 1.61 | 5 | <10 | 280 | <0.5 | <2 | 0.64 | <0.5 | 10 | 30 | 30 | 2.72 |
| ZZ20854 | | 0.18 | 0.002 | <0.2 | 1.69 | 5 | <10 | 170 | <0.5 | <2 | 0.51 | <0.5 | 11 | 209 | 27 | 2.57 |
| ZZ20855 | | 0.26 | 0.001 | <0.2 | 1.39 | 3 | <10 | 170 | <0.5 | <2 | 0.46 | <0.5 | 8 | 37 | 36 | 2.45 |
| ZZ20856 | | 0.18 | 0.003 | <0.2 | 1.55 | 4 | <10 | 250 | <0.5 | 3 | 0.58 | <0.5 | 10 | 29 | 31 | 2.62 |
| ZZ20857 | | 0.20 | 0.003 | <0.2 | 1.57 | 6 | <10 | 220 | <0.5 | 2 | 0.46 | <0.5 | 8 | 28 | 23 | 2.58 |
| ZZ20858 | | 0.20 | 0.001 | 0.2 | 1.47 | 4 | <10 | 220 | <0.5 | 2 | 0.59 | <0.5 | 8 | 27 | 35 | 2.54 |
| ZZ20859 | | 0.16 | 0.001 | <0.2 | 1.40 | 7 | <10 | 150 | <0.5 | 2 | 0.36 | <0.5 | 7 | 26 | 20 | 2.44 |
| ZZ20860 | | 0.26 | 0.002 | <0.2 | 1.64 | 7 | <10 | 250 | <0.5 | 2 | 0.57 | <0.5 | 12 | 33 | 56 | 2.76 |
| ZZ20861 | | 0.20 | 0.001 | <0.2 | 1.73 | 3 | <10 | 430 | <0.5 | 2 | 0.36 | <0.5 | 12 | 41 | 29 | 3.08 |
| ZZ20862 | | 0.10 | 0.003 | <0.2 | 1.58 | 6 | <10 | 510 | <0.5 | 2 | 0.24 | <0.5 | 11 | 32 | 21 | 2.83 |
| ZZ20863 | | 0.24 | <0.001 | <0.2 | 1.55 | 6 | <10 | 410 | <0.5 | 2 | 0.31 | <0.5 | 10 | 35 | 22 | 2.93 |
| ZZ20864 | | 0.20 | 0.001 | 0.2 | 1.55 | 7 | <10 | 470 | <0.5 | <2 | 0.34 | <0.5 | 10 | 36 | 22 | 2.94 |
| ZZ20865 | | 0.26 | 0.002 | <0.2 | 1.75 | 5 | <10 | 390 | <0.5 | <2 | 0.32 | <0.5 | 11 | 34 | 23 | 3.03 |
| ZZ20866 | | 0.16 | 0.001 | <0.2 | 1.57 | 3 | <10 | 640 | <0.5 | <2 | 0.35 | <0.5 | 11 | 32 | 21 | 2.77 |
| ZZ20867 | | 0.20 | 0.001 | <0.2 | 1.83 | 7 | <10 | 620 | <0.5 | 2 | 0.37 | <0.5 | 14 | 39 | 24 | 3.21 |
| ZZ20868 | | 0.26 | 0.002 | <0.2 | 1.57 | 6 | <10 | 510 | <0.5 | 2 | 0.37 | <0.5 | 10 | 31 | 21 | 2.69 |
| ZZ20869 | | 0.32 | 0.001 | <0.2 | 1.73 | 5 | <10 | 430 | <0.5 | <2 | 0.31 | <0.5 | 11 | 37 | 28 | 3.02 |
| ZZ20870 | | 0.24 | <0.001 | <0.2 | 1.48 | 5 | <10 | 240 | <0.5 | 2 | 0.44 | <0.5 | 11 | 34 | 35 | 2.76 |
| ZZ20871 | | 0.18 | 0.002 | <0.2 | 1.78 | 8 | <10 | 270 | 0.5 | 2 | 0.23 | <0.5 | 13 | 34 | 17 | 2.79 |
| ZZ20872 | | 0.14 | <0.001 | 0.2 | 1.66 | 7 | <10 | 190 | <0.5 | 2 | 0.19 | <0.5 | 9 | 32 | 13 | 2.78 |
| ZZ20873 | | 0.22 | 0.004 | 0.2 | 1.70 | 8 | <10 | 240 | <0.5 | 2 | 0.29 | <0.5 | 9 | 38 | 16 | 2.87 |
| ZZ20874 | | 0.24 | 0.002 | <0.2 | 1.57 | 7 | <10 | 150 | <0.5 | 3 | 0.19 | <0.5 | 9 | 32 | 14 | 2.83 |

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**Finalized Date: 15- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ20835 | | <10 | <1 | 0.07 | 10 | 0.56 | 492 | 1 | 0.02 | 17 | 640 | 9 | 0.01 | <2 | 5 | 33 |
| ZZ20836 | | <10 | <1 | 0.30 | 20 | 0.78 | 1365 | 3 | 0.01 | 12 | 950 | 45 | 0.02 | <2 | 6 | 33 |
| ZZ20837 | | 10 | <1 | 0.56 | 10 | 0.91 | 460 | 1 | 0.02 | 13 | 380 | 10 | <0.01 | <2 | 4 | 23 |
| ZZ20838 | | 10 | <1 | 0.38 | 10 | 0.63 | 570 | 1 | 0.02 | 17 | 340 | 7 | <0.01 | <2 | 4 | 24 |
| ZZ20839 | | 10 | <1 | 0.33 | 10 | 0.66 | 341 | 1 | 0.02 | 16 | 320 | 15 | <0.01 | 2 | 4 | 22 |
| ZZ20840 | | 10 | <1 | 0.46 | 10 | 0.68 | 659 | 1 | 0.02 | 14 | 450 | 11 | <0.01 | <2 | 3 | 25 |
| ZZ20841 | | 10 | 1 | 0.36 | 10 | 0.81 | 375 | 1 | 0.02 | 18 | 300 | 8 | <0.01 | <2 | 3 | 25 |
| ZZ20842 | | <10 | <1 | 0.10 | 10 | 0.49 | 353 | 1 | 0.01 | 13 | 300 | 11 | <0.01 | <2 | 2 | 22 |
| ZZ20843 | | 10 | <1 | 0.26 | 10 | 0.67 | 695 | 1 | 0.02 | 17 | 350 | 10 | <0.01 | <2 | 4 | 29 |
| ZZ20844 | | <10 | 1 | 0.33 | 10 | 0.68 | 417 | 1 | 0.02 | 12 | 370 | 8 | <0.01 | <2 | 3 | 22 |
| ZZ20845 | | 10 | <1 | 0.45 | <10 | 0.85 | 463 | 1 | 0.01 | 10 | 450 | 6 | <0.01 | <2 | 2 | 20 |
| ZZ20846 | | 10 | 1 | 0.22 | 10 | 0.71 | 310 | 1 | 0.02 | 30 | 310 | 15 | <0.01 | <2 | 6 | 26 |
| ZZ20847 | | 10 | 1 | 0.36 | <10 | 1.61 | 370 | 1 | 0.02 | 14 | 530 | 10 | <0.01 | <2 | 4 | 33 |
| ZZ20848 | | 10 | 1 | 0.10 | 10 | 0.70 | 490 | 1 | 0.02 | 21 | 250 | 7 | 0.01 | <2 | 8 | 30 |
| ZZ20849 | | 10 | <1 | 0.19 | 10 | 0.66 | 469 | 1 | 0.02 | 17 | 190 | 8 | 0.25 | <2 | 7 | 30 |
| ZZ20850 | | 10 | 1 | 0.13 | 10 | 0.72 | 847 | <1 | 0.03 | 15 | 610 | 6 | 0.02 | <2 | 6 | 39 |
| ZZ20851 | | 10 | 1 | 0.17 | <10 | 0.66 | 347 | 1 | 0.03 | 12 | 380 | 6 | 0.02 | <2 | 5 | 23 |
| ZZ20852 | | 10 | <1 | 0.22 | 10 | 0.85 | 424 | 1 | 0.03 | 16 | 450 | 6 | 0.02 | 2 | 6 | 22 |
| ZZ20853 | | 10 | <1 | 0.06 | 10 | 0.61 | 392 | 1 | 0.03 | 16 | 460 | 6 | 0.03 | <2 | 5 | 37 |
| ZZ20854 | | 10 | <1 | 0.06 | 10 | 1.29 | 214 | 1 | 0.02 | 83 | 420 | 6 | <0.01 | <2 | 3 | 28 |
| ZZ20855 | | 10 | <1 | 0.06 | 10 | 0.61 | 199 | 1 | 0.02 | 18 | 630 | 6 | 0.01 | <2 | 4 | 26 |
| ZZ20856 | | <10 | 1 | 0.04 | 10 | 0.56 | 428 | <1 | 0.02 | 17 | 740 | 6 | 0.01 | <2 | 4 | 35 |
| ZZ20857 | | <10 | <1 | 0.04 | 10 | 0.53 | 217 | 1 | 0.02 | 13 | 460 | 7 | 0.01 | <2 | 4 | 29 |
| ZZ20858 | | 10 | <1 | 0.05 | 10 | 0.54 | 270 | 1 | 0.03 | 14 | 710 | 6 | 0.30 | <2 | 4 | 34 |
| ZZ20859 | | 10 | <1 | 0.08 | 10 | 0.47 | 197 | 1 | 0.02 | 13 | 480 | 5 | 0.03 | <2 | 3 | 24 |
| ZZ20860 | | 10 | <1 | 0.06 | 10 | 0.72 | 298 | <1 | 0.03 | 22 | 660 | 5 | 0.02 | <2 | 4 | 34 |
| ZZ20861 | | 10 | <1 | 0.26 | 10 | 0.77 | 589 | 1 | 0.03 | 18 | 640 | 6 | 0.02 | <2 | 4 | 27 |
| ZZ20862 | | 10 | <1 | 0.13 | 10 | 0.53 | 724 | 1 | 0.03 | 16 | 640 | 6 | 0.02 | <2 | 3 | 23 |
| ZZ20863 | | 10 | <1 | 0.14 | 10 | 0.64 | 341 | 1 | 0.02 | 18 | 360 | 7 | <0.01 | <2 | 4 | 26 |
| ZZ20864 | | <10 | <1 | 0.18 | 10 | 0.63 | 399 | 1 | 0.02 | 17 | 420 | 7 | <0.01 | <2 | 4 | 27 |
| ZZ20865 | | 10 | 1 | 0.17 | 10 | 0.64 | 342 | 1 | 0.02 | 18 | 450 | 6 | <0.01 | <2 | 3 | 25 |
| ZZ20866 | | 10 | <1 | 0.14 | 10 | 0.53 | 949 | 1 | 0.02 | 17 | 500 | 6 | <0.01 | 2 | 3 | 30 |
| ZZ20867 | | 10 | 1 | 0.18 | 10 | 0.64 | 855 | 1 | 0.02 | 19 | 400 | 7 | 0.01 | <2 | 4 | 31 |
| ZZ20868 | | 10 | <1 | 0.14 | 10 | 0.55 | 588 | 1 | 0.03 | 15 | 380 | 6 | 0.27 | <2 | 3 | 31 |
| ZZ20869 | | 10 | <1 | 0.24 | 10 | 0.73 | 514 | 1 | 0.03 | 19 | 450 | 5 | 0.02 | <2 | 4 | 24 |
| ZZ20870 | | <10 | 1 | 0.11 | 10 | 0.63 | 258 | 1 | 0.03 | 18 | 1070 | 4 | 0.02 | <2 | 4 | 24 |
| ZZ20871 | | 10 | <1 | 0.06 | 10 | 0.43 | 1260 | 1 | 0.02 | 18 | 380 | 9 | 0.02 | <2 | 4 | 21 |
| ZZ20872 | | 10 | <1 | 0.06 | 10 | 0.47 | 276 | 1 | 0.02 | 18 | 410 | 8 | 0.01 | <2 | 3 | 18 |
| ZZ20873 | | <10 | <1 | 0.06 | 10 | 0.50 | 366 | 1 | 0.01 | 21 | 180 | 9 | <0.01 | <2 | 4 | 26 |
| ZZ20874 | | <10 | <1 | 0.14 | 10 | 0.50 | 226 | 1 | 0.01 | 20 | 180 | 9 | <0.01 | <2 | 3 | 17 |

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# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method Analyte Units LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ20835 | | <20 | 0.07 | <10 | <10 | 60 | <10 | 53 |
| ZZ20836 | | <20 | 0.05 | <10 | <10 | 53 | <10 | 145 |
| ZZ20837 | | <20 | 0.16 | <10 | <10 | 72 | <10 | 79 |
| ZZ20838 | | <20 | 0.13 | <10 | <10 | 60 | <10 | 65 |
| ZZ20839 | | <20 | 0.13 | <10 | <10 | 62 | <10 | 90 |
| ZZ20840 | | <20 | 0.14 | <10 | <10 | 61 | <10 | 65 |
| ZZ20841 | | <20 | 0.15 | <10 | <10 | 70 | <10 | 65 |
| ZZ20842 | | <20 | 0.08 | <10 | <10 | 57 | <10 | 68 |
| ZZ20843 | | <20 | 0.12 | <10 | <10 | 62 | <10 | 75 |
| ZZ20844 | | <20 | 0.13 | <10 | <10 | 61 | <10 | 79 |
| ZZ20845 | | <20 | 0.15 | <10 | <10 | 58 | <10 | 71 |
| ZZ20846 | | <20 | 0.13 | <10 | <10 | 78 | <10 | 65 |
| ZZ20847 | | <20 | 0.19 | <10 | <10 | 99 | <10 | 72 |
| ZZ20848 | | <20 | 0.08 | <10 | <10 | 79 | <10 | 53 |
| ZZ20849 | | <20 | 0.09 | <10 | <10 | 75 | <10 | 53 |
| ZZ20850 | | <20 | 0.10 | <10 | <10 | 76 | <10 | 53 |
| ZZ20851 | | <20 | 0.07 | <10 | <10 | 81 | <10 | 57 |
| ZZ20852 | | <20 | 0.10 | <10 | <10 | 78 | <10 | 59 |
| ZZ20853 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 52 |
| ZZ20854 | | <20 | 0.10 | <10 | <10 | 67 | <10 | 43 |
| ZZ20855 | | <20 | 0.07 | <10 | <10 | 66 | <10 | 45 |
| ZZ20856 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 49 |
| ZZ20857 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 47 |
| ZZ20858 | | <20 | 0.09 | <10 | <10 | 66 | <10 | 46 |
| ZZ20859 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 45 |
| ZZ20860 | | <20 | 0.10 | <10 | <10 | 67 | <10 | 46 |
| ZZ20861 | | <20 | 0.12 | <10 | <10 | 72 | <10 | 51 |
| ZZ20862 | | <20 | 0.09 | <10 | <10 | 62 | <10 | 45 |
| ZZ20863 | | <20 | 0.11 | <10 | <10 | 68 | <10 | 48 |
| ZZ20864 | | <20 | 0.11 | <10 | <10 | 67 | <10 | 47 |
| ZZ20865 | | <20 | 0.11 | <10 | <10 | 71 | <10 | 47 |
| ZZ20866 | | <20 | 0.09 | <10 | <10 | 62 | <10 | 45 |
| ZZ20867 | | <20 | 0.11 | <10 | <10 | 75 | <10 | 52 |
| ZZ20868 | | <20 | 0.10 | <10 | <10 | 64 | <10 | 45 |
| ZZ20869 | | <20 | 0.12 | <10 | <10 | 71 | <10 | 51 |
| ZZ20870 | | <20 | 0.09 | <10 | <10 | 63 | <10 | 43 |
| ZZ20871 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 72 |
| ZZ20872 | | <20 | 0.07 | <10 | <10 | 59 | <10 | 57 |
| ZZ20873 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 49 |
| ZZ20874 | | <20 | 0.09 | <10 | <10 | 55 | <10 | 53 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 15- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg 0.02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ20875 | | 0.20 | <0.001 | 0.2 | 1.38 | 5 | <10 | 280 | <0.5 | <2 | 0.26 | <0.5 | 11 | 27 | 11 | 2.41 |
| ZZ20876 | | 0.20 | 0.002 | <0.2 | 1.76 | 5 | <10 | 180 | 0.5 | 2 | 0.40 | <0.5 | 11 | 33 | 28 | 2.97 |
| ZZ20877 | | 0.18 | 0.001 | 0.2 | 1.31 | 7 | <10 | 120 | <0.5 | 2 | 0.19 | <0.5 | 8 | 29 | 14 | 2.53 |
| ZZ20878 | | 0.20 | <0.001 | 0.3 | 1.30 | 7 | <10 | 220 | <0.5 | 2 | 0.25 | <0.5 | 11 | 30 | 13 | 2.52 |
| ZZ20879 | | 0.18 | <0.001 | 0.3 | 1.46 | 4 | <10 | 130 | <0.5 | 2 | 0.27 | <0.5 | 7 | 30 | 13 | 2.52 |
| ZZ20880 | | 0.24 | 0.001 | 0.2 | 1.86 | 7 | <10 | 150 | <0.5 | 3 | 0.21 | <0.5 | 10 | 39 | 21 | 3.13 |
| ZZ20881 | | 0.20 | 0.002 | 0.2 | 1.55 | 6 | <10 | 190 | <0.5 | <2 | 0.25 | <0.5 | 9 | 30 | 12 | 2.65 |
| ZZ20882 | | 0.24 | 0.003 | 0.2 | 1.66 | 9 | <10 | 170 | <0.5 | <2 | 0.31 | 0.5 | 9 | 34 | 21 | 2.76 |
| ZZ20883 | | 0.20 | 0.004 | 0.2 | 1.82 | 12 | <10 | 210 | 0.6 | <2 | 0.41 | 0.6 | 11 | 40 | 23 | 3.11 |
| ZZ20884 | | 0.22 | <0.001 | 0.2 | 1.61 | 4 | <10 | 270 | <0.5 | 2 | 0.71 | 0.6 | 12 | 31 | 27 | 2.96 |
| ZZ20885 | | 0.18 | 0.001 | 0.2 | 1.50 | 5 | <10 | 150 | <0.5 | <2 | 0.29 | 0.5 | 9 | 32 | 15 | 2.66 |
| ZZ20886 | | 0.24 | <0.001 | 0.3 | 1.23 | 5 | <10 | 220 | <0.5 | 2 | 0.29 | 0.5 | 9 | 26 | 14 | 2.36 |
| ZZ20887 | | 0.20 | 0.001 | 0.2 | 1.60 | 6 | <10 | 150 | <0.5 | <2 | 0.27 | 0.5 | 9 | 32 | 13 | 2.79 |
| ZZ20888 | | 0.18 | 0.003 | 0.3 | 1.55 | 8 | <10 | 270 | <0.5 | 2 | 0.40 | 0.5 | 10 | 28 | 16 | 2.54 |
| ZZ20889 | | 0.22 | <0.001 | 0.2 | 1.26 | 6 | <10 | 190 | <0.5 | <2 | 0.35 | 0.5 | 9 | 26 | 12 | 2.29 |
| ZZ20890 | | 0.16 | 0.001 | 0.4 | 2.19 | 9 | <10 | 290 | 0.6 | <2 | 0.36 | 0.6 | 21 | 27 | 20 | 3.04 |
| ZZ20891 | | 0.22 | 0.001 | 0.3 | 1.73 | 4 | <10 | 330 | <0.5 | <2 | 0.29 | 0.7 | 13 | 26 | 14 | 2.76 |
| ZZ20892 | | 0.20 | 0.015 | <0.2 | 2.64 | 7 | <10 | 350 | 0.6 | <2 | 0.46 | 0.9 | 18 | 44 | 34 | 4.31 |
| ZZ20893 | | 0.16 | 0.002 | <0.2 | 1.26 | <2 | <10 | 280 | <0.5 | 2 | 0.98 | 0.5 | 9 | 24 | 23 | 2.31 |
| ZZ20894 | | 0.26 | 0.001 | 0.2 | 1.15 | 4 | <10 | 270 | <0.5 | <2 | 0.34 | 0.5 | 9 | 24 | 10 | 2.22 |
| ZZ20895 | | 0.22 | 0.004 | <0.2 | 0.90 | 7 | <10 | 240 | <0.5 | <2 | 1.13 | <0.5 | 8 | 19 | 22 | 1.95 |
| ZZ20896 | | 0.18 | 0.004 | 0.2 | 2.38 | 4 | <10 | 320 | <0.5 | <2 | 1.61 | 0.8 | 20 | 71 | 37 | 4.21 |
| ZZ20897 | | 0.16 | 0.005 | 0.3 | 1.94 | 13 | <10 | 270 | 0.5 | <2 | 0.82 | 0.8 | 16 | 53 | 40 | 3.57 |
| ZZ20898 | | 0.22 | 0.004 | <0.2 | 1.77 | 8 | <10 | 130 | <0.5 | 2 | 0.41 | 0.6 | 12 | 36 | 27 | 3.15 |
| ZZ20899 | | 0.22 | 0.003 | <0.2 | 1.48 | 7 | <10 | 220 | <0.5 | <2 | 0.38 | <0.5 | 8 | 27 | 11 | 2.37 |
| ZZ20900 | | 0.14 | 0.003 | <0.2 | 1.23 | 11 | <10 | 240 | <0.5 | <2 | 0.39 | 0.5 | 7 | 30 | 12 | 2.48 |
| ZZ20901 | | 0.26 | 0.001 | <0.2 | 1.89 | 7 | <10 | 190 | <0.5 | 2 | 0.14 | 0.5 | 9 | 34 | 22 | 2.94 |
| ZZ20902 | | 0.18 | 0.003 | 0.4 | 1.51 | 4 | <10 | 350 | <0.5 | <2 | 0.36 | 0.6 | 12 | 32 | 17 | 2.77 |
| ZZ20903 | | 0.16 | 0.003 | 0.4 | 1.32 | 6 | <10 | 180 | <0.5 | <2 | 0.19 | 0.5 | 7 | 27 | 15 | 2.54 |
| ZZ20904 | | 0.14 | 0.005 | 0.5 | 1.63 | 4 | <10 | 270 | 0.5 | 2 | 0.38 | 0.7 | 11 | 27 | 21 | 2.43 |
| ZZ20905 | | 0.18 | 0.006 | 0.2 | 2.40 | 6 | <10 | 220 | 0.6 | <2 | 0.50 | 0.8 | 15 | 75 | 42 | 3.68 |
| ZZ20906 | | 0.30 | 0.008 | 0.2 | 1.52 | 5 | <10 | 200 | <0.5 | 2 | 0.41 | 0.6 | 9 | 36 | 19 | 2.73 |
| ZZ20907 | | 0.32 | 0.005 | <0.2 | 1.57 | 6 | <10 | 190 | <0.5 | 2 | 0.30 | 0.5 | 11 | 36 | 19 | 2.76 |
| ZZ20908 | | 0.18 | 0.005 | 0.3 | 1.70 | 12 | <10 | 250 | <0.5 | <2 | 0.53 | 0.7 | 12 | 33 | 27 | 2.88 |
| ZZ20909 | | 0.20 | 0.012 | <0.2 | 1.52 | 12 | <10 | 190 | <0.5 | 2 | 0.37 | 0.5 | 7 | 27 | 18 | 2.80 |
| ZZ20910 | | 0.26 | 0.002 | 0.2 | 1.55 | 9 | <10 | 210 | <0.5 | 2 | 0.23 | 0.6 | 11 | 27 | 13 | 2.55 |
| ZZ20911 | | 0.32 | 0.003 | <0.2 | 1.63 | 6 | <10 | 130 | <0.5 | <2 | 0.29 | 0.6 | 8 | 33 | 16 | 2.77 |
| ZZ20912 | | 0.32 | 0.004 | 0.2 | 1.43 | 8 | <10 | 200 | <0.5 | <2 | 0.28 | 0.5 | 11 | 32 | 15 | 2.63 |
| ZZ20913 | | 0.22 | 0.002 | <0.2 | 1.73 | 7 | <10 | 120 | <0.5 | 2 | 0.13 | 0.5 | 9 | 33 | 16 | 2.93 |
| ZZ20914 | | 0.20 | 0.012 | <0.2 | 1.56 | 9 | <10 | 240 | <0.5 | <2 | 0.39 | 0.5 | 12 | 30 | 16 | 2.73 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 15- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ20875 | | <10 | <1 | 0.09 | 10 | 0.39 | 765 | 1 | 0.01 | 17 | 230 | 8 | <0.01 | <2 | 3 | 22 |
| ZZ20876 | | 10 | <1 | 0.24 | 30 | 0.65 | 268 | 1 | 0.02 | 28 | 260 | 9 | <0.01 | <2 | 4 | 25 |
| ZZ20877 | | <10 | <1 | 0.12 | 10 | 0.44 | 171 | 1 | 0.01 | 18 | 170 | 8 | 0.02 | <2 | 3 | 18 |
| ZZ20878 | | <10 | <1 | 0.13 | 10 | 0.42 | 500 | 1 | 0.02 | 17 | 170 | 8 | 0.23 | <2 | 3 | 23 |
| ZZ20879 | | <10 | <1 | 0.08 | 10 | 0.41 | 164 | 1 | 0.02 | 18 | 190 | 8 | 0.05 | <2 | 3 | 21 |
| ZZ20880 | | 10 | <1 | 0.21 | 10 | 0.63 | 207 | 1 | 0.02 | 27 | 180 | 15 | 0.02 | 2 | 3 | 20 |
| ZZ20881 | | <10 | <1 | 0.08 | 10 | 0.45 | 306 | 1 | 0.02 | 17 | 150 | 13 | 0.02 | <2 | 3 | 20 |
| ZZ20882 | | <10 | <1 | 0.10 | 10 | 0.52 | 193 | 1 | 0.02 | 24 | 140 | 9 | 0.01 | 2 | 4 | 22 |
| ZZ20883 | | 10 | 1 | 0.19 | 20 | 0.51 | 257 | 1 | 0.02 | 24 | 180 | 6 | 0.01 | <2 | 7 | 27 |
| ZZ20884 | | <10 | 1 | 0.45 | 20 | 0.61 | 646 | <1 | 0.02 | 26 | 600 | 6 | 0.03 | <2 | 4 | 44 |
| ZZ20885 | | <10 | 1 | 0.18 | 10 | 0.43 | 284 | <1 | 0.02 | 19 | 160 | 8 | 0.01 | <2 | 4 | 22 |
| ZZ20886 | | <10 | <1 | 0.19 | 10 | 0.42 | 446 | <1 | 0.02 | 17 | 340 | 5 | 0.01 | <2 | 3 | 21 |
| ZZ20887 | | <10 | 1 | 0.22 | 10 | 0.56 | 197 | <1 | 0.02 | 21 | 190 | 12 | 0.01 | 2 | 3 | 20 |
| ZZ20888 | | <10 | 1 | 0.15 | 10 | 0.42 | 1010 | <1 | 0.02 | 19 | 250 | 9 | 0.01 | <2 | 4 | 28 |
| ZZ20889 | | <10 | <1 | 0.17 | 10 | 0.39 | 400 | <1 | 0.02 | 16 | 350 | 7 | 0.01 | <2 | 3 | 25 |
| ZZ20890 | | 10 | 1 | 0.23 | 40 | 0.61 | 595 | <1 | 0.02 | 30 | 620 | 9 | 0.02 | 3 | 3 | 29 |
| ZZ20891 | | 10 | <1 | 0.12 | 20 | 0.46 | 793 | <1 | 0.02 | 21 | 490 | 4 | 0.01 | <2 | 3 | 22 |
| ZZ20892 | | 10 | 2 | 0.87 | 60 | 1.58 | 879 | <1 | 0.02 | 40 | 700 | 15 | 0.02 | <2 | 5 | 22 |
| ZZ20893 | | <10 | 1 | 0.20 | 20 | 0.50 | 349 | <1 | 0.03 | 22 | 590 | 4 | 0.04 | <2 | 3 | 56 |
| ZZ20894 | | <10 | <1 | 0.11 | 10 | 0.34 | 563 | <1 | 0.02 | 15 | 590 | 5 | 0.01 | <2 | 3 | 23 |
| ZZ20895 | | <10 | <1 | 0.07 | 10 | 0.47 | 775 | <1 | 0.03 | 18 | 760 | 4 | 0.02 | <2 | 3 | 54 |
| ZZ20896 | | 10 | 1 | 0.99 | 30 | 1.49 | 793 | <1 | 0.03 | 49 | 1350 | 9 | 0.03 | <2 | 7 | 37 |
| ZZ20897 | | 10 | 1 | 0.73 | 40 | 1.00 | 741 | <1 | 0.02 | 40 | 800 | 9 | 0.03 | 2 | 5 | 31 |
| ZZ20898 | | 10 | <1 | 0.13 | 30 | 0.78 | 262 | <1 | 0.02 | 28 | 800 | 5 | 0.01 | <2 | 4 | 25 |
| ZZ20899 | | <10 | 1 | 0.06 | 10 | 0.36 | 214 | <1 | 0.02 | 13 | 390 | 5 | 0.01 | <2 | 3 | 21 |
| ZZ20900 | | <10 | 1 | 0.15 | 10 | 0.43 | 251 | <1 | 0.02 | 18 | 760 | 6 | 0.01 | 2 | 4 | 26 |
| ZZ20901 | | 10 | <1 | 0.05 | 10 | 0.63 | 308 | <1 | 0.02 | 24 | 170 | 6 | 0.02 | <2 | 3 | 16 |
| ZZ20902 | | <10 | <1 | 0.20 | 10 | 0.52 | 1020 | <1 | 0.02 | 23 | 330 | 8 | 0.02 | 3 | 2 | 30 |
| ZZ20903 | | 10 | 1 | 0.09 | 10 | 0.46 | 361 | <1 | 0.02 | 19 | 260 | 5 | 0.01 | <2 | 3 | 19 |
| ZZ20904 | | <10 | <1 | 0.08 | 20 | 0.42 | 1140 | 2 | 0.02 | 17 | 310 | 8 | 0.02 | <2 | 4 | 31 |
| ZZ20905 | | 10 | <1 | 0.19 | 20 | 1.05 | 534 | 1 | 0.03 | 39 | 430 | 17 | 0.02 | <2 | 7 | 31 |
| ZZ20906 | | <10 | 1 | 0.25 | 10 | 0.50 | 358 | <1 | 0.02 | 21 | 280 | 10 | 0.01 | <2 | 4 | 27 |
| ZZ20907 | | <10 | <1 | 0.19 | 10 | 0.54 | 224 | <1 | 0.02 | 25 | 180 | 6 | 0.01 | 2 | 4 | 23 |
| ZZ20908 | | <10 | 1 | 0.14 | 10 | 0.52 | 696 | <1 | 0.02 | 23 | 310 | 10 | 0.02 | <2 | 3 | 32 |
| ZZ20909 | | <10 | 1 | 0.13 | 10 | 0.48 | 180 | <1 | 0.02 | 20 | 210 | 6 | 0.01 | <2 | 3 | 23 |
| ZZ20910 | | <10 | <1 | 0.09 | 10 | 0.43 | 429 | <1 | 0.02 | 17 | 220 | 6 | 0.01 | <2 | 2 | 21 |
| ZZ20911 | | <10 | <1 | 0.10 | 10 | 0.45 | 185 | <1 | 0.02 | 18 | 160 | 6 | 0.01 | <2 | 3 | 22 |
| ZZ20912 | | <10 | 1 | 0.17 | 10 | 0.47 | 412 | <1 | 0.02 | 19 | 180 | 6 | 0.01 | <2 | 3 | 23 |
| ZZ20913 | | <10 | <1 | 0.09 | 10 | 0.50 | 197 | <1 | 0.02 | 20 | 170 | 7 | 0.01 | 2 | 3 | 15 |
| ZZ20914 | | <10 | <1 | 0.14 | 10 | 0.46 | 753 | <1 | 0.03 | 21 | 190 | 5 | 0.02 | 2 | 3 | 26 |

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**Finalized Date: 15- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method Analyte Units LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ20875 | | <20 | 0.06 | <10 | <10 | 52 | <10 | 45 |
| ZZ20876 | | <20 | 0.11 | <10 | <10 | 50 | <10 | 56 |
| ZZ20877 | | <20 | 0.08 | <10 | <10 | 52 | <10 | 47 |
| ZZ20878 | | <20 | 0.08 | <10 | <10 | 55 | <10 | 53 |
| ZZ20879 | | <20 | 0.07 | <10 | <10 | 56 | <10 | 43 |
| ZZ20880 | | <20 | 0.11 | <10 | <10 | 58 | <10 | 70 |
| ZZ20881 | | <20 | 0.08 | <10 | <10 | 56 | <10 | 48 |
| ZZ20882 | | <20 | 0.07 | <10 | <10 | 55 | <10 | 48 |
| ZZ20883 | | <20 | 0.09 | <10 | <10 | 61 | <10 | 57 |
| ZZ20884 | | <20 | 0.09 | <10 | <10 | 42 | <10 | 82 |
| ZZ20885 | | <20 | 0.08 | <10 | <10 | 55 | <10 | 47 |
| ZZ20886 | | <20 | 0.07 | <10 | <10 | 50 | <10 | 41 |
| ZZ20887 | | <20 | 0.09 | <10 | <10 | 50 | <10 | 61 |
| ZZ20888 | | <20 | 0.07 | <10 | <10 | 49 | <10 | 45 |
| ZZ20889 | | <20 | 0.07 | <10 | <10 | 47 | <10 | 44 |
| ZZ20890 | | <20 | 0.09 | <10 | <10 | 48 | <10 | 104 |
| ZZ20891 | | <20 | 0.09 | <10 | <10 | 45 | <10 | 87 |
| ZZ20892 | | 20 | 0.15 | <10 | <10 | 49 | <10 | 124 |
| ZZ20893 | | <20 | 0.07 | <10 | <10 | 34 | <10 | 54 |
| ZZ20894 | | <20 | 0.05 | <10 | <10 | 43 | <10 | 66 |
| ZZ20895 | | <20 | 0.05 | <10 | <10 | 39 | <10 | 37 |
| ZZ20896 | | <20 | 0.17 | <10 | <10 | 81 | <10 | 95 |
| ZZ20897 | | <20 | 0.12 | <10 | <10 | 55 | <10 | 85 |
| ZZ20898 | | <20 | 0.10 | <10 | <10 | 52 | <10 | 62 |
| ZZ20899 | | <20 | 0.05 | <10 | <10 | 49 | <10 | 71 |
| ZZ20900 | | <20 | 0.07 | <10 | <10 | 48 | <10 | 51 |
| ZZ20901 | | <20 | 0.10 | <10 | <10 | 60 | <10 | 47 |
| ZZ20902 | | <20 | 0.09 | <10 | <10 | 53 | <10 | 49 |
| ZZ20903 | | <20 | 0.08 | <10 | <10 | 57 | <10 | 42 |
| ZZ20904 | | <20 | 0.08 | <10 | <10 | 54 | <10 | 49 |
| ZZ20905 | | <20 | 0.13 | <10 | <10 | 67 | <10 | 80 |
| ZZ20906 | | <20 | 0.09 | <10 | <10 | 54 | <10 | 51 |
| ZZ20907 | | <20 | 0.09 | <10 | <10 | 55 | <10 | 50 |
| ZZ20908 | | <20 | 0.09 | <10 | <10 | 52 | <10 | 53 |
| ZZ20909 | | <20 | 0.08 | <10 | <10 | 53 | <10 | 49 |
| ZZ20910 | | <20 | 0.06 | <10 | <10 | 57 | <10 | 41 |
| ZZ20911 | | <20 | 0.08 | <10 | <10 | 57 | <10 | 46 |
| ZZ20912 | | <20 | 0.09 | <10 | <10 | 54 | <10 | 49 |
| ZZ20913 | | <20 | 0.09 | <10 | <10 | 63 | <10 | 53 |
| ZZ20914 | | <20 | 0.09 | <10 | <10 | 56 | <10 | 43 |

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**Finalized Date: 15- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg 0.02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ20915 | | 0.18 | 0.002 | <0.2 | 1.38 | 4 | <10 | 120 | <0.5 | <2 | 0.23 | 0.5 | 8 | 25 | 16 | 2.38 |
| ZZ20916 | | 0.24 | 0.002 | 0.2 | 1.60 | 8 | <10 | 500 | <0.5 | <2 | 0.37 | 0.6 | 12 | 30 | 29 | 2.89 |
| ZZ20917 | | 0.16 | 0.003 | 0.2 | 1.61 | 3 | <10 | 520 | <0.5 | 2 | 0.39 | 0.6 | 13 | 30 | 32 | 2.98 |
| ZZ20918 | | 0.16 | 0.002 | <0.2 | 1.55 | 5 | <10 | 520 | <0.5 | <2 | 0.39 | 0.5 | 12 | 29 | 30 | 2.83 |
| ZZ20919 | | 0.16 | 0.002 | 0.2 | 1.54 | 6 | <10 | 510 | <0.5 | 2 | 0.42 | 0.5 | 12 | 29 | 30 | 2.81 |
| ZZ20920 | | 0.22 | 0.004 | 0.2 | 1.37 | 5 | <10 | 320 | <0.5 | <2 | 0.25 | <0.5 | 11 | 28 | 21 | 2.49 |
| ZZ20921 | | 0.26 | 0.001 | <0.2 | 1.45 | 4 | <10 | 230 | <0.5 | <2 | 0.40 | 0.5 | 12 | 28 | 18 | 2.64 |
| ZZ20922 | | 0.22 | 0.002 | 0.3 | 2.07 | 9 | <10 | 170 | 0.5 | 2 | 0.36 | 0.6 | 12 | 36 | 27 | 3.34 |
| ZZ20923 | | 0.24 | 0.008 | <0.2 | 1.29 | 8 | <10 | 330 | <0.5 | <2 | 0.34 | <0.5 | 9 | 24 | 16 | 2.28 |
| ZZ20924 | | 0.20 | 0.001 | <0.2 | 1.84 | 5 | <10 | 270 | <0.5 | <2 | 0.49 | 0.5 | 14 | 58 | 27 | 2.89 |
| ZZ20925 | | 0.30 | 0.001 | <0.2 | 1.72 | 49 | <10 | 330 | 0.6 | <2 | 0.38 | 0.6 | 13 | 33 | 30 | 2.88 |
| ZZ20926 | | 0.24 | 0.001 | <0.2 | 1.64 | 3 | <10 | 260 | <0.5 | <2 | 0.49 | 0.6 | 11 | 27 | 26 | 2.86 |
| ZZ20927 | | 0.22 | 0.003 | <0.2 | 1.88 | 6 | <10 | 210 | 0.5 | <2 | 0.37 | 0.7 | 15 | 36 | 34 | 3.24 |
| ZZ20928 | | 0.22 | 0.002 | <0.2 | 1.73 | 3 | <10 | 190 | <0.5 | 2 | 0.23 | 0.5 | 14 | 31 | 25 | 3.17 |
| ZZ20929 | | 0.30 | 0.002 | <0.2 | 1.60 | 9 | <10 | 200 | <0.5 | <2 | 0.38 | 0.5 | 13 | 34 | 31 | 2.97 |
| ZZ20930 | | 0.16 | 0.002 | <0.2 | 1.42 | 3 | <10 | 280 | <0.5 | <2 | 0.74 | 0.5 | 9 | 24 | 16 | 2.34 |
| ZZ20931 | | 0.22 | 0.011 | <0.2 | 1.23 | 9 | <10 | 200 | <0.5 | <2 | 0.42 | <0.5 | 7 | 24 | 16 | 2.18 |
| ZZ20932 | | 0.18 | 0.002 | <0.2 | 1.05 | 3 | <10 | 280 | <0.5 | <2 | 0.36 | 0.5 | 7 | 20 | 13 | 1.97 |
| ZZ20933 | | 0.22 | 0.002 | <0.2 | 1.79 | 8 | <10 | 230 | <0.5 | 2 | 0.46 | 0.6 | 13 | 40 | 27 | 3.24 |
| ZZ20934 | | 0.20 | 0.003 | <0.2 | 1.28 | 5 | <10 | 260 | <0.5 | <2 | 1.02 | 0.5 | 8 | 22 | 13 | 2.11 |
| ZZ20935 | | 0.18 | 0.004 | 0.2 | 1.19 | 4 | <10 | 390 | <0.5 | <2 | 0.45 | 0.6 | 9 | 24 | 16 | 2.20 |
| ZZ20936 | | 0.24 | 0.004 | <0.2 | 1.50 | 6 | <10 | 120 | <0.5 | <2 | 0.20 | 0.5 | 8 | 31 | 13 | 2.58 |
| ZZ20937 | | 0.24 | 0.005 | 0.3 | 1.47 | 6 | <10 | 190 | <0.5 | <2 | 0.26 | 0.5 | 8 | 29 | 17 | 2.53 |
| ZZ20938 | | 0.20 | 0.002 | 0.2 | 1.33 | 6 | <10 | 230 | <0.5 | 2 | 0.36 | 0.5 | 10 | 27 | 16 | 2.39 |
| ZZ20939 | | 0.26 | 0.002 | 0.2 | 1.39 | 7 | <10 | 190 | <0.5 | <2 | 0.23 | 0.6 | 8 | 28 | 15 | 2.54 |
| ZZ20940 | | 0.20 | 0.002 | <0.2 | 1.82 | 5 | <10 | 200 | <0.5 | <2 | 0.19 | 0.7 | 8 | 31 | 17 | 3.02 |

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**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 15- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ20915 | | <10 | 1 | 0.08 | 10 | 0.38 | 186 | <1 | 0.02 | 16 | 170 | 6 | 0.01 | <2 | 2 | 19 |
| ZZ20916 | | <10 | 1 | 0.31 | 20 | 0.63 | 404 | 1 | 0.02 | 30 | 400 | 4 | 0.05 | <2 | 4 | 30 |
| ZZ20917 | | <10 | <1 | 0.32 | 20 | 0.63 | 406 | 1 | 0.03 | 29 | 460 | 7 | 0.08 | <2 | 4 | 32 |
| ZZ20918 | | <10 | <1 | 0.31 | 20 | 0.62 | 376 | 1 | 0.02 | 28 | 490 | 5 | 0.07 | <2 | 3 | 31 |
| ZZ20919 | | <10 | 1 | 0.30 | 20 | 0.63 | 385 | 1 | 0.02 | 27 | 500 | 5 | 0.07 | <2 | 3 | 32 |
| ZZ20920 | | <10 | 1 | 0.15 | 10 | 0.46 | 327 | <1 | 0.02 | 22 | 180 | 5 | 0.02 | <2 | 4 | 21 |
| ZZ20921 | | <10 | 1 | 0.38 | 20 | 0.51 | 415 | <1 | 0.02 | 21 | 350 | 7 | 0.02 | <2 | 4 | 26 |
| ZZ20922 | | 10 | 1 | 0.54 | 30 | 0.84 | 260 | <1 | 0.02 | 26 | 440 | 10 | 0.06 | <2 | 5 | 31 |
| ZZ20923 | | <10 | <1 | 0.16 | 10 | 0.39 | 477 | <1 | 0.02 | 16 | 720 | 4 | 0.01 | <2 | 3 | 24 |
| ZZ20924 | | 10 | 1 | 0.27 | 20 | 0.89 | 362 | <1 | 0.02 | 34 | 380 | 6 | 0.02 | <2 | 5 | 27 |
| ZZ20925 | | <10 | <1 | 0.19 | 30 | 0.48 | 508 | <1 | 0.02 | 28 | 430 | 11 | 0.01 | 2 | 5 | 29 |
| ZZ20926 | | <10 | <1 | 0.38 | 20 | 0.60 | 457 | <1 | 0.02 | 19 | 370 | 6 | 0.06 | <2 | 4 | 37 |
| ZZ20927 | | <10 | 1 | 0.43 | 30 | 0.77 | 494 | <1 | 0.02 | 31 | 430 | 8 | 0.02 | 2 | 5 | 25 |
| ZZ20928 | | <10 | 1 | 0.52 | 30 | 0.62 | 428 | <1 | 0.02 | 25 | 270 | 6 | 0.03 | <2 | 4 | 21 |
| ZZ20929 | | <10 | <1 | 0.40 | 20 | 0.66 | 459 | <1 | 0.02 | 30 | 460 | 6 | 0.02 | <2 | 5 | 26 |
| ZZ20930 | | <10 | <1 | 0.23 | 10 | 0.45 | 255 | <1 | 0.02 | 15 | 720 | 5 | 0.03 | 2 | 3 | 51 |
| ZZ20931 | | <10 | <1 | 0.04 | 10 | 0.35 | 167 | <1 | 0.02 | 15 | 540 | 5 | 0.01 | 2 | 4 | 28 |
| ZZ20932 | | <10 | 1 | 0.10 | 10 | 0.28 | 427 | <1 | 0.02 | 13 | 450 | 5 | 0.01 | 3 | 2 | 26 |
| ZZ20933 | | <10 | 1 | 0.53 | 20 | 0.74 | 703 | <1 | 0.02 | 29 | 350 | 7 | 0.01 | <2 | 5 | 22 |
| ZZ20934 | | <10 | 1 | 0.08 | 10 | 0.39 | 287 | <1 | 0.03 | 14 | 550 | 5 | 0.02 | <2 | 3 | 48 |
| ZZ20935 | | <10 | 1 | 0.12 | 10 | 0.33 | 844 | <1 | 0.02 | 16 | 590 | 4 | 0.01 | <2 | 3 | 29 |
| ZZ20936 | | <10 | 1 | 0.10 | 10 | 0.47 | 180 | <1 | 0.02 | 16 | 140 | 9 | 0.01 | <2 | 3 | 17 |
| ZZ20937 | | <10 | 1 | 0.08 | 10 | 0.45 | 314 | <1 | 0.02 | 17 | 170 | 7 | 0.01 | 2 | 3 | 22 |
| ZZ20938 | | <10 | <1 | 0.14 | 10 | 0.38 | 862 | <1 | 0.02 | 18 | 190 | 5 | 0.01 | 2 | 3 | 27 |
| ZZ20939 | | <10 | <1 | 0.09 | 10 | 0.44 | 255 | <1 | 0.02 | 18 | 150 | 8 | 0.01 | 2 | 3 | 21 |
| ZZ20940 | | 10 | <1 | 0.07 | 10 | 0.51 | 223 | <1 | 0.02 | 22 | 440 | 8 | 0.01 | <2 | 3 | 16 |

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**Finalized Date: 15- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158347

| Sample Description | Method | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ20915 | | <20 | 0.07 | <10 | <10 | 51 | <10 | 42 |
| ZZ20916 | | <20 | 0.09 | <10 | <10 | 52 | <10 | 75 |
| ZZ20917 | | <20 | 0.09 | <10 | <10 | 51 | <10 | 75 |
| ZZ20918 | | <20 | 0.08 | <10 | <10 | 49 | <10 | 73 |
| ZZ20919 | | <20 | 0.08 | <10 | <10 | 49 | <10 | 74 |
| ZZ20920 | | <20 | 0.08 | <10 | <10 | 48 | <10 | 50 |
| ZZ20921 | | <20 | 0.09 | <10 | <10 | 46 | <10 | 54 |
| ZZ20922 | | <20 | 0.12 | <10 | <10 | 48 | <10 | 70 |
| ZZ20923 | | <20 | 0.06 | <10 | <10 | 38 | <10 | 61 |
| ZZ20924 | | <20 | 0.11 | <10 | <10 | 57 | <10 | 56 |
| ZZ20925 | | <20 | 0.05 | <10 | <10 | 45 | <10 | 66 |
| ZZ20926 | | <20 | 0.08 | <10 | <10 | 39 | <10 | 70 |
| ZZ20927 | | <20 | 0.08 | <10 | <10 | 50 | <10 | 78 |
| ZZ20928 | | <20 | 0.12 | <10 | <10 | 45 | <10 | 64 |
| ZZ20929 | | <20 | 0.08 | <10 | <10 | 51 | <10 | 61 |
| ZZ20930 | | <20 | 0.07 | <10 | <10 | 38 | <10 | 57 |
| ZZ20931 | | <20 | 0.05 | <10 | <10 | 45 | <10 | 39 |
| ZZ20932 | | <20 | 0.05 | <10 | <10 | 39 | <10 | 53 |
| ZZ20933 | | <20 | 0.11 | <10 | <10 | 53 | <10 | 58 |
| ZZ20934 | | <20 | 0.05 | <10 | <10 | 41 | <10 | 148 |
| ZZ20935 | | <20 | 0.06 | <10 | <10 | 40 | <10 | 72 |
| ZZ20936 | | <20 | 0.08 | <10 | <10 | 54 | <10 | 51 |
| ZZ20937 | | <20 | 0.07 | <10 | <10 | 55 | <10 | 43 |
| ZZ20938 | | <20 | 0.07 | <10 | <10 | 51 | <10 | 39 |
| ZZ20939 | | <20 | 0.06 | <10 | <10 | 52 | <10 | 50 |
| ZZ20940 | | <20 | 0.06 | <10 | <10 | 54 | <10 | 65 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

# CERTIFICATE WH11158348

Project: Arcus - Tooleary

P.O. No.:

This report is for 208 Soil samples submitted to our lab in Whitehorse, YT, Canada on 13- AUG- 2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | 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: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg .02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ20963 | | 0.22 | 0.002 | 0.2 | 1.39 | 6 | <10 | 130 | <0.5 | 2 | 0.18 | <0.5 | 9 | 27 | 13 | 2.55 |
| ZZ20964 | | 0.22 | 0.002 | <0.2 | 1.71 | 5 | <10 | 130 | <0.5 | 2 | 0.24 | <0.5 | 9 | 28 | 21 | 2.76 |
| ZZ20965 | | 0.24 | 0.001 | 0.2 | 1.20 | 8 | <10 | 140 | <0.5 | 2 | 0.11 | <0.5 | 7 | 23 | 10 | 2.74 |
| ZZ20966 | | 0.14 | 0.002 | <0.2 | 1.00 | 4 | <10 | 90 | <0.5 | <2 | 0.14 | <0.5 | 5 | 19 | 9 | 2.06 |
| ZZ20967 | | 0.18 | 0.009 | 0.3 | 1.45 | 6 | <10 | 170 | <0.5 | <2 | 0.31 | <0.5 | 8 | 26 | 20 | 2.88 |
| ZZ20968 | | 0.14 | 0.003 | 0.2 | 1.58 | 4 | <10 | 190 | <0.5 | <2 | 0.48 | <0.5 | 9 | 31 | 20 | 2.41 |
| ZZ20969 | | 0.14 | 0.003 | <0.2 | 2.30 | 7 | <10 | 150 | 0.6 | <2 | 0.53 | <0.5 | 13 | 47 | 17 | 3.22 |
| ZZ20970 | | 0.22 | 0.002 | 0.3 | 1.30 | 8 | <10 | 230 | <0.5 | 2 | 0.27 | <0.5 | 11 | 32 | 13 | 2.71 |
| ZZ20971 | | 0.16 | 0.003 | 0.5 | 1.62 | 25 | <10 | 150 | 0.5 | <2 | 0.99 | <0.5 | 11 | 33 | 30 | 3.22 |
| ZZ20972 | | 0.14 | 0.004 | 0.6 | 1.44 | 21 | <10 | 150 | <0.5 | <2 | 1.62 | <0.5 | 11 | 30 | 28 | 2.85 |
| ZZ20973 | | 0.20 | 0.004 | 0.2 | 1.35 | 19 | <10 | 200 | 0.5 | 2 | 0.71 | <0.5 | 11 | 27 | 26 | 2.79 |
| ZZ20974 | | 0.20 | 0.002 | 0.2 | 1.54 | 6 | <10 | 200 | <0.5 | <2 | 0.18 | <0.5 | 8 | 27 | 15 | 2.63 |
| ZZ20975 | | 0.22 | 0.002 | 0.2 | 1.40 | 6 | <10 | 210 | <0.5 | 2 | 0.30 | <0.5 | 9 | 26 | 14 | 2.40 |
| ZZ20976 | | 0.24 | 0.004 | 0.2 | 2.06 | 10 | <10 | 180 | 0.6 | <2 | 0.37 | <0.5 | 9 | 40 | 21 | 3.24 |
| ZZ20977 | | 0.22 | 0.002 | <0.2 | 1.99 | 8 | <10 | 170 | 0.5 | <2 | 0.43 | <0.5 | 10 | 39 | 17 | 2.80 |
| ZZ20978 | | 0.18 | 0.002 | 0.2 | 2.04 | 10 | <10 | 130 | <0.5 | <2 | 0.15 | <0.5 | 9 | 34 | 18 | 3.00 |
| ZZ20979 | | 0.16 | 0.001 | 0.2 | 2.01 | 8 | <10 | 140 | <0.5 | <2 | 0.19 | <0.5 | 9 | 35 | 14 | 2.86 |
| ZZ20980 | | 0.18 | 0.002 | 0.4 | 1.96 | 11 | <10 | 160 | <0.5 | <2 | 0.24 | <0.5 | 10 | 31 | 15 | 3.09 |
| ZZ21351 | | 0.14 | 0.003 | <0.2 | 1.60 | 8 | <10 | 330 | <0.5 | <2 | 0.49 | <0.5 | 11 | 33 | 30 | 2.90 |
| ZZ21352 | | 0.14 | <0.001 | <0.2 | 2.59 | 5 | <10 | 340 | <0.5 | <2 | 0.32 | <0.5 | 14 | 51 | 29 | 4.30 |
| ZZ21353 | | 0.18 | 0.001 | <0.2 | 1.66 | 4 | <10 | 360 | <0.5 | <2 | 0.32 | <0.5 | 10 | 40 | 22 | 2.96 |
| ZZ21354 | | 0.18 | 0.001 | <0.2 | 2.62 | <2 | <10 | 320 | <0.5 | <2 | 0.75 | <0.5 | 24 | 30 | 60 | 5.18 |
| ZZ21355 | | 0.22 | 0.007 | <0.2 | 2.14 | 8 | <10 | 310 | <0.5 | <2 | 0.67 | <0.5 | 15 | 37 | 117 | 3.45 |
| ZZ21356 | | 0.28 | 0.002 | <0.2 | 2.16 | 5 | <10 | 230 | <0.5 | <2 | 0.59 | <0.5 | 15 | 30 | 97 | 3.73 |
| ZZ21357 | | 0.22 | 0.002 | <0.2 | 1.69 | 5 | <10 | 300 | <0.5 | <2 | 0.40 | <0.5 | 12 | 43 | 31 | 2.76 |
| ZZ21358 | | 0.16 | 0.001 | <0.2 | 3.15 | 8 | <10 | 310 | <0.5 | <2 | 0.21 | <0.5 | 16 | 49 | 46 | 4.25 |
| ZZ21359 | | 0.24 | <0.001 | <0.2 | 1.71 | 4 | <10 | 190 | <0.5 | <2 | 0.34 | <0.5 | 10 | 27 | 26 | 2.95 |
| ZZ21360 | | 0.32 | 0.002 | <0.2 | 1.63 | 10 | <10 | 270 | <0.5 | <2 | 0.53 | <0.5 | 10 | 75 | 42 | 2.74 |
| ZZ21251 | | 0.18 | 0.010 | <0.2 | 1.75 | 15 | <10 | 250 | 0.8 | <2 | 0.74 | <0.5 | 8 | 33 | 30 | 2.67 |
| ZZ21252 | | 0.22 | 0.012 | <0.2 | 1.84 | 22 | <10 | 190 | 0.6 | <2 | 0.57 | <0.5 | 11 | 42 | 23 | 2.94 |
| ZZ21253 | | 0.24 | 0.008 | <0.2 | 1.53 | 17 | <10 | 180 | 0.6 | <2 | 0.75 | <0.5 | 11 | 30 | 28 | 2.71 |
| ZZ21254 | | 0.12 | 0.006 | <0.2 | 1.15 | 7 | <10 | 280 | 0.8 | <2 | 2.05 | <0.5 | 7 | 19 | 29 | 1.72 |
| ZZ21255 | | 0.14 | 0.004 | <0.2 | 1.44 | 16 | <10 | 240 | 0.5 | <2 | 1.39 | <0.5 | 10 | 46 | 22 | 2.49 |
| ZZ21256 | | 0.32 | 0.004 | <0.2 | 1.28 | 3 | <10 | 90 | 0.7 | <2 | 0.48 | <0.5 | 5 | 11 | 10 | 1.79 |
| ZZ21257 | | 0.28 | 0.003 | <0.2 | 1.95 | 9 | <10 | 210 | 0.5 | <2 | 0.37 | <0.5 | 8 | 39 | 19 | 3.03 |
| ZZ21258 | | 0.20 | 0.003 | <0.2 | 1.11 | 6 | <10 | 130 | <0.5 | <2 | 0.54 | <0.5 | 4 | 17 | 8 | 1.73 |
| ZZ21259 | | 0.20 | 0.018 | <0.2 | 1.57 | 14 | <10 | 150 | 0.6 | <2 | 0.81 | <0.5 | 9 | 37 | 24 | 2.75 |
| ZZ21260 | | 0.16 | 0.006 | <0.2 | 1.74 | 9 | <10 | 250 | 0.6 | <2 | 1.75 | <0.5 | 10 | 55 | 26 | 2.75 |
| ZZ21261 | | 0.22 | 0.003 | <0.2 | 0.94 | 6 | <10 | 160 | 1.1 | <2 | 1.30 | <0.5 | 5 | 22 | 24 | 1.66 |
| ZZ21262 | | 0.20 | 0.007 | <0.2 | 0.96 | 8 | <10 | 210 | 1.4 | <2 | 0.66 | <0.5 | 6 | 21 | 22 | 2.32 |

***** See Appendix Page for comments regarding this certificate *****

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**Finalized Date: 16- SEP- 2011**
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Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ20963 | | <10 | <1 | 0.18 | 10 | 0.42 | 243 | 1 | <0.01 | 15 | 280 | 11 | <0.01 | <2 | 2 | 19 |
| ZZ20964 | | <10 | <1 | 0.06 | 10 | 0.47 | 188 | 1 | <0.01 | 20 | 320 | 13 | <0.01 | <2 | 3 | 25 |
| ZZ20965 | | 10 | <1 | 0.07 | 10 | 0.31 | 291 | 1 | <0.01 | 11 | 270 | 15 | <0.01 | <2 | 2 | 14 |
| ZZ20966 | | 10 | <1 | 0.17 | 10 | 0.36 | 143 | 1 | <0.01 | 10 | 270 | 15 | <0.01 | <2 | 2 | 16 |
| ZZ20967 | | <10 | <1 | 0.08 | 10 | 0.58 | 295 | 4 | <0.01 | 13 | 520 | 16 | <0.01 | <2 | 3 | 29 |
| ZZ20968 | | <10 | <1 | 0.15 | 10 | 0.51 | 587 | 2 | <0.01 | 18 | 360 | 15 | <0.01 | <2 | 4 | 35 |
| ZZ20969 | | 10 | <1 | 0.25 | 10 | 0.66 | 274 | 1 | 0.01 | 25 | 310 | 31 | 0.01 | <2 | 5 | 33 |
| ZZ20970 | | <10 | <1 | 0.25 | 10 | 0.47 | 486 | 1 | <0.01 | 21 | 210 | 14 | 0.01 | <2 | 4 | 24 |
| ZZ20971 | | <10 | <1 | 0.31 | 30 | 0.66 | 354 | 1 | <0.01 | 28 | 540 | 18 | 0.02 | <2 | 4 | 36 |
| ZZ20972 | | <10 | <1 | 0.31 | 20 | 0.62 | 353 | 1 | <0.01 | 26 | 610 | 18 | 0.05 | <2 | 3 | 51 |
| ZZ20973 | | <10 | <1 | 0.18 | 20 | 0.48 | 283 | 1 | <0.01 | 22 | 390 | 17 | 0.03 | <2 | 3 | 34 |
| ZZ20974 | | <10 | <1 | 0.06 | 10 | 0.43 | 186 | 1 | <0.01 | 15 | 140 | 14 | <0.01 | <2 | 3 | 21 |
| ZZ20975 | | <10 | <1 | 0.09 | 10 | 0.39 | 378 | 1 | <0.01 | 15 | 160 | 16 | <0.01 | <2 | 3 | 26 |
| ZZ20976 | | 10 | <1 | 0.13 | 10 | 0.57 | 305 | 1 | <0.01 | 21 | 260 | 32 | <0.01 | <2 | 5 | 29 |
| ZZ20977 | | <10 | <1 | 0.13 | 10 | 0.61 | 437 | 1 | <0.01 | 20 | 150 | 16 | <0.01 | <2 | 5 | 35 |
| ZZ20978 | | 10 | <1 | 0.07 | 10 | 0.50 | 221 | 1 | <0.01 | 20 | 180 | 14 | <0.01 | <2 | 3 | 16 |
| ZZ20979 | | <10 | <1 | 0.06 | 10 | 0.48 | 234 | 1 | <0.01 | 18 | 180 | 15 | <0.01 | <2 | 3 | 21 |
| ZZ20980 | | 10 | <1 | 0.06 | 10 | 0.43 | 263 | 1 | <0.01 | 17 | 290 | 16 | <0.01 | <2 | 3 | 21 |
| ZZ21351 | | <10 | <1 | 0.09 | 20 | 0.65 | 397 | 1 | 0.01 | 18 | 570 | 11 | <0.01 | <2 | 6 | 30 |
| ZZ21352 | | 10 | <1 | 0.47 | 10 | 1.48 | 464 | <1 | 0.01 | 18 | 260 | 5 | 0.01 | 2 | 5 | 22 |
| ZZ21353 | | 10 | <1 | 0.08 | 10 | 0.68 | 247 | 1 | 0.01 | 20 | 220 | 5 | 0.01 | 2 | 5 | 19 |
| ZZ21354 | | 10 | 1 | 0.72 | <10 | 2.05 | 698 | <1 | 0.03 | 14 | 1850 | <2 | 0.01 | <2 | 9 | 18 |
| ZZ21355 | | 10 | 1 | 0.20 | 10 | 1.11 | 510 | <1 | 0.02 | 25 | 1140 | 5 | 0.01 | <2 | 5 | 32 |
| ZZ21356 | | 10 | <1 | 0.47 | <10 | 1.27 | 438 | <1 | 0.02 | 21 | 1420 | 5 | 0.01 | 2 | 4 | 27 |
| ZZ21357 | | 10 | <1 | 0.09 | 10 | 0.78 | 509 | <1 | 0.02 | 26 | 270 | 5 | 0.01 | 2 | 5 | 27 |
| ZZ21358 | | 10 | <1 | 0.40 | 10 | 2.02 | 492 | <1 | 0.01 | 25 | 280 | 4 | 0.01 | <2 | 11 | 16 |
| ZZ21359 | | 10 | <1 | 0.38 | <10 | 1.14 | 398 | <1 | 0.01 | 16 | 800 | 4 | 0.01 | <2 | 2 | 19 |
| ZZ21360 | | <10 | <1 | 0.10 | 10 | 0.73 | 274 | <1 | 0.01 | 29 | 240 | 5 | 0.01 | <2 | 7 | 20 |
| ZZ21251 | | 10 | <1 | 0.13 | 70 | 0.46 | 286 | 1 | 0.02 | 21 | 410 | 13 | 0.02 | 2 | 5 | 47 |
| ZZ21252 | | 10 | <1 | 0.23 | 30 | 0.61 | 368 | 1 | 0.02 | 26 | 490 | 10 | 0.01 | <2 | 5 | 36 |
| ZZ21253 | | <10 | 1 | 0.20 | 40 | 0.51 | 346 | 1 | 0.02 | 23 | 560 | 13 | 0.02 | <2 | 4 | 43 |
| ZZ21254 | | <10 | <1 | 0.14 | 60 | 0.35 | 410 | <1 | 0.02 | 16 | 590 | 10 | 0.06 | 2 | 3 | 106 |
| ZZ21255 | | <10 | <1 | 0.29 | 20 | 0.69 | 389 | 1 | 0.02 | 31 | 720 | 6 | 0.05 | 2 | 3 | 76 |
| ZZ21256 | | 10 | 1 | 0.27 | 50 | 0.37 | 187 | <1 | 0.01 | 6 | 460 | 11 | 0.01 | 3 | 3 | 28 |
| ZZ21257 | | <10 | <1 | 0.13 | 10 | 0.53 | 241 | 1 | 0.01 | 22 | 230 | 8 | 0.01 | 3 | 4 | 28 |
| ZZ21258 | | <10 | <1 | 0.11 | 20 | 0.30 | 122 | <1 | 0.01 | 10 | 190 | 11 | 0.01 | <2 | 2 | 34 |
| ZZ21259 | | <10 | <1 | 0.16 | 30 | 0.61 | 223 | <1 | 0.02 | 21 | 670 | 13 | 0.02 | 2 | 5 | 47 |
| ZZ21260 | | 10 | <1 | 0.27 | 20 | 0.83 | 417 | <1 | 0.02 | 34 | 710 | 9 | 0.07 | <2 | 4 | 96 |
| ZZ21261 | | <10 | <1 | 0.09 | 50 | 0.31 | 92 | <1 | 0.02 | 19 | 580 | 13 | 0.08 | 3 | 3 | 74 |
| ZZ21262 | | <10 | <1 | 0.07 | 40 | 0.23 | 376 | 2 | 0.01 | 19 | 490 | 23 | 0.04 | <2 | 4 | 27 |

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method Analyte Units LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ20963 | | <20 | 0.08 | <10 | <10 | 55 | <10 | 42 |
| ZZ20964 | | <20 | 0.06 | <10 | <10 | 54 | <10 | 44 |
| ZZ20965 | | <20 | 0.08 | <10 | <10 | 65 | <10 | 34 |
| ZZ20966 | | <20 | 0.10 | <10 | <10 | 48 | <10 | 35 |
| ZZ20967 | | <20 | 0.10 | <10 | <10 | 73 | <10 | 55 |
| ZZ20968 | | <20 | 0.08 | <10 | <10 | 52 | <10 | 50 |
| ZZ20969 | | <20 | 0.08 | <10 | <10 | 54 | <10 | 73 |
| ZZ20970 | | <20 | 0.08 | <10 | <10 | 50 | <10 | 45 |
| ZZ20971 | | <20 | 0.07 | <10 | <10 | 41 | <10 | 63 |
| ZZ20972 | | <20 | 0.07 | <10 | <10 | 36 | <10 | 62 |
| ZZ20973 | | <20 | 0.06 | <10 | <10 | 38 | <10 | 56 |
| ZZ20974 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 42 |
| ZZ20975 | | <20 | 0.07 | <10 | <10 | 51 | <10 | 40 |
| ZZ20976 | | <20 | 0.08 | <10 | <10 | 65 | <10 | 75 |
| ZZ20977 | | <20 | 0.08 | <10 | <10 | 57 | <10 | 53 |
| ZZ20978 | | <20 | 0.07 | <10 | <10 | 59 | <10 | 50 |
| ZZ20979 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 53 |
| ZZ20980 | | <20 | 0.07 | <10 | <10 | 69 | <10 | 57 |
| ZZ21351 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 47 |
| ZZ21352 | | <20 | 0.22 | <10 | <10 | 92 | <10 | 87 |
| ZZ21353 | | <20 | 0.06 | <10 | <10 | 63 | <10 | 40 |
| ZZ21354 | | <20 | 0.22 | <10 | <10 | 133 | <10 | 87 |
| ZZ21355 | | <20 | 0.14 | <10 | <10 | 86 | <10 | 62 |
| ZZ21356 | | <20 | 0.16 | <10 | <10 | 97 | <10 | 62 |
| ZZ21357 | | <20 | 0.12 | <10 | <10 | 68 | <10 | 47 |
| ZZ21358 | | <20 | 0.19 | <10 | <10 | 119 | <10 | 69 |
| ZZ21359 | | <20 | 0.10 | <10 | <10 | 59 | <10 | 66 |
| ZZ21360 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 41 |
| ZZ21251 | | 20 | 0.09 | <10 | <10 | 43 | <10 | 49 |
| ZZ21252 | | 20 | 0.10 | <10 | <10 | 47 | <10 | 62 |
| ZZ21253 | | 20 | 0.08 | <10 | <10 | 41 | <10 | 63 |
| ZZ21254 | | <20 | 0.04 | <10 | <10 | 25 | <10 | 32 |
| ZZ21255 | | <20 | 0.08 | <10 | <10 | 41 | <10 | 49 |
| ZZ21256 | | 30 | 0.05 | <10 | <10 | 19 | <10 | 34 |
| ZZ21257 | | <20 | 0.10 | <10 | <10 | 63 | <10 | 43 |
| ZZ21258 | | <20 | 0.05 | <10 | <10 | 32 | <10 | 26 |
| ZZ21259 | | <20 | 0.09 | <10 | <10 | 51 | <10 | 55 |
| ZZ21260 | | <20 | 0.08 | <10 | <10 | 45 | <10 | 53 |
| ZZ21261 | | 30 | 0.05 | <10 | <10 | 31 | <10 | 29 |
| ZZ21262 | | 30 | 0.03 | <10 | <10 | 31 | <10 | 40 |

***** See Appendix Page for comments regarding this certificate *****

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg .02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ21263 | | 0.22 | 0.005 | 0.2 | 1.85 | 8 | <10 | 250 | 0.8 | <2 | 0.58 | <0.5 | 10 | 37 | 27 | 2.76 |
| ZZ21264 | | 0.32 | 0.003 | <0.2 | 1.38 | 6 | <10 | 120 | 2.2 | <2 | 0.29 | <0.5 | 9 | 31 | 15 | 3.06 |
| ZZ21265 | | 0.26 | 0.038 | <0.2 | 1.21 | 9 | <10 | 120 | 0.6 | <2 | 0.22 | <0.5 | 5 | 27 | 12 | 1.98 |
| ZZ21266 | | 0.22 | 0.046 | <0.2 | 1.63 | 10 | <10 | 180 | 1.0 | <2 | 0.39 | <0.5 | 8 | 30 | 19 | 2.63 |
| ZZ21267 | | 0.26 | 0.002 | <0.2 | 1.59 | 7 | <10 | 200 | 0.8 | <2 | 0.45 | <0.5 | 7 | 27 | 13 | 2.64 |
| ZZ21268 | | 0.26 | 0.003 | <0.2 | 1.60 | 7 | <10 | 190 | 0.8 | <2 | 0.39 | <0.5 | 7 | 29 | 13 | 2.58 |
| ZZ21269 | | 0.22 | <0.001 | 0.2 | 1.21 | 7 | <10 | 130 | 0.5 | <2 | 0.28 | <0.5 | 7 | 25 | 8 | 2.37 |
| ZZ21270 | | 0.30 | 0.009 | <0.2 | 1.50 | 13 | <10 | 290 | 1.1 | <2 | 0.41 | <0.5 | 8 | 39 | 16 | 2.70 |
| ZZ21271 | | 0.22 | 0.010 | <0.2 | 2.04 | 10 | <10 | 230 | 0.8 | <2 | 0.40 | <0.5 | 9 | 38 | 19 | 2.83 |
| ZZ21272 | | 0.28 | 0.009 | <0.2 | 1.84 | 10 | <10 | 180 | 0.5 | <2 | 0.42 | <0.5 | 7 | 32 | 15 | 2.63 |
| ZZ21273 | | 0.26 | 0.006 | <0.2 | 1.67 | 9 | <10 | 150 | <0.5 | <2 | 0.40 | <0.5 | 6 | 28 | 11 | 2.50 |
| ZZ21274 | | 0.28 | 0.006 | <0.2 | 1.24 | 7 | <10 | 120 | 0.5 | <2 | 0.37 | <0.5 | 6 | 20 | 10 | 2.07 |
| ZZ21275 | | 0.22 | 0.003 | <0.2 | 1.56 | 9 | <10 | 210 | 0.6 | <2 | 0.38 | <0.5 | 6 | 28 | 14 | 2.38 |
| ZZ21276 | | 0.20 | 0.004 | <0.2 | 1.61 | 10 | <10 | 190 | 0.5 | <2 | 0.32 | <0.5 | 9 | 28 | 13 | 2.49 |
| ZZ21277 | | 0.14 | 0.010 | 0.3 | 1.79 | 7 | <10 | 340 | 2.3 | <2 | 0.98 | <0.5 | 6 | 23 | 33 | 2.27 |
| ZZ21278 | | 0.22 | 0.004 | 0.2 | 1.61 | 7 | <10 | 200 | 0.9 | <2 | 0.65 | <0.5 | 12 | 24 | 28 | 2.28 |
| ZZ21279 | | 0.26 | 0.008 | <0.2 | 1.51 | 12 | <10 | 170 | 0.9 | <2 | 0.41 | <0.5 | 10 | 30 | 19 | 2.61 |
| ZZ21280 | | 0.08 | 0.006 | <0.2 | 0.83 | 5 | <10 | 150 | 0.8 | <2 | 1.26 | <0.5 | 5 | 19 | 12 | 1.35 |
| ZZ21281 | | 0.20 | 0.007 | <0.2 | 0.99 | 5 | <10 | 120 | 0.5 | <2 | 0.97 | <0.5 | 9 | 22 | 9 | 1.63 |
| ZZ21282 | | 0.14 | <0.001 | <0.2 | 1.48 | 4 | <10 | 150 | 0.6 | <2 | 1.03 | <0.5 | 8 | 39 | 19 | 1.95 |
| ZZ21283 | | 0.14 | 0.005 | <0.2 | 1.02 | 8 | <10 | 180 | 0.7 | <2 | 1.69 | <0.5 | 7 | 29 | 17 | 1.43 |
| ZZ21284 | | 0.16 | 0.006 | <0.2 | 1.57 | 22 | <10 | 240 | 0.5 | <2 | 1.09 | <0.5 | 21 | 38 | 20 | 3.37 |
| ZZ21285 | | 0.20 | 0.018 | <0.2 | 1.44 | 19 | <10 | 210 | 0.5 | <2 | 1.02 | <0.5 | 11 | 30 | 23 | 2.26 |
| ZZ21286 | | 0.14 | 0.004 | <0.2 | 1.28 | 4 | <10 | 110 | <0.5 | <2 | 0.73 | <0.5 | 7 | 28 | 17 | 1.62 |
| ZZ21287 | | 0.08 | 0.007 | <0.2 | 1.20 | 7 | <10 | 140 | <0.5 | <2 | 0.72 | <0.5 | 10 | 21 | 14 | 1.97 |
| ZZ21288 | | 0.20 | 0.007 | 0.2 | 1.38 | 7 | <10 | 200 | <0.5 | <2 | 0.41 | <0.5 | 21 | 23 | 16 | 2.08 |
| ZZ21289 | | 0.20 | 0.021 | <0.2 | 1.08 | 4 | <10 | 140 | 0.7 | <2 | 0.44 | <0.5 | 8 | 19 | 16 | 1.22 |
| ZZ21290 | | 0.14 | 0.005 | <0.2 | 1.51 | 3 | <10 | 140 | <0.5 | <2 | 0.57 | <0.5 | 8 | 29 | 16 | 1.71 |
| ZZ21331 | | 0.16 | 0.015 | <0.2 | 2.16 | 7 | <10 | 720 | 0.6 | <2 | 0.86 | <0.5 | 16 | 104 | 48 | 3.20 |
| ZZ21332 | | 0.20 | 0.006 | 1.0 | 1.30 | 6 | <10 | 70 | <0.5 | <2 | 0.30 | 1.2 | 8 | 39 | 27 | 2.07 |
| ZZ21333 | | 0.22 | 0.030 | 0.4 | 1.66 | 15 | <10 | 90 | <0.5 | <2 | 0.43 | 1.1 | 10 | 42 | 26 | 2.64 |
| ZZ21334 | | 0.12 | 0.004 | 0.2 | 0.71 | 3 | <10 | 70 | <0.5 | <2 | 0.19 | <0.5 | 8 | 20 | 14 | 1.51 |
| ZZ21335 | | 0.14 | 0.002 | 0.2 | 1.45 | 7 | <10 | 190 | <0.5 | <2 | 0.47 | <0.5 | 10 | 36 | 22 | 2.56 |
| ZZ21336 | | 0.20 | 0.002 | 0.5 | 1.78 | 7 | <10 | 260 | <0.5 | <2 | 0.51 | <0.5 | 15 | 35 | 35 | 3.05 |
| ZZ21337 | | 0.30 | 0.002 | <0.2 | 1.86 | 8 | <10 | 200 | <0.5 | <2 | 0.35 | <0.5 | 12 | 36 | 26 | 2.87 |
| ZZ21338 | | 0.18 | 0.001 | <0.2 | 2.08 | 7 | <10 | 150 | <0.5 | <2 | 0.34 | <0.5 | 13 | 38 | 20 | 3.26 |
| ZZ21339 | | 0.20 | 0.001 | <0.2 | 2.07 | 8 | <10 | 240 | <0.5 | <2 | 0.28 | <0.5 | 14 | 51 | 20 | 3.14 |
| ZZ21340 | | 0.24 | 0.002 | 0.2 | 1.61 | 7 | <10 | 190 | <0.5 | <2 | 0.34 | <0.5 | 9 | 25 | 29 | 2.70 |
| ZZ21341 | | 0.24 | 0.002 | <0.2 | 1.88 | 8 | <10 | 170 | <0.5 | <2 | 0.32 | <0.5 | 13 | 23 | 45 | 3.48 |
| ZZ21342 | | 0.24 | 0.002 | <0.2 | 1.99 | 6 | <10 | 200 | <0.5 | <2 | 0.55 | <0.5 | 14 | 33 | 31 | 3.11 |

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**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ21263 | | <10 | 1 | 0.07 | 40 | 0.49 | 427 | 1 | 0.02 | 23 | 640 | 16 | 0.03 | 2 | 6 | 45 |
| ZZ21264 | | <10 | <1 | 0.45 | 40 | 0.58 | 227 | 2 | 0.01 | 20 | 530 | 18 | 0.01 | 3 | 6 | 42 |
| ZZ21265 | | <10 | <1 | 0.10 | 20 | 0.34 | 259 | 1 | 0.01 | 16 | 170 | 13 | 0.01 | <2 | 3 | 23 |
| ZZ21266 | | <10 | 1 | 0.07 | 40 | 0.46 | 239 | 1 | 0.01 | 15 | 260 | 10 | 0.01 | 2 | 6 | 27 |
| ZZ21267 | | <10 | <1 | 0.09 | 30 | 0.50 | 295 | 1 | 0.01 | 14 | 310 | 11 | 0.01 | 3 | 4 | 26 |
| ZZ21268 | | <10 | <1 | 0.07 | 30 | 0.53 | 269 | 1 | 0.01 | 16 | 340 | 8 | 0.01 | <2 | 4 | 24 |
| ZZ21269 | | <10 | 1 | 0.15 | 20 | 0.43 | 482 | 1 | 0.01 | 12 | 270 | 8 | 0.01 | <2 | 3 | 20 |
| ZZ21270 | | <10 | <1 | 0.09 | 30 | 0.49 | 410 | 1 | 0.01 | 25 | 500 | 11 | 0.01 | 2 | 5 | 28 |
| ZZ21271 | | 10 | 1 | 0.08 | 50 | 0.56 | 365 | <1 | 0.02 | 22 | 350 | 9 | 0.01 | <2 | 6 | 30 |
| ZZ21272 | | <10 | <1 | 0.09 | 30 | 0.50 | 310 | <1 | 0.02 | 17 | 410 | 8 | 0.01 | 2 | 4 | 28 |
| ZZ21273 | | <10 | <1 | 0.11 | 20 | 0.47 | 228 | 1 | 0.01 | 13 | 360 | 9 | 0.01 | 2 | 3 | 25 |
| ZZ21274 | | <10 | <1 | 0.11 | 30 | 0.36 | 216 | <1 | 0.01 | 10 | 440 | 8 | 0.01 | <2 | 3 | 25 |
| ZZ21275 | | <10 | <1 | 0.06 | 20 | 0.44 | 210 | 1 | 0.01 | 15 | 280 | 9 | 0.01 | <2 | 4 | 28 |
| ZZ21276 | | 10 | <1 | 0.11 | 20 | 0.43 | 413 | 1 | 0.01 | 13 | 320 | 10 | 0.01 | 2 | 3 | 25 |
| ZZ21277 | | <10 | 1 | 0.09 | 220 | 0.32 | 286 | 2 | 0.02 | 21 | 770 | 13 | 0.07 | 2 | 6 | 54 |
| ZZ21278 | | <10 | <1 | 0.10 | 40 | 0.51 | 539 | 1 | 0.03 | 18 | 540 | 10 | 0.02 | <2 | 5 | 49 |
| ZZ21279 | | <10 | <1 | 0.09 | 30 | 0.41 | 213 | 1 | 0.02 | 16 | 380 | 12 | 0.01 | <2 | 5 | 30 |
| ZZ21280 | | <10 | <1 | 0.09 | 20 | 0.24 | 218 | <1 | 0.03 | 10 | 520 | 12 | 0.07 | <2 | 3 | 50 |
| ZZ21281 | | <10 | <1 | 0.10 | 20 | 0.34 | 320 | <1 | 0.03 | 11 | 560 | 11 | 0.05 | <2 | 3 | 53 |
| ZZ21282 | | <10 | <1 | 0.20 | 20 | 0.63 | 162 | <1 | 0.03 | 22 | 540 | 10 | 0.04 | <2 | 4 | 60 |
| ZZ21283 | | <10 | <1 | 0.10 | 20 | 0.40 | 269 | 1 | 0.03 | 22 | 600 | 8 | 0.07 | <2 | 2 | 101 |
| ZZ21284 | | <10 | <1 | 0.11 | 20 | 0.60 | 602 | <1 | 0.03 | 22 | 640 | 8 | 0.05 | <2 | 4 | 68 |
| ZZ21285 | | <10 | <1 | 0.09 | 20 | 0.49 | 375 | 1 | 0.03 | 19 | 600 | 9 | 0.05 | 2 | 4 | 60 |
| ZZ21286 | | <10 | <1 | 0.06 | 10 | 0.44 | 196 | <1 | 0.03 | 14 | 570 | 5 | 0.06 | <2 | 4 | 40 |
| ZZ21287 | | <10 | <1 | 0.07 | 20 | 0.39 | 382 | <1 | 0.03 | 12 | 680 | 10 | 0.04 | <2 | 3 | 45 |
| ZZ21288 | | <10 | <1 | 0.09 | 40 | 0.43 | 4880 | 1 | 0.03 | 19 | 580 | 14 | 0.03 | <2 | 3 | 32 |
| ZZ21289 | | <10 | <1 | 0.06 | 80 | 0.25 | 873 | <1 | 0.03 | 11 | 860 | 8 | 0.07 | <2 | 2 | 32 |
| ZZ21290 | | <10 | <1 | 0.07 | 20 | 0.50 | 211 | <1 | 0.03 | 14 | 650 | 8 | 0.03 | <2 | 4 | 38 |
| ZZ21331 | | 10 | <1 | 0.59 | 20 | 1.38 | 429 | 1 | 0.03 | 48 | 760 | 8 | 0.03 | <2 | 7 | 38 |
| ZZ21332 | | 10 | <1 | 0.07 | <10 | 0.41 | 191 | 1 | 0.03 | 17 | 760 | 178 | 0.01 | <2 | 2 | 26 |
| ZZ21333 | | <10 | <1 | 0.06 | <10 | 0.59 | 272 | 1 | 0.03 | 18 | 930 | 48 | 0.01 | <2 | 4 | 42 |
| ZZ21334 | | <10 | <1 | 0.05 | <10 | 0.21 | 226 | 1 | 0.03 | 10 | 590 | 8 | 0.02 | <2 | 1 | 15 |
| ZZ21335 | | 10 | <1 | 0.14 | <10 | 0.65 | 412 | 1 | 0.03 | 17 | 840 | 14 | 0.01 | <2 | 3 | 29 |
| ZZ21336 | | 10 | <1 | 0.13 | 10 | 0.66 | 709 | 1 | 0.03 | 21 | 380 | 12 | 0.01 | <2 | 5 | 28 |
| ZZ21337 | | <10 | <1 | 0.06 | 10 | 0.59 | 293 | <1 | 0.03 | 21 | 290 | 7 | 0.01 | <2 | 5 | 27 |
| ZZ21338 | | 10 | <1 | 0.18 | <10 | 0.80 | 290 | <1 | 0.02 | 25 | 270 | 6 | 0.01 | <2 | 3 | 23 |
| ZZ21339 | | 10 | <1 | 0.14 | 10 | 0.94 | 318 | <1 | 0.02 | 27 | 300 | 6 | 0.01 | <2 | 4 | 21 |
| ZZ21340 | | <10 | <1 | 0.09 | 10 | 0.52 | 197 | <1 | 0.02 | 14 | 330 | 5 | 0.01 | <2 | 3 | 24 |
| ZZ21341 | | 10 | <1 | 0.07 | <10 | 0.67 | 225 | 1 | 0.03 | 13 | 420 | 4 | 0.02 | <2 | 4 | 21 |
| ZZ21342 | | 10 | <1 | 0.05 | 10 | 0.74 | 375 | <1 | 0.03 | 19 | 450 | 5 | 0.01 | <2 | 6 | 32 |

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**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method Analyte Units LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ21263 | | 20 | 0.09 | <10 | <10 | 56 | <10 | 54 |
| ZZ21264 | | 30 | 0.07 | <10 | <10 | 49 | <10 | 61 |
| ZZ21265 | | 20 | 0.06 | <10 | <10 | 41 | <10 | 30 |
| ZZ21266 | | 20 | 0.08 | <10 | <10 | 51 | <10 | 43 |
| ZZ21267 | | 20 | 0.09 | <10 | <10 | 49 | <10 | 45 |
| ZZ21268 | | 20 | 0.08 | <10 | <10 | 51 | <10 | 44 |
| ZZ21269 | | <20 | 0.08 | <10 | <10 | 49 | <10 | 42 |
| ZZ21270 | | 20 | 0.08 | <10 | <10 | 52 | <10 | 44 |
| ZZ21271 | | 20 | 0.11 | <10 | <10 | 57 | <10 | 48 |
| ZZ21272 | | <20 | 0.11 | <10 | <10 | 53 | <10 | 47 |
| ZZ21273 | | <20 | 0.09 | <10 | <10 | 48 | <10 | 43 |
| ZZ21274 | | 20 | 0.08 | <10 | <10 | 38 | <10 | 38 |
| ZZ21275 | | <20 | 0.08 | <10 | <10 | 54 | <10 | 40 |
| ZZ21276 | | <20 | 0.08 | <10 | <10 | 54 | <10 | 39 |
| ZZ21277 | | 30 | 0.04 | <10 | <10 | 37 | <10 | 37 |
| ZZ21278 | | 20 | 0.09 | <10 | <10 | 46 | <10 | 53 |
| ZZ21279 | | 20 | 0.09 | <10 | <10 | 53 | <10 | 41 |
| ZZ21280 | | <20 | 0.03 | <10 | <10 | 23 | <10 | 38 |
| ZZ21281 | | <20 | 0.05 | <10 | <10 | 32 | <10 | 38 |
| ZZ21282 | | <20 | 0.08 | <10 | <10 | 38 | <10 | 45 |
| ZZ21283 | | <20 | 0.04 | <10 | <10 | 28 | <10 | 30 |
| ZZ21284 | | <20 | 0.09 | <10 | <10 | 56 | <10 | 50 |
| ZZ21285 | | <20 | 0.07 | <10 | <10 | 47 | <10 | 46 |
| ZZ21286 | | <20 | 0.08 | <10 | <10 | 45 | <10 | 45 |
| ZZ21287 | | <20 | 0.06 | <10 | <10 | 42 | <10 | 54 |
| ZZ21288 | | <20 | 0.06 | <10 | <10 | 42 | <10 | 64 |
| ZZ21289 | | <20 | 0.05 | <10 | <10 | 26 | <10 | 34 |
| ZZ21290 | | <20 | 0.10 | <10 | <10 | 46 | <10 | 49 |
| ZZ21331 | | <20 | 0.13 | <10 | <10 | 71 | <10 | 60 |
| ZZ21332 | | <20 | 0.09 | <10 | <10 | 56 | <10 | 116 |
| ZZ21333 | | <20 | 0.10 | <10 | <10 | 64 | <10 | 133 |
| ZZ21334 | | <20 | 0.06 | <10 | <10 | 37 | <10 | 43 |
| ZZ21335 | | <20 | 0.09 | <10 | <10 | 66 | <10 | 79 |
| ZZ21336 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 53 |
| ZZ21337 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 44 |
| ZZ21338 | | <20 | 0.12 | <10 | <10 | 74 | <10 | 51 |
| ZZ21339 | | <20 | 0.13 | <10 | <10 | 73 | <10 | 56 |
| ZZ21340 | | <20 | 0.09 | <10 | <10 | 60 | <10 | 47 |
| ZZ21341 | | <20 | 0.10 | <10 | <10 | 76 | <10 | 48 |
| ZZ21342 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 46 |

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg .02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ21343 | | 0.08 | 0.006 | 0.2 | 1.05 | 4 | <10 | 380 | <0.5 | <2 | 2.94 | <0.5 | 8 | 20 | 39 | 1.47 |
| ZZ21344 | | 0.26 | 0.001 | <0.2 | 2.36 | 6 | <10 | 610 | 0.7 | 2 | 0.77 | <0.5 | 18 | 138 | 35 | 3.76 |
| ZZ21345 | | 0.22 | 0.001 | <0.2 | 2.88 | 5 | <10 | 470 | 0.7 | <2 | 0.73 | <0.5 | 18 | 146 | 47 | 4.17 |
| ZZ21346 | | 0.22 | 0.001 | 0.2 | 2.55 | 6 | <10 | 370 | <0.5 | <2 | 0.34 | <0.5 | 14 | 94 | 28 | 4.06 |
| ZZ21348 | | Not Recvd | | | | | | | | | | | | | | |
| ZZ21349 | | 0.22 | 0.003 | <0.2 | 1.15 | 40 | <10 | 350 | <0.5 | <2 | 0.19 | <0.5 | 10 | 38 | 52 | 3.14 |
| ZZ21350 | | 0.16 | 0.020 | <0.2 | 1.40 | 12 | <10 | 220 | <0.5 | <2 | 0.68 | <0.5 | 9 | 26 | 19 | 2.60 |
| ZZ21361 | | 0.32 | 0.002 | <0.2 | 1.82 | 7 | <10 | 190 | <0.5 | <2 | 0.32 | <0.5 | 10 | 30 | 34 | 2.50 |
| ZZ21362 | | 0.18 | <0.001 | <0.2 | 1.77 | 4 | <10 | 160 | <0.5 | <2 | 0.36 | <0.5 | 11 | 27 | 74 | 2.38 |
| ZZ21363 | | 0.22 | 0.002 | <0.2 | 1.99 | 7 | <10 | 180 | <0.5 | <2 | 0.32 | <0.5 | 10 | 36 | 37 | 2.77 |
| ZZ21364 | | 0.26 | 0.002 | <0.2 | 1.78 | 8 | <10 | 280 | <0.5 | <2 | 0.32 | <0.5 | 11 | 34 | 30 | 2.65 |
| ZZ21365 | | 0.30 | 0.003 | <0.2 | 1.91 | 5 | <10 | 270 | <0.5 | <2 | 0.36 | <0.5 | 12 | 32 | 60 | 2.96 |
| ZZ21366 | | 0.24 | 0.002 | 0.3 | 2.16 | 8 | <10 | 200 | <0.5 | <2 | 0.26 | <0.5 | 9 | 31 | 43 | 3.06 |
| ZZ21368 | | 0.28 | 0.001 | 0.2 | 1.96 | 5 | <10 | 260 | <0.5 | <2 | 0.65 | <0.5 | 16 | 40 | 52 | 3.79 |
| ZZ21369 | | 0.32 | 0.001 | 0.2 | 1.63 | 6 | <10 | 280 | <0.5 | <2 | 0.41 | <0.5 | 9 | 27 | 41 | 2.79 |
| ZZ21370 | | 0.24 | <0.001 | 0.2 | 2.36 | 5 | <10 | 350 | <0.5 | <2 | 0.49 | <0.5 | 13 | 34 | 56 | 4.17 |
| ZZ21371 | | 0.18 | 0.001 | 0.2 | 2.07 | 6 | <10 | 340 | <0.5 | 2 | 0.65 | <0.5 | 12 | 32 | 53 | 3.68 |
| ZZ21372 | | 0.20 | 0.002 | <0.2 | 1.98 | 8 | <10 | 190 | <0.5 | <2 | 0.47 | <0.5 | 11 | 35 | 24 | 3.21 |
| ZZ21373 | | 0.14 | <0.001 | 0.2 | 1.80 | 8 | <10 | 420 | <0.5 | <2 | 1.16 | <0.5 | 10 | 33 | 41 | 2.95 |
| ZZ21374 | | 0.28 | 0.004 | 0.2 | 1.83 | 9 | <10 | 280 | <0.5 | <2 | 2.62 | <0.5 | 8 | 32 | 35 | 2.81 |
| ZZ21375 | | 0.26 | 0.001 | 0.3 | 2.23 | 5 | <10 | 470 | <0.5 | <2 | 0.87 | <0.5 | 16 | 40 | 48 | 3.64 |
| ZZ21376 | | 0.22 | 0.002 | 0.2 | 2.32 | 8 | <10 | 530 | <0.5 | <2 | 0.87 | <0.5 | 13 | 39 | 53 | 3.97 |
| ZZ21377 | | 0.28 | 0.001 | <0.2 | 2.01 | 10 | <10 | 340 | <0.5 | <2 | 0.68 | <0.5 | 11 | 28 | 25 | 3.34 |
| ZZ21378 | | 0.14 | 0.004 | <0.2 | 1.51 | 6 | <10 | 300 | <0.5 | <2 | 1.46 | <0.5 | 8 | 25 | 35 | 2.35 |
| ZZ21379 | | 0.14 | 0.002 | 0.2 | 1.68 | 4 | <10 | 380 | <0.5 | <2 | 1.13 | <0.5 | 11 | 39 | 30 | 2.55 |
| ZZ21380 | | 0.20 | 0.002 | 0.2 | 1.61 | 9 | <10 | 460 | <0.5 | <2 | 0.85 | <0.5 | 9 | 36 | 31 | 2.56 |
| ZZ21381 | | 0.26 | 0.004 | <0.2 | 1.64 | 9 | <10 | 330 | <0.5 | <2 | 0.73 | <0.5 | 11 | 34 | 31 | 2.79 |
| ZZ21382 | | 0.30 | 0.009 | <0.2 | 1.68 | 11 | <10 | 330 | <0.5 | <2 | 0.70 | <0.5 | 11 | 33 | 31 | 2.87 |
| ZZ21383 | | 0.34 | 0.001 | 0.2 | 1.99 | 7 | <10 | 430 | <0.5 | <2 | 0.70 | <0.5 | 12 | 32 | 41 | 3.43 |
| ZZ21384 | | 0.22 | 0.007 | <0.2 | 1.64 | 6 | <10 | 350 | <0.5 | <2 | 0.83 | <0.5 | 10 | 29 | 30 | 2.83 |
| ZZ21385 | | 0.18 | <0.001 | 0.2 | 1.66 | 4 | <10 | 370 | <0.5 | <2 | 0.43 | <0.5 | 10 | 26 | 50 | 2.49 |
| ZZ21386 | | 0.22 | 0.007 | <0.2 | 1.81 | 7 | <10 | 360 | <0.5 | <2 | 0.66 | <0.5 | 11 | 33 | 40 | 2.92 |
| ZZ21387 | | 0.18 | 0.006 | <0.2 | 1.30 | 6 | <10 | 200 | <0.5 | <2 | 0.71 | <0.5 | 10 | 27 | 50 | 2.64 |
| ZZ21388 | | 0.18 | 0.004 | 0.3 | 1.79 | 6 | <10 | 370 | <0.5 | <2 | 0.77 | <0.5 | 11 | 30 | 59 | 2.68 |
| ZZ21389 | | 0.24 | 0.006 | <0.2 | 1.79 | 7 | <10 | 320 | <0.5 | <2 | 0.70 | <0.5 | 10 | 34 | 46 | 2.88 |
| ZZ21390 | | 0.24 | 0.005 | 0.2 | 1.94 | 8 | <10 | 220 | <0.5 | <2 | 0.41 | <0.5 | 7 | 34 | 25 | 2.88 |
| ZZ21391 | | 0.26 | 0.001 | <0.2 | 1.82 | 6 | <10 | 250 | <0.5 | <2 | 0.36 | <0.5 | 9 | 26 | 29 | 3.08 |
| ZZ21392 | | 0.22 | 0.002 | 0.2 | 1.96 | 10 | <10 | 260 | 0.5 | <2 | 0.35 | <0.5 | 11 | 42 | 28 | 3.28 |
| ZZ21393 | | 0.22 | 0.002 | 0.2 | 2.09 | 4 | <10 | 310 | <0.5 | <2 | 0.69 | <0.5 | 14 | 46 | 61 | 3.51 |
| ZZ21394 | | 0.20 | 0.003 | 0.2 | 1.61 | 5 | <10 | 490 | <0.5 | <2 | 0.73 | <0.5 | 11 | 40 | 84 | 2.60 |

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ21343 | | <10 | <1 | 0.03 | 10 | 0.40 | 479 | <1 | 0.04 | 16 | 730 | 3 | 0.10 | <2 | 3 | 86 |
| ZZ21344 | | 10 | <1 | 0.24 | 20 | 1.61 | 570 | 1 | 0.03 | 59 | 870 | 7 | 0.03 | <2 | 8 | 40 |
| ZZ21345 | | 10 | <1 | 0.60 | 10 | 2.04 | 457 | <1 | 0.02 | 58 | 1160 | 6 | 0.01 | <2 | 6 | 36 |
| ZZ21346 | | 10 | <1 | 0.35 | 10 | 1.48 | 372 | <1 | 0.02 | 39 | 380 | 6 | 0.02 | <2 | 3 | 28 |
| ZZ21348 | | | | | | | | | | | | | | | | |
| ZZ21349 | | <10 | <1 | 0.13 | 20 | 0.28 | 154 | 8 | 0.02 | 45 | 370 | 38 | 0.02 | <2 | 4 | 20 |
| ZZ21350 | | <10 | <1 | 0.11 | 10 | 0.44 | 265 | 1 | 0.03 | 19 | 300 | 7 | 0.02 | <2 | 3 | 34 |
| ZZ21361 | | <10 | <1 | 0.04 | 10 | 0.64 | 251 | <1 | 0.03 | 16 | 230 | 5 | 0.01 | <2 | 3 | 24 |
| ZZ21362 | | <10 | <1 | 0.04 | <10 | 0.77 | 246 | <1 | 0.03 | 16 | 180 | 3 | 0.01 | <2 | 3 | 25 |
| ZZ21363 | | 10 | <1 | 0.05 | 10 | 0.61 | 256 | <1 | 0.03 | 20 | 360 | 5 | 0.01 | <2 | 3 | 26 |
| ZZ21364 | | <10 | <1 | 0.05 | 10 | 0.53 | 327 | <1 | 0.03 | 18 | 370 | 7 | 0.01 | <2 | 5 | 29 |
| ZZ21365 | | <10 | <1 | 0.16 | 10 | 0.84 | 298 | <1 | 0.03 | 16 | 510 | 5 | 0.01 | <2 | 3 | 27 |
| ZZ21366 | | <10 | <1 | 0.06 | 10 | 0.60 | 214 | 1 | 0.03 | 21 | 350 | 8 | 0.02 | <2 | 3 | 20 |
| ZZ21368 | | 10 | <1 | 0.34 | 10 | 1.13 | 552 | 1 | 0.04 | 20 | 1250 | 4 | 0.02 | <2 | 7 | 25 |
| ZZ21369 | | 10 | <1 | 0.25 | 10 | 0.76 | 346 | 1 | 0.03 | 15 | 370 | 5 | 0.02 | <2 | 5 | 24 |
| ZZ21370 | | 10 | <1 | 0.51 | 10 | 1.24 | 492 | 1 | 0.03 | 17 | 540 | 7 | 0.02 | <2 | 8 | 25 |
| ZZ21371 | | 10 | <1 | 0.56 | 10 | 1.08 | 479 | 1 | 0.04 | 18 | 480 | 8 | 0.06 | <2 | 6 | 30 |
| ZZ21372 | | 10 | <1 | 0.39 | 10 | 0.92 | 403 | <1 | 0.03 | 19 | 300 | 9 | 0.02 | <2 | 6 | 24 |
| ZZ21373 | | <10 | <1 | 0.43 | 10 | 0.91 | 615 | 1 | 0.04 | 25 | 480 | 6 | 0.04 | <2 | 4 | 43 |
| ZZ21374 | | <10 | <1 | 0.37 | 10 | 1.31 | 455 | 1 | 0.04 | 21 | 650 | 8 | 0.04 | <2 | 4 | 49 |
| ZZ21375 | | 10 | 1 | 0.58 | 10 | 1.30 | 596 | 1 | 0.04 | 23 | 880 | 6 | 0.06 | <2 | 7 | 37 |
| ZZ21376 | | 10 | <1 | 0.56 | 10 | 1.38 | 684 | 1 | 0.04 | 20 | 1040 | 6 | 0.05 | <2 | 8 | 32 |
| ZZ21377 | | 10 | <1 | 0.33 | 10 | 1.03 | 524 | 1 | 0.03 | 15 | 860 | 5 | 0.02 | <2 | 6 | 33 |
| ZZ21378 | | <10 | <1 | 0.06 | 10 | 0.57 | 342 | 1 | 0.05 | 17 | 640 | 5 | 0.08 | <2 | 4 | 55 |
| ZZ21379 | | <10 | <1 | 0.05 | 10 | 0.62 | 563 | 1 | 0.04 | 27 | 670 | 7 | 0.06 | <2 | 4 | 45 |
| ZZ21380 | | <10 | <1 | 0.06 | 10 | 0.50 | 368 | 1 | 0.04 | 25 | 450 | 7 | 0.03 | <2 | 4 | 42 |
| ZZ21381 | | <10 | <1 | 0.05 | 20 | 0.56 | 474 | 1 | 0.04 | 27 | 610 | 8 | 0.03 | <2 | 5 | 36 |
| ZZ21382 | | <10 | <1 | 0.07 | 20 | 0.60 | 444 | 1 | 0.04 | 28 | 630 | 7 | 0.03 | <2 | 5 | 39 |
| ZZ21383 | | 10 | <1 | 0.12 | 10 | 0.89 | 414 | 1 | 0.05 | 19 | 890 | 6 | 0.03 | <2 | 7 | 33 |
| ZZ21384 | | <10 | <1 | 0.05 | 10 | 0.62 | 445 | 1 | 0.04 | 18 | 720 | 6 | 0.03 | <2 | 5 | 37 |
| ZZ21385 | | 10 | <1 | 0.07 | 10 | 0.56 | 508 | <1 | 0.04 | 17 | 310 | 6 | 0.02 | <2 | 5 | 27 |
| ZZ21386 | | 10 | <1 | 0.05 | 10 | 0.65 | 403 | 1 | 0.03 | 21 | 580 | 7 | 0.02 | <2 | 5 | 40 |
| ZZ21387 | | <10 | <1 | 0.06 | 10 | 0.56 | 346 | <1 | 0.05 | 18 | 1180 | 5 | 0.03 | <2 | 4 | 31 |
| ZZ21388 | | <10 | <1 | 0.06 | 10 | 0.62 | 658 | 1 | 0.04 | 23 | 600 | 7 | 0.03 | <2 | 5 | 45 |
| ZZ21389 | | <10 | <1 | 0.05 | 10 | 0.70 | 360 | <1 | 0.04 | 22 | 680 | 6 | 0.03 | <2 | 5 | 34 |
| ZZ21390 | | 10 | <1 | 0.06 | 10 | 0.61 | 214 | 1 | 0.03 | 17 | 320 | 7 | 0.02 | <2 | 4 | 25 |
| ZZ21391 | | 10 | <1 | 0.06 | 10 | 0.50 | 306 | 1 | 0.03 | 14 | 620 | 7 | 0.02 | <2 | 4 | 20 |
| ZZ21392 | | <10 | <1 | 0.10 | 10 | 0.57 | 417 | 1 | 0.02 | 26 | 400 | 8 | 0.02 | <2 | 7 | 25 |
| ZZ21393 | | 10 | 1 | 0.10 | 10 | 1.19 | 665 | 1 | 0.04 | 24 | 350 | 7 | 0.03 | <2 | 8 | 28 |
| ZZ21394 | | <10 | <1 | 0.05 | 10 | 0.65 | 779 | 2 | 0.04 | 39 | 570 | 13 | 0.04 | <2 | 6 | 37 |

***** See Appendix Page for comments regarding this certificate *****

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method Analyte Units LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ21343 | | <20 | 0.04 | <10 | <10 | 31 | <10 | 28 |
| ZZ21344 | | <20 | 0.12 | <10 | <10 | 78 | <10 | 69 |
| ZZ21345 | | <20 | 0.17 | <10 | <10 | 99 | <10 | 79 |
| ZZ21346 | | <20 | 0.20 | <10 | <10 | 92 | <10 | 69 |
| ZZ21348 | | | | | | | | |
| ZZ21349 | | <20 | 0.03 | <10 | <10 | 46 | <10 | 93 |
| ZZ21350 | | <20 | 0.08 | <10 | <10 | 53 | <10 | 40 |
| ZZ21361 | | <20 | 0.09 | <10 | <10 | 63 | <10 | 39 |
| ZZ21362 | | <20 | 0.09 | <10 | <10 | 64 | <10 | 38 |
| ZZ21363 | | <20 | 0.09 | <10 | <10 | 67 | <10 | 42 |
| ZZ21364 | | <20 | 0.10 | <10 | <10 | 61 | <10 | 43 |
| ZZ21365 | | <20 | 0.12 | <10 | <10 | 67 | <10 | 49 |
| ZZ21366 | | <20 | 0.09 | <10 | <10 | 69 | <10 | 47 |
| ZZ21368 | | <20 | 0.12 | <10 | <10 | 85 | <10 | 64 |
| ZZ21369 | | <20 | 0.13 | <10 | <10 | 64 | <10 | 50 |
| ZZ21370 | | <20 | 0.15 | <10 | <10 | 92 | <10 | 65 |
| ZZ21371 | | <20 | 0.16 | <10 | <10 | 87 | <10 | 65 |
| ZZ21372 | | <20 | 0.13 | <10 | <10 | 73 | <10 | 80 |
| ZZ21373 | | <20 | 0.11 | <10 | <10 | 65 | <10 | 58 |
| ZZ21374 | | <20 | 0.10 | <10 | <10 | 64 | <10 | 64 |
| ZZ21375 | | <20 | 0.16 | <10 | <10 | 88 | <10 | 77 |
| ZZ21376 | | <20 | 0.16 | <10 | <10 | 96 | <10 | 99 |
| ZZ21377 | | <20 | 0.12 | <10 | <10 | 71 | <10 | 69 |
| ZZ21378 | | <20 | 0.07 | <10 | <10 | 51 | <10 | 48 |
| ZZ21379 | | <20 | 0.06 | <10 | <10 | 53 | <10 | 56 |
| ZZ21380 | | <20 | 0.08 | <10 | <10 | 51 | <10 | 54 |
| ZZ21381 | | <20 | 0.08 | <10 | <10 | 54 | <10 | 55 |
| ZZ21382 | | <20 | 0.09 | <10 | <10 | 56 | <10 | 58 |
| ZZ21383 | | <20 | 0.12 | <10 | <10 | 75 | <10 | 73 |
| ZZ21384 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 52 |
| ZZ21385 | | <20 | 0.09 | <10 | <10 | 57 | <10 | 45 |
| ZZ21386 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 56 |
| ZZ21387 | | <20 | 0.09 | <10 | <10 | 63 | <10 | 46 |
| ZZ21388 | | <20 | 0.09 | <10 | <10 | 61 | <10 | 52 |
| ZZ21389 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 53 |
| ZZ21390 | | <20 | 0.10 | <10 | <10 | 75 | <10 | 44 |
| ZZ21391 | | <20 | 0.08 | <10 | <10 | 79 | <10 | 54 |
| ZZ21392 | | <20 | 0.10 | <10 | <10 | 74 | <10 | 50 |
| ZZ21393 | | <20 | 0.11 | <10 | <10 | 91 | <10 | 79 |
| ZZ21394 | | <20 | 0.09 | <10 | <10 | 62 | <10 | 52 |

***** See Appendix Page for comments regarding this certificate *****

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg .02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ21395 | | 0.24 | 0.003 | 0.2 | 1.84 | 9 | <10 | 250 | <0.5 | <2 | 0.52 | <0.5 | 11 | 33 | 37 | 2.88 |
| ZZ21396 | | 0.22 | 0.006 | <0.2 | 1.79 | 10 | <10 | 340 | 0.5 | <2 | 0.56 | <0.5 | 10 | 37 | 57 | 2.90 |
| ZZ21397 | | 0.16 | 0.002 | 0.2 | 1.68 | 9 | <10 | 290 | <0.5 | <2 | 0.42 | <0.5 | 8 | 32 | 35 | 2.69 |
| ZZ21398 | | 0.22 | 0.002 | <0.2 | 1.70 | 6 | <10 | 340 | <0.5 | <2 | 0.29 | <0.5 | 9 | 26 | 25 | 2.63 |
| ZZ21399 | | 0.26 | 0.001 | 0.2 | 2.98 | 3 | <10 | 320 | <0.5 | <2 | 0.40 | <0.5 | 21 | 200 | 38 | 3.70 |
| ZZ21400 | | 0.22 | 0.002 | <0.2 | 2.23 | 4 | <10 | 360 | 1.0 | <2 | 0.65 | <0.5 | 16 | 119 | 38 | 3.52 |
| ZZ21401 | | 0.22 | 0.002 | <0.2 | 1.73 | 6 | <10 | 230 | <0.5 | <2 | 0.61 | <0.5 | 10 | 37 | 47 | 2.67 |
| ZZ21402 | | 0.12 | 0.009 | <0.2 | 1.63 | 5 | <10 | 320 | <0.5 | <2 | 0.94 | <0.5 | 10 | 55 | 61 | 2.43 |
| ZZ21403 | | 0.14 | 0.005 | 0.2 | 1.61 | 4 | <10 | 360 | <0.5 | <2 | 1.00 | <0.5 | 12 | 37 | 65 | 2.61 |
| ZZ21404 | | 0.20 | 0.002 | 0.2 | 1.24 | 6 | <10 | 630 | <0.5 | <2 | 0.29 | <0.5 | 7 | 19 | 13 | 2.27 |
| ZZ21405 | | 0.22 | 0.001 | 0.2 | 2.42 | 4 | <10 | 380 | <0.5 | <2 | 0.52 | <0.5 | 19 | 39 | 163 | 3.93 |
| ZZ21406 | | 0.28 | 0.002 | <0.2 | 1.88 | 9 | <10 | 310 | <0.5 | <2 | 0.36 | <0.5 | 13 | 38 | 41 | 3.17 |
| ZZ21407 | | 0.28 | 0.002 | <0.2 | 1.53 | 8 | <10 | 320 | <0.5 | <2 | 0.28 | <0.5 | 10 | 30 | 20 | 2.74 |
| ZZ21408 | | 0.22 | 0.004 | 0.2 | 1.61 | 7 | <10 | 340 | <0.5 | <2 | 0.25 | <0.5 | 9 | 30 | 33 | 3.04 |
| ZZ21409 | | 0.14 | 0.001 | <0.2 | 1.34 | 8 | <10 | 230 | <0.5 | <2 | 0.44 | <0.5 | 7 | 27 | 24 | 2.70 |
| ZZ21410 | | 0.16 | 0.003 | 0.2 | 1.41 | 7 | <10 | 330 | <0.5 | <2 | 1.07 | <0.5 | 9 | 30 | 39 | 2.53 |
| ZZ21481 | | 0.10 | 0.039 | <0.2 | 0.62 | 22 | <10 | 70 | <0.5 | <2 | 0.17 | <0.5 | 1 | 9 | 6 | 1.02 |
| ZZ21482 | | 0.26 | 0.015 | <0.2 | 1.43 | 13 | <10 | 160 | <0.5 | <2 | 0.49 | <0.5 | 9 | 26 | 17 | 2.41 |
| ZZ21483 | | 0.26 | 0.005 | 0.2 | 0.94 | 9 | <10 | 150 | 1.0 | <2 | 0.92 | <0.5 | 6 | 20 | 24 | 1.88 |
| ZZ21484 | | 0.22 | 0.003 | <0.2 | 1.07 | 6 | <10 | 100 | 0.8 | <2 | 0.43 | <0.5 | 6 | 23 | 13 | 2.21 |
| ZZ21485 | | 0.16 | 0.003 | 0.3 | 0.54 | 2 | <10 | 120 | 0.5 | <2 | 0.65 | <0.5 | 3 | 11 | 11 | 1.50 |
| ZZ21486 | | 0.22 | 0.102 | 0.2 | 1.59 | 61 | <10 | 110 | <0.5 | <2 | 0.18 | <0.5 | 8 | 24 | 9 | 2.87 |
| ZZ21487 | | 0.12 | 0.024 | <0.2 | 1.31 | 15 | <10 | 130 | <0.5 | <2 | 0.17 | <0.5 | 3 | 16 | 9 | 1.52 |
| ZZ21488 | | 0.22 | 0.032 | 0.2 | 1.53 | 21 | <10 | 160 | 0.6 | <2 | 0.32 | <0.5 | 6 | 23 | 9 | 2.54 |
| ZZ21489 | | 0.18 | 0.014 | 0.3 | 1.15 | 4 | <10 | 490 | 0.9 | <2 | 2.02 | <0.5 | 10 | 26 | 17 | 2.66 |
| ZZ21490 | | 0.12 | 0.005 | 0.3 | 1.25 | 5 | <10 | 260 | 0.8 | <2 | 1.85 | <0.5 | 10 | 38 | 14 | 2.55 |
| ZZ21491 | | 0.16 | 0.007 | 0.3 | 1.49 | 7 | <10 | 320 | 0.9 | 2 | 1.10 | <0.5 | 12 | 38 | 16 | 3.12 |
| ZZ21492 | | 0.10 | 0.009 | <0.2 | 1.24 | 3 | <10 | 170 | 0.5 | <2 | 1.01 | <0.5 | 4 | 24 | 15 | 1.65 |
| ZZ21493 | | 0.22 | 0.007 | 0.2 | 1.45 | 13 | <10 | 200 | 0.5 | <2 | 0.82 | <0.5 | 7 | 36 | 21 | 2.56 |
| ZZ21494 | | 0.24 | 0.004 | 0.2 | 1.60 | 12 | <10 | 200 | 0.5 | <2 | 0.45 | <0.5 | 10 | 30 | 16 | 2.91 |
| ZZ21495 | | 0.22 | 0.003 | <0.2 | 1.44 | 7 | <10 | 220 | <0.5 | <2 | 0.80 | <0.5 | 8 | 25 | 18 | 2.36 |
| ZZ21496 | | 0.22 | 0.006 | 0.2 | 1.77 | 10 | <10 | 210 | 0.5 | <2 | 0.92 | <0.5 | 9 | 31 | 23 | 2.76 |
| ZZ21497 | | 0.26 | 0.004 | 0.2 | 1.89 | 13 | <10 | 250 | 0.6 | <2 | 0.82 | <0.5 | 10 | 35 | 28 | 3.01 |
| ZZ21498 | | 0.34 | 0.004 | <0.2 | 1.73 | 14 | <10 | 210 | 0.6 | <2 | 0.74 | <0.5 | 11 | 38 | 20 | 3.05 |
| ZZ21499 | | 0.20 | 0.010 | <0.2 | 1.37 | 13 | <10 | 270 | 0.6 | <2 | 1.38 | <0.5 | 9 | 26 | 21 | 2.29 |
| ZZ21500 | | 0.24 | 0.005 | <0.2 | 1.24 | 10 | <10 | 130 | <0.5 | 2 | 0.37 | <0.5 | 7 | 25 | 13 | 2.01 |
| ZZ21461 | | 0.18 | 0.084 | 0.2 | 1.54 | 17 | <10 | 210 | 1.4 | <2 | 1.20 | <0.5 | 10 | 35 | 21 | 2.48 |
| ZZ21462 | | 0.08 | 0.029 | 0.3 | 1.23 | 11 | <10 | 180 | 0.8 | <2 | 0.61 | <0.5 | 5 | 18 | 18 | 1.67 |
| ZZ21463 | | 0.16 | 0.066 | <0.2 | 1.57 | 15 | <10 | 70 | <0.5 | <2 | 0.11 | <0.5 | 5 | 24 | 18 | 2.65 |
| ZZ21464 | | 0.30 | 0.061 | <0.2 | 1.57 | 19 | <10 | 150 | 0.8 | <2 | 0.30 | <0.5 | 6 | 25 | 14 | 2.41 |

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ21395 | | <10 | <1 | 0.07 | 10 | 0.67 | 265 | 1 | 0.03 | 22 | 500 | 8 | 0.02 | <2 | 4 | 32 |
| ZZ21396 | | <10 | <1 | 0.06 | 10 | 0.63 | 372 | 1 | 0.04 | 29 | 450 | 9 | 0.02 | <2 | 7 | 37 |
| ZZ21397 | | <10 | <1 | 0.11 | 10 | 0.58 | 247 | 1 | 0.04 | 23 | 380 | 6 | 0.03 | <2 | 4 | 30 |
| ZZ21398 | | <10 | <1 | 0.07 | 10 | 0.55 | 416 | 1 | 0.03 | 16 | 430 | 7 | 0.02 | <2 | 2 | 24 |
| ZZ21399 | | 10 | <1 | 0.24 | 10 | 2.28 | 433 | 1 | 0.03 | 94 | 480 | 5 | 0.02 | <2 | 4 | 26 |
| ZZ21400 | | 10 | <1 | 0.30 | 10 | 1.28 | 553 | 1 | 0.04 | 64 | 640 | 8 | 0.03 | <2 | 9 | 34 |
| ZZ21401 | | <10 | <1 | 0.08 | 10 | 0.73 | 318 | 1 | 0.03 | 19 | 540 | 6 | 0.03 | <2 | 4 | 34 |
| ZZ21402 | | <10 | <1 | 0.11 | 10 | 0.78 | 381 | <1 | 0.04 | 31 | 610 | 5 | 0.05 | <2 | 4 | 46 |
| ZZ21403 | | <10 | 1 | 0.07 | 10 | 0.79 | 425 | <1 | 0.03 | 22 | 620 | 4 | 0.03 | <2 | 5 | 50 |
| ZZ21404 | | <10 | <1 | 0.15 | 10 | 0.39 | 498 | <1 | 0.02 | 10 | 170 | 5 | 0.01 | <2 | 2 | 28 |
| ZZ21405 | | 10 | <1 | 0.57 | <10 | 1.54 | 370 | <1 | 0.03 | 26 | 680 | 2 | 0.01 | <2 | 6 | 28 |
| ZZ21406 | | <10 | 1 | 0.12 | 10 | 0.84 | 328 | <1 | 0.02 | 25 | 450 | 6 | 0.01 | <2 | 5 | 25 |
| ZZ21407 | | <10 | <1 | 0.11 | 10 | 0.55 | 285 | <1 | 0.02 | 16 | 750 | 8 | 0.01 | <2 | 3 | 23 |
| ZZ21408 | | <10 | <1 | 0.18 | 10 | 0.59 | 325 | <1 | 0.02 | 16 | 280 | 6 | 0.01 | <2 | 4 | 20 |
| ZZ21409 | | <10 | 1 | 0.15 | 10 | 0.59 | 198 | <1 | 0.02 | 15 | 390 | 6 | 0.01 | <2 | 3 | 27 |
| ZZ21410 | | <10 | 1 | 0.08 | 10 | 0.67 | 267 | <1 | 0.03 | 18 | 620 | 5 | 0.03 | <2 | 4 | 53 |
| ZZ21481 | | <10 | 1 | 0.06 | 10 | 0.13 | 115 | 1 | 0.01 | 3 | 280 | 4 | 0.02 | <2 | 1 | 12 |
| ZZ21482 | | <10 | 1 | 0.07 | 20 | 0.50 | 386 | <1 | 0.03 | 14 | 640 | 11 | 0.02 | <2 | 3 | 31 |
| ZZ21483 | | <10 | <1 | 0.06 | 70 | 0.36 | 335 | 1 | 0.02 | 15 | 440 | 18 | 0.03 | <2 | 3 | 43 |
| ZZ21484 | | <10 | 1 | 0.07 | 20 | 0.37 | 236 | 3 | 0.01 | 10 | 160 | 14 | 0.01 | <2 | 3 | 22 |
| ZZ21485 | | <10 | <1 | 0.13 | 40 | 0.15 | 425 | 3 | 0.02 | 5 | 180 | 7 | 0.01 | <2 | 1 | 27 |
| ZZ21486 | | 10 | <1 | 0.10 | 30 | 0.47 | 431 | <1 | 0.01 | 12 | 380 | 12 | 0.01 | 2 | 3 | 17 |
| ZZ21487 | | 10 | 1 | 0.08 | 30 | 0.24 | 147 | <1 | 0.02 | 7 | 310 | 11 | 0.02 | <2 | 1 | 15 |
| ZZ21488 | | <10 | 1 | 0.20 | 40 | 0.55 | 331 | <1 | 0.02 | 10 | 540 | 10 | 0.01 | 2 | 3 | 22 |
| ZZ21489 | | <10 | 1 | 0.31 | 90 | 0.62 | 546 | 1 | 0.02 | 11 | 750 | 13 | 0.07 | <2 | 6 | 70 |
| ZZ21490 | | <10 | 1 | 0.29 | 80 | 0.67 | 685 | 1 | 0.03 | 13 | 690 | 10 | 0.07 | <2 | 5 | 75 |
| ZZ21491 | | <10 | 1 | 0.32 | 90 | 0.75 | 934 | 2 | 0.02 | 16 | 670 | 14 | 0.05 | <2 | 6 | 46 |
| ZZ21492 | | <10 | 1 | 0.10 | 40 | 0.45 | 150 | <1 | 0.03 | 11 | 630 | 11 | 0.06 | <2 | 3 | 47 |
| ZZ21493 | | <10 | 1 | 0.09 | 20 | 0.55 | 182 | <1 | 0.03 | 18 | 550 | 8 | 0.02 | <2 | 4 | 42 |
| ZZ21494 | | <10 | 1 | 0.20 | 20 | 0.48 | 418 | 1 | 0.02 | 15 | 240 | 9 | 0.02 | <2 | 4 | 27 |
| ZZ21495 | | <10 | 1 | 0.08 | 20 | 0.48 | 299 | <1 | 0.03 | 14 | 400 | 7 | 0.03 | <2 | 3 | 46 |
| ZZ21496 | | <10 | 1 | 0.13 | 20 | 0.63 | 330 | <1 | 0.03 | 18 | 490 | 6 | 0.03 | <2 | 4 | 52 |
| ZZ21497 | | 10 | 1 | 0.11 | 20 | 0.66 | 366 | <1 | 0.03 | 22 | 570 | 8 | 0.02 | <2 | 5 | 49 |
| ZZ21498 | | <10 | 1 | 0.14 | 20 | 0.64 | 339 | <1 | 0.02 | 22 | 410 | 10 | 0.01 | <2 | 4 | 42 |
| ZZ21499 | | <10 | 1 | 0.15 | 30 | 0.47 | 487 | <1 | 0.03 | 17 | 580 | 9 | 0.04 | <2 | 3 | 72 |
| ZZ21500 | | <10 | 1 | 0.14 | 20 | 0.38 | 214 | <1 | 0.02 | 11 | 240 | 7 | 0.01 | <2 | 2 | 24 |
| ZZ21461 | | <10 | 1 | 0.12 | 70 | 0.46 | 673 | <1 | 0.02 | 22 | 800 | 16 | 0.04 | <2 | 5 | 39 |
| ZZ21462 | | <10 | 1 | 0.07 | 70 | 0.24 | 377 | <1 | 0.02 | 10 | 450 | 12 | 0.02 | <2 | 2 | 26 |
| ZZ21463 | | 10 | <1 | 0.07 | 20 | 0.37 | 213 | 1 | 0.01 | 19 | 250 | 22 | 0.02 | <2 | 3 | 14 |
| ZZ21464 | | <10 | <1 | 0.08 | 40 | 0.37 | 285 | 1 | 0.01 | 14 | 480 | 20 | 0.02 | 2 | 3 | 22 |

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method Analyte Units LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ21395 | | <20 | 0.10 | <10 | <10 | 65 | <10 | 54 |
| ZZ21396 | | <20 | 0.10 | <10 | <10 | 66 | <10 | 53 |
| ZZ21397 | | <20 | 0.10 | <10 | <10 | 59 | <10 | 51 |
| ZZ21398 | | <20 | 0.08 | <10 | <10 | 60 | <10 | 50 |
| ZZ21399 | | <20 | 0.21 | <10 | <10 | 90 | <10 | 84 |
| ZZ21400 | | <20 | 0.16 | <10 | <10 | 87 | <10 | 52 |
| ZZ21401 | | <20 | 0.10 | <10 | <10 | 62 | <10 | 50 |
| ZZ21402 | | <20 | 0.09 | <10 | <10 | 55 | <10 | 47 |
| ZZ21403 | | <20 | 0.08 | <10 | <10 | 59 | <10 | 48 |
| ZZ21404 | | <20 | 0.07 | <10 | <10 | 46 | <10 | 38 |
| ZZ21405 | | <20 | 0.14 | <10 | <10 | 105 | <10 | 71 |
| ZZ21406 | | <20 | 0.12 | <10 | <10 | 74 | <10 | 52 |
| ZZ21407 | | <20 | 0.09 | <10 | <10 | 60 | <10 | 45 |
| ZZ21408 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 70 |
| ZZ21409 | | <20 | 0.11 | <10 | <10 | 65 | <10 | 45 |
| ZZ21410 | | <20 | 0.08 | <10 | <10 | 55 | <10 | 48 |
| ZZ21481 | | <20 | 0.04 | <10 | <10 | 23 | <10 | 20 |
| ZZ21482 | | <20 | 0.08 | <10 | <10 | 53 | <10 | 62 |
| ZZ21483 | | 40 | 0.05 | <10 | <10 | 31 | <10 | 46 |
| ZZ21484 | | 30 | 0.04 | <10 | <10 | 36 | <10 | 33 |
| ZZ21485 | | <20 | 0.04 | <10 | <10 | 29 | <10 | 28 |
| ZZ21486 | | <20 | 0.08 | <10 | <10 | 50 | <10 | 60 |
| ZZ21487 | | <20 | 0.05 | <10 | <10 | 27 | <10 | 37 |
| ZZ21488 | | 20 | 0.09 | <10 | <10 | 39 | <10 | 58 |
| ZZ21489 | | 30 | 0.07 | <10 | <10 | 36 | <10 | 56 |
| ZZ21490 | | 20 | 0.07 | <10 | <10 | 38 | <10 | 46 |
| ZZ21491 | | 30 | 0.08 | <10 | <10 | 48 | <10 | 54 |
| ZZ21492 | | <20 | 0.07 | <10 | <10 | 34 | <10 | 54 |
| ZZ21493 | | <20 | 0.07 | <10 | <10 | 48 | <10 | 47 |
| ZZ21494 | | <20 | 0.08 | <10 | <10 | 55 | <10 | 54 |
| ZZ21495 | | <20 | 0.08 | <10 | <10 | 44 | <10 | 44 |
| ZZ21496 | | <20 | 0.09 | <10 | <10 | 48 | <10 | 60 |
| ZZ21497 | | <20 | 0.10 | <10 | <10 | 54 | <10 | 56 |
| ZZ21498 | | <20 | 0.09 | <10 | <10 | 51 | <10 | 51 |
| ZZ21499 | | <20 | 0.06 | <10 | <10 | 33 | <10 | 44 |
| ZZ21500 | | <20 | 0.07 | <10 | <10 | 33 | <10 | 44 |
| ZZ21461 | | <20 | 0.05 | <10 | <10 | 43 | <10 | 61 |
| ZZ21462 | | <20 | 0.04 | <10 | <10 | 30 | <10 | 45 |
| ZZ21463 | | <20 | 0.08 | <10 | <10 | 55 | <10 | 55 |
| ZZ21464 | | 20 | 0.07 | <10 | <10 | 46 | <10 | 56 |

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg .02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ21465 | | 0.08 | 0.017 | <0.2 | 0.35 | <2 | <10 | 60 | <0.5 | <2 | 0.10 | <0.5 | 1 | 11 | 12 | 0.64 |
| ZZ21466 | | 0.20 | 0.083 | <0.2 | 2.02 | 36 | <10 | 130 | 0.9 | <2 | 0.21 | <0.5 | 9 | 35 | 14 | 3.09 |
| ZZ21467 | | 0.20 | 0.102 | <0.2 | 1.84 | 43 | <10 | 130 | 0.8 | <2 | 0.21 | <0.5 | 8 | 31 | 14 | 2.77 |
| ZZ21468 | | 0.18 | 0.108 | 0.2 | 2.18 | 44 | <10 | 210 | 1.3 | <2 | 0.39 | <0.5 | 9 | 31 | 18 | 3.12 |
| ZZ21469 | | 0.20 | 0.048 | 0.3 | 1.50 | 20 | <10 | 160 | 0.8 | <2 | 0.31 | <0.5 | 8 | 26 | 15 | 2.30 |
| ZZ21470 | | 0.12 | 0.136 | 0.3 | 2.92 | 42 | <10 | 270 | 1.5 | <2 | 0.57 | <0.5 | 11 | 40 | 22 | 3.61 |
| ZZ21751 | | 0.10 | 0.003 | 0.3 | 1.26 | 5 | <10 | 130 | <0.5 | <2 | 0.21 | <0.5 | 8 | 25 | 24 | 2.67 |
| ZZ21752 | | 0.18 | 0.005 | 0.2 | 1.21 | 4 | <10 | 160 | <0.5 | <2 | 0.22 | <0.5 | 10 | 24 | 16 | 2.36 |
| ZZ21753 | | 0.22 | 0.005 | 0.2 | 1.54 | 5 | <10 | 130 | <0.5 | <2 | 0.27 | <0.5 | 11 | 69 | 18 | 3.04 |
| ZZ21754 | | 0.22 | 0.006 | 0.2 | 1.79 | 4 | <10 | 250 | 0.5 | <2 | 0.25 | <0.5 | 9 | 34 | 25 | 4.23 |
| ZZ21755 | | 0.14 | 0.002 | 0.2 | 1.39 | 3 | <10 | 180 | <0.5 | <2 | 0.41 | <0.5 | 8 | 32 | 15 | 2.55 |
| ZZ21756 | | 0.20 | 0.005 | 0.3 | 1.70 | 5 | <10 | 210 | <0.5 | <2 | 0.34 | <0.5 | 8 | 39 | 16 | 3.16 |
| ZZ21757 | | 0.16 | 0.004 | 0.3 | 1.76 | 6 | <10 | 170 | <0.5 | <2 | 0.40 | <0.5 | 9 | 34 | 20 | 2.87 |
| ZZ21758 | | 0.14 | 0.004 | 0.4 | 1.99 | 5 | <10 | 370 | 0.6 | <2 | 0.76 | <0.5 | 12 | 36 | 23 | 2.87 |
| ZZ21759 | | 0.22 | 0.008 | 0.3 | 1.80 | 5 | <10 | 260 | 0.5 | <2 | 0.50 | <0.5 | 13 | 43 | 27 | 3.09 |
| ZZ21760 | | 0.14 | 0.004 | 0.3 | 2.24 | 5 | <10 | 300 | 0.7 | <2 | 0.71 | 0.5 | 12 | 39 | 25 | 3.40 |
| ZZ21761 | | 0.16 | 0.004 | 0.3 | 1.79 | 7 | <10 | 410 | 0.5 | <2 | 0.49 | <0.5 | 12 | 40 | 15 | 3.08 |
| ZZ21762 | | 0.24 | 0.032 | 0.2 | 2.23 | 8 | <10 | 230 | 0.5 | <2 | 0.55 | <0.5 | 15 | 56 | 24 | 3.58 |
| ZZ21763 | | 0.22 | 0.002 | 0.3 | 1.91 | 7 | <10 | 210 | 0.5 | <2 | 0.35 | <0.5 | 12 | 32 | 23 | 3.42 |
| ZZ21764 | | 0.16 | <0.001 | 0.2 | 1.72 | 4 | <10 | 140 | 0.6 | <2 | 0.16 | <0.5 | 13 | 28 | 27 | 3.54 |
| ZZ21765 | | 0.18 | 0.001 | 0.2 | 1.58 | 6 | <10 | 170 | <0.5 | <2 | 0.20 | <0.5 | 17 | 29 | 18 | 2.79 |
| ZZ21766 | | 0.20 | 0.002 | <0.2 | 1.65 | 6 | <10 | 170 | <0.5 | <2 | 0.19 | <0.5 | 12 | 31 | 16 | 2.74 |
| ZZ21767 | | 0.18 | 0.002 | 0.2 | 1.61 | 8 | <10 | 200 | <0.5 | <2 | 0.35 | <0.5 | 11 | 33 | 15 | 2.75 |
| ZZ21768 | | 0.22 | 0.001 | 0.3 | 1.48 | 5 | <10 | 310 | <0.5 | <2 | 0.29 | <0.5 | 16 | 29 | 15 | 2.60 |
| ZZ21769 | | 0.22 | <0.001 | 0.2 | 1.60 | 6 | <10 | 200 | <0.5 | <2 | 0.34 | <0.5 | 11 | 33 | 15 | 2.92 |
| ZZ21770 | | 0.20 | 0.005 | 0.2 | 1.98 | 5 | <10 | 170 | 0.5 | <2 | 0.30 | <0.5 | 16 | 32 | 39 | 3.83 |
| ZZ21771 | | 0.14 | 0.002 | 0.3 | 1.66 | 2 | <10 | 250 | <0.5 | <2 | 0.24 | <0.5 | 14 | 26 | 14 | 2.96 |
| ZZ21772 | | 0.12 | 0.011 | 0.2 | 1.31 | 6 | <10 | 240 | <0.5 | <2 | 1.48 | <0.5 | 10 | 27 | 28 | 2.29 |
| ZZ21773 | | 0.16 | 0.001 | 0.2 | 1.55 | 5 | <10 | 180 | <0.5 | <2 | 0.46 | <0.5 | 10 | 31 | 18 | 2.85 |
| ZZ21774 | | 0.16 | 0.001 | 0.2 | 1.30 | 3 | <10 | 300 | <0.5 | <2 | 0.43 | <0.5 | 10 | 26 | 17 | 2.55 |
| ZZ21775 | | 0.22 | 0.002 | 0.2 | 1.37 | 6 | <10 | 120 | <0.5 | <2 | 0.20 | <0.5 | 8 | 26 | 17 | 2.66 |
| ZZ21776 | | 0.18 | 0.002 | 0.4 | 1.41 | 5 | <10 | 150 | <0.5 | <2 | 0.31 | <0.5 | 13 | 30 | 25 | 2.67 |
| ZZ21777 | | 0.20 | 0.002 | <0.2 | 1.36 | 6 | <10 | 150 | <0.5 | <2 | 0.23 | <0.5 | 10 | 28 | 16 | 2.59 |
| ZZ21778 | | 0.14 | <0.001 | 0.2 | 1.62 | 5 | <10 | 170 | <0.5 | <2 | 0.30 | <0.5 | 11 | 28 | 18 | 3.01 |
| ZZ21779 | | 0.22 | 0.002 | 0.3 | 2.63 | 21 | <10 | 620 | 0.9 | <2 | 0.49 | <0.5 | 28 | 143 | 54 | 4.92 |
| ZZ21780 | | 0.18 | 0.006 | 0.6 | 1.81 | 16 | <10 | 330 | 0.8 | <2 | 0.40 | 0.8 | 22 | 65 | 82 | 3.89 |
| ZZ21781 | | 0.26 | 0.002 | 0.2 | 1.48 | 8 | <10 | 170 | <0.5 | <2 | 0.21 | <0.5 | 9 | 31 | 17 | 2.79 |
| ZZ21782 | | 0.26 | <0.001 | 0.2 | 1.44 | 7 | <10 | 150 | <0.5 | <2 | 0.26 | <0.5 | 9 | 29 | 14 | 2.70 |
| ZZ21783 | | 0.22 | 0.001 | <0.2 | 1.44 | 5 | <10 | 140 | <0.5 | <2 | 0.25 | <0.5 | 9 | 28 | 19 | 2.88 |
| ZZ21784 | | 0.24 | 0.002 | 0.2 | 1.56 | 7 | <10 | 190 | <0.5 | <2 | 0.28 | <0.5 | 11 | 30 | 16 | 2.88 |

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ21465 | | <10 | <1 | 0.03 | 10 | 0.04 | 93 | 1 | 0.02 | 6 | 430 | 4 | 0.03 | <2 | <1 | 14 |
| ZZ21466 | | 10 | <1 | 0.10 | 30 | 0.49 | 451 | 1 | 0.01 | 20 | 400 | 17 | 0.01 | 2 | 4 | 20 |
| ZZ21467 | | 10 | <1 | 0.14 | 50 | 0.47 | 420 | 2 | 0.01 | 17 | 460 | 14 | 0.02 | 2 | 4 | 22 |
| ZZ21468 | | 10 | <1 | 0.16 | 60 | 0.56 | 650 | 1 | 0.01 | 17 | 650 | 16 | 0.03 | <2 | 6 | 35 |
| ZZ21469 | | <10 | <1 | 0.11 | 50 | 0.45 | 387 | <1 | 0.01 | 15 | 450 | 14 | 0.01 | <2 | 4 | 24 |
| ZZ21470 | | 10 | <1 | 0.13 | 140 | 0.55 | 731 | 1 | 0.01 | 22 | 850 | 25 | 0.04 | <2 | 6 | 44 |
| ZZ21751 | | <10 | <1 | 0.17 | 20 | 0.48 | 183 | <1 | 0.01 | 19 | 520 | 11 | 0.03 | <2 | 2 | 21 |
| ZZ21752 | | <10 | <1 | 0.09 | 10 | 0.42 | 394 | <1 | 0.01 | 16 | 290 | 7 | 0.01 | <2 | 2 | 19 |
| ZZ21753 | | 10 | <1 | 0.12 | 20 | 0.73 | 205 | <1 | 0.01 | 26 | 270 | 11 | 0.02 | <2 | 4 | 23 |
| ZZ21754 | | 10 | <1 | 0.34 | 30 | 0.70 | 161 | <1 | 0.11 | 24 | 570 | 17 | 0.61 | <2 | 4 | 38 |
| ZZ21755 | | 10 | <1 | 0.20 | 10 | 0.56 | 437 | <1 | 0.02 | 18 | 390 | 11 | 0.06 | <2 | 3 | 25 |
| ZZ21756 | | 10 | <1 | 0.22 | 10 | 0.65 | 231 | 2 | 0.01 | 20 | 340 | 12 | 0.01 | <2 | 4 | 23 |
| ZZ21757 | | 10 | <1 | 0.07 | 10 | 0.55 | 254 | 2 | 0.01 | 20 | 400 | 10 | 0.01 | <2 | 4 | 28 |
| ZZ21758 | | 10 | <1 | 0.29 | 20 | 0.63 | 1030 | 1 | 0.03 | 25 | 560 | 12 | 0.02 | <2 | 5 | 35 |
| ZZ21759 | | 10 | <1 | 0.33 | 20 | 0.78 | 602 | <1 | 0.02 | 28 | 260 | 11 | 0.01 | <2 | 6 | 25 |
| ZZ21760 | | 10 | 1 | 0.52 | 30 | 0.73 | 706 | 1 | 0.02 | 27 | 570 | 20 | 0.03 | <2 | 5 | 30 |
| ZZ21761 | | 10 | <1 | 0.28 | 20 | 0.55 | 754 | 1 | 0.02 | 24 | 380 | 18 | 0.01 | <2 | 5 | 26 |
| ZZ21762 | | 10 | <1 | 0.47 | 10 | 0.85 | 344 | <1 | 0.01 | 37 | 630 | 19 | 0.02 | <2 | 6 | 28 |
| ZZ21763 | | 10 | <1 | 0.37 | 30 | 0.65 | 481 | <1 | 0.01 | 25 | 470 | 15 | 0.01 | 4 | 4 | 20 |
| ZZ21764 | | 10 | <1 | 0.45 | 30 | 0.70 | 321 | <1 | 0.01 | 36 | 340 | 8 | 0.01 | <2 | 3 | 16 |
| ZZ21765 | | <10 | <1 | 0.14 | 20 | 0.47 | 431 | <1 | 0.01 | 22 | 210 | 7 | 0.01 | <2 | 3 | 21 |
| ZZ21766 | | 10 | <1 | 0.11 | 10 | 0.52 | 305 | <1 | 0.01 | 21 | 200 | 6 | 0.01 | <2 | 3 | 19 |
| ZZ21767 | | <10 | <1 | 0.15 | 10 | 0.45 | 463 | <1 | 0.01 | 20 | 260 | 7 | 0.01 | <2 | 4 | 28 |
| ZZ21768 | | <10 | <1 | 0.15 | 10 | 0.43 | 1160 | <1 | 0.01 | 22 | 270 | 8 | 0.01 | <2 | 4 | 25 |
| ZZ21769 | | <10 | <1 | 0.32 | 20 | 0.54 | 402 | <1 | 0.01 | 21 | 330 | 7 | 0.01 | <2 | 5 | 26 |
| ZZ21770 | | 10 | <1 | 0.84 | 80 | 0.91 | 507 | <1 | 0.01 | 40 | 650 | 12 | 0.01 | <2 | 4 | 21 |
| ZZ21771 | | 10 | <1 | 0.30 | 30 | 0.61 | 1360 | <1 | 0.01 | 28 | 560 | 14 | 0.01 | <2 | 3 | 19 |
| ZZ21772 | | <10 | <1 | 0.16 | 20 | 0.52 | 735 | 1 | 0.02 | 23 | 740 | 9 | 0.11 | <2 | 3 | 63 |
| ZZ21773 | | 10 | <1 | 0.28 | 20 | 0.68 | 389 | <1 | 0.02 | 18 | 630 | 7 | 0.10 | <2 | 3 | 36 |
| ZZ21774 | | <10 | <1 | 0.18 | 20 | 0.49 | 635 | <1 | 0.02 | 13 | 890 | 6 | 0.06 | <2 | 3 | 36 |
| ZZ21775 | | <10 | <1 | 0.08 | 10 | 0.42 | 164 | <1 | 0.01 | 19 | 360 | 8 | 0.02 | <2 | 2 | 20 |
| ZZ21776 | | 10 | <1 | 0.24 | 20 | 0.62 | 477 | 1 | 0.02 | 24 | 300 | 8 | 0.04 | <2 | 3 | 28 |
| ZZ21777 | | <10 | <1 | 0.13 | 10 | 0.50 | 264 | <1 | 0.01 | 21 | 310 | 8 | 0.02 | <2 | 3 | 22 |
| ZZ21778 | | 10 | <1 | 0.36 | 20 | 0.68 | 382 | <1 | 0.01 | 24 | 470 | 7 | 0.03 | <2 | 3 | 26 |
| ZZ21779 | | 10 | <1 | 1.07 | 20 | 1.72 | 780 | <1 | 0.02 | 102 | 690 | 7 | 0.03 | 2 | 8 | 31 |
| ZZ21780 | | 10 | <1 | 0.51 | 20 | 0.82 | 744 | 2 | 0.01 | 79 | 680 | 10 | 0.07 | 2 | 7 | 42 |
| ZZ21781 | | <10 | <1 | 0.12 | 10 | 0.49 | 308 | <1 | 0.01 | 18 | 200 | 6 | 0.02 | <2 | 3 | 22 |
| ZZ21782 | | <10 | <1 | 0.11 | 10 | 0.47 | 249 | <1 | 0.01 | 21 | 280 | 7 | 0.02 | <2 | 3 | 23 |
| ZZ21783 | | <10 | <1 | 0.28 | 30 | 0.63 | 210 | <1 | 0.01 | 22 | 330 | 9 | 0.03 | <2 | 3 | 23 |
| ZZ21784 | | 10 | <1 | 0.17 | 20 | 0.58 | 369 | <1 | 0.01 | 20 | 300 | 9 | 0.01 | <2 | 3 | 22 |

***** See Appendix Page for comments regarding this certificate *****

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**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method Analyte Units LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ21465 | | <20 | 0.01 | <10 | <10 | 14 | <10 | 25 |
| ZZ21466 | | <20 | 0.08 | <10 | <10 | 59 | <10 | 63 |
| ZZ21467 | | <20 | 0.08 | <10 | <10 | 52 | <10 | 61 |
| ZZ21468 | | <20 | 0.07 | <10 | <10 | 55 | <10 | 70 |
| ZZ21469 | | <20 | 0.07 | <10 | <10 | 44 | <10 | 54 |
| ZZ21470 | | 20 | 0.06 | <10 | <10 | 57 | <10 | 82 |
| ZZ21751 | | <20 | 0.09 | <10 | <10 | 46 | <10 | 46 |
| ZZ21752 | | <20 | 0.08 | <10 | <10 | 50 | <10 | 36 |
| ZZ21753 | | <20 | 0.08 | <10 | <10 | 54 | <10 | 57 |
| ZZ21754 | | <20 | 0.08 | <10 | <10 | 42 | <10 | 53 |
| ZZ21755 | | <20 | 0.10 | <10 | <10 | 48 | <10 | 50 |
| ZZ21756 | | <20 | 0.10 | <10 | <10 | 62 | <10 | 58 |
| ZZ21757 | | <20 | 0.09 | <10 | <10 | 62 | <10 | 48 |
| ZZ21758 | | <20 | 0.09 | <10 | <10 | 48 | <10 | 80 |
| ZZ21759 | | <20 | 0.10 | <10 | <10 | 55 | <10 | 60 |
| ZZ21760 | | <20 | 0.11 | <10 | <10 | 46 | <10 | 94 |
| ZZ21761 | | <20 | 0.10 | <10 | <10 | 53 | <10 | 59 |
| ZZ21762 | | <20 | 0.14 | <10 | <10 | 67 | <10 | 80 |
| ZZ21763 | | <20 | 0.10 | <10 | <10 | 43 | <10 | 78 |
| ZZ21764 | | <20 | 0.11 | <10 | <10 | 41 | <10 | 79 |
| ZZ21765 | | <20 | 0.09 | <10 | <10 | 53 | <10 | 47 |
| ZZ21766 | | <20 | 0.09 | <10 | <10 | 55 | <10 | 48 |
| ZZ21767 | | <20 | 0.08 | <10 | <10 | 57 | <10 | 45 |
| ZZ21768 | | <20 | 0.08 | <10 | <10 | 51 | <10 | 47 |
| ZZ21769 | | <20 | 0.11 | <10 | <10 | 53 | <10 | 55 |
| ZZ21770 | | 20 | 0.14 | <10 | <10 | 41 | <10 | 88 |
| ZZ21771 | | <20 | 0.10 | <10 | <10 | 38 | <10 | 84 |
| ZZ21772 | | <20 | 0.06 | <10 | <10 | 40 | <10 | 67 |
| ZZ21773 | | <20 | 0.10 | <10 | <10 | 48 | <10 | 62 |
| ZZ21774 | | <20 | 0.08 | <10 | <10 | 42 | <10 | 71 |
| ZZ21775 | | <20 | 0.07 | <10 | <10 | 51 | <10 | 51 |
| ZZ21776 | | <20 | 0.11 | <10 | <10 | 49 | <10 | 56 |
| ZZ21777 | | <20 | 0.09 | <10 | <10 | 53 | <10 | 47 |
| ZZ21778 | | <20 | 0.11 | <10 | <10 | 47 | <10 | 69 |
| ZZ21779 | | <20 | 0.22 | <10 | <10 | 118 | <10 | 101 |
| ZZ21780 | | <20 | 0.10 | <10 | <10 | 95 | <10 | 185 |
| ZZ21781 | | <20 | 0.09 | <10 | <10 | 57 | <10 | 47 |
| ZZ21782 | | <20 | 0.08 | <10 | <10 | 56 | <10 | 48 |
| ZZ21783 | | <20 | 0.11 | <10 | <10 | 45 | <10 | 54 |
| ZZ21784 | | <20 | 0.10 | <10 | <10 | 56 | <10 | 48 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg .02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ21785 | | 0.18 | 0.002 | <0.2 | 1.51 | 8 | <10 | 170 | <0.5 | <2 | 0.30 | <0.5 | 8 | 32 | 19 | 2.82 |
| ZZ21786 | | 0.26 | 0.008 | <0.2 | 1.79 | 6 | <10 | 240 | 0.6 | <2 | 0.44 | <0.5 | 14 | 43 | 33 | 3.11 |
| ZZ21787 | | 0.22 | 0.006 | <0.2 | 1.86 | 5 | <10 | 280 | 0.5 | <2 | 0.62 | <0.5 | 12 | 36 | 29 | 3.42 |
| ZZ21788 | | 0.28 | 0.024 | 0.4 | 1.59 | 5 | <10 | 340 | 0.5 | <2 | 0.83 | <0.5 | 12 | 27 | 27 | 4.09 |
| ZZ21789 | | 0.14 | 0.022 | 0.3 | 1.23 | 22 | <10 | 150 | <0.5 | <2 | 1.11 | <0.5 | 9 | 25 | 26 | 2.61 |
| ZZ21790 | | 0.20 | 0.002 | <0.2 | 1.65 | 9 | <10 | 200 | 0.6 | <2 | 0.55 | <0.5 | 15 | 34 | 38 | 3.46 |
| ZZ20961 | | 0.22 | 0.002 | 0.2 | 1.65 | 6 | <10 | 150 | <0.5 | <2 | 0.27 | <0.5 | 11 | 36 | 24 | 2.87 |
| ZZ21347 | | 0.18 | <0.001 | <0.2 | 1.67 | 4 | <10 | 480 | <0.5 | <2 | 0.40 | <0.5 | 11 | 44 | 19 | 3.13 |

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**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ21785 | | 10 | 1 | 0.14 | 20 | 0.56 | 226 | 1 | 0.01 | 22 | 320 | 11 | 0.04 | <2 | 3 | 25 |
| ZZ21786 | | 10 | <1 | 0.12 | 30 | 0.65 | 399 | 1 | 0.02 | 27 | 460 | 12 | 0.05 | <2 | 5 | 31 |
| ZZ21787 | | 10 | <1 | 0.17 | 20 | 0.80 | 442 | 1 | 0.03 | 26 | 650 | 15 | 0.15 | <2 | 5 | 37 |
| ZZ21788 | | 10 | <1 | 0.20 | 30 | 0.88 | 423 | 4 | 0.03 | 19 | 1490 | 14 | 0.05 | <2 | 8 | 37 |
| ZZ21789 | | <10 | <1 | 0.21 | 20 | 0.53 | 257 | 2 | 0.02 | 22 | 620 | 11 | 0.07 | <2 | 3 | 42 |
| ZZ21790 | | 10 | <1 | 0.31 | 30 | 0.70 | 458 | 1 | 0.02 | 37 | 500 | 15 | 0.09 | <2 | 5 | 40 |
| ZZ20961 | | 10 | <1 | 0.25 | 10 | 0.72 | 206 | 1 | 0.01 | 26 | 440 | 6 | 0.03 | <2 | 3 | 18 |
| ZZ21347 | | 10 | 1 | 0.34 | 10 | 0.75 | 426 | 1 | 0.01 | 25 | 250 | 10 | 0.03 | <2 | 3 | 20 |

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**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Sample Description | Method | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ21785 | | <20 | 0.10 | <10 | <10 | 55 | <10 | 52 |
| ZZ21786 | | <20 | 0.09 | <10 | <10 | 56 | <10 | 68 |
| ZZ21787 | | <20 | 0.11 | <10 | <10 | 50 | <10 | 71 |
| ZZ21788 | | <20 | 0.11 | <10 | <10 | 78 | <10 | 73 |
| ZZ21789 | | <20 | 0.07 | <10 | <10 | 38 | <10 | 61 |
| ZZ21790 | | <20 | 0.09 | <10 | <10 | 51 | <10 | 71 |
| ZZ20961 | | <20 | 0.12 | <10 | <10 | 66 | <10 | 52 |
| ZZ21347 | | <20 | 0.11 | <10 | <10 | 70 | <10 | 55 |

***** See Appendix Page for comments regarding this certificate *****

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
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**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus - Tooleary

# CERTIFICATE OF ANALYSIS WH11158348

| Method | CERTIFICATE COMMENTS |
|---|---|
| ME- ICP41 | Uranium ICP- AES results reported below 250 ppm are considered to be semi- quantitative due to interference when Ce > 250 ppm |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

# CERTIFICATE WH11158349

Project: Arcus Tooleary

P.O. No.:

This report is for 200 Soil samples submitted to our lab in Whitehorse, YT, Canada on 13- AUG- 2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI- 21 | Received Sample Weight |
| LOG- 22 | Sample login - Rcd w/o BarCode |
| 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: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus Tooleary

# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method / Analyte / Units / LOR | WEI- 21 Recvd Wt. kg 0.02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ24141 | | 0.22 | 0.002 | <0.2 | 1.70 | 10 | <10 | 180 | 0.5 | 3 | 0.24 | <0.5 | 9 | 34 | 20 | 2.84 |
| ZZ24142 | | 0.24 | 0.002 | <0.2 | 1.66 | 8 | <10 | 230 | <0.5 | 2 | 0.54 | <0.5 | 12 | 61 | 55 | 2.62 |
| ZZ24143 | | 0.14 | 0.003 | <0.2 | 1.91 | 10 | <10 | 180 | 0.5 | 2 | 0.48 | <0.5 | 11 | 37 | 22 | 3.08 |
| ZZ24144 | | 0.22 | 0.002 | <0.2 | 2.49 | 5 | <10 | 220 | 0.5 | <2 | 0.59 | <0.5 | 16 | 57 | 48 | 3.41 |
| ZZ24145 | | 0.20 | 0.001 | <0.2 | 1.56 | 8 | <10 | 180 | <0.5 | 3 | 0.42 | <0.5 | 11 | 43 | 16 | 2.64 |
| ZZ24146 | | 0.20 | 0.002 | <0.2 | 2.06 | 5 | <10 | 200 | <0.5 | 2 | 0.44 | <0.5 | 12 | 29 | 23 | 3.34 |
| ZZ24147 | | 0.28 | 0.002 | <0.2 | 2.02 | 8 | <10 | 260 | 0.5 | <2 | 0.45 | <0.5 | 11 | 32 | 28 | 3.55 |
| ZZ24148 | | 0.22 | 0.002 | <0.2 | 2.07 | 8 | <10 | 200 | <0.5 | 3 | 0.43 | <0.5 | 15 | 46 | 52 | 3.30 |
| ZZ24149 | | 0.30 | 0.005 | <0.2 | 1.66 | 15 | <10 | 220 | <0.5 | 3 | 0.53 | <0.5 | 10 | 42 | 39 | 2.88 |
| ZZ24150 | | 0.18 | 0.004 | <0.2 | 1.60 | 9 | <10 | 220 | <0.5 | 2 | 0.62 | <0.5 | 12 | 42 | 47 | 3.14 |
| ZZ24151 | | 0.18 | 0.005 | <0.2 | 1.80 | 7 | <10 | 230 | <0.5 | 2 | 0.72 | <0.5 | 12 | 50 | 58 | 3.09 |
| ZZ24152 | | 0.14 | 0.003 | <0.2 | 2.03 | 4 | <10 | 390 | 0.7 | 2 | 1.11 | <0.5 | 15 | 126 | 36 | 3.10 |
| ZZ24153 | | 0.24 | 0.004 | <0.2 | 1.77 | 4 | <10 | 280 | 0.5 | <2 | 0.94 | <0.5 | 14 | 53 | 44 | 3.38 |
| ZZ24154 | | 0.22 | 0.003 | <0.2 | 1.77 | 8 | <10 | 140 | 1.0 | 2 | 0.33 | <0.5 | 11 | 39 | 20 | 3.09 |
| ZZ24155 | | 0.24 | 0.004 | <0.2 | 2.02 | 2 | <10 | 150 | 0.6 | 2 | 0.40 | <0.5 | 13 | 39 | 26 | 3.41 |
| ZZ24156 | | 0.26 | 0.002 | <0.2 | 1.91 | 13 | <10 | 90 | 0.7 | 3 | 0.28 | <0.5 | 13 | 32 | 29 | 3.37 |
| ZZ24157 | | 0.28 | 0.005 | <0.2 | 1.96 | 5 | <10 | 230 | 0.7 | <2 | 0.53 | <0.5 | 13 | 42 | 41 | 3.44 |
| ZZ24158 | | 0.18 | 0.002 | <0.2 | 2.28 | 4 | <10 | 110 | <0.5 | 2 | 0.48 | <0.5 | 19 | 15 | 121 | 4.09 |
| ZZ24159 | | 0.22 | 0.003 | <0.2 | 1.65 | 11 | <10 | 220 | 0.6 | 2 | 0.56 | <0.5 | 13 | 35 | 44 | 3.06 |
| ZZ24160 | | 0.18 | 0.005 | <0.2 | 1.76 | 18 | <10 | 240 | 1.0 | 3 | 0.57 | <0.5 | 15 | 41 | 43 | 3.24 |
| ZZ24161 | | 0.16 | 0.003 | <0.2 | 1.93 | 8 | <10 | 200 | 0.7 | 2 | 0.54 | <0.5 | 13 | 41 | 24 | 3.40 |
| ZZ24162 | | 0.12 | 0.004 | <0.2 | 1.57 | 7 | <10 | 350 | 0.5 | 2 | 0.96 | <0.5 | 10 | 30 | 32 | 2.62 |
| ZZ24163 | | 0.18 | 0.004 | <0.2 | 1.51 | 9 | <10 | 170 | <0.5 | 2 | 0.42 | <0.5 | 7 | 26 | 19 | 2.34 |
| ZZ24164 | | 0.26 | 0.004 | <0.2 | 2.03 | 5 | <10 | 110 | 0.9 | 2 | 0.34 | <0.5 | 14 | 41 | 55 | 4.50 |
| ZZ24165 | | 0.14 | 0.016 | <0.2 | 1.98 | 16 | <10 | 180 | 1.2 | 3 | 0.41 | <0.5 | 13 | 51 | 31 | 3.50 |
| ZZ24166 | | 0.18 | 0.005 | <0.2 | 1.60 | 11 | <10 | 210 | 0.8 | 3 | 0.45 | <0.5 | 11 | 31 | 34 | 3.13 |
| ZZ24167 | | 0.22 | 0.001 | <0.2 | 2.67 | 7 | <10 | 180 | 0.9 | 3 | 0.71 | 2.1 | 21 | 61 | 105 | 4.52 |
| ZZ24168 | | 0.18 | 0.003 | <0.2 | 1.88 | 4 | <10 | 210 | <0.5 | 3 | 0.40 | 0.8 | 11 | 33 | 64 | 3.33 |
| ZZ24169 | | 0.24 | 0.005 | 0.2 | 1.76 | 10 | <10 | 260 | 0.5 | 3 | 0.31 | <0.5 | 10 | 32 | 22 | 3.20 |
| ZZ24170 | | 0.24 | 0.005 | <0.2 | 2.13 | 6 | <10 | 320 | 0.5 | <2 | 0.67 | <0.5 | 12 | 35 | 98 | 4.13 |
| ZZ24171 | | 0.18 | 0.003 | <0.2 | 2.35 | 7 | <10 | 260 | 0.6 | 3 | 0.47 | <0.5 | 17 | 60 | 24 | 3.82 |
| ZZ24172 | | 0.24 | 0.003 | 0.4 | 2.12 | 7 | <10 | 230 | <0.5 | <2 | 0.44 | 0.5 | 10 | 36 | 32 | 3.41 |
| ZZ24173 | | 0.22 | 0.002 | 0.2 | 2.13 | 6 | <10 | 180 | <0.5 | <2 | 0.42 | <0.5 | 13 | 36 | 30 | 3.48 |
| ZZ24174 | | 0.26 | 0.005 | 0.2 | 1.94 | 9 | <10 | 290 | 0.5 | <2 | 0.54 | <0.5 | 15 | 45 | 64 | 3.39 |
| ZZ24175 | | 0.26 | 0.005 | 0.3 | 1.60 | 9 | <10 | 320 | 0.5 | <2 | 0.55 | <0.5 | 11 | 28 | 43 | 2.88 |
| ZZ24176 | | 0.18 | 0.002 | <0.2 | 1.20 | 4 | <10 | 200 | <0.5 | <2 | 1.23 | <0.5 | 31 | 23 | 181 | 3.80 |
| ZZ24177 | | 0.24 | 0.004 | <0.2 | 1.73 | 9 | <10 | 270 | <0.5 | <2 | 0.43 | <0.5 | 16 | 27 | 33 | 3.00 |
| ZZ24178 | | 0.20 | 0.003 | <0.2 | 2.74 | 3 | <10 | 930 | 0.5 | <2 | 0.64 | <0.5 | 20 | 28 | 47 | 4.86 |
| ZZ24179 | | 0.20 | 0.003 | 0.2 | 1.36 | 10 | <10 | 390 | 0.5 | <2 | 0.48 | <0.5 | 10 | 44 | 27 | 2.87 |
| ZZ24180 | | 0.14 | 0.004 | <0.2 | 2.74 | 4 | <10 | 200 | 0.7 | <2 | 0.44 | <0.5 | 19 | 26 | 24 | 4.44 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus Tooleary

# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24141 | | 10 | <1 | 0.05 | 10 | 0.49 | 215 | <1 | 0.01 | 17 | 200 | 10 | <0.01 | <2 | 4 | 20 |
| ZZ24142 | | 10 | <1 | 0.07 | 10 | 0.93 | 385 | 1 | 0.01 | 33 | 310 | 9 | <0.01 | 2 | 5 | 26 |
| ZZ24143 | | 10 | <1 | 0.12 | 10 | 0.60 | 369 | 1 | 0.01 | 17 | 350 | 7 | <0.01 | <2 | 6 | 29 |
| ZZ24144 | | 10 | <1 | 0.21 | 10 | 1.19 | 354 | <1 | 0.03 | 45 | 180 | 9 | <0.01 | <2 | 7 | 40 |
| ZZ24145 | | 10 | <1 | 0.19 | 10 | 0.59 | 386 | 1 | 0.01 | 19 | 370 | 7 | <0.01 | 2 | 4 | 31 |
| ZZ24146 | | 10 | <1 | 0.33 | 10 | 1.10 | 374 | <1 | 0.01 | 14 | 320 | 7 | <0.01 | <2 | 3 | 32 |
| ZZ24147 | | 10 | <1 | 0.18 | 10 | 0.81 | 418 | <1 | 0.02 | 18 | 410 | 8 | <0.01 | <2 | 8 | 26 |
| ZZ24148 | | 10 | <1 | 0.09 | 10 | 1.04 | 508 | <1 | 0.01 | 25 | 420 | 7 | <0.01 | <2 | 5 | 33 |
| ZZ24149 | | 10 | <1 | 0.05 | 10 | 0.73 | 285 | 1 | 0.02 | 24 | 570 | 7 | <0.01 | <2 | 5 | 32 |
| ZZ24150 | | 10 | <1 | 0.07 | 10 | 0.71 | 430 | 2 | 0.02 | 30 | 520 | 6 | 0.01 | <2 | 5 | 37 |
| ZZ24151 | | 10 | <1 | 0.09 | 10 | 0.91 | 369 | 1 | 0.02 | 27 | 450 | 6 | <0.01 | <2 | 5 | 37 |
| ZZ24152 | | 10 | 1 | 0.08 | 30 | 1.37 | 437 | <1 | 0.02 | 49 | 610 | 9 | 0.02 | <2 | 4 | 43 |
| ZZ24153 | | 10 | <1 | 0.17 | 20 | 1.07 | 437 | <1 | 0.01 | 23 | 600 | 7 | 0.02 | <2 | 6 | 37 |
| ZZ24154 | | 10 | <1 | 0.28 | 10 | 0.78 | 233 | <1 | 0.01 | 27 | 390 | 8 | <0.01 | <2 | 4 | 18 |
| ZZ24155 | | 10 | <1 | 0.46 | 40 | 1.20 | 244 | 1 | 0.01 | 31 | 780 | 10 | <0.01 | 2 | 4 | 17 |
| ZZ24156 | | 10 | <1 | 0.39 | 30 | 0.95 | 178 | <1 | 0.01 | 29 | 460 | 12 | <0.01 | <2 | 3 | 13 |
| ZZ24157 | | 10 | <1 | 0.18 | 20 | 0.95 | 339 | <1 | 0.02 | 26 | 460 | 8 | <0.01 | <2 | 6 | 27 |
| ZZ24158 | | 10 | <1 | 0.07 | <10 | 1.54 | 518 | <1 | 0.02 | 15 | 610 | <2 | <0.01 | 2 | 9 | 22 |
| ZZ24159 | | 10 | <1 | 0.09 | 30 | 0.68 | 372 | 1 | 0.02 | 27 | 690 | 8 | 0.01 | <2 | 5 | 34 |
| ZZ24160 | | 10 | <1 | 0.07 | 50 | 0.55 | 317 | 1 | 0.02 | 34 | 350 | 22 | 0.01 | 2 | 5 | 36 |
| ZZ24161 | | 10 | <1 | 0.06 | 10 | 0.73 | 338 | 1 | 0.01 | 27 | 480 | 10 | <0.01 | 2 | 4 | 29 |
| ZZ24162 | | 10 | <1 | 0.05 | 20 | 0.51 | 687 | <1 | 0.03 | 27 | 560 | 6 | 0.03 | <2 | 4 | 51 |
| ZZ24163 | | 10 | <1 | 0.05 | 20 | 0.41 | 157 | 1 | 0.01 | 17 | 430 | 7 | 0.01 | 2 | 3 | 29 |
| ZZ24164 | | 10 | <1 | 0.06 | 40 | 0.84 | 248 | 2 | 0.01 | 31 | 370 | 24 | 0.02 | <2 | 6 | 28 |
| ZZ24165 | | 10 | <1 | 0.06 | 20 | 0.61 | 312 | 1 | 0.01 | 37 | 230 | 19 | <0.01 | 2 | 7 | 27 |
| ZZ24166 | | 10 | <1 | 0.12 | 30 | 0.54 | 420 | 1 | 0.01 | 33 | 570 | 13 | <0.01 | <2 | 6 | 27 |
| ZZ24167 | | 10 | <1 | 0.08 | 10 | 1.44 | 1005 | 1 | 0.01 | 24 | 850 | 76 | <0.01 | <2 | 6 | 72 |
| ZZ24168 | | 10 | <1 | 0.27 | 10 | 0.89 | 443 | 3 | 0.02 | 14 | 510 | 139 | 0.01 | <2 | 3 | 31 |
| ZZ24169 | | 10 | <1 | 0.19 | 10 | 0.54 | 283 | 1 | 0.01 | 17 | 310 | 24 | <0.01 | <2 | 5 | 25 |
| ZZ24170 | | 10 | <1 | 0.45 | 20 | 0.93 | 619 | 2 | 0.02 | 18 | 1180 | 79 | 0.03 | <2 | 5 | 51 |
| ZZ24171 | | 10 | <1 | 0.48 | 10 | 1.35 | 809 | <1 | 0.01 | 28 | 670 | 20 | <0.01 | <2 | 6 | 28 |
| ZZ24172 | | 10 | <1 | 0.46 | 10 | 1.00 | 524 | <1 | 0.02 | 23 | 910 | 97 | 0.01 | <2 | 3 | 31 |
| ZZ24173 | | 10 | <1 | 0.51 | 10 | 1.09 | 694 | <1 | 0.02 | 17 | 450 | 66 | 0.01 | <2 | 3 | 28 |
| ZZ24174 | | 10 | <1 | 0.43 | 30 | 1.13 | 647 | <1 | 0.03 | 24 | 650 | 13 | 0.01 | <2 | 7 | 33 |
| ZZ24175 | | <10 | <1 | 0.16 | 30 | 0.57 | 576 | <1 | 0.03 | 19 | 470 | 19 | 0.01 | <2 | 5 | 40 |
| ZZ24176 | | <10 | <1 | 0.07 | <10 | 0.74 | 646 | <1 | 0.04 | 17 | 4370 | 3 | 0.01 | <2 | 9 | 39 |
| ZZ24177 | | <10 | <1 | 0.13 | 10 | 0.65 | 262 | <1 | 0.03 | 19 | 800 | 7 | 0.02 | <2 | 4 | 32 |
| ZZ24178 | | 10 | <1 | 0.75 | 10 | 2.03 | 731 | <1 | 0.03 | 14 | 970 | 7 | 0.02 | <2 | 6 | 58 |
| ZZ24179 | | <10 | <1 | 0.16 | 10 | 0.53 | 349 | <1 | 0.02 | 28 | 350 | 5 | 0.02 | <2 | 7 | 30 |
| ZZ24180 | | 10 | <1 | 0.77 | 10 | 1.86 | 520 | <1 | 0.02 | 15 | 410 | 2 | 0.01 | <2 | 3 | 36 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus Tooleary

# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method Analyte Units LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ24141 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 50 |
| ZZ24142 | | <20 | 0.08 | <10 | <10 | 58 | <10 | 49 |
| ZZ24143 | | <20 | 0.09 | <10 | <10 | 65 | <10 | 47 |
| ZZ24144 | | <20 | 0.16 | <10 | <10 | 86 | <10 | 44 |
| ZZ24145 | | <20 | 0.11 | <10 | <10 | 52 | <10 | 48 |
| ZZ24146 | | <20 | 0.18 | <10 | <10 | 71 | <10 | 68 |
| ZZ24147 | | <20 | 0.12 | <10 | <10 | 76 | <10 | 66 |
| ZZ24148 | | <20 | 0.14 | <10 | <10 | 73 | <10 | 63 |
| ZZ24149 | | <20 | 0.11 | <10 | <10 | 66 | <10 | 55 |
| ZZ24150 | | <20 | 0.09 | <10 | <10 | 77 | <10 | 72 |
| ZZ24151 | | <20 | 0.11 | <10 | <10 | 69 | <10 | 53 |
| ZZ24152 | | <20 | 0.11 | <10 | <10 | 65 | <10 | 58 |
| ZZ24153 | | <20 | 0.09 | <10 | <10 | 78 | <10 | 58 |
| ZZ24154 | | 20 | 0.09 | <10 | <10 | 51 | <10 | 53 |
| ZZ24155 | | <20 | 0.13 | <10 | <10 | 53 | <10 | 71 |
| ZZ24156 | | <20 | 0.11 | <10 | <10 | 42 | <10 | 73 |
| ZZ24157 | | <20 | 0.11 | <10 | <10 | 67 | <10 | 61 |
| ZZ24158 | | <20 | 0.02 | <10 | <10 | 130 | <10 | 41 |
| ZZ24159 | | <20 | 0.09 | <10 | <10 | 55 | <10 | 72 |
| ZZ24160 | | <20 | 0.06 | <10 | <10 | 55 | <10 | 58 |
| ZZ24161 | | <20 | 0.07 | <10 | <10 | 58 | <10 | 60 |
| ZZ24162 | | <20 | 0.07 | <10 | <10 | 51 | <10 | 61 |
| ZZ24163 | | <20 | 0.06 | <10 | <10 | 52 | <10 | 44 |
| ZZ24164 | | 20 | 0.05 | <10 | <10 | 50 | <10 | 100 |
| ZZ24165 | | <20 | 0.07 | <10 | <10 | 67 | <10 | 82 |
| ZZ24166 | | <20 | 0.06 | <10 | <10 | 55 | <10 | 62 |
| ZZ24167 | | <20 | 0.05 | <10 | <10 | 83 | <10 | 962 |
| ZZ24168 | | <20 | 0.16 | <10 | <10 | 62 | <10 | 391 |
| ZZ24169 | | <20 | 0.10 | <10 | <10 | 58 | <10 | 122 |
| ZZ24170 | | <20 | 0.17 | <10 | <10 | 54 | <10 | 269 |
| ZZ24171 | | <20 | 0.12 | <10 | <10 | 74 | <10 | 172 |
| ZZ24172 | | <20 | 0.15 | <10 | <10 | 63 | <10 | 252 |
| ZZ24173 | | <20 | 0.16 | <10 | <10 | 66 | <10 | 261 |
| ZZ24174 | | <20 | 0.14 | <10 | <10 | 69 | <10 | 120 |
| ZZ24175 | | <20 | 0.11 | <10 | <10 | 54 | <10 | 101 |
| ZZ24176 | | <20 | 0.06 | <10 | <10 | 101 | <10 | 39 |
| ZZ24177 | | <20 | 0.11 | <10 | <10 | 71 | <10 | 59 |
| ZZ24178 | | <20 | 0.23 | <10 | <10 | 107 | <10 | 91 |
| ZZ24179 | | <20 | 0.06 | <10 | <10 | 57 | <10 | 51 |
| ZZ24180 | | <20 | 0.14 | <10 | <10 | 84 | <10 | 77 |

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**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus Tooleary

# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg 0.02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ24181 | | 0.16 | 0.004 | <0.2 | 1.53 | 9 | <10 | 220 | <0.5 | <2 | 0.32 | <0.5 | 10 | 31 | 18 | 2.80 |
| ZZ24182 | | 0.22 | 0.003 | <0.2 | 1.39 | 7 | <10 | 330 | <0.5 | <2 | 0.28 | <0.5 | 9 | 26 | 19 | 2.61 |
| ZZ24183 | | 0.16 | 0.003 | <0.2 | 1.72 | 7 | <10 | 220 | <0.5 | <2 | 0.36 | <0.5 | 10 | 24 | 21 | 3.42 |
| ZZ24184 | | 0.18 | 0.003 | <0.2 | 1.79 | 10 | <10 | 250 | 0.5 | <2 | 0.35 | <0.5 | 10 | 41 | 34 | 3.01 |
| ZZ24185 | | 0.20 | 0.012 | <0.2 | 2.28 | 12 | <10 | 190 | 0.6 | <2 | 0.43 | <0.5 | 14 | 79 | 56 | 3.69 |
| ZZ24186 | | 0.16 | 0.004 | <0.2 | 1.27 | 97 | <10 | 130 | 0.6 | <2 | 0.29 | <0.5 | 9 | 33 | 42 | 3.28 |
| ZZ24187 | | 0.22 | 0.004 | <0.2 | 1.56 | 8 | <10 | 230 | 0.6 | <2 | 0.38 | <0.5 | 11 | 42 | 31 | 3.00 |
| ZZ24188 | | 0.20 | 0.007 | <0.2 | 1.81 | 10 | <10 | 260 | 0.5 | <2 | 0.37 | <0.5 | 9 | 41 | 19 | 3.08 |
| ZZ24189 | | 0.18 | 0.008 | <0.2 | 1.75 | 11 | <10 | 180 | 0.6 | <2 | 0.35 | <0.5 | 10 | 39 | 22 | 2.94 |
| ZZ24190 | | 0.20 | 0.002 | <0.2 | 1.87 | 4 | <10 | 150 | 0.5 | <2 | 0.26 | <0.5 | 14 | 34 | 30 | 3.36 |
| ZZ24191 | | 0.22 | 0.003 | <0.2 | 1.62 | 8 | <10 | 140 | 0.5 | <2 | 0.40 | <0.5 | 11 | 36 | 28 | 2.89 |
| ZZ24192 | | 0.26 | 0.003 | 0.2 | 1.66 | 6 | <10 | 170 | <0.5 | <2 | 0.33 | <0.5 | 13 | 40 | 58 | 3.08 |
| ZZ24193 | | 0.22 | 0.005 | <0.2 | 1.87 | 10 | <10 | 200 | 0.8 | <2 | 0.26 | <0.5 | 13 | 38 | 30 | 3.32 |
| ZZ24194 | | 0.22 | 0.002 | <0.2 | 1.37 | 5 | <10 | 270 | <0.5 | <2 | 0.20 | <0.5 | 10 | 32 | 16 | 2.75 |
| ZZ24195 | | 0.26 | 0.004 | <0.2 | 1.82 | 11 | <10 | 180 | 1.0 | <2 | 0.32 | <0.5 | 11 | 40 | 25 | 3.09 |
| ZZ24196 | | 0.24 | 0.003 | <0.2 | 0.83 | 28 | <10 | 110 | 0.8 | <2 | 0.28 | <0.5 | 10 | 15 | 28 | 3.17 |
| ZZ24197 | | 0.24 | 0.004 | <0.2 | 1.68 | 11 | <10 | 210 | 0.8 | <2 | 0.51 | <0.5 | 11 | 35 | 28 | 3.15 |
| ZZ24198 | | 0.16 | 0.002 | <0.2 | 2.24 | 6 | <10 | 120 | 0.9 | <2 | 0.26 | <0.5 | 13 | 41 | 28 | 3.68 |
| ZZ24199 | | 0.22 | 0.006 | <0.2 | 1.69 | 12 | <10 | 230 | 0.8 | <2 | 0.34 | <0.5 | 9 | 39 | 34 | 2.90 |
| ZZ24200 | | 0.28 | 0.006 | 0.2 | 1.73 | 13 | <10 | 370 | 1.1 | <2 | 0.40 | <0.5 | 10 | 38 | 37 | 2.91 |
| ZZ24201 | | 0.18 | 0.002 | <0.2 | 2.30 | 6 | <10 | 200 | 0.5 | <2 | 0.33 | <0.5 | 12 | 45 | 34 | 3.65 |
| ZZ24202 | | 0.22 | 0.002 | <0.2 | 1.86 | 7 | <10 | 230 | <0.5 | <2 | 0.37 | <0.5 | 14 | 28 | 43 | 3.11 |
| ZZ24203 | | 0.14 | 0.002 | 0.3 | 1.94 | 5 | <10 | 270 | 0.6 | <2 | 0.60 | <0.5 | 14 | 39 | 79 | 3.12 |
| ZZ24204 | | 0.18 | 0.003 | <0.2 | 1.80 | 7 | <10 | 260 | 0.5 | <2 | 0.40 | <0.5 | 11 | 45 | 29 | 2.82 |
| ZZ24205 | | 0.12 | 0.004 | <0.2 | 1.31 | 6 | <10 | 160 | <0.5 | <2 | 0.18 | <0.5 | 8 | 28 | 9 | 2.32 |
| ZZ24206 | | 0.18 | 0.004 | <0.2 | 1.58 | 7 | <10 | 150 | <0.5 | <2 | 0.20 | <0.5 | 10 | 33 | 14 | 2.73 |
| ZZ24207 | | 0.16 | 0.004 | <0.2 | 1.36 | 7 | <10 | 140 | <0.5 | <2 | 0.21 | <0.5 | 7 | 24 | 12 | 2.47 |
| ZZ24208 | | 0.16 | 0.005 | <0.2 | 1.66 | 7 | <10 | 150 | <0.5 | <2 | 0.24 | <0.5 | 10 | 35 | 23 | 3.01 |
| ZZ24209 | | 0.20 | 0.006 | <0.2 | 1.56 | 7 | <10 | 220 | 0.5 | <2 | 0.34 | <0.5 | 9 | 38 | 32 | 2.84 |
| ZZ24210 | | 0.18 | 0.006 | <0.2 | 1.95 | 8 | <10 | 150 | <0.5 | <2 | 0.22 | <0.5 | 9 | 44 | 30 | 3.10 |
| ZZ24211 | | 0.16 | 0.006 | <0.2 | 2.06 | 2 | <10 | 160 | 0.6 | <2 | 0.32 | <0.5 | 12 | 65 | 34 | 3.72 |
| ZZ24212 | | 0.20 | 0.003 | <0.2 | 1.62 | 7 | <10 | 240 | 0.7 | <2 | 0.49 | <0.5 | 11 | 33 | 40 | 3.29 |
| ZZ24213 | | 0.18 | 0.005 | <0.2 | 1.87 | 6 | <10 | 210 | 0.5 | <2 | 0.52 | <0.5 | 11 | 44 | 38 | 3.19 |
| ZZ24214 | | 0.18 | 0.005 | <0.2 | 1.72 | 7 | <10 | 230 | 0.6 | <2 | 0.48 | <0.5 | 11 | 37 | 32 | 3.16 |
| ZZ24215 | | 0.22 | 0.006 | <0.2 | 1.58 | 7 | <10 | 240 | 0.5 | <2 | 0.57 | <0.5 | 10 | 38 | 27 | 2.97 |
| ZZ24216 | | 0.14 | 0.004 | <0.2 | 1.33 | 6 | <10 | 230 | 0.5 | <2 | 0.87 | <0.5 | 11 | 28 | 20 | 2.57 |
| ZZ24217 | | 0.12 | 0.006 | <0.2 | 1.41 | 6 | <10 | 220 | 0.5 | <2 | 0.97 | <0.5 | 11 | 34 | 20 | 2.66 |
| ZZ24218 | | 0.16 | 0.004 | <0.2 | 2.23 | 10 | <10 | 210 | 1.7 | <2 | 0.73 | <0.5 | 13 | 58 | 20 | 3.44 |
| ZZ24219 | | 0.16 | 0.007 | <0.2 | 1.96 | 9 | <10 | 270 | 0.8 | <2 | 0.50 | <0.5 | 12 | 41 | 26 | 3.32 |
| ZZ24220 | | 0.16 | 0.006 | 0.4 | 2.71 | 105 | <10 | 250 | 1.7 | 2 | 0.57 | <0.5 | 52 | 54 | 148 | 6.08 |

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# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24181 | | <10 | <1 | 0.20 | 10 | 0.54 | 337 | <1 | 0.02 | 18 | 410 | 4 | 0.01 | <2 | 4 | 26 |
| ZZ24182 | | <10 | <1 | 0.09 | 10 | 0.40 | 593 | 1 | 0.02 | 17 | 300 | 7 | 0.02 | <2 | 3 | 23 |
| ZZ24183 | | 10 | <1 | 0.23 | 10 | 0.70 | 476 | <1 | 0.02 | 14 | 500 | 3 | 0.01 | <2 | 6 | 21 |
| ZZ24184 | | 10 | <1 | 0.20 | 10 | 0.52 | 357 | <1 | 0.02 | 22 | 240 | 6 | 0.01 | <2 | 6 | 25 |
| ZZ24185 | | 10 | <1 | 0.20 | 10 | 0.95 | 411 | 1 | 0.03 | 32 | 370 | 7 | 0.01 | <2 | 9 | 26 |
| ZZ24186 | | <10 | <1 | 0.09 | 10 | 0.41 | 348 | 3 | 0.02 | 29 | 300 | 10 | 0.02 | 4 | 8 | 23 |
| ZZ24187 | | <10 | <1 | 0.16 | 40 | 0.59 | 298 | <1 | 0.02 | 26 | 260 | 9 | 0.01 | <2 | 7 | 19 |
| ZZ24188 | | <10 | <1 | 0.12 | 10 | 0.54 | 245 | <1 | 0.02 | 19 | 160 | 6 | 0.01 | <2 | 7 | 25 |
| ZZ24189 | | 10 | <1 | 0.08 | 10 | 0.65 | 243 | <1 | 0.02 | 22 | 300 | 5 | 0.01 | <2 | 5 | 29 |
| ZZ24190 | | 10 | <1 | 0.62 | 10 | 0.85 | 201 | <1 | 0.02 | 31 | 530 | 6 | 0.01 | <2 | 4 | 16 |
| ZZ24191 | | 10 | <1 | 0.17 | 20 | 0.67 | 268 | <1 | 0.02 | 23 | 560 | 7 | 0.01 | 2 | 4 | 25 |
| ZZ24192 | | 10 | <1 | 0.13 | 10 | 0.73 | 405 | <1 | 0.03 | 22 | 260 | 4 | 0.01 | <2 | 6 | 17 |
| ZZ24193 | | 10 | <1 | 0.22 | 40 | 0.55 | 271 | 2 | 0.02 | 44 | 350 | 16 | 0.01 | <2 | 10 | 21 |
| ZZ24194 | | <10 | <1 | 0.23 | 10 | 0.47 | 221 | <1 | 0.02 | 23 | 250 | 7 | 0.01 | <2 | 2 | 20 |
| ZZ24195 | | 10 | <1 | 0.16 | 30 | 0.55 | 224 | <1 | 0.02 | 27 | 200 | 8 | 0.01 | <2 | 7 | 25 |
| ZZ24196 | | <10 | <1 | 0.09 | 10 | 0.14 | 272 | 3 | 0.01 | 31 | 630 | 11 | 0.01 | 3 | 3 | 16 |
| ZZ24197 | | 10 | <1 | 0.05 | 40 | 0.57 | 334 | <1 | 0.02 | 30 | 250 | 11 | 0.01 | <2 | 5 | 32 |
| ZZ24198 | | 10 | <1 | 0.07 | 20 | 0.69 | 244 | 1 | 0.02 | 33 | 310 | 6 | 0.01 | <2 | 4 | 20 |
| ZZ24199 | | 10 | <1 | 0.05 | 40 | 0.50 | 234 | 1 | 0.02 | 31 | 390 | 7 | 0.01 | <2 | 8 | 29 |
| ZZ24200 | | 10 | <1 | 0.05 | 80 | 0.47 | 371 | 1 | 0.02 | 29 | 420 | 8 | 0.01 | <2 | 10 | 33 |
| ZZ24201 | | 10 | <1 | 0.37 | 10 | 1.01 | 377 | 1 | 0.02 | 23 | 740 | 5 | 0.01 | <2 | 3 | 20 |
| ZZ24202 | | 10 | <1 | 0.23 | 10 | 0.85 | 619 | <1 | 0.02 | 19 | 600 | 5 | 0.01 | <2 | 4 | 28 |
| ZZ24203 | | 10 | <1 | 0.08 | 40 | 0.54 | 1740 | <1 | 0.03 | 21 | 300 | 6 | 0.02 | <2 | 5 | 34 |
| ZZ24204 | | 10 | <1 | 0.07 | 20 | 0.76 | 295 | <1 | 0.03 | 23 | 340 | 5 | 0.01 | <2 | 4 | 27 |
| ZZ24205 | | <10 | <1 | 0.10 | 10 | 0.41 | 333 | <1 | 0.02 | 16 | 210 | 5 | 0.01 | <2 | 2 | 16 |
| ZZ24206 | | <10 | <1 | 0.10 | 10 | 0.56 | 252 | <1 | 0.02 | 19 | 270 | 7 | 0.01 | <2 | 2 | 19 |
| ZZ24207 | | 10 | <1 | 0.23 | 10 | 0.45 | 163 | <1 | 0.02 | 16 | 190 | 6 | 0.01 | <2 | 2 | 20 |
| ZZ24208 | | 10 | <1 | 0.15 | 20 | 0.63 | 217 | 1 | 0.01 | 27 | 260 | 12 | 0.01 | <2 | 3 | 23 |
| ZZ24209 | | 10 | <1 | 0.05 | 20 | 0.58 | 243 | <1 | 0.02 | 21 | 150 | 6 | 0.01 | <2 | 5 | 28 |
| ZZ24210 | | 10 | <1 | 0.04 | 10 | 0.64 | 223 | <1 | 0.02 | 19 | 300 | 6 | 0.01 | <2 | 3 | 19 |
| ZZ24211 | | 10 | <1 | 0.24 | 20 | 0.88 | 289 | 1 | 0.01 | 39 | 580 | 6 | 0.01 | <2 | 4 | 20 |
| ZZ24212 | | 10 | <1 | 0.07 | 20 | 0.65 | 335 | 1 | 0.02 | 33 | 760 | 7 | 0.01 | <2 | 5 | 33 |
| ZZ24213 | | 10 | <1 | 0.05 | 20 | 0.79 | 340 | <1 | 0.03 | 23 | 390 | 6 | 0.01 | <2 | 7 | 32 |
| ZZ24214 | | 10 | <1 | 0.07 | 20 | 0.70 | 357 | <1 | 0.02 | 21 | 390 | 6 | 0.01 | <2 | 6 | 32 |
| ZZ24215 | | 10 | <1 | 0.06 | 20 | 0.63 | 330 | <1 | 0.02 | 25 | 550 | 7 | 0.01 | <2 | 5 | 34 |
| ZZ24216 | | <10 | <1 | 0.04 | 20 | 0.45 | 528 | <1 | 0.02 | 22 | 660 | 8 | 0.03 | <2 | 3 | 40 |
| ZZ24217 | | 10 | <1 | 0.05 | 20 | 0.52 | 415 | <1 | 0.02 | 25 | 670 | 12 | 0.03 | <2 | 3 | 45 |
| ZZ24218 | | 10 | <1 | 0.09 | 20 | 0.67 | 389 | 1 | 0.02 | 30 | 220 | 12 | 0.01 | <2 | 6 | 38 |
| ZZ24219 | | 10 | <1 | 0.12 | 10 | 0.50 | 344 | 1 | 0.01 | 34 | 280 | 11 | 0.01 | <2 | 6 | 29 |
| ZZ24220 | | 10 | <1 | 0.13 | 30 | 0.73 | 390 | 7 | 0.01 | 185 | 1020 | 17 | 0.02 | <2 | 9 | 38 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus Tooleary

# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method / Analyte / Units / LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ24181 | | <20 | 0.10 | <10 | <10 | 57 | <10 | 54 |
| ZZ24182 | | <20 | 0.06 | <10 | <10 | 52 | <10 | 53 |
| ZZ24183 | | <20 | 0.09 | <10 | <10 | 65 | <10 | 63 |
| ZZ24184 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 48 |
| ZZ24185 | | <20 | 0.12 | <10 | <10 | 84 | <10 | 59 |
| ZZ24186 | | <20 | 0.04 | <10 | <10 | 59 | <10 | 62 |
| ZZ24187 | | <20 | 0.05 | <10 | <10 | 61 | <10 | 53 |
| ZZ24188 | | <20 | 0.09 | <10 | <10 | 69 | <10 | 51 |
| ZZ24189 | | <20 | 0.08 | <10 | <10 | 60 | <10 | 42 |
| ZZ24190 | | <20 | 0.13 | <10 | <10 | 42 | <10 | 75 |
| ZZ24191 | | <20 | 0.08 | <10 | <10 | 49 | <10 | 55 |
| ZZ24192 | | <20 | 0.08 | <10 | <10 | 80 | <10 | 55 |
| ZZ24193 | | <20 | 0.08 | <10 | <10 | 63 | <10 | 55 |
| ZZ24194 | | <20 | 0.09 | <10 | <10 | 47 | <10 | 31 |
| ZZ24195 | | <20 | 0.08 | <10 | <10 | 56 | <10 | 49 |
| ZZ24196 | | <20 | 0.01 | <10 | <10 | 36 | <10 | 71 |
| ZZ24197 | | <20 | 0.05 | <10 | <10 | 49 | <10 | 54 |
| ZZ24198 | | 20 | 0.05 | <10 | <10 | 44 | <10 | 53 |
| ZZ24199 | | <20 | 0.08 | <10 | <10 | 62 | <10 | 50 |
| ZZ24200 | | <20 | 0.06 | <10 | <10 | 62 | <10 | 47 |
| ZZ24201 | | <20 | 0.17 | <10 | <10 | 92 | <10 | 83 |
| ZZ24202 | | <20 | 0.13 | <10 | <10 | 72 | <10 | 62 |
| ZZ24203 | | <20 | 0.10 | <10 | <10 | 73 | <10 | 44 |
| ZZ24204 | | <20 | 0.12 | <10 | <10 | 61 | <10 | 46 |
| ZZ24205 | | <20 | 0.07 | <10 | <10 | 50 | <10 | 43 |
| ZZ24206 | | <20 | 0.10 | <10 | <10 | 57 | <10 | 48 |
| ZZ24207 | | <20 | 0.11 | <10 | <10 | 48 | <10 | 38 |
| ZZ24208 | | <20 | 0.10 | <10 | <10 | 59 | <10 | 55 |
| ZZ24209 | | <20 | 0.10 | <10 | <10 | 62 | <10 | 49 |
| ZZ24210 | | <20 | 0.12 | <10 | <10 | 77 | <10 | 52 |
| ZZ24211 | | <20 | 0.11 | <10 | <10 | 64 | <10 | 80 |
| ZZ24212 | | <20 | 0.07 | <10 | <10 | 58 | <10 | 70 |
| ZZ24213 | | <20 | 0.12 | <10 | <10 | 74 | <10 | 58 |
| ZZ24214 | | <20 | 0.10 | <10 | <10 | 68 | <10 | 73 |
| ZZ24215 | | <20 | 0.09 | <10 | <10 | 55 | <10 | 58 |
| ZZ24216 | | <20 | 0.06 | <10 | <10 | 51 | <10 | 59 |
| ZZ24217 | | <20 | 0.07 | <10 | <10 | 51 | <10 | 65 |
| ZZ24218 | | <20 | 0.06 | <10 | <10 | 68 | <10 | 62 |
| ZZ24219 | | <20 | 0.07 | <10 | <10 | 67 | <10 | 49 |
| ZZ24220 | | 20 | 0.03 | <10 | <10 | 85 | <10 | 124 |

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**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus Tooleary

# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg 0.02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ24221 | | 0.20 | 0.004 | 0.2 | 1.91 | 9 | <10 | 290 | 0.6 | <2 | 0.35 | 0.5 | 12 | 39 | 27 | 3.45 |
| ZZ24222 | | 0.14 | 0.008 | 1.0 | 2.15 | 3 | <10 | 400 | 0.5 | <2 | 0.54 | 1.2 | 8 | 20 | 171 | 3.19 |
| ZZ24223 | | 0.16 | 0.001 | 0.7 | 1.70 | 4 | <10 | 270 | <0.5 | <2 | 0.57 | 0.5 | 8 | 25 | 29 | 3.41 |
| ZZ24224 | | 0.18 | 0.003 | 0.2 | 1.86 | 7 | <10 | 310 | 0.5 | <2 | 0.33 | <0.5 | 10 | 30 | 21 | 3.57 |
| ZZ24225 | | 0.16 | 0.002 | 0.2 | 1.43 | 4 | <10 | 210 | <0.5 | <2 | 0.27 | <0.5 | 7 | 22 | 13 | 2.57 |
| ZZ24226 | | 0.22 | 0.003 | <0.2 | 1.65 | 9 | <10 | 240 | 0.5 | <2 | 0.29 | <0.5 | 9 | 32 | 15 | 2.88 |
| ZZ24227 | | 0.18 | 0.002 | <0.2 | 1.77 | 5 | <10 | 300 | <0.5 | <2 | 0.38 | <0.5 | 13 | 30 | 21 | 3.18 |
| ZZ24228 | | 0.16 | 0.003 | <0.2 | 1.19 | 3 | <10 | 250 | <0.5 | <2 | 0.25 | <0.5 | 6 | 19 | 14 | 2.43 |
| ZZ24229 | | 0.16 | 0.003 | <0.2 | 1.74 | 8 | <10 | 320 | 0.5 | <2 | 0.53 | <0.5 | 11 | 32 | 29 | 3.17 |
| ZZ24230 | | 0.18 | 0.004 | <0.2 | 1.65 | 6 | <10 | 260 | <0.5 | <2 | 0.44 | <0.5 | 11 | 30 | 18 | 2.92 |
| ZZ24231 | | 0.16 | 0.004 | <0.2 | 1.55 | 7 | <10 | 290 | <0.5 | <2 | 0.51 | <0.5 | 9 | 29 | 22 | 2.83 |
| ZZ24232 | | 0.16 | 0.006 | 0.2 | 1.50 | 10 | <10 | 410 | 1.0 | <2 | 1.17 | <0.5 | 10 | 34 | 43 | 2.60 |
| ZZ24233 | | 0.20 | 0.007 | 0.2 | 1.40 | 7 | <10 | 480 | 0.7 | <2 | 0.97 | <0.5 | 9 | 28 | 46 | 3.04 |
| ZZ24234 | | 0.26 | 0.007 | 0.7 | 1.81 | 10 | <10 | 190 | 0.7 | 8 | 0.34 | 1.6 | 9 | 41 | 29 | 3.46 |
| ZZ24235 | | 0.14 | 0.004 | 0.2 | 1.67 | 12 | <10 | 310 | 0.8 | <2 | 0.41 | <0.5 | 9 | 33 | 27 | 3.48 |
| ZZ24236 | | 0.18 | 0.004 | <0.2 | 2.54 | 6 | <10 | 310 | 0.8 | <2 | 0.43 | <0.5 | 15 | 44 | 35 | 4.89 |
| ZZ24237 | | 0.26 | 0.003 | <0.2 | 1.51 | 11 | <10 | 510 | 0.5 | <2 | 0.49 | <0.5 | 11 | 33 | 25 | 3.09 |
| ZZ24238 | | 0.16 | 0.003 | <0.2 | 1.93 | 5 | <10 | 380 | 0.6 | <2 | 0.44 | <0.5 | 11 | 43 | 15 | 4.16 |
| ZZ24239 | | 0.18 | 0.003 | <0.2 | 2.48 | 3 | <10 | 560 | 0.5 | <2 | 0.85 | <0.5 | 17 | 47 | 74 | 5.20 |
| ZZ24240 | | 0.22 | 0.004 | <0.2 | 1.63 | 3 | <10 | 360 | <0.5 | <2 | 0.52 | <0.5 | 12 | 30 | 45 | 3.58 |
| ZZ24241 | | 0.22 | 0.005 | <0.2 | 1.58 | 6 | <10 | 460 | 0.5 | 2 | 0.83 | <0.5 | 11 | 35 | 41 | 3.78 |
| ZZ24242 | | 0.20 | 0.004 | <0.2 | 1.63 | 8 | <10 | 380 | 0.5 | <2 | 0.85 | <0.5 | 12 | 37 | 33 | 3.19 |
| ZZ24243 | | 0.20 | 0.001 | <0.2 | 2.21 | 4 | <10 | 250 | 0.5 | <2 | 0.56 | <0.5 | 18 | 64 | 45 | 4.02 |
| ZZ24244 | | 0.22 | 0.005 | <0.2 | 2.02 | 6 | <10 | 370 | 0.5 | <2 | 0.84 | <0.5 | 17 | 29 | 40 | 4.52 |
| ZZ24245 | | 0.22 | 0.006 | <0.2 | 2.02 | 3 | <10 | 350 | <0.5 | <2 | 0.92 | <0.5 | 20 | 14 | 75 | 4.92 |
| ZZ24246 | | 0.20 | 0.002 | <0.2 | 2.93 | 5 | <10 | 370 | 0.5 | <2 | 0.36 | <0.5 | 19 | 143 | 43 | 4.55 |
| ZZ24247 | | 0.26 | 0.005 | <0.2 | 2.52 | 9 | <10 | 170 | 0.7 | <2 | 0.33 | <0.5 | 14 | 52 | 36 | 4.02 |
| ZZ24248 | | 0.26 | 0.007 | <0.2 | 2.71 | 11 | <10 | 260 | 0.9 | <2 | 0.55 | <0.5 | 22 | 126 | 38 | 4.44 |
| ZZ24249 | | 0.22 | 0.004 | 0.2 | 1.67 | 11 | <10 | 330 | 0.9 | <2 | 0.58 | <0.5 | 15 | 32 | 54 | 3.16 |
| ZZ24250 | | 0.28 | 0.002 | <0.2 | 1.98 | 9 | <10 | 320 | 0.6 | <2 | 0.49 | <0.5 | 19 | 82 | 37 | 3.73 |
| ZZ24251 | | 0.22 | 0.003 | <0.2 | 2.19 | 5 | <10 | 170 | <0.5 | <2 | 0.42 | <0.5 | 13 | 53 | 38 | 3.41 |
| ZZ24252 | | 0.20 | 0.002 | <0.2 | 1.81 | 4 | <10 | 130 | 0.5 | <2 | 0.19 | <0.5 | 12 | 29 | 27 | 3.56 |
| ZZ24253 | | 0.16 | 0.002 | 0.2 | 1.70 | 7 | <10 | 150 | <0.5 | <2 | 0.19 | <0.5 | 8 | 29 | 16 | 2.96 |
| ZZ24254 | | 0.20 | 0.002 | <0.2 | 2.21 | 4 | <10 | 150 | 0.6 | <2 | 0.24 | <0.5 | 14 | 34 | 32 | 3.47 |
| ZZ24255 | | 0.20 | 0.002 | <0.2 | 1.61 | 4 | <10 | 160 | <0.5 | <2 | 0.31 | <0.5 | 9 | 30 | 17 | 2.96 |
| ZZ24256 | | 0.22 | 0.005 | <0.2 | 2.11 | 5 | <10 | 190 | <0.5 | <2 | 0.33 | <0.5 | 12 | 45 | 21 | 3.45 |
| ZZ24257 | | 0.18 | 0.009 | 0.2 | 1.80 | 7 | <10 | 170 | 0.6 | <2 | 0.29 | <0.5 | 10 | 34 | 19 | 3.16 |
| ZZ24258 | | 0.18 | 0.011 | 0.2 | 1.83 | 6 | <10 | 160 | <0.5 | <2 | 0.24 | <0.5 | 10 | 35 | 19 | 3.42 |
| ZZ24259 | | 0.18 | 0.013 | 0.3 | 1.59 | 4 | <10 | 200 | <0.5 | <2 | 0.47 | <0.5 | 8 | 27 | 30 | 2.43 |
| ZZ24260 | | 0.12 | 0.012 | 0.2 | 1.82 | 5 | <10 | 240 | 0.6 | <2 | 1.03 | <0.5 | 10 | 34 | 38 | 2.60 |

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**Finalized Date: 16- SEP- 2011**
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# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24221 | | 10 | <1 | 0.10 | 10 | 0.62 | 444 | 1 | 0.02 | 21 | 210 | 47 | 0.01 | <2 | 6 | 29 |
| ZZ24222 | | 10 | <1 | 0.33 | 20 | 1.39 | 778 | 6 | 0.02 | 10 | 620 | 381 | 0.01 | <2 | 4 | 35 |
| ZZ24223 | | 10 | <1 | 0.44 | 10 | 0.76 | 402 | 1 | 0.02 | 14 | 420 | 38 | 0.01 | 2 | 2 | 40 |
| ZZ24224 | | 10 | <1 | 0.31 | 10 | 0.66 | 394 | <1 | 0.02 | 17 | 450 | 19 | 0.01 | <2 | 4 | 29 |
| ZZ24225 | | 10 | <1 | 0.14 | 10 | 0.45 | 249 | <1 | 0.01 | 12 | 270 | 22 | 0.01 | <2 | 2 | 22 |
| ZZ24226 | | 10 | <1 | 0.08 | 10 | 0.57 | 355 | <1 | 0.01 | 19 | 350 | 9 | 0.01 | <2 | 3 | 30 |
| ZZ24227 | | 10 | <1 | 0.14 | 10 | 0.66 | 948 | <1 | 0.02 | 18 | 380 | 17 | 0.01 | <2 | 3 | 30 |
| ZZ24228 | | 10 | <1 | 0.18 | 10 | 0.50 | 421 | 1 | 0.02 | 9 | 280 | 12 | 0.02 | <2 | 2 | 22 |
| ZZ24229 | | 10 | <1 | 0.15 | 20 | 0.65 | 551 | <1 | 0.02 | 21 | 570 | 10 | 0.02 | <2 | 5 | 38 |
| ZZ24230 | | 10 | <1 | 0.09 | 10 | 0.56 | 389 | <1 | 0.02 | 14 | 510 | 13 | 0.01 | <2 | 4 | 33 |
| ZZ24231 | | 10 | <1 | 0.08 | 10 | 0.55 | 403 | <1 | 0.03 | 19 | 680 | 11 | 0.01 | <2 | 4 | 37 |
| ZZ24232 | | <10 | <1 | 0.04 | 30 | 0.48 | 505 | <1 | 0.03 | 36 | 580 | 8 | 0.03 | <2 | 5 | 51 |
| ZZ24233 | | <10 | 1 | 0.08 | 50 | 0.52 | 682 | <1 | 0.03 | 22 | 640 | 24 | 0.02 | 2 | 6 | 40 |
| ZZ24234 | | 10 | <1 | 0.13 | 30 | 0.50 | 949 | <1 | 0.01 | 23 | 190 | 165 | 0.01 | 2 | 8 | 22 |
| ZZ24235 | | <10 | <1 | 0.14 | 20 | 0.36 | 828 | 1 | 0.02 | 20 | 310 | 72 | 0.01 | <2 | 8 | 20 |
| ZZ24236 | | 10 | <1 | 0.87 | 20 | 1.19 | 838 | <1 | 0.01 | 24 | 500 | 38 | 0.01 | 3 | 11 | 17 |
| ZZ24237 | | <10 | <1 | 0.10 | 20 | 0.60 | 498 | <1 | 0.03 | 24 | 380 | 8 | 0.01 | <2 | 7 | 30 |
| ZZ24238 | | 10 | <1 | 0.48 | 10 | 0.99 | 614 | <1 | 0.01 | 20 | 630 | 7 | 0.01 | <2 | 9 | 19 |
| ZZ24239 | | 10 | <1 | 0.68 | 10 | 1.56 | 801 | <1 | 0.02 | 28 | 950 | 6 | 0.01 | <2 | 14 | 28 |
| ZZ24240 | | 10 | <1 | 0.23 | 10 | 0.77 | 382 | <1 | 0.02 | 19 | 660 | 4 | 0.01 | <2 | 6 | 21 |
| ZZ24241 | | 10 | <1 | 0.37 | 20 | 0.88 | 485 | <1 | 0.02 | 24 | 960 | 7 | 0.02 | <2 | 9 | 33 |
| ZZ24242 | | 10 | <1 | 0.21 | 10 | 0.76 | 446 | <1 | 0.03 | 24 | 610 | 6 | 0.02 | <2 | 7 | 38 |
| ZZ24243 | | 10 | 1 | 0.31 | 10 | 1.52 | 953 | <1 | 0.01 | 24 | 760 | 35 | 0.01 | 2 | 4 | 23 |
| ZZ24244 | | 10 | <1 | 0.27 | 20 | 0.95 | 645 | <1 | 0.05 | 21 | 1650 | 28 | <0.01 | <2 | 11 | 39 |
| ZZ24245 | | 10 | 1 | 0.31 | 10 | 1.15 | 374 | <1 | 0.10 | 16 | 1330 | 6 | <0.01 | 3 | 14 | 42 |
| ZZ24246 | | 10 | <1 | 0.91 | 10 | 1.94 | 683 | <1 | 0.03 | 83 | 620 | 8 | <0.01 | <2 | 4 | 26 |
| ZZ24247 | | 10 | <1 | 0.34 | 20 | 1.02 | 450 | 1 | 0.03 | 34 | 340 | 10 | <0.01 | 2 | 7 | 33 |
| ZZ24248 | | 10 | 1 | 0.04 | 30 | 2.19 | 675 | 1 | 0.03 | 69 | 680 | 11 | 0.01 | <2 | 10 | 36 |
| ZZ24249 | | 10 | <1 | 0.08 | 50 | 0.50 | 433 | 2 | 0.03 | 49 | 450 | 8 | <0.01 | <2 | 5 | 39 |
| ZZ24250 | | 10 | <1 | 0.08 | 20 | 0.91 | 409 | 1 | 0.03 | 74 | 680 | 21 | <0.01 | <2 | 6 | 30 |
| ZZ24251 | | 10 | <1 | 0.16 | 10 | 1.09 | 205 | 1 | 0.03 | 37 | 640 | 7 | <0.01 | 2 | 5 | 24 |
| ZZ24252 | | 10 | <1 | 0.32 | 40 | 0.72 | 259 | 1 | 0.03 | 34 | 390 | 14 | 0.07 | <2 | 3 | 26 |
| ZZ24253 | | 10 | <1 | 0.11 | 10 | 0.44 | 196 | 1 | 0.03 | 18 | 180 | 8 | <0.01 | <2 | 3 | 21 |
| ZZ24254 | | 10 | <1 | 0.17 | 30 | 0.83 | 190 | 1 | 0.04 | 30 | 330 | 6 | 0.11 | <2 | 4 | 34 |
| ZZ24255 | | 10 | <1 | 0.16 | 20 | 0.73 | 247 | <1 | 0.03 | 22 | 430 | 12 | 0.01 | <2 | 3 | 20 |
| ZZ24256 | | 10 | <1 | 0.39 | 20 | 0.92 | 286 | <1 | 0.03 | 29 | 520 | 16 | 0.01 | <2 | 5 | 21 |
| ZZ24257 | | 10 | <1 | 0.15 | 20 | 0.56 | 249 | 1 | 0.03 | 21 | 250 | 11 | <0.01 | <2 | 4 | 26 |
| ZZ24258 | | 10 | <1 | 0.17 | 10 | 0.56 | 263 | 4 | 0.03 | 22 | 350 | 19 | 0.01 | <2 | 3 | 24 |
| ZZ24259 | | 10 | <1 | 0.07 | 20 | 0.50 | 186 | 2 | 0.04 | 19 | 420 | 11 | 0.01 | 2 | 4 | 37 |
| ZZ24260 | | 10 | <1 | 0.07 | 20 | 0.52 | 536 | 2 | 0.05 | 28 | 570 | 10 | 0.03 | <2 | 5 | 55 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus Tooleary

# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method / Analyte / Units / LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ24221 | | <20 | 0.09 | <10 | <10 | 72 | <10 | 153 |
| ZZ24222 | | <20 | 0.10 | <10 | <10 | 48 | <10 | 1025 |
| ZZ24223 | | <20 | 0.19 | <10 | <10 | 61 | <10 | 206 |
| ZZ24224 | | <20 | 0.15 | <10 | <10 | 61 | <10 | 96 |
| ZZ24225 | | <20 | 0.08 | <10 | <10 | 50 | <10 | 129 |
| ZZ24226 | | <20 | 0.09 | <10 | <10 | 61 | <10 | 83 |
| ZZ24227 | | <20 | 0.11 | <10 | <10 | 61 | <10 | 137 |
| ZZ24228 | | <20 | 0.13 | <10 | <10 | 50 | <10 | 88 |
| ZZ24229 | | <20 | 0.12 | <10 | <10 | 62 | <10 | 80 |
| ZZ24230 | | <20 | 0.11 | <10 | <10 | 60 | <10 | 77 |
| ZZ24231 | | <20 | 0.10 | <10 | <10 | 59 | <10 | 74 |
| ZZ24232 | | <20 | 0.05 | <10 | <10 | 52 | <10 | 44 |
| ZZ24233 | | <20 | 0.05 | <10 | <10 | 55 | <10 | 113 |
| ZZ24234 | | <20 | 0.06 | <10 | <10 | 59 | <10 | 1185 |
| ZZ24235 | | <20 | 0.05 | <10 | <10 | 53 | <10 | 191 |
| ZZ24236 | | 20 | 0.14 | <10 | <10 | 81 | <10 | 124 |
| ZZ24237 | | <20 | 0.09 | <10 | <10 | 62 | <10 | 53 |
| ZZ24238 | | <20 | 0.14 | <10 | <10 | 80 | <10 | 76 |
| ZZ24239 | | <20 | 0.17 | <10 | <10 | 118 | <10 | 99 |
| ZZ24240 | | <20 | 0.07 | <10 | <10 | 70 | <10 | 54 |
| ZZ24241 | | <20 | 0.11 | <10 | <10 | 74 | <10 | 76 |
| ZZ24242 | | <20 | 0.10 | <10 | <10 | 67 | <10 | 57 |
| ZZ24243 | | <20 | 0.12 | <10 | <10 | 65 | <10 | 416 |
| ZZ24244 | | <20 | 0.11 | <10 | <10 | 102 | <10 | 127 |
| ZZ24245 | | <20 | 0.12 | <10 | <10 | 147 | <10 | 80 |
| ZZ24246 | | <20 | 0.22 | <10 | <10 | 84 | <10 | 264 |
| ZZ24247 | | <20 | 0.15 | <10 | <10 | 73 | <10 | 119 |
| ZZ24248 | | <20 | 0.05 | <10 | <10 | 97 | <10 | 79 |
| ZZ24249 | | <20 | 0.07 | <10 | <10 | 56 | <10 | 54 |
| ZZ24250 | | <20 | 0.09 | <10 | <10 | 72 | <10 | 52 |
| ZZ24251 | | <20 | 0.15 | <10 | <10 | 94 | <10 | 66 |
| ZZ24252 | | <20 | 0.11 | <10 | <10 | 46 | <10 | 67 |
| ZZ24253 | | <20 | 0.07 | <10 | <10 | 58 | <10 | 45 |
| ZZ24254 | | <20 | 0.10 | <10 | <10 | 51 | <10 | 63 |
| ZZ24255 | | <20 | 0.10 | <10 | <10 | 47 | <10 | 59 |
| ZZ24256 | | <20 | 0.16 | <10 | <10 | 58 | <10 | 74 |
| ZZ24257 | | <20 | 0.10 | <10 | <10 | 58 | <10 | 56 |
| ZZ24258 | | <20 | 0.11 | <10 | <10 | 72 | <10 | 69 |
| ZZ24259 | | <20 | 0.09 | <10 | <10 | 53 | <10 | 53 |
| ZZ24260 | | <20 | 0.08 | <10 | <10 | 50 | <10 | 56 |

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**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus Tooleary

# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg 0.02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ24261 | | 0.22 | 0.002 | 0.2 | 1.70 | 5 | <10 | 220 | 0.5 | <2 | 0.42 | <0.5 | 12 | 38 | 21 | 3.16 |
| ZZ24262 | | 0.18 | 0.002 | <0.2 | 1.64 | 5 | <10 | 260 | <0.5 | <2 | 0.39 | <0.5 | 12 | 42 | 19 | 2.81 |
| ZZ24263 | | 0.24 | 0.004 | <0.2 | 2.12 | 6 | <10 | 140 | 0.6 | <2 | 0.40 | <0.5 | 13 | 69 | 24 | 3.61 |
| ZZ24264 | | 0.20 | 0.002 | <0.2 | 1.40 | 4 | <10 | 160 | <0.5 | <2 | 0.32 | <0.5 | 10 | 32 | 14 | 2.69 |
| ZZ24265 | | 0.16 | 0.003 | 0.2 | 1.34 | 2 | <10 | 190 | <0.5 | <2 | 0.32 | <0.5 | 11 | 26 | 14 | 2.65 |
| ZZ24266 | | 0.24 | 0.007 | <0.2 | 1.67 | 8 | <10 | 260 | <0.5 | <2 | 0.43 | <0.5 | 10 | 31 | 27 | 2.77 |
| ZZ24267 | | 0.16 | 0.003 | <0.2 | 1.69 | 5 | <10 | 250 | <0.5 | <2 | 0.28 | <0.5 | 15 | 31 | 20 | 3.12 |
| ZZ24268 | | 0.18 | 0.002 | 0.3 | 1.51 | 5 | <10 | 190 | <0.5 | <2 | 0.29 | <0.5 | 12 | 25 | 14 | 2.84 |
| ZZ24269 | | 0.20 | 0.003 | <0.2 | 1.46 | 8 | <10 | 180 | <0.5 | 5 | 0.36 | <0.5 | 11 | 32 | 19 | 2.87 |
| ZZ24270 | | 0.20 | 0.004 | 0.2 | 1.53 | 3 | <10 | 210 | <0.5 | <2 | 0.31 | <0.5 | 14 | 34 | 19 | 2.64 |
| ZZ24271 | | 0.22 | 0.004 | <0.2 | 1.56 | 5 | <10 | 170 | <0.5 | <2 | 0.22 | <0.5 | 11 | 31 | 18 | 2.90 |
| ZZ24272 | | 0.20 | 0.002 | <0.2 | 1.88 | 3 | <10 | 220 | 0.5 | <2 | 0.28 | <0.5 | 16 | 30 | 20 | 3.22 |
| ZZ24273 | | 0.16 | 0.007 | 0.2 | 1.36 | 4 | <10 | 220 | <0.5 | <2 | 0.75 | <0.5 | 9 | 27 | 24 | 2.69 |
| ZZ24274 | | 0.20 | 0.005 | <0.2 | 1.93 | 7 | <10 | 180 | 0.5 | <2 | 0.33 | <0.5 | 12 | 36 | 20 | 3.14 |
| ZZ24275 | | 0.20 | 0.005 | <0.2 | 1.61 | 6 | <10 | 220 | <0.5 | <2 | 0.34 | <0.5 | 11 | 32 | 23 | 2.82 |
| ZZ24276 | | 0.20 | 0.002 | <0.2 | 1.71 | 5 | <10 | 160 | <0.5 | <2 | 0.36 | <0.5 | 12 | 38 | 23 | 2.93 |
| ZZ24277 | | 0.16 | 0.002 | <0.2 | 1.67 | 5 | <10 | 130 | <0.5 | <2 | 0.32 | <0.5 | 10 | 37 | 19 | 3.08 |
| ZZ24278 | | 0.22 | 0.001 | <0.2 | 1.79 | 5 | <10 | 110 | <0.5 | <2 | 0.26 | <0.5 | 11 | 34 | 25 | 3.24 |
| ZZ24279 | | 0.18 | 0.001 | <0.2 | 1.90 | 2 | <10 | 140 | 0.6 | <2 | 0.20 | <0.5 | 16 | 35 | 31 | 3.91 |
| ZZ24280 | | 0.18 | <0.001 | <0.2 | 2.84 | 6 | <10 | 180 | 0.5 | <2 | 0.29 | <0.5 | 20 | 41 | 37 | 3.40 |
| ZZ24281 | | 0.26 | 0.005 | 0.2 | 1.75 | 9 | <10 | 150 | 0.5 | <2 | 0.44 | <0.5 | 13 | 37 | 29 | 3.26 |
| ZZ24282 | | 0.20 | 0.008 | <0.2 | 1.62 | 12 | <10 | 180 | 0.5 | <2 | 0.35 | <0.5 | 11 | 39 | 34 | 3.07 |
| ZZ24283 | | 0.22 | <0.001 | <0.2 | 1.90 | 13 | <10 | 160 | 0.5 | <2 | 0.35 | <0.5 | 12 | 45 | 35 | 3.14 |
| ZZ24284 | | 0.16 | 0.001 | 0.2 | 2.00 | 16 | <10 | 190 | 0.6 | <2 | 0.33 | <0.5 | 11 | 45 | 28 | 3.41 |
| ZZ24285 | | 0.22 | 0.001 | 0.3 | 1.66 | 10 | <10 | 190 | <0.5 | <2 | 0.22 | <0.5 | 11 | 32 | 21 | 2.83 |
| ZZ24286 | | 0.22 | 0.004 | <0.2 | 1.14 | 8 | <10 | 130 | <0.5 | <2 | 0.45 | <0.5 | 6 | 23 | 18 | 2.28 |
| ZZ24287 | | 0.22 | <0.001 | 0.2 | 1.53 | 8 | <10 | 140 | <0.5 | <2 | 0.30 | <0.5 | 9 | 29 | 22 | 2.83 |
| ZZ24288 | | 0.22 | 0.013 | 0.3 | 1.46 | 9 | <10 | 170 | 0.5 | <2 | 0.28 | <0.5 | 15 | 27 | 18 | 2.83 |
| ZZ24289 | | 0.22 | 0.001 | 0.2 | 2.25 | 7 | <10 | 80 | 0.8 | <2 | 0.24 | <0.5 | 21 | 38 | 45 | 4.18 |
| ZZ24290 | | 0.22 | 0.003 | 0.3 | 2.26 | 8 | <10 | 180 | 0.5 | <2 | 0.32 | <0.5 | 15 | 43 | 33 | 3.30 |
| ZZ24291 | | 0.12 | <0.001 | 0.2 | 1.61 | 6 | <10 | 140 | <0.5 | <2 | 0.31 | <0.5 | 12 | 27 | 24 | 2.56 |
| ZZ24292 | | 0.16 | 0.001 | 0.4 | 1.71 | 6 | <10 | 230 | 0.5 | <2 | 0.86 | <0.5 | 14 | 34 | 38 | 2.98 |
| ZZ24293 | | 0.14 | 0.001 | 0.2 | 1.24 | 5 | <10 | 160 | <0.5 | <2 | 0.42 | <0.5 | 8 | 27 | 21 | 2.32 |
| ZZ24294 | | 0.20 | <0.001 | 0.2 | 1.92 | 8 | <10 | 240 | 0.5 | <2 | 0.52 | <0.5 | 15 | 36 | 28 | 3.31 |
| ZZ24295 | | 0.18 | 0.003 | 0.2 | 1.67 | 8 | <10 | 210 | <0.5 | <2 | 0.49 | <0.5 | 12 | 32 | 26 | 2.95 |
| ZZ24296 | | 0.16 | <0.001 | 0.2 | 1.36 | 9 | <10 | 180 | <0.5 | <2 | 0.28 | <0.5 | 11 | 27 | 23 | 3.08 |
| ZZ24297 | | 0.30 | 0.001 | <0.2 | 1.58 | 13 | <10 | 470 | <0.5 | <2 | 0.35 | <0.5 | 11 | 31 | 23 | 2.79 |
| ZZ24298 | | 0.20 | <0.001 | <0.2 | 1.63 | 8 | <10 | 140 | <0.5 | <2 | 0.20 | <0.5 | 9 | 30 | 17 | 2.93 |
| ZZ24299 | | 0.20 | 0.001 | 0.2 | 1.96 | 7 | <10 | 170 | 0.7 | <2 | 0.46 | <0.5 | 16 | 35 | 31 | 3.37 |
| ZZ24300 | | 0.22 | <0.001 | <0.2 | 1.82 | 11 | <10 | 160 | 0.5 | <2 | 0.34 | <0.5 | 12 | 36 | 22 | 3.17 |

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**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus Tooleary

# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24261 | | 10 | <1 | 0.34 | 20 | 0.55 | 433 | 3 | 0.03 | 27 | 290 | 9 | <0.01 | <2 | 6 | 25 |
| ZZ24262 | | 10 | <1 | 0.28 | 10 | 0.61 | 488 | 1 | 0.03 | 28 | 190 | 9 | <0.01 | <2 | 5 | 22 |
| ZZ24263 | | 10 | 1 | 0.63 | 30 | 0.98 | 282 | 1 | 0.03 | 39 | 280 | 13 | <0.01 | <2 | 7 | 20 |
| ZZ24264 | | <10 | <1 | 0.33 | 10 | 0.54 | 338 | <1 | 0.03 | 21 | 320 | 8 | <0.01 | <2 | 3 | 19 |
| ZZ24265 | | <10 | <1 | 0.26 | 20 | 0.42 | 522 | 1 | 0.03 | 20 | 580 | 11 | <0.01 | <2 | 3 | 19 |
| ZZ24266 | | 10 | <1 | 0.06 | 20 | 0.57 | 328 | <1 | 0.04 | 23 | 370 | 8 | <0.01 | <2 | 5 | 34 |
| ZZ24267 | | 10 | <1 | 0.30 | 20 | 0.53 | 680 | 1 | 0.03 | 24 | 420 | 7 | 0.05 | <2 | 4 | 29 |
| ZZ24268 | | 10 | <1 | 0.16 | 20 | 0.48 | 366 | 1 | 0.03 | 25 | 530 | 8 | 0.01 | <2 | 3 | 27 |
| ZZ24269 | | <10 | <1 | 0.24 | 20 | 0.52 | 416 | <1 | 0.02 | 26 | 430 | 7 | 0.02 | <2 | 5 | 26 |
| ZZ24270 | | 10 | <1 | 0.22 | 10 | 0.65 | 436 | <1 | 0.03 | 24 | 350 | 7 | <0.01 | 2 | 4 | 24 |
| ZZ24271 | | 10 | <1 | 0.24 | 20 | 0.55 | 315 | 1 | 0.03 | 22 | 200 | 8 | 0.02 | 2 | 4 | 24 |
| ZZ24272 | | 10 | 1 | 0.29 | 30 | 0.71 | 323 | 1 | 0.03 | 28 | 330 | 12 | 0.01 | <2 | 4 | 25 |
| ZZ24273 | | <10 | <1 | 0.11 | 20 | 0.52 | 354 | 1 | 0.04 | 21 | 640 | 9 | 0.09 | <2 | 3 | 44 |
| ZZ24274 | | 10 | <1 | 0.12 | 10 | 0.64 | 229 | 1 | 0.03 | 24 | 440 | 9 | 0.02 | <2 | 4 | 26 |
| ZZ24275 | | 10 | <1 | 0.13 | 20 | 0.62 | 311 | 1 | 0.03 | 25 | 440 | 9 | <0.01 | <2 | 4 | 29 |
| ZZ24276 | | 10 | <1 | 0.20 | 20 | 0.66 | 329 | 1 | 0.03 | 27 | 310 | 9 | 0.01 | <2 | 4 | 28 |
| ZZ24277 | | 10 | <1 | 0.26 | 20 | 0.71 | 200 | 1 | 0.03 | 27 | 350 | 8 | 0.01 | <2 | 3 | 28 |
| ZZ24278 | | 10 | <1 | 0.21 | 20 | 0.70 | 172 | 1 | 0.03 | 24 | 260 | 8 | 0.06 | <2 | 3 | 27 |
| ZZ24279 | | 10 | <1 | 0.28 | 40 | 0.73 | 340 | 1 | 0.03 | 43 | 490 | 13 | 0.02 | <2 | 4 | 20 |
| ZZ24280 | | 10 | 1 | 0.71 | 20 | 1.52 | 424 | 1 | 0.02 | 52 | 470 | 17 | 0.03 | <2 | 4 | 23 |
| ZZ24281 | | <10 | 1 | 0.39 | 30 | 0.69 | 340 | 1 | 0.02 | 29 | 410 | 11 | 0.04 | <2 | 5 | 31 |
| ZZ24282 | | <10 | <1 | 0.25 | 20 | 0.62 | 271 | <1 | 0.02 | 33 | 170 | 10 | <0.01 | <2 | 7 | 25 |
| ZZ24283 | | 10 | <1 | 0.21 | 20 | 0.67 | 231 | <1 | 0.02 | 35 | 240 | 8 | 0.01 | <2 | 7 | 23 |
| ZZ24284 | | 10 | <1 | 0.33 | 20 | 0.65 | 241 | <1 | 0.01 | 30 | 280 | 9 | <0.01 | <2 | 7 | 23 |
| ZZ24285 | | <10 | <1 | 0.22 | 10 | 0.61 | 256 | <1 | 0.01 | 23 | 260 | 10 | <0.01 | <2 | 3 | 18 |
| ZZ24286 | | 10 | <1 | 0.11 | 20 | 0.42 | 118 | 1 | 0.02 | 15 | 230 | 6 | 0.04 | <2 | 3 | 29 |
| ZZ24287 | | <10 | 1 | 0.16 | 20 | 0.62 | 203 | 1 | 0.02 | 19 | 370 | 7 | 0.04 | <2 | 3 | 26 |
| ZZ24288 | | <10 | 1 | 0.14 | 10 | 0.41 | 701 | 1 | 0.01 | 20 | 340 | 16 | 0.03 | <2 | 3 | 26 |
| ZZ24289 | | 10 | 1 | 0.67 | 30 | 1.26 | 197 | 1 | 0.02 | 46 | 510 | 11 | 0.07 | <2 | 4 | 22 |
| ZZ24290 | | 10 | <1 | 0.56 | 20 | 1.16 | 314 | <1 | 0.02 | 38 | 370 | 10 | 0.01 | <2 | 6 | 24 |
| ZZ24291 | | 10 | <1 | 0.33 | 20 | 0.71 | 183 | 1 | 0.02 | 25 | 410 | 6 | 0.01 | <2 | 3 | 21 |
| ZZ24292 | | 10 | <1 | 0.26 | 50 | 0.75 | 470 | 1 | 0.02 | 32 | 640 | 9 | 0.06 | <2 | 4 | 38 |
| ZZ24293 | | <10 | <1 | 0.12 | 20 | 0.52 | 162 | 1 | 0.02 | 18 | 230 | 5 | 0.02 | <2 | 3 | 25 |
| ZZ24294 | | 10 | 1 | 0.40 | 30 | 0.90 | 324 | 1 | 0.02 | 30 | 530 | 8 | 0.05 | <2 | 3 | 30 |
| ZZ24295 | | <10 | <1 | 0.19 | 20 | 0.67 | 255 | 1 | 0.02 | 25 | 410 | 7 | 0.02 | <2 | 4 | 30 |
| ZZ24296 | | 10 | <1 | 0.23 | 20 | 0.57 | 240 | 2 | 0.01 | 27 | 400 | 7 | 0.01 | <2 | 3 | 19 |
| ZZ24297 | | <10 | <1 | 0.13 | 20 | 0.57 | 244 | 1 | 0.02 | 26 | 380 | 7 | 0.01 | <2 | 3 | 26 |
| ZZ24298 | | 10 | <1 | 0.28 | 10 | 0.65 | 156 | 1 | 0.01 | 23 | 210 | 7 | 0.01 | <2 | 3 | 15 |
| ZZ24299 | | 10 | <1 | 0.44 | 50 | 0.88 | 276 | <1 | 0.02 | 37 | 450 | 11 | 0.06 | <2 | 4 | 27 |
| ZZ24300 | | 10 | 1 | 0.25 | 20 | 0.67 | 261 | 1 | 0.01 | 27 | 270 | 8 | 0.02 | <2 | 3 | 22 |

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Project: Arcus Tooleary

# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|
| | Analyte | Th | Ti | Tl | U | V | W | Zn |
| | Units | ppm | % | ppm | ppm | ppm | ppm | ppm |
| | LOR | 20 | 0.01 | 10 | 10 | 1 | 10 | 2 |
| ZZ24261 | | <20 | 0.08 | <10 | <10 | 52 | <10 | 56 |
| ZZ24262 | | <20 | 0.09 | <10 | <10 | 53 | <10 | 46 |
| ZZ24263 | | <20 | 0.13 | <10 | <10 | 63 | <10 | 61 |
| ZZ24264 | | <20 | 0.11 | <10 | <10 | 47 | <10 | 47 |
| ZZ24265 | | <20 | 0.08 | <10 | <10 | 40 | <10 | 54 |
| ZZ24266 | | <20 | 0.09 | <10 | <10 | 55 | <10 | 48 |
| ZZ24267 | | <20 | 0.10 | <10 | <10 | 50 | <10 | 60 |
| ZZ24268 | | <20 | 0.08 | <10 | <10 | 47 | <10 | 60 |
| ZZ24269 | | <20 | 0.09 | <10 | <10 | 54 | <10 | 55 |
| ZZ24270 | | <20 | 0.11 | <10 | <10 | 64 | <10 | 56 |
| ZZ24271 | | <20 | 0.10 | <10 | <10 | 50 | <10 | 52 |
| ZZ24272 | | <20 | 0.11 | <10 | <10 | 41 | <10 | 74 |
| ZZ24273 | | <20 | 0.07 | <10 | <10 | 42 | <10 | 55 |
| ZZ24274 | | <20 | 0.10 | <10 | <10 | 60 | <10 | 55 |
| ZZ24275 | | <20 | 0.11 | <10 | <10 | 52 | <10 | 57 |
| ZZ24276 | | <20 | 0.11 | <10 | <10 | 54 | <10 | 57 |
| ZZ24277 | | <20 | 0.10 | <10 | <10 | 50 | <10 | 58 |
| ZZ24278 | | <20 | 0.10 | <10 | <10 | 54 | <10 | 56 |
| ZZ24279 | | <20 | 0.08 | <10 | <10 | 43 | <10 | 93 |
| ZZ24280 | | <20 | 0.17 | <10 | <10 | 52 | <10 | 101 |
| ZZ24281 | | <20 | 0.10 | <10 | <10 | 56 | <10 | 62 |
| ZZ24282 | | <20 | 0.11 | <10 | <10 | 60 | <10 | 56 |
| ZZ24283 | | <20 | 0.11 | <10 | <10 | 67 | <10 | 58 |
| ZZ24284 | | <20 | 0.11 | <10 | <10 | 62 | <10 | 58 |
| ZZ24285 | | <20 | 0.09 | <10 | <10 | 54 | <10 | 62 |
| ZZ24286 | | <20 | 0.09 | <10 | <10 | 49 | <10 | 40 |
| ZZ24287 | | <20 | 0.10 | <10 | <10 | 51 | <10 | 52 |
| ZZ24288 | | <20 | 0.07 | <10 | <10 | 49 | <10 | 65 |
| ZZ24289 | | 20 | 0.13 | <10 | <10 | 49 | <10 | 110 |
| ZZ24290 | | <20 | 0.15 | <10 | <10 | 66 | <10 | 82 |
| ZZ24291 | | <20 | 0.12 | <10 | <10 | 53 | <10 | 57 |
| ZZ24292 | | <20 | 0.09 | <10 | <10 | 47 | <10 | 71 |
| ZZ24293 | | <20 | 0.09 | <10 | <10 | 46 | <10 | 42 |
| ZZ24294 | | <20 | 0.12 | <10 | <10 | 59 | <10 | 77 |
| ZZ24295 | | <20 | 0.10 | <10 | <10 | 57 | <10 | 62 |
| ZZ24296 | | <20 | 0.09 | <10 | <10 | 57 | <10 | 70 |
| ZZ24297 | | <20 | 0.09 | <10 | <10 | 58 | <10 | 61 |
| ZZ24298 | | <20 | 0.11 | <10 | <10 | 55 | <10 | 56 |
| ZZ24299 | | <20 | 0.11 | <10 | <10 | 46 | <10 | 83 |
| ZZ24300 | | <20 | 0.11 | <10 | <10 | 57 | <10 | 65 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus Tooleary

# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method Analyte Units LOR | WEI- 21 Recvd Wt. kg 0.02 | Au- ICP21 Au ppm 0.001 | ME- ICP41 Ag ppm 0.2 | ME- ICP41 Al % 0.01 | ME- ICP41 As ppm 2 | ME- ICP41 B ppm 10 | ME- ICP41 Ba ppm 10 | ME- ICP41 Be ppm 0.5 | ME- ICP41 Bi ppm 2 | ME- ICP41 Ca % 0.01 | ME- ICP41 Cd ppm 0.5 | ME- ICP41 Co ppm 1 | ME- ICP41 Cr ppm 1 | ME- ICP41 Cu ppm 1 | ME- ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZ24301 | | 0.16 | 0.002 | 0.3 | 1.78 | 15 | <10 | 250 | 0.5 | <2 | 0.37 | <0.5 | 14 | 58 | 47 | 3.16 |
| ZZ24302 | | 0.22 | 0.004 | 0.2 | 1.61 | 13 | <10 | 250 | 0.5 | <2 | 0.40 | <0.5 | 11 | 44 | 29 | 2.97 |
| ZZ24303 | | 0.16 | <0.001 | 0.3 | 1.64 | 10 | <10 | 350 | 0.7 | <2 | 0.42 | <0.5 | 15 | 48 | 36 | 3.15 |
| ZZ24304 | | 0.20 | 0.001 | 0.2 | 1.45 | 9 | <10 | 270 | 0.6 | <2 | 0.32 | <0.5 | 11 | 35 | 33 | 2.85 |
| ZZ24305 | | 0.16 | 0.006 | 0.2 | 1.79 | 63 | <10 | 300 | 0.5 | <2 | 0.41 | <0.5 | 20 | 137 | 49 | 3.15 |
| ZZ24306 | | 0.12 | <0.001 | 0.4 | 1.59 | 15 | <10 | 330 | 0.6 | <2 | 0.43 | 0.8 | 13 | 49 | 45 | 3.01 |
| ZZ24307 | | 0.16 | 0.001 | 0.3 | 1.58 | 11 | <10 | 320 | 0.5 | <2 | 0.42 | <0.5 | 12 | 40 | 35 | 2.91 |
| ZZ24308 | | 0.22 | 0.037 | 0.3 | 1.53 | 16 | <10 | 260 | 0.6 | <2 | 0.39 | <0.5 | 11 | 41 | 41 | 2.90 |
| ZZ24309 | | 0.14 | 0.003 | 0.6 | 1.20 | 20 | <10 | 680 | 0.5 | <2 | 1.36 | 0.8 | 14 | 54 | 57 | 2.72 |
| ZZ24310 | | 0.16 | 0.002 | 0.4 | 1.95 | 30 | <10 | 900 | 0.9 | <2 | 0.66 | <0.5 | 14 | 77 | 61 | 3.37 |
| ZZ24311 | | 0.18 | <0.001 | 0.2 | 1.75 | 22 | <10 | 830 | 0.6 | <2 | 0.41 | <0.5 | 16 | 75 | 52 | 3.50 |
| ZZ24312 | | 0.24 | <0.001 | 0.3 | 1.39 | 24 | <10 | 470 | 0.6 | <2 | 0.42 | <0.5 | 13 | 51 | 37 | 3.31 |
| ZZ24313 | | 0.22 | 0.002 | 0.3 | 1.50 | 27 | <10 | 460 | 0.6 | <2 | 0.45 | <0.5 | 11 | 36 | 30 | 2.79 |
| ZZ24314 | | 0.14 | 0.001 | 0.2 | 1.49 | 12 | <10 | 410 | 0.5 | <2 | 0.42 | <0.5 | 10 | 35 | 22 | 2.64 |
| ZZ24315 | | 0.16 | <0.001 | 0.2 | 1.21 | 12 | <10 | 410 | <0.5 | <2 | 0.47 | <0.5 | 10 | 30 | 16 | 2.58 |
| ZZ24316 | | 0.18 | 0.002 | <0.2 | 1.45 | 7 | <10 | 220 | <0.5 | 2 | 0.40 | <0.5 | 45 | 217 | 62 | 2.94 |
| ZZ24317 | | 0.20 | 0.001 | 0.2 | 2.04 | 8 | <10 | 420 | 0.7 | <2 | 0.46 | <0.5 | 27 | 83 | 80 | 3.82 |
| ZZ24318 | | 0.16 | 0.054 | 0.2 | 1.69 | 20 | <10 | 320 | 0.5 | <2 | 2.29 | <0.5 | 47 | 173 | 87 | 3.37 |
| ZZ24319 | | 0.10 | 0.002 | <0.2 | 1.56 | 6 | <10 | 580 | 0.5 | <2 | 0.50 | 0.7 | 15 | 54 | 33 | 2.63 |
| ZZ24320 | | 0.22 | 0.023 | 0.3 | 2.09 | 25 | <10 | 630 | 0.7 | <2 | 0.69 | 0.8 | 21 | 68 | 59 | 3.89 |
| ZZ24351 | | 0.18 | <0.001 | <0.2 | 2.98 | 13 | <10 | 470 | 0.7 | <2 | 0.33 | <0.5 | 22 | 110 | 86 | 4.71 |
| ZZ24352 | | 0.18 | 0.001 | 0.4 | 2.14 | 10 | <10 | 480 | 0.5 | <2 | 0.46 | <0.5 | 17 | 68 | 50 | 3.73 |
| ZZ24353 | | 0.22 | 0.014 | 0.6 | 1.93 | 16 | <10 | 570 | 0.8 | <2 | 0.50 | 1.1 | 21 | 53 | 88 | 3.89 |
| ZZ24354 | | 0.16 | 0.008 | 1.2 | 2.24 | 17 | <10 | 670 | 0.8 | <2 | 0.58 | <0.5 | 17 | 71 | 73 | 3.78 |
| ZZ24355 | | 0.24 | 0.003 | <0.2 | 1.61 | 16 | <10 | 350 | 0.5 | <2 | 0.41 | <0.5 | 11 | 41 | 35 | 2.97 |
| ZZ24356 | | 0.30 | <0.001 | <0.2 | 1.66 | 9 | <10 | 330 | 0.5 | <2 | 0.42 | <0.5 | 11 | 44 | 29 | 3.08 |
| ZZ24357 | | 0.22 | 0.005 | 0.6 | 1.99 | 19 | <10 | 540 | 0.8 | <2 | 0.44 | 0.7 | 17 | 68 | 106 | 4.21 |
| ZZ24358 | | 0.26 | <0.001 | 0.2 | 1.85 | 14 | <10 | 1000 | 0.6 | <2 | 0.58 | <0.5 | 17 | 85 | 50 | 3.77 |
| ZZ24359 | | 0.18 | <0.001 | <0.2 | 1.60 | 10 | <10 | 510 | 0.5 | <2 | 0.44 | 0.5 | 16 | 73 | 60 | 3.61 |
| ZZ24360 | | 0.24 | 0.004 | 0.2 | 1.39 | 17 | <10 | 320 | 0.5 | <2 | 0.43 | <0.5 | 12 | 49 | 62 | 2.97 |
| ZZ24361 | | 0.22 | 0.001 | 0.3 | 1.60 | 14 | <10 | 380 | 0.5 | <2 | 0.50 | <0.5 | 10 | 39 | 30 | 2.96 |
| ZZ24362 | | 0.26 | 0.008 | <0.2 | 1.65 | 12 | <10 | 400 | 0.6 | 2 | 0.48 | 0.5 | 12 | 41 | 40 | 3.03 |
| ZZ24363 | | 0.22 | 0.004 | 0.2 | 1.51 | 18 | <10 | 400 | 0.5 | 2 | 0.55 | 0.6 | 11 | 38 | 51 | 3.07 |
| ZZ24364 | | 0.24 | <0.001 | 0.2 | 1.53 | 16 | <10 | 330 | 0.5 | 2 | 0.41 | <0.5 | 11 | 45 | 36 | 2.90 |
| ZZ24365 | | 0.20 | 0.002 | <0.2 | 1.39 | 9 | <10 | 360 | <0.5 | <2 | 0.43 | <0.5 | 12 | 52 | 22 | 2.79 |
| ZZ24366 | | 0.26 | 0.002 | <0.2 | 0.70 | 9 | <10 | 380 | <0.5 | <2 | 1.01 | 0.6 | 8 | 26 | 18 | 1.92 |
| ZZ24367 | | 0.20 | 0.002 | <0.2 | 1.42 | 22 | 10 | 290 | <0.5 | <2 | 2.05 | <0.5 | 33 | 189 | 25 | 2.68 |
| ZZ24368 | | 0.26 | 0.006 | <0.2 | 0.73 | 11 | 10 | 150 | <0.5 | <2 | 10.1 | <0.5 | 36 | 101 | 60 | 2.02 |
| ZZ24369 | | 0.16 | 0.005 | 0.4 | 1.59 | 65 | <10 | 420 | 0.8 | <2 | 0.91 | 0.5 | 19 | 60 | 48 | 4.39 |
| ZZ24370 | | 0.18 | 0.005 | 0.5 | 1.75 | 35 | <10 | 430 | 0.9 | <2 | 0.61 | 0.5 | 17 | 62 | 67 | 3.82 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus Tooleary

# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method | 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 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| ZZ24301 | | 10 | <1 | 0.40 | 10 | 0.76 | 477 | 1 | 0.02 | 40 | 460 | 8 | 0.05 | <2 | 5 | 30 |
| ZZ24302 | | <10 | <1 | 0.33 | 10 | 0.61 | 398 | 1 | 0.01 | 30 | 470 | 7 | 0.02 | <2 | 6 | 29 |
| ZZ24303 | | 10 | 1 | 0.40 | 20 | 0.67 | 712 | 2 | 0.02 | 44 | 520 | 6 | 0.02 | <2 | 6 | 28 |
| ZZ24304 | | <10 | 1 | 0.25 | 20 | 0.52 | 572 | 1 | 0.02 | 36 | 350 | 9 | 0.02 | <2 | 5 | 27 |
| ZZ24305 | | <10 | <1 | 0.49 | 20 | 0.95 | 590 | 1 | 0.01 | 151 | 530 | 7 | 0.03 | <2 | 5 | 30 |
| ZZ24306 | | <10 | <1 | 0.33 | 10 | 0.58 | 565 | 1 | 0.02 | 49 | 530 | 8 | 0.06 | <2 | 5 | 41 |
| ZZ24307 | | <10 | <1 | 0.28 | 10 | 0.58 | 552 | 1 | 0.02 | 34 | 400 | 8 | 0.04 | <2 | 5 | 34 |
| ZZ24308 | | <10 | <1 | 0.12 | 20 | 0.55 | 294 | 1 | 0.02 | 38 | 570 | 8 | 0.02 | <2 | 7 | 31 |
| ZZ24309 | | <10 | <1 | 0.23 | 20 | 0.77 | 693 | 2 | 0.02 | 93 | 1220 | 7 | 0.09 | <2 | 4 | 66 |
| ZZ24310 | | 10 | <1 | 0.33 | 20 | 1.00 | 383 | 3 | 0.02 | 96 | 1740 | 13 | 0.08 | 3 | 6 | 68 |
| ZZ24311 | | 10 | <1 | 0.45 | 10 | 0.87 | 437 | 2 | 0.02 | 87 | 960 | 10 | 0.03 | 2 | 6 | 29 |
| ZZ24312 | | <10 | <1 | 0.27 | 20 | 0.56 | 402 | 2 | 0.02 | 48 | 820 | 11 | 0.02 | <2 | 6 | 30 |
| ZZ24313 | | <10 | <1 | 0.11 | 10 | 0.49 | 417 | 1 | 0.02 | 34 | 400 | 9 | 0.01 | <2 | 6 | 32 |
| ZZ24314 | | <10 | <1 | 0.11 | 10 | 0.44 | 468 | 1 | 0.02 | 27 | 350 | 9 | 0.01 | <2 | 5 | 30 |
| ZZ24315 | | <10 | <1 | 0.16 | 10 | 0.40 | 486 | 1 | 0.01 | 22 | 1120 | 8 | <0.01 | <2 | 4 | 28 |
| ZZ24316 | | <10 | <1 | 0.25 | 10 | 1.79 | 512 | <1 | 0.03 | 680 | 460 | 7 | 0.03 | <2 | 4 | 24 |
| ZZ24317 | | 10 | <1 | 0.54 | 40 | 1.12 | 432 | 1 | 0.03 | 143 | 1070 | 6 | 0.07 | <2 | 6 | 29 |
| ZZ24318 | | <10 | <1 | 0.39 | 10 | 1.47 | 645 | <1 | 0.03 | 455 | 1040 | 5 | 0.08 | <2 | 5 | 57 |
| ZZ24319 | | <10 | <1 | 0.19 | 10 | 0.66 | 731 | 1 | 0.04 | 46 | 1120 | 6 | 0.04 | <2 | 3 | 33 |
| ZZ24320 | | 10 | 1 | 0.43 | 30 | 1.00 | 874 | 2 | 0.03 | 62 | 1180 | 8 | 0.08 | 3 | 6 | 47 |
| ZZ24351 | | 10 | <1 | 1.23 | 20 | 1.75 | 823 | 1 | 0.02 | 81 | 790 | 8 | 0.09 | 2 | 10 | 31 |
| ZZ24352 | | 10 | <1 | 0.66 | 20 | 1.01 | 571 | 1 | 0.03 | 66 | 800 | 7 | 0.04 | <2 | 7 | 31 |
| ZZ24353 | | 10 | 1 | 0.66 | 20 | 0.80 | 1080 | 2 | 0.03 | 77 | 820 | 12 | 0.08 | <2 | 7 | 46 |
| ZZ24354 | | 10 | <1 | 0.75 | 30 | 1.21 | 544 | 1 | 0.02 | 80 | 1400 | 10 | 0.05 | <2 | 6 | 37 |
| ZZ24355 | | <10 | <1 | 0.14 | 10 | 0.55 | 315 | <1 | 0.02 | 36 | 530 | 8 | 0.02 | <2 | 6 | 32 |
| ZZ24356 | | <10 | <1 | 0.29 | 10 | 0.58 | 398 | <1 | 0.03 | 35 | 510 | 8 | 0.03 | <2 | 6 | 30 |
| ZZ24357 | | 10 | 1 | 0.56 | 30 | 1.03 | 691 | 3 | 0.03 | 80 | 1120 | 24 | 0.24 | 2 | 7 | 55 |
| ZZ24358 | | 10 | 1 | 0.36 | 20 | 1.03 | 389 | 2 | 0.03 | 129 | 1300 | 10 | 0.11 | <2 | 6 | 45 |
| ZZ24359 | | <10 | <1 | 0.27 | 20 | 0.83 | 300 | 2 | 0.03 | 152 | 1130 | 8 | 0.05 | <2 | 5 | 33 |
| ZZ24360 | | <10 | 1 | 0.19 | 20 | 0.69 | 346 | 2 | 0.03 | 83 | 790 | 7 | 0.05 | 2 | 6 | 36 |
| ZZ24361 | | <10 | 1 | 0.12 | 10 | 0.50 | 314 | 1 | 0.03 | 34 | 650 | 9 | 0.03 | <2 | 6 | 35 |
| ZZ24362 | | <10 | <1 | 0.18 | 20 | 0.54 | 565 | 1 | 0.03 | 43 | 600 | 9 | 0.04 | <2 | 6 | 37 |
| ZZ24363 | | <10 | <1 | 0.19 | 20 | 0.61 | 461 | 1 | 0.03 | 41 | 900 | 8 | 0.09 | 2 | 5 | 42 |
| ZZ24364 | | <10 | 1 | 0.15 | 20 | 0.59 | 302 | <1 | 0.02 | 50 | 590 | 8 | 0.03 | <2 | 6 | 30 |
| ZZ24365 | | <10 | <1 | 0.33 | 10 | 0.57 | 661 | <1 | 0.03 | 63 | 810 | 8 | 0.02 | <2 | 5 | 29 |
| ZZ24366 | | <10 | 1 | 0.07 | 10 | 0.71 | 340 | <1 | 0.02 | 38 | 1010 | 6 | 0.04 | <2 | 3 | 50 |
| ZZ24367 | | <10 | 1 | 0.31 | 10 | 3.29 | 567 | <1 | 0.04 | 553 | 560 | 6 | 0.04 | <2 | 4 | 84 |
| ZZ24368 | | <10 | <1 | 0.04 | <10 | 4.66 | 450 | <1 | 0.04 | 736 | 610 | 5 | 0.08 | <2 | 2 | 232 |
| ZZ24369 | | 10 | <1 | 0.22 | 30 | 0.80 | 700 | <1 | 0.03 | 63 | 1570 | 7 | 0.09 | 5 | 11 | 52 |
| ZZ24370 | | <10 | <1 | 0.22 | 30 | 0.74 | 731 | 2 | 0.02 | 68 | 1170 | 11 | 0.03 | 2 | 9 | 31 |

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 16- SEP- 2011**
**Account: F**

Project: Arcus Tooleary

# CERTIFICATE OF ANALYSIS WH11158349

| Sample Description | Method Analyte Units LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 |
|---|---|---|---|---|---|---|---|---|
| ZZ24301 | | <20 | 0.11 | <10 | <10 | 77 | <10 | 98 |
| ZZ24302 | | <20 | 0.10 | <10 | <10 | 70 | <10 | 83 |
| ZZ24303 | | <20 | 0.08 | <10 | <10 | 76 | <10 | 101 |
| ZZ24304 | | <20 | 0.08 | <10 | <10 | 59 | <10 | 114 |
| ZZ24305 | | <20 | 0.09 | <10 | <10 | 72 | <10 | 100 |
| ZZ24306 | | <20 | 0.07 | <10 | <10 | 73 | <10 | 149 |
| ZZ24307 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 85 |
| ZZ24308 | | <20 | 0.08 | <10 | <10 | 66 | <10 | 67 |
| ZZ24309 | | <20 | 0.06 | <10 | <10 | 71 | <10 | 128 |
| ZZ24310 | | <20 | 0.09 | <10 | <10 | 132 | <10 | 150 |
| ZZ24311 | | <20 | 0.10 | <10 | <10 | 86 | <10 | 109 |
| ZZ24312 | | <20 | 0.07 | <10 | <10 | 76 | <10 | 100 |
| ZZ24313 | | <20 | 0.06 | <10 | <10 | 59 | <10 | 69 |
| ZZ24314 | | <20 | 0.06 | <10 | <10 | 57 | <10 | 73 |
| ZZ24315 | | <20 | 0.06 | <10 | <10 | 52 | <10 | 79 |
| ZZ24316 | | <20 | 0.07 | <10 | <10 | 45 | <10 | 53 |
| ZZ24317 | | <20 | 0.11 | <10 | <10 | 93 | <10 | 130 |
| ZZ24318 | | <20 | 0.06 | <10 | <10 | 62 | <10 | 84 |
| ZZ24319 | | <20 | 0.07 | <10 | <10 | 63 | <10 | 142 |
| ZZ24320 | | <20 | 0.10 | <10 | <10 | 83 | <10 | 145 |
| ZZ24351 | | <20 | 0.22 | <10 | <10 | 129 | <10 | 152 |
| ZZ24352 | | <20 | 0.15 | <10 | <10 | 90 | <10 | 104 |
| ZZ24353 | | <20 | 0.10 | <10 | <10 | 88 | <10 | 216 |
| ZZ24354 | | <20 | 0.10 | <10 | <10 | 97 | <10 | 156 |
| ZZ24355 | | <20 | 0.08 | <10 | <10 | 67 | <10 | 71 |
| ZZ24356 | | <20 | 0.10 | <10 | <10 | 71 | <10 | 78 |
| ZZ24357 | | <20 | 0.09 | <10 | <10 | 107 | <10 | 222 |
| ZZ24358 | | <20 | 0.12 | <10 | <10 | 119 | <10 | 137 |
| ZZ24359 | | <20 | 0.07 | <10 | <10 | 78 | <10 | 145 |
| ZZ24360 | | <20 | 0.08 | <10 | <10 | 72 | <10 | 102 |
| ZZ24361 | | <20 | 0.08 | <10 | <10 | 64 | <10 | 70 |
| ZZ24362 | | <20 | 0.08 | <10 | <10 | 68 | <10 | 109 |
| ZZ24363 | | <20 | 0.07 | <10 | <10 | 61 | <10 | 95 |
| ZZ24364 | | <20 | 0.08 | <10 | <10 | 65 | <10 | 71 |
| ZZ24365 | | <20 | 0.08 | <10 | <10 | 57 | <10 | 106 |
| ZZ24366 | | <20 | 0.04 | <10 | <10 | 36 | <10 | 98 |
| ZZ24367 | | <20 | 0.08 | <10 | <10 | 42 | <10 | 64 |
| ZZ24368 | | <20 | 0.03 | <10 | <10 | 24 | <10 | 38 |
| ZZ24369 | | <20 | 0.05 | <10 | <10 | 94 | <10 | 123 |
| ZZ24370 | | <20 | 0.06 | <10 | <10 | 90 | <10 | 138 |

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To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 21- OCT- 2011**
**Account: F**

# CERTIFICATE WH11203331

Project: Arcus TL- 05- 11

P.O. No.: Batch C

This report is for 36 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 5- OCT- 2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| FND- 02 | Find Sample for Addn Analysis |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| PGM- ICP23 | Pt, Pd, Au 30g FA ICP | ICP- AES |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**VANCOUVER BC V6B 1L8**


**Finalized Date: 21- OCT- 2011**
**Account: F**

Project: Arcus TL- 05- 11

# CERTIFICATE OF ANALYSIS WH11203331

| Sample Description | Method Analyte Units LOR | PGM- ICP23 Au ppm 0.001 | PGM- ICP23 Pt ppm 0.005 | PGM- ICP23 Pd ppm 0.001 |
|---|---|---|---|---|
| J998060 | | <0.001 | <0.005 | 0.001 |
| J998061 | | 0.003 | <0.005 | <0.001 |
| J998062 | | <0.001 | <0.005 | <0.001 |
| J998063 | | <0.001 | <0.005 | <0.001 |
| J998064 | | <0.001 | 0.010 | <0.001 |
| J998065 | | 0.001 | <0.005 | 0.001 |
| J998066 | | <0.001 | 0.005 | 0.001 |
| J998067 | | <0.001 | <0.005 | 0.001 |
| J998068 | | <0.001 | 0.009 | 0.001 |
| J998069 | | <0.001 | 0.005 | <0.001 |
| J998070 | | 0.888 | 0.487 | 0.506 |
| J998071 | | <0.001 | <0.005 | <0.001 |
| J998072 | | <0.001 | <0.005 | <0.001 |
| J998073 | | <0.001 | <0.005 | <0.001 |
| J998074 | | <0.001 | <0.005 | <0.001 |
| J998075 | | <0.001 | <0.005 | <0.001 |
| J998076 | | 0.003 | <0.005 | <0.001 |
| J998077 | | <0.001 | <0.005 | 0.001 |
| J998078 | | <0.001 | <0.005 | <0.001 |
| J998079 | | <0.001 | <0.005 | <0.001 |
| J998080 | | <0.001 | <0.005 | <0.001 |
| J998081 | | 0.001 | <0.005 | 0.001 |
| J998082 | | <0.001 | <0.005 | <0.001 |
| J998083 | | <0.001 | <0.005 | <0.001 |
| J998084 | | <0.001 | <0.005 | <0.001 |
| J998085 | | <0.001 | <0.005 | <0.001 |
| J998086 | | <0.001 | <0.005 | <0.001 |
| J998087 | | <0.001 | <0.005 | <0.001 |
| J998088 | | <0.001 | <0.005 | <0.001 |
| J998089 | | <0.001 | 0.005 | <0.001 |
| J998090 | | 0.006 | <0.005 | <0.001 |
| J998091 | | 0.001 | 0.005 | <0.001 |
| J998092 | | 0.531 | 0.447 | 0.554 |
| J998093 | | 0.005 | 0.006 | 0.001 |
| J998094 | | <0.001 | <0.005 | 0.001 |
| J998095 | | 4.16 | <0.005 | <0.001 |

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

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**1016- 510 W HASTINGS ST**
**VANCOUVER BC V6B 1L8**


**Finalized Date: 22- OCT- 2011**
**Account: F**

# CERTIFICATE WH11203332

Project: Arcus- TL- 05- 11

P.O. No.: Batch 10

This report is for 36 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 5- OCT- 2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JOAN MARIACHER | HEATHER SMITH | BILL WENGZYNOWSKI |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| FND- 02 | Find Sample for Addn Analysis |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| PGM- ICP23 | Pt, Pd, Au 30g FA ICP | ICP- AES |

To: **ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED**
**ATTN: JOAN MARIACHER**
**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

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**Finalized Date: 22- OCT- 2011**
**Account: F**

Project: Arcus- TL- 05- 11

# CERTIFICATE OF ANALYSIS WH11203332

| Sample Description | Method Analyte Units LOR | PGM- ICP23 Au ppm 0.001 | PGM- ICP23 Pt ppm 0.005 | PGM- ICP23 Pd ppm 0.001 |
|---|---|---|---|---|
| J998096 | | 0.005 | <0.005 | 0.001 |
| J998097 | | 0.002 | <0.005 | <0.001 |
| J998098 | | 0.384 | <0.005 | <0.001 |
| J998099 | | 0.204 | <0.005 | 0.001 |
| J998100 | | 1.645 | <0.005 | 0.001 |
| J998101 | | 0.886 | <0.005 | <0.001 |
| J998102 | | 0.828 | 0.481 | 0.492 |
| J998103 | | 1.325 | <0.005 | 0.003 |
| J998104 | | 0.006 | <0.005 | <0.001 |
| J998105 | | 0.774 | 0.010 | 0.003 |
| J998106 | | 0.540 | 0.007 | <0.001 |
| J998107 | | 0.540 | 0.463 | 0.547 |
| J998108 | | 0.431 | 0.008 | 0.001 |
| J998109 | | 0.049 | <0.005 | 0.001 |
| J998110 | | 0.001 | <0.005 | 0.001 |
| J998111 | | 0.011 | <0.005 | 0.001 |
| J998112 | | 0.014 | <0.005 | 0.001 |
| J998113 | | 0.006 | <0.005 | <0.001 |
| J998114 | | 0.001 | <0.005 | <0.001 |
| J998115 | | 0.003 | <0.005 | 0.002 |
| J998116 | | <0.001 | <0.005 | 0.001 |
| J998117 | | 0.003 | <0.005 | <0.001 |
| J998118 | | 0.002 | <0.005 | 0.003 |
| J998119 | | 0.025 | <0.005 | <0.001 |
| J998120 | | 0.005 | <0.005 | <0.001 |
| J998121 | | <0.001 | <0.005 | 0.001 |
| J998122 | | <0.001 | <0.005 | <0.001 |
| J998123 | | <0.001 | <0.005 | <0.001 |
| J998124 | | <0.001 | <0.005 | <0.001 |
| J998125 | | 0.001 | <0.005 | 0.001 |
| J998126 | | <0.001 | <0.005 | 0.001 |
| J998127 | | <0.001 | <0.005 | <0.001 |
| J998128 | | 0.004 | <0.005 | <0.001 |
| J998129 | | 0.001 | <0.005 | <0.001 |
| J998130 | | 0.002 | <0.005 | 0.002 |
| J998131 | | <0.001 | <0.005 | <0.001 |

# APPENDIX IV

# GEOLOGICAL AND GEOTECHNICAL LOGS

# TOULEARY PROPERTY

| | Grid East | Grid North | Easting | Northing | Elev. | Depth (m) |
|---|---|---|---|---|---|---|
| **ZONE:** TL-TR-10-04 | | | 594152 | 6987536 | | 234.1 |

**SECTION:**

**HOLE:** TL-01-11

**CLAIM:**

Contractor: Elite Diamond Drilling

Drill: JKS 300

Core size: BTW

Casing depth: 3.05 (m) in / out

Drilling dates: June 13 to 16, 2011

Geology logged by: Heather Smith

**TARGET:**

**SURVEY**

| Depth (m) | Azimuth | Dip | Method | Depth (m) | Azimuth | Dip | Method |
|---|---|---|---|---|---|---|---|
| collar | 0 | -45 | compass | 234.1 | 0 | -38 | Acid |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

**SUMMARY**

| From (m) | To (m) | Interval | Unit | Comments |
|---|---|---|---|---|
| 0.00 | 9.73 | 9.73 | GNE | Zebra |
| 9.73 | 14.10 | 4.37 | SCH | Bleached schist |
| 14.10 | 27.00 | 12.90 | GNE | |
| 27.00 | 28.59 | 1.59 | UM | Ultramafic, fine grained |
| 28.59 | 30.69 | 2.10 | SCH | |
| 30.69 | 39.93 | 9.24 | GNE | |
| 39.93 | 42.06 | 2.13 | SCH | |
| 42.06 | 45.11 | 3.05 | GNE | |
| 45.11 | 52.55 | 7.44 | OXIDIZED | *** |
| 52.55 | 61.26 | 8.71 | BLE SCH | *** |
| 61.26 | 65.06 | 3.80 | GNE | |
| 65.06 | 70.17 | 5.11 | GNE/SCH | |
| 70.17 | 71.3 | 1.13 | ALT ZONE | *** |
| 71.3 | 85.61 | 14.31 | GNE/SCH/Q | |
| 85.61 | 91.7 | 6.09 | SIL ZONE | *** |
| | | | | |
| | | | | |

**SAMPLES**

Numbers: J997800 - J997832

JJ997892 - JJ997914

Total:

Batch:

Date Sent:

Certificate:

**COMMENTS**

# GEOLOGY LOG

HOLE: TL-01-11

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | Other | | Other | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | | |
| 0.00 | 5.45 | 5.45 | | | | SCH | OVB | | | | | | | | | | | | | | | | | | | | Chlorite-mica schist. Complete rubble. No recovery |
| 5.45 | 9.73 | 4.28 | | | | GNE | | | CA | 75 | | | | | | | | | Cl | An | Hb | | | | | Y | Zebra gneiss. Moderately magnetic. 1 cm by 0.5 cm chlorite-amphioble-hornblende phenocrysts. 7.70 to 8.00, 30 cm bull quartz vein. CA: 70-75°. At 8.53 m augens increase. |
| | | | | | | | | | | | | | | | | | | | Mu | Ga | | Ga | f | | | | |
| 9.73 | 14.10 | 4.37 | | | | SCH | | LT | CA | 85 | | | BLE | | | | | | Mu | Ep | Cl | Py | w | | | | Bleached muscovite-epidote-chlorite schist with disseminated pyrite. CA 85°. At 11.57 m crosscutting fractures |
| | | | | | | | | | FX | 30 | | | | | | | | | | | | | | | | | |
| 14.10 | 17.01 | 2.91 | | | | GNE | | DK | | | | | | | | | | | | | | | | | | | Zebra gneiss. Moderately magnetic. At 15.15, 28 cm intense fracturing |
| 17.01 | 19.88 | 2.87 | | | | GNE | | | | | | | BLE | | | | | | Cl | Qz | Ac | Py | w | | | | Bleached-white gneiss with rare zebra phenocrysts (chlorite). Moderately magnetic. Chlorite-quartz-feldspar-actinolite gneiss with <2mm pale pink garnet augens. |
| | | | | | | | | | | | | | | | | | | | Fd | Ga | | | | | | | |
| 19.88 | 25.13 | 5.25 | | | | GNE | | MD | CA | 80 | | | LIM | | | | | | Cl | Ga | Ac | | | | | | Chlorite-garnet augen gneiss. Intermediate composition with < 1cm chlorite and < 2 mm garnets. Minor limonite on fractures. Weak to moderately magnetic. At 22.37 m, phenocrysts coarsen. Silicified quartz with yellow feldspar crystals. |
| | | | | | | | | | | | | | | | | | | | Qz | | | | | | | | |
| 25.13 | 27.00 | 1.87 | | | | GNE | | DK | FX | 35 | | | LIM | | | | | | Cl | As | Se | | | | | | Medium grained, homogeneous gneiss with limonitic fractures. |
| 27.00 | 28.59 | 1.59 | | | | UM | | DK | CA | 80 | | | LIM | | | | | | Cl | Hb | Ac | Py | w | | | | Highly magnetic, fine grained, homogeneous ultramafic. Foliation parallel pyrite and chalcopyrite with rare garnets < 2 mm. |
| | | | | | | | | | | | | | | | | | | | Ga | | | Cp | w | | | | |
| 28.59 | 30.69 | 2.10 | | | | SCH | yw-or-tn | | VN | 80 | | | SIL | | | | | | Mu | | | Py | w | | | | Silicified muscovite schist. At 29 m 1.3 cm bull white quartz vein. Rare tarnished pyrite. |
| 30.69 | 39.93 | 9.24 | | | | GNE | | | | | | | | | | | | | Cl | Hb | Ac | Py | t | | | | Zebra gneiss, medium grained, no garnet augens. 65% mafic, 35% felsic. At 32.92 m, 20 cm bull white quartz vein. |
| | | | | | | | | | | | | | | | | | | | Qz | Fd | | | | | | | |
| | | | | | | | | | VT | 5 | | | | | | | | | | | | | | | | | At 33.90 m 4 mm quartz veinlet. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | At 35.97 m vesicular pockets (< 2 cm by 2 mm). Increase in wavy fabric. |
| | | | | | | | | | | | | | | | | | | | | | | Py | w | | | | At 36.15 m 10 cm quartz cein with blebby pyrite |
| | | | | | | | | | | | | | | | | | | | | | | Py | t | | | | At 38.14 m 4 cm foliation parallel, limonite-manganes banding with trace pyrite. |
| | | | | | | | | | FZ | 40 | | | LIM | | | | | | | | | Py | w | | | | 39.80 to 39.93 m, increasingly fractured. 5 fractures over 13 cm. Foliation parallel, limonite coated fractures. Disseminated pyrite throughout |
| 39.93 | 42.06 | 2.13 | | | | SCH | | | CT | 60 | | | LIM | BLE | | | | | Mu | Ga | | Py | t | | | | Contact at 39.93 m, 60°. Bleached feldspar schist with rare garnets and abundant cross cutting limonitic fractures. |
| | | | | | | | | | CA | 70 | | | | | | | | | | | | | | | | | |
| 42.06 | 45.11 | 3.05 | | | | GNE | BG-TI | LT | CA | 85 | | | BLE | LIM | | | | | Cl | Mu | Ep | Py | t | | | | Megacrystic garnet augen gneiss. Bleached with limonitic fractures. 45.11 m contact is broken. |
| | | | | | | | | | | | | | | | | | | | Ak | | | | | | | | |
| 45.11 | 52.55 | 7.44 | | | | OX GNE | | MD | VN | 40 | | | LIM (20%) | | | | | | Qz | Ga | Mu | | | | | | Oxide zone - chlorite-garnet gneiss. Rare garnet augens |

# GEOLOGY LOG

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | Other | | Other | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | Y | 45.11-48.11 Quartz flooding, highly silicified with <4 cm bands. Highly oxidized. 50 cm of chlorite-augen gneiss 46.5-47 m. |
| | | | | | | | | | VT | 25 | | | | | | | | | Ga | Mu | | | | | | | 47.10-48.11 porphyritic augen gneiss with moderate limonite |
| | | | | | | OX | SCH | | FO | 60 | | | | | | | | | | | | | | | | | 48.11-52.55 Oxidized schist with rare quartz and good foliation parallel pyrite crystans. Minor limonite bands. |
| | | | | | | | | | FO | 60 | | | CLY | BLE | | | | | | | | | | | | | 51.21-52.55 increase in clay - kaolinite? Last 20 cm bleached |
| 52.55 | 61.26 | 8.71 | | | | BLE | SCH | | FO | 75 | | | LIM | CLY | | | | | Mu | Qz | Se | Py | f | | | | Pale grey, moderately siliceous bleached muscovite schist with weak sericite alteration. |
| | | | | | | | | | | | | | | | | | | | | | | As | f | | | | |
| | | | | | | | | | Py | 80 | | | | | | | | | | | | Py | f | | | | 55.5 m disseminated pyrite band |
| | | | | | | | | | | | | | LIM | SO | CL | TC | | | | | | Py | w | | | | 58.31 limonite and scorodite on foliation parallel fractures. Vuggy and vesicular in spots. |
| | | | | | | | | | | | | | | | | | | | | | | As | w | | | | 60.35 m 30 cm clay rich chips with disseminated sulphide bands. |
| 61.26 | 63.40 | 2.14 | | | | GNE | | | FO | 70 | | | LIM | SO | | | | | Cl | Ga | | | | | | | medium to coarse grained, porphyritic chlorite augen gneiss |
| 63.40 | 65.06 | 1.66 | | | | GNE | | | | | | | | | | | | | Ga | Cl | | | | | | | Fine grained, aphanitic garnet gneiss - chilled phase? |
| 65.06 | 66.45 | 1.39 | | | | BLE | SCH | | PY | 85 | | | SO | | | | | | | | | Py | t | | | | Same as 52-61 m, but less scorodite. Non magnetic |
| 66.45 | 68.70 | 2.25 | | | | GNE | | | FX | 0 | 40 | | LIM | | | | | | Ks | Cl | | | | | | | Aphanitic to porphyritic garnet augen gneiss. Limonite on fractures. |
| | | | | | | | | | FO | 85 | | | | | | | | | | | | | | | | | 66.90 m, 10 cm white quartz vein with scorodite. |
| 68.70 | 70.17 | 1.47 | | | | BLE | SCH | | | | | | LIM | SO | | | | | | | | Py | w | | | | Poker chips of bleached felsic schist. Pitted, 'burnt' looking sections at end of interval (1 cm) |
| 70.17 | 71.30 | 1.13 | | | | ALT | ZONE | GNE | | | | | LIM | GO | MG | | | | | | | | | | | | Alteration zone gneiss. Contact at 90°. Dark green, soft chlorite. |
| | | | | | | | | | VN | 20 | | | | | | | | | | | | | | | | | 71.00 m, 4 cm quartz vein |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 71.30 | 75.70 | 4.40 | | | | GNE | | | FX | 30 | | | MC | | | | | | Cl | Ga | Ac | | | | | | Megacrystic zebra gneiss. At least 80% mafics. < 2 by 1 cm. |
| | | | | | | | | | VN | 40 | | | | | | | | | Ep | Mc | | | | | | | 72.54 m limonite and malachite lined fractures. Rare epidote veining. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | Quartz veins with epidote selvages |
| 75.70 | 76.88 | 1.18 | | | | GNE | | | FO | 80 | | | LIM | | | | | | Cl | Ep | Ga | Py | t | | | | Fine grained garnet augen gneiss. |
| | | | | | | | | | FX | 40 | | | | | | | | | Qz | | | Sp | t | | | | 75.70 m, quartz vein with pyrite, sphalerite and limonite on fractures. |
| | | | | | | | | | VN | 80 | | | | | | | | | | | | Cp | t | | | | |
| 76.88 | 78.69 | 1.81 | | | | SCH | | LT | FO | 80 | | | LIM | SO | | | | | Mu | Qz | | | | | | | Altered schist, well foliated, black speckles (<1%) |
| 78.69 | 78.95 | 0.26 | | | | QZ | | | | | | | LIM | | | | | | | | | | | | | | Bull quartz vein with limonite on fractures. |
| 78.95 | 81.09 | 2.14 | | | | GNE | GY-BK-GR | | FO | 60 | | | LIM | | | | | | Cl | Ep | Ac | Py | t | | | | Megacrystic zebra gneiss. Trace garnet phenocrysts, trace disseminated pyrite. Epidote veinlets < 4 mm. |
| | | | | | | | | | FX | 60 | | | SIL | | | | | | Qz | Ga | He | | | | | | |
| | | | | | | | | | EP | 50 | | | | | | | | | | | | | | | | | 79.70 m, 3 cm white quartz vein with abundant epidote alteration |
| 81.09 | 85.61 | 4.52 | | | | GNE | GY | | FX | 20 | | | LIM | TA | | | | | Ep | Ga | Cl | Py | w | | | | <1.5 cm 2 garent augen gneiss. |
| | | | | | | | | | FO | 50 | | | BLE | | | | | | | | | | | | | | 82 m foliation parallel pyrite bands |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 83 m, limonite on fractures 20° |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 85.11 to 86.61 m increase in limonite on fractures. Bleached for the last 10 cm. |
| 85.61 | 91.70 | 6.09 | | | | SIL | | | | | | | SO | TA | | | | | Cl | Ep | Qz | Py | m | | | | Contact at 85.61 at 65° |
| | | | | | | | | | | | | | | | | | | | | | | As | m | | | | 45 cm heavily disseminated to semi massive sulphide (10 cm talc). |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

# GEOLOGY LOG

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | Other | | Other | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | | |
| | | | | | | | | | | | | | | | | | | | | | | Co | m | | | | 87.40-88.09 m siliceous zone with abundant chalcopryite, pyrite, covellite, disseminated-stringy and blebby mineralization. |
| | | | | | | | | | VN | ? | | | | | | | | | | | | Cp | f | | | | |
| | | | | | | | | | QZ | 80 | | | | | | | | | | | | Cv | f | | | | |
| | | | | | | | | | | | | | | | | | | | | | | Cc | w | | | | |
| | | | | | | | | | | | | | LIM | | | | | | | | | | | | | | 88.07-88.37 m limonitic felsic schist |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 88.37-88.70 m veins within felsic schist |
| | | | | | | BRXX | | | | | | | | | | | | | Qz | | | Bk | ? | | | | 90.15 - 90.63 m oxidized |
| | | | | | | | | | | | | | | | | | | | | | | Py | t | | | | Quartz flooded, ankerite coloured, almost brecciated biotite-muscovite schist. |
| | | | | | | | | | VN | 80 | | | | | | | | | | | | | | | | | Altered biotite-muscovite schist |
| | | | | | | | | | | | | | | | | | | | | | | Py | t | | | | 90.63-91.70 m rare < 10 cm qugen gneiss with bronze mineral? |
| | | | | | | | | | | | | | | | | | | | | | | As | t | | | | |
| | | | | | | | | | | | | | | | | | | | | | | Cp | t | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | END OF SILICEOUS ZONE |
| 109.35 | 110.43 | | | | | SCH | GY | MD | | | | | | | | | | | QZ | FD | MUS | | | | | | chorite-muscovite-quartz schist containing calcite veinlets, weak disseminated pyrite and a limonitic coating on fracture surfaces. |
| | | | | | | | | | | | | | | | | | | | CL | AC | | | | | | | Sharp contacts define the start and end of this unit, both folliation parallel at 55 degrees. |
| | | | | | | | | | FX | 20 | | | LIM | | | | | w | | | | | | | | | 109.42m 20 degree fracture with limonitic coating. |
| | | | | | | | | | FX | 55 | | | LIM | | | | | w | | | | | | | | | 109.56m 55 degree fracture with trace limonitic coating and weak sericite alteration on fractrure surface. |
| | | | | | | | | | FX | 45 | | | LIM | SE | | | | t | | | | | | | | | 109.69m 45 degree fracture with limonitic coating. |
| | | | | | | | | | | | | | | | | | | | PY | | | | | | | | 109.58 - 109.83m Increased pyritization up to 7% composition. |
| | | | | | | | | | VU | | 1/10cm | | | | | | | | | | | | | | | | 3mm^2 vugs throughout interval, 1/10cm. |
| | | | | | | | | | VN | | | | | | | | | | QZ | CA | ? | | | | | | 3-7mm multigenerational quartz veinlet composed of pink and white quartz, edged by 0.2cm very fine-grained dark grey sulfide stringers and crosscut by 0.1cm calcite veinlets. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110.43 | 112.20 | | | | | GNE | GN/GY | MD | | | | | | | | | | | CL | AC | FD | | | | | | Zebra Gneiss 70% mafic, 30%felsic. |
| | | | | | | | | | | | | | | | | | | | QZ | PY | | | | | | | No garnets from 110.43 - 111.80m. 0.2-2cm^2 Chlorite laths and 0.2-0.3cm^2 disseminated pyrite blebs set in a beige, fine grained groundmass. |
| | | | | | | | | | VN | 55 | | | LIM | | | | | w | | | | | | | | | 111.15 - 111.30 fractured bull Quartz vein with weak limonitic coating. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | grey schist with 2mm^2 garnets and fine grained disseminated pyrite. Boundary contacts at 55 and 40 degrees. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 112.20 | 114.32 | | | | | SCH | GY | MD | | | | | | | | | | | CL | MUS | QZ | | | | | | Chlorite- muscovite - quartz schist with 0.2-0.4cm^2 garnet augens, disseminated trace pyrite and pervasive calcite fracture infill and veinlets. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | This appears to be the schistose equivalent to the Zebra Gneiss. |
| | | | | | | | | | FO | ariable | | | | | | | | | CA | PY | GA | | | | | | Folliation fold axis at 114m? |
| | | | | | | | | | FO | 55 | | | | | | | | | | | | | | | | | 112.50 - 113.05m. Blocky section with minor sericite alteration. Folliation parallel microfractures at 55 degrees, infilled with calcite. |
| | | | | | | | | | VT | | | | LIM | | | | | t | | | | | | | | | Trace limonite in folliation parallel fracture at 113.00m. |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

# GEOLOGY LOG

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | Other | | Other | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | | |
| | | | | | | | | | VU | | | | | | | | | | | | | | | | | | Vuggy 0.4cm calcite veinlets at 113.12 and 113.19m. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 114.32 | 114.90 | | | | | MAF | GN | DK | CN | 55 | | | | | | | | | CL | EP | AC | | | | | | 0.4-2cm^2 chlorite laths similar to those in the Zebra Gneiss. No garnets or pyrite. |
| | | | | | | | | | | | | | VN | | | | | | HB | | | | | | | | Epidote stringers throughout, proximal to flooding by soft, earthy, dull green mineral. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | Folliation parallel contacts. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 11cm pink and white bull quartz vein at 114.32m. |
| | | | | | | | | | VT | 20 | | | | | | | | | | | | | | | | | 20 degree calcite veinlet at 140.60m. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 114.90 | 128.97 | | | | | SCH | BN-GY | MD | | | | | | | | | | | CL | MUS | QZ | | | | | | Chlorite-muscovite-quartz schist with <0.4cm garnet augens, 1-5cm bull quartz veins and trace disseminated pyrite. |
| | | | | | | | | | | | | | | | | | | | GA | PY | CA | | | | | | 20 degree fracture at 116.20m with limonitic coating |
| | | | | | | | | | VU | | 10/20cm | | | | | | | | | | | | | | | | 0.3cm^2 vugs |
| | | | | | | | | | VT | | | | | | | | | | | | | | | | | | 117.50 - 119.00 pervasive hairline fracturing infilled with limonite and calcite. |
| | | | | | | | | | FX | 20 | | | | | | | | | | | | | | | | | 118.80m 0.4cm limonitic fracture at 20 degrees. |
| | | | | | | | | | FO | 55 | | | | | | | | | | | | | | | | | Crenulated folliation at 119.10m. |
| | | | | | | | | | VN | 55 | | | | | | | | | | | | | | | | | 5cm bull quartz vein at 125.00m. Folliation parallel. |
| | | | | | | | | | FX | 55 | | | | | | | | | | | | | | | | | Brown, vuggy, limonitic fracture at 127.75m. |
| 128.97 | 130.21 | | | | | SCH | GY | LT | | | | | SE | | | | | | MUS | QZ | FD | | | | | | Siliceous schist with minor clay and sericite alteration and weakly banded and disseminated pyrite. |
| | | | | | | | | | FX | 0 | | | | | | | | | SO | SE | PY | | | | | | 129.80 - 130.10 shear fracture sub-parallel to core axis. |
| 130.21 | 133.30 | | | | | SCH | BN | MD | FO | 60 | | | | | | | | | CL | MUS | QZ | | | | | | chorite-muscovite-quartz schist containing calcite veinlets, weak disseminated pyrite and a limonitic coating on fracture surfaces. |
| | | | | | | | | | FX | 60 | | | | | | | | | CA | PY | GA | | | | | | |
| 133.30 | 138.22 | | | | | GNE | GN | MD | | | | | | | | | | | CL | QZ | GA | | | | | | Zebra Gneiss with weak disseminated pyrite. <2cm^2 chlorite laths, 0.2cm^2 garnet augens. |
| | | | | | | | | | VT | 55 | | | | | | | | | EP | AC | FD | | | | | | Interesting set of 3 0.3-1cm veinlets at 137m; epidote with blood red quartz?. Looks like Christmas. 55, 55, 30 degrees. |
| | | | | | | | | | VT | 30 | | | | | | | | | Cp | | | | | | | | 1cm^2 Chalcopyrite bleb at 137.80m. |
| 138.22 | 140.00 | | | | | MAF | GN | DK | | | | | | | | | | | CL | AC | PY | | | | | | Dark green chlorite lath and actinolite dominated mafic unit. No garnets. Trace disseminated and blebby pyrite <0.5cm^2. Chlorite laths <1cm with smaller laths concentrated between 139.10 - 140.00m. |
| | | | | | | | | | VT | 20 | | | | | | | | | EP | CA | | | | | | | Epidote veinlets with calcite. |
| 140.00 | 144.00 | | | | | GNE | GN-G | MD-LT | | | | | | | | | | | CL | AC | EP | | | | | | Bleached Zebra Gneiss with ,1cm^2 garnet augens and 1cm^2 chlorite laths |
| | | | | | | | | | | | | | | | | | | | QZ | FD | GA | | | | | | epidote and calcite veinlets. |
| | | | | | | | | | FO | 80 | | | | | | | | | CA | | | | | | | | trace disseminated pyrite. |
| | | | | | | | | | VN | 80 | | | | | | | | | | | | | | | | | 140.84-140.90m, 2, 2cm bull quartz veins. |
| | | | | | | | | | FX | 30 | | | | | | | | | | | | | | | | | limonitic coating on fracture surface at 142.05m. |
| | | | | | | | | | VT | 15 | | | | | | | | | | | | | | | | | calcite veinlet at 143.10m. |
| 144.00 | 155.63 | | | | | GNE | GY-G | MD | | | | | | | | | | | CL | AC | FD | | | | | | Zebra Gneiss. Moderately to strongly magnetic. |
| | | | | | | | | | VT | 30 | | | | | | | | | QZ | EP | HE | | | | | | 146.10m, 1cm^2 pyritic bleb adjacent to 0.7cm bull quartz vienlet at 30 degrees. |

# GEOLOGY LOG

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | Other | | Other | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | | |
| | | | | | | | | | VN | 30 | | | LIM | | | | | t | | | | | | | | | 147.06m, 1cm wide brecciated quartz vein, mineralized with pyrite and a brassy, tarnished sulfide. Limonite trace. |
| | | | | | | | | | FX | 60 | | | | | | | | | | | | | | | | | 148.29m, fracture. |
| | | | | | | | | | FO | 55 | | | | | | | | | MG | | | | | | | | 148.73, magnetite bleb. Strongly magnetic. |
| | | | | | | | | | VN | 90 | | | | | | | | | | | | | | | | | 149.44m, 1.5cm bull quartz vein perpendicular to core axis. |
| | | | | | | | | | FX | 40 | | | | | | | | | | | | | | | | | 149.88 - 150.07m, concentration of 1cm long strain fractures at 40 degrees. |
| | | | | | | | | | VT | 30 | | | | | | | | | ? | | | | | | | | 151.25m, 0.1-0.2cm wide grey sulfide veinlet at 30 degrees. |
| | | | | | | | | | | | | | | | | | | | PY | | | | | | | | 154.37m, 1cm^2 pyrite bleb. |
| | | | | | | | | | VT | 90 | | | | | | | | | EP | | | | | | | | 155.55m, epidote stringers perpendicular to core axis. |
| 155.63 | 156.78 | | | | | MAF | | | | | | | | | | | | | CL | BI | AC | | | | | | homogenous mafic sill with convolute folliation, fine grained with a gneissic texture. |
| | | | | | | | | | | | | | | | | | | | HB | | | | | | | | 156.17m, 10cm bull quartz vein at 60 degrees. |
| 156.78 | 168.83 | | | | | GNE | GY-G | MD | FO | 60 | | | | | | | | | CL | AC | FD | | | | | | Zebra Gneiss. Moderately magnetic. Continued from unit above mafic dyke? |
| | | | | | | | | | CN | 60 | | | | | | | | | QZ | EP | HE | | | | | | folliation parallel contacts at 60 degrees |
| | | | | | | | | | FX | 30 | | | | | | | | | | | | | | | | | 157.35m, 30 degree fracture lined with epidote and hematite. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | proximal 30 degree fractures cut folliation at 90 degrees and are coated with a mixture of calcite, hematite and epidote. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 158.50m, 160.38m, vuggy 0.7cm quartz veins, fractured with sulfide mineralization. This is not the same type of quartz veining as seen previously, ie bull quartz. |
| | | | | | | | | | FX | 40 | | | LIM | | | | | t | | | | | | | | | 160.08m, fracture coated with a trace of limonite. |
| | | | | | | | | | | | | | HEM | | | | | | | | | | | | | | 167.03 - 168.10m, increased hematitization in fractures and vienlets. Hematite closely associated spacially with calcite over this interval. |
| | | | | | | | | | VT | 30 | | | | | | | | | | | | | | | | | pervasive calcite in fractures and veinlets at 30 degrees. |
| | | | | | | | | | VN | 30 | | | | | | | | | | | | | | | | | 168.00m, 1cm calcite vein at 30 degrees. |
| 168.83 | 170.73 | | | | | MAF | GN | DK | | | | | | | | | | | CL | FD | | | | | | | 0.2-1cm^2 chlorite laths set in feldspar groundmass. No garnets or pyrite. |
| | | | | | | | | | VT | | | 4/2m | | | | | | | CA | EP | HE | | | | | | 0.3cm wide Calcite-Epidote-Hematite veinlets at 20 degrees throughout. |
| | | | | | | | | | FX | | | | | | | | | | | | | | | | | | 170.00m, rusty fracture surface. |
| 170.73 | 178.38 | | | | | GNE | GY-G | MD | FO | 60 | | | | | | | | | CL | AC | FD | | | | | | Zebra Gneiss. Moderately magnetic. Continued from unit above mafic dyke? |
| | | | | | | | | | VT | 20 | | | | | | | | | QZ | EP | HE | | | | | | pervasively cut by calcite veinlets <0.2cm. |
| | | | | | | | | | | | | | LIM | | | | | t | PY | | | | | | | | 177.11m, vuggy quartz veinlet at 50 degrees with trace limonitic coating and weak, proximal disseminated pyrite. |
| 178.38 | 180.36 | | | | | GNE? | BN-G | MD | | | | | | | | | | | | | | | | | | | overprinted Zebra Gneiss? |
| | | | | | | | | | | | | | HEM | | | | | | | | | | | | | | convolute folliation, intense flooding by quartz, hematite, calcite and a dull, earthy green mineral. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 179..22m, 10cm mildly brecciated pink and white bull quartz flood |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

# GEOLOGY LOG

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | Other | | Other | | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | Continuation of altered Zebra Gneiss. Highly fractured with limonitic infilling almost to the point of brecciation. Abundant hematite, quartz flooding and |
| 180.36 | 180.86 | | | | | GNE | OR-G | MD | | | | | | | HEM | | | | QZ<br>CL | HE | LIM | | | | | | | trace calcite present. Weakly magnetic. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 180.86-181.10m, yellow hair-line fractures instead of the reddish-orange limonitic fractures above. |
| 180.86 | 182.18 | | | | | GNE | | | | | | | | | | | | | | | | | | | | | | Limonite/sericite? |
| | | | | | | | | | FX | 60 | | | | | | | | | | | | | | | | | | 181.75m, 5 degree yellow-orange veinlet. Limonite+quartz? |
| | | | | | | | | | VT | 60 | | | | | | | | | | | | | | | | | | 182.17m, 30 degree veinlet in fracture. Yellow-white quartz+limonite? |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | Zebra Gneiss. <2cm chlorite laths, 0.5cm garnet |
| 182.18 | 185.97 | | | | | GNE | GN | MD | | | | | | | | | | | CL | QZ | GA | | | | | | | augens. |
| | | | | | | | | | VT | | | | | | | | | | QZ | | | | | | | | | 183.50m, vuggy 0.3cm quartz vienlet. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 184.10m, 5cm quartz flood. Brecciated with fine grained magnetite veinlets. |
| | | | | | | | | | | | | | | | | | | | MG | | | | | | | | | |
| | | | | | | | | | FX | | | | | | | | | | CA | | | | | | | | | 184.40m, uneven 15 degree fracture coated in calcite and magnetite. |
| | | | | | | | | | VN | | | | | | | | | | | | | | | | | | | 185.59m, 1cm vuggy quartz vein with trace pyrite. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | UM phase of Zebra Gneiss. Metamorphosed to the same degree as the Zebra unit. Also shares the |
| 185.97 | 188.14 | | | | | MAF | GN | DK | | | | | | | | | | | CL | AC | EP | | | | | | | same chlorite lath shapes and sizes. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 185.97-186.24m, moderate quartz flooding |
| | | | | | | | | | FX | 70 | | | | | LIM | | | | QZ | CA | | | | | | | | containing a 10 degree calcite vienlet and 70 degree fractures coated with a limonitic trace. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 187.71-188.14m, quartz flooded with epidote flooding at the edges. Within the quartz flood lies a 20cm bull quartz vein at 187.74m. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | Zebra Gneiss. Well folliated with <2cm chlorite |
| 184.14 | 193.69 | | | | | GNE | GN-G | MD | | | | | | | | | | | CL<br>QZ | AC<br>FD | EP<br>GA | | | | | | | laths, <2cm garnet augens. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 190.35m, quartz vienlet with a proximal 0.4cm pyrite |
| | | | | | | | | | VT | 90 | | | | | | | | | PY | | | | | | | | | bleb. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 190.60m, 1cm quartz vein with proximal epidote flooding and a trace red mineral. Jasperoidal |
| | | | | | | | | | FO | 70 | | | | | | | | | | | | | | | | | | quartz? Strongly magnetic. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 191.64m, 0.3cm calcite veinlet at 10 degrees. |
| | | | | | | | | | VT | 10 | | | | | | | | | CA | | | | | | | | | Vuggy. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 193.69m, 0.3cm calcite veinlet at 10 degrees. |
| | | | | | | | | | VU | | | | | | | | | | | | | | | | | | | Vuggy. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | UM phase of Zebra Gneiss. Metamorphosed to the same degree as the Zebra unit. Also shares the same chlorite lath shapes and sizes. 1cm elongate chlorite laths. 30% felsic, 70% mafic. Pervasively |
| 193.69 | 194.40 | | | | | MAF | GN | DK | VT | 10 | | | | | | | | | CL<br>CA | AC<br>HE | FD | | | | | | | cut by 10 degree calcite and hematitic veinlets. |
| | | | | | | | | | VN | 50 | | | | | | | | | | | | | | | | | | 194.11m, 5cm bull quartz vein. |
| | | | | | | | | | VN | 50 | | | | | | | | | | | | | | | | | | 194.20m, 5cm bull quartz vein. |
| 194.40 | 207.66 | | | | | GNE | GN-G | MD | | | | | | | | | | | | | | | | | | | | Zebra Gneiss. |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

# GEOLOGY LOG

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | Other | | Other | | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | | | |
| | | | | | | | | | FO | 70 | | | | | | | | | | | | | | | | | | hairline fractures throughout, 3/cm infilled with a calcite trace. Moderately magnetic. Slight reddish tinge to rock interval. Trace hematite? |
| | | | | | | | | | FX | 15 | | | | | | | | | | | | | | | | | | 197.55m, 10cm of concentrated yellow-white hairline fractures.<br>200.56m, blocky around 15 degree fracture. |
| | | | | | | | | | FO | 70 | | | | | | | | | | | | | | | | | | 201.46-202.22m, reddish-grey, well folliated sub-interval of Zebra Gneiss. Relict chlorite laths and garnet augens. Competent. Pervasive orange-yellow hairline fractures cutting in all directions. Sparce 0.5cm vugs. 1mm specs of dull sub-metalic black-grey mineral. Chalcocite? Weakly magnetic.<br>202.22-207.66m, less altered that interval above. Well folliated. Chlorite laths and garnets more distinct. |
| | | | | | | | | | VT | 30 | | | | | | | | | | | | | | | | | | 204.76m, 0.4cm milky quarzt veinlet at 30 degrees. |
| | | | | | | | | | VN | 30 | | | | | | | | | | | | | | | | | | 205.07m, 1cm milky quarzt vein at 30 degrees. |
| | | | | | | | | | FX | 60 | | | SE | | | f | | | | | | | | | | | 206.23m, 10cm soft, clay altered zone. Crumby with a red, hematitic stain. |
| | | | | | | | | | VT | 15 | | | | | | | | | | | | | | | | | | 206.65m, abundant hematite veinlets at 15 degrees. |
| | | | | | | | | | | | | | CL | | | | | | Bi | | | | | | | | | 207.50m, chlorite laths altered to clays. 5% biotite. |
| 207.66 | 208.10 | | | | | MAF | GN | DK | VN | 70 | | | | | | | | | | | | | | | | | | Mafic interval. 0.5cm chlorite laths, some altered to greenish clay. 70% mafic, 30% feldspars/quartz. Bottoms out in 7cm bull quartz vein. |
| 208.10 | 212.75 | | | | | GNE | GN | DK | | | | | | | | | | | CL | QZ | Bi | | | | | | | Mafic-dominated Zebra Gneiss. Pervasive hairline fracturing infilled with hematite. Chlorite laths have undergone partial clay alteration.<br>209.55m, 2cm bull quartz vein with proximal 30% quartz flooding above and below. |
| | | | | | | | | | VN | 70 | | | | | | | | | | | | | | | | | | 210.44m, flooding by brown earthy mineral along fracture. Minor kaolinite alteration. Very weakly magnetic. Trace disseminated pyrite.<br>very crumbly in parts, particularly from 212.50-213.50m. 0.3cm chlorite laths, rare garnet augens varying from 0.3-1cm. |
| | | | | | | | | | FX | 45 | | | KAO | | | | | | | | | | | | | | | 215.17m, epidote and hematite along fracture. |
| | | | | | | | | | FX | 20 | | | CLY | | | s | | | | | | | | | | | 215.97m, 5cm clay alteration. |
| | | | | | | | | | VT | 80 | | | | | | | | | | | | | | | | | | 216.45m, 0.5cm quartz veinlet. |
| | | | | | | | | | FO | 80 | | | | | | | | | | | | | | | | | | 218.20m, trace hematite along fracture. Moderately magnetic. |
| | | | | | | | | | FX | 40 | | | | | | | | | HE | | | | | | | | | 219.07m, megacrystic <2cm chlorite laths over 25cm.<br>219.63m, 3cm cluster of 0.3cm garnet augens adjacent to 0.3cm wide pyrite band. |
| | | | | | | | | | FX | 25 | | | LIM | | | t | | | | | | | | | | | 221.43m, limonitic fracture |
| | | | | | | | | | SS | 20 | | | | | | | | | | | | | | | | | | 222.10, 50cm interval of larger chlorite laths, trace disseminated pyrite and rare, 0.3cm garnet augens.<br>222.82m, Fault plane with epidote and calcite on surface. |
| | | | | | | | | | FT | 30 | | | | | | | | | | | | | | | | | | |
| 223.16 | 224.07 | | | | | MAF | GN | DK | | | | | | | | | | | CL<br>FD | AC | HB | | | | | | | Very fine-grained ultramafic interval. |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

# GEOLOGY LOG

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | Other | | Other | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | | |
| | | | | | | | | | FX | 10 | | | | | | | | | | | CA | | | | | | 224.00m, rusty, calcite filled fracture. |
| 224.07 | 234.09 | | | | | GNE | | | | | | | | | | | | | | | EP | | | | | | 224.37m, heavy epidote flooding over 10cm. |
| | | | | | | | | | VN | 70 | | | | | | | | | | | QZ | | | | | | 226.50m, 1cm bull quartz vein. |
| | | | | | | | | | FX | 30 | | | | | | | | | | | | | | | | | 228.00m, 30 degree fracture. |
| | | | | | | | | | FO | 70 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 229.00-230.50m, strong quartz flooding, up to 40% by volume. Large, unaltered chlorite and hornblende phenocrysts <2cm. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 230.50-232.25m, 30% quartz flooding. Fugicite veinlet cutting quartz flood. Megacrystic Cl, Hb laths. |
| | | | | | | | | | VT | 10 | | | | | | | | | | | FU | | | | | | |
| | | | | | | | | | FX | 60 | | | LIM | | | | | | | | | | | | | | 233.37m, 60 degree fracture with limonitic trace. 0.3-2cm chlorite laths. |
| 234.09 | | | | | | | | | | | | | | | | | | | | | | | | | | | End of Hole TL-01-11 |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

**Hole: TL-01-11 Name: KORY LARSEN Page 1 of 2**

| From (m) | To (m) | Interval (m) | Recovery (m) | RQD (m) | Munsell Colour | Hardness | Weathering | Comments |
|---|---|---|---|---|---|---|---|---|
| 0.00 | 5.48 | 0.40 | 0 | 0 | | | | |
| 5.48 | 8.53 | 2.95 | 1.08 | 0.366102 | | | | |
| 8.53 | 11.57 | 3.09 | 0.52 | 0.168285 | | | | |
| 11.57 | 14.62 | 3.05 | 0.45 | 0.147541 | | | | |
| 14.62 | 17.67 | 3.07 | 1.09 | 0.355049 | | | | |
| 17.67 | 20.71 | 3.10 | 1.72 | 0.554839 | | | | |
| 20.71 | 23.77 | 3.09 | 1.32 | 0.427184 | | | | |
| 23.77 | 26.82 | 3.25 | 1.15 | 0.353846 | | | | |
| 26.82 | 29.87 | 3.01 | 2.53 | 0.840532 | | | | |
| 29.87 | 32.92 | 2.98 | 2.33 | 0.781879 | | | | |
| 32.92 | 35.97 | 3.08 | 2.98 | 0.967532 | | | | |
| 35.97 | 39.01 | 3.08 | 2.15 | 0.698052 | | | | |
| 39.01 | 42.06 | 3.16 | 2.33 | 0.737342 | | | | |
| 42.06 | 45.11 | 3.07 | 2.1 | 0.684039 | | | | |
| 45.11 | 48.16 | 3.12 | 1.27 | 0.407051 | | | | |
| 48.16 | 51.21 | 3.12 | 1.42 | 0.455128 | | | | |
| 51.21 | 54.25 | 3.13 | 0.46 | 0.146965 | | | | |
| 54.25 | 57.30 | 3.04 | 1.24 | 0.407895 | | | | |
| 57.30 | 60.35 | 3.10 | 1.37 | 0.441935 | | | | |
| 60.35 | 63.40 | 3.12 | 0.79 | 0.253205 | | | | |
| 63.40 | 66.45 | 2.86 | 1.17 | 0.409091 | | | | |
| 66.45 | 69.49 | 2.56 | 1.97 | 0.769531 | | | | |
| 69.49 | 72.54 | 2.40 | 1.28 | 0.533333 | | | | |
| 72.54 | 75.59 | 3.08 | 2.08 | 0.675325 | | | | |
| 75.59 | 78.64 | 2.52 | 0.79 | 0.313492 | | | | |
| 78.64 | 81.64 | 2.96 | 2 | 0.675676 | | | | |
| 81.64 | 84.73 | 3.07 | 2.23 | 0.726384 | | | | |
| 84.73 | 87.78 | 2.34 | 0.97 | 0.41453 | | | | |
| 87.78 | 90.83 | 2.97 | 1.76 | 0.592593 | | | | |
| 90.83 | 93.88 | 3.20 | 0.68 | 0.2125 | | | | |
| 93.88 | 96.93 | 3.29 | 1.08 | 0.328267 | | | | |
| 96.93 | 99.97 | 2.95 | 2.05 | 0.694915 | | | | |
| 99.97 | 103.02 | 3.00 | 1.49 | 0.496667 | | | | |
| 103.02 | 106.07 | 3.12 | 1.38 | 0.442308 | | | | |
| 106.07 | 109.12 | 3.05 | 2.77 | 0.908197 | | | | |
| 109.12 | 112.17 | 3.05 | 2.23 | 0.731148 | | | | |
| 112.17 | 115.21 | 3.05 | 2.44 | 0.8 | | | | |
| 115.21 | 118.26 | 3.15 | 1.93 | 0.612698 | | | | |
| 118.26 | 121.31 | 3.03 | 2.17 | 0.716172 | | | | |
| 121.31 | 124.36 | 3.02 | 1.83 | 0.60596 | | | | |
| 124.36 | 127.41 | 3.02 | 2.97 | 0.983444 | | | | |
| 127.41 | 130.45 | 2.99 | 1.94 | 0.648829 | | | | |
| 130.45 | 133.50 | 2.35 | 1.39 | 0.591489 | | | | |
| 133.50 | 136.55 | 0.62 | 0.14 | 0.225806 | | | | |
| 136.55 | 139.60 | 3.03 | 2.69 | 0.887789 | | | | |
| 139.60 | 142.65 | 3.04 | 2.84 | 0.934211 | | | | |
| 142.65 | 145.69 | 3.12 | 2.88 | 0.923077 | | | | |

| | | | | |
|---|---|---|---|---|
| 145.69 | 148.74 | 3.06 | 2.71 | 0.885621 |
| 148.74 | 151.79 | 3.07 | 2.91 | 0.947883 |
| 151.79 | 154.84 | 3.03 | 2.66 | 0.877888 |
| 154.84 | 157.87 | 3.03 | 2.12 | 0.699208 |
| 157.87 | 160.93 | 3.01 | 2.42 | 0.803987 |
| 160.93 | 163.98 | 2.97 | 2.44 | 0.821549 |
| 163.98 | 167.03 | 2.96 | 1.76 | 0.594595 |
| 167.03 | 170.08 | 3.15 | 2.57 | 0.815873 |
| 170.08 | 173.13 | 3.01 | 2.61 | 0.86711 |
| 173.13 | 176.17 | 3.00 | 2.99 | 0.996667 |
| 176.17 | 179.22 | 3.01 | 2.77 | 0.920266 |
| 179.22 | 182.27 | 3.06 | 2.18 | 0.712418 |
| 182.27 | 185.32 | 2.98 | 2.47 | 0.828859 |
| 185.32 | 188.36 | 2.83 | 1.89 | 0.667845 |
| 188.36 | 191.41 | 3.11 | 2.51 | 0.807074 |
| 191.41 | 194.46 | 3.07 | 2.76 | 0.899023 |
| 194.46 | 197.51 | 3.15 | 3.14 | 0.996825 |
| 197.51 | 200.56 | 2.99 | 2.87 | 0.959866 |
| 200.56 | 203.61 | 2.90 | 1.58 | 0.544828 |
| 203.61 | 206.65 | 3.02 | 1.79 | 0.592715 |
| 206.65 | 209.70 | 2.94 | 2.55 | 0.867347 |
| 209.70 | 212.75 | 2.99 | 2.28 | 0.762542 |
| 212.75 | 215.80 | 3.07 | 1.57 | 0.511401 |
| 215.80 | 218.85 | 3.05 | 2.08 | 0.681967 |
| 218.85 | 221.89 | 3.05 | 1.75 | 0.57377 |
| 221.89 | 224.94 | 3.02 | 2.66 | 0.880795 |
| 224.94 | 227.99 | 3.01 | 2.26 | 0.750831 |
| 227.99 | 231.04 | 3.05 | 2.54 | 0.832787 |
| 231.04 | 234.09 | 3.08 | 2.832 | 0.919481 |
| EOH | | | | |

# SAMPLE LOG

## HOLE: TL-01-11

| From (m) | To (m) | Interval (m) | Recovery (m) | Recovery (%) | Sample | Batch | Au (g/t) | Ag (g/t) | As (ppm) | Bi (ppm) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 5.45 | 5.45 | | 0 | not sampled | | | | | | not sampled |
| 5.45 | 9.73 | 4.28 | | 0 | J997800 | 1 | | | | | |
| 9.73 | 14.10 | 4.37 | | 0 | J997801 | 1 | | | | | |
| 14.10 | 17.01 | 2.91 | | 0 | J997802 | 1 | | | | | |
| 17.01 | 19.88 | 2.87 | | 0 | J997803 | 1 | | | | | |
| 19.88 | 25.13 | 5.25 | | 0 | J997804 | 1 | | | | | |
| 25.13 | 27.00 | 1.87 | | 0 | J997805 | 1 | | | | | |
| 27.00 | 28.59 | 1.59 | | 0 | J997806 | 1 | | | | | |
| 28.59 | 30.69 | 2.10 | | 0 | J997807 | 1 | | | | | |
| 30.69 | 35.31 | 4.62 | | 0 | J997808 | 1 | | | | | |
| 35.31 | 39.93 | 4.62 | | 0 | J997809 | 1 | | | | | |
| 39.93 | 42.06 | 2.13 | | 0 | J997810 | 1 | | | | | |
| 42.06 | 45.11 | 3.05 | | 0 | J997811 | 1 | | | | | |
| 45.11 | 48.11 | 3.00 | | 0 | J997812 | 1 | | | | | |
| BLANK | | | | | J997813 | 1 | | | | | BLANK |
| 48.11 | 52.55 | 4.44 | | 0 | J997814 | 1 | | | | | |
| 52.55 | 55.45 | 2.90 | | 0 | J997815 | 1 | | | | | |
| 55.45 | 58.31 | 2.86 | | 0 | J997816 | 1 | | | | | |
| 58.31 | 61.26 | 2.95 | | 0 | J997817 | 1 | | | | | |
| STANDARD | | | | | J997818 | 1 | | | | | CDN-ME-2 |
| 61.26 | 65.06 | 3.80 | | 0 | J997819 | 1 | | | | | |
| 65.06 | 66.45 | 1.39 | | 0 | J997820 | 1 | | | | | |
| 66.45 | 68.70 | 2.25 | | 0 | J997821 | 1 | | | | | |
| 68.70 | 70.17 | 1.47 | | 0 | J997822 | 1 | | | | | |
| 70.17 | 71.30 | 1.13 | | 0 | J997823 | 1 | | | | | |
| 71.30 | 75.70 | 4.40 | | 0 | J997824 | 1 | | | | | |
| 75.70 | 78.95 | 3.25 | | 0 | J997825 | 1 | | | | | |
| 78.95 | 81.09 | 2.14 | | 0 | J997826 | 1 | | | | | |
| 81.09 | 84.09 | 3.00 | | 0 | J997827 | 1 | | | | | |
| 84.09 | 85.61 | 1.52 | | 0 | J997828 | 1 | | | | | |
| 85.61 | 88.78 | 3.17 | | 0 | J997829 | 1 | | | | | |
| BLANK | | | | | J997830 | 1 | | | | | BLANK |
| 88.78 | 91.70 | 2.92 | | 0 | J997831 | 1 | | | | | |
| STANDARD | | | | | J997832 | 1 | | | | | CDN-ME-12 |
| 105.14 | | 109.35 | | | JJ997892 | 3 | | | | | |
| 109.35 | | 111.87 | | 0 | JJ997893 | 3 | | | | | |
| 111.87 | | 114.90 | | 0 | JJ997894 | 3 | | | | | |
| 114.90 | | 119.20 | | 0 | JJ997895 | 3 | | | | | |
| 119.20 | | 124.04 | | 0 | JJ997896 | 3 | | | | | |
| 124.04 | | 128.97 | | 0 | JJ997897 | 3 | | | | | |
| 128.97 | | 130.20 | | 0 | JJ997898 | 3 | | | | | |
| STANDARD | | STANDARD | | | JJ997899 | 3 | | | | | STANDARD |
| 130.20 | | 133.32 | | 0 | JJ997900 | 3 | | | | | |
| 133.32 | | 138.22 | | 0 | JJ997901 | 3 | | | | | |
| 138.22 | | 140.00 | | 0 | JJ997902 | 3 | | | | | |
| 140.00 | | 144.50 | | 0 | JJ997903 | 3 | | | | | |
| 144.50 | | 148.11 | | 0 | JJ997904 | 3 | | | | | |
| 148.11 | | 151.38 | | 0 | JJ997905 | 3 | | | | | |
| 151.38 | | 155.63 | | 0 | JJ997906 | 3 | | | | | |
| 155.63 | | 156.78 | | 0 | JJ997907 | 3 | | | | | |
| | | | | | | | | | | | END BATCH 3 |
| 156.78 | | 160.93 | | 0 | JJ997908 | 4 | | | | | |
| 160.93 | | 164.10 | | 0 | JJ997909 | 4 | | | | | |
| 164.10 | | 167.03 | | 0 | JJ997910 | 4 | | | | | |
| 167.03 | | 168.83 | | 0 | JJ997911 | 4 | | | | | |

# SAMPLE LOG

| From (m) | To (m) | Interval (m) | Recovery (m) | Recovery (%) | Sample | Batch | Au (g/t) | Ag (g/t) | As (ppm) | Bi (ppm) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 168.83 | | 170.73 | | | JJ997912 | 4 | | | | | |
| 170.73 | | 173.78 | | | JJ997913 | 4 | | | | | |
| 173.78 | | 178.38 | | | JJ997914 | 4 | | | | | |

# TOULEARY PROPERTY

| Grid East | Grid North | Easting | Northing | Elev. | Depth (m) |
|---|---|---|---|---|---|
| | | 594152 | 6987483 | 3862 | 154.9 |

**ZONE:** TL-TE-10-04

**SECTION:** 1

**HOLE:** TL-02-11

**CLAIM:**

Contractor: Elite Diamond Drilling

Drill: JKS 300

Core size: BTW

Casing depth: 3.05 (m) in / out

Drilling dates: June 17-18

Geology logged by: Heather Smith

**TARGET:**

**SURVEY**

| Depth (m) | Azimuth | Dip | Method | Depth (m) | Azimuth | Dip | Method |
|---|---|---|---|---|---|---|---|
| collar | 0 | -45 | compass | 154.9 | 0 | 38 | ACID |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

**SUMMARY**

| From (m) | To (m) | Interval | Unit | Comments |
|---|---|---|---|---|
| 0.00 | 15.22 | 15.22 | GNE | |
| 15.22 | 21.05 | 5.83 | SCH | |
| 21.05 | 29.87 | 8.82 | GNE | |
| 29.87 | 35.71 | 5.84 | SCH | |
| 35.71 | 75.52 | 39.81 | GNE | |
| 75.52 | 77.50 | 1.98 | ALT GNE | |
| 77.50 | 85.46 | 7.96 | GNE | |
| 85.46 | 89.22 | 3.76 | SIL SCH | |
| 89.22 | 92.27 | 3.05 | GNE | |
| 92.27 | 94.99 | 2.72 | SCH | |
| 94.99 | 100.2 | 5.21 | GNE | |
| 100.2 | 106.2 | 6.00 | SIL SCH | |
| 106.2 | 124 | 17.80 | GNE | |
| 124 | 127.17 | 3.17 | SIL SCH | |
| 127.17 | 129.6 | 2.43 | GNE | |
| 129.6 | 131.14 | 1.54 | SIL SCH | |
| 131.14 | 134.17 | 3.03 | SCH | |

**SAMPLES**

Numbers: J997836-

Total:

Batch:

Date Sent:

Certificate:

**COMMENTS**

## GEOLOGY LOG

HOLE: TL-02-11

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | Other | | Other | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | | |
| 0.00 | 1.52 | 1.52 | | | | No Rec | | | | | | | | | | | | | | | | | | | | | |
| 1.52 | 5.92 | 4.40 | | | | GNE | | LT | CA | 60 | | | SIL | LIM | | | | | Qz | Fd | Bi | Py | t | | | | Siliceous, weakly altered schist. No garnets. Trace disseminated pyrite. |
| | | | | | | | | | | | | | | | | | | | Mu | Cl | | | | | | | |
| 5.92 | 10.08 | 4.16 | | | | GNE | | DK | FO | 55 | | | | | | | | | | | | | | | | | Zebra gneiss. < 2 cm by 4 mm chlorite phenocrysta. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 9.00 m chlorite phenocrysts. Foliation parallel disseminated pyrite. |
| 10.08 | 12.13 | 2.05 | | | | GNE | | DK | | | | | | | | | | | Cl | Ac | Mu | | | | | | |
| | | | | | | | | | | | | | | | | | | | Ep | | | Py | t | | | | |
| 12.13 | 15.22 | 3.09 | | | | GNE | | MD | FO | 65 | | | SIL | | | | | | Cl | Ep | Ga | | | | | | medium grained, siliceous augen gneiss. Foliation at 14.63 m. |
| 15.22 | 21.05 | 5.83 | | | | SCH | | LT | FO | 70 | | | LIM | | | | | | Mu | Qz | Fd | | | | | | Limonitic, intensely oxidized muscovite schis |
| | | | | | | | | | FX | 20 | | | | | | | | | | | | | | | | | |
| 21.05 | 25.17 | 4.12 | | | | GNE | | LT | FO | 70 | | | LIM | | | | | | Cl | Ep | Ga | Py | t | | | | Megacrystic garnet gneiss |
| | | | | | | | | | CO | 60 | | | | | | | | | Mu | | | | | | | | |
| 25.17 | 29.87 | 4.70 | | | | GNE | | | FO | 70 | | | | | | | | | Hb | Ep | Ga | | | | | | Fine grained zebra gneiss, weakly foliate |
| | | | | | | | | | FX | 20 | | | | | | | | | | | | | | | | | 26.95 m manganese coating on fractures |
| 29.87 | 35.71 | 5.84 | | | | SCH | | MD | FO | 65 | | | LIM | MG | | | | | Cl | Mu | Qz | Py | t | | | | Schist, well foliated, minor limonite with disseminated pyrite. |
| | | | | | | | | | FX | 10 | | | | | | | | | Fd | Bi | Ep | | | | | | 32.92 m foliation 65°, fracture 10°, minor manganese on fractures. |
| 35.71 | 45.30 | 9.59 | | | | GNE | | DK | FO | 70 | | | | | | | | | Hb | Cl | Ac | Py | t | | | | Fine grained garnet augen gneiss. Rare whispy chlorite phenocrysts. |
| | | | | | | | | | | | | | | | | | | | Ep | Qz | | | | | | | 40 m, foliation parallel pyrite |
| | | | | | | | | | VT | 5 | | | | | | | | | | | | | | | | | 41 m calcite veinlet |
| 45.30 | 51.30 | 6.00 | | | | GNE | | DK | FO | 60 | | | | | | | | | Cl | Bi | Hb | | | | | | Fine grained gneiss. No garnets. 48.40 m chlorite epidote halos around quartz veins. Small pitted areas (49 m) |
| | | | | | | | | | FX | 30 | | | | | | | | | Mu | Ep | | | | | | | |
| 51.30 | 69.31 | 18.01 | | | | GNE | | MD- | | | | | | | | | | | Ga | Cl | Ep | Py | w | | | | Megacrystic garnet gneiss (< 1 cm2) grading into fine grained ultramafic. |
| | | | | | | | | DK | FX | irreg | | | | | | | | | Qz | Fd | Hb | | | | | | 54.15 fracture density increased to 8 per 1 m. Garnets decrease in size and number from 54.15 to 58.90 m. |
| | | | | | | | | | VT | 5 | | | | | | | | | | | | | | | | | 58.90 m epidote-calcite veinlets at 5°. |
| | | | | | | | | | FO | 50 | | | CLY | KO | | | | | | | | | | | | | 60.35 m foliation 50° |
| | | | | | | | | | | | | | LIM | | | | | | | | | Py | t | | | Y | 61.61 lithology picture |
| | | | | | | | | | VN | 30 | | | | | | | | | | | | Py | t | | | | 65.00 m 3 by 4 cm white quartz floods |
| | | | | | | | | | FO | 60 | | | LIM | TC | KO | | | | Ep | Cl | | | | | | | 65.70 talc and kaolinite on fracture surfaces paralle to foliation. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 66.30 m increase in hornblende-actinolite ultramafic Garnets absent, rare 6 cm white quartz vein (70 |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

# GEOLOGY LOG

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | Other | | Other | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | | |
| | | | | | | | | | VN | 70 | | | | | | | | | Cl | Ep | Hb | Py | t | | | | Closer to 69.31 m interval is dark gneiss, fine to medium grained, no garnets. |
| | | | | | | | | | | | | | | | | | | | Ac | | | | | | | | |
| 69.31 | 70.87 | | | | | GNE | | MD | FO | 35 | | | LIM | | | | | | Mu | Qz | Cl | Py | t | | | | Fine grained, well foliated gneiss. Garnets < 2mm2, trace disseminated pyrite. |
| | | | | | | | | | | | | | | | | | | | Hb | Bi | Ga | | | | | | |
| 70.87 | 72.89 | | | | | GNE | | MD | | | | | | | | | | | Cl | Ac | | | | | | | Zebra gneiss with < 0.75 cm garnet augents and chlorite laths (0.2-1 cm) |
| | | | | | | | | | FX | 45 | | 4/0.4 | LIM | | | | | | Ep | Qz | | | | | | | 71m fracture at 45° - limonite coat |
| | | | | | | | | | FX | 3 | | rare | EP | | | | | | | | | | | | | | 72.07 m 6 cm < 2 mm bugs with limonite pits and epidote |
| 72.89 | 75.52 | | | | | GNE | | LT | FO | 60 | | | LIM | | | | | | Ga | Cl | Mu | Py | t | | | | silcified garnet augen zebra gneiss. Well foliated with limonitic fractures. |
| | | | | | | | | | FX | 60 | | | | | | | | | Qz | | | | | | | | Foliation paralle |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | CONTACT 75.52 m 60° ** alteration change |
| 75.52 | 77.50 | | | | | ALT GNE | | LT | FX | 60 | | | LIM | CLY | | | | | | | | | | | | | Gneiss with broken clay rich areas. Highly oxidized. Foliation parallel fractures. |
| | | | | | | | | | FO | 60 | | | | | | | | | | | | | | | | | |
| 77.50 | 78.94 | | | | | GNE | | MD | FO | 60 | | | | | | | | | | | | | | | | | |
| | | | | | | | | DK | FX | 65 | | | LIM | | | | | | Cl | Ga | | Py | t | | | | Zebra garnet augen gneiss with 0.3 to 1 cm garnets and 0.2 to 1 cm chlorite laths. Limonitic fracture surfaces. |
| | | | | | | | | | FX | 15 | | | | | | | | | | | | | | | | | |
| 78.94 | 81.09 | | | | | GNE | | LT | FO | 70 | | | LIM | | | | | | Cl | Ga | | | | | | | Bleached garnet augen zebra gneiss |
| | | | | | | | | | FX | 15 | | | | | | | | | Qz | Mu | | | | | | | |
| | | | | | | | | | FX | 25 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | FX | 70 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | VN | 85 | | | | | | | | | | | | | | | | | 78.94-79.20 crumbly limonite altered, vuggy quartz vein |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 79.61 m 8 cm limonite alteration zone |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 80.34 m 9 cm highly oxidized limonite zone. Crumbly/broken. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 80.79 m 2 cm bull white quartz vein |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | Garnets < 1.5 cm, < 2 cm chlorite laths |
| 81.09 | 85.46 | | | | | GNE | | DK | FO | 60 | | | LIM | | | | | | Ga | Cl | Ac | | | | | | Zebra augen gneiss with fine grained ultramafic sub intervals. |
| | | | | | | | | MD | FX | 50 | | | | | | | | | Hb | | | Py | t | | | | Garner < 1 cm, 2 cm chlorite laths with wavy overprinting on foliation. Trace disseminated pyrite. |
| | | | | | | | | | FX | 60 | | | | | | | | | | | | Py | t | | | | 82.52 m 1x4 cm blebs of heavily disseminated pyrite |
| | | | | | | | | | FX | 20 | | | | | | | | | Bi | Cl | Fd | | | | | | 82.92-83.19 m ultramafic, fine grained with biotite and chlorite |
| | | | | | | | | | FX | 85 | | | | | | | | | | | | | | | | | 83.64-84.41 m ultramafic, fine grained chlorite, biotite, hornblende and feldspar. Tightm wavy foliation and limonitic fractures. |
| | | | | | | | | | LIM | 50 | | | LIM | | | | | | | | | | | | | | 85.22 m limonitic bands at 50° (10 cm) |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

# GEOLOGY LOG

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | | Other | | Other | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | | |
| 85.46 | 89.22 | | | | | SIL SCH | | LT | CO | 60 | | | LIM | SO | | | | | Qz | Cl | Fu | Py | t | | | | Contact at 85.46 m abrupt. |
| | | | | | | | | | FO | 60 | | | | | | | | | | | | As | t | | | | Foliation parallel, well foliated with crenulation clevages. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | Y | 85.46-86.10 m scorodite 10%, limonite 4%, crenulation clevages lines with disseminated pyrite. |
| | | | | | | | | | VT | 50 | | | LIM | | | | | | | | | | | | | | 86.50 m 3 mm limonite veinlet. |
| | | | | | | | | | FO | 50 | | | TC | | | | | | | | | Py | t | | | | 86.16-88.11 m no scorodite, siliceous schist. Pyrite foliation parallel at 87 m. Talc on fractures. |
| | | | | | | | | LT | FO | 55 | | | LIM | SO | | | | | | | | Py | w | | | | 88.11-89.89 m increase in bleaching, scorodite, chlorite and fushite. Fushite appears foliation parallel and adjacent to veins. |
| | | | | | | | | | VN | 70 | | | TC | | | | | | | | | | | | | | 88.15 m white quartz vein (2 cm) with fuschite. |
| | | | | | | | | | VT | 30 | | | | | | | | | | | | | | | | | 88.70-88.89 m quartz flooding < 4 cm at 80 and 40° to core axis. Cross cutting foliation |
| | | | | | | | | | FX | 30 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | VN | 80 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | CL | KO | | | | | Mu | Qz | | Py | t | | | | 88.89-89.22 m oxidized, clay and talc rich bands with minor quartz clasts < 2mm 2. |
| | | | | | | | | | | | | | LIM | TC | | | | | | | | | | | | | CONTACT 89.22 at 85° abrupt |
| 89.22 | 92.27 | | | | | GNE | | LT | FO | 55 | | | LIM | | | | | | Cl | Ep | Mu | Py | t | | | | Bleached, fine grained garnet augen gneiss with foliation parallel fractures |
| | | | | | | | | | FX | 40 | | | | | | | | | Qz | Ga | | | | | | | |
| | | | | | | | | | VN | 60 | | | LIM | | | | | | | | | | | | | | 90.45 m garnets absent. 1 cm limonoite band opposite direction to foliation |
| | | | | | | | | | | | | | | | | | | | | | | Py | w | | | | 90.70 m increase in pyrite - banded and disseminated |
| | | | | | | | | | FX | 55 | | 14/m | LIM | | | | | | | | | | | | | | 90.83 m fractures foliation parallel at 55° |
| | | | | | | | | | FO | 60 | | | LIM | | | | | | Mu | Cl | Fu | Py | t | | | | 91.59 m bull white quartz vein within fushite-muscovite-chlorite gneiss. Increase in silicification towards end of interval. Increase in pyrite, foliation paralle, large limonitic pits. Disseminated pyrite blebs. |
| | | | | | | | | | | | | | | | | | | | Qz | | | | | | | | |
| 92.27 | 94.99 | | | | | SCH | | LT | FO | 70 | | | SC | CLY | TC | | | | Qz | Cl | | Py | t | | | | Trace to weak mineralized schist with scorodite, kaolinite, clay and talc. Moderately siliceous. |
| | | | | | | | | | | | | | KO | | | | | | Ep | Fd | | | | | | | |
| | | | | | | | | | FO | 60 | | | | | | | | | | | | Py | t | | | | 93.87-94.99 m foliation parallel disseminated pyrite bands < 2mm. |
| 94.99 | 100.20 | | | | | GNE | | LT | FX | 20 | | | LIM | BLE | | | | | Qz | Cl | Ep | Py | t | | | | Megacrystic garnet gneiss < 1 cm garnets, 1-3 cm chlorite phenocrysts. 10 cm oxidized zones. |
| | | | | | | | | | FO | 60 | | | | | | | | | | | | | | | | | |
| 100.20 | 106.20 | | | | | SIL SCH | | LT | FO | 80 | | | SIL | TC | KO | | | | | | | Py | f | | | | Well mineralized siliceous schist with foliation parallel kaolinite and clay zones. "Poker chips". Finely disseminated, foliation parallel mineralization. |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

# GEOLOGY LOG

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | PHOTO | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | Other | | Other | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | | |
| | | | | | | | | | | | | | | | | | | | | | | Co | t | | | | |
| | | | | | | | | | | | | | TC | KO | | | | | | | | As | t | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 102.50 m increase in pale grey-blue chlorite with silicified zones. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 105.08 - 106.07 m fault zone, sand with minor clay and quartz fragments. |
| 106.20 | 107.07 | | | | | GNE | | MD | CO | 90 | | | LIM | | | | | | Cl | Ep | Qz | | | | | | CONTACT at 106.07 m 90 alteration zone 68 cm with trace pyrite. 19 cm bull quartz vein with 2 x 2 mm2 pyrite cubes. |
| | | | | | | | | | FO | 60 | | | | | | | | | Ga | | | | | Py | t | | |
| | | | | | | | | | QZ | 70 | | | | | | | | | | | | | | Sp | t | | Quartz vein with stringers of blackjack sphalerite? Relict garnets |
| 107.07 | 108.21 | | | | | GNE | | DK | | | | | | | | | | | Cl | Ac | Ep | | | Py | t | | Zebra gneiss |
| | | | | | | | | | QZ | 30 | | | | | | | | | Ga | Qz | | | | | | Y | 108.06 m 3 cm floods of fine grained actoniolite with quartz. Brecciated quartz, pale yellow-tan clorite with limonite pits. |
| 108.21 | 112.70 | | | | | GNE | | MD | FO | 70 | | 10/m | LIM | | | | | | Cl | Ac | Ga | Py | t | | | | Fine to medium grained augen gneiss |
| | | | | | | | | DK | | | | | | | | | | | Qz | | | | | | | | Limonite fractures at 20° |
| | | | | | | | | | FO | 80 | | | | | | | | | Ep | | | | | | | | 108.21-109.12 m epidote-chlorite altered gneiss |
| | | | | | | | | | VN | 70 | | | | | | | | | | | | | | | | | 108.99 m 20 cm white quartz vein with trace pyrite |
| | | | | | | | | | FX | 50 | | | LIM | | | | | | | | | Py | t | | | | |
| 112.70 | 114.28 | | | | | GNE | | DK | EP | 5 | | | LIM | | | | | | Ep | Cl | Ac | | | | | | Medium to dark gneiss. |
| | | | | | | | | MD | FO | 70 | | | | | | | | | | | | | | | | | 113.05 m 1 cm pyrite-limonite band at 65. Epidote alteration throughout on fractures and associated with quartz veinlets. |
| | | | | | | | | | VT | 20 | | | | | | | | | | | | Py | t | | | | 114.23 m 1.5 cm epidote-actinolite envelope on both sides of a white quartz vein (90). |
| 114.28 | 124.00 | | | | | GNE | | MD | CO | 80 | | | | | | | | | Ep | Cl | Ac | Py | w | | | | CONTACT AT 114.28 = 80 |
| | | | | | | | | | | | | | | | | | | | Fd | | | | | | | Y | megacrystic/porphoroblastic garnet augen gneiss |
| | | | | | | | | | FO | 75 | | | LIM | | | | | | | | | | | | | Y | pyrite and arsenopyrite < 1 cm 2 irregular phenocrysts. Weakly disseminated blebs of pyrite. Fractures are foliation parallel or 90 to core axis. |
| | | | | | | | | | | | | | | | | | | | Ep | Cl | | | | | | | 123.36 m foliation becomes wavy with small crenulation cleavages. Tan-brown with epidote and chlorite. Minor quartz flooding. |
| | | | | | | | | | FO | 65 | | | | | | | | | | | | | | | | | 123.80 m foliation 65° |
| 124.00 | 127.17 | | | | | SIL SCH | | | CO | 80 | | | | | | | | | | | | Cp | f | | | Y | Contact at 124.00 m 80° |
| | | | | | | | | | | | | | | | | | | | | | | Py | f | | | | Siliceous schist with moderately to heavily disseminated and blebby pyrite, chalcopyrite, covellite, chalcocite and sphalerite. Foliation 70 |
| | | | | | | | | | FO | 70 | | | | | | | | | | | | Co | w | | | | |
| | | | | | | | | | | | | | | | | | | | | | | Ca | w | | | | |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

# GEOLOGY LOG

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | Other | | Other | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | | |
| | | | | | | | | | | | | | | | | | | | | | | Sp | t | | | | Sulphides have heavily disseminated-semi massive texture and not much structure. Siliceous and competent. |
| | | | | | | | | | FX | 75 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | CO | 60 | | | | | | | | | | | | | | | | | Contact 127.17 m at 60° |
| 127.17 | 129.60 | | | | | GNE | | LT | FO | 70 | | | | | | | | | Cl | Qz | | Py | t | | | | Bleached tan-yellow garent gneiss with wavy foliation. Disseminated pyrite |
| | | | | | | | | | | | | | | | | | | | Ga | Ac | Fu | | | | | | |
| | | | | | | | | | | | | | | | | | | | Fu | Mu | | | | | | | 129.40-129.60 m quartz flooding with fushite |
| | | | | | | | | | VN | ? | | | | | | | | | Ca | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | CONTACT at 129.60 abrupt - irregular |
| 129.60 | 131.14 | | | | | SIL | SCH | MD | FO | 70 | | | | | | | | | | | | Py | w | | | | Mineralized schist with wavy and disseminated sulphide. |
| | | | | | | | | | | | | | | | | | | | | | | Cp | t | | | | Foliation parallel chalcopyrite overprinting pyrite. |
| | | | | | | | | | | | | | | | | | | | | | | Co | t | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | CONTACT 131.14 m at 80° |
| 131.14 | 134.14 | | | | | SCH | | MD | FO | 60 | | | | | | | | | | | | | | | | | 131.14 - 131.74 m chlorite-epidote altered schist. Envelope grades into chlorite-epidote siliceous schist (dark) with < 1 cm quartz vein |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 cm quartz vein with 2 mm epidote ateration selvages. Disseminated pyrite, foliation parallel. |
| | | | | | | | | | VN | 60 | | | | | | | | | | | | | | | | | |
| | HS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 134.14 | 136.89 | | | | | SCH | GY | MD | FO | 65 | | | | | | | | | QZ | MUS | FD | | | | | | Mineralized siliceous schist with banded and disseminated pyrite 5-15% throughout. Common folliation parallel fractures at 65%. |
| | | | | | | | | | FX | 65 | | | | | | | | | FU | CL | | | | | | | Abrupt contact at 134.14, folliation parallel at 65 degrees. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | Minor crenulations in folliation. |
| | | | | | | | | | VU | | 10/10cm | | | | | | | | | | | | | | | | 134.31m, 10cm vuggy sub interval. 0.2-0.8cm^2 vugs, 10/10cm. |
| | | | | | | | | | | | | | SE | | | | w | | | | | | | | | | 134.43m, 2cm wide clay-altered zone with proximal quartz flooding. Trace Arsenopyrite 1% and pyrite 5%. |
| | | | | | | | | | | | | | | | | | | | TC | | | | | | | | sericite-lined fracture surfaces. |
| | | | | | | | | | | | | | | | | | | | CP | | | | | | | | 134.45m, Chalcopyritic blebs over 30cm. |
| | | | | | | | | | FX | 65 | 13/2.75m | | | | | | | | | | | | | | | | 134.75m |
| | | | | | | | | | FX | 15 | | | | | | | | | | | | | | | | | 134.90m |
| | | | | | | | | | | | | | LIM | | | | f | | | | | | | | | | 135.22-135.40m, minor limonitic alteration around pyrite mineralization. |
| | | | | | | | | | | | | | | | | | | | FU | | | | | | | | 135.35m, banded Fugicite, folliation parallel |
| | | | | | | | | | FX | 60 | | | | | | | | | TC | | | | | | | | 135.53m, sericite-lined fracture, folliaton parallel. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 136.89 | 137.73 | | | | | GNE | GN/PK | MD | | | | | | | | | | | CL | QZ | CA | | | | | | Greenish-pink, well folliated, calcite veined augen gneiss similar to the Zebra unit. |
| | | | | | | | | | CN | | | | | | | | | | MUS | GA | | | | | | | Gradational contact over 10cm |
| | | | | | | | | | FO | 70 | | | | | | | | | | | | | | | | | |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

# GEOLOGY LOG

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | | | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | Other | | Other | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | Photo | |
| | | | | | | | | | VT | | | 4/1cm | | | | | | | | | | | | | | | Closely packed calcite veinlets. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.2-2cm chlorite laths, 0.3cm^2 garnet augens and minor quartz flooding coupled with trace disseminated pyrite throughout. |
| | | | | | | | | | | | | | | | | | | | PY | | | | | | | | 137.44- 137.69m, 25% concentration of disseminated pyrite over 25cm. |
| | | | | | | | | | | | | | SE | | | | | | | | | | | | | | sericite on fracture surfaces. |
| 137.73 | 138.52 | | | | | SCH | GY | MD | | | | | | | | | | | MUS | QZ | | | | | | | Variably mineralized siliceous schist, 5-15% pyrite. |
| | | | | | | | | | | | | | | | | | | | PY | | | | | | | | 0.3cm blebs of soft, light green-blue non-metalic mineral. |
| | | | | | | | | | VU | | | 10/3cm | | | | | | | | | | | | | | | 138.34m, 60 degree fracture surrounded by 3cm wide vuggy zone with 0.4cm vugs and a trace limonite coating on surface. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 138.52 | 139.97 | | | | | GNE | GN | DK | | | | | | | | | | | CL | QZ | FD | | | | | | Zebra Gneiss with quartz and calcite flooding, crenulated folliation, minor pyrite mineralization and minor chlorite alteration. |
| | | | | | | | | | | | | | | | | | | | BI | | | | | | | | Chlorite laths up to 2cm^2 with <0.3cm garnets. |
| | | | | | | | | | CN | 60 | | | | | | | | | | | | | | | | | 138.57m, 6cm band of non-mineralized siliceous schist similar to above unit. |
| | | | | | | | | | FO | 60 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | VN | 60 | | | | | | | | | | | | | | | | | 138.73m, 1cm quartz vein adjacent to a thin pyritic band. |
| | | | | | | | | | VN | | | | | | | | | | | | | | | | | | 138.86 - 139.30m, 20% quartz flooding surrounded by non-folliated chlorite, hornblende and cut by calcite viens up to 2cm wide.<br>139.71-139.97m, trace limonite along folliation. |
| 139.97 | 148.21 | | | | | SCH | GY | MD-LT | | | | | | | | | | | QZ | MUS | FD | | | | | | Siliceous schist with banded sulfides, minor clay alteration and dense patches of 0.2cm garnets. |
| | | | | | | | | | FO | 70 | | | | | | | | | PY | | | | | | | | Crenulated folliation at 70 degrees near the gradational contact between units. |
| | | | | | | | | | VT | 5 | | | | | | | | | | | | | | | | | 140.02m, 10cm sub-interval of strong mineralization. 10% chalcopyrite, 5% pyrite.<br>140.14m, calcite vienlet at 5 degrees |
| | | | | | | | | | | | | | LIM | KAO | | | | | | | | | | | | | 140.32m, 4 fractures over 34cm. Limonite and Kaolinite coated.<br>140.66 - 140.99m, soft, blocky, clay - limonite altered zone.<br>141.19m, 0.2cm wide folliation parallel band of fine grained grey sulfides.<br>141.19-141.38m, sericite-kaolinite altered zone of soft schist.<br>141.52-144.41m, garnet-rich zone with a weak trace of disseminated pyrite.<br>0.2cm garnet augen patch. 20 augens/cm. |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

# GEOLOGY LOG

| INTERVAL | | | SUB-INTERVAL | | | LITHOLOGY | | | STRUCTURE | | | | ALTERATION | | | | | | MINERALS | | | | | | | | PHOTO | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Other | | | | | | | Other | | Other | | | |
| From (m) | To (m) | Interval (m) | From (m) | To (m) | Interval (m) | Unit | Modifier | Texture | Type | Attitude (tca) | Attitude (tfa) | Density (frequency/m) | | | | | Type | Intensity | | | | Type | Intensity | Type | Intensity | | |
| | | | | | | | | | FO | 65 | | | | | | | | | | | | | | | | | minor crenulations in folliation.<br>144.41-146.78m, light grey sub-interval with banded, dark grey, fine grained sulfides. |
| | | | | | | | | | VT | 30 | | | | | | | | | CA | | | | | | | | rare <1mm calcite veinlets at 30 degrees.<br>146.78-148.21m, minor disseminated pyrite and banded pyrie with trace fugicite and small garnet augens. |
| | | | | | | | | | VT | 30 | | 4/m | | | | | | | | | | | | | | | rare <1mm calcite veinlets at 10-30 degrees. |
| 148.21 | 152.78 | | | | | GNE | GY | DK | | | | | | | | | | | CL<br>GA | FD | QZ | | | | | | Dark, well folliated Zebra Gneiss with elongate 2cm x 0.2cm chlorite laths and 0.3cm garnet augens.<br>Weakly disseminated pyrite. |
| | | | | | | | | | FX | 60 | | | | | | | | | | | | | | | | | 148.37m, double fracture with limonitic coating. |
| 148.88 | 150.06 | | | | | MAF | GN | DK | | | | | | | | | | | FD | CL | EP | | | | | | Mafic interval within Zebra Gneiss. Trace disseminated pyrite with up to 0.4cm pyritic blebs. |
| | | | | | | | | | | | | | | | | | | | HB | Bi | | | | | | | 149.30m, 1cm quartz vein. |
| | | | | | | | | | VN | | | | | | | | | | | | | | | | | | 149.66m, epidote veinlet. |
| | | | | | | | | | VT | 50 | | | | | | | | | | | | | | | | | 149.78-149.87m, moderate quartz flooding<br>Flooding by teal-green, soft, dull mineral around quartz flood. |
| | | | | | | | | | FX | 50 | | | | | | | | | | | | | | | | | 150.06m, limonitic coating on fractures at 50 degrees. |
| | | | | | | | | | | | | | | | | | | | PY | | | | | | | | 150.28-150.31m, intense pyritization over 3cm, 40%. |
| | | | | | | | | | VT | | | 5/50cm | | | | | | | | | | | | | | | 150.76m, nearly brecciated limonitic fractures<br>150.88-151.38m, epidote veinlets 5/50cm. |
| | | | | | | | | | | | | | | CLY | | | w | | | | | | | | | | 151.00-151.13m, blocky, weak clay alteration with trace limonite. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | Abrupt contact at 152.78m. |
| 152.78 | 154.84 | | | | | GNE | GN | DK | | | | | | | | | | | | | | | | | | | Dark green Zebra Gneiss with up to 1cm garnet augens and 2cm chlorite laths. Trace blebbed pyrite<br>Larger bleb, 4cm x 0.3cm at 154.01m. |
| 154.84 | | | | | | EOH | | | | | | | | | | | | | | | | | | | | | End of Hole TL-02-11 |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

**Hole: TL-02-11 Name: NICHOLAS JOYCE Page _1_ of __1_**

| From (m) | To (m) | Interval (m) | Recovery (m) | RQD (m) | Munsell Colour | Hardness | Weathering | Comments |
|---|---|---|---|---|---|---|---|---|
| 1.52 | 5.49 | 2.42 | 0.56 | 0.23 | | | | |
| 5.49 | 8.53 | 2.96 | 1.79 | 0.60 | | | | |
| 8.53 | 11.58 | 2.85 | 1.61 | 0.56 | | | | |
| 11.58 | 14.63 | 3.12 | 1.43 | 0.46 | | | | |
| 14.63 | 17.68 | 3.02 | 1.37 | 0.45 | | | | |
| 17.68 | 20.73 | 2.64 | 0.4 | 0.15 | | | | |
| 20.73 | 23.77 | 2.93 | 2.01 | 0.69 | | | | |
| 23.77 | 26.82 | 2.91 | 2.49 | 0.86 | | | | |
| 26.82 | 29.87 | 3.00 | 2.78 | 0.93 | | | | |
| 29.87 | 32.92 | 2.79 | 1.34 | 0.48 | | | | |
| 32.92 | 35.97 | 2.95 | 2.46 | 0.83 | | | | |
| 35.97 | 39.01 | 3.10 | 2.2 | 0.71 | | | | |
| 39.01 | 42.06 | 3.02 | 1.39 | 0.46 | | | | |
| 42.06 | 45.11 | 2.90 | 1.25 | 0.43 | | | | |
| 45.11 | 48.16 | 2.99 | 2.41 | 0.81 | | | | |
| 48.16 | 51.21 | 2.83 | 1.27 | 0.45 | | | | |
| 51.21 | 54.25 | 3.06 | 2.08 | 0.68 | | | | |
| 54.25 | 57.30 | 3.07 | 1.49 | 0.49 | | | | |
| 57.30 | 60.35 | 3.15 | 1.99 | 0.63 | | | | |
| 60.35 | 63.40 | 2.72 | 0.81 | 0.30 | | | | |
| 63.40 | 66.45 | 2.85 | 1.08 | 0.38 | | | | |
| 66.45 | 69.49 | 2.87 | 1.23 | 0.43 | | | | |
| 69.49 | 72.54 | 3.05 | 2.18 | 0.71 | | | | |
| 72.54 | 75.59 | 2.92 | 1.92 | 0.66 | | | | |
| 75.59 | 78.64 | 2.80 | 1.46 | 0.52 | | | | |
| 78.64 | 81.68 | 3.06 | 2.14 | 0.70 | | | | |
| 81.68 | 84.73 | 3.07 | 2.45 | 0.80 | | | | |
| 84.73 | 87.78 | 3.10 | 2.44 | 0.79 | | | | |
| 87.78 | 90.83 | 2.98 | 1.62 | 0.54 | | | | |
| 90.83 | 93.87 | 3.07 | 1.48 | 0.48 | | | | |
| 93.87 | 96.93 | 3.16 | 1.47 | 0.47 | | | | |
| 96.93 | 99.97 | 2.93 | 1.16 | 0.40 | | | | |
| 99.97 | 103.02 | 2.00 | 0 | 0.00 | | | | |
| 103.02 | 106.07 | 2.34 | 0.11 | 0.05 | | | | |
| 106.07 | 109.12 | 3.25 | 1.49 | 0.46 | | | | |
| 109.12 | 112.17 | 3.21 | 0.94 | 0.29 | | | | |
| 112.17 | 115.21 | 3.07 | 2.04 | 0.66 | | | | |
| 115.21 | 118.26 | 3.19 | 2.63 | 0.82 | | | | |
| 118.26 | 121.31 | 3.06 | 2.22 | 0.73 | | | | |
| 121.31 | 124.36 | 3.19 | 1.67 | 0.52 | | | | |
| 124.36 | 127.41 | 3.04 | 1.70 | 0.56 | | | | |
| 127.41 | 130.45 | 3.13 | 1.39 | 0.44 | | | | |
| 130.45 | 133.50 | 3.17 | 1.47 | 0.46 | | | | |
| 133.50 | 136.55 | 3.12 | 2.49 | 0.80 | | | | |
| 136.55 | 139.60 | 3.10 | 2.60 | 0.84 | | | | |
| 139.60 | 142.65 | 3.14 | 1.37 | 0.44 | | | | |
| 142.65 | 145.69 | 3.15 | 0.72 | 0.23 | | | | |
| 145.69 | 148.74 | 3.22 | 2.03 | 0.63 | | | | |
| 148.74 | 151.79 | 3.09 | 2.37 | 0.77 | | | | |
| 151.79 | 154.84 | 3.12 | 2.78 | 0.89 | | | | |

## SAMPLE LOG

### HOLE: TL-02-11

| From (m) | To (m) | Interval (m) | Recovery (m) | Recovery (%) | Sample | Batch | Au (g/t) | Ag (g/t) | As (ppm) | Bi (ppm) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 1.52 | 1.52 | | | No sample | 2 | | | | | No recovery |
| 1.52 | 5.92 | | | | | 2 | | | | | |
| 5.92 | 10.08 | | | | | 2 | | | | | |
| 10.08 | 12.13 | | | | | 2 | | | | | |
| 12.13 | 15.22 | | | | | 2 | | | | | |
| 15.22 | 21.05 | | | | | 2 | | | | | |
| 21.05 | 25.17 | | | | | 2 | | | | | |
| 25.17 | 29.87 | | | | | 2 | | | | | |
| 29.87 | 35.71 | | | | | 2 | | | | | |
| 35.71 | 40.51 | | | | | 2 | | | | | |
| 40.51 | 45.30 | | | | | 2 | | | | | |
| STANDARD | | | | | | 2 | | | | | CDN-ME-12 |
| 45.30 | 48.30 | | | | | 2 | | | | | |
| 48.30 | 51.30 | | | | | 2 | | | | | |
| 51.30 | 54.30 | | | | | 2 | | | | | |
| 54.30 | 57.30 | | | | | 2 | | | | | |
| 57.30 | 60.30 | | | | | 2 | | | | | |
| 60.30 | 63.30 | | | | | 2 | | | | | |
| 63.30 | 66.30 | | | | | 2 | | | | | |
| 66.30 | 69.31 | | | | | 2 | | | | | |
| 69.31 | 70.87 | | | | | 2 | | | | | |
| 70.87 | 72.89 | | | | | 2 | | | | | |
| 72.89 | 75.52 | | | | | 2 | | | | | |
| 75.52 | 77.75 | | | | | 2 | | | | | |
| 77.75 | 78.94 | | | | | 2 | | | | | |
| BLANK | | | | | | 2 | | | | | BLANK |
| 78.94 | 81.09 | | | | | 2 | | | | | |
| 81.09 | 85.46 | | | | | 2 | | | | | |
| 85.46 | 89.22 | | | | | 2 | | | | | |
| BLANK | | | | | | 2 | | | | | BLANK |
| 89.22 | 92.27 | | | | | 2 | | | | | |
| 92.27 | 94.99 | | | | | 2 | | | | | |
| 94.99 | 100.20 | | | | | 2 | | | | | |
| 100.20 | 103.20 | | | | | 2 | | | | | |
| 103.20 | 106.20 | | | | | 2 | | | | | |
| STANDARD | | | | | | 2 | | | | | CDN-ME-2 |
| 106.20 | 107.07 | | | | | 2 | | | | | |
| 107.07 | 108.21 | | | | | 3 | | | | | |
| 108.21 | 112.70 | | | | | 3 | | | | | |
| 112.70 | 114.28 | | | | | 3 | | | | | |
| 114.28 | 119.28 | | | | | 3 | | | | | |
| 119.28 | 124 | | | | | 3 | | | | | |
| 124.00 | 127.17 | | | | | 3 | | | | | |
| BLANK | | | | | | 3 | | | | | BLANK |
| 127.17 | 129.60 | | | | | 3 | | | | | |
| 129.60 | 131.14 | | | | | 3 | | | | | |
| 131.14 | 134.14 | | | | | 3 | | | | | |

# TOULEARY PROPERTY

| | Grid East | Grid North | Easting | Northing | Elev. | Depth (m) |
|---|---|---|---|---|---|---|
| **ZONE:** TL-TE-10-04 | | | 594200 | 6987567 | 3948 | 145.7 |

**SECTION:**

**HOLE:** TL-03-11

**CLAIM:**

Contractor: ELITE

Drill: JKS300

Core size: BTW

Casing depth: _____ (m) in / out

Drilling dates: August 2, 2011 - August 3, 2011

Geology logged by: Nick Joyce

**TARGET:**

| SURVEY | | | | | | | |
|---|---|---|---|---|---|---|---|
| Depth (m) | Azimuth | Dip | Method | Depth (m) | Azimuth | Dip | Method |
| collar | 360 | -45 | compass | 145.7 | 0 | 34 | ACID |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| SUMMARY | | | | |
|---|---|---|---|---|
| From (m) | To (m) | Interval | Unit | Comments |
| | | | | |
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| SAMPLES | |
|---|---|
| Numbers: | |
| Total: | |
| Batch: | |
| Date Sent: | |
| Certificate: | |

| COMMENTS |
|---|
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**Hole:___TL-03-11_____ Logger Name:_NICHOLAS JOYCE_____ Date:_JUNE 29, 2011_____ Page _1_ of ____**

GEOLOGY LOG

| Sub-Interval | INTERVAL From (m) | INTERVAL To (m) | LITHOLOGY Unit | LITHOLOGY Modifier | LITHOLOGY Texture | ALTERATION | | | Oxidation | ALTERATION Other Type | ALTERATION Other Intensity | STRUC. Type | STRUC. Attitude (tca) | STRUC. | STRUC. Density (frequency/m | MINERALS | | | MINERALS Other Type | MINERALS Other Intensity | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 11.58 | OVB | BN | LT | BLE | | | | | s | | | | | MN | CL | QZ | | | | Earthy rubble. Pervasively cracked and fractured rock. Bleached, with rusty orange discolouration. Manganese lamination on cracked surfaces. Manganese mineralized in solid black-brown laminations, speckles and ornate dendrites. |
| | | | | YW | | CLY | | | | | | | | | | KAO | | | | | | 8.53m, 15cm of dirty, yellow clay altered rubble with quartz fragments. |
| | | | | OR | | CLY | KAO | | | | f | | | | | | | | | | | 9.25m, 25cm of white-orange clay altered rubble. Kaolinite. |
| | | | | | | | | | | | | | | | | | | | | | | |
| | 11.58 | 18.66 | GNE | GN | LT | BLE | | | | | | | | | | CL | QZ | FD | | | | Light olive-green highly fractured, mottled, phenocrystic gneiss. Weathered Zebra Gneiss? Quartz and chlorite laths <1.5cm x 0.3cm arranged in wavy lineations sub-parallel to core axis. |
| | | | | | | | | | | | | | | | | | | | | | | 12.05m, 25cm of bull quartz rubble. |
| | | | | | | | | | | | | VU | | 1/10cm | | | | | | | | vuggy with an average of 1 vug/10cm throughout unit. Fractures mostly at 50 degrees. |
| | | | | | | | | | | | | FX | 50 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | trace of euhedral pyrite cubes <0.2cm. |
| | | | | | | LIM | | | | | t | | | | | MN | | | | | | Manganese dentrites and speckles along with a limonitic trace on fracture surfaces. |
| | | | | | | | | | | | | | | | | | | | | | | 16.32m,, 3cm bull quartz vein bordered by a 1-2cm margin of distinctly lineated 0.2cm spicular manganese crystals at 40 degrees within quartz flood. |
| | | | | | | | | | | | | | | | | | | | | | | 16.72m, 2cm greyish patch surrounded by 1cm orange stained margin. No significant mineralogical difference to surrounding rock. Proximal disseminated pyrite trace. |
| | | | | | | SE | | | | | | FX | 50 | | | | | | | | | 17.22m, sericite-lined fracture |
| | | | | | | | | | | | | FO | 50 | | | | | | | | | 18.40m, 2cm band of clay with wavy relict folliation. |
| | | | | | | | | | | | | | | | | | | | | | | |
| | 18.66 | 22.92 | MAF | GN | DK | | | | | | | | | | | CL | HB | QZ | | | | Mafic interval within Zebra Gneiss. 80% mafic, 20% felsic. Cut by bull quartz veins. Composed primarily of 0.2-0.4cm elongate chlorite laths set in a grey quartz-feldspar groundmass. |
| | | | | | | | | | | | | | | | | FD | | | | | | Magnetite speckles throughout. Highly magnetic. |
| | | | | | | | | | | | | FO | 70 | | | | | | | | | Well folliated. |
| | | | | | | | | | | | | VN | 60 | | | | | | | | | 18.66m, 2cm bull quartz vein. |
| | | | | | | | | | | | | | | | | | | | | | | 19.20m, blocky 10cm section with bull quartz, epidote flooding and flooding by earthy, dull, green mineral that is highly magnetic. |
| | | | | | | LIM | | | | | t | FX | 50 | | | | | | | | | fractures throughout mafic interval show a trace limonite coating and manganese on fracture surfaces. |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | FT | 15 | | | | | | | 20.20m, 15 degree fault plane with 55 degree slickensides. |
| | | | | | | | | | | | | SS | 55 | | | | | | | |
| | | | | | | | | | | | | VN | 60 | | | | | | | 20.56m, 10cm bull quartz vein, folliation parallel. With proximal epidote flooding and fugicite. Strained, wavy folliation lies below the vein. |
| | | | | | | | | | | | | FO | 60 | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | 21.12m, 3cm clay alteration with blocky, 1cm quartz fragments. |
| | | | | | | | | | | | | VN | 55 | | | | | | | 21.40m, 2cm bull quartz vein. |
| | | | | | | | | | | | | VN | | | | | | | | 21.50m, 20cm quartz vein with trace limonite, manganese and magnetite in fractures. |
| | | | | | | | | | | | | | | | | | | | | 22.63m, significantly larger chlorite laths appear, 1-2cm. |
| | | | | | | | | | | | | | | | | | | | | 22.92 abrupt contact. Folliation parallel. |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

**Hole: TL-02-11 Name: NICHOLAS JOYCE Page _1_ of _2__**

| From (m) | To (m) | Interval (m) | Recovery (m) | RQD (m) | Munsell Colour | Hardness | Weathering | Comments |
|---|---|---|---|---|---|---|---|---|
| 0.00 | 2.44 | 0.38 | 0 | 0.00 | | | | |
| 2.44 | 5.49 | 1.34 | 0 | 0.00 | | | | |
| 5.49 | 8.53 | 2.48 | 0 | 0.00 | | | | |
| 8.53 | 11.58 | 2.24 | 0 | 0.00 | | | | |
| 11.58 | 14.63 | 2.83 | 0.46 | 0.16 | | | | |
| 14.63 | 17.68 | 3.12 | 1.53 | 0.49 | | | | |
| 17.68 | 20.73 | 3.20 | 0.77 | 0.24 | | | | |
| 20.73 | 23.77 | 2.62 | 1.04 | 0.40 | | | | |
| 23.77 | 26.82 | 3.52 | 2 | 0.57 | | | | |
| 26.82 | 29.87 | 3.16 | 1.71 | 0.54 | | | | |
| 29.87 | 32.92 | 3.39 | 1.1 | 0.32 | | | | |
| 32.92 | 35.97 | 2.92 | 0.22 | 0.08 | | | | |
| 35.97 | 39.01 | 2.75 | 1.05 | 0.38 | | | | |
| 39.01 | 42.06 | 3.15 | 1.84 | 0.58 | | | | |
| 42.06 | 45.11 | 3.06 | 1.64 | 0.54 | | | | |
| 45.11 | 48.16 | 2.98 | 2.08 | 0.70 | | | | |
| 48.16 | 51.21 | 3.10 | 2.12 | 0.68 | | | | |
| 51.21 | 54.25 | 2.42 | 1.9 | 0.79 | | | | |
| 54.25 | 57.30 | 3.12 | 1.72 | 0.55 | | | | |
| 57.30 | 60.35 | 3.09 | 1.14 | 0.37 | | | | |
| 60.35 | 63.40 | 2.67 | 0.68 | 0.25 | | | | |
| 63.40 | 66.45 | 3.13 | 0.91 | 0.29 | | | | |
| 66.45 | 69.49 | 3.07 | 1.38 | 0.45 | | | | |
| 69.49 | 72.54 | 3.29 | 1.42 | 0.43 | | | | |
| 72.54 | 75.59 | 3.15 | 1.94 | 0.62 | | | | |
| 75.59 | 78.64 | 3.21 | 2.4 | 0.75 | | | | |
| 78.64 | 81.68 | 3.11 | 1.72 | 0.55 | | | | |
| 81.68 | 84.73 | 3.21 | 1.98 | 0.62 | | | | |
| 84.73 | 87.78 | 3.05 | 1.03 | 0.34 | | | | |
| 87.78 | 90.83 | 3.11 | 1.55 | 0.50 | | | | |
| 90.83 | 93.87 | 3.15 | 1.1 | 0.35 | | | | |
| 93.87 | 96.93 | 3.24 | 1.98 | 0.61 | | | | |
| 96.93 | 99.97 | 3.10 | 1.99 | 0.64 | | | | |
| 99.97 | 103.02 | 3.07 | 1.94 | 0.63 | | | | |

## GEOTECHNICAL LOG

| | | | | |
|---|---|---|---|---|
| 103.02 | 106.07 | 3.09 | 0.22 | 0.07 |
| 106.07 | 109.12 | 3.13 | 0.75 | 0.24 |
| 109.12 | 112.17 | 3.11 | 1.18 | 0.38 |
| 112.17 | 115.21 | 3.08 | 2.45 | 0.80 |
| 115.21 | 118.26 | 3.10 | 2.30 | 0.74 |
| 118.26 | 121.31 | 3.11 | 2.68 | 0.86 |
| 121.31 | 124.36 | 3.15 | 2.66 | 0.84 |
| 124.36 | 127.41 | 3.00 | 2.49 | 0.83 |
| 127.41 | 130.45 | 3.14 | 1.96 | 0.62 |
| 130.45 | 133.50 | 3.14 | 1.75 | 0.56 |
| 133.50 | 136.55 | 3.16 | 2.09 | 0.66 |
| 136.55 | 139.60 | 3.17 | 1.95 | 0.62 |
| 139.60 | 142.65 | 3.13 | 2.38 | 0.76 |
| 142.65 | 145.69 | 3.04 | 2.14 | 0.70 |
| 145.69 | 148.74 | 3.08 | 3.03 | 0.98 |

EOH

## GEOTECHNICAL LOG

**Hole:**_____ **Name:**_____ **Page __1__of____**

# MAGNETIC SUSCEPTIBILITY LOG

BTW: 4 cm NQ: 5 cm HQ: 6 cm

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 1 | | OVB |
| 2 | 0.61 | |
| 3 | 1.92 | |
| 4 | 0.53 | |
| 5 | 4.59 | |
| 6 | 0.69 | |
| 7 | 4.14 | |
| 8 | 18.8 | |
| 9 | 5.22 | |
| 10 | 3.58 | |
| 11 | 7.11 | |
| 12 | 1.89 | |
| 13 | 0.84 | |
| 14 | 1.45 | |
| 15 | 1.76 | |
| 16 | 0.94 | |
| 17 | 1.1 | |
| 18 | 15.6 | |
| 19 | 31.9 | |
| 20 | 3.64 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 21 | 5.26 | |
| 22 | 18.1 | |
| 23 | 1.68 | |
| 24 | 1.04 | |
| 25 | 1.64 | |
| 26 | 1.57 | |
| 27 | 2.42 | |
| 28 | 4.96 | |
| 29 | 12.2 | |
| 30 | 1.82 | |
| 31 | 3.11 | |
| 32 | 3.73 | |
| 33 | 0.77 | |
| 34 | 0.67 | |
| 35 | 1.45 | |
| 36 | 1.55 | |
| 37 | 3.48 | |
| 38 | 1.53 | |
| 39 | 4.03 | |
| 40 | 3.07 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 41 | 1.43 | |
| 42 | 3.5 | |
| 43 | 10.6 | |
| 44 | 13 | |
| 45 | 1.82 | |
| 46 | 1.92 | |
| 47 | 5.43 | |
| 48 | 3.62 | |
| 49 | 2.02 | |
| 50 | 11.4 | |
| 51 | 21.2 | |
| 52 | 31.1 | |
| 53 | 9.81 | |
| 54 | 10.6 | |
| 55 | 14 | |
| 56 | 11.8 | |
| 57 | 21.3 | |
| 58 | 4.01 | |
| 59 | 0.53 | |
| 60 | 3.87 | |

# MAGNETIC SUSCEPTIBILITY LOG

BTW: 4 cm NQ: 5 cm HQ: 6 cm

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 61 | 0.2 | |
| 62 | 0.04 | |
| 63 | 0.63 | |
| 64 | 1.64 | |
| 65 | 0.92 | |
| 66 | 1.72 | |
| 67 | 13.4 | |
| 68 | 4.28 | |
| 69 | 3.3 | |
| 70 | 0.92 | |
| 71 | 7.89 | |
| 72 | 5.86 | |
| 73 | 8.15 | |
| 74 | 5.06 | |
| 75 | 5.65 | |
| 76 | 8.65 | |
| 77 | 11.4 | |
| 78 | 20.3 | |
| 79 | 3.38 | |
| 80 | 3.46 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 81 | 4.14 | |
| 82 | 3.42 | |
| 83 | 7.05 | |
| 84 | 4 | |
| 85 | 8.3 | |
| 86 | 22.8 | |
| 87 | 4.98 | |
| 88 | 1.68 | |
| 89 | 2.11 | |
| 90 | 1.59 | |
| 91 | 11.7 | |
| 92 | 2.68 | |
| 93 | 11.3 | |
| 94 | 8.11 | |
| 95 | 5.41 | |
| 96 | 6.6 | |
| 97 | 4.94 | |
| 98 | 5.63 | |
| 99 | 7.04 | |
| 100 | 2.62 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 101 | 8.17 | |
| 102 | 4.65 | |
| 103 | 5 | |
| 104 | 0.35 | |
| 105 | 0.82 | |
| 106 | 1.72 | |
| 107 | 2.74 | |
| 108 | 2.15 | |
| 109 | 4.71 | |
| 110 | 8.83 | |
| 111 | 3.28 | |
| 112 | 3.11 | |
| 113 | 6.82 | |
| 114 | 0.75 | |
| 115 | 5.35 | |
| 116 | 4.83 | |
| 117 | 2.1 | |
| 118 | 2.03 | |
| 119 | 21.4 | |
| 120 | 15 | |

**Hole:**_____ **Name:**_____ **Page __3__of____**

# MAGNETIC SUSCEPTIBILITY LOG

BTW: 4 cm NQ: 5 cm HQ: 6 cm

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 121 | 4.44 | |
| 122 | 6.68 | |
| 123 | 1.23 | |
| 124 | 1.68 | |
| 125 | 0.75 | |
| 126 | 6.15 | |
| 127 | 3.25 | |
| 128 | 10.5 | |
| 129 | 2.62 | |
| 130 | 6.45 | |
| 131 | 6.64 | |
| 132 | 0.77 | |
| 133 | 0.77 | |
| 134 | 2.91 | |
| 135 | 6.23 | |
| 136 | 5.49 | |
| 137 | 1.33 | |
| 138 | -0.51 | |
| 139 | 3.52 | |
| 140 | 5.41 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 141 | 2.93 | |
| 142 | 26.4 | |
| 143 | 4.46 | |
| 144 | 9.57 | |
| 145 | 7.23 | |
| 146 | 6.82 | |
| 147 | 42.1 | |
| 148 | 1.9 | |
| 149 | | |
| 150 | | |
| 151 | | |
| 152 | | |
| 153 | | |
| 154 | | |
| 155 | | |
| 156 | | |
| 157 | | |
| 158 | | |
| 159 | | |
| 160 | | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 161 | | |
| 162 | | |
| 163 | | |
| 164 | | |
| 165 | | |
| 166 | | |
| 167 | | |
| 168 | | |
| 169 | | |
| 170 | | |
| 171 | | |
| 172 | | |
| 173 | | |
| 174 | | |
| 175 | | |
| 176 | | |
| 177 | | |
| 178 | | |
| 179 | | |
| 180 | | |

# TOULEARY PROPERTY

| | Grid East | Grid North | Easting | Northing | Elev. | Depth (m) |
|---|---|---|---|---|---|---|
| **ZONE:** TL-TE-10-04 | | | 594101 | 6987481 | 3860 | 154.9 |

**SECTION:**

**HOLE:** TL-04-11

**CLAIM:**

Contractor: Elite Diamond Drilling

Drill: JKS 300

Core size: BTW

Casing depth: _____ (m) in / out

Drilling dates: August 4, 2011- August 6, 2011

Geology logged by: Nick Joyce

**TARGET:**

| SURVEY | | | | | | | |
|---|---|---|---|---|---|---|---|
| Depth (m) | Azimuth | Dip | Method | Depth (m) | Azimuth | Dip | Method |
| collar | 0 | -45 | compass | 154.9 | 0 | 50 | ACID |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| SUMMARY | | | | |
|---|---|---|---|---|
| From (m) | To (m) | Interval | Unit | Comments |
| | | | | |
| | | | | |
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| SAMPLES | |
|---|---|
| Numbers: | |
| Total: | |
| Batch: | |
| Date Sent: | |
| Certificate: | |

| COMMENTS |
|---|
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| |

**Hole:___TL-04-11_____ Logger Name:_NICHOLAS JOYCE_____ Date:_JULY 03, 2011_____ Page _1_ of ____**

GEOLOGY LOG

| Sub-Interval | INTERVAL From (m) | INTERVAL To (m) | LITHOLOGY Unit | LITHOLOGY Modifier | LITHOLOGY Texture | ALTERATION | | | Oxidation | ALTERATION Other Type | ALTERATION Other Intensity | STRUC. Type | STRUC. Attitude (tca) | STRUC. | STRUC. Density (frequency/m | MINERALS | | | MINERALS Other Type | MINERALS Other Intensity | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | (35,69) | GNE | GY | MD-LT | BLE | | | | | | | | | | MUS | QZ | FD | | | | Bleached Zebra Gneiss. |
| | | | | | | | | | | | | | | | | CL | Bi | GA | | | | Well folliated fabric. Chlorite in sub-rouned to elongate laths, variable 0.1-1cm. |
| | | | | | | | | | | | | | | | | | | | | | | Garnet augens 0.3-1.5cm. |
| | | | | | | | | | | | | | | | | | | | | | | 60% felsic, 40% mafic. Variably blocky with earthy, weathered fracture surfaces +/- manganese trace down to 21m. |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | 0.64m, quartz rubble over 8cm. |
| | | | | | | | | | | | | | | | | | | | | | | 2.27-2.60m, rubble. <3cm rock fragments. |
| | | | | | | | | | | | | | | | | | | | | | | 5.28-5.36m, <2cm vugs at edges of quartz flood. |
| | | | | | | | | | | | | FO | 60 | | | | | | | | | 8.00m, pitted interval where mafic minerals appear to have weathered out, leaving a brown earthy residue. |
| | | | | | | | | | | | | FX | 60 | | | | | | | | | 9.37-9.44m quartz flood reduced to rubble. Single 0.4cm rusted pyrite cube. Dark speckles on fracture surfaces, manganese? |
| | | | | | | | | | | | | | | | | | | | | | | 10.29m, 0.1cm rusted pyrite band. |
| | | | | | | | | | | | | FO | 50 | | | | | | | | | 12.30m, minor crenulations in folliation. Folliation cut near perpendicular by fractures. |
| | | | | | | | | | | | | FX | 30 | | | | | | | | | 14.00m, rough earth fracture. |
| | | | | | | | | | | | | | | | | | | | | | | 14.97-15.13m, quartz rubble. 5 degree fractures within quartz vein. |
| | | | | | | CLY | | | | | m | | | | | | | | | | | 14.97-15.75m, minor clay alteration. |
| | | | | | | | | | | | | | | | | | | | | | | 15.67-15.75m, quartz rubble. |
| | | | | | | CLY | | | | | s | | | | | | | | | | | 16.66-16.70m, clay alteration. Beige, crumbly rock. |
| | | | | | | | | | | | | FO | 50 | | | | | | | | | 147.39-17.57m, fine grained interval for all minerals except 0.7cm garnet augens. |
| | | | | | | CLY | | | | | m | | | | | | | | | | | 17.94m, 10cm orange-beige clay altered interval. |
| | | | | | | | | | | | | | | | | | | | | | | 18.50m, trace epidote. Wavy black-brown microveinlet. Hematite? |
| | | | | | | | | | | | | FO | 50 | | | | | | | | | 19.34m, 3cm fine-grained greenish grey interval. Sharp folliation parallel contacts on either end. |
| | | | | | | | | | | | | | | | | | | | | | | 20.53-21.05m, blocky interval ending in 1cm quartz vein with trace weathered pyrite and trace chalcocite along fracture surface. |
| | | | | | | | | | | | | | | | | | | | | | | 23.95-24.01m, weakly brecciated quartz flood. |
| | | | | | | | | | | | | | | | | | | | | | | 25.66-25.71m, minor quartz flooding. |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | 26.82-28.17m, intense folliation parralel microfracture network that appears to be a manifestation of weakness along muscovite cleavage planes perpendicular to core axis resulting in a whispy white overprinting of the rock fabric. Large, <1.5cm garnet augens. |
| | | | | | | | | | | | | | | | | | | | | 28.26m, rusty 0.2cm pyritic band. |
| | | | | | | | | | | | FX | 10 | | | | | | | | 28.71m, <0.6cm vugs along 10 degree closed fracture. |
| | | | | | | CLY | | | | t | | | | | | | | | | 28.77m, 10cm trace clay alteration. Beige. |
| | | | | | | | | | | | FX | 40 | | | | | | | | 29.19m, limonitic-clay coating on fracture surface. |
| | | | | | | | | | | | FO | 60 | | | | | | | | 29.62m, rough fracture with trace limonite. 0.2cm quartz crystals in void space along fracture. |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, I = 15-20%, (write % for >20%)

**Hole: TL-02-11 Name: NICHOLAS JOYCE Page _1_ of 2**

| From (m) | To (m) | Interval (m) | Recovery (m) | RQD (m) | Munsell Colour | Hardness | Weathering | Comments |
|---|---|---|---|---|---|---|---|---|
| 0.00 | 2.44 | 1.76 | 0.6 | 0.34 | | | | |
| 2.44 | 5.49 | 2.37 | 0.61 | 0.26 | | | | |
| 5.49 | 8.53 | 3.25 | 0.96 | 0.30 | | | | |
| 8.53 | 11.58 | 2.03 | 0.7 | 0.34 | | | | |
| 11.58 | 14.63 | 3.05 | 2.13 | 0.70 | | | | |
| 14.63 | 17.68 | 2.43 | 1.42 | 0.58 | | | | |
| 17.68 | 20.73 | 3.16 | 1.74 | 0.55 | | | | |
| 20.73 | 23.77 | 3.08 | 1.31 | 0.43 | | | | |
| 23.77 | 26.82 | 3.08 | 2.67 | 0.87 | | | | |
| 26.82 | 29.87 | 3.10 | 2.38 | 0.77 | | | | |
| 29.87 | 32.92 | 3.04 | 2.03 | 0.67 | | | | |
| 32.92 | 35.97 | 3.08 | 2.54 | 0.82 | | | | |
| 35.97 | 39.01 | 3.07 | 2.37 | 0.77 | | | | |
| 39.01 | 42.06 | 3.06 | 2.75 | 0.90 | | | | |
| 42.06 | 45.11 | 3.03 | 1.31 | 0.43 | | | | |
| 45.11 | 48.16 | 3.03 | 2.48 | 0.82 | | | | |
| 48.16 | 51.21 | 3.05 | 1.82 | 0.60 | | | | |
| 51.21 | 54.25 | 3.04 | 1.15 | 0.38 | | | | |
| 54.25 | 57.30 | 3.04 | 1.75 | 0.58 | | | | |
| 57.30 | 60.35 | 3.07 | 2.02 | 0.66 | | | | |
| 60.35 | 63.40 | 3.02 | 2.05 | 0.68 | | | | |
| 63.40 | 66.45 | 2.95 | 2.32 | 0.79 | | | | |
| 66.45 | 69.49 | 3.05 | 2.72 | 0.89 | | | | |
| 69.49 | 72.54 | 3.09 | 1.8 | 0.58 | | | | |
| 72.54 | 75.59 | 2.19 | 1.32 | 0.60 | | | | |
| 75.59 | 78.64 | 3.09 | 1.3 | 0.42 | | | | |
| 78.64 | 81.68 | 3.17 | 0.48 | 0.15 | | | | |
| 81.68 | 84.73 | 3.01 | 0.45 | 0.15 | | | | |
| 84.73 | 87.78 | 2.45 | 0.1 | 0.04 | | | | |
| 87.78 | 90.83 | 3.13 | 0.1 | 0.03 | | | | |
| 90.83 | 93.87 | 3.21 | 0.2 | 0.06 | | | | |
| 93.87 | 96.93 | 3.21 | 0.37 | 0.12 | | | | |
| 96.93 | 99.97 | 3.27 | 0.4 | 0.12 | | | | |
| 99.97 | 103.02 | 3.08 | 1.07 | 0.35 | | | | |

## GEOTECHNICAL LOG

| | | | | |
|---|---|---|---|---|
| 103.02 | 106.07 | 3.01 | 2.30 | 0.76 |
| 106.07 | 109.12 | 3.06 | 2.42 | 0.79 |
| 109.12 | 112.17 | 3.12 | 1.08 | 0.35 |
| 112.17 | 115.21 | 3.18 | 1.25 | 0.39 |
| 115.21 | 118.26 | 3.14 | 1.79 | 0.57 |
| 118.26 | 121.31 | 2.95 | 1.74 | 0.59 |
| 121.31 | 124.36 | 3.05 | 1.08 | 0.35 |
| 124.36 | 127.41 | 3.06 | 2.61 | 0.85 |
| 127.41 | 130.45 | 3.12 | 2.22 | 0.71 |
| 130.45 | 133.50 | 3.07 | 1.17 | 0.38 |
| 133.50 | 136.55 | 3.11 | 1.43 | 0.46 |
| 136.55 | 139.60 | 3.04 | 1.45 | 0.48 |
| 139.60 | 142.65 | 3.09 | 1.63 | 0.53 |
| 142.65 | 145.69 | 3.06 | 2.02 | 0.66 |
| 145.69 | 148.74 | 3.08 | 1.89 | 0.61 |
| 148.74 | 151.79 | 3.03 | 2.01 | 0.66 |
| 151.79 | 154.84 | 3.07 | 1.37 | 0.45 |

# MAGNETIC SUSCEPTIBILITY LOG

BTW: 4 cm NQ: 5 cm HQ: 6 cm

**Hole:**_____ **Name:**_____ **Page __1__of____**

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 1 | 4.63 | |
| 2 | 5.57 | |
| 3 | 1.49 | |
| 4 | 3.48 | |
| 5 | 7.38 | |
| 6 | 9.38 | |
| 7 | 11.1 | |
| 8 | 4.3 | |
| 9 | 1.74 | |
| 10 | 8.22 | |
| 11 | 12.3 | |
| 12 | 11.4 | |
| 13 | 7.11 | |
| 14 | 5.16 | |
| 15 | 1.82 | |
| 16 | 13 | |
| 17 | 2.8 | |
| 18 | 3.44 | |
| 19 | 10 | |
| 20 | 4.3 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 21 | 4.55 | |
| 22 | 8.75 | |
| 23 | 5.98 | |
| 24 | 4.16 | |
| 25 | 9.88 | |
| 26 | 3.07 | |
| 27 | 1.04 | |
| 28 | 1.72 | |
| 29 | 8.95 | |
| 30 | 4.18 | |
| 31 | 0 | |
| 32 | 1.86 | |
| 33 | 1.53 | |
| 34 | 2.19 | |
| 35 | 1.68 | |
| 36 | 1.7 | |
| 37 | 2.68 | |
| 38 | 12.6 | |
| 39 | 6.43 | |
| 40 | 9.43 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 41 | 4.38 | |
| 42 | 5.04 | |
| 43 | 3.58 | |
| 44 | 6.02 | |
| 45 | 11.7 | |
| 46 | 17.3 | |
| 47 | 5.35 | |
| 48 | 5.12 | |
| 49 | 0.55 | |
| 50 | 4.2 | |
| 51 | 7.72 | |
| 52 | 0.28 | |
| 53 | 6.64 | |
| 54 | -0.36 | |
| 55 | 13.2 | |
| 56 | 2.37 | |
| 57 | 10 | |
| 58 | 15.4 | |
| 59 | 6.88 | |
| 60 | 5.57 | |

**Hole:**_____ **Name:**_____ **Page __2__of____**

# MAGNETIC SUSCEPTIBILITY LOG

BTW: 4 cm NQ: 5 cm HQ: 6 cm

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 61 | 13.2 | |
| 62 | 3.69 | |
| 63 | 2.91 | |
| 64 | 5.24 | |
| 65 | 4.48 | |
| 66 | 1.86 | |
| 67 | 4.01 | |
| 68 | 6.88 | |
| 69 | 5.16 | |
| 70 | 1.92 | |
| 71 | 8.56 | |
| 72 | 3.62 | |
| 73 | 1.9 | |
| 74 | 0.34 | |
| 75 | 2.29 | |
| 76 | 11.6 | |
| 77 | 4.63 | |
| 78 | 0.38 | |
| 79 | 2.68 | |
| 80 | 0.16 | |
| 81 | 0.4 | |
| 82 | 0.2 | |
| 83 | 1.08 | |
| 84 | 2.21 | |
| 85 | 0.63 | |
| 86 | 0.1 | |
| 87 | | too broken up |
| 88 | 0.28 | |
| 89 | 0.57 | |
| 90 | 0.9 | |
| 91 | 0.36 | |
| 92 | 1.06 | |
| 93 | 0.14 | |
| 94 | 0.32 | |
| 95 | 0.12 | |
| 96 | 0.02 | |
| 97 | 0.26 | |
| 98 | 2.82 | |
| 99 | 1.08 | |
| 100 | 0.34 | |
| 101 | 1.06 | |
| 102 | 1.47 | |
| 103 | 1.14 | |
| 104 | 5.08 | |
| 105 | 3.6 | |
| 106 | 18.2 | |
| 107 | 6.56 | |
| 108 | 7.66 | |
| 109 | 12.7 | |
| 110 | 4.2 | |
| 111 | 27 | |
| 112 | 5.22 | |
| 113 | 0.3 | |
| 114 | 1.7 | |
| 115 | 0.3 | |
| 116 | 1.41 | |
| 117 | 2.17 | |
| 118 | 4 | |
| 119 | 2.56 | |
| 120 | 3.25 | |

**Hole:**_____ **Name:**_____ **Page __3__of____**

# MAGNETIC SUSCEPTIBILITY LOG

BTW: 4 cm NQ: 5 cm HQ: 6 cm

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 121 | 5.39 | |
| 122 | 0.22 | |
| 123 | 1.64 | |
| 124 | 2.4 | |
| 125 | 3.71 | |
| 126 | 4.55 | |
| 127 | 4.42 | |
| 128 | 3.17 | |
| 129 | 3.79 | |
| 130 | 0.24 | |
| 131 | -0.77 | |
| 132 | 0.34 | |
| 133 | 2.95 | |
| 134 | 3.42 | |
| 135 | 4.01 | |
| 136 | 2.52 | |
| 137 | 2.5 | |
| 138 | -0.51 | |
| 139 | 1.41 | |
| 140 | 3.15 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 141 | 1.56 | |
| 142 | 1.8 | |
| 143 | 2.54 | |
| 144 | 1 | |
| 145 | 0.49 | |
| 146 | 0.14 | |
| 147 | 3.3 | |
| 148 | 1.7 | |
| 149 | 0.45 | |
| 150 | -0.24 | |
| 151 | 0.22 | |
| 152 | 5.96 | |
| 153 | 4.55 | |
| 154 | 6 | |
| 155 | | |
| 156 | | |
| 157 | | |
| 158 | | |
| 159 | | |
| 160 | | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 161 | | |
| 162 | | |
| 163 | | |
| 164 | | |
| 165 | | |
| 166 | | |
| 167 | | |
| 168 | | |
| 169 | | |
| 170 | | |
| 171 | | |
| 172 | | |
| 173 | | |
| 174 | | |
| 175 | | |
| 176 | | |
| 177 | | |
| 178 | | |
| 179 | | |
| 180 | | |

# TOULEARY PROPERTY

| Grid East | Grid North | Easting | Northing | Elev. | Depth (m) |
|---|---|---|---|---|---|
| | | 594353 | 6987715 | | 246.28 |

**ZONE:** TL-TE-10-04

**SECTION:**

**HOLE:** TL-05-11

**CLAIM:**

Contractor: Elite Diamond Drilling

Drill: JKS 300

Core size: BTW

Casing depth: 3.05 (m) in / out

Drilling dates: August 5,2011 - August 11, 2011

Geology logged by: NICHOLAS JOYCE

**SURVEY**

| Depth (m) | Azimuth | Dip | Method | Depth (m) | Azimuth | Dip | Method |
|---|---|---|---|---|---|---|---|
| collar | 360 | -45 | compass | 246.28 | 360 | 25 | ACID |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

**TARGET:**

**SUMMARY**

| From (m) | To (m) | Interval | Unit | Comments |
|---|---|---|---|---|
| 3.05 | 25.80 | | SCH | Bleached muscovite schist. Variably magnetic. |
| 25.80 | 27.72 | | SCH | Silicified muscovite schist. |
| 27.72 | 59.88 | | SCH | Silicified prophyritic felsic schist. |
| 59.88 | 92.17 | | SCH | Intermediate mica schist |
| 92.17 | 109.50 | | SCH/GNE | Interlayered Schist and Garnet Augen Gneiss |
| | | | | |
| | | | | |
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**SAMPLES**

Numbers: J998060-J998135

Total: 68

Batch: TL BATCHES 9, 10, 11

Date Sent:

Certificate:

**COMMENTS**

It is likely that the hole shallowed considerably after hitting a 1m interval of quartz at 150m.

**Hole:___TL-05-11_____ Logger Name:_NICHOLAS JOYCE_____ Date:_JULY 23, 2011_____ Page _1_ of ____**

| Sub-Interval | INTERVAL From (m) | INTERVAL To (m) | LITHOLOGY Unit | LITHOLOGY Modifier | LITHOLOGY Texture | ALTERATION | | | Oxidation | ALTERATION Other Type | ALTERATION Other Intensity | STRUC. Type | STRUC. Attitude (tca) | | STRUC. Density (frequency/m | MINERALS | | | MINERALS Other Type | MINERALS Other Intensity | Photo | DETAILED DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 | 3.05 | OVB | | | | | | | | | | | | | | | | | | | Permafrosted organics. |
| | 3.05 | 25.80 | SCH | GY | LT | BLE | | | | | | | | | | MUS<br>MG | QZ<br>HE | FD<br>CA | | | | Bleached Muscovite Schist with up to 3% 0.1cm magnetite speckles. Hematite trace on fracture surfaces. Weak clay alteration on fracture surfaces. Well folliated. Weak sericitization. Moderately fissile. Common driller fractures. Minor calcite in fractures. variably magnetic. |
| | | | | | | | | | | | | | | | | | | | | | | 3.05-4.60m, blocky rubble. |
| | | | | | | | | | | | | FO | 65 | | | | | | | | | 6.12m, 3cm folliation parallel siliceous band with 5% oxidized pyrite. |
| | | | | | | | | | | | | FX | 0 | | | MN | | | | | | 7.08m, Blocky fracture over 40cm along core axis. Minor manganese on fracture surface. |
| | | | | | | | | | | | | | | | | | | | | | | 8.00m, s-curve wavy folliation. 0.1cm hematitic bands in s-curve. |
| | | | | | | | | | | | | | | | | | | | | | | 8.40m, minor bull quartz veining over 10cm. 1cm quartz vein, folliation parallel. |
| | | | | | | | | | | | | VN | 65 | | | | | | | | | 8.53m, moderate clay alteration over 15cm. Increase in sericite and hematite component. |
| | | | | | | | | | | | | VT | 0 | | | CA | | | | | | 10.00m, low angle 0.1cm calcite veinlets over 1m. |
| | | | | | | | | | | | | | | | | | | | | | | 10.90m, increase in speckled magnetite over 20cm. |
| | | | | | | | | | | | | | | | | | | | | | | 11.10m, drusy quartz fracture with brown dendritic mineral and calcitic coating. Turns bright yellow when exposed to acid and left to dry. Colour fades completely when wetted. |
| | | | | | | | | | | | | FO | 65 | | | | | | | | | 15.00-15.42m, mottled texture with 0.2cm lineated feldspar laths. Sooty black microveinlets with dark grey streak. Weakly magnetic. |
| | | | | | | | | | | | | FT | ? | | | | | | | | | 15.73-16.06m, blocky rubble. Minor quartz clasts. Fault? |
| | | | | | | HEM | | | | | s | FO | 50 | | | | | | | | | 16.06-18.63m, strongly hematitic, pervasive reddish microveinlets. Minor limonitic microveinlets. Speckled magnetite, trace calcite. |
| | | | | | | | | | | | | | | | | | | | | | | 18.50m, whispy hematitic banding adjacent to 2cm quartz flood. |
| | | | | | | | | | | | | FX | 35 | | | | | | | | | 23.15m, fracture perpendicular to folliation. |
| | | | | | | | | | | | | | | | | | | | | | | 24.20m, elongate 1cm drusy quartz vugs. |
| | | | | | | | | | | | | VN | 60 | | | | | | | | | 25.80m, 60 degree irregularly edged quartz vein. 1-3cm wide. Sharp contact between bleached schist and silicified schist. |
| | 25.80 | 27.72 | SCH | GY | MD | | | | | | | CN | 60 | | | QZ | SE | MUS | | | | Siliceous Schist. Hard scratch throughout. Well folliated. Speckled magnetite, 3%. |
| | | | | | | | | | | | | FO | 60 | | | CL | FD | HE | | | | |

GEOLOGY LOG

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, l = 15-20%, (write % for >20%)

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | VT | 20 | | | | | 27.44 0.1cm hematite vienlet. |
| 27.72 | 59.88 | SCH | GY | LT | | | | | | | | | Siliceous Schist with feldspar and quartz porphyroblasts. 0.2cm, rounded. 3% speckled magnetite. Trace hematitic veinlets. Minor sericite. Trace biotite. Minor clay alteration on fracture surfaces. |
| | | | | | | | VN | | | | | | 28.31m, 2cm bull quartz vein. |
| | | | | | clay | I | | | | | | | 28.45m, minor crenulations in folliation over 10cm. Complete clay alteration over 3cm. |
| | | | | | clay | I | | | | | | | 28.88m, 1cm clay seam. |
| | | | | | | | | | | | | | 32.00m, trace biotite over 10cm, increase in porphyroblast abundance. |
| | | | | | LIM | m-s | | | LIM | MG | QZ | | 33.98m-35.07m, folliation parallel limonitic microfractures, moderate pitted limonite, minor limonite veinlets. |
| | | | | | | | FX | 20 | | | | | 34.20m, limonitic fractures, 2 of them are at a 90 degree rotation to each other about the core axis. |

n = none, t= <1%, w = 1-3%, f = 3-5%, m = 5-7%, ms = 7-10%, s = 10-15%, I = 15-20%, (write % for >20%)

**Hole: TL-05-11 Name: NICHOLAS JOYCE Page _1_ of ___**

| From (m) | To (m) | Interval (m) | Recovery (m) | RQD (m) | Munsell Colour | Hardness | Weathering | Comments |
|---|---|---|---|---|---|---|---|---|
| 0.00 | 3.05 | | | #DIV/0! | | | | OVB |
| 3.05 | 5.49 | 2.91 | 0.71 | 0.24 | | | | |
| 5.49 | 8.53 | 3.13 | 0.55 | 0.18 | | | | |
| 8.53 | 11.58 | 3.13 | 0.66 | 0.21 | | | | |
| 11.58 | 14.63 | 3.12 | 0.85 | 0.27 | | | | |
| 14.63 | 17.69 | 2.48 | 0.75 | 0.30 | | | | |
| 17.69 | 20.73 | 3.14 | 1.91 | 0.61 | | | | |
| 20.73 | 23.77 | 3.09 | 2.39 | 0.77 | | | | |
| 23.77 | 26.82 | 3.11 | 0.83 | 0.27 | | | | |
| 26.82 | 29.87 | 3.15 | 1.21 | 0.38 | | | | |
| 29.87 | 32.92 | 3.10 | 2.30 | 0.74 | | | | |
| 32.92 | 35.97 | 3.08 | 2.39 | 0.78 | | | | |
| 35.97 | 39.01 | 3.10 | 2.51 | 0.81 | | | | |
| 39.01 | 42.06 | 3.21 | 0.70 | 0.22 | | | | |
| 42.06 | 45.11 | 3.18 | 1.81 | 0.57 | | | | |
| 45.11 | 48.16 | 3.08 ` | 2.62 | 0.85 | | | | |
| 48.16 | 51.21 | 3.05 | 2.71 | 0.89 | | | | |
| 51.21 | 54.25 | 3.05 | 2.59 | 0.85 | | | | |
| 54.25 | 57.3 | 2.84 | 2.79 | 0.98 | | | | |
| 57.3 | 60.35 | 3.04 | 2.98 | 0.98 | | | | |
| 60.35 | 63.4 | 3.08 | 2.51 | 0.81 | | | | |
| 63.4 | 66.45 | 3.08 | 2.59 | 0.84 | | | | |
| 66.45 | 69.49 | 3.08 | 2.74 | 0.89 | | | | |
| 69.49 | 72.54 | 3.02 | 2.4 | 0.79 | | | | |
| 72.54 | 75.59 | 3.1 | 2.69 | 0.87 | | | | |
| 75.59 | 76.64 | 3.05 | 2.11 | 0.69 | | | | |
| 76.64 | 81.69 | 3.09 | 2.59 | 0.84 | | | | |
| 81.69 | 84.73 | 3.02 | 2.72 | 0.90 | | | | |
| 84.73 | 87.78 | 3.02 | 2.75 | 0.91 | | | | |
| 87.78 | 90.83 | 2.99 | 2.14 | 0.72 | | | | |
| 90.83 | 93.88 | 3.1 | 2.42 | 0.78 | | | | |
| 93.88 | 96.93 | 3.02 | 2.5 | 0.83 | | | | |
| 96.93 | 99.97 | 3.07 | 2.97 | 0.97 | | | | |
| 99.97 | 103.02 | 3.04 | 2.88 | 0.95 | | | | |

## GEOTECHNICAL LOG

| | | | | |
|---|---|---|---|---|
| 103.02 | 106.07 | 3.11 | 2.62 | 0.84 |
| 106.07 | 109.12 | 3.09 | 1.04 | 0.34 |
| 109.12 | 112.17 | 3.18 | 1.17 | 0.37 |
| 112.17 | 115.21 | 3.03 | 1.3 | 0.43 |
| 115.21 | 118.26 | 3.16 | 1.26 | 0.40 |
| 118.26 | 121.31 | 3.06 | 2.26 | 0.74 |
| 121.31 | 124.36 | 3.11 | 1.74 | 0.56 |
| 124.36 | 127.41 | 3.09 | 0.77 | 0.25 |
| 127.41 | 130.45 | 3.24 | 1.89 | 0.58 |
| 130.45 | 133.5 | 3.03 | 1.89 | 0.62 |
| 133.5 | 136.55 | 2.9 | 1.64 | 0.57 |
| 136.55 | 139.59 | 2.93 | 1.5 | 0.51 |
| 139.59 | 142.65 | 3.25 | 1.08 | 0.33 |
| 142.65 | 145.69 | 3.03 | 2.24 | 0.74 |
| 145.69 | 148.74 | 3.05 | 2.88 | 0.94 |
| 148.74 | 151.79 | 3.02 | 2.17 | 0.72 |
| 151.79 | 154.84 | 3.05 | 1.75 | 0.57 |
| 154.84 | 157.89 | 3.06 | 2.57 | 0.84 |
| 157.89 | 160.93 | 3.03 | 2.59 | 0.85 |
| 160.93 | 163.98 | 3.05 | 2.79 | 0.91 |
| 163.98 | 167.03 | 3.04 | 3.04 | 1.00 |
| 167.03 | 170.08 | 3.06 | 2.8 | 0.92 |
| 170.08 | 173.13 | 3.05 | 2.72 | 0.89 |
| 173.13 | 176.17 | 3.03 | 2.91 | 0.96 |
| 176.17 | 179.22 | 3.07 | 2.8 | 0.91 |
| 179.22 | 182.27 | 3.04 | 2.76 | 0.91 |
| 182.27 | 185.32 | 3.08 | 3.04 | 0.99 |
| 185.32 | 188.37 | 3.05 | 2.84 | 0.93 |
| 188.37 | 191.41 | 3 | 2.19 | 0.73 |
| 191.41 | 194.46 | 3.04 | 2.86 | 0.94 |
| 194.46 | 197.51 | 3.06 | 3.05 | 1.00 |
| 197.51 | 200.56 | 3.03 | 2.92 | 0.96 |
| 200.56 | 203.61 | 3.07 | 2.97 | 0.97 |
| 203.61 | 206.65 | 3.1 | 1.42 | 0.46 |
| 206.65 | 209.7 | 2.99 | 2.87 | 0.96 |
| 209.7 | 212.75 | 3.06 | 1.57 | 0.51 |
| 212.75 | 215.75 | 3.03 | 2.95 | 0.97 |
| 215.75 | 218.85 | 3.09 | 2.92 | 0.94 |
| 218.85 | 221.89 | 3.11 | 1.38 | 0.44 |
| 221.89 | 224.94 | 3.04 | 2.87 | 0.94 |
| 224.94 | 227.99 | 3.07 | 3.00 | 0.98 |
| 227.99 | 231.04 | 3.06 | 2.83 | 0.92 |
| 231.04 | 234.09 | 3.06 | 2.75 | 0.90 |
| 234.09 | 237.13 | 2.95 | 2.26 | 0.77 |
| 237.13 | 240.18 | 3.07 | 2.97 | 0.97 |
| 240.18 | 243.23 | 3.07 | 2.80 | 0.91 |
| 243.23 | 246.28 | 3.38 | 3.00 | 2.80 |

# MAGNETIC SUSCEPTIBILITY LOG

BTW: 4 cm NQ: 5 cm HQ: 6 cm

**Hole:**_____ **Name:**_____ **Page __1__of____**

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | 1.27 | |
| 4 | 81.6 | |
| 5 | 11.2 | |
| 6 | 0.24 | |
| 7 | 0.47 | |
| 8 | 6.17 | |
| 9 | 1.47 | |
| 10 | 7.84 | |
| 11 | 7.29 | |
| 12 | 1.51 | |
| 13 | 13.5 | |
| 14 | 0.77 | |
| 15 | 18.1 | |
| 16 | 3.56 | |
| 17 | 1.25 | |
| 18 | 0.45 | |
| 19 | 2.15 | |
| 20 | 7.01 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 21 | 1.26 | |
| 22 | 1.88 | |
| 23 | 1.68 | |
| 24 | 7.25 | |
| 25 | 29.03 | |
| 26 | 1.7 | |
| 27 | 3.3 | |
| 28 | 2.66 | |
| 29 | 3.89 | |
| 30 | 1.14 | |
| 31 | 49 | |
| 32 | 17.5 | |
| 33 | 14.2 | |
| 34 | 10.7 | |
| 35 | 14.2 | |
| 36 | 33.5 | |
| 37 | 18.3 | |
| 38 | 5.55 | |
| 39 | 23.9 | |
| 40 | 3.5 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 41 | 2.23 | |
| 42 | 2.33 | |
| 43 | 1.53 | |
| 44 | 5.76 | |
| 45 | 3.36 | |
| 46 | 1.23 | |
| 47 | 0.16 | |
| 48 | 17.8 | |
| 49 | 1.45 | |
| 50 | 0.9 | |
| 51 | 3.64 | |
| 52 | 3.34 | |
| 53 | 2.07 | |
| 54 | 1.23 | |
| 55 | 1.27 | |
| 56 | 3.19 | |
| 57 | 2.62 | |
| 58 | 1.29 | |
| 59 | 2.48 | |
| 60 | 1.45 | |

# MAGNETIC SUSCEPTIBILITY LOG

BTW: 4 cm NQ: 5 cm HQ: 6 cm

**Hole:**_____ **Name:**_____ **Page __2__of____**

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 61 | 0.28 | |
| 62 | 2.89 | |
| 63 | 2.29 | |
| 64 | 5.04 | |
| 65 | 0.46 | |
| 66 | 4.83 | |
| 67 | 3.73 | |
| 68 | 2.13 | |
| 69 | 0.53 | |
| 70 | 0.49 | |
| 71 | 3.38 | |
| 72 | 2.25 | |
| 73 | 1.29 | |
| 74 | 1.02 | |
| 75 | 0.86 | |
| 76 | 0.75 | |
| 77 | 1.84 | |
| 78 | 0.1 | |
| 79 | 0.3 | |
| 80 | 1.12 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 81 | 1.47 | |
| 82 | 2.09 | |
| 83 | 4.94 | |
| 84 | 1.39 | |
| 85 | 4.16 | |
| 86 | 0.77 | |
| 87 | 50.1 | |
| 88 | 4.46 | |
| 89 | 4.59 | |
| 90 | 84.2 | |
| 91 | 41.1 | |
| 92 | 17.1 | |
| 93 | 3.54 | |
| 94 | 11.8 | |
| 95 | 2.02 | |
| 96 | 2.23 | |
| 97 | 10.7 | |
| 98 | 1.64 | |
| 99 | 28 | |
| 100 | 36.8 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 101 | 1.04 | |
| 102 | 1.47 | |
| 103 | 1 | |
| 104 | 3.01 | |
| 105 | 2.21 | |
| 106 | 1.43 | |
| 107 | 1.02 | |
| 108 | -0.3 | |
| 109 | -0.57 | |
| 110 | -0.1 | |
| 111 | 0.45 | |
| 112 | 0.63 | |
| 113 | 0.96 | |
| 114 | 0 | |
| 115 | 1.86 | |
| 116 | 0.24 | |
| 117 | 0.04 | |
| 118 | 1.98 | |
| 119 | 1.59 | |
| 120 | 2.52 | |

# MAGNETIC SUSCEPTIBILITY LOG

BTW: 4 cm NQ: 5 cm HQ: 6 cm

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 121 | 1.9 | |
| 122 | 2.6 | |
| 123 | 3.91 | |
| 124 | -0.04 | |
| 125 | -0.04 | |
| 126 | -0.2 | |
| 127 | -0.32 | |
| 128 | 4.61 | |
| 129 | 0.02 | |
| 130 | 0.32 | |
| 131 | 1.76 | |
| 132 | -0.42 | |
| 133 | 0.57 | |
| 134 | -1.3 | |
| 135 | -0.45 | |
| 136 | 1.72 | |
| 137 | 3.91 | |
| 138 | 2.89 | |
| 139 | 0.04 | |
| 140 | 0.65 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 141 | 0.43 | |
| 142 | 0.38 | |
| 143 | 1.35 | |
| 144 | 1.12 | |
| 145 | 2.46 | |
| 146 | 1.78 | |
| 147 | 0.24 | |
| 148 | 0.63 | |
| 149 | 2.52 | |
| 150 | 2.97 | |
| 151 | 1.06 | |
| 152 | 1.04 | |
| 153 | 1.43 | |
| 154 | 1.49 | |
| 155 | 4.28 | |
| 156 | 2.29 | |
| 157 | -0.02 | |
| 158 | 0.98 | |
| 159 | 0.43 | |
| 160 | 1.35 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 161 | 1.59 | |
| 162 | 0 | |
| 163 | 2.13 | |
| 164 | 1.45 | |
| 165 | 1.84 | |
| 166 | 1.78 | |
| 167 | 0.63 | |
| 168 | 0.69 | |
| 169 | 4.89 | |
| 170 | -0.45 | |
| 171 | -0.41 | |
| 172 | 0.82 | |
| 173 | 1.47 | |
| 174 | 1.18 | |
| 175 | -0.06 | |
| 176 | 0.18 | |
| 177 | 6.43 | |
| 178 | 4.98 | |
| 179 | 2.37 | |
| 180 | 0.34 | |

**Hole:**_____ **Name:**_____ **Page __4__of____**

# MAGNETIC SUSCEPTIBILITY LOG

BTW: 4 cm NQ: 5 cm HQ: 6 cm

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 181 | 0 | |
| 182 | 1.14 | |
| 183 | 13.3 | |
| 184 | 0.32 | |
| 185 | 0.82 | |
| 186 | 2.23 | |
| 187 | 5.78 | |
| 188 | 8.26 | |
| 189 | 2.54 | |
| 190 | 2.29 | |
| 191 | 2.91 | |
| 192 | 0.75 | |
| 193 | 1.64 | |
| 194 | 2.87 | |
| 195 | 9.84 | |
| 196 | 1.9 | |
| 197 | 3.13 | |
| 198 | 4.14 | |
| 199 | 22.2 | |
| 200 | 23.1 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 201 | 34.6 | |
| 202 | 20.4 | |
| 203 | 24.3 | |
| 204 | 15 | |
| 205 | 35.3 | |
| 206 | 6.12 | |
| 207 | 1.94 | |
| 208 | 1.47 | |
| 209 | 1.1 | |
| 210 | 3.44 | |
| 211 | 14.7 | |
| 212 | 25.5 | |
| 213 | 13.5 | |
| 214 | 5.88 | |
| 215 | 11.7 | |
| 216 | 7.03 | |
| 217 | 4.85 | |
| 218 | 1.9 | |
| 219 | 30.1 | |
| 220 | 41 | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 221 | 30.4 | |
| 222 | 0.02 | |
| 223 | 1.72 | |
| 224 | 1.51 | |
| 225 | 6.97 | |
| 226 | 0.69 | |
| 227 | 2.15 | |
| 228 | 3.46 | |
| 229 | 0.98 | |
| 230 | 1.86 | |
| 231 | 3.44 | |
| 232 | 4.55 | |
| 233 | 8.97 | |
| 234 | 3.3 | |
| 235 | 47.9 | |
| 236 | 11.8 | |
| 237 | 11.2 | |
| 238 | 14.8 | |
| 239 | 21.3 | |
| 240 | 36.4 | |

# MAGNETIC SUSCEPTIBILITY LOG

BTW: 4 cm NQ: 5 cm HQ: 6 cm

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 241 | 19.9 | |
| 242 | 23.5 | |
| 243 | 3.46 | |
| 244 | 4.44 | |
| 245 | 10 | |
| 246 | 21.6 | |
| 247 | | |
| 248 | | |
| 249 | | |
| 250 | | |
| 251 | | |
| 252 | | |
| 253 | | |
| 254 | | |
| 255 | | |
| 256 | | |
| 257 | | |
| 258 | | |
| 259 | | |
| 260 | | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 261 | | |
| 262 | | |
| 263 | | |
| 264 | | |
| 265 | | |
| 266 | | |
| 267 | | |
| 268 | | |
| 269 | | |
| 270 | | |
| 271 | | |
| 272 | | |
| 273 | | |
| 274 | | |
| 275 | | |
| 276 | | |
| 277 | | |
| 278 | | |
| 279 | | |
| 280 | | |

| Depth (m) | Magnetic Susceptiblity | DESCRIPTION |
|---|---|---|
| 281 | | |
| 282 | | |
| 283 | | |
| 284 | | |
| 285 | | |
| 286 | | |
| 287 | | |
| 288 | | |
| 289 | | |
| 290 | | |
| 291 | | |
| 292 | | |
| 293 | | |
| 294 | | |
| 295 | | |
| 296 | | |
| 297 | | |
| 298 | | |
| 299 | | |
| 300 | | |

**Hole:____TL-05-11** **Page __1__ of ____**

| Box # | From (m) | To (m) | Metal tag made | Metal tag stapled |
|---|---|---|---|---|
| 1 | 0 | 8.36 | | |
| 2 | 8.36 | 14.22 | | |
| 3 | 14.22 | 20.24 | | |
| 4 | 20.24 | 25.91 | | |
| 5 | 25.91 | 31.52 | | |
| 6 | 31.52 | 37.09 | | |
| 7 | 37.09 | 42.63 | | |
| 8 | 42.63 | 48.16 | | |
| 9 | 48.16 | 53.85 | | |
| 10 | 53.85 | 59.38 | | |
| 11 | 59.38 | 64.74 | | |
| 12 | 64.74 | 70.41 | | |
| 13 | 70.41 | 76.16 | | |
| 14 | 76.16 | 81.93 | | |
| 15 | 81.93 | 87.60 | | |
| 16 | 87.60 | 92.55 | | |
| 17 | 92.55 | 99.00 | | |
| 18 | 99.00 | 104.89 | | |
| 19 | 104.89 | 110.48 | | |
| 20 | 110.48 | 116.07 | | |
| 21 | 116.07 | 121.45 | | |
| 22 | 121.45 | 126.70 | | |
| 23 | 126.70 | 132.08 | | |
| 24.0 | 132.08 | 137.78 | | |
| 25.0 | | 143.44 | | |
| 26.0 | | 148.85 | | |
| 27.0 | | 154.64 | | |
| 28.0 | | 160.48 | | |
| 29.0 | | 166.07 | | |
| 30.0 | | 171.77 | | |
| 31.0 | | 177.61 | | |
| 32.0 | | 183.32 | | |
| 33.0 | | 189.16 | | |
| 34.0 | | 195.06 | | |
| 35.0 | | 200.98 | | |
| 36.0 | | 206.65 | | |
| 37.0 | | 212.21 | | |
| 38.0 | | 217.75 | | |
| 39.0 | | 223.08 | | |
| 40.0 | | 228.54 | | |
| 41.0 | | 234.34 | | |
| 42.0 | | 240.18 | | |
| 43.0 | | 246.14 | | |
| 44.0 | | 246.28 | | |
| | | EOH | | |
| | | | | |

# BOX LOG

**Hole:__TL-05-11_____ Name:__NICHOLAS JOYCE____ Page _1_ of ___**

| From (m) | To (m) | Interval (m) | Recovery (m) | Sample Number | Batch | Comments |
|---|---|---|---|---|---|---|
| 3.05 | 5.49 | 2.44 | | J998060 | 9 | Start batch 9 |
| 5.49 | 8.53 | 3.04 | | J998061 | 9 | |
| 8.53 | 11.58 | 3.05 | | J998062 | 9 | |
| 11.58 | 15.73 | 4.15 | | J998063 | 9 | |
| 15.73 | 18.63 | 2.90 | | J998064 | 9 | |
| 18.63 | 22.30 | 3.67 | | J998065 | 9 | |
| 22.30 | 25.80 | 3.50 | | J998066 | 9 | |
| 25.80 | 27.72 | 1.92 | | J998067 | 9 | |
| 27.72 | 33.98 | 6.26 | | J998068 | 9 | |
| 33.98 | 35.07 | 1.09 | | J998069 | 9 | |
| STANDARD | | #VALUE! | | J998070 | 9 | CDN-ME-12 |
| 35.07 | 39.01 | 3.94 | | J998071 | 9 | |
| 39.01 | 42.06 | 3.05 | | J998072 | 9 | |
| 42.06 | 45.60 | 3.54 | | J998073 | 9 | |
| 45.60 | 49.91 | 4.31 | | J998074 | 9 | |
| 49.91 | 53.85 | 3.94 | | J998075 | 9 | |
| 53.85 | 57.30 | 3.45 | | J998076 | 9 | |
| 57.30 | 61.00 | 3.70 | | J998077 | 9 | |
| 61.00 | 64.60 | 3.60 | | J998078 | 9 | |
| 64.60 | 68.15 | 3.55 | | J998079 | 9 | |
| 68.15 | 73.17 | 5.02 | | J998080 | 9 | |
| 73.17 | 77.27 | 4.10 | | J998081 | 9 | |
| 77.27 | 81.69 | 4.42 | | J998082 | 9 | |
| 81.69 | 84.98 | 3.29 | | J998083 | 9 | |
| 84.98 | 89.50 | 4.52 | | J998084 | 9 | |
| 89.50 | 92.17 | 2.67 | | J998085 | 9 | |
| 92.17 | 96.93 | 4.76 | | J998086 | 9 | |
| 96.93 | 100.56 | 3.63 | | J998087 | 9 | |
| 100.56 | 104.18 | 3.62 | | J998088 | 9 | |
| BLANK | | #VALUE! | | J998089 | 9 | BLANK |
| 104.18 | 109.12 | 4.94 | | J998090 | 9 | |
| 109.12 | 111.65 | 2.53 | | J998091 | 9 | |
| 111.65 | STANDARD | #VALUE! | | J998092 | 9 | CDN-ME-2 |

## SAMPLE LOG

| | | | | | | |
|---|---|---|---|---|---|---|
| 111.65 | 115.62 | 3.97 | | J998093 | 9 | |
| 115.62 | BLANK | #VALUE! | | J998094 | 9 | BLANK |
| 115.62 | 117.87 | 2.25 | | J998095 | 9 | |
| | | 0.00 | | | | END BATCH 9 START BATCH 1 |
| 117.87 | 119.77 | 1.90 | | J998096 | 10 | |
| 119.77 | 123.00 | 3.23 | | J998097 | 10 | |
| 123.00 | 124.50 | 1.50 | | J998098 | 10 | |
| 124.50 | 128.25 | 3.75 | | J998099 | 10 | |
| 128.25 | 129.11 | 0.86 | | J998100 | 10 | |
| 129.11 | 129.81 | 0.70 | | J998101 | 10 | |
| | STANDARD | #VALUE! | | J998102 | 10 | CDN-ME-2 |
| 129.81 | 132.49 | 2.68 | | J998103 | 10 | |
| | BLANK | #VALUE! | | J998104 | 10 | BLANK |
| 132.49 | 134.92 | 2.43 | | J998105 | 10 | |
| 134.92 | 136.55 | 1.63 | | J998106 | 10 | |
| | STANDARD | #VALUE! | | J998107 | 10 | CDN-ME-12 |
| 136.55 | 138.65 | 2.10 | | J998108 | 10 | |
| 138.65 | 141.44 | 2.79 | | J998109 | 10 | |
| | BLANK | #VALUE! | | J998110 | 10 | BLANK |
| 141.44 | 145.45 | 4.01 | | J998111 | 10 | |
| 145.45 | 148.26 | 2.81 | | J998112 | 10 | |
| 148.26 | 151.81 | 3.55 | | J998113 | 10 | |
| 151.81 | 153.01 | 1.20 | | J998114 | 10 | |
| 153.01 | 156.60 | 3.59 | | J998115 | 10 | |
| 156.60 | 159.53 | 2.93 | | J998116 | 10 | |
| 159.53 | 163.90 | 4.37 | | J998117 | 10 | |
| 163.90 | 167.03 | 3.13 | | J998118 | 10 | |
| 167.03 | 170.08 | 3.05 | | J998119 | 10 | |
| 170.08 | 173.01 | 2.93 | | J998120 | 10 | |
| 173.01 | 177.29 | 4.28 | | J998121 | 10 | |
| 177.29 | 181.11 | 3.82 | | J998122 | 10 | |
| 181.11 | 185.32 | 4.21 | | J998123 | 10 | |
| 185.32 | 190.95 | 5.63 | | J998124 | 10 | |
| 190.95 | 194.46 | 3.51 | | J998125 | 10 | |
| 194.46 | 200.56 | 6.10 | | J998126 | 10 | |
| 200.56 | 206.65 | 6.09 | | J998127 | 10 | |
| 206.65 | 210.00 | 3.35 | | J998128 | 10 | |
| 210.00 | 215.00 | 5.00 | | J998129 | 10 | |
| 215.00 | 220.00 | 5.00 | | J998130 | 10 | |
| 220.00 | 225.00 | 5.00 | | J998131 | 10 | |
| | | 0.00 | | | | END BATCH 10 / START BATCH |
| 225.00 | 230.00 | 5.00 | | J998132 | 11 | |
| 230.00 | 235.00 | 5.00 | | J998133 | 11 | |
| 235.00 | 240.00 | 5.00 | | J998134 | 11 | |
| 240.00 | 246.28 | 6.28 | | J998135 | 11 | |
| | | | | | | EOH TL-05-11 |

**SAMPLE LOG**

**Batch:__TL-9___ Colour:____Orange_____ Date:___JULY 24, 2011____**

| | Sample Number | QA-QC Sample Type | Hole Number | Sample Wt. (kg) |
|---|---|---|---|---|
| 1 | J998060 | | TL-05-11 | |
| 2 | J998061 | | TL-05-11 | |
| 3 | J998062 | | TL-05-11 | |
| 4 | J998063 | | TL-05-11 | |
| 5 | J998064 | | TL-05-11 | |
| 6 | J998065 | | TL-05-11 | |
| 7 | J998066 | | TL-05-11 | |
| 8 | J998067 | | TL-05-11 | |
| 9 | J998068 | | TL-05-11 | |
| 10 | J998069 | | TL-05-11 | |
| 11 | J998070 | CON-ME-12 | TL-05-11 | |
| 12 | J998071 | | TL-05-11 | |
| 13 | J998072 | | TL-05-11 | |
| 14 | J998073 | | TL-05-11 | |
| 15 | J998074 | | TL-05-11 | |
| 16 | J998075 | | TL-05-11 | |
| 17 | J998076 | | TL-05-11 | |
| 18 | J998077 | | TL-05-11 | |
| 19 | J998078 | | TL-05-11 | |
| 20 | J998079 | | TL-05-11 | |
| 21 | J998080 | | TL-05-11 | |
| 22 | J998081 | | TL-05-11 | |
| 23 | J998082 | | TL-05-11 | |
| 24 | J998083 | | TL-05-11 | |
| 25 | J998084 | | TL-05-11 | |
| 26 | J998085 | | TL-05-11 | |
| 27 | J998086 | | TL-05-11 | |
| 28 | J998087 | | TL-05-11 | |
| 29 | J998088 | | TL-05-11 | |
| 30 | J998089 | BLANK | TL-05-11 | |
| 31 | J998090 | | TL-05-11 | |
| 32 | J998091 | | TL-05-11 | |
| 33 | J998092 | CDN-ME-2 | TL-05-11 | |
| 34 | J998093 | | TL-05-11 | |
| 35 | J998094 | BLANK | TL-05-11 | |
| 36 | J998095 | | TL-05-11 | |

MUST INCLUDE: 2 STANDARDS, 2 BLANKS, 1 DUPLICATE

**BATCH LOG**

Batch:__TL-10___ Colour:____PINK_____ Date:___JULY 28, 2011____

| | | | | |
|---|---|---|---|---|
| 1 | J998096 | | | TL-05-11 |
| 2 | J998097 | | | TL-05-11 |
| 3 | J998098 | | | TL-05-11 |
| 4 | J998099 | | | TL-05-11 |
| 5 | J998100 | | | TL-05-11 |
| 6 | J998101 | | | TL-05-11 |
| 7 | J998102 | CDN-ME-2 | | TL-05-11 |
| 8 | J998103 | | | TL-05-11 |
| 9 | J998104 | BLANK | | TL-05-11 |
| 10 | J998105 | | | TL-05-11 |
| 11 | J998106 | | | TL-05-11 |
| 12 | J998107 | CDN-ME-12 | | TL-05-11 |
| 13 | J998108 | | | TL-05-11 |
| 14 | J998109 | | | TL-05-11 |
| 15 | J998110 | BLANK | | TL-05-11 |
| 16 | J998111 | | | TL-05-11 |
| 17 | J998112 | | | TL-05-11 |
| 18 | J998113 | | | TL-05-11 |
| 19 | J998114 | | | TL-05-11 |
| 20 | J998115 | | | TL-05-11 |
| 21 | J998116 | | | TL-05-11 |
| 22 | J998117 | | | TL-05-11 |
| 23 | J998118 | | | TL-05-11 |
| 24 | J998119 | | | TL-05-11 |
| 25 | J998120 | | | TL-05-11 |
| 26 | J998121 | | | TL-05-11 |
| 27 | J998122 | | | TL-05-11 |
| 28 | J998123 | | | TL-05-11 |
| 29 | J998124 | | | TL-05-11 |
| 30 | J998125 | | | TL-05-11 |
| 31 | J998126 | | | TL-05-11 |
| 32 | J998127 | | | TL-05-11 |
| 33 | J998128 | | | TL-05-11 |
| 34 | J998129 | | | TL-05-11 |
| 35 | J998130 | | | TL-05-11 |
| 36 | J998131 | | | TL-05-11 |

MUST INCLUDE: 2 STANDARDS, 2 BLANKS, 1 DUPLICATE

# APPENDIX V

# GEOPHYSICAL REPORTS

# REPORT ON A HELICOPTER-BORNE VERSATILE TIME DOMAIN ELECTROMAGNETIC (VTEM) AND AEROMAGNETIC GEOPHYSICAL SURVEY

## Touleary Property

**Dawson City, Yukon Territory, Canada**

**For:**

**Arcus Development Group Inc.**

**By:**


**Geotech Ltd.**

**245 Industrial Parkway North**

**Aurora, Ont., CANADA, L4G 4C4**

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**Survey flown during October 2011**

**Project 11292**

**October, 2011**

# TABLE OF CONTENTS

**Executive Summary** ..... **ii**
**1. INTRODUCTION** ..... **1**
1.1 General Considerations ..... 1
1.2 Survey and System Specifications ..... 2
1.3 Topographic Relief and Cultural Features ..... 3
**2. DATA ACQUISITION** ..... **4**
2.1 Survey Area ..... 4
2.2 Survey Operations ..... 4
2.3 Flight Specifications ..... 5
2.4 Aircraft and Equipment ..... 5
2.4.1 Survey Aircraft ..... 5
2.4.2 Electromagnetic System ..... 5
2.4.3 Airborne magnetometer ..... 9
2.4.4 Radar Altimeter ..... 9
2.4.5 GPS Navigation System ..... 9
2.4.6 Digital Acquisition System ..... 9
2.5 Base Station ..... 10
**3. PERSONNEL** ..... **11**
**4. DATA PROCESSING AND PRESENTATION** ..... **12**
4.1 Flight Path ..... 12
4.2 Electromagnetic Data ..... 12
4.3 Magnetic Data ..... 13
**5. DELIVERABLES** ..... **14**
5.1 Survey Report ..... 14
5.2 Maps ..... 14
5.3 Digital Data ..... 14
**6. CONCLUSIONS AND RECOMMENDATIONS** ..... **17**

# LIST OF FIGURES

Figure 1 - Property Location ..... 1
Figure 2 - Survey area location on Google Earth ..... 2
Figure 3 – Flight path over a Google Earth Image ..... 3
Figure 4 - VTEM Configuration, with magnetometer. ..... 6
Figure 5 - VTEM Waveform & Sample Times ..... 6
Figure 6 - VTEM System Configuration ..... 8
Figure 7 – Time Constant TAU (dB/dt), CVG contours, RDI sections overlain geology ..... 17

# LIST OF TABLES

Table 1 - Survey Specifications ..... 4
Table 2 - Survey schedule ..... 4
Table 3 - Decay Sampling Scheme ..... 7
Table 4 - Acquisition Sampling Rates ..... 9
Table 5 - Geosoft GDB Data Format ..... 15

# APPENDICES

A. Survey location maps .....
B. Survey Block Coordinates .....
C. VTEM Waveform .....
D. Geophysical Maps .....
E. Generalized Modelling Results of the VTEM System .....
F. EM Time Contant (TAU) Analysis .....
G. TEM Resitivity Depth Imaging (RDI) .....

# REPORT ON A HELICOPTER-BORNE VERSATILE TIME DOMAIN ELECTROMAGNETIC (VTEM) and AEROMAGNETIC SURVEY

Touleary Property
Dawson City, Yukon Territory, Canada

## Executive Summary


During October 1st – 3rd 2011 Geotech Ltd. carried out a helicopter-borne geophysical survey over the Touleary Property located near Dawson City, Yukon Territory, Canada.

Principal geophysical sensors included a versatile time domain electromagnetic (VTEM) system, and a cesium magnetometer. Ancillary equipment included a GPS navigation system and a radar altimeter. A total of 740 line-kilometres of geophysical data were acquired.

In-field data quality assurance and preliminary processing were carried out on a daily basis during the acquisition phase. Preliminary and final data processing, including generation of final digital data and map products were undertaken from the office of Geotech Ltd. in Aurora, Ontario.

The processed survey results are presented as the following maps:

- Total Magnetic Intensity
- B-Field Z Component Channel grid
- Calculated Time Constant (TAU)
- Electromagnetic stacked profiles of the B-field Z component
- Electromagnetic stacked profiles of the dB/dt Z component

Digital data includes all electromagnetic and magnetic products, ancillary data and the VTEM waveform.

The survey report describes the procedures for data acquisition, processing, final image presentation and the specifications for the digital data set. No formal Interpretation has been included.

# 1. INTRODUCTION

## 1.1 General Considerations

Geotech Ltd. performed a helicopter-borne geophysical survey over the Touleary Property located near Dawson City, Yukon Territory, Canada (Figure 1 & 2).

Scott Newman represented Arcus Development Group Inc. during the data acquisition and data processing phases of this project.

The geophysical surveys consisted of helicopter borne EM using the versatile time-domain electromagnetic (VTEM) system with Z component measurements and aeromagnetics using a cesium magnetometer. A total of 740 line-km of geophysical data were acquired during the survey.

The crew was based out of The Eldorado Hotel in Dawson City, Yukon Territory for the acquisition phase of the survey. Survey flying started on October 1st 2011 and was completed on October 3rd 2011.

Data quality control and quality assurance, and preliminary data processing were carried out on a daily basis during the acquisition phase of the project. Final data processing followed immediately after the end of the survey. Final reporting, data presentation and archiving were completed from the Aurora office of Geotech Ltd. in October, 2011.




**Figure 1** - Property Location

## 1.2 Survey and System Specifications

The Block is located approximately 115 kilometres south of Dawson City, Yukon Territory (Figure 2).

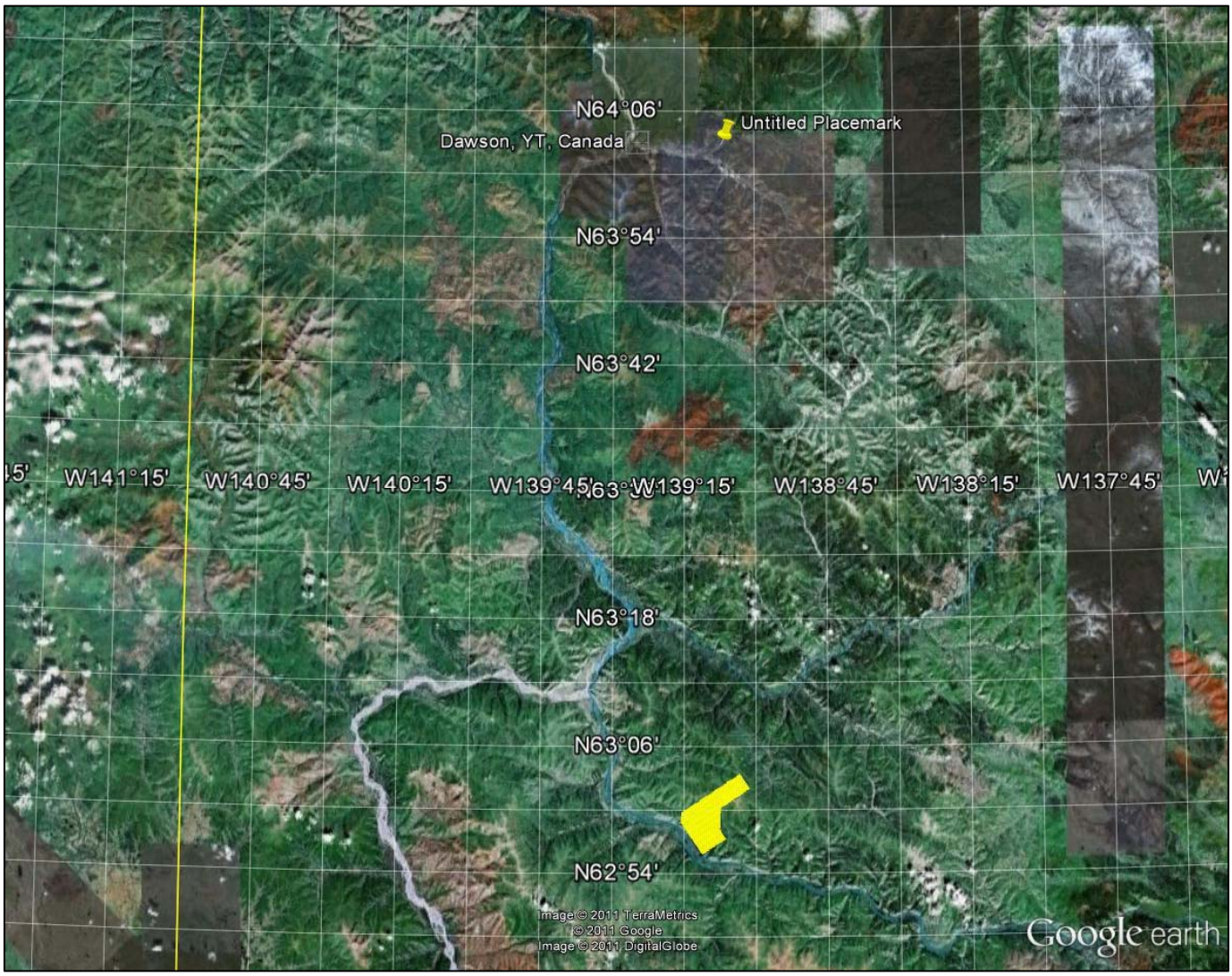


**Figure 2 -** Survey area location on Google Earth

The block was flown in a northwest to southeast (N 145° E azimuth) direction with traverse line spacing of 100 metres as depicted in Figure 3. Tie lines were flown perpendicular to the traverse lines at a spacing of 1000 metres (N 235° E azimuth). For more detailed information on the flight spacing and direction see Table 1.

## 1.3 Topographic Relief and Cultural Features

Topographically, the block exhibits a moderate relief with elevations ranging from 426 to 1494 metres above mean sea level over an area of 68 square kilometres (Figure 3). There are a few visible signs of culture such as roads and buildings within the periphery of the block.

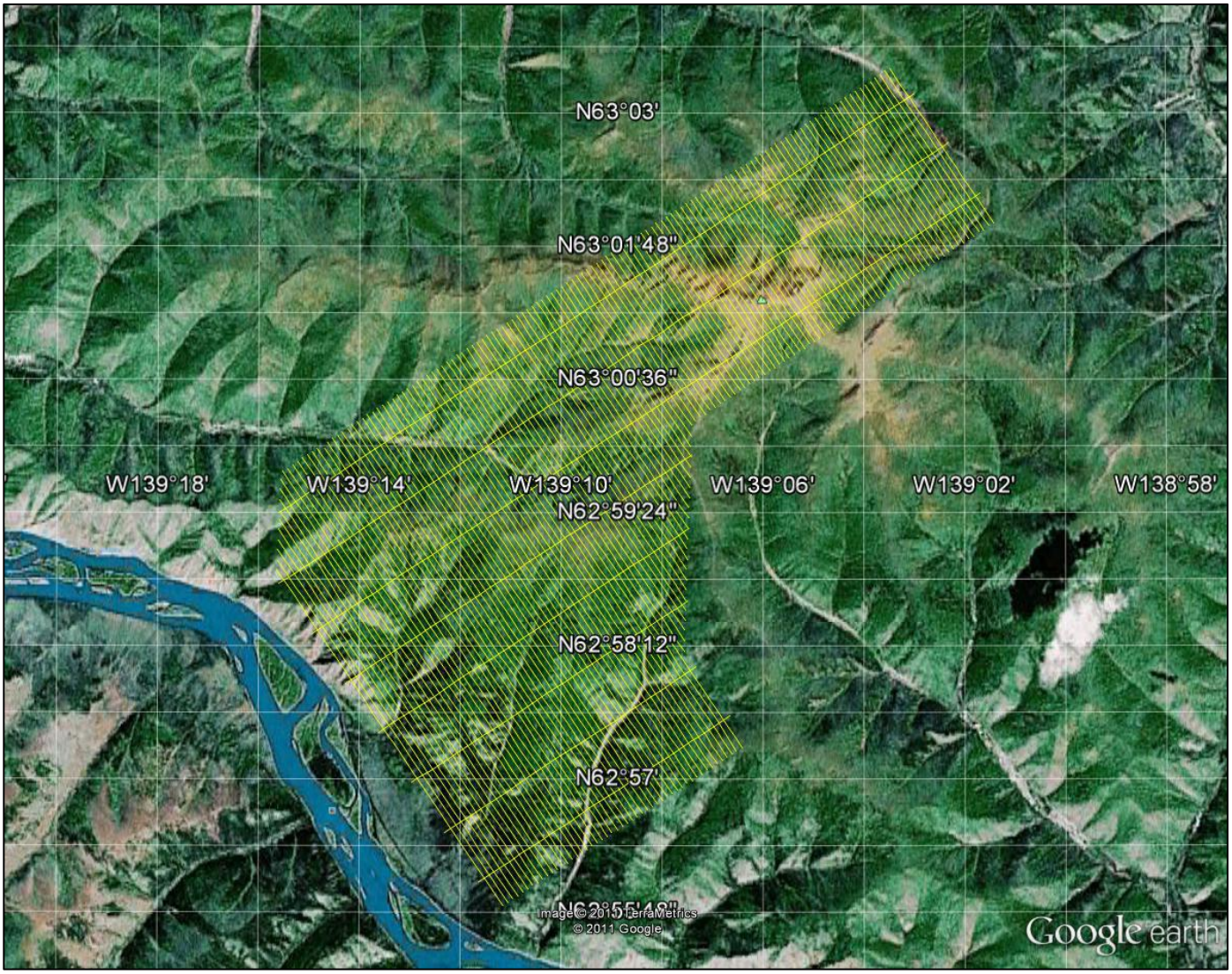


**Figure 3 –** Flight path over a Google Earth Image

# 2. DATA ACQUISITION

## 2.1 Survey Area

The survey block (see Figure 3 and Appendix A) and general flight specifications are as follows:

**Table 1** - Survey Specifications

| Survey block | Traverse Line spacing (m) | Area ($Km^2$) | Planned[1] Line-km | Actual Line-km | Flight direction | Line numbers |
|---|---|---|---|---|---|---|
| Touleary Property | Traverse: 100 | 68 | 740 | 756.8 | N 145° E / N 325° E | L1000-L2320 |
| | Tie: 1000 | | | | N 55° E / N 235° E | T2800-T2870 |
| **TOTAL** | | 68 | 740 | 756.8 | | |

Survey block boundaries co-ordinates are provided in Appendix B.

## 2.2 Survey Operations

Survey operations were based out of The Eldorado Hotel, in Dawson City, Yukon Territory from October 1st to 3rd 2011. The following table shows the timing of the flying.

**Table 2** - Survey schedule

| Date | Flight # | Flown km | Block | Crew location | Comments |
|---|---|---|---|---|---|
| Sept-29-2011 | | | | Dawson City,YT | Crew arrived Base station positioned |
| Sept-30-2011 | | | | Dawson City,YT | No production due to weather |
| Oct-1-2011 | 1,2 | 277 | | Dawson City,YT | 277km flown |
| Oct-2-2011 | 3,4 | 375 | | Dawson City,YT | 375km flown |
| Oct-3-2011 | 5 | 88 | | Dawson City,YT | Remaining kms were flown |

[1] Note: Actual Line kilometres represent the total line kilometres in the final database. These line-km normally exceed the Planned line-km, as indicated in the survey NAV files

## 2.3 Flight Specifications

During the survey the helicopter was maintained at a mean altitude of 116 metres above the ground with a nominal survey speed of 80 km/hour. This allowed for a nominal EM bird terrain clearance of 76 metres and a magnetic sensor clearance of 101 metres.

The on board operator was responsible for monitoring the system integrity. He also maintained a detailed flight log during the survey, tracking the times of the flight as well as any unusual geophysical or topographic features.

On return of the aircrew to the base camp the survey data was transferred from a compact flash card (PCMCIA) to the data processing computer. The data were then uploaded via ftp to the Geotech office in Aurora for daily quality assurance and quality control by qualified personnel.

## 2.4 Aircraft and Equipment

### 2.4.1 Survey Aircraft

The survey was flown using a Eurocopter Aerospatiale (Astar) 350 B3 helicopter, registration C-GTEQ. The helicopter is owned and operated by Geotech Aviation. Installation of the geophysical and ancillary equipment was carried out by a Geotech Ltd crew.

### 2.4.2 Electromagnetic System

The electromagnetic system was a Geotech Time Domain EM (VTEM) system. The configuration is as indicated in Figure 4.

The VTEM Receiver and transmitter coils were in concentric-coplanar and Z-direction oriented configuration. The EM bird was towed at a mean distance of 35 metres below the aircraft as shown in 4 and 6. The receiver decay recording scheme is shown diagrammatically in Figure 6.

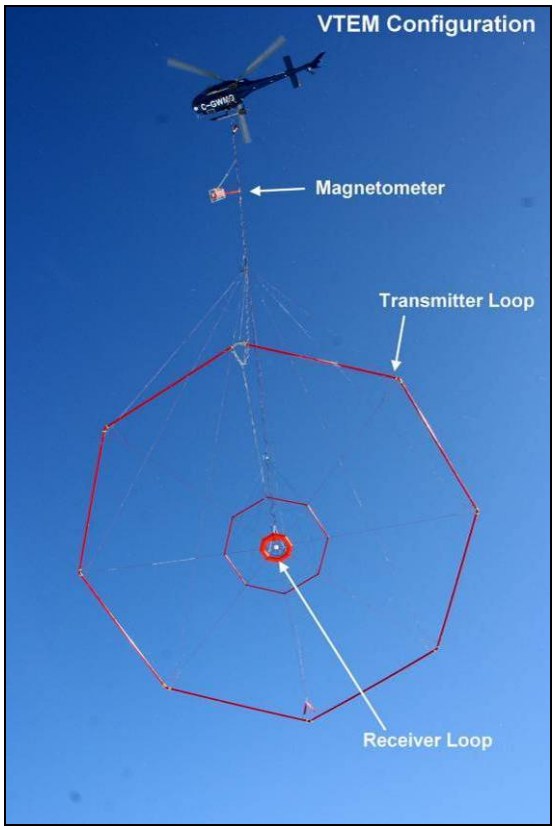


**Figure 4** - VTEM Configuration, with magnetometer.

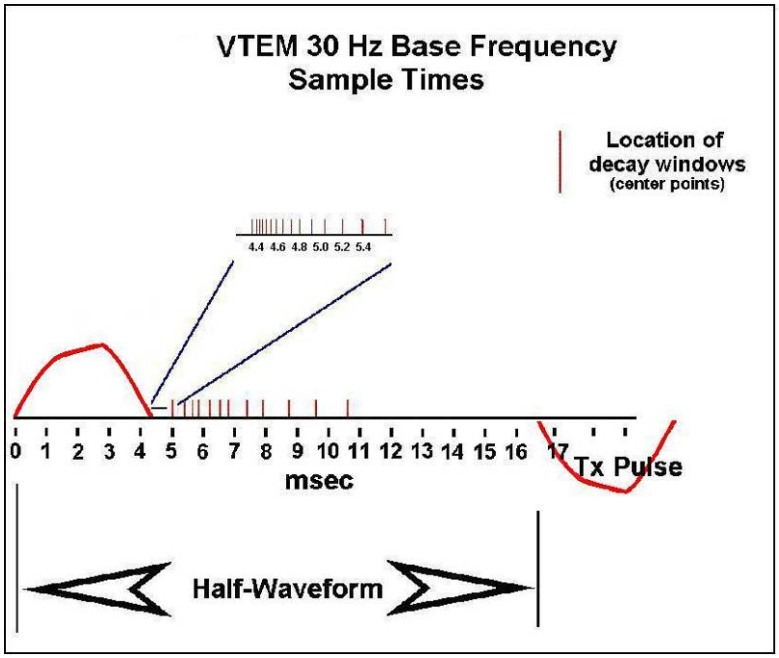


**Figure 5** - VTEM Waveform & Sample Times

The VTEM decay sampling scheme is shown in Table 3 below. Thirty-two time measurement gates were used for the final data processing in the range from 96 to 7036 µ sec.

**Table 3** - Decay Sampling Scheme

| VTEM Decay Sampling Scheme | | | | |
|---|---|---|---|---|
| **Index** | **Middle** | **Start** | **End** | **Window** |
| | **Microseconds** | | | |
| 14 | 96 | 90 | 103 | 13 |
| 15 | 110 | 103 | 118 | 15 |
| 16 | 126 | 118 | 136 | 18 |
| 17 | 145 | 136 | 156 | 20 |
| 18 | 167 | 156 | 179 | 23 |
| 19 | 192 | 179 | 206 | 27 |
| 20 | 220 | 206 | 236 | 30 |
| 21 | 253 | 236 | 271 | 35 |
| 22 | 290 | 271 | 312 | 40 |
| 23 | 333 | 312 | 358 | 46 |
| 24 | 383 | 358 | 411 | 53 |
| 25 | 440 | 411 | 472 | 61 |
| 26 | 505 | 472 | 543 | 70 |
| 27 | 580 | 543 | 623 | 81 |
| 28 | 667 | 623 | 716 | 93 |
| 29 | 766 | 716 | 823 | 107 |
| 30 | 880 | 823 | 945 | 122 |
| 31 | 1,010 | 945 | 1,086 | 141 |
| 32 | 1,161 | 1,086 | 1,247 | 161 |
| 33 | 1,333 | 1,247 | 1,432 | 185 |
| 34 | 1,531 | 1,432 | 1,646 | 214 |
| 35 | 1,760 | 1,646 | 1,891 | 245 |
| 36 | 2,021 | 1,891 | 2,172 | 281 |
| 37 | 2,323 | 2,172 | 2,495 | 323 |
| 38 | 2,667 | 2,495 | 2,865 | 370 |
| 39 | 3,063 | 2,865 | 3,292 | 427 |
| 40 | 3,521 | 3,292 | 3,781 | 490 |
| 41 | 4,042 | 3,781 | 4,341 | 560 |
| 42 | 4,641 | 4,341 | 4,987 | 646 |
| 43 | 5,333 | 4,987 | 5,729 | 742 |
| 44 | 6,125 | 5,729 | 6,581 | 852 |
| 45 | 7,036 | 6,581 | 7,560 | 979 |

VTEM system parameters:

Transmitter Section

- Transmitter coil diameter: 17.6 m
- Number of turns: 4
- Transmitter base frequency: 30 Hz
- Peak current: 253 A
- Pulse width: 3.401 ms
- Duty cycle: 20 %
- Wave form shape: trapezoid
- Peak dipole moment: 246,593 nIA
- Nominal EM Bird terrain clearance: 76 metres above the ground
- Effective coil area: 973 $m^2$

Receiver Section

Z-Coil

- Z-Coil coil diameter: 1.2 m
- Number of turns: 100
- Effective coil area: 113.04 $m^2$

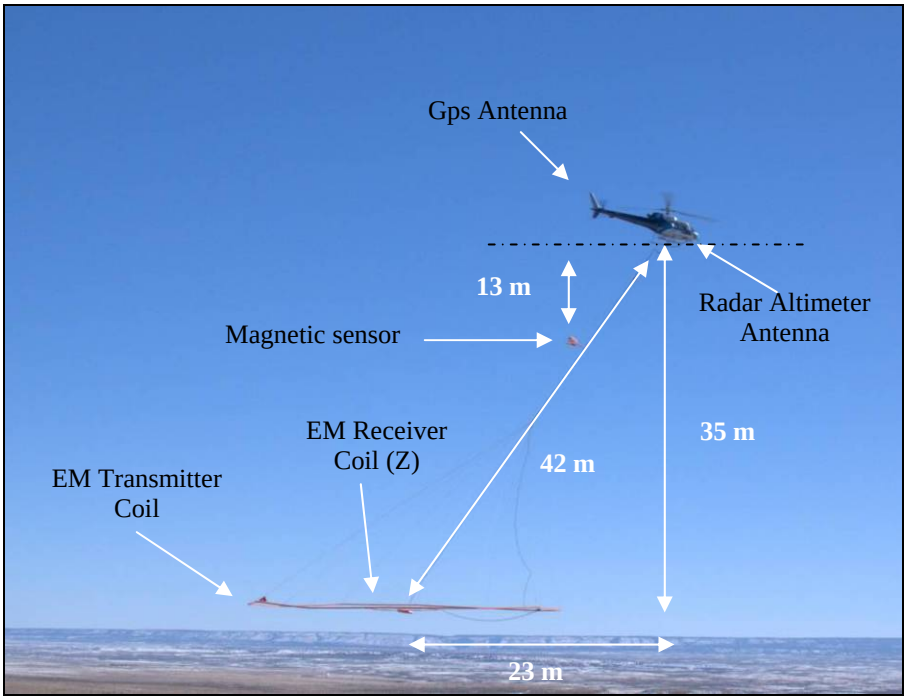


**Figure 6 -** VTEM System Configuration

### 2.4.3 Airborne magnetometer

The magnetic sensor utilized for the survey was Geometrics optically pumped cesium vapour magnetic field sensor mounted 13 metres below the helicopter, as shown in Figure 6. The sensitivity of the magnetic sensor is 0.02 nanoTesla (nT) at a sampling interval of 0.1 seconds.

### 2.4.4 Radar Altimeter

A Terra TRA 3000/TRI 40 radar altimeter was used to record terrain clearance. The antenna was mounted beneath the bubble of the helicopter cockpit (Figure 6).

### 2.4.5 GPS Navigation System

The navigation system used was a Geotech PC104 based navigation system utilizing a NovAtel's CDGPS (Canada-Wide Differential Global Positioning System Correction Service) enable OEM4-G2-3151W GPS receiver, Geotech navigate software, a full screen display with controls in front of the pilot to direct the flight and an NovAtel GPS antenna mounted on the helicopter tail (Figure 6). As many as 11 GPS and two CDGPS satellites may be monitored at any one time. The positional accuracy or circular error probability (CEP) is 1.8 m, with CDGPS active, it is 1.0 m. The co-ordinates of the block were set-up prior to the survey and the information was fed into the airborne navigation system.

### 2.4.6 Digital Acquisition System

A Geotech data acquisition system recorded the digital survey data on an internal compact flash card. Data is displayed on an LCD screen as traces to allow the operator to monitor the integrity of the system. The data type and sampling interval as provided in Table 4.

**Table 4 -** Acquisition Sampling Rates

| DATA TYPE | SAMPLING |
|---|---|
| TDEM | 0.1 sec |
| Magnetometer | 0.1 sec |
| GPS Position | 0.2 sec |
| Radar Altimeter | 0.2 sec |

## 2.5 Base Station

A combined magnetometer/GPS base station was utilized on this project. A Geometrics Cesium vapour magnetometer was used as a magnetic sensor with a sensitivity of 0.001 nT. The base station was recording the magnetic field together with the GPS time at 1 Hz on a base station computer.

The base station magnetometer sensor was installed (64º 02.696'N, 139º 07.085'W); away from electric transmission lines and moving ferrous objects such as motor vehicles. The base station data were backed-up to the data processing computer at the end of each survey day.

# 3. PERSONNEL

The following Geotech Ltd. personnel were involved in the project.

Field:

| | |
|---|---|
| Project Manager: | Darren Tuck (Office) |
| Data QC: | Neil Fiset (Office) |
| Crew chief: | Ioan Serbu |
| Operator: | Jonathan Yantho |

The survey pilot and the mechanical engineer were employed directly by the helicopter operator – Geotech Aviation.

| | |
|---|---|
| Pilot: | Alex Parra |
| Mechanical Engineer: | Trent Tiviotdale |

Office:

| | |
|---|---|
| Preliminary Data Processing: | Neil Fiset |
| Final Data Processing: | Karl Kwan |
| Final Data QC: | Alex Prikhodko |
| Reporting/Mapping: | Corrie Laver |

Data acquisition phase was carried out under the supervision of Andrei Bagrianski, P. Geo, Chief Operations Officer. The processing and interpretation phase was under the supervision of Alexander Prikhodko, P. Geo, Ph.D. The overall contract management and customer relations were by Paolo Berardelli.

# 4. DATA PROCESSING AND PRESENTATION

Data compilation and processing were carried out by the application of Geosoft OASIS Montaj and programs proprietary to Geotech Ltd.

## 4.1 Flight Path

The flight path, recorded by the acquisition program as WGS 84 latitude/longitude, was converted into the NAD83 Datum, UTM Zone 7 North coordinate system in Oasis Montaj.

The flight path was drawn using linear interpolation between x, y positions from the navigation system. Positions are updated every second and expressed as UTM easting's (x) and UTM northing's (y).

## 4.2 Electromagnetic Data

A three stage digital filtering process was used to reject major sferic events and to reduce system noise. Local sferic activity can produce sharp, large amplitude events that cannot be removed by conventional filtering procedures. Smoothing or stacking will reduce their amplitude but leave a broader residual response that can be confused with geological phenomena. To avoid this possibility, a computer algorithm searches out and rejects the major sferic events.

The signal to noise ratio was further improved by the application of a low pass linear digital filter. This filter has zero phase shift which prevents any lag or peak displacement from occurring, and it suppresses only variations with a wavelength less than about 1 second or 15 metres. This filter is a symmetrical 1 sec linear filter.

The results are presented as stacked profiles of EM voltages for the time gates, in linear - logarithmic scale for the B-field Z component and dB/dt responses in the Z. B-field Z component time channel recorded at 0.505 milliseconds after the termination of the impulse is also presented as a color image. Calculated Time Constant (TAU) with anomaly contours of Calculated Vertical Derivative of TMI is presented in Appendix D and F. Tau was calculated using noise level of 0.015 for dB/dt and 0.012 for B-Field. Resistivity Depth Image (RDI) is also presented in Appendix D and G.

VTEM receiver coil orientation Z-axis coil is oriented parallel to the transmitter coil axis and is horizontal to the ground. Generalized modeling results of VTEM data, are shown in Appendix E.

Z component data produce double peak type anomalies for "thin" subvertical targets and single peak for "thick" targets.

The limits and change-over of "thin-thick" depends on dimensions of a TEM system the system's height and depth of a target. For example see Appendix E, Fig.E-16.

Graphical representations of the VTEM transmitter input current and the output voltage of the receiver coil are shown in Appendix C.

## 4.3 Magnetic Data

The processing of the magnetic data involved the correction for diurnal variations by using the digitally recorded ground base station magnetic values. The base station magnetometer data was edited and merged into the Geosoft GDB database on a daily basis. The aeromagnetic data was corrected for diurnal variations by subtracting the observed magnetic base station deviations.

The corrected magnetic data was interpolated between survey lines using a random point gridding method to yield x-y grid values for a standard grid cell size of approximately 25 metres at the mapping scale. The Minimum Curvature algorithm was used to interpolate values onto a rectangular regular spaced grid.

# 5. DELIVERABLES

## 5.1 Survey Report

The survey report describes the data acquisition, processing, and final presentation of the survey results. The survey report is provided in two paper copies and digitally in PDF format.

## 5.2 Maps

Final maps were produced at scale of 1:20,000 for best representation of the survey size and line spacing. The coordinate/projection system used was NAD83 Datum, UTM Zone 7 North. All maps show the mining claims, flight path trace and topographic data; latitude and longitude are also noted on maps.

The preliminary and final results of the survey are presented as EM profiles, a late-time gate gridded EM channel, and a color magnetic TMI contour map. The following maps are presented on paper;

- VTEM dB/dt profiles Z Component, Time Gates 0.220 – 7.036 ms in linear – logarithmic scale.
- VTEM B-Field profiles Z Component, Time Gates 0.220 – 7.036 ms in linear – logarithmic scale.
- VTEM B-Field late time Z Component Channel 26, Time Gate 0.505 ms colour image.
- Reduced-to-Pole of Total Magnetic Intensity (TMI) colour image and contours.
- VTEM dB/dt & B-Field Calculated Time Constant (TAU) with contours of anomaly areas of the Calculated Vertical Derivative of TMI

## 5.3 Digital Data

- Two copies of the data and maps on DVD were prepared to accompany the report. Each DVD contains a digital file of the line data in GDB Geosoft Montaj format as well as the maps in Geosoft Montaj Map and PDF format.

- DVD structure.

| | |
|---|---|
| **Data** | contains databases, grids and maps, as described below. |
| **Report** | contains a copy of the report and appendices in PDF format. |

Databases in Geosoft GDB format, containing the channels listed in Table 5.

**Table 5 -** Geosoft GDB Data Format

| Channel name | Units | Description |
|---|---|---|
| X: | metres | UTM Easting WGS84 Zone 7 North |
| Y: | metres | UTM Northing WGS84 Zone 7 North |
| Z: | metres | GPS antenna elevation (above Geoid) |
| Longitude: | Decimal Degrees | WGS 84 Longitude data |
| Latitude: | Decimal Degrees | WGS 84 Latitude data |
| Radar: | metres | helicopter terrain clearance from radar altimeter |
| Radarb: | metres | Calculated EM bird terrain clearance from radar altimeter |
| DEM: | metres | Digital Elevation Model |
| Gtime: | Seconds of the day | GPS time |
| Mag1: | nT | Raw Total Magnetic field data |
| Basemag: | nT | Magnetic diurnal variation data |
| Mag2: | nT | Diurnal corrected Total Magnetic field data |
| Mag3: | nT | Levelled Total Magnetic field data |
| SFz[14]: | $pV/(A*m^4)$ | Z dB/dt 96 microsecond time channel |
| SFz[15]: | $pV/(A*m^4)$ | Z dB/dt 110 microsecond time channel |
| SFz[16]: | $pV/(A*m^4)$ | Z dB/dt 126 microsecond time channel |
| SFz[17]: | $pV/(A*m^4)$ | Z dB/dt 145 microsecond time channel |
| SFz[18]: | $pV/(A*m^4)$ | Z dB/dt 167 microsecond time channel |
| SFz[19]: | $pV/(A*m^4)$ | Z dB/dt 192 microsecond time channel |
| SFz[20]: | $pV/(A*m^4)$ | Z dB/dt 220 microsecond time channel |
| SFz[21]: | $pV/(A*m^4)$ | Z dB/dt 253 microsecond time channel |
| SFz[22]: | $pV/(A*m^4)$ | Z dB/dt 290 microsecond time channel |
| SFz[23]: | $pV/(A*m^4)$ | Z dB/dt 333 microsecond time channel |
| SFz[24]: | $pV/(A*m^4)$ | Z dB/dt 383 microsecond time channel |
| SFz[25]: | $pV/(A*m^4)$ | Z dB/dt 440 microsecond time channel |
| SFz[26]: | $pV/(A*m^4)$ | Z dB/dt 505 microsecond time channel |
| SFz[27]: | $pV/(A*m^4)$ | Z dB/dt 580 microsecond time channel |
| SFz[28]: | $pV/(A*m^4)$ | Z dB/dt 667 microsecond time channel |
| SFz[29]: | $pV/(A*m^4)$ | Z dB/dt 766 microsecond time channel |
| SFz[30]: | $pV/(A*m^4)$ | Z dB/dt 880 microsecond time channel |
| SFz[31]: | $pV/(A*m^4)$ | Z dB/dt 1010 microsecond time channel |
| SFz[32]: | $pV/(A*m^4)$ | Z dB/dt 1161 microsecond time channel |
| SFz[33]: | $pV/(A*m^4)$ | Z dB/dt 1333 microsecond time channel |
| SFz[34]: | $pV/(A*m^4)$ | Z dB/dt 1531 microsecond time channel |
| SFz[35]: | $pV/(A*m^4)$ | Z dB/dt 1760 microsecond time channel |
| SFz[36]: | $pV/(A*m^4)$ | Z dB/dt 2021 microsecond time channel |
| SFz[37]: | $pV/(A*m^4)$ | Z dB/dt 2323 microsecond time channel |
| SFz[38]: | $pV/(A*m^4)$ | Z dB/dt 2667 microsecond time channel |
| SFz[39]: | $pV/(A*m^4)$ | Z dB/dt 3063 microsecond time channel |
| SFz[40]: | $pV/(A*m^4)$ | Z dB/dt 3521 microsecond time channel |
| SFz[41]: | $pV/(A*m^4)$ | Z dB/dt 4042 microsecond time channel |
| SFz[42]: | $pV/(A*m^4)$ | Z dB/dt 4641 microsecond time channel |
| SFz[43]: | $pV/(A*m^4)$ | Z dB/dt 5333 microsecond time channel |
| SFz[44]: | $pV/(A*m^4)$ | Z dB/dt 6125 microsecond time channel |
| SFz[45]: | $pV/(A*m^4)$ | Z dB/dt 7036 microsecond time channel |
| BFz | $(pV*ms)/(A*m^4)$ | Z B-Field data for time channels 14 to 45 |
| PLM: | | 60 Hz power line monitor |
| CVG | nT/m | Calculated Magnetic Vertical Gradient |
| TauSF | milliseconds | Time Constant (Tau) calculated from dB/dt data |
| TauBF | milliseconds | Time Constant (Tau) calculated from B-Field data |
| Nchan_BF | | Last channel where the Tau algorithm stops calculation, B-Field data |

| Channel name | Units | Description |
|---|---|---|
| Nchan_SF | | Last channel where the Tau algorithm stops calculation, dB/dt data |

Electromagnetic B-field and dB/dt Z component data is found in array channel format between indexes 14 – 45.

- Database of the VTEM Waveform "11292_waveform_final.gdb" in Geosoft GDB format, containing the following channels:

  Time: Sampling rate interval, 5.2083 microseconds
  Rx_Volt: Output voltage of the receiver coil (Volt)
  Tx_Current: Output current of the transmitter (Amp)

  - Grids in Geosoft GRD format, as follows:

    TMI: Total Magnetic Intensity (nT)
    BFz26: B-Field Z Component Channel 26 (Time Gate 0.505 ms)
    TAUSFz: dB/dt Calculated Time Constant (TAU)
    TAUBFz: B-Field Calculated Time Constant (TAU)
    CVG: Calculated Vertical Derivative of TMI (CVG)
    DEM: Digital Elevation Model

    A Geosoft .GRD file has a .GI metadata file associated with it, containing grid projection information. A grid cell size of 25 metres was used.

- Maps at 1:20,000 in Geosoft MAP format, as follows:

  11292_20K_dBdtZ: dB/dt profiles Z Component, Time Gates 0.220 – 7.036 ms in linear – logarithmic scale.
  11292_20K_BfieldZ: B-field profiles Z Component, Time Gates 0.220 – 7.036 ms in linear – logarithmic scale.
  11292_20K_BFz26: B-Field late time Z Component Channel 26, Time Gate 0.505 ms colour image.
  11292_20K_TMI: Total Magnetic Intensity (TMI)
  11292_20K_TauSF: dB/dt Calculated Time Constant (TAU) with contours of anomaly areas of the Calculated Vertical Derivative of TMI

  Maps are also presented in PDF format.

  The topographic data base was derived from 1:50,000 NRC (http://www.geogratis.ca)

- A Google Earth file *11292_Arcus.kml* showing the flight path of the block is included. Free versions of Google Earth software from: http://earth.google.com/download-earth.html

# 6. CONCLUSIONS AND RECOMMENDATIONS

A helicopter-borne versatile time domain electromagnetic (VTEM) geophysical survey has been completed over the Touleary Property near Dawson City, Yukon Territory, Canada

The total area coverage is 68 km$^2$. Total survey line coverage is 756.8 line kilometres. The principal sensors included a Time Domain EM system and a magnetometer. Results have been presented as stacked profiles, and contour color images at a scale of 1:20,000. No formal Interpretation has been included.

The VTEM data from Touleary property show five conductive zones, Z1 to Z5, Figure 7.

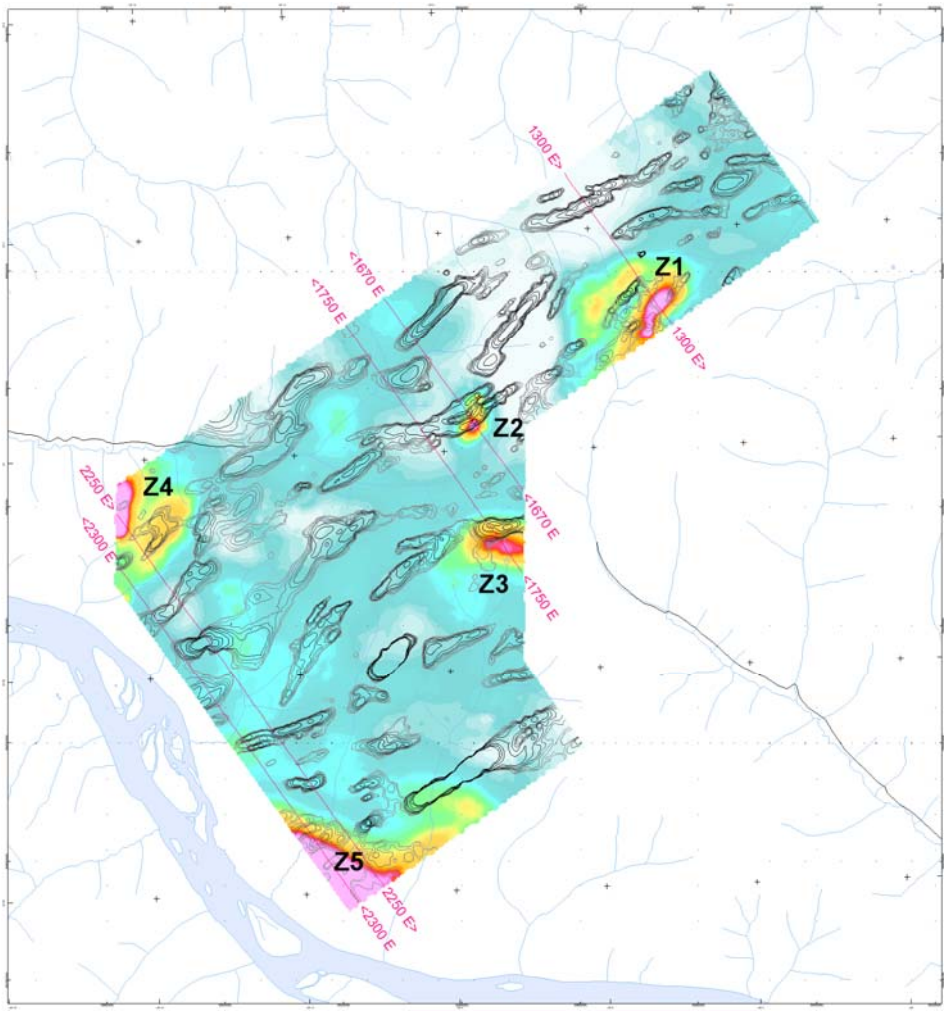


**Figure 7: Time constant TAU (dB/dt), CVG contours, RDI sections overlain geology.**

Five Resistivity Depth Imaging (RDI) sections, from lines 1300, 1670, 1750, 2250 and 2300 are created to display in 2D sectional views of the conductive zones.

L1300 RDI shows a near-vertical conductor (double-peak in dB/dt profiles) centred on Y=6989750, and atop of a ridge. This conductor has very weak co-incident magnetic responses.

A strong, near-vertical conductor at Y=6987500 with strong co-incident magnetic responses is seen in L1670 RDI. This conductor is also located close to the top of a ridge.

The RDI from L1750 shows a strong, sub-vertical conductor centred on Y=5985750 with strong co-incident magnetic responses. The conductor is located just below the top of a ridge.

Two strong conductors at the ends of L2250 are shown in the RDI. Both conductors have little or no magnetic responses. Because VTEM data do not cover the conductors entirely, it is difficult to ascertain the dips of the conductors. The northern conductor sits on relatively elevated grounds.

L2300 RDI shows a near-horizontal conductor at the southern end of the line, with almost full VTEM coverage. The conductor is located in low grounds, and close to a lake, with very weak magnetic responses. All seem to suggest that the sources of the conductor could be conductive clay or lake sediments.

We recommend detailed interpretations of the VTEM and magnetic data, in conjunction with local geology, prior to any ground follow-up or drill testing. The interpretations should include magnetic derivative analysis 2D modeling of the magnetic anomalies, detailed Resistivity Depth Imaging (RDI) sections and Maxwell 2.5D plate modeling of the discrete conductors.

Respectfully submitted[6],



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**Geotech Ltd.**

Karl Kwan
**Geotech Ltd.**

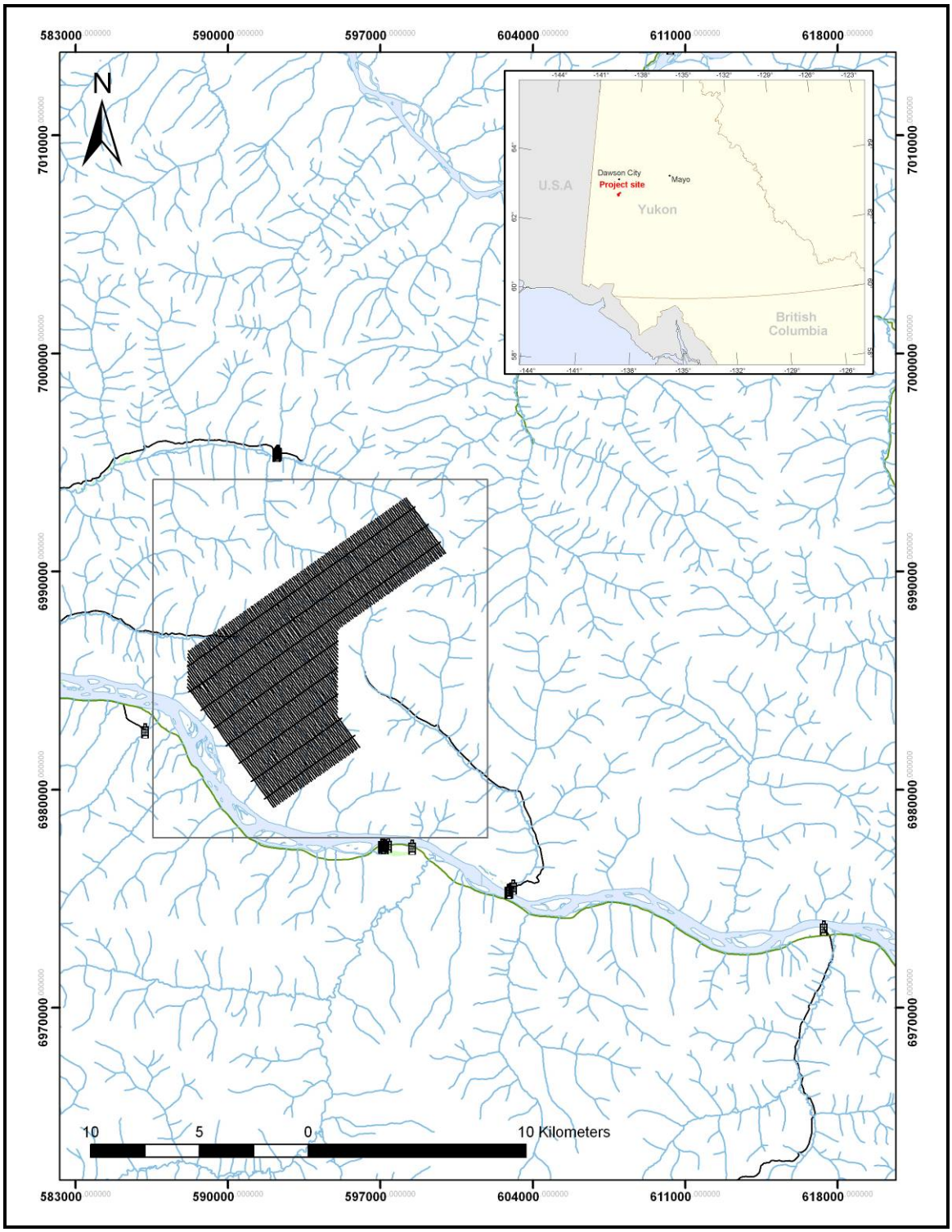
Alexander Prikhodko, P. Geo
**Geotech Ltd.**

October 2011

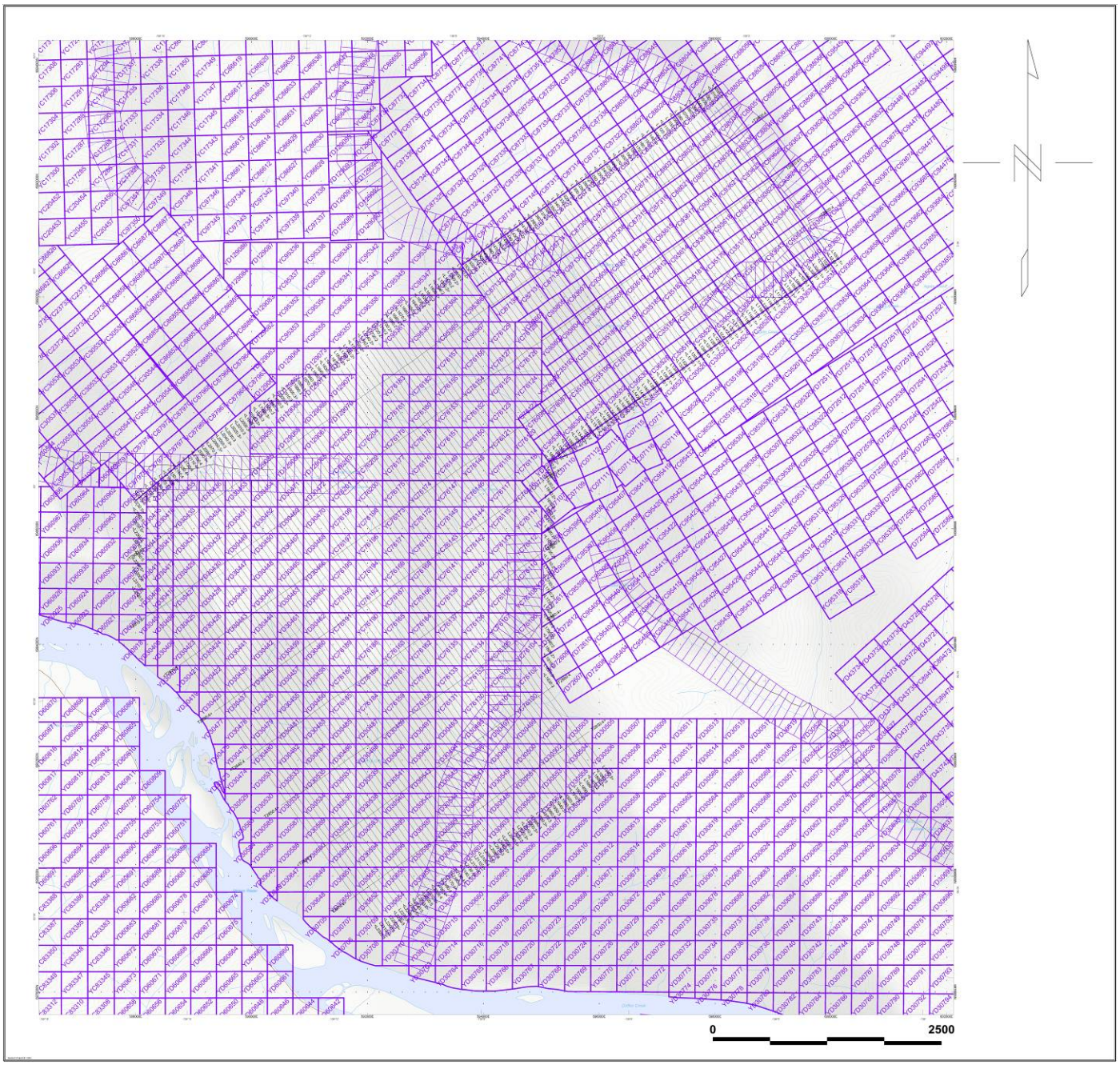
[6]Final data processing of the EM and magnetic data were carried out by Neil Fiset and Karl Kwan, from the office of Geotech Ltd. in Aurora, Ontario, under the supervision of Alexander Prikhodko, P.Geo., PhD, Senior Geophysicist, VTEM Interpretation Supervisor.

# APPENDIX A

## SURVEY BLOCK LOCATION MAP




**Survey Overview of the Block**




**Mining Claims**

# APPENDIX B

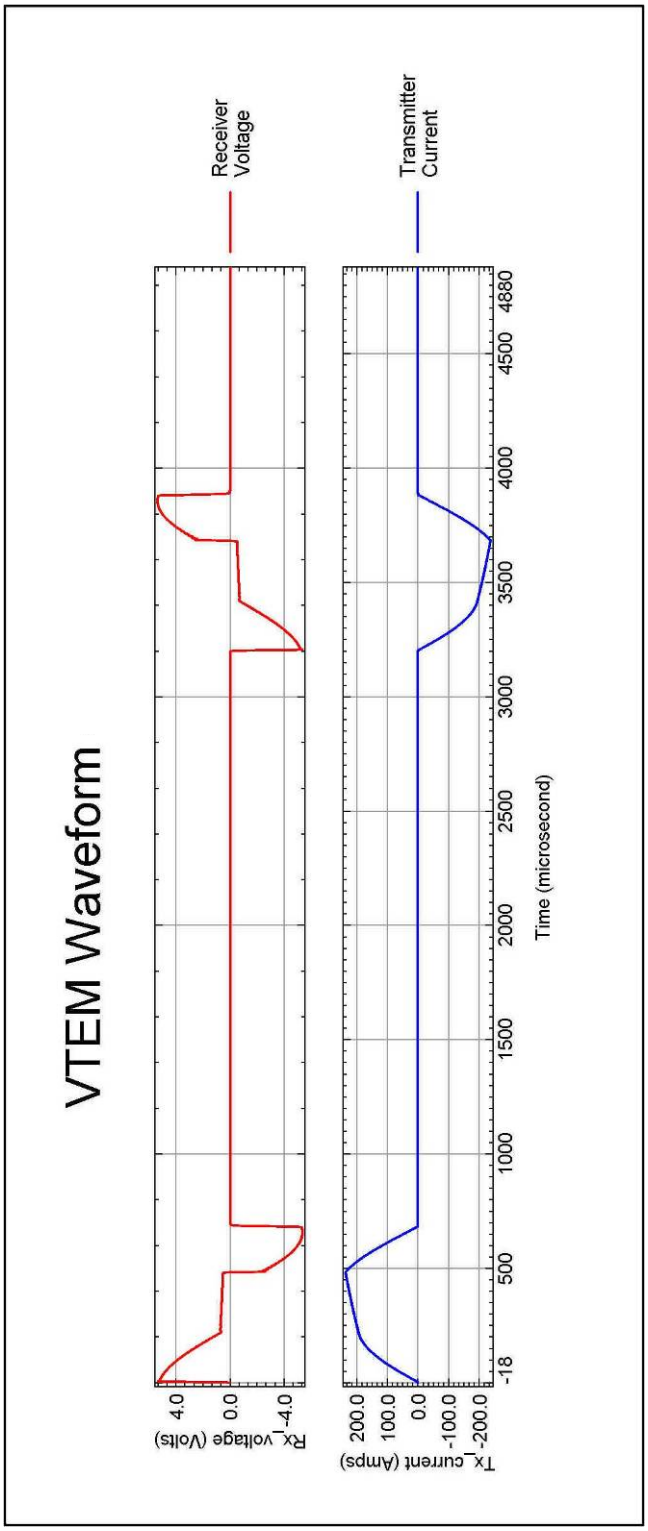
## SURVEY BLOCK COORDINATES

(WGS 84, UTM Zone 7 North)

| X | Y |
|---|---|
| 596060.3 | 6982047 |
| 594982.4 | 6983519 |
| 594994 | 6987413 |
| 599954.7 | 6990902 |
| 598204.5 | 6993348 |
| 588202.1 | 6986289 |
| 588190.5 | 6984585 |
| 592000 | 6979200 |

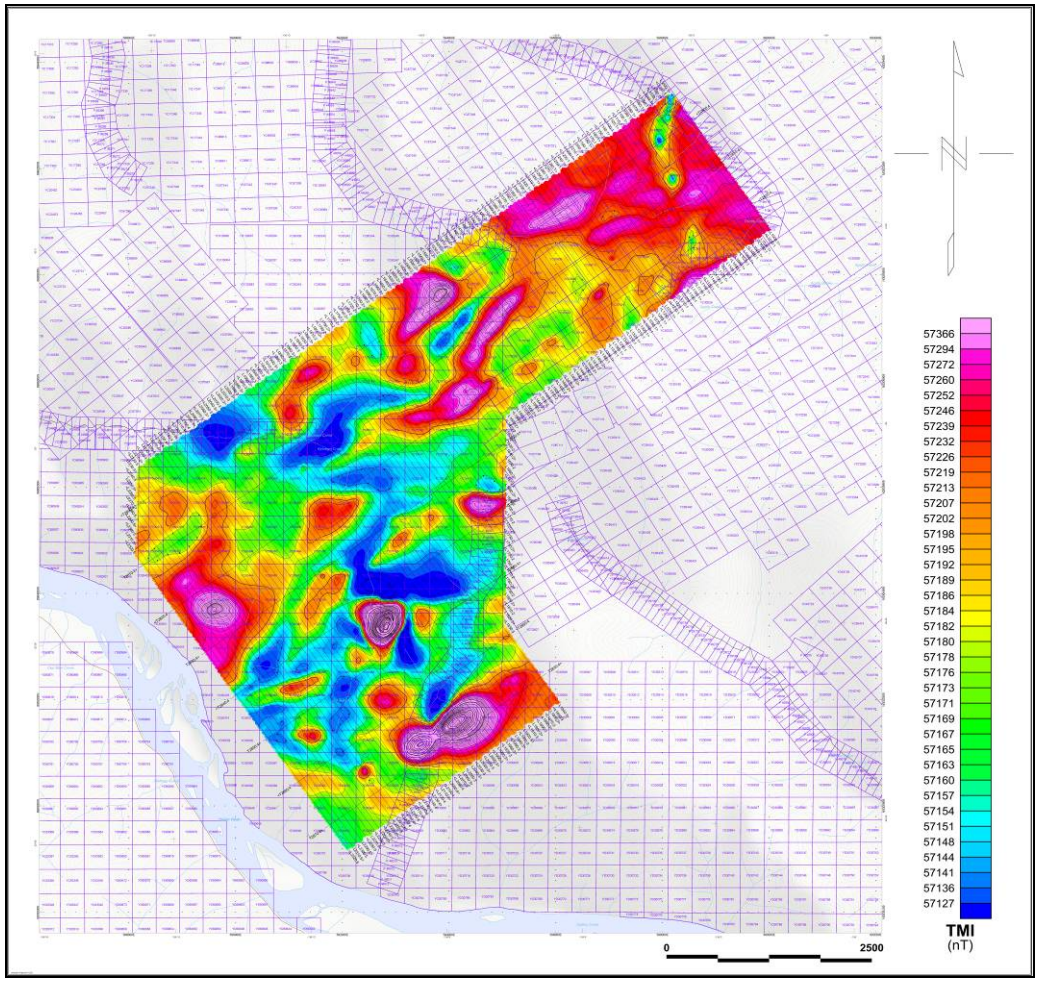
# APPENDIX C

## VTEM WAVEFORM



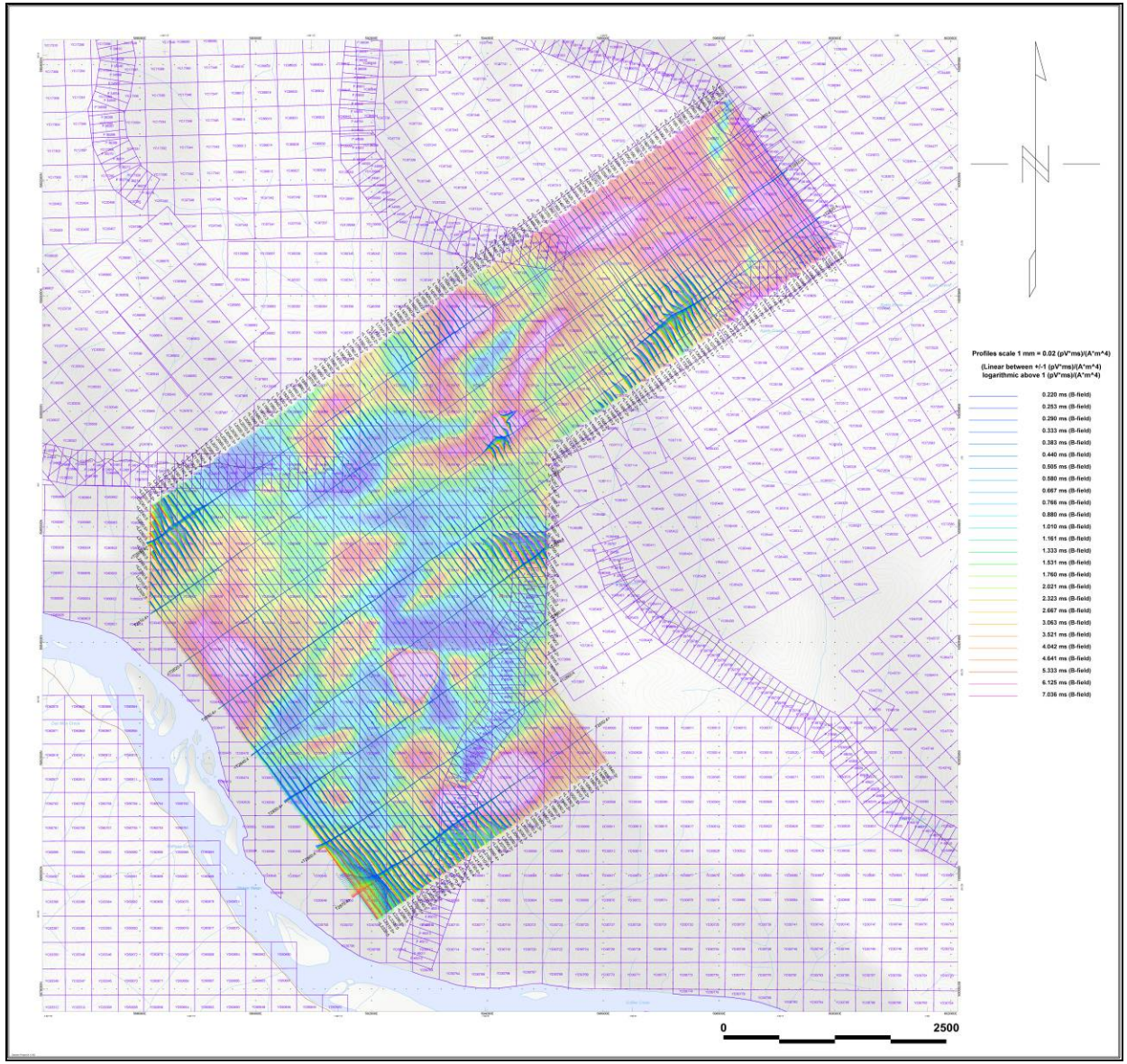
# APPENDIX D

## GEOPHYSICAL MAPS[1]

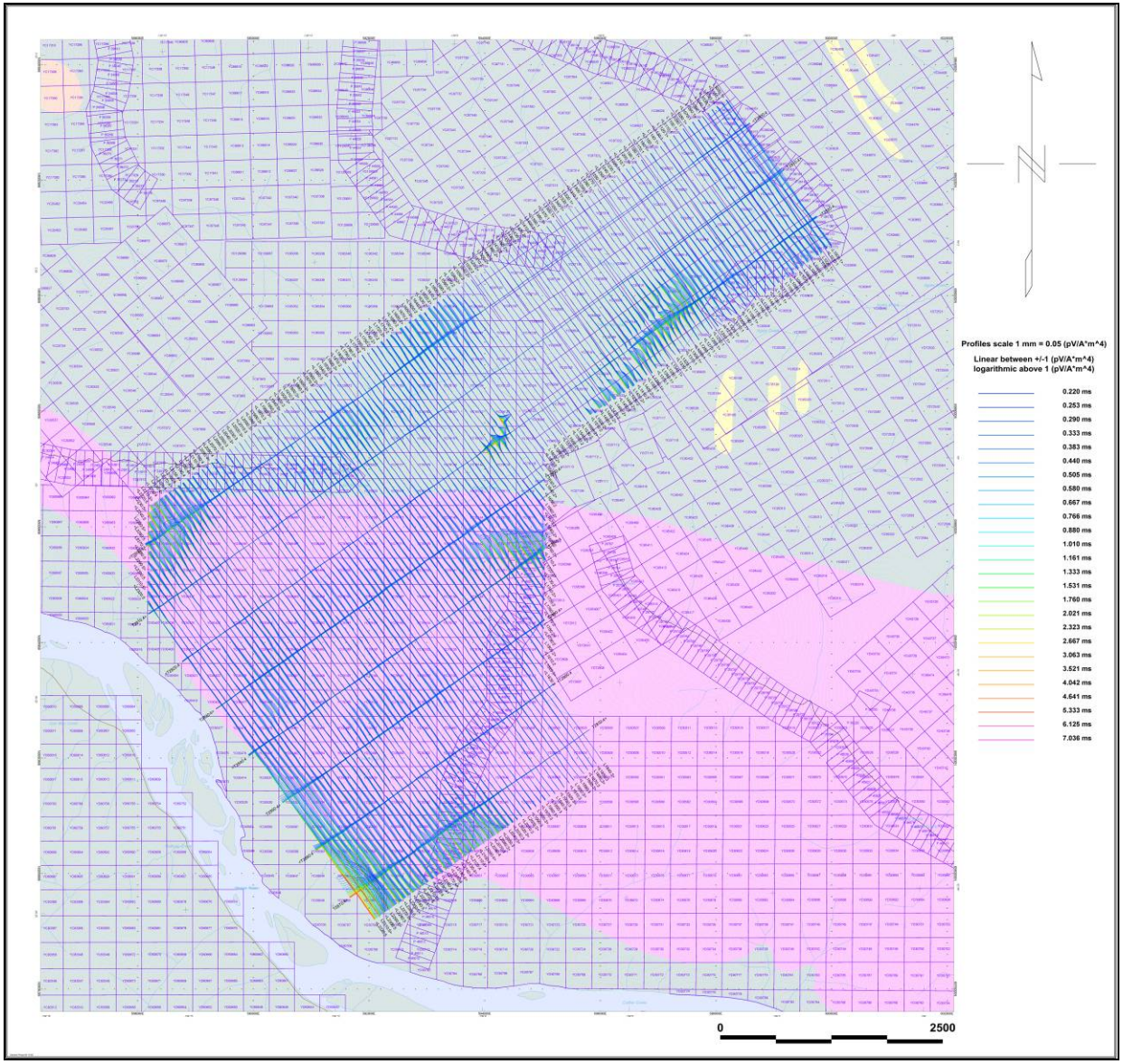



**Total Magnetic Intensity (TMI)**

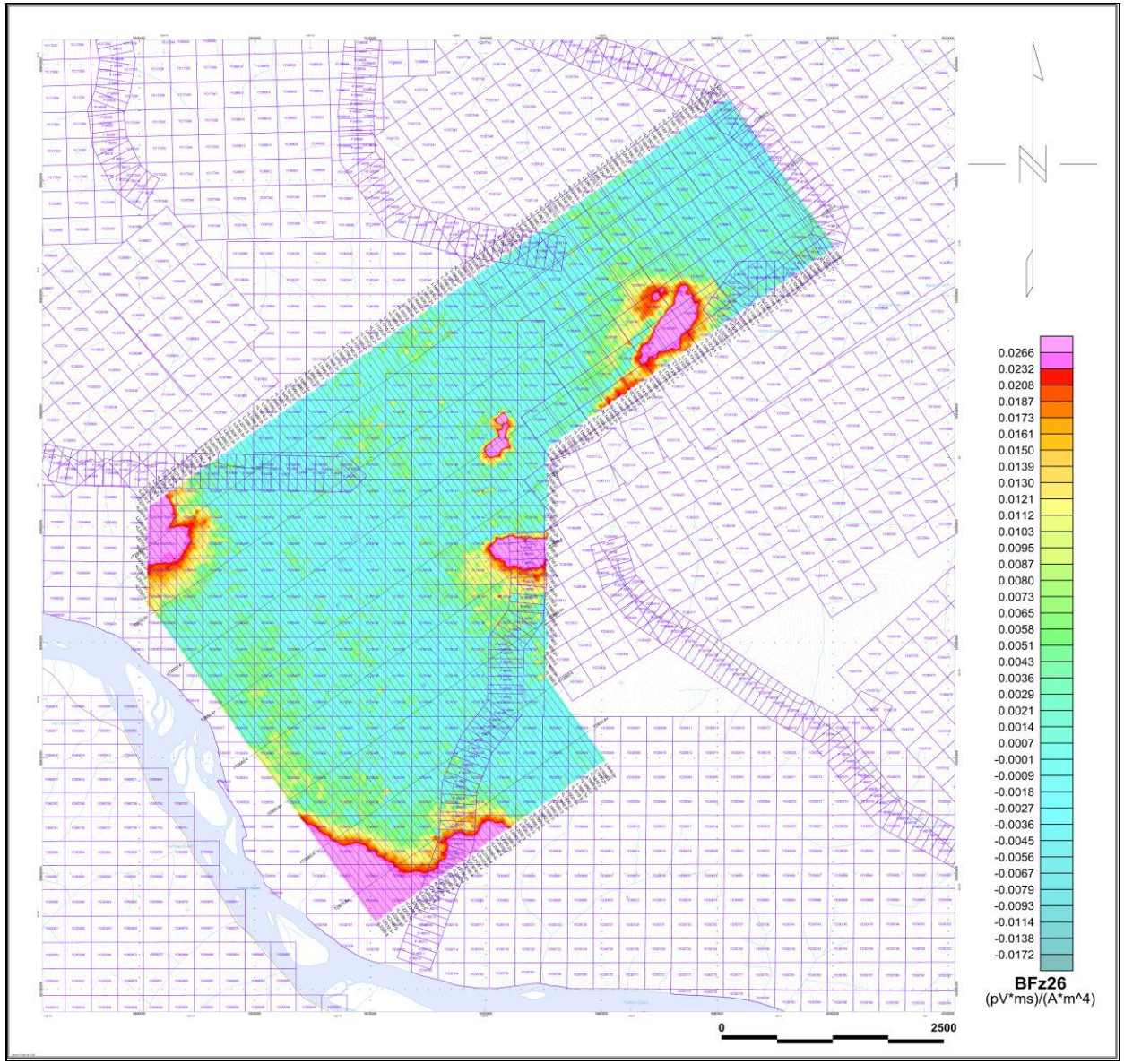
[1] Full size geophysical maps are also available in PDF format on the final DVD



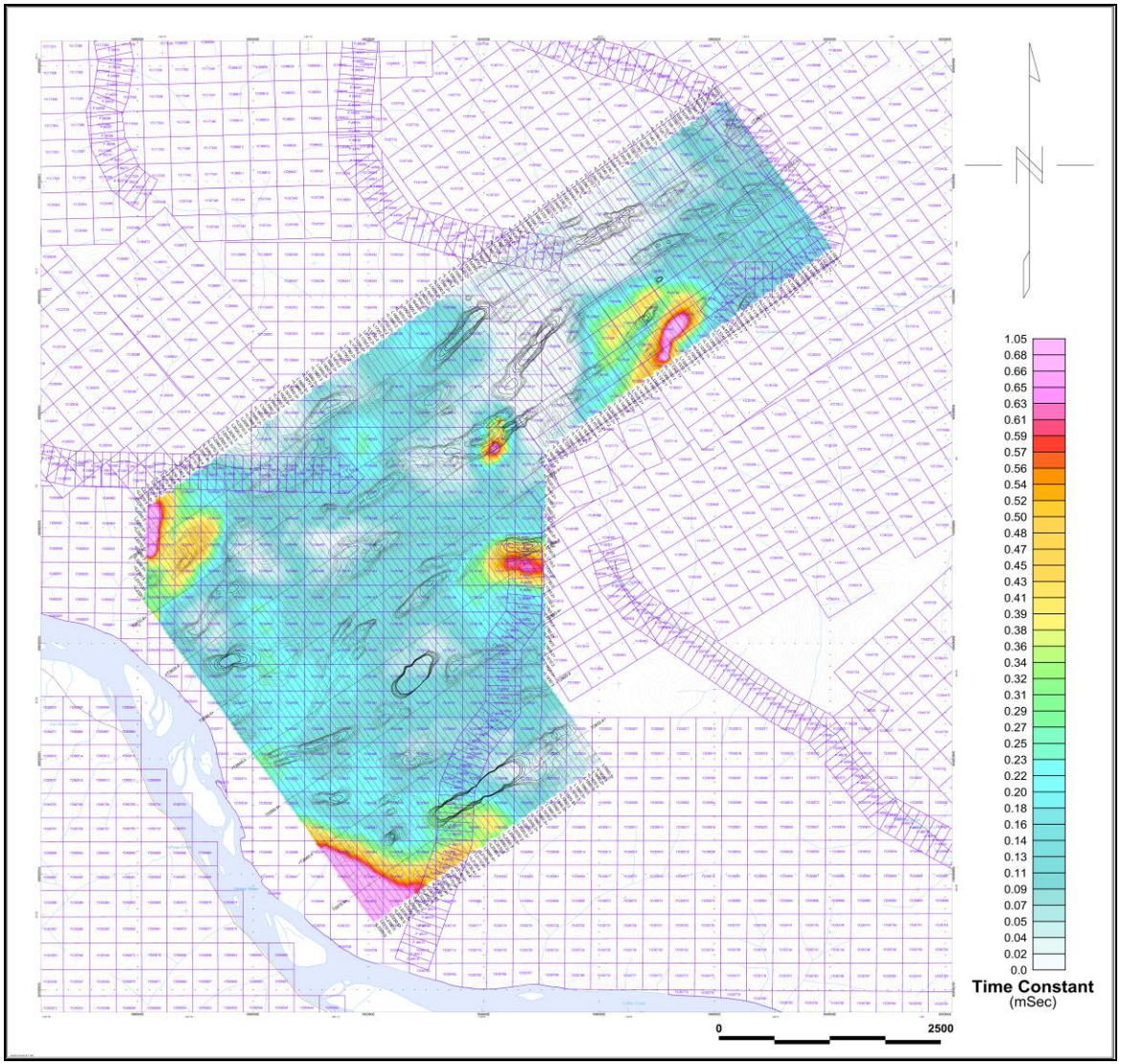

**VTEM B-Field Profiles, Time Gates 0.220 to 7.036 ms**




**VTEM dB/dt Profiles, Time Gates 0.220 to 7.036 ms**

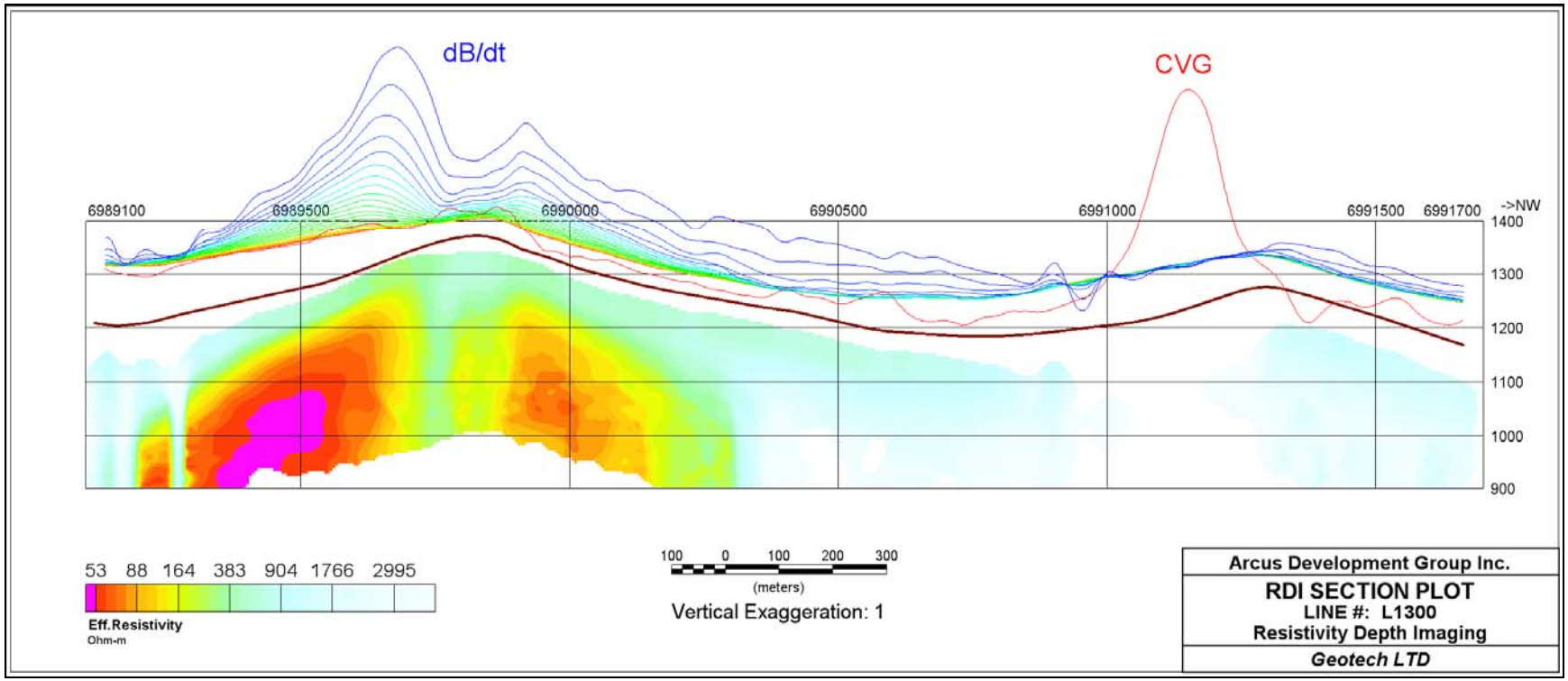



**VTEM B-Field Channel 26, Time Gate 0.505 ms**

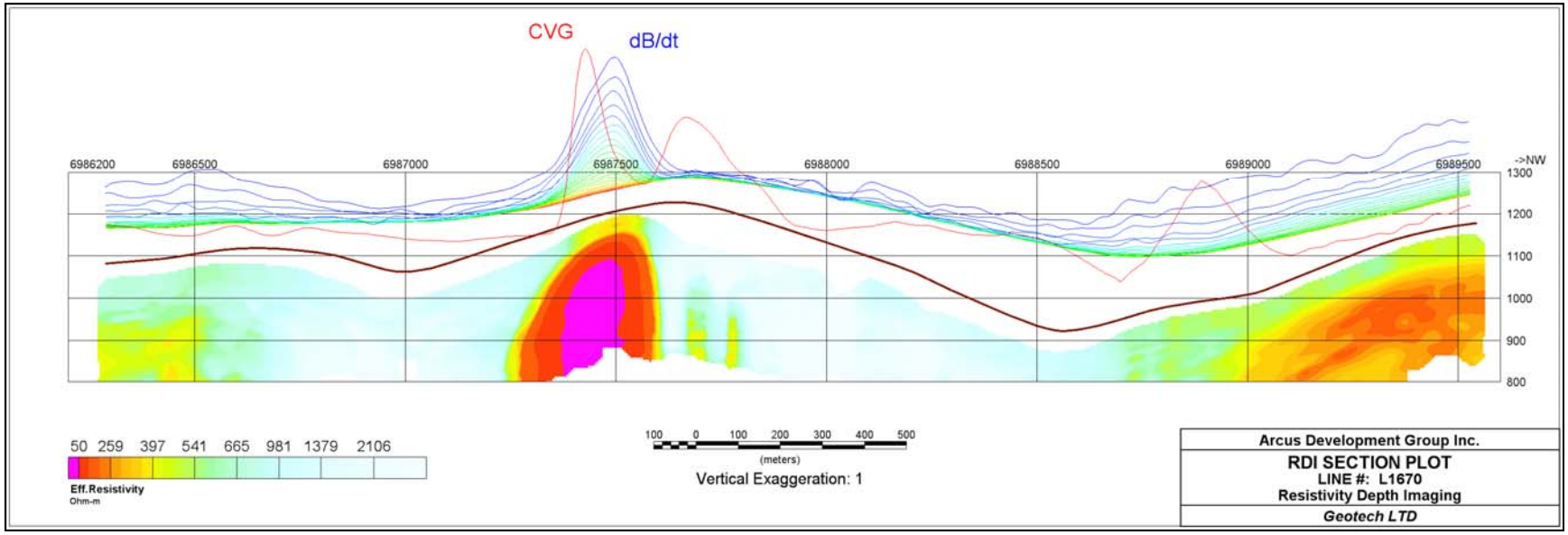



**VTEM dB/dt Calculated Time Constant (TAU) with contours of anomaly areas of the Calculated Vertical Derivative of TMI**

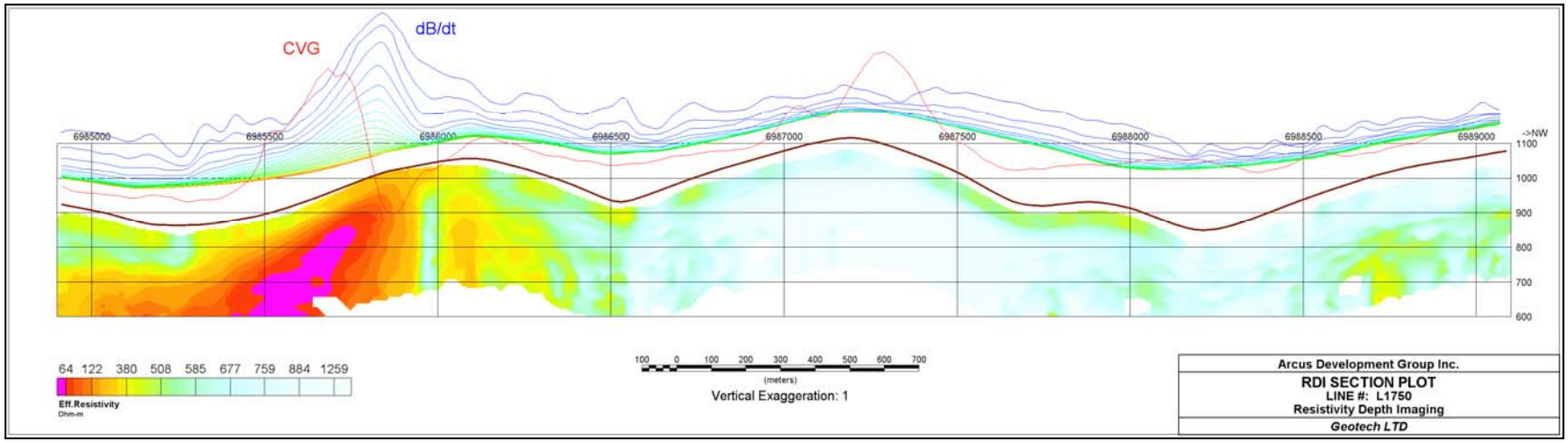
## Resistivity Depth Image (RDI) MAPS



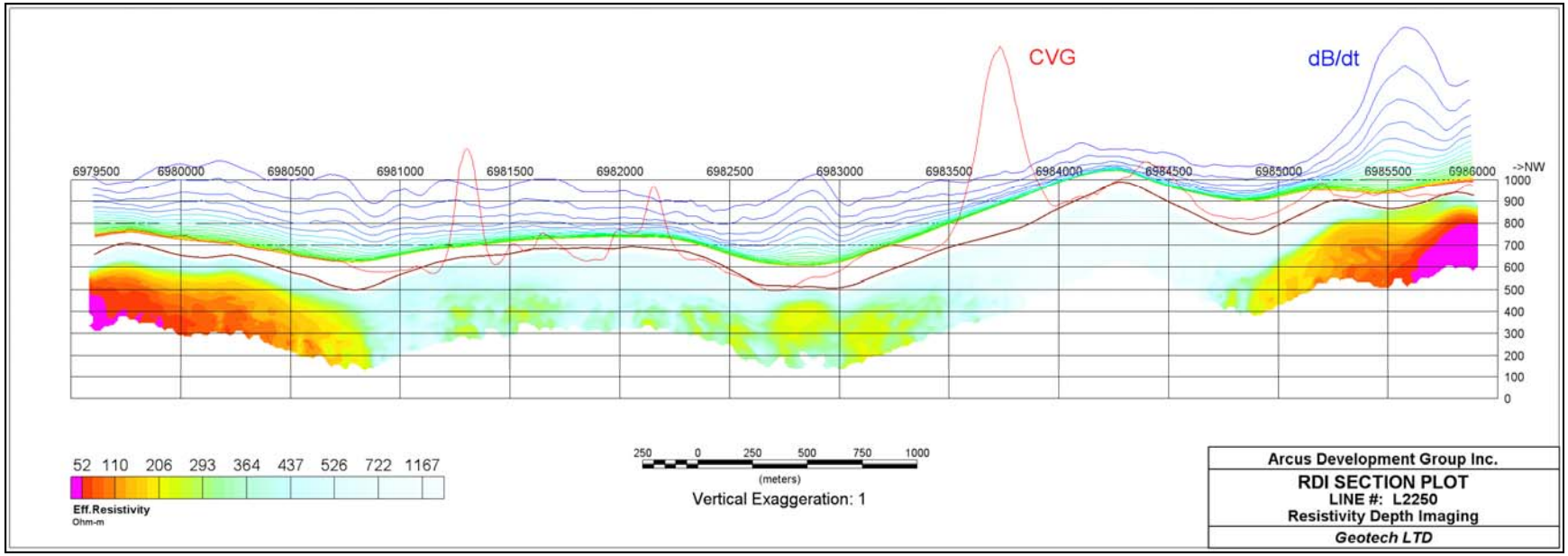

**Line 1300**



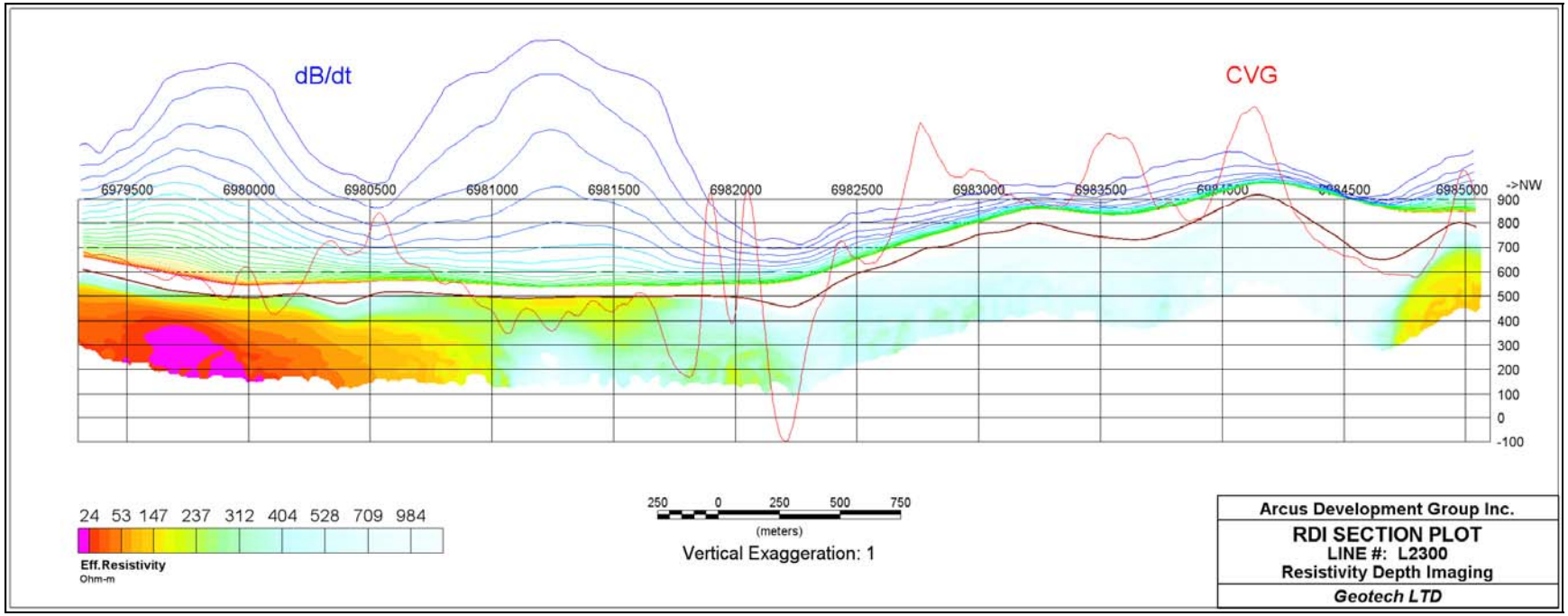

**Line 1670**



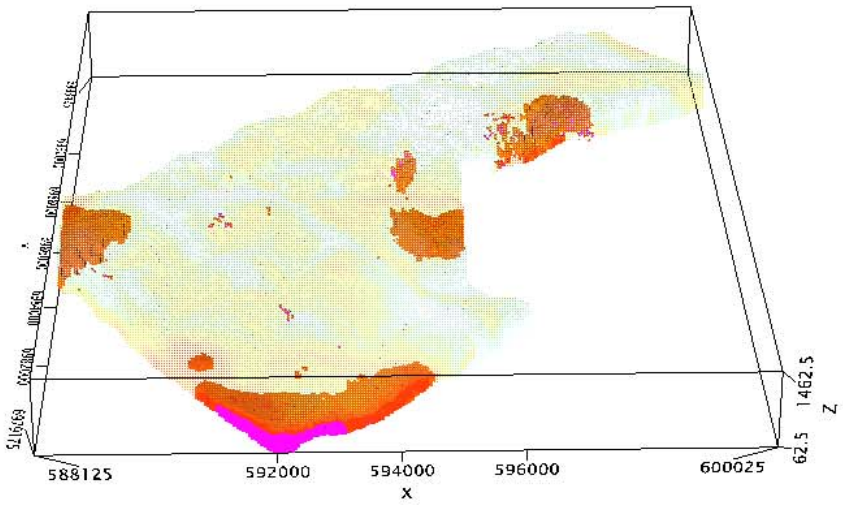

**Line 1750**

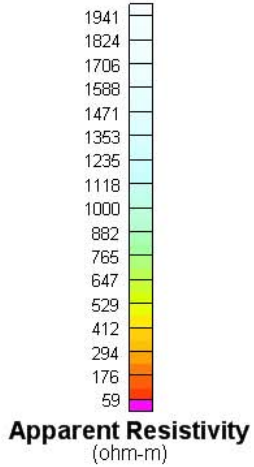

CVG
dB/dt
6979500
6980000
6980500
6981000
6981500
6982000
6982500
6983000
6983500
6984000
6984500
6985000
6985500
6986000
->NW
1000
900
800
700
600
500
400
300
200
100
0
52 110 206 293 364 437 526 722 1167
Eff.Resistivity
Ohm-m
250 0 250 500 750 1000
(meters)
Vertical Exaggeration: 1
Arcus Development Group Inc.
RDI SECTION PLOT
LINE #: L2250
Resistivity Depth Imaging
Geotech LTD

**Line 2250**

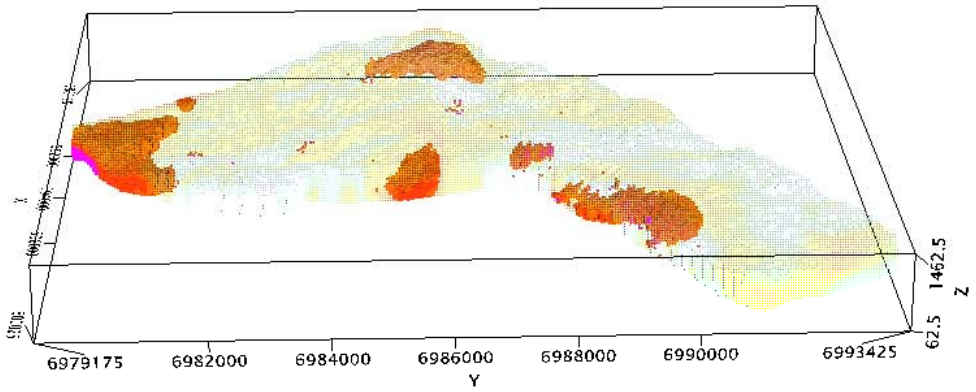

dB/dt
CVG
6979500
6980000
6980500
6981000
6981500
6982000
6982500
6983000
6983500
6984000
6984500
6985000
->NW
900
800
700
600
500
400
300
200
100
0
-100
24 53 147 237 312 404 528 709 984
Eff.Resistivity
Ohm-m
250 0 250 500 750
(meters)
Vertical Exaggeration: 1
Arcus Development Group Inc.
RDI SECTION PLOT
LINE #: L2300
Resistivity Depth Imaging
Geotech LTD

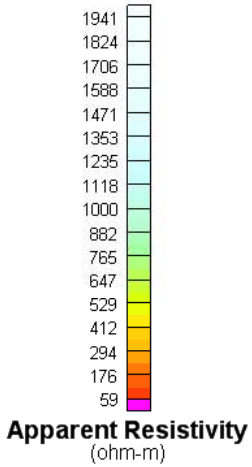
**Line 2300**




**Looking North**




**Looking West**

# APPENDIX E

# GENERALIZED MODELING RESULTS OF THE VTEM SYSTEM

## Introduction

The VTEM system is based on a concentric or central loop design, whereby, the receiver is positioned at the centre of a transmitter loop that produces a primary field. The wave form is a bi-polar, modified square wave with a turn-on and turn-off at each end.

During turn-on and turn-off, a time varying field is produced (dB/dt) and an electro-motive force (emf) is created as a finite impulse response. A current ring around the transmitter loop moves outward and downward as time progresses. When conductive rocks and mineralization are encountered, a secondary field is created by mutual induction and measured by the receiver at the centre of the transmitter loop.

Efficient modeling of the results can be carried out on regularly shaped geometries, thus yielding close approximations to the parameters of the measured targets. The following is a description of a series of common models made for the purpose of promoting a general understanding of the measured results.

A set of models has been produced for the Geotech VTEM® system dB/dT Z and X components (see models E1 to E15). The Maxwell $^{TM}$ modeling program (EMIT Technology Pty. Ltd. Midland, WA, AU) used to generate the following responses assumes a resistive half-space. The reader is encouraged to review these models, so as to get a general understanding of the responses as they apply to survey results. While these models do not begin to cover all possibilities, they give a general perspective on the simple and most commonly encountered anomalies.

As the plate dips and departs from the vertical position, the peaks become asymmetrical.

As the dip increases, the aspect ratio (Min/Max) decreases and this aspect ratio can be used as an empirical guide to dip angles from near 90º to about 30º. The method is not sensitive enough where dips are less than about 30º.

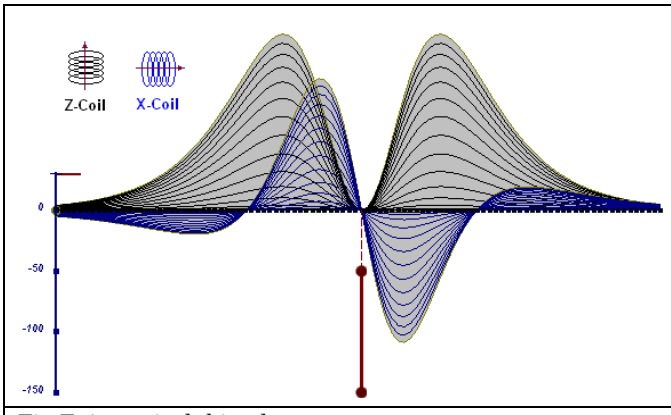



Fig E-1: vertical thin plate

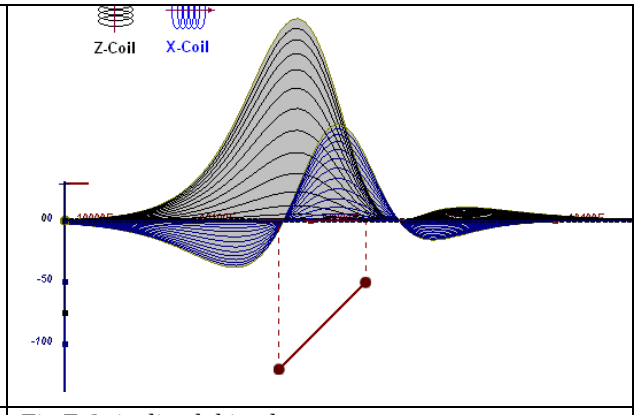



Fig E-2: inclined thin plate

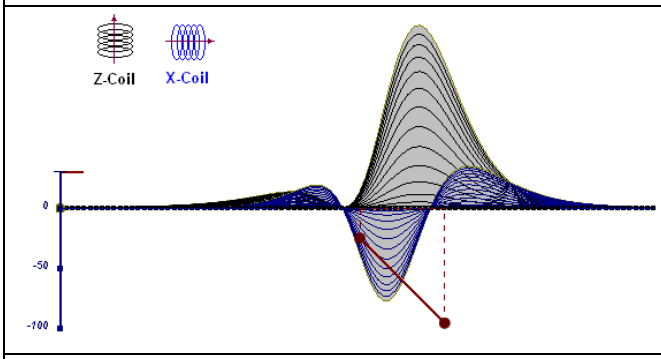



Fig E-3: inclined thin plate

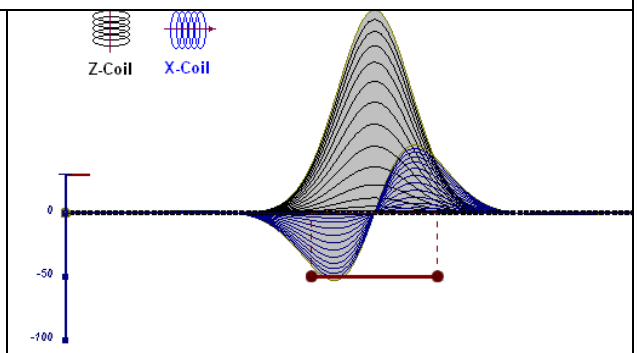



Fig E-4: horizontal thin plate

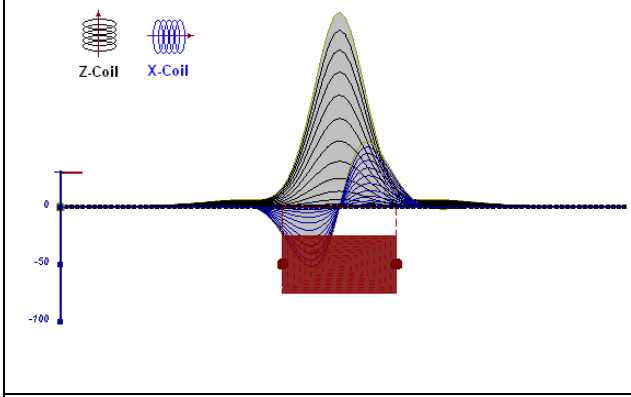



Figure E-5: horizontal thick plate (linear scale of the response)

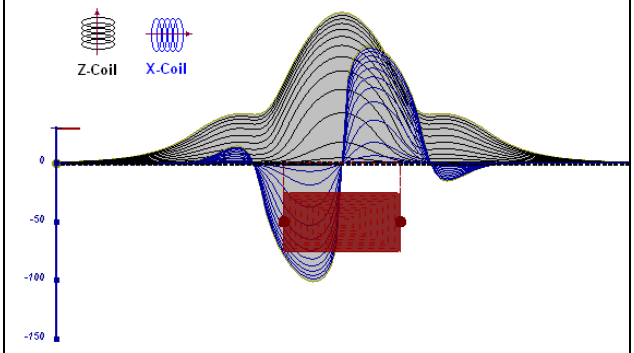



Figure E-6: horizontal thick plate (log scale of the response)

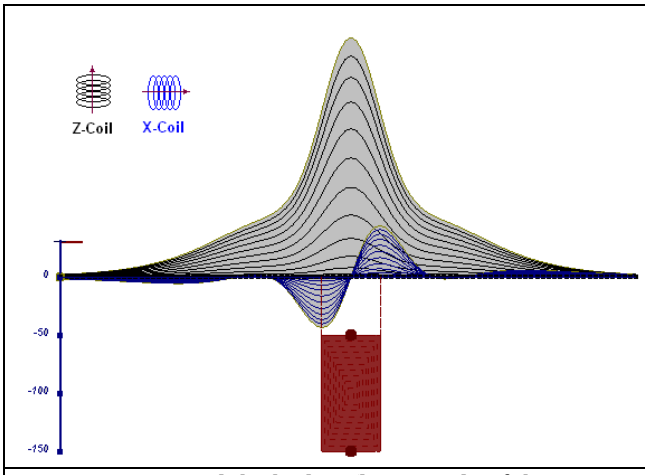



Figure E-7: vertical thick plate (linear scale of the response). 50 m depth

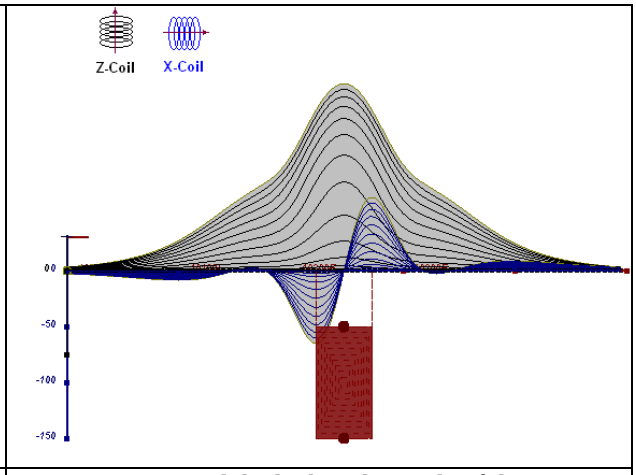



Figure E-8: vertical thick plate (log scale of the response). 50 m depth

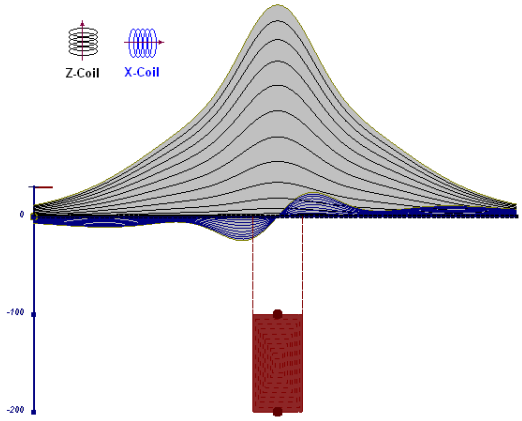



Fig E-9: vertical thick plate (linear scale of the response). 100 m depth

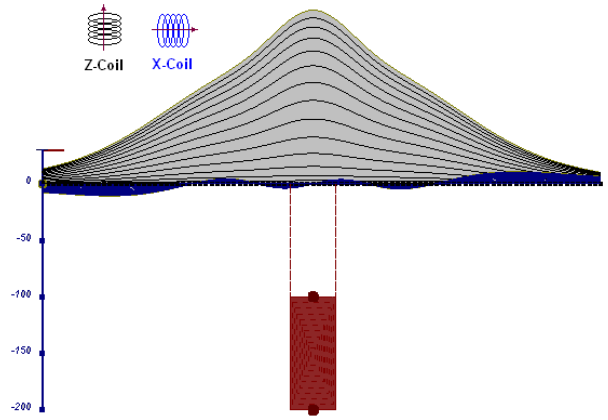



Fig E-10: vertical thick plate (linear scale of the response). Depth/hor.thickness=2.5

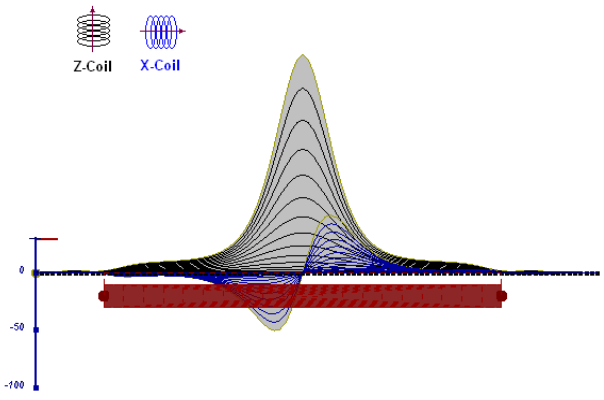



Fig E-10: horizontal thick plate (linear scale of the response)

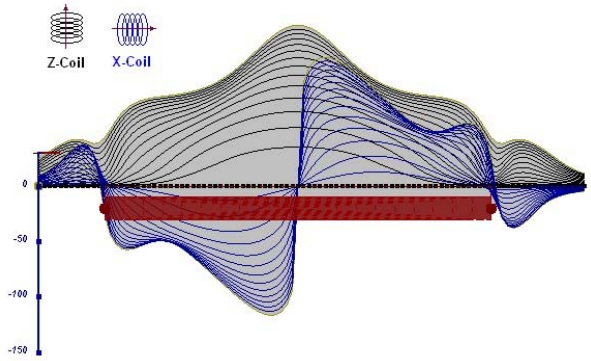



Fig E-11: horizontal thick plate (log scale of the response)

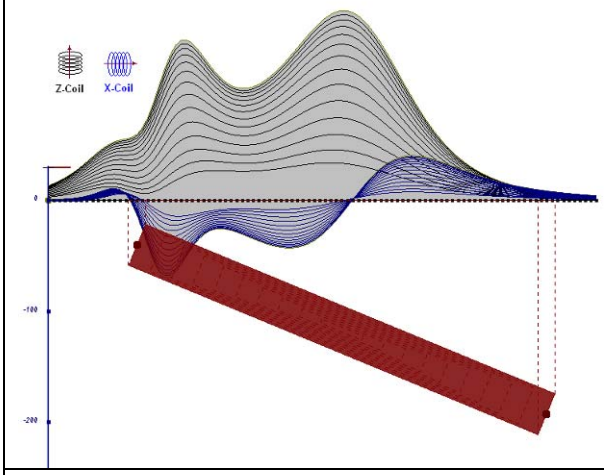



Fig E-12: inclined long thick plate

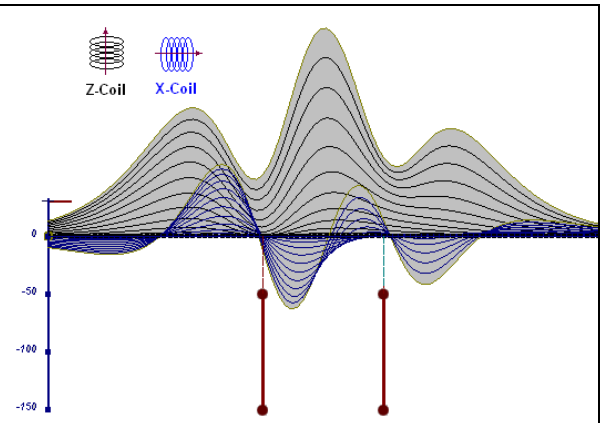



Fig E-13: two vertical thin plates

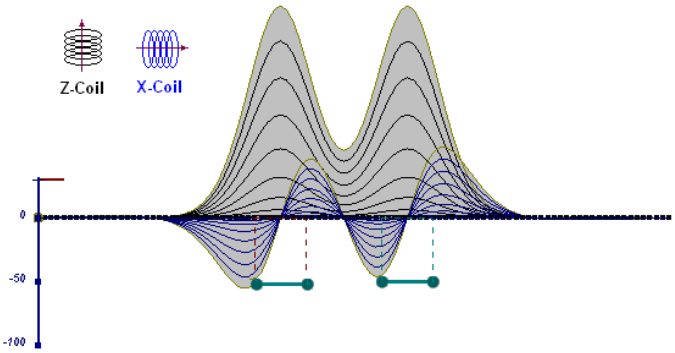



Fig E-14: two horizontal thin plates

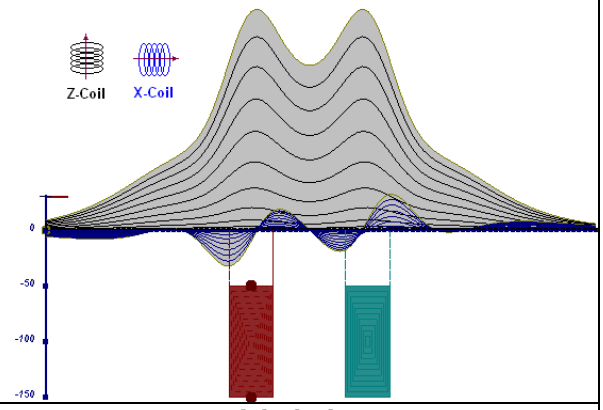
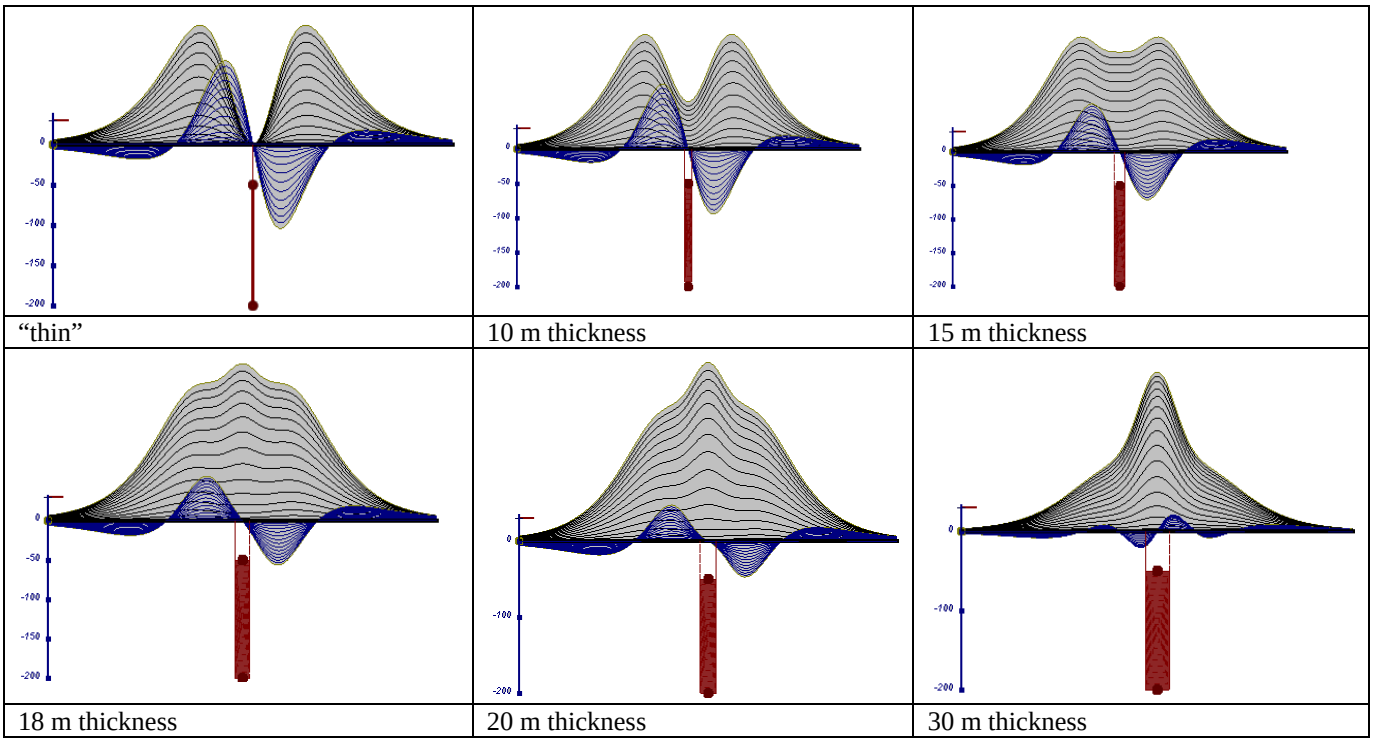



Fig E-15: two vertical thick plates

The same type of target but with different thickness, for example, creates different form of the response:



| | | |
|---|---|---|
| "thin" | 10 m thickness | 15 m thickness |
| 18 m thickness | 20 m thickness | 30 m thickness |

Fig.E-16 Conductive vertical plate, depth 50 m, strike length 200 m, depth extend 150 m.

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September 2010

# APPENDIX F

## EM TIME CONSTANT (TAU) ANALYSIS

Estimation of time constant parameter[1] in transient electromagnetic method is one of the steps toward the extraction of the information about conductances beneath the surface from TEM measurements.

The most reliable method to discriminate or rank conductors from overburden, background or one and other is by calculating the EM field decay time constant (TAU parameter), which directly depends on conductance despite their depth and accordingly amplitude of the response.

### Theory

As established in electromagnetic theory, the magnitude of the electro-motive force (emf ) induced is proportional to the time rate of change of primary magnetic field at the conductor. This emf causes eddy currents to flow in the conductor with a characteristic transient decay, whose Time Constant (Tau) is a function of the conductance of the survey target or conductivity and geometry (including dimensions) of the target. The decaying currents generate a proportional secondary magnetic field, the time rate of change of which is measured by the receiver coil as induced voltage during the Off time.

The receiver coil output voltage ($\mathbf{e_0}$) is proportional to the time rate of change of the secondary magnetic field and has the form,

$$e_0 \alpha (1 / \tau) e^{-(t / \tau)}$$

Where,

$\tau$ = L/R is the characteristic time constant of the target (TAU)
R = resistance
L = inductance

From the expression, conductive targets that have small value of resistance and hence large value of $\tau$ yield signals with small initial amplitude that decays relatively slowly with progress of time. Conversely, signals from poorly conducting targets that have large resistance value and small$\tau$, have high initial amplitude but decay rapidly with time[1] (Fig. F1).

[1] McNeill, JD, 1980, "Applications of Transient Electromagnetic Techniques", Technical Note TN-7 page 5, Geonics Limited, Mississauga, Ontario.

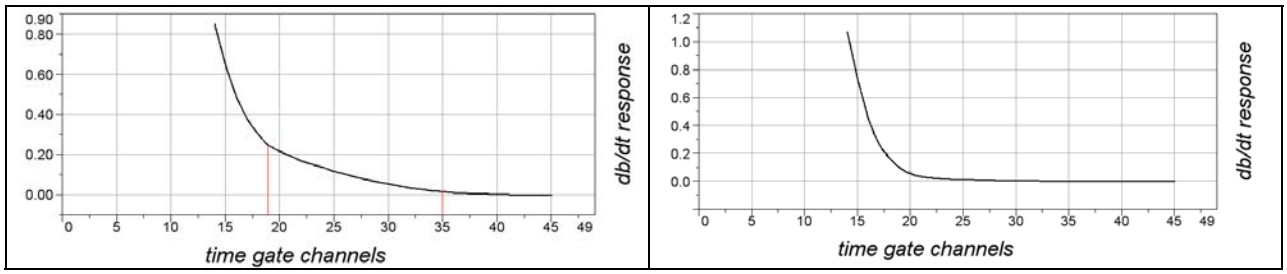


**Figure F1** Left – presence of good conductor, right – poor conductor.

## EM Time Constant (Tau) Calculation

The EM Time-Constant (TAU) is a general measure of the speed of decay of the electromagnetic response and indicates the presence of eddy currents in conductive sources as well as reflecting the "conductance quality" of a source. Although TAU can be calculated using either the measured dB/dt decay or the calculated B-field decay, dB/dt is commonly preferred due to better stability (S/N) relating to signal noise. Generally, TAU calculated on base of early time response reflects both near surface overburden and poor conductors whereas, in the late ranges of time, deep and more conductive sources, respectively. For example early time TAU distribution in an area that indicates conductive overburden is shown in Figure 2.

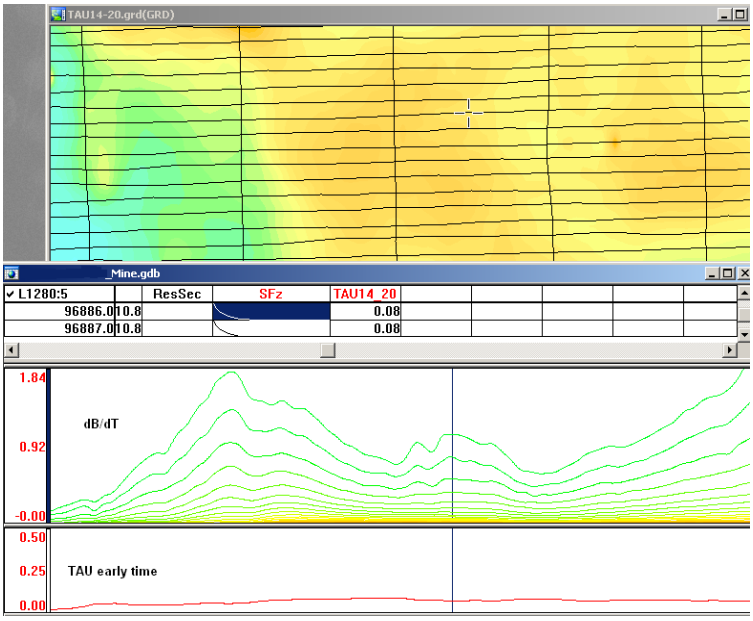


**Figure F2 –** Map of early time TAU. Area with overburden conductive layer and local sources.

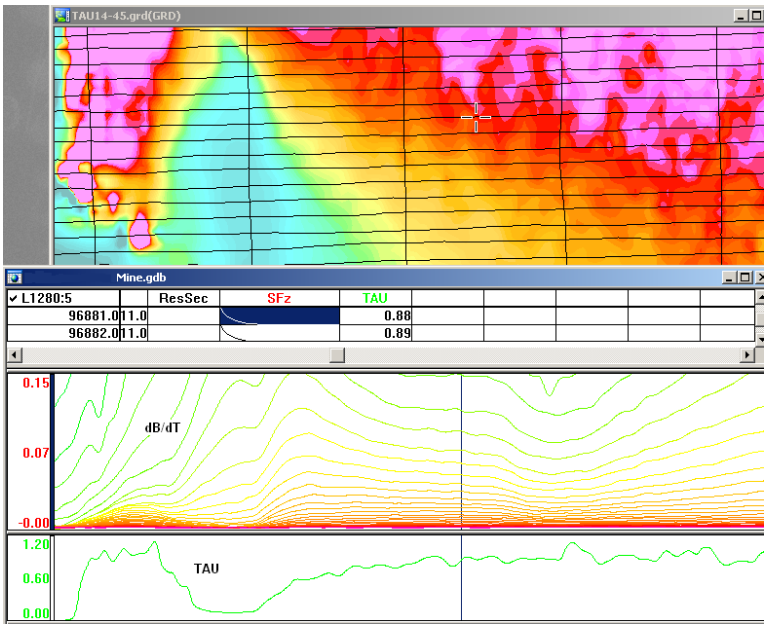


**Figure F3 –** Map of full time range TAU with EM anomaly due to deep highly conductive target.

There are many advantages of TAU maps:

- TAU depends only on one parameter (conductance) in contrast to response magnitude;
- TAU is integral parameter, which covers time range and all conductive zones and targets are displayed independently of their depth and conductivity on a single map.
- Very good differential resolution in complex conductive places with many sources with different conductivity.
- Signs of the presence of good conductive targets are amplified and emphasized independently of their depth and level of response accordingly.

In the example shown in Figure 4 and 5, three local targets are defined, each of them with a different depth of burial, as indicated on the resistivity depth image (RDI). All are very good conductors but the deeper target (number 2) has a relatively weak dB/dt signal yet also features the strongest total TAU (Figure 4). This example highlights the benefit of TAU analysis in terms of an additional target discrimination tool.

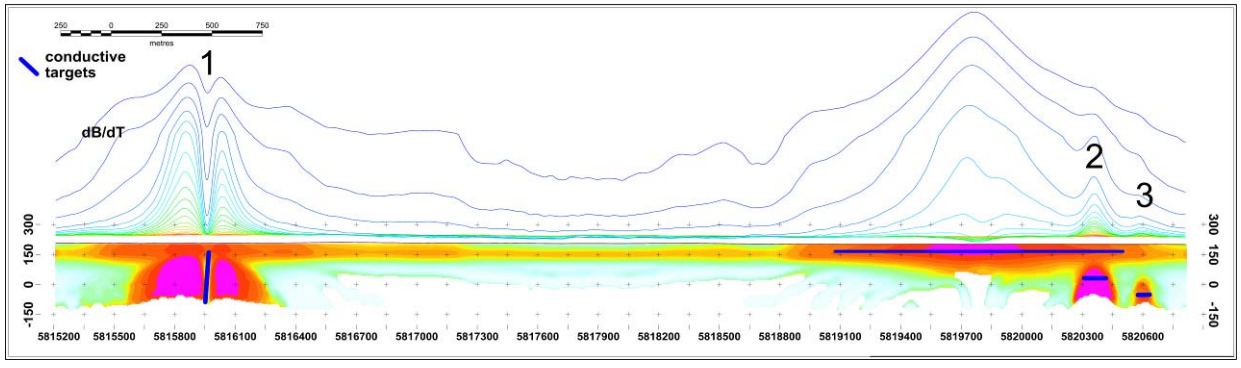


**Figure F4 –** dB/dt profile and RDI with different depths of targets.

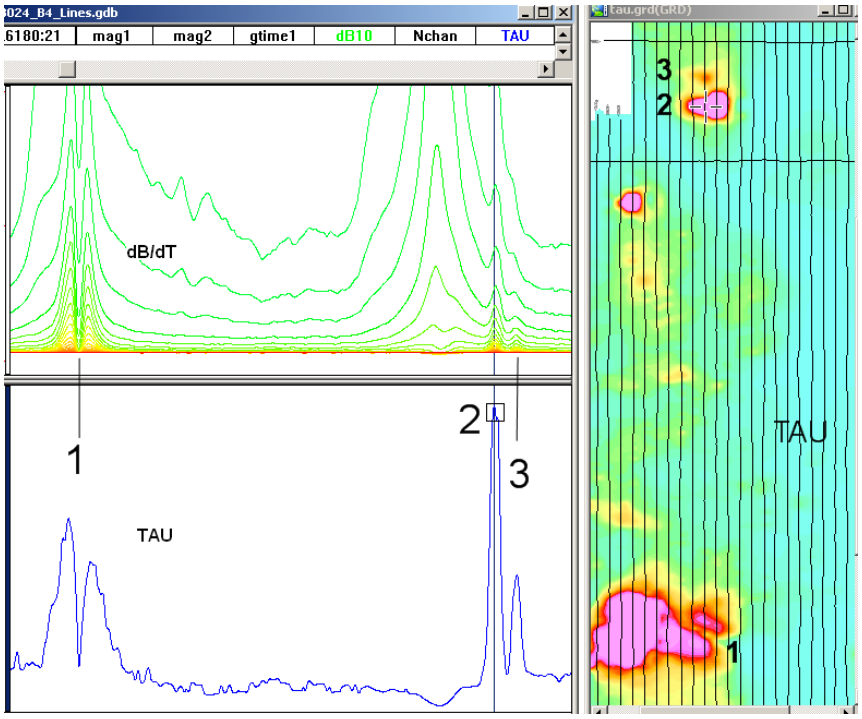


**Figure F5** – Map of total TAU and dB/dt profile.

The EM Time Constants for dB/dt and B-field were calculated using the "sliding Tau" in-house program developed at Geotech2. The principle of the calculation is based on using of time window (4 time channels) which is sliding along the curve decay and looking for latest time channels which have a response above the level of noise and decay. The EM decays are obtained from all available decay channels, starting at the latest channel. Time constants are taken from a least square fit of a straight-line (log/linear space) over the last 4 gates above a pre-set signal threshold level (Figure F6). Threshold settings are pointed in the "label" property of TAU database channels. The sliding Tau method determines that, as the amplitudes increase, the time-constant is taken at progressively later times in the EM decay. Conversely, as the amplitudes decrease, Tau is taken at progressively earlier times in the decay. If the maximum signal amplitude falls below the threshold, or becomes negative for any of the 4 time gates, then Tau is not calculated and is assigned a value of "dummy" by default.

[2] by A.Prikhodko

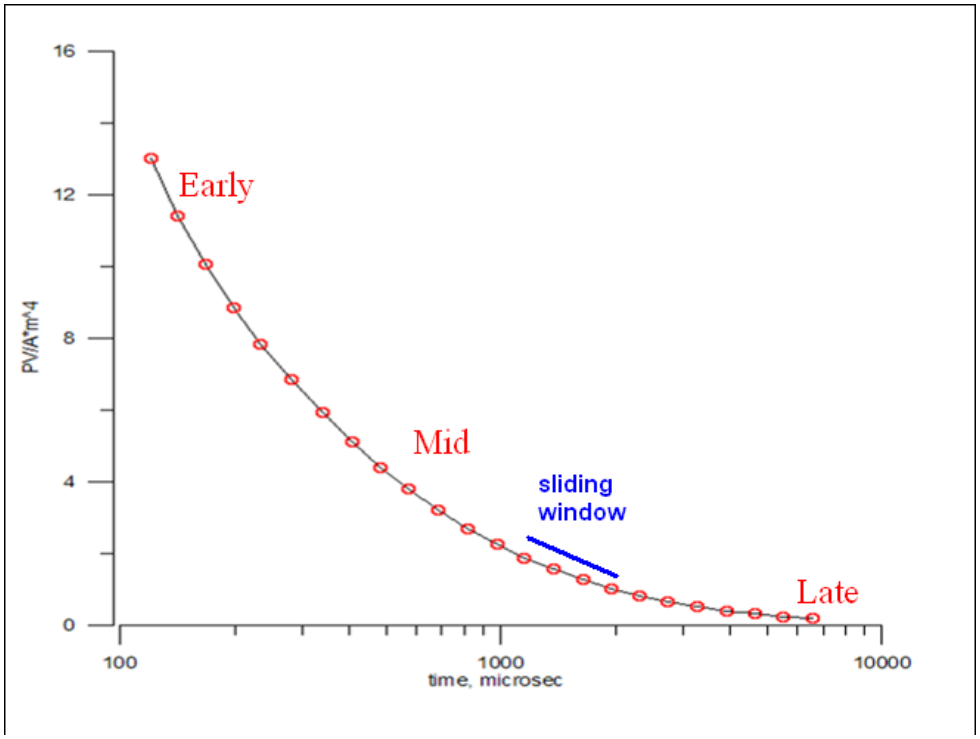


**Figure F6 -** Typical dB/dt decays of Vtem data

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September 2010

# APPENDIX G

## TEM Resistivity Depth Imaging (RDI)

Resistivity depth imaging (RDI) is technique used to rapidly convert EM profile decay data into an equivalent resistivity versus depth cross-section, by deconvolving the measured TEM data.
The used RDI algorithm of Resistivity-Depth transformation is based on scheme of the apparent resistivity transform of Maxwell A.Meju (1998)[1] and TEM response from conductive half-space. The program is developed by Alexander Prikhodko and depth calibrated based on forward plate modeling for VTEM system configuration (Fig. 1-10).

RDIs provide reasonable indications of conductor relative depth and vertical extent, as well as accurate 1D layered-earth apparent conductivity/resistivity structure across VTEM flight lines. Approximate depth of investigation of a TEM system, image of secondary field distribution in half space, effective resistivity, initial geometry and position of conductive targets is the information obtained on base of the RDIs.

**Maxwell forward modeling with RDI sections from the synthetic responses (VTEM system)**

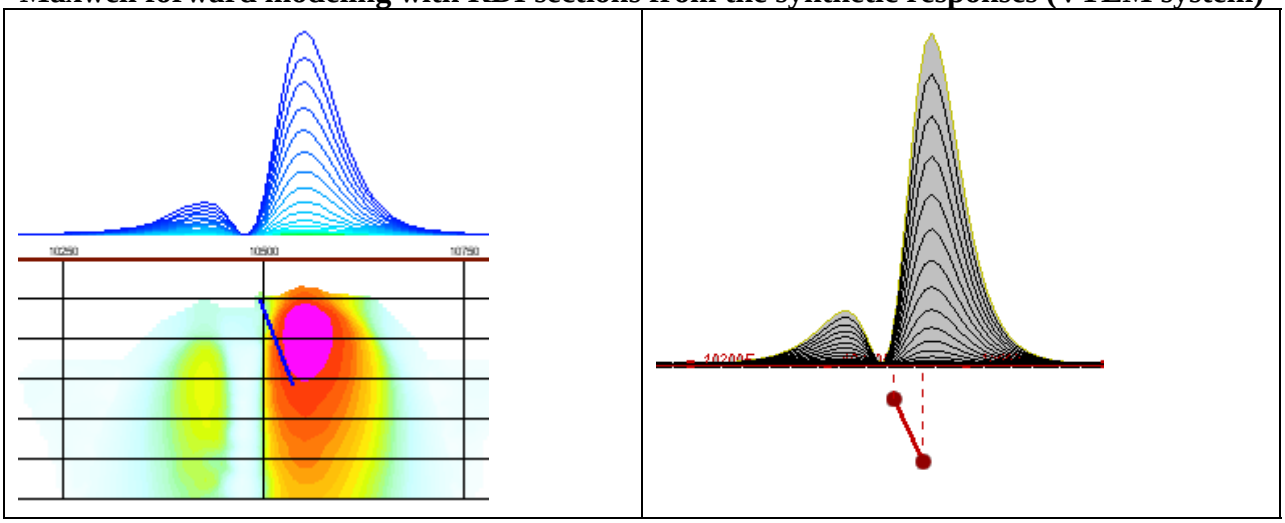


**Fig. 1** Maxwell plate model and RDI from the calculated response for conductive “thin” plate (depth 50 m, dip 65 degree, depth extend 100 m).

[1] Maxwell A.Meju, 1998, Short Note: A simple method of transient electromagnetic data analysis, Geophysics, **63**, 405–410.

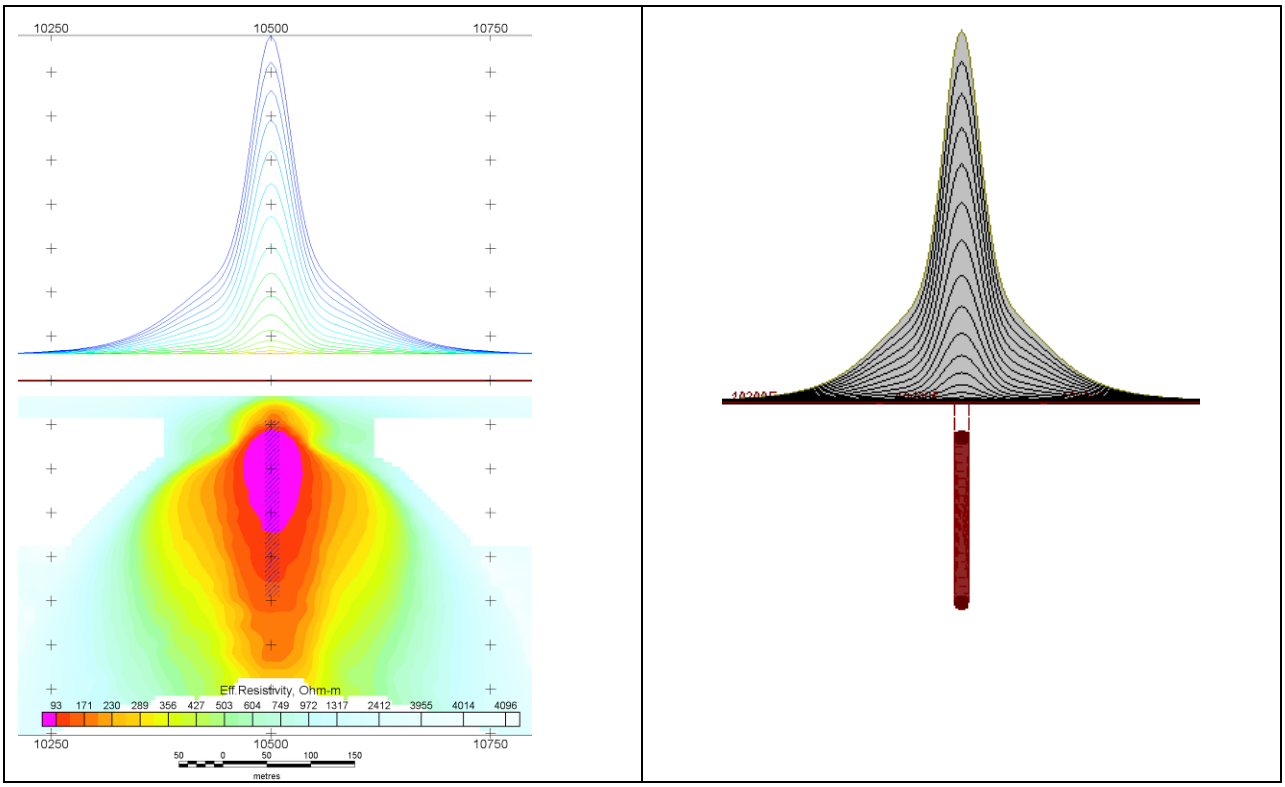



**Fig. 2** Maxwell plate model and RDI from the calculated response for "thick" plate 18 m thickness, depth 50 m, depth extend 200 m).

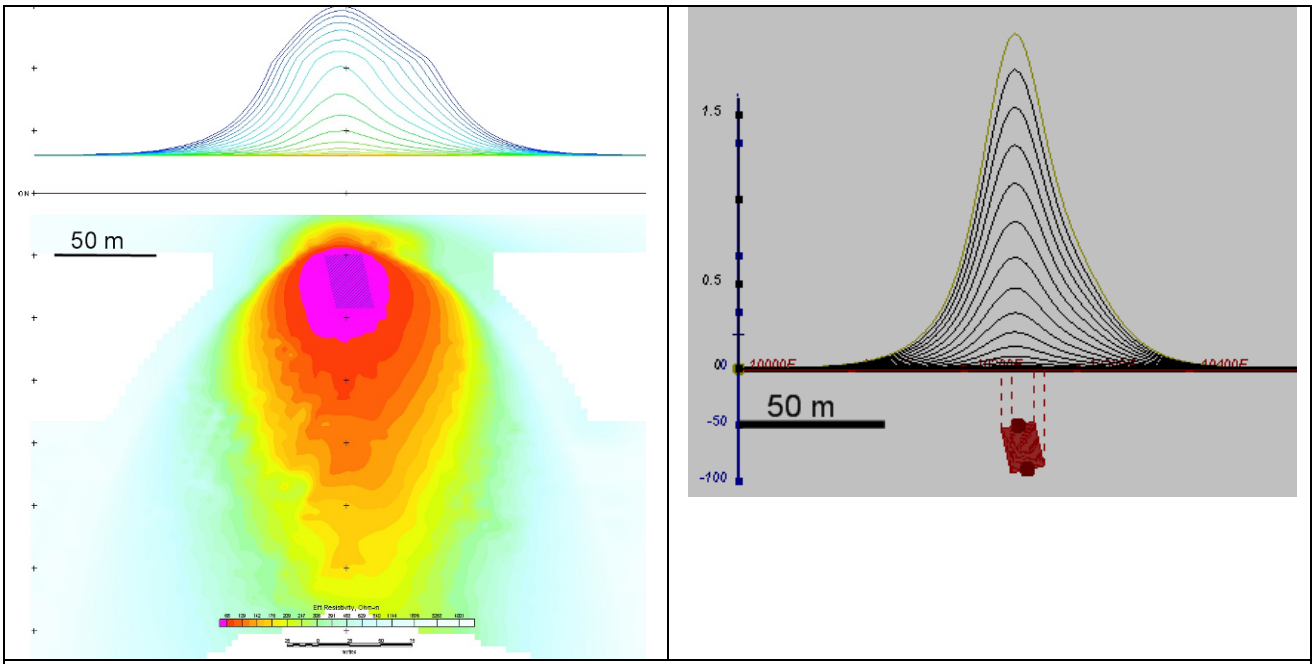



Fig.3 Maxwell plate model and RDI from the calculated response for bulk ("thick") 100 m length, 40 m depth extend, 30 m thickness

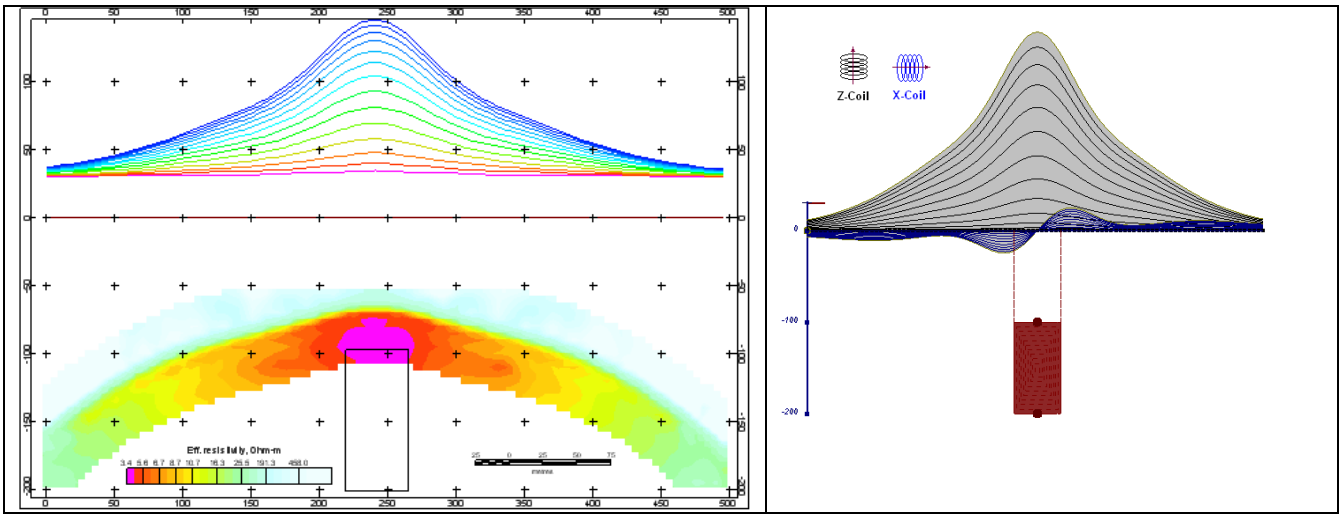



**Fig. 4** Maxwell plate model and RDI from the calculated response for "thick" vertical target (depth 100 m, depth extend 100 m). 19-44 chan.

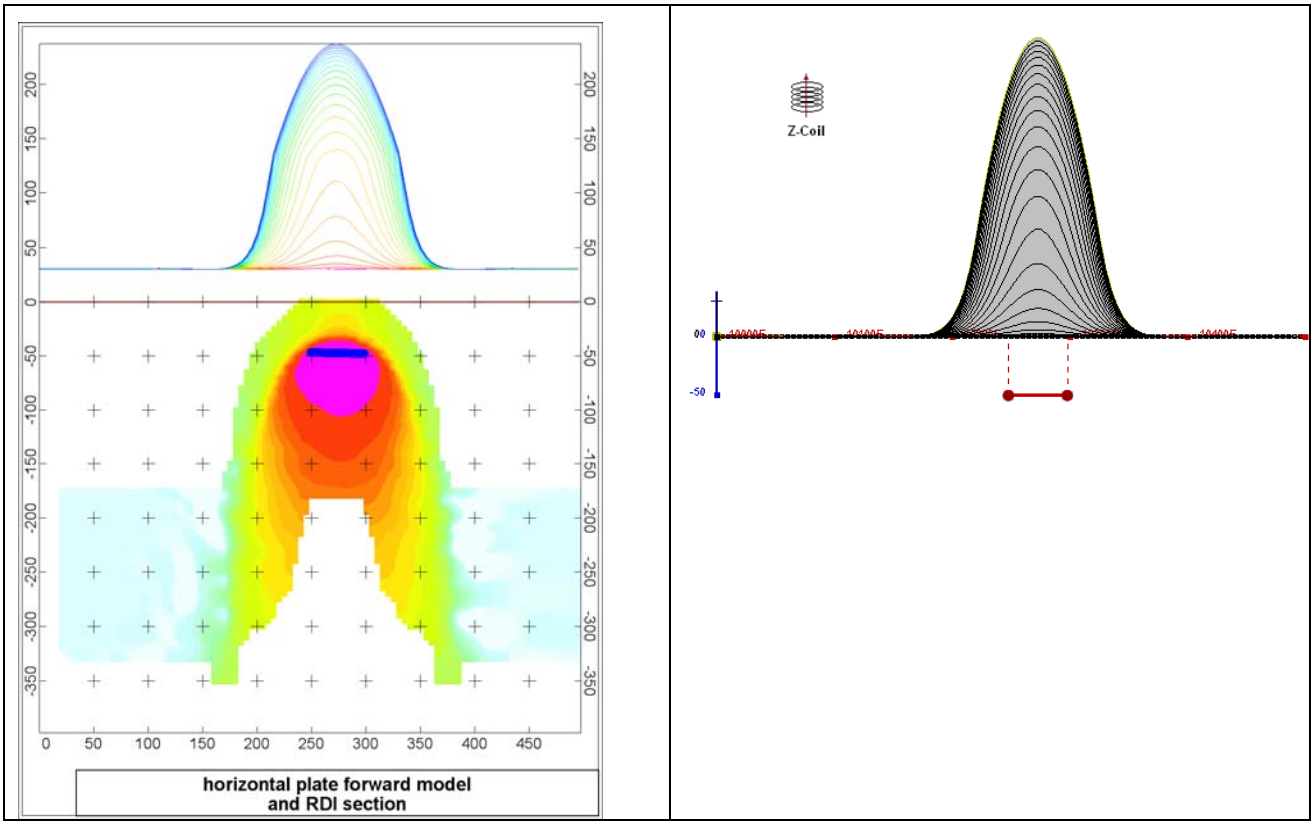



**Fig. 5** Maxwell plate model and RDI from the calculated response for horizontal thin plate (depth 50 m, dim 50x100 m). 15-44 chan.

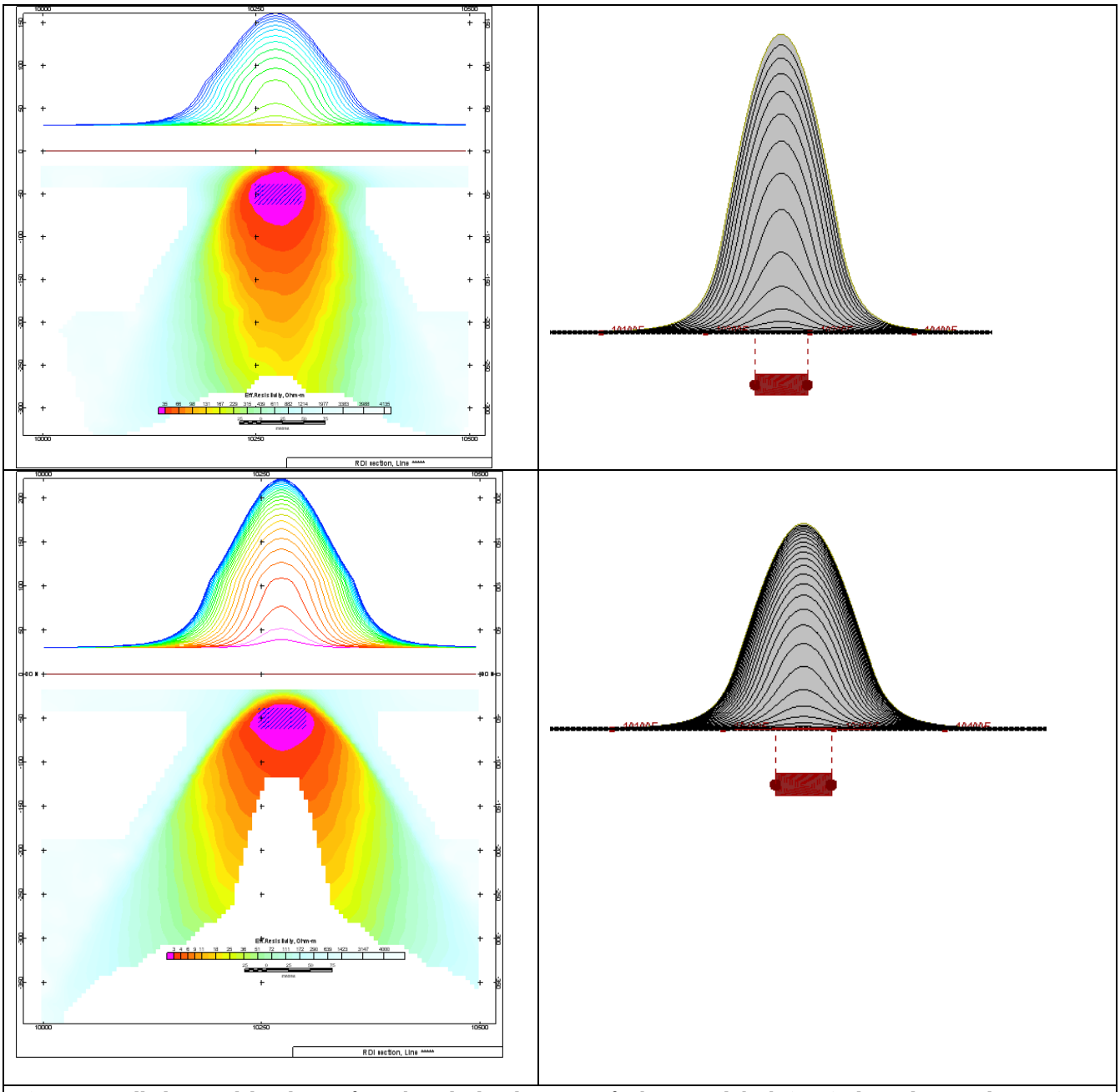



**Fig.6** Maxwell plate model and RDI from the calculated response for horizontal thick (20m) plate – less conductive (on the top), more conductive (below)

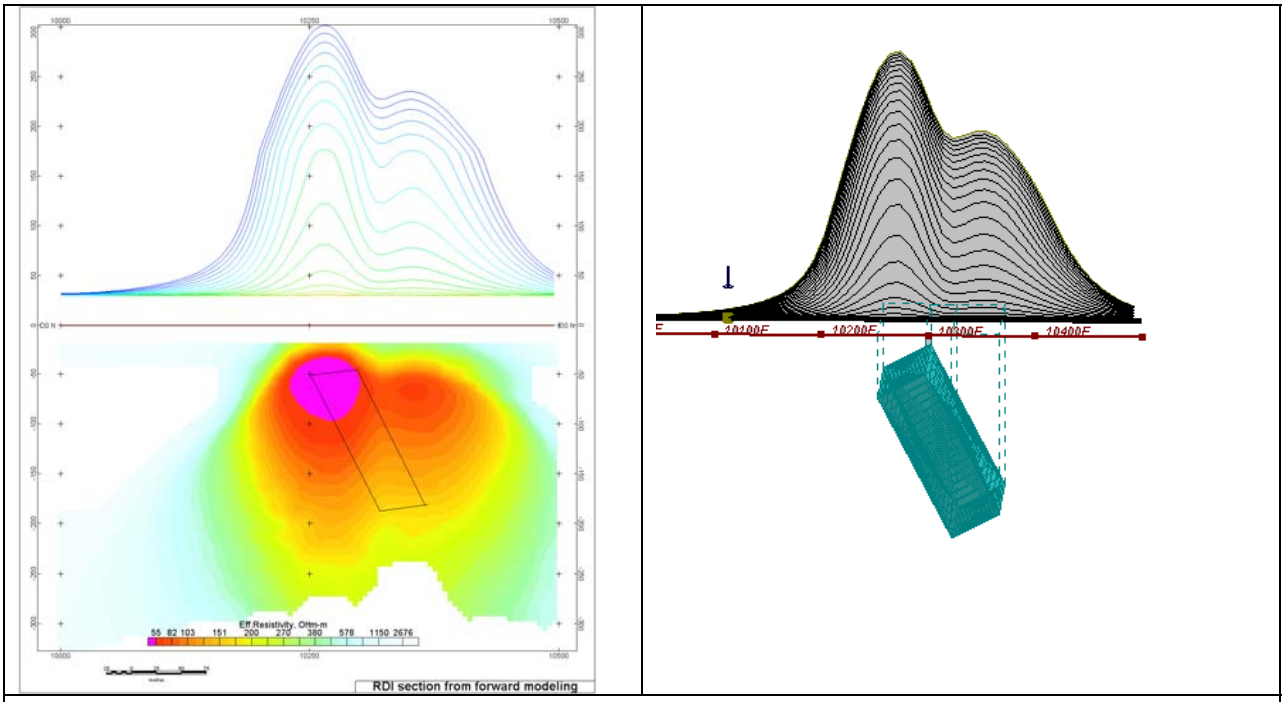



**Fig.7** Maxwell plate model and RDI from the calculated response for inclined thick (50m) plate. Depth extend 150 m, depth to the target 50 m.

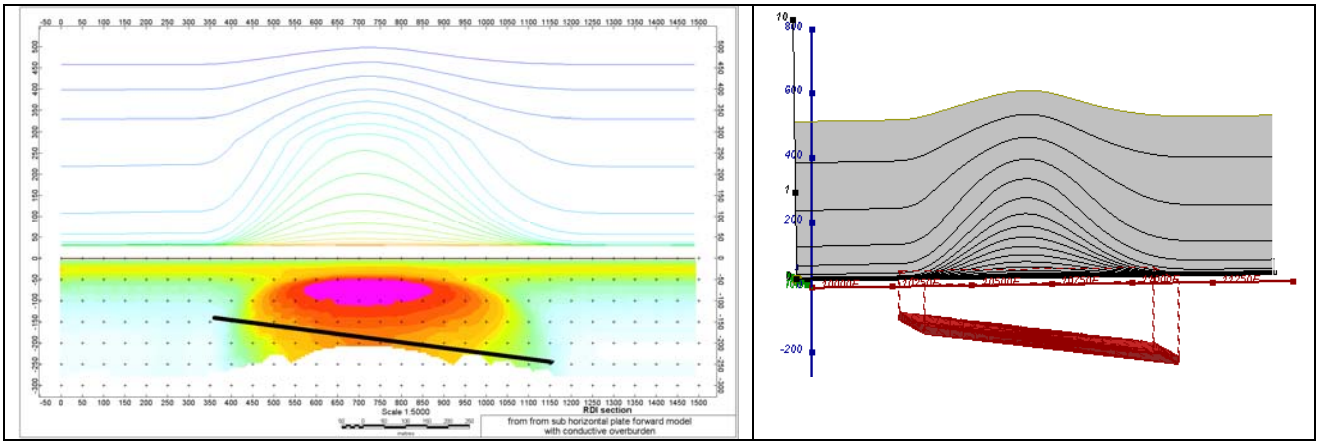



**Fig.8** Maxwell plate model and RDI from the calculated response for the long, wide and deep subhorizontal plate (depth 140 m, dim 25x500x800 m) with conductive overburden.

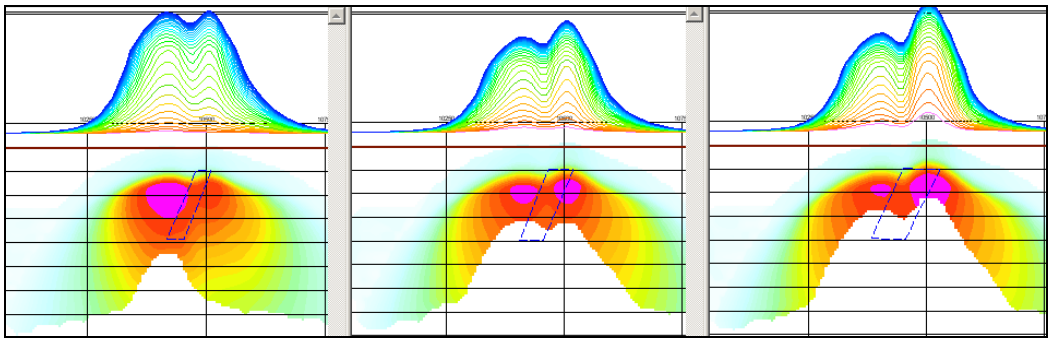


**Fig.9** Maxwell plate models and RDIs from the calculated response for "thick" dipping plates (35, 50, 75 m thickness), depth 50 m, conductivity 2.5 S/m.

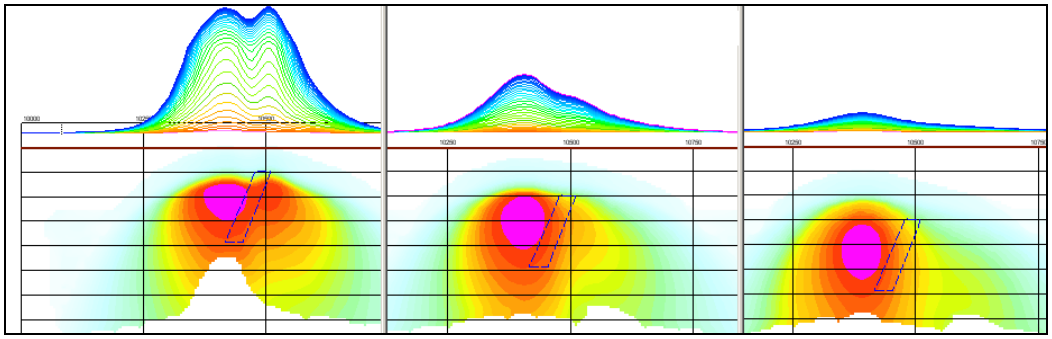


**Fig.10** Maxwell plate models and RDIs from the calculated response for "thick" (35 m thickness) dipping plate on different depth (50, 100, 150 m),, conductivity 2.5 S/m.

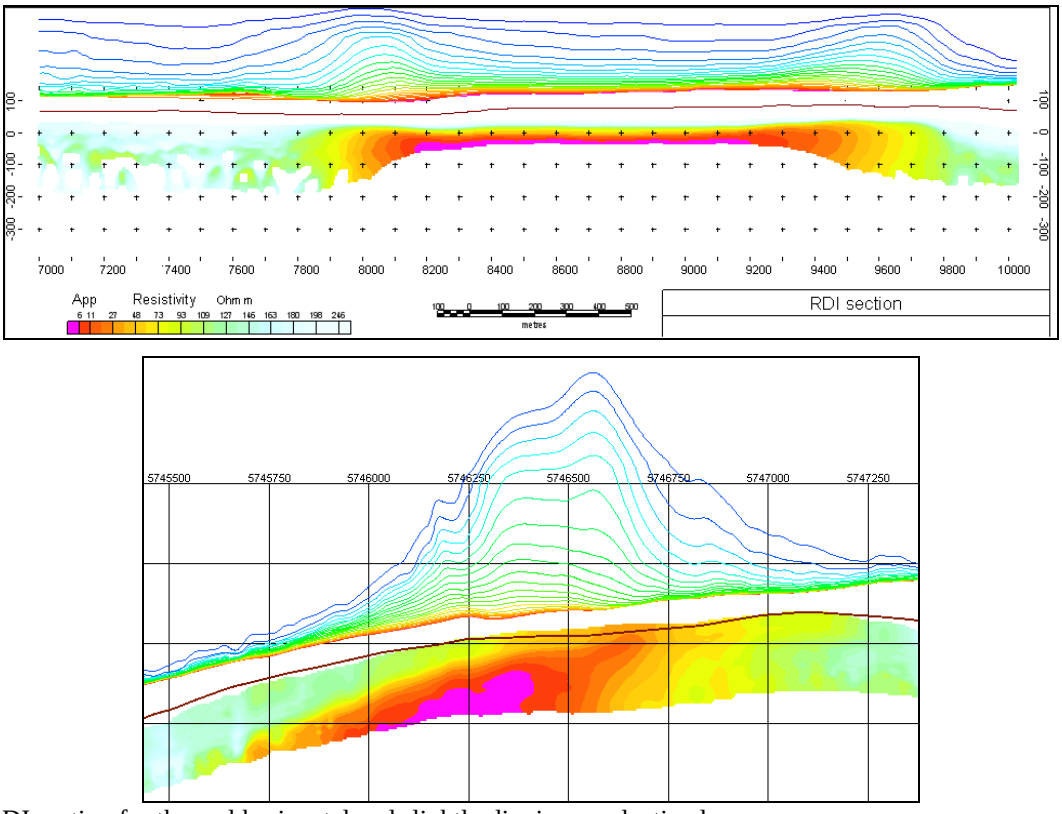
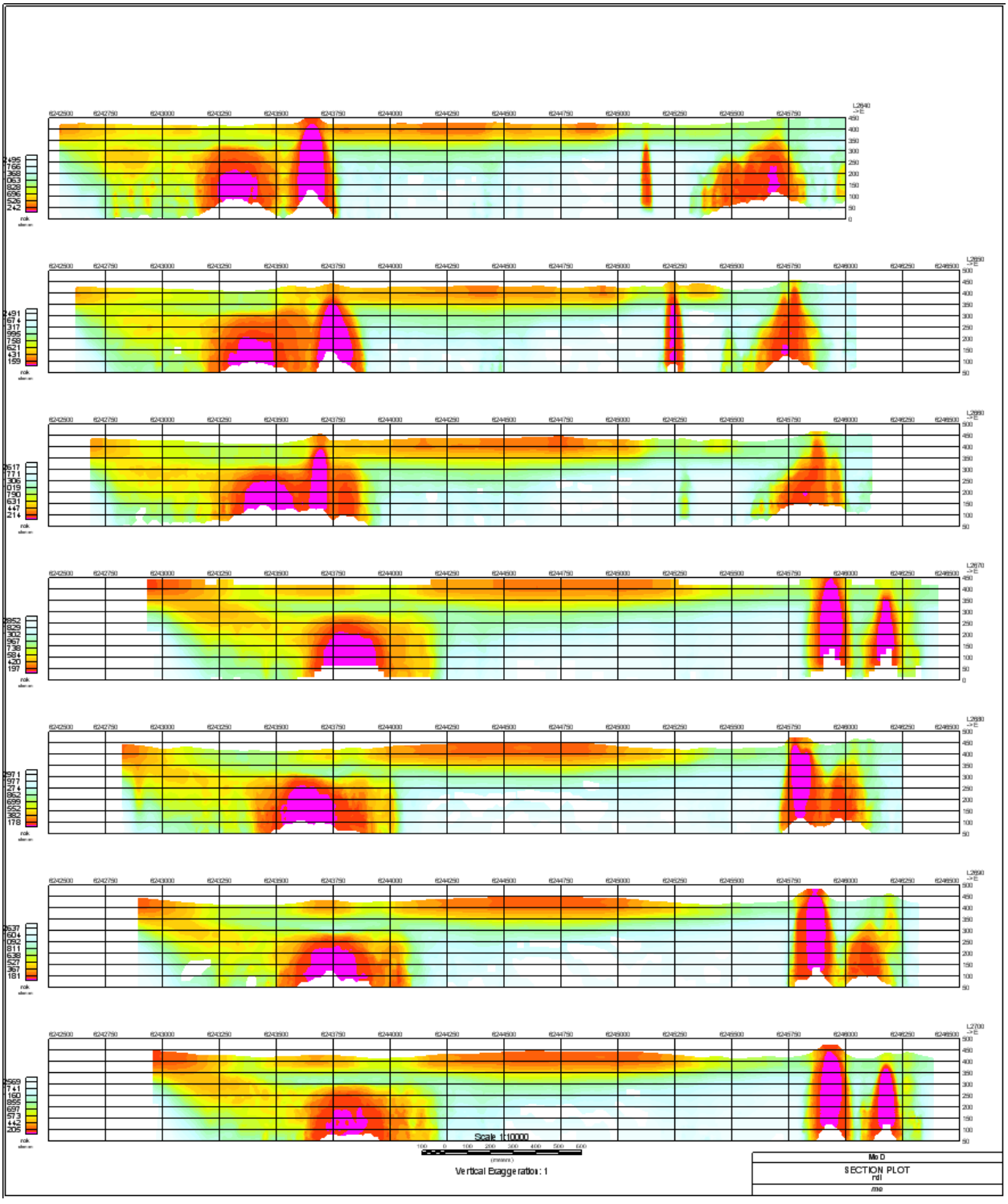


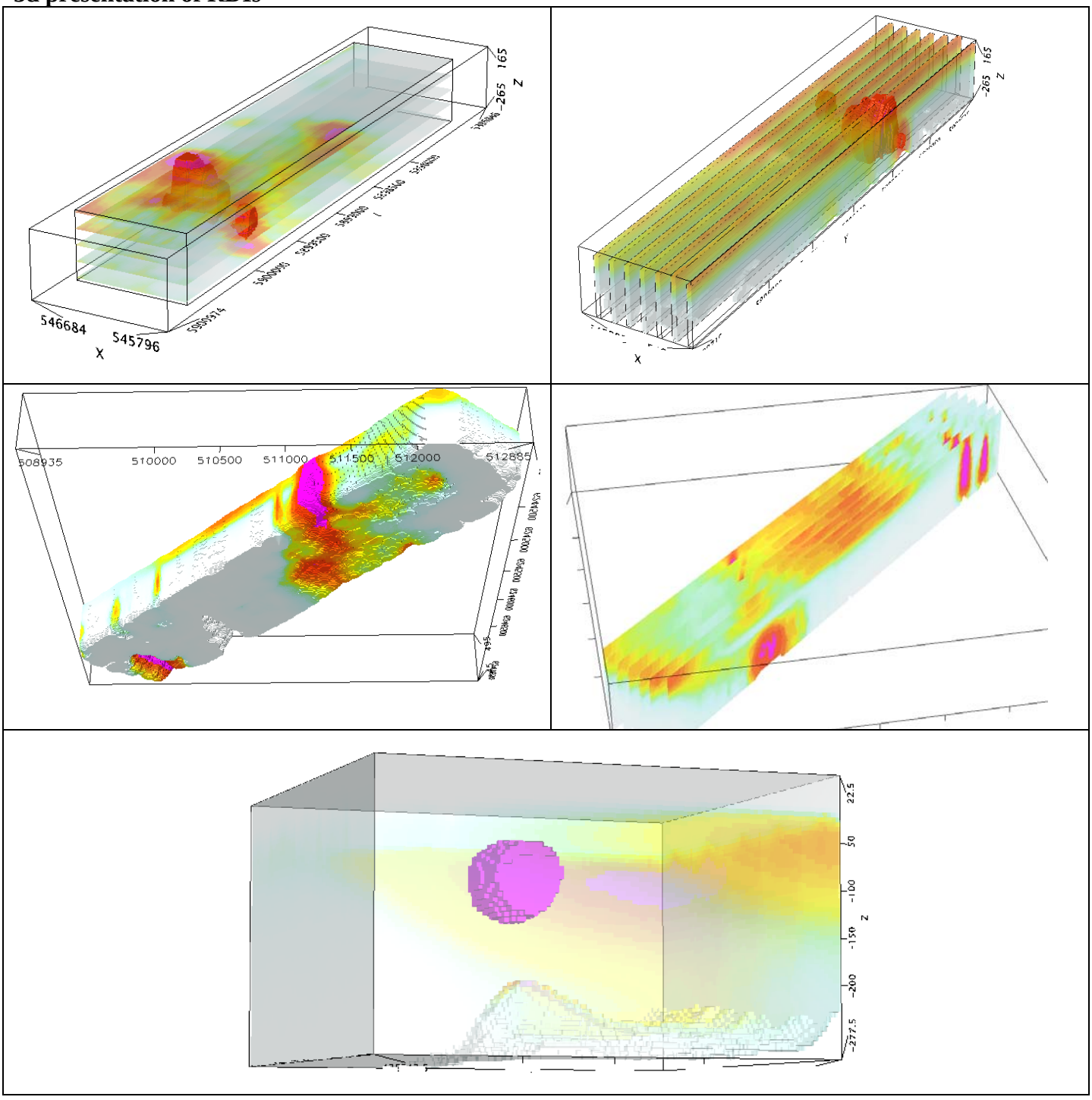

**Fig.11** RDI section for the real horizontal and slightly dipping conductive layers

# Forms of RDI presentation

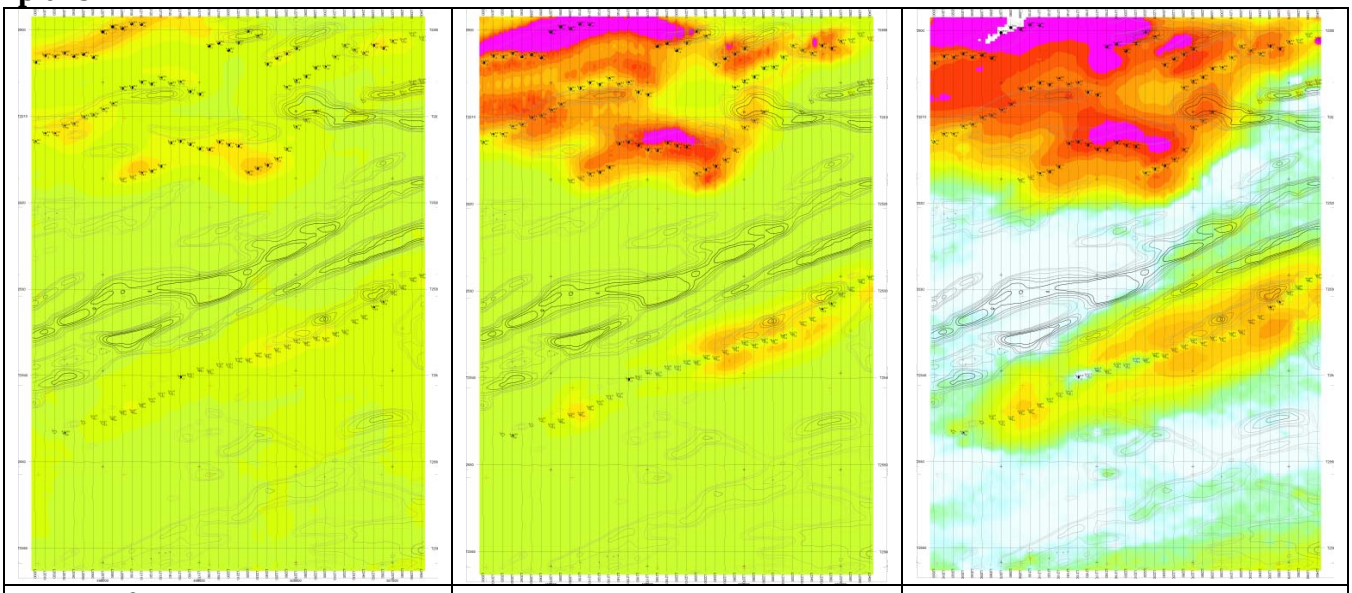
## Presentation of series of lines



## 3d presentation of RDIs

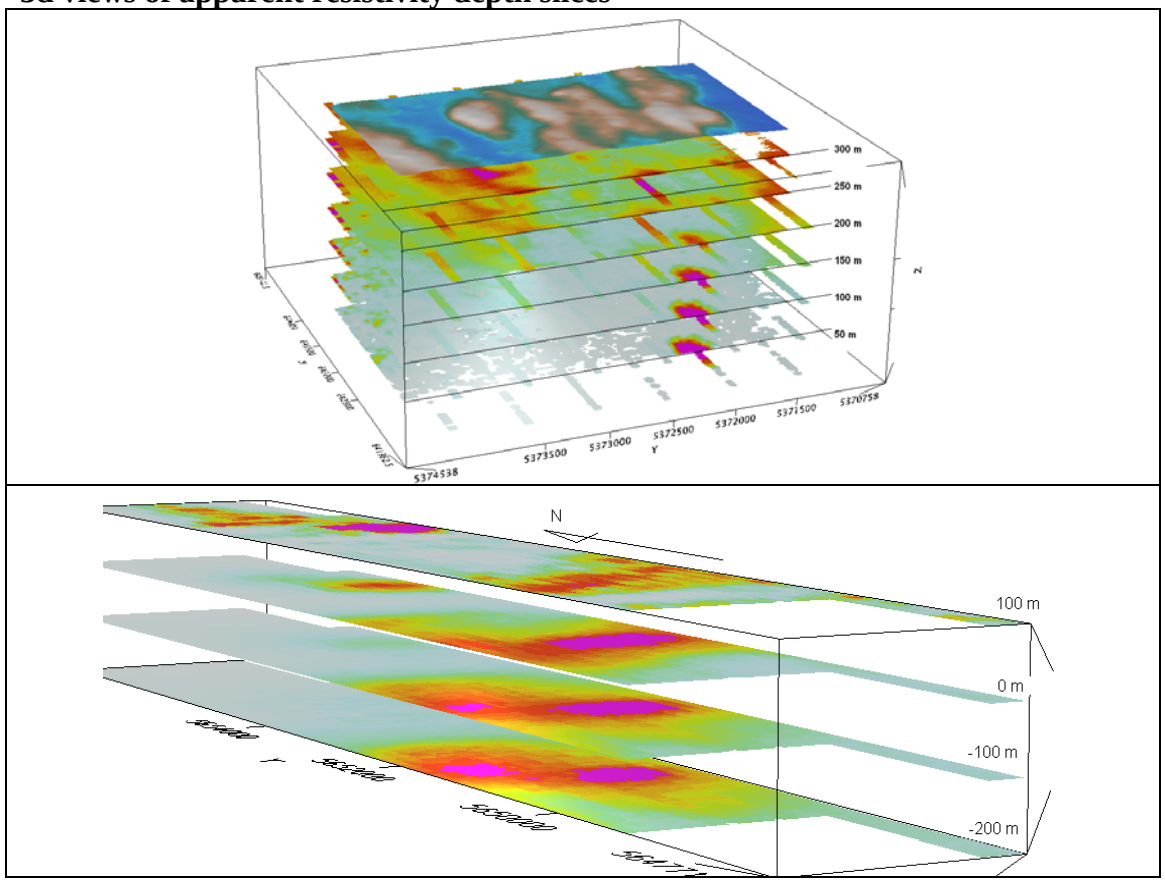


## Apparent Resistivity Depth Slices
## plans



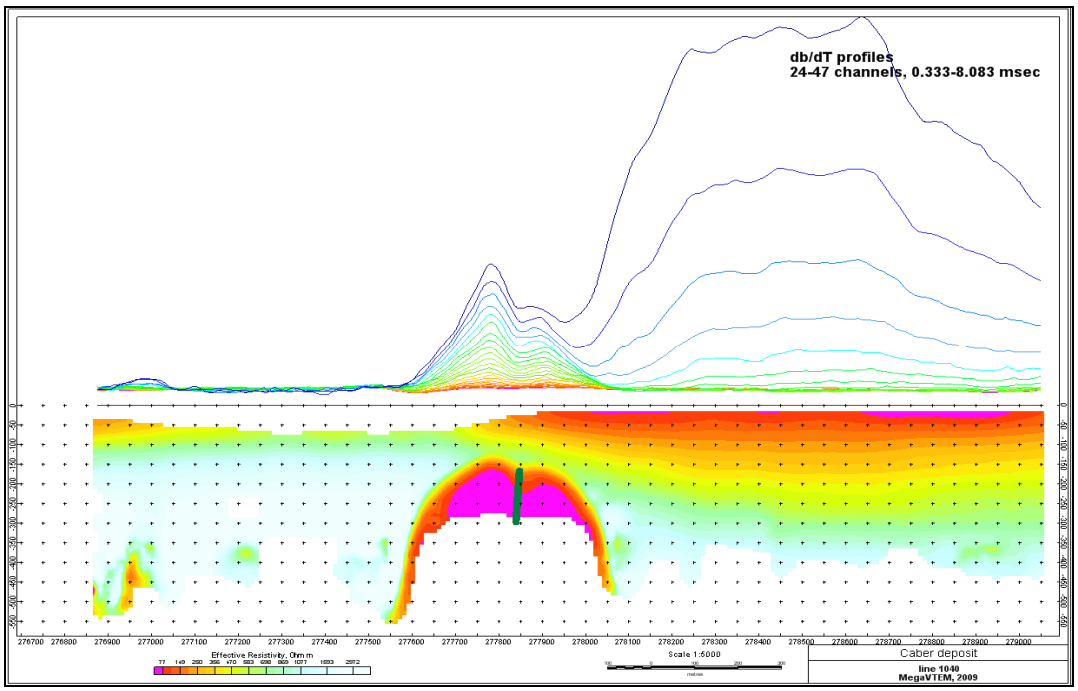
| 0 m (surface) | -100 m | -200 m |
|---|---|---|

## 3d views of apparent resistivity depth slices

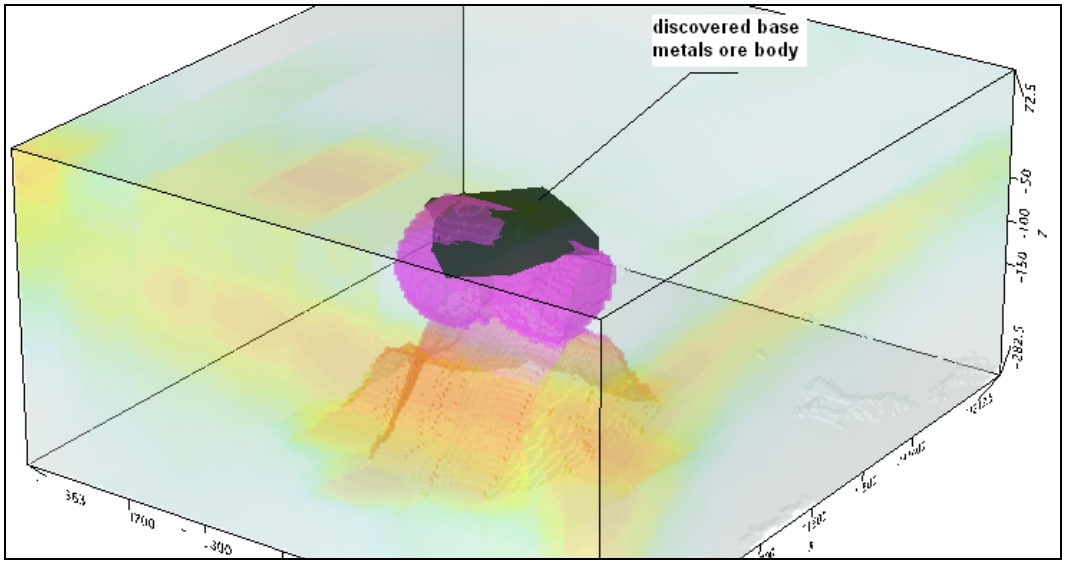


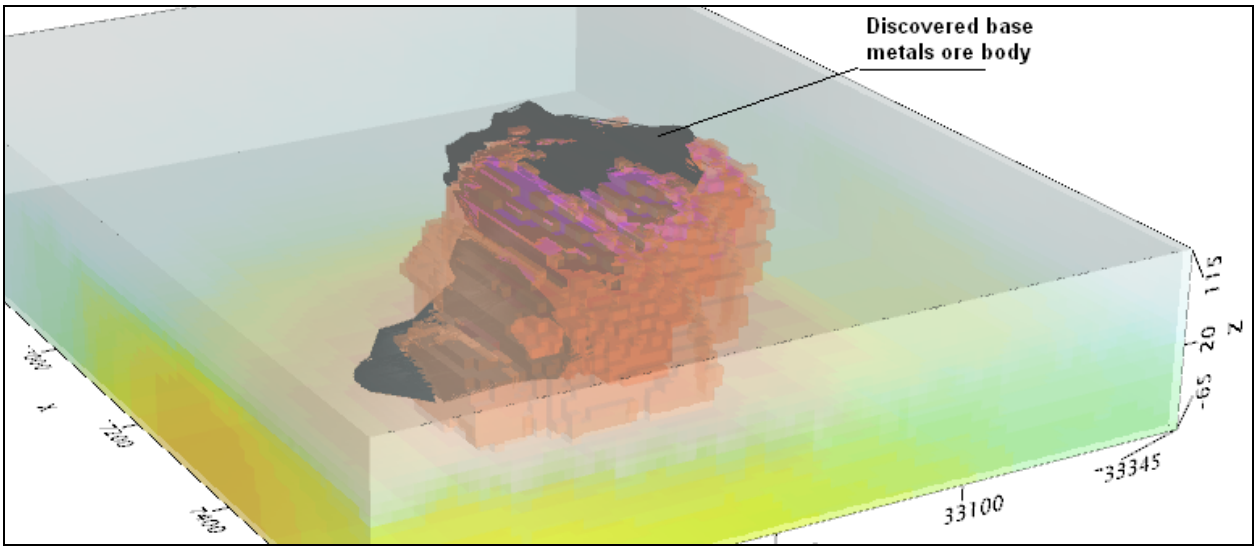
**Real base metal targets in comparison with RDIs**:

RDI section of the line over Caber deposit ("thin" subvertical plate target and conductive overburden.




3d RDI voxels with base metals ore bodies (Middle East):



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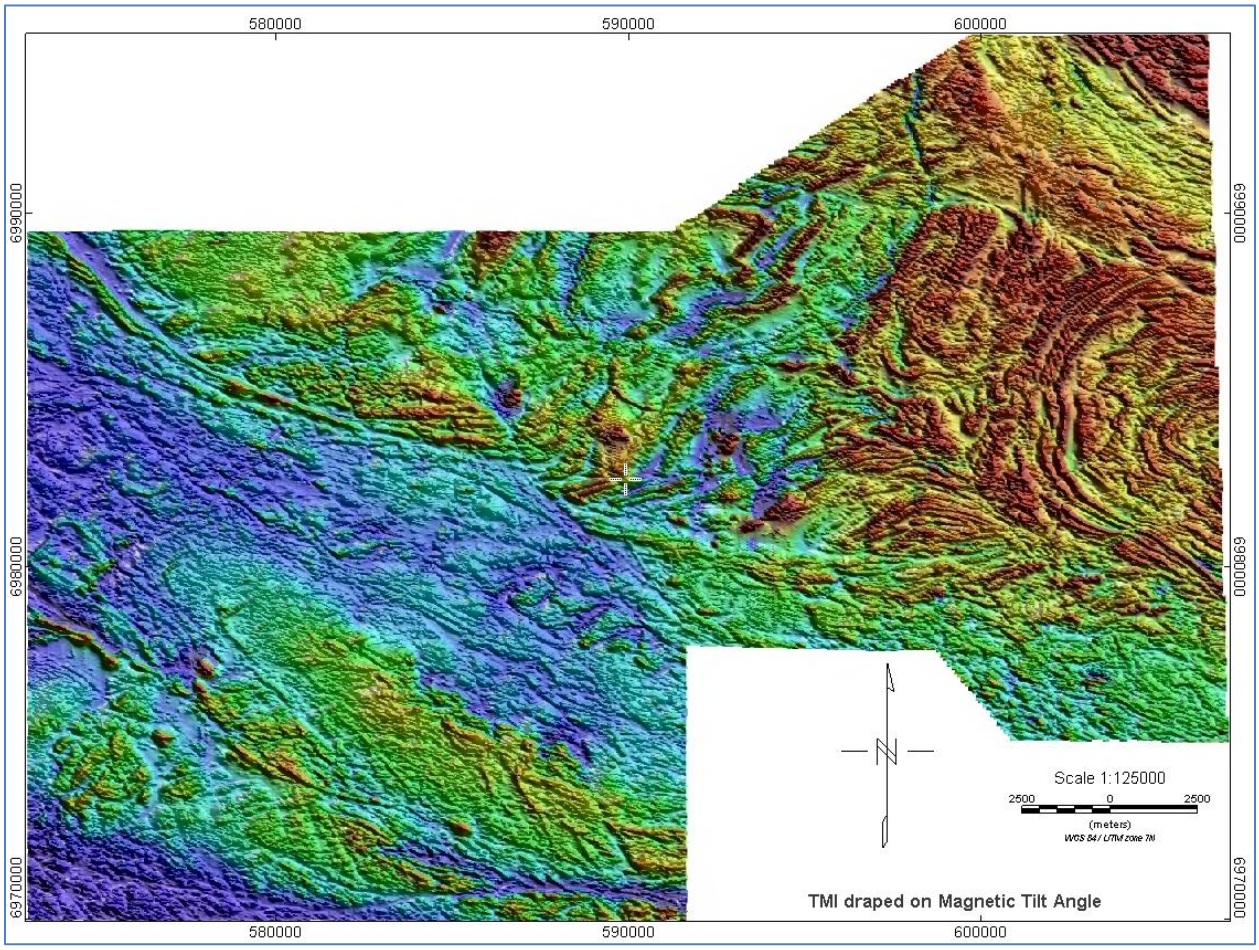
April 2011

# Processing and Interpretation of the Kirkman Magnetic Data, Yukon




**Condor Consulting**
**Lakewood, CO USA**

# Contents

Introduction ..... 3
Processing ..... 6
Interpretation ..... 10
Magnetic Domains ..... 10
Regional and Local Linear Magnetic Signatures ..... 13
Higher Amplitude Magnetic Gradient Signatures ..... 14
Comparison of Magnetic Responses and Geochemistry ..... 15
Review of Kaminak Magnetic Signatures ..... 20
Americano ..... 20
Espresso ..... 20
Kona ..... 20
Latte ..... 21
Double Double ..... 21
Supremo ..... 21
Machiatto ..... 21
Arabica ..... 21
Java ..... 22
Mocha ..... 22
Cappuccino ..... 22
Fingerprinting the Kaminak Magnetic Signatures ..... 22
Sample Site selection ..... 24
Table of 33 sample sites ..... 25
Conclusions ..... 27

# Introduction

This report covers the processing and basic interpretation of Precision Geosurvey's Kirkman magnetic data. The survey location and flight line path is seen below in Figure 1. There is a total of 6924 line km of data. The nominal flight line spacing for the data is 100 m. The survey grid covers significant topography straddling the Yukon River with a total relief of 1353 m (Figure 2). Condor processing of the delivered data includes microleveling to remove the residual line level noise left in the delivered data, and magnetic filtering techniques that accentuate magnetic structure on the grid. The primary filtered grids of the total magnetic intensity (TMI) grid (Figure 3) are the first vertical derivative (dZ), the magnetic tilt angle (TA), the analytic signal (AS), and the 2$^{nd}$ vertical derivative (dZ2).

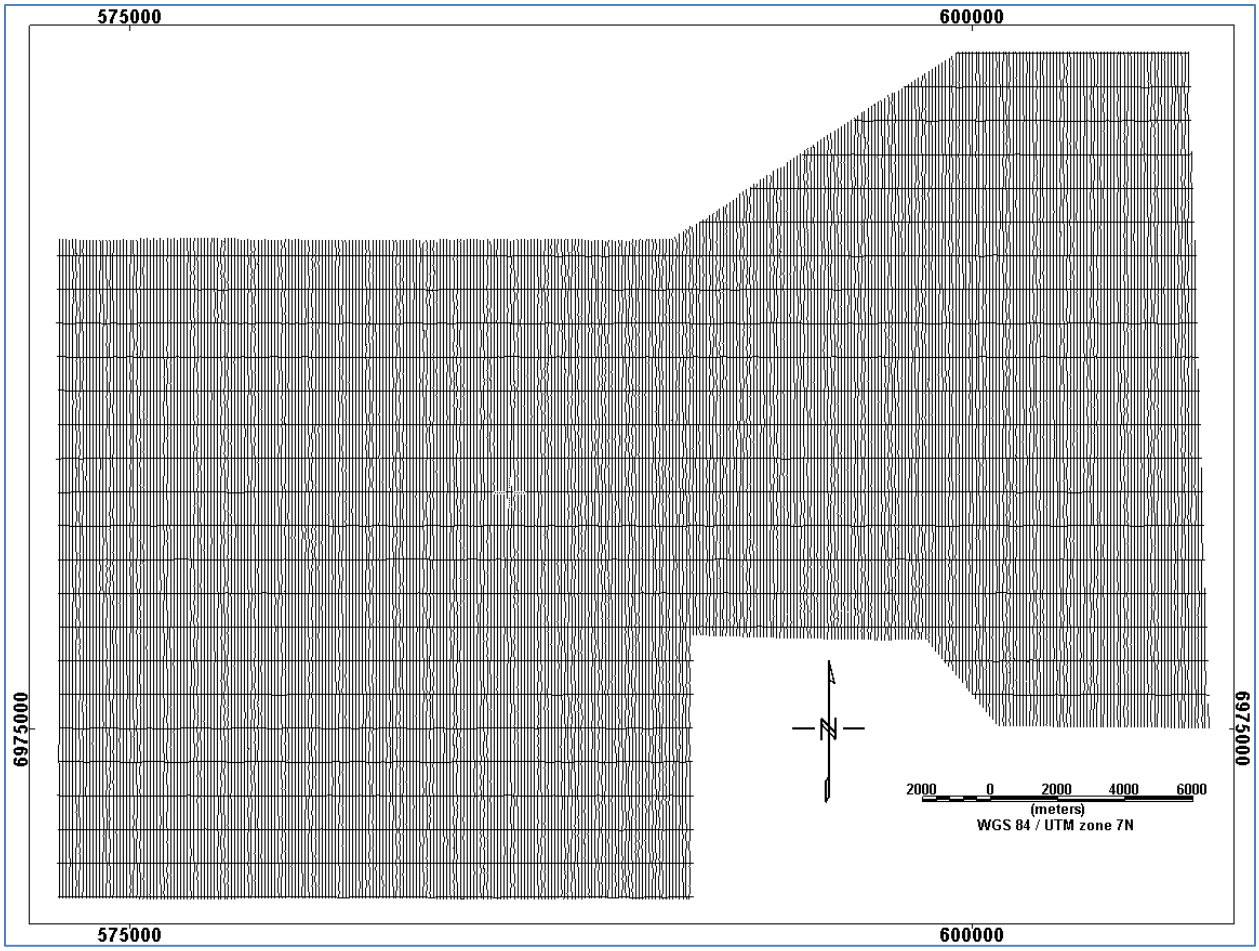


Figure 1. Kirkman grid flight and tie lines, 6924 km total.

The magnetic signatures on the TMI grid are affected by the severe topography of the survey grid, what appear to be folded or kinked magnetic horizons are in some cases linear magnetic horizons that traverse abrupt changes on topography, such as occur across steeply incised “V” shaped drainages. Draping the TMI and filtered magnetic images on the DTM surface aids the interpretation. Figure 5 shows the TMI image draped on the DTM. Magnetic plate modeling of discrete magnetic horizons should provide a better idea of magnetic horizon dip direction, if it were undertaken. Topographic effects can mimic magnetic structure. At site “1” in Figure 5 the V-shaped drainage returns what looks like a “Z” fold, the top of the Z perhaps being an NE pointing erosional flat-iron facet. Rather than a Z

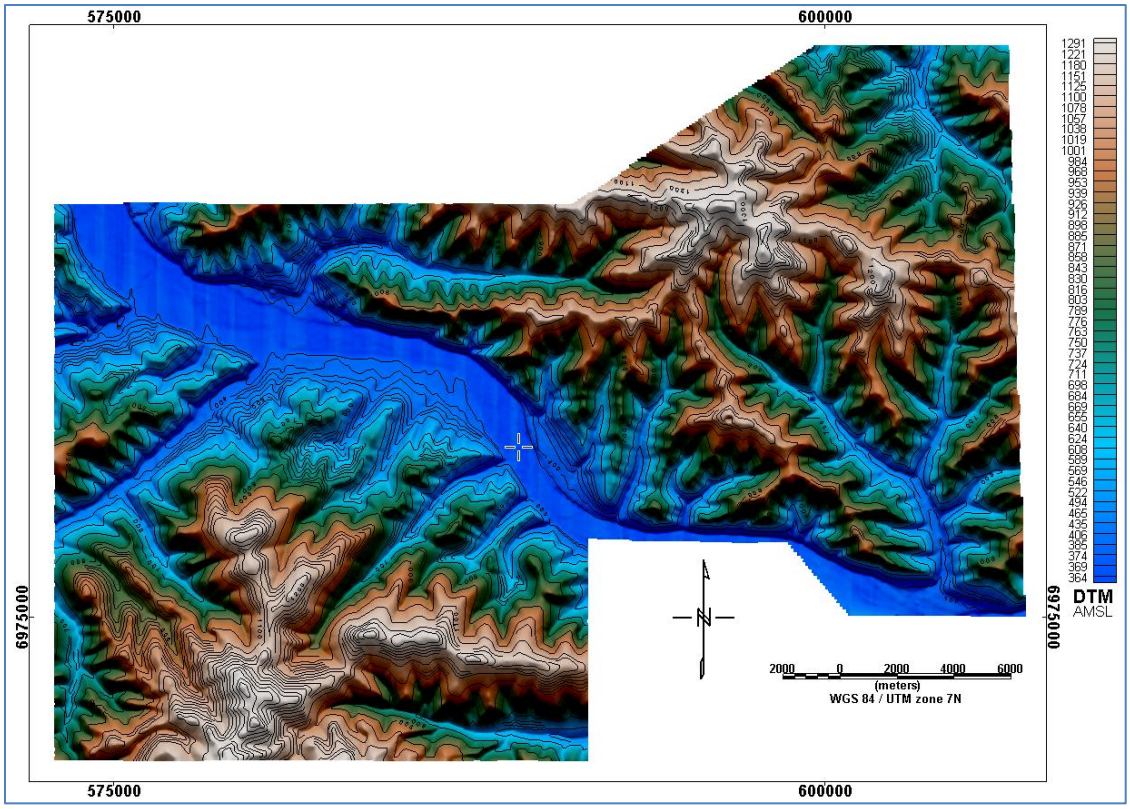


Figure 3. Kirkman DTM grid with 1353 m of relief.

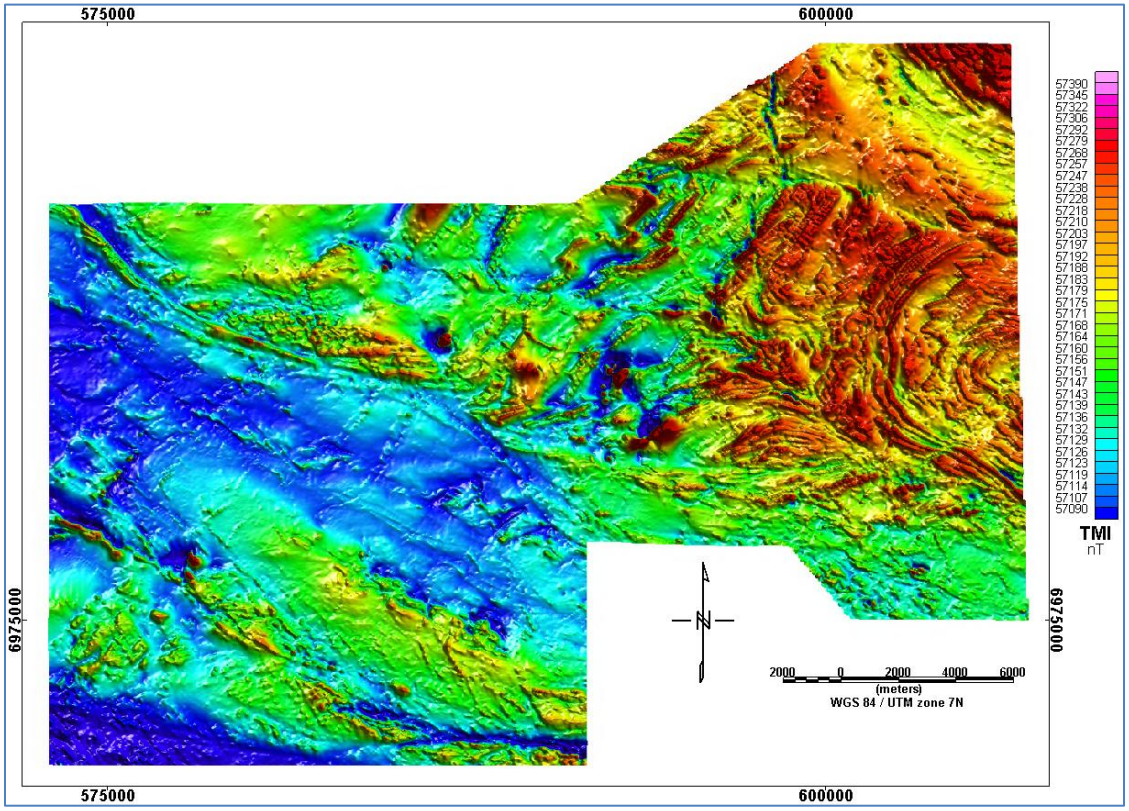


Figure 4. Kirkman TMI grid with a 5023 nT range.

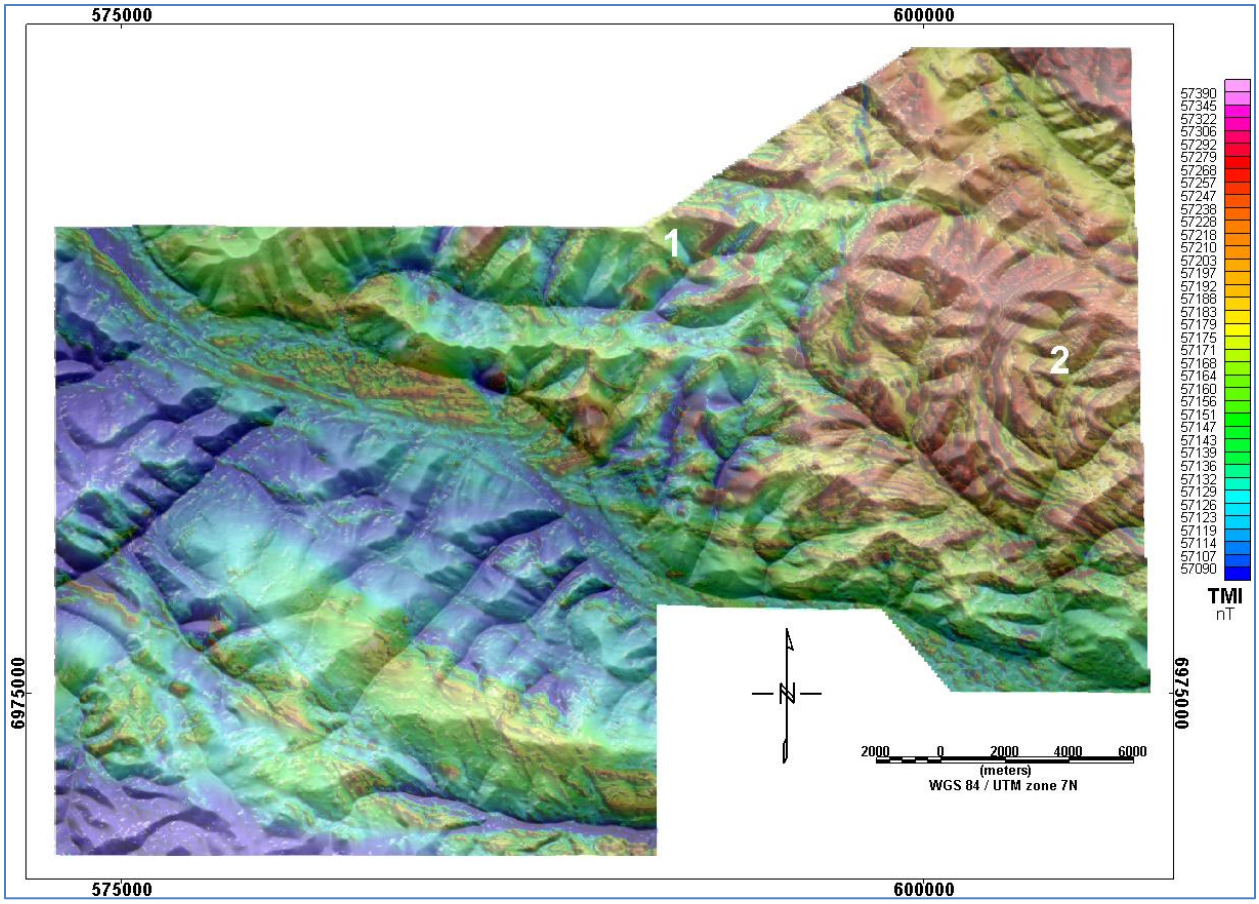


Figure 5. TMI grid draped on DTM relief. Apparent "folds" at sites 1 and 2 discussed in the text.

folded magnetic girizon, this may be a N-S striking linear magnetic horizon that dips westward. At site 2 at first glance, it appears that concentric magnetic horizons form a broad open fold that is open to the E-SE. It is also possible that these are rather parallel NE-SW striking linear horizons that are dipping to the E-SE. These horizons may have been eroded into an open-fold shape, by being differentially eroded on the mountain top and flanking valleys on either side of the peak elevations. The "fold hinge" or apex might actually be the highest mountaintop exposure of the NE-SW striking, E-SE dipping linear horizons.

## Processing

The delivered TMI data presented only subtle line level effects, but the line level offsets became linear corrugations on subsequently filtered grids, the X-horizontal derivative grid higlights the filter corrugations (Figure 6). Condor Consulting therefore undertook mcroleveling of the TMI data to reduce the effects of line level offsets (Figure 7).

After microleveling the TMI grid was filtered, the filtered results are seen in figures 8-11. The filtered grids are the first vertical derivative, the magnetic tilt angle, the analytic signal, and the 2$^{nd}$ vertical derivative. The microleveling of the TMI data subdued the corrugation effects in the filtered data,

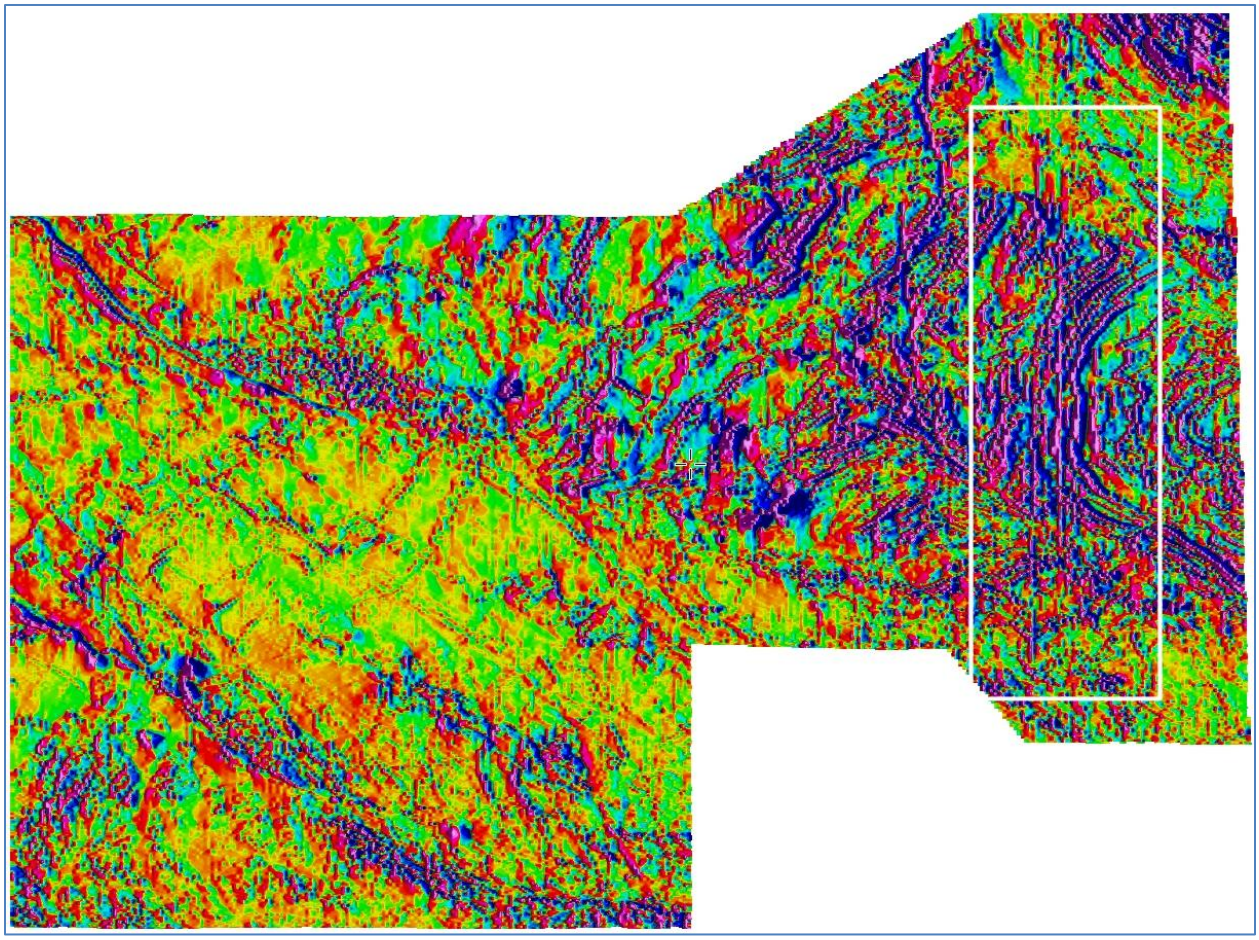


Figure 6. The horizntal X-derivative grid returns corrugations from line leveling offsets. The effect is highest in the area enclosed by the white box.

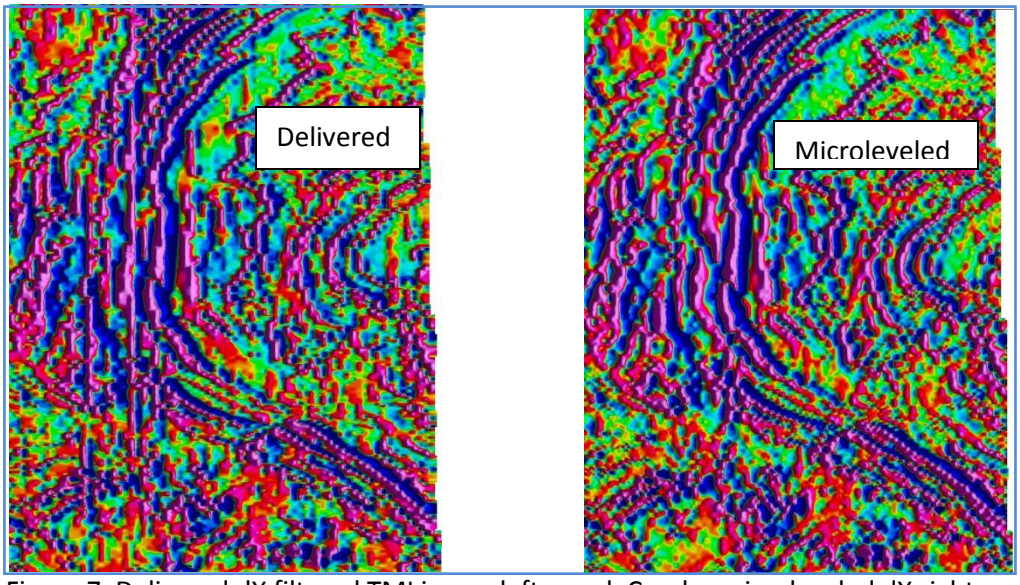



Figure 7. Delivered dX filtered TMI image left panel, Condor microleveled dX right panel. The microleveling removes the more obvious corrugations.

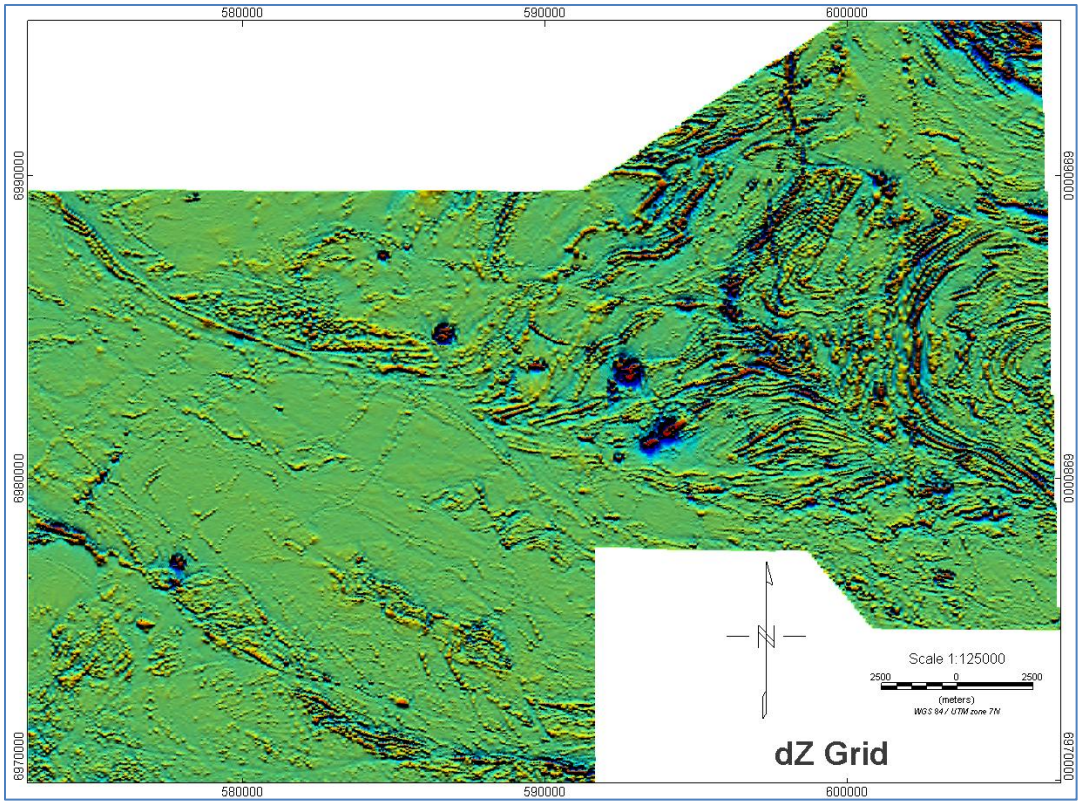


Figure 8. First vertical derivative grid.

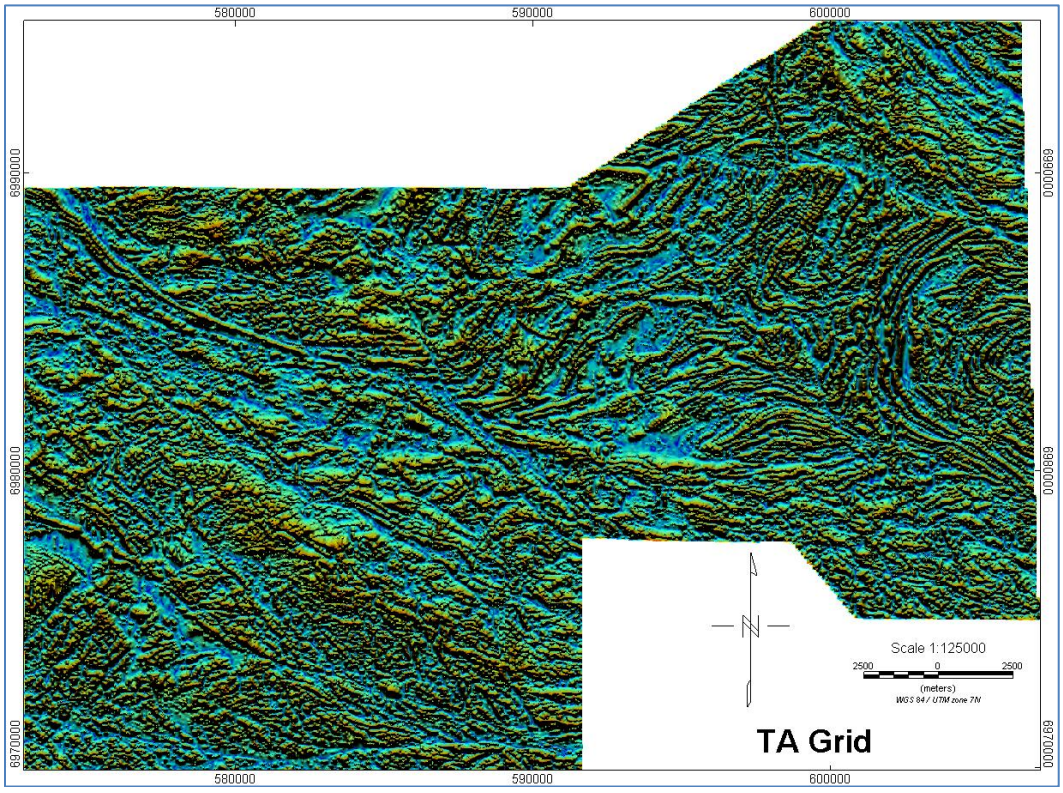


Figure 9. Magnetic tilt angle grid.

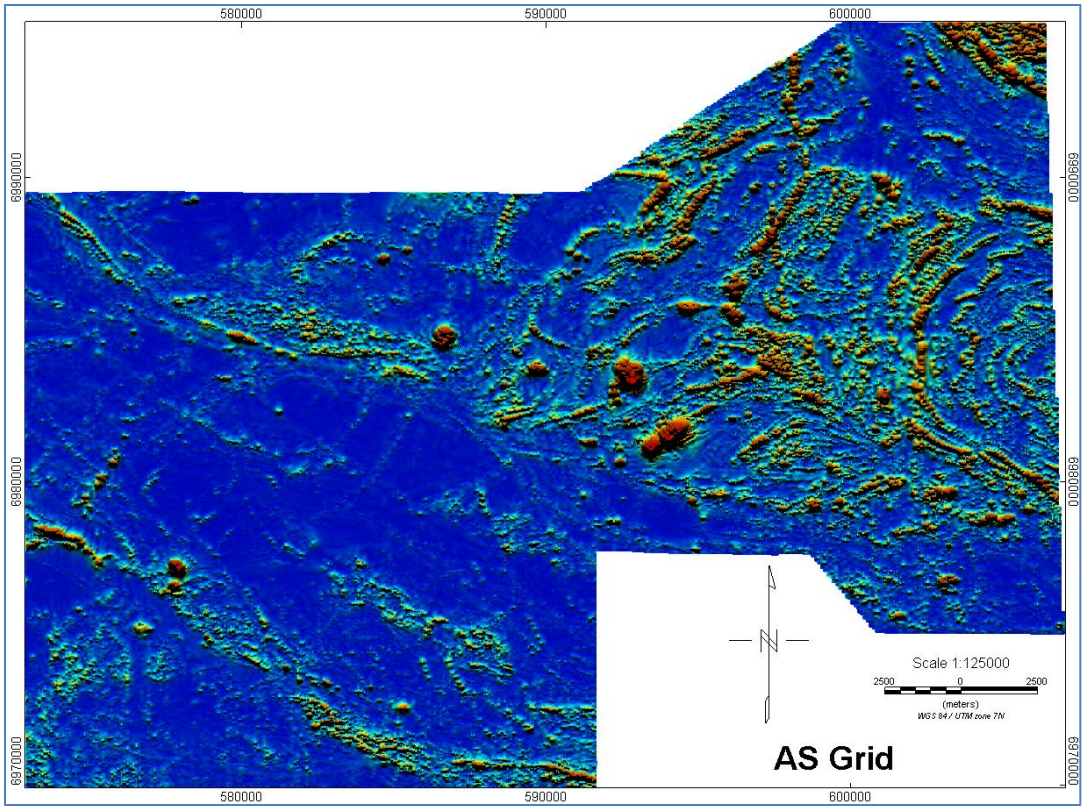


Figure 10. The Analytic signal amplitude grid is  the combined X,Y and Z “total gradient”.

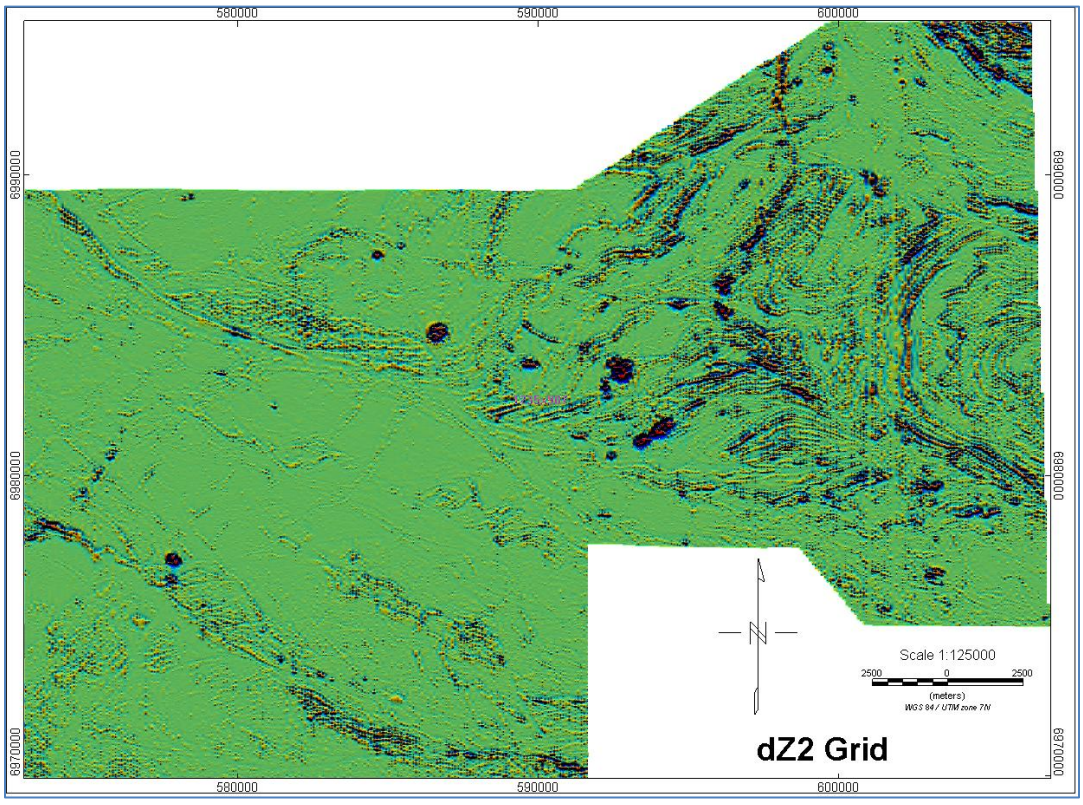


Figure 11. The second vertical derivative grid retains subtle line-level ffects on the east.

though the 2nd vertical derivative grid which is the most sensitive to level offsets, retains some minor corrugation.

# Interpretation

The TMI and filtered grids are interpreted while draped over the DTM grid.

## Magnetic Domains

The TMI and TA grids were draped on the DTM and define 11 magnetic domains of different magnetic textures. It is born in mind that the magnetic textures may in part be reflecting 3D topographic affects on magnetic horizons, and not solely magnetic texture itself. Figure 12 is referred to in the following discussion.

Domain 1 is located on the far northeast of the grid and is comprised of NW-SE striking magnetic horizons of higher TMI amplitude. The elevation in this Domain varies but it is lower in elevation than the higher central regions of the grid to the southwest.

Domain 2 abuts Domain 1 on the SW, and it is of noticeably lower background TMI amplitude than Domain 1. Domain 2 like 1 also has a NW-SE striking magnetic texture. It is lower in elevation than Domain 1 and straddles a north-flowing drainage.

Domain 3 to the SW of Domain 2 is higher in TMI amplitude than 2, and higher in elevation. The magnetic grain is again NW-SE striking on the south of the Domain, but swings around to NE-SW striking on the north. Domain 3 is separated from Domains 4 and 7 to the S-SW by a major ESE-WNW striking magnetic linear, that has a coincident topographic expression. The abrupt change in magnetic character across this linear break may indicate a fault. In the northwest of the Domain, discordant possibly remanent linear signatures strike northward as two “demagnetized” segments, out of the survey grid.

Domain 4 is characterized by the highest frequency and most complex magnetic signatures, its abrupt southern and western magnetic domain boundaries trace drainages, it is unknown if the drainages track faults. Parallel magnetic horizons occur in this Domain. On the Domain east, concentric horizons form a larger half-circular signature that is open to the east. As mentioned, if this is not a large open-fold to the E-SE, it may be an erosion-topographic (flatiron) effect on parallel N-NE to S-SW striking linear horizons that dip to the E-SE. On the west of the Domain the magnetic structure may be more complex; there may be interplay of folding and topographic effects. Magnetic horizon folding may be evident, where parallel magnetic signatures are seen to strike N-NE then wrap around a northern apex reversing direction 180 degrees and striking S-SW. In some places the horizons parallel topographic ridges and their flanking facets, whereas in other places they strike across topographic ridges their flanking facets and incised drainages, indicating that topography may not be the only control on magnetic horizon

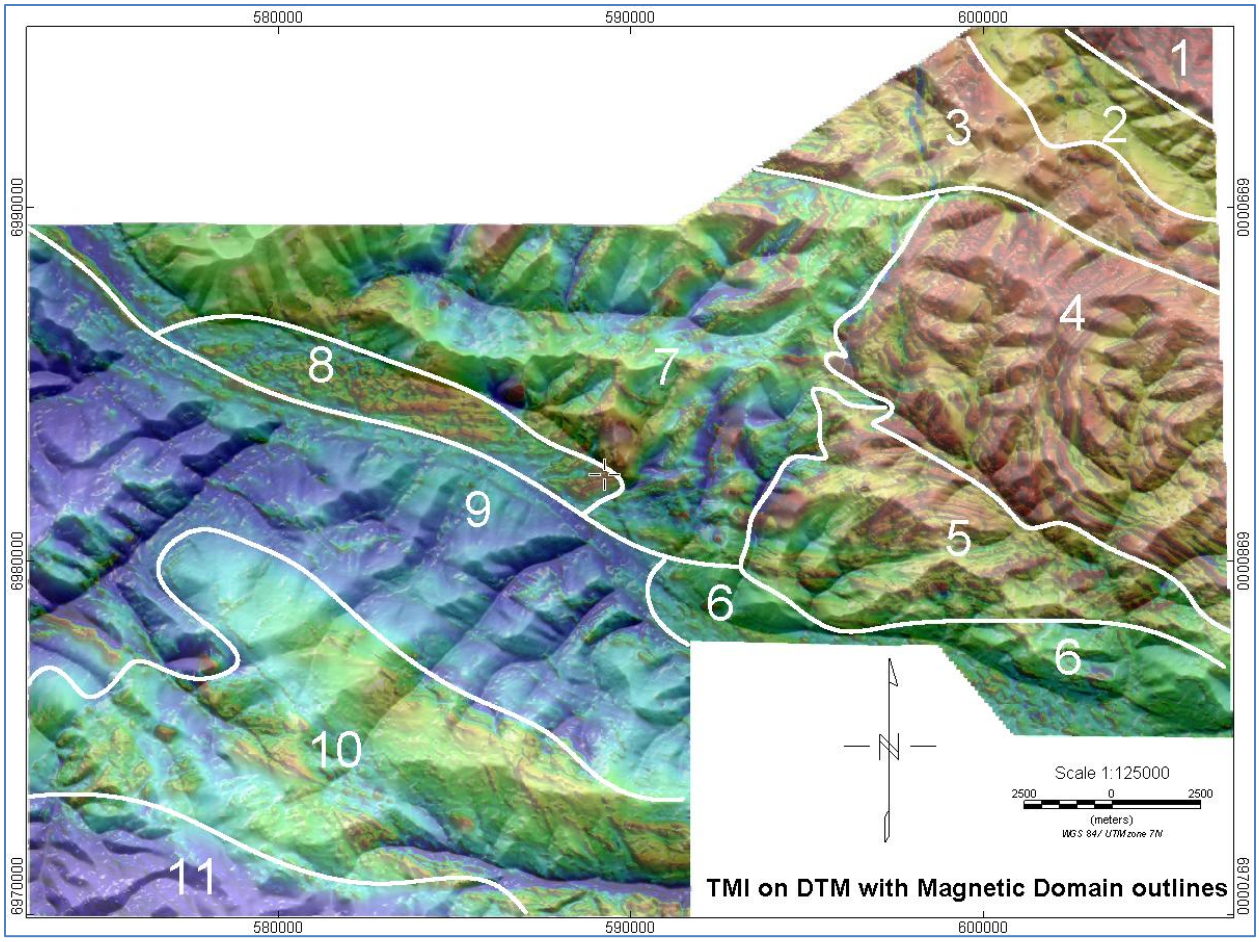


Figure 12. The 11 magnetic domains, TMI draped on topography is the background image.

orientation and morphology. The highest-amplitude TMI signature forms the sharp western boundary of this Domain, it is on an exposed ridge flank and it strikes parallel to the flank. This signature's higher amplitude, if not due solely to higher susceptibility may result from magnetic horizon's exposure near the top of a ridge.

Domain 5 is a zone of generally lower TMI amplitudes when compared to Domain 4. It is similar to Domain 4 in that parallel and concentric magnetic signatures are observed. The long-axis strike of these horizons is generally E-W, the abrupt change in magnetic signature strike from Domain 4 occurs across a tributary of the Yukon. It is not known if the tributary traces a fault. The apparent change in magnetic horizon orientation between Domains 4 and 5 may not be solely structural but may at least in part be due to topography. The prominent concentric horizons in Domain 5 form a larger E-W striking "eye shaped" signature that straddles a mountain peak immediately to the north of and parallel to the Yukon. A larger arcuate magnetic linear, concave to the north, bisects this Domain just to the north of the Yukon main channel and strikes further to the west in a listric manner, asymptotically, into the Yukon channel. The Domain's N-S striking western boundary traces another N-S striking Yukon tributary. A prominent discrete higher gradient amplitude magnetic signature is located on this boundary and should crop out near the top of the tributary.

Domain 6 covers the flanks of the Yukon River and the Yukon itself on the grid east. It's a zone of lower amplitude background TMI response with a more diffuse overall magnetic texture with less coherent magnetic signatures. The Domain's general magnetic grain strike is NW-SE, parallel to the Yukon.

Domain 7 contains intermediate background TMI amplitudes that are lower amplitude than the Domains to its east, but of higher amplitude compared to the Yukon River Domain 9 to the south. The magnetic texture in this Domain is generally NE-SW striking, though on the far west it is less well defined, and more E-W. This Domain has the highest concentration of discrete, higher gradient amplitude signatures on the grid. These signatures are both discrete "blobs" and linear magnetic horizons several km long. Topography does appear to affect some of the linear magnetic signatures in this zone, particularly on the zone northeast where continuous NE-SW striking higher TMI amplitude magnetic horizons appear to be folded into "Z" folds, when topography shows incised drainages may be causing a pseudo-folding visual effect as the horizons traverse across deeply incised "V" shaped ravines.

Domain 8 is entirely inside the Yukon River channel. It shares the lowest topography on the survey grid with Domain 6. A series of N-S stacked E-W striking en-echelon magnetic linears characterize the Domain. The linears may be continuous with more NE-SW striking magnetic horizons in the mountains that form the northern flank of the river, and the magnetic "kink" to the E-W strike in the river bed may be due solely to the slope change of the topography, if indeed the riverbed horizons continue on a northeasterly strike up into the mountains.

Domain 9 is located on the northern slope of the mountains immediately south of the Yukon. The dominant magnetic texture strikes NW-SE, parallel to the Yukon channel and northern slope face. Subtle NE-SW striking magnetic signatures are also identified in the Domain, these usually line up with tributaries that drain perpendicular into the Yukon. It's not known if these tributaries occupy faults. Two ~10 km subtle magnetic linears parallel the Yukon River south of the river, these coincide with linear topographic notches in the north slope; it's not known if these trace faults. The background TMI amplitude of this zone is the lowest on the grid, it's not known if this reflects local surface magnetization or is part of a deeper-sourced regional trend with higher background amplitudes in the mountains to the northeast. One higher-amplitude discrete magnetic signature is located on the southwest of the Domain.

Domain 10 contains the high mountain peaks south of the Yukon. The background TMI amplitude is moderate amplitude. The main magnetic texture of the Domain strikes NW-SE, though conjugate E-W and NE-SW textures are prominent on the SSW. Listric or splay linears asymptote into larger regional linears in the Domain center. The Domain might be split into two sub domains, north and south, separated by the NW-SE striking large listric magnetic signature discussed in Figure 22. A few discrete magnetic signatures are identified that are lower amplitude than the discrete signatures identified in Domain 7.

Domain 11 is located on the far southwest of the grid. It is in the mountains south of the Yukon, and has lower background TMI amplitude, that is possibly regional in origin. The largest magnetic linear in the

Domain strikes E-W, with secondary longer magnetic linears striking NW-SE. On the west of the Domain, NE-SW striking linears dominate.

## Regional and Local Linear Magnetic Signatures

Several tens of linear magnetic signatures can be traced throughout the survey grid (Figure 13). The lines trace thinner more-subtle first vertical derivative signatures with an associated positive or negative TMI signature. These lines more likely represent faults, fractures, or dykes rather than magnetic horizons. Coherent magnetic horizons dominate the eastern and northeastern grid highlands and may be affected by faulting across some of the linears. The main linear trend is NW-SE striking and generally parallels the Yukon River channel. A 2nd conjugate linear trend strikes NE-SW. A third less obvious trend is E-W, and a fourth is more steeply NW-SE than the main Yukon trend.

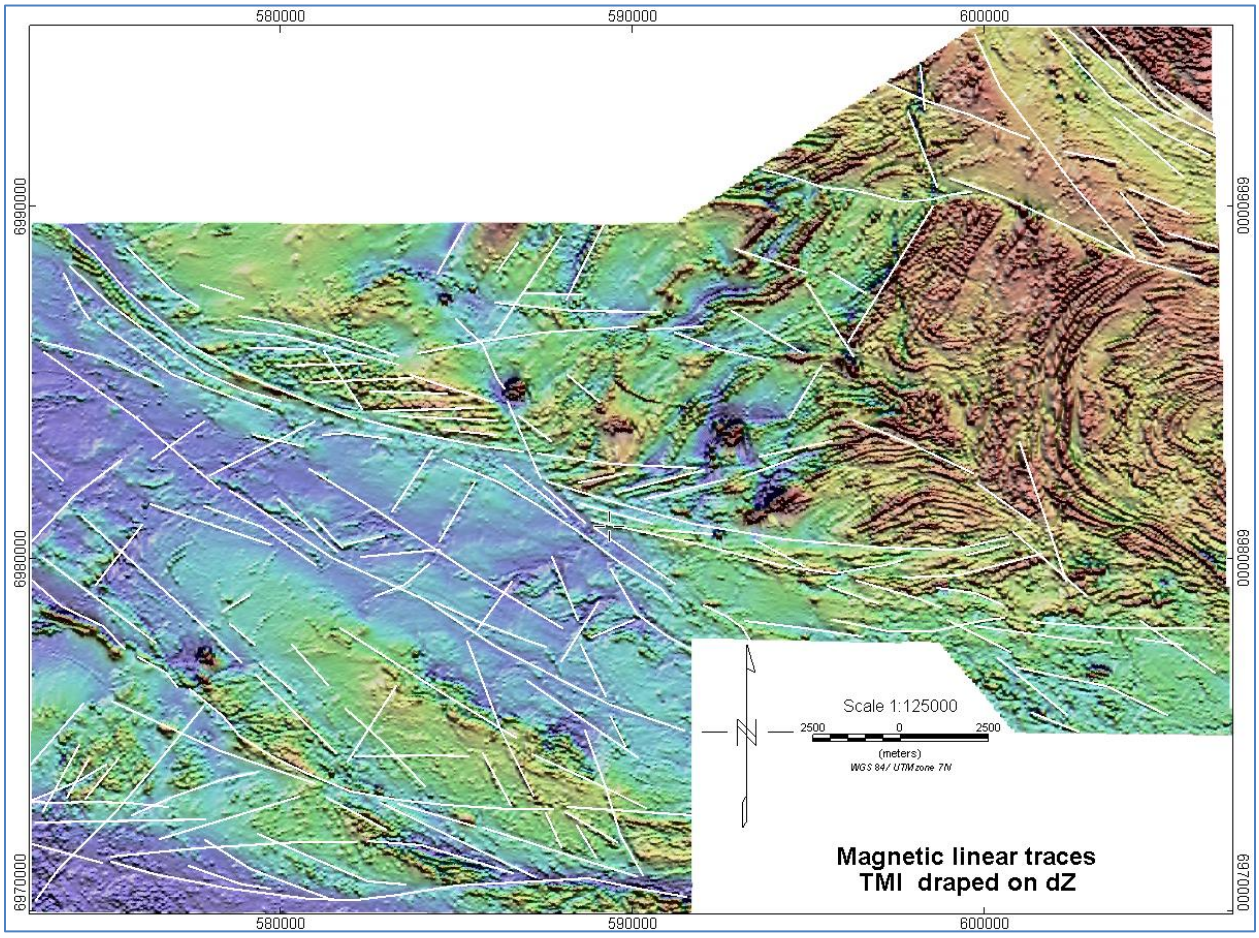


Figure 13. First pass Linear magnetic traces in white on the TMI draped on the dZ.

## Higher Amplitude Magnetic Gradient Signatures

Magnetic horizons with higher amplitude AS signatures are traced on the analytic signal grid (Figure 14). This returns several tens of magnetic signatures, some are discrete blobs, some are discrete elongated horizons, some are discrete shorter horizons, some are elevated amplitude shorter segments in longer

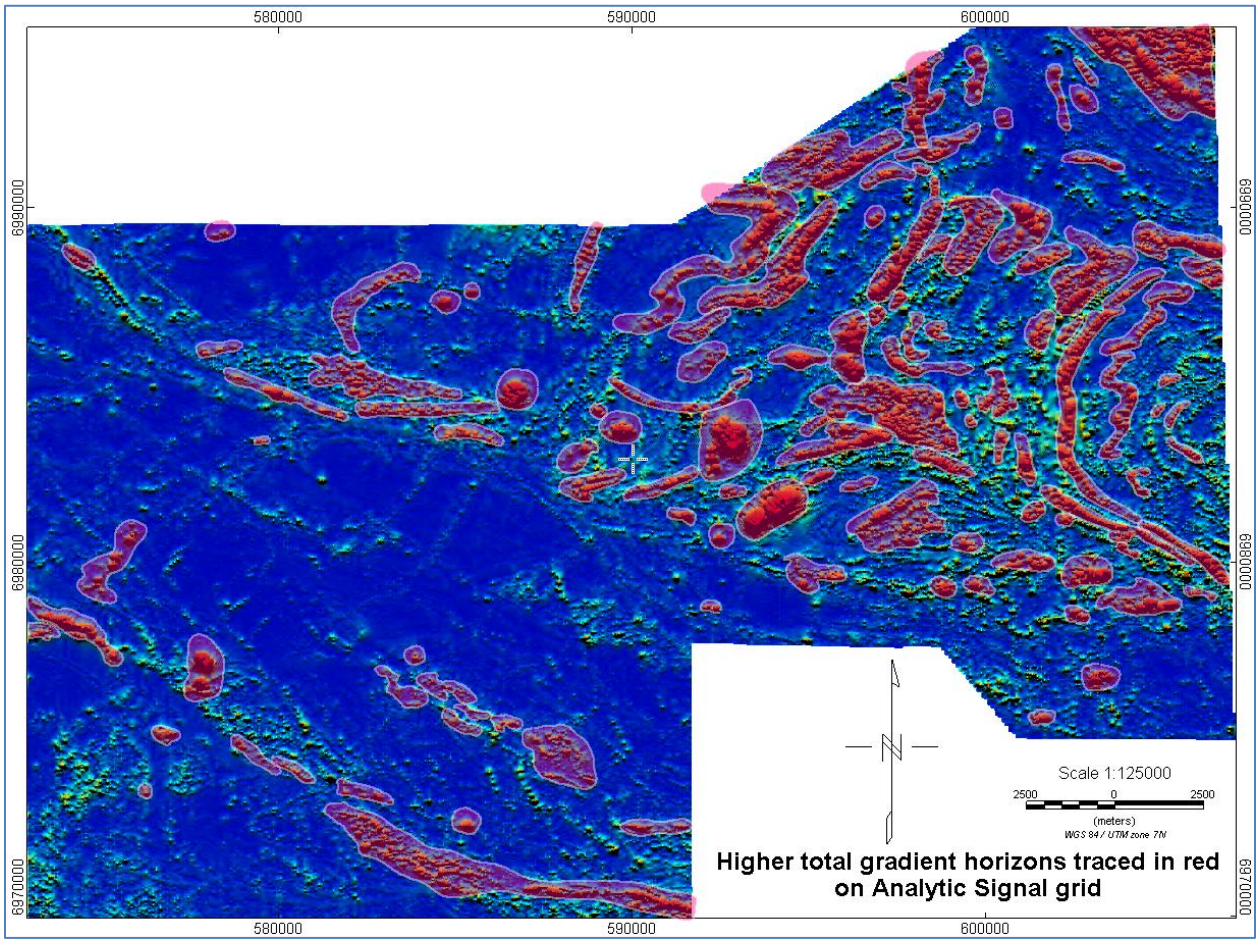



Figure 14. Traced-in higher total gradient AS signatures in red outline.

horizons, and some are apparent magnetic horizon vergings. A cursory prioritization of these numerous zones is subjective and without signature amplitude information.

To reduce the number of higher-gradient signatures or segments highlighted, the highest amplitude AS values are selectively contoured on the analytic signal grid. This quantifies and limits the traced segments above a picked AS threshold. This contour thresholding is an automated signature identification technique that subsequently allows the highest amplitude AS signatures to be ranked for field follow-up investigation. Figure 15 is a map of the top 12 higher amplitude analytic signal signatures highlighted in red outline on the grey shaded DTM image. The drainage catchments located below the higher amplitude gradient signatures could be flagged for subsequent stream sediment sampling. For

those high-gradient areas on the top of ridgelines, soil sampling can be undertaken on top of the signatures.

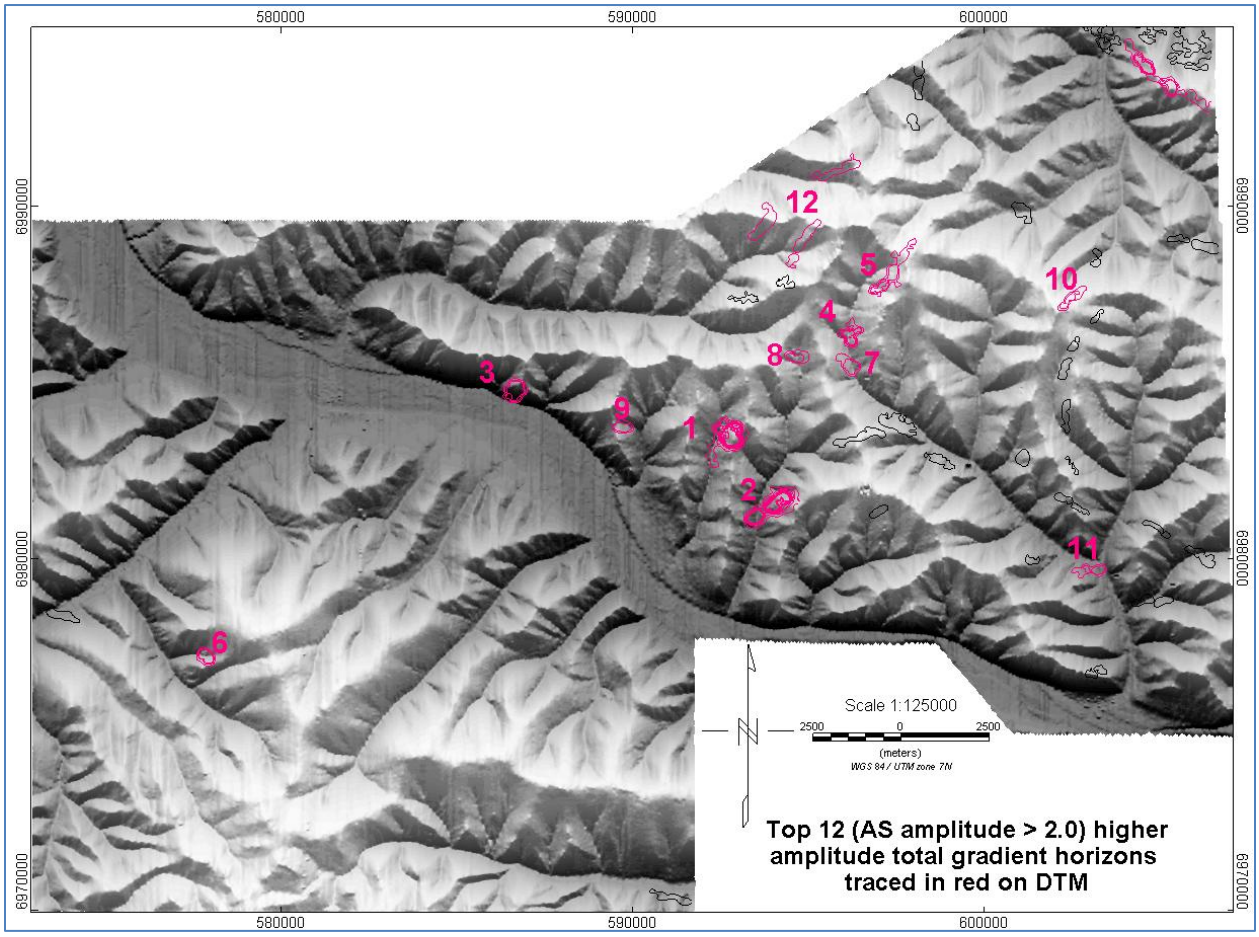



Figure 15. The “Top 12” higher amplitude AS signatures traced in red draped on the DTM grayscale image. Drainages or ridgelines can be identified for stream or soil sampling.

## Comparison of Magnetic Responses and Geochemistry

Geochemical assays were provided for the “Dan Man” and TL soil and rock samples. These assays can be plotted against the new magnetic data to identify magnetic signatures that are adjacent to or up-stream from the samples.

Figure 16 is the regional plot of the elevated gold assays. The Dan Man area on the grid southwest returns elevated AU. Figure 17 is a zoom-in on the Dan Man AU assays. Larger symbols that spectrum from blue to red shades are the higher assays. There are no obvious discrete higher gradient magnetic signatures adjacent to or upstream of the higher gold assay samples. Subtle magnetic gradient signatures are located upstream of or adjacent to both elevated AU clusters and may be of further investigative interest. One of the Top 12 discrete high magnetic gradient signatures contoured in red is

located to the SW and down-slope on the other side of the ridge away from the elevated AU assays to the NE.

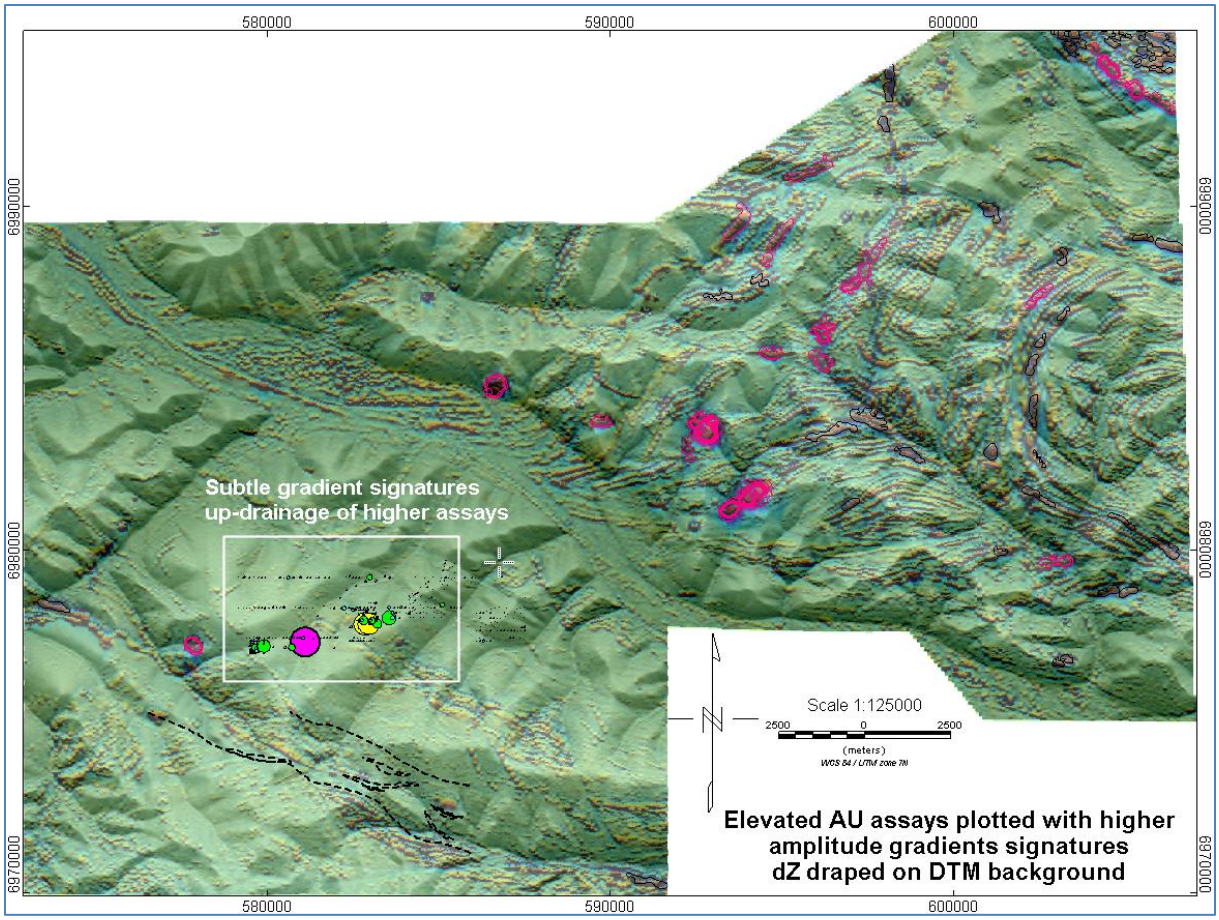



Figure 16. Elevated AU assay symbols in the Dan Man area are not adjacent to discrete higher amplitude dZ signatures. Larger red circles are the highest assays.

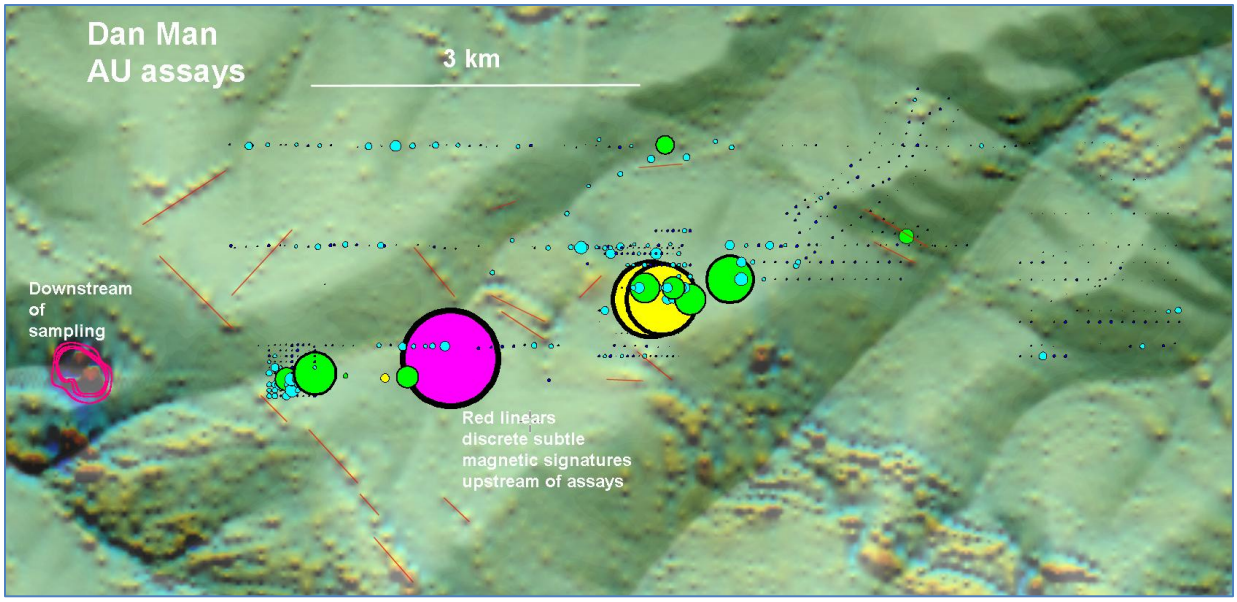


Figure 17. Dan Man AU sample zoom-in. The elevated assays are surrounded by subtle magnetic linears traced in red. One Top 12 gradient signature is on the SW backside of the drainage divide.

Figure 18 is the regional plot of the elevated arsenic assays. Figure 19 is a zoom-in on the TL and Dan Man 2010 grid assay samples. In the TL sample area elevated AS assays are both adjacent to and downstream of higher gradient magnetic signatures. In the Dan Man 2010 sample area, higher AS assays on the ridgeline are adjacent to one subtle magnetic linear traced in red. Several higher amplitude discrete gradient signatures in the Top 12 are seen on this image, only the set of 3 contoured signatures that comprise #12 on the north of the figure are upstream of elevated AS assays.

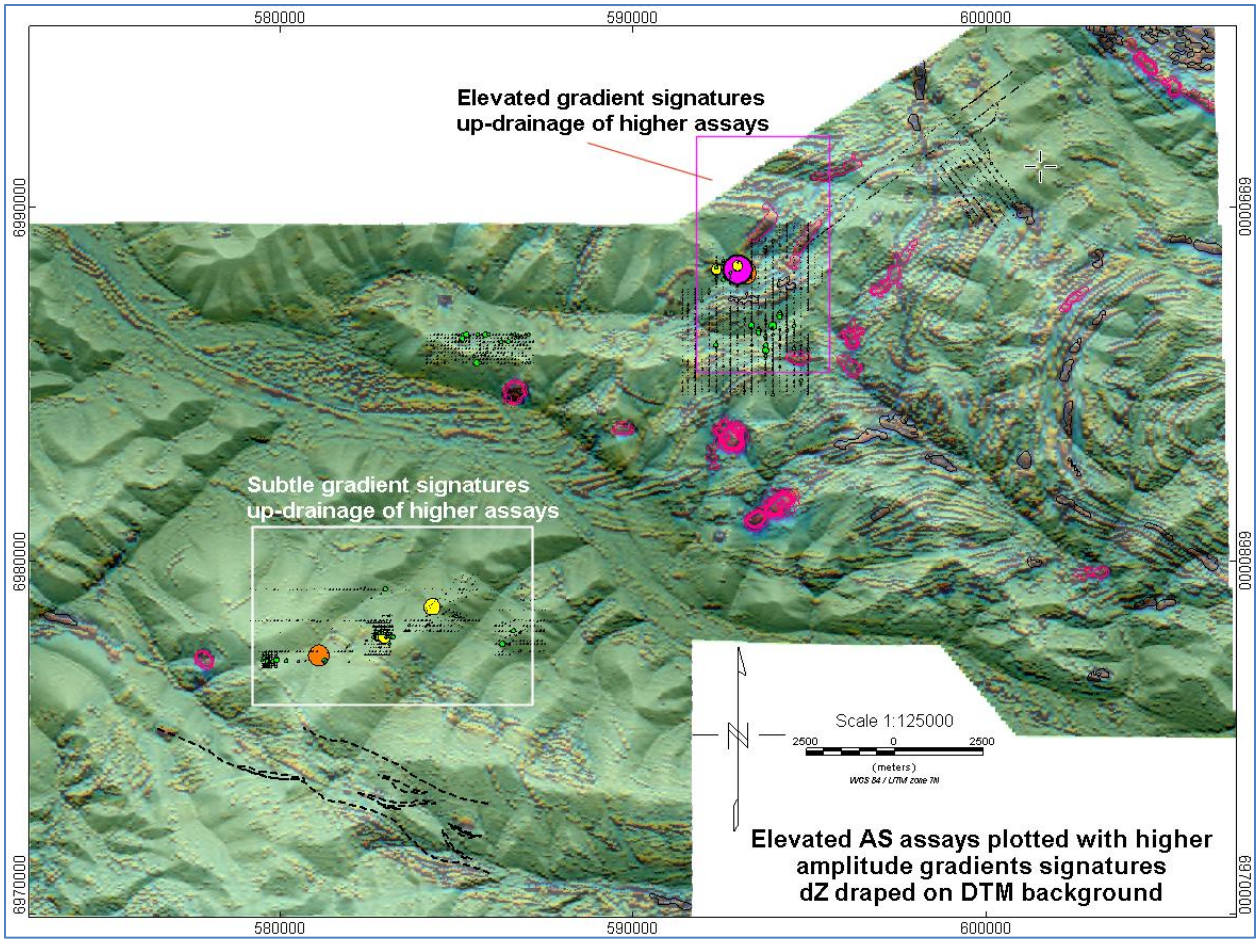



Figure 18. Elevated AS assay symbols in the Dan Man area are not adjacent with discrete higher amplitude dZ signatures. The nearest anomalous magnetic gradient signature is to the south of the local drainage divide. Larger symbols trending from blue (lower AS) to red (higher AS) shades are the elevated AS assay sites.

Figure 20 is a zoom-in on the Dan Man elevated AS assays, on the grid SW. As for the AU assays seen in Figure 17, elevated AS assays are near subtle magnetic gradient linears, there are no sore-thumb magnetic signatures adjacent to or upstream of the elevated assays.

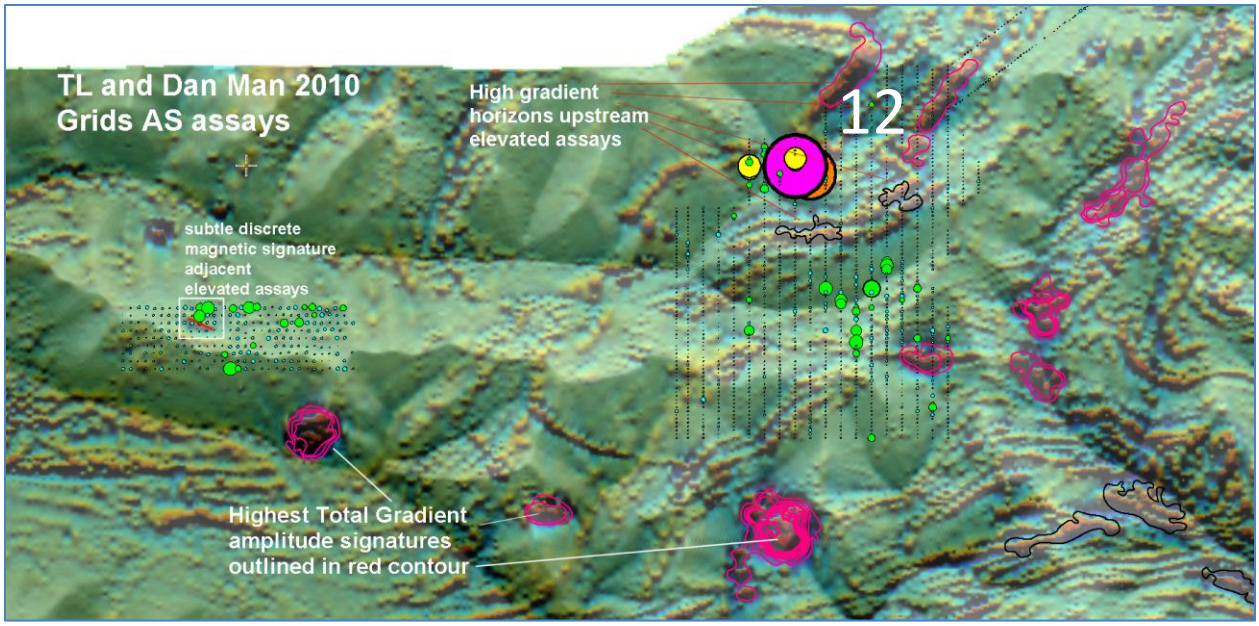



Figure 19. Zoom-in on the TL and Dan Man 2010 AS assays. The highest assays on the TL grid are downstream high gradient signature #12 from the picked "Top 12" gradient signatures.

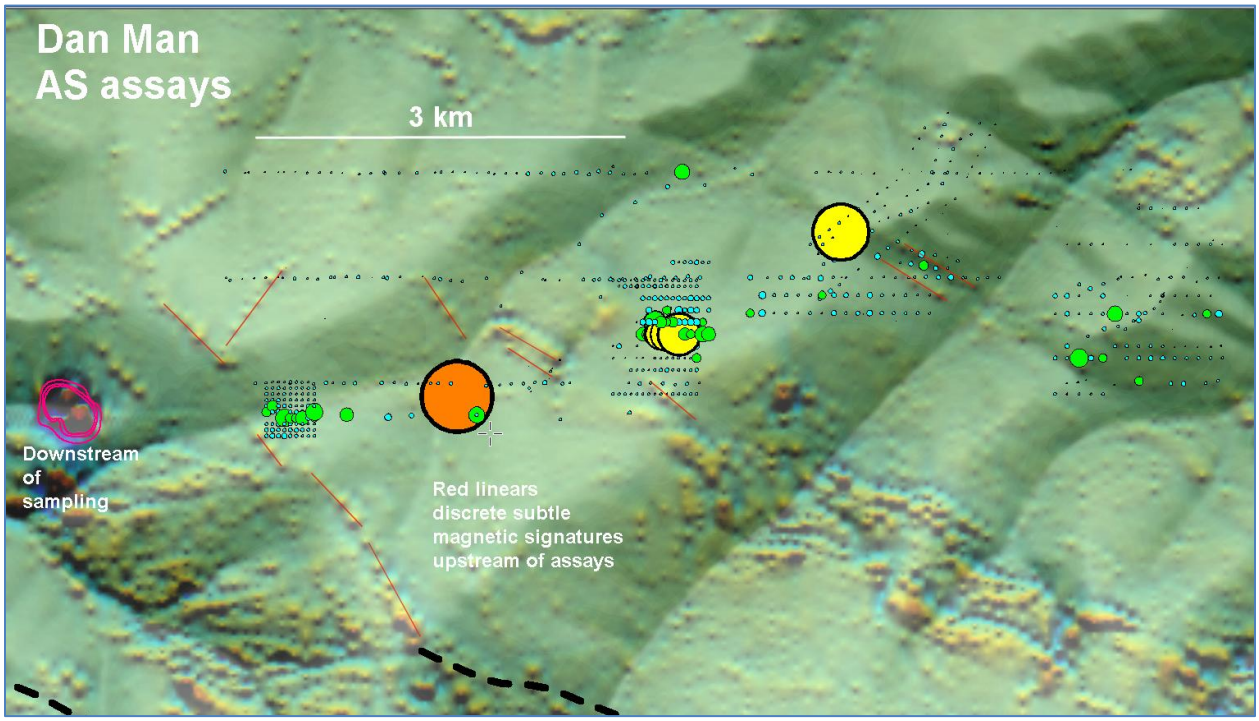



Figure 20. Zoom-in on the Dan Man AS assays. Only subtle linear magnetic gradient signatures are adjacent to or upstream of the elevated assays. The large orange symbol is the highest AS assay.

# Review of Kaminak Magnetic Signatures

A previous interpretation and drilling of the Kaminak area was undertaken, this is reviewed against the high resolution heli-magnetic data. Prior interpretive bias may exist as the past drawn linears and borehole sites appear to be selectively located on easy access ridgelines. Figure 21 shows the location of the various Coffee-named zones.

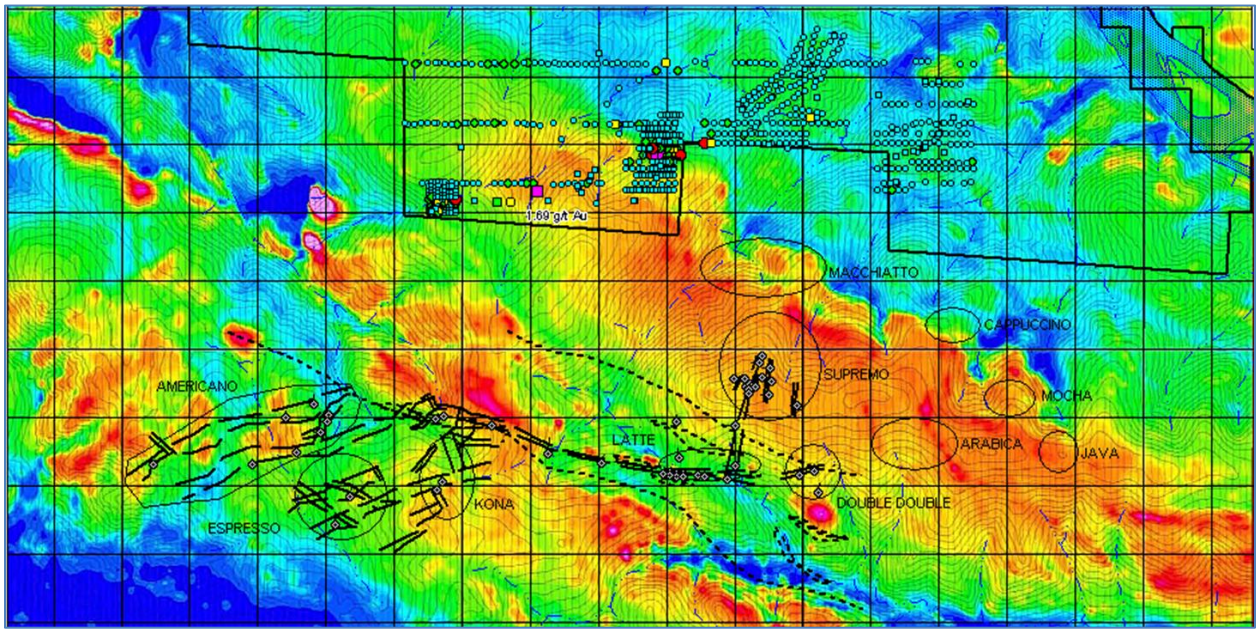



Figure 21. Image showing the location of the Coffee-names zones with the existing geologic interpretation and sample sites.

## Americano

This Zone's prior interpreted NE-SW trending magnetic texture matches the TA grid texture, that appears to track a topographic ridge. The dominant magnetic strike is sub-perpendicular to a large (20 km on the grid) NW-SE striking magnetic zone that asymptotes in a listric manner into a 2$^{nd}$ large E-W striking magnetic linear on the far south of the survey grid. Only two drill holes, CFD058 and CFD066 appear drilled into higher amplitude gradient signature, four of the other holes are drilled into the northeast periphery of a subtle circular magnetic signature. A discrete higher amplitude magnetic signature is located 1400 m north of this Zone.

## Espresso

The prior interpretation was a conjugate NE-SW and SE-NW striking magnetic grain. The TA grid maps a predominantly NE-SW grain. The two existing drill holes are sited into low amplitude nebulous TA signatures; there are no obvious dZ or TMI signature to target in this Zone.

## Kona

The previous interpretation's NE-SW striking magnetic texture matches the aeromagnetic texture. The two prior holes in this Zone are drilled into nebulous magnetic signatures.

## Latte

Ten holes are drilled into a NW-SE striking magnetic curvilinear to the north of the NW-SE striking 20 km magnetic zone. The northern signature curves from an E-W striking signature on the east into a NW-SE striking signature as it merges into the larger regional magnetic zone. This curvilinear could be either a listric merger or a splay. The boreholes are sited at the juncture where the horizon's E-W strike curves northwestward. The holes on the curvilinear look well sited to intersect the signature. Two separate holes in the east of the Zone are drilled into a NW-SE striking linear that crosscuts the east-striking curvilinear. The eastern end of the curvilinear strikes into a NE-SW striking magnetic linear that traverses across the central part of the survey grid, that strikes into the southern zone of the TL license survey area. This NE-SW linear traces two Yukon-perpindicular tributary drainage channels on the north and south of the main Yukon River channel.

## Double Double

The original interpretation of NE-SW striking linears is also evident on the TA grid. A conjugate SE-NW linear on the TA grid crosscuts this though. Overall, the magnetic texture in this small Zone is poorly defined. The two holes in this Zone appear well-sited to intersect the first linear. A discrete higher amplitude and more obvious magnetic signature is located on the south periphery of this Zone.

## Supremo

The previous interpreted N-S striking magnetic grain is not duplicated on the heli-mag data. The heli-mag data is nebulous, not coherent in this Zone. Two larger nebulous TA linears strike E-W and WNW-ESE respectively, but the two don't have stand-out dZ signatures for targeting. The WNW-ESE grain parallels an exposed ridge face. A vague NNE-SSW striking grain parallels a drainage perpendicular to the ridge face. It is not known what was being targeted by the several drill holes in this Zone beside the ridge top. The holes are at the head of the NE-SW striking Yukon tributary that might track a fault? For possible future targeting, a more-magnetic NW-SE striking horizon is located on the northeast periphery of the Zone.

## Machiatto

There are no drill holes sited in this Zone. The Zone's magnetic texture is a nebulous disruption of a smooth background response. There is a general NW-SE grain, with a secondary E-W grain, with one more prominent NE-SW striking linear on the Zone west. Several dZ horizons could be selected for targeting in this Zone, though these are subtle, not outstanding, dZ signatures. On the western Zone periphery is a group of 2-3 discrete gradient signatures with a higher background TMI amplitude that could be targeted.

## Arabica

Two NW-SE striking dZ linears cut through the eastern and western sides of this Zone. An E-W striking curvilinear traverses across the south of the Zone, its northern apex protrudes northward into the Zone. There are no drill holes in this Zone but these three signatures could be targeted.

### Java

This is the southwestern-most circled area in a larger Zone of disrupted background magnetization that traverses NW for 6 km past the Zone Macchiato. The regional magnetic grain of Java matches the larger zone's NW-SE strike. The more prominent dZ signatures to the NW of Java could be targeted.

### Mocha

This is also located in the larger NW-SE striking disrupted zone that contains Java. The main magnetic grain of this Zone is also NW-SE, though there is a subtle E-W grain on the Zone north. The better magnetic signatures to target are on the northeast periphery of Mocha, just outside the Zone.

### Cappuccino

Cappuccino is located 1300 m to the NW of Java. There is one discrete dZ signature in the south of the Zone. There is not a coherent magnetic grain to this Zone, but subtle magnetic linears trend NW-SE. Higher amplitude magnetic signatures are found just to the west and south of this Zone.

## Fingerprinting the Kaminak Magnetic Signatures

The magnetic structure of the Kaminak area surrounding existing drill hole sites is studied, as are the magnetic signatures and structures in the vicinity of the Dan Man and TL grid sample grids. Magnetic patterns in these areas are identified. As known mineralization exists at Kaminak, magnetic signatures from Kaminak can be used to "fingerprint" other magnetic signatures in the license areas for sample site selection, though the sample site selection is not just limited to Kaminak style magnetic signatures. Any higher-amplitude or otherwise "interesting" magnetic signature could be picked.

Figure 22 shows the main magnetic structural elements in the Kaminak region immediately adjacent to the 11 Coffee Zones and sample sites. The black lines were the prior field interpretation. The grey and white lines are the larger Condor-traced elements. The two largest regional linears are outlined by the thick grey lines. The large southern linear traverses E-W through the survey area, the 2$^{nd}$ more northern large linear traverses NW-SE through the property and intersects the southern linear in a listric manner. This linear may actually split magnetic Domain 10 into two sub-domains. The southern linear looks more like a discrete break or fracture, whereas the northern linear traces out a much wider zone of more-complex higher amplitude shorter magnetic signatures that are strung out generally sub-parallel to parallel along a larger NW-SE linear zone. At least one of the shorter sub-parallel signatures adjacent to the larger magnetic zone is a curvilinear that merges into or splays out of the magnetic zone. The primary strike direction of the larger linears in the survey area is NW-SE, parallel to the Yukon. A prominent secondary strike direction is NE-SW, conjugate to the primary strike direction. The NE-SW linears often trace short Yukon drainage channels in the mountains that flank the river.

The Latte Zone has one distinct curvilinear magnetic signature on its west that curves NW and strikes into the large NE-SE striking magnetic zone traced by the grey line. This listric type signature may rather be a splay, at present it is not known what the signature is. The curvilinear is crosscut by a 2$^{nd}$ more

north-striking NW-SE linear. A subtle NE-SW striking magnetic linear also intersects the Zone that may be the southward magnetic signature extension of the drainage channel to the north of the E-W trending drainage divide. This Zone has a dozen boreholes. The listric (or splaying) curvilinear striking into a larger regional linear is chosen to be one of magnetic fingerprints for Kaminak.

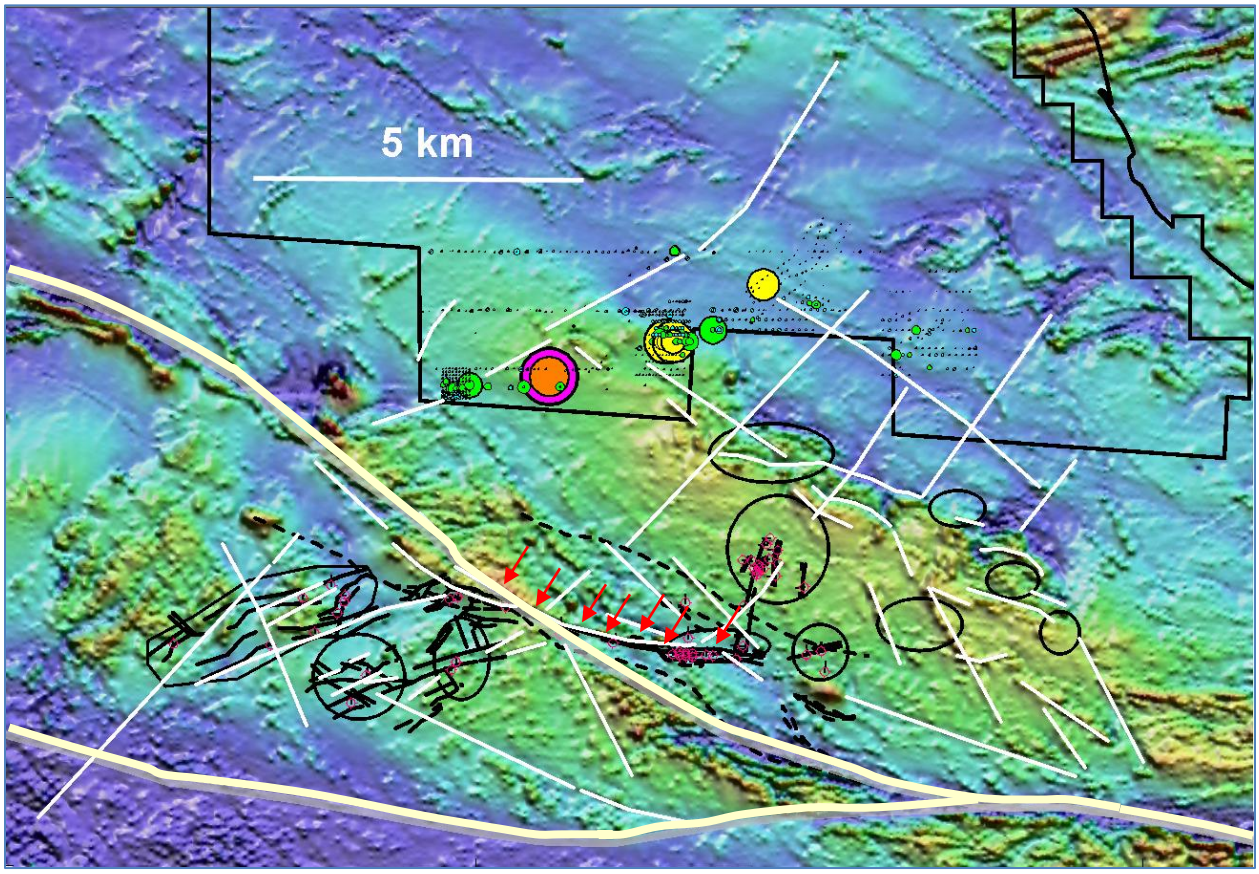



Figure 22. Main magnetic structural elements at Kaminak with the prior interpretation in black line, sample sites as colored circles with assays modulated by size and color, and the 11 Coffee Zones as open black circles or ellipses. The red arrows point out the listric (or splaying) curvilinear that was drilled in the Latte Zone.

The Supremo Zone has more than 10 drill holes and is sighted at the crest of a drainage divide. A NE-SW striking magnetic linear that tracks a NE-SW tributary drainage channel strikes into the Zone. On the south side of the E-W trending drainage divide a subtle magnetic curvilinear strikes SW out of the Zone. It's not known if this linear traces the dip of the southward extension of the northern linear that tracks the drainage. Subtle magnetic signatures that track drainage channels would be chosen to be the 2nd Kaminak magnetic fingerprint if these drainages could be sampled but apparently they cannot due to talus. In light of this ridgelines and mountain crests above the tops of these drainage channels are selected as the sample sites particularly if they are traversed by magnetic horizons or have discrete magnetic signatures.

Zones Americano, Espresso Kona and Double Double's 's boreholes are drilled amongst shorter NE-SW and NW-SE striking magnetic linears located several hundred metres distance from the larger magnetic

structures,  and drilled on nebulous magnetic signatures in most cases. The only inference that can be drawn from this is that ridge lines and crests with mappable magnetic signatures that in some cases strike toward larger regional magnetic linears can be prioritized as potential borehole targets.

## Sample Site selection

A detailed magnetic linear interpretation (Figure 23) was superimposed on the DTM grid and 33 sample sites on ridgelines and ridge crest were picked as potential sample sites (Figure 24). The red polygons in Figure 23 are discrete zones of higher amplitude magnetic response.

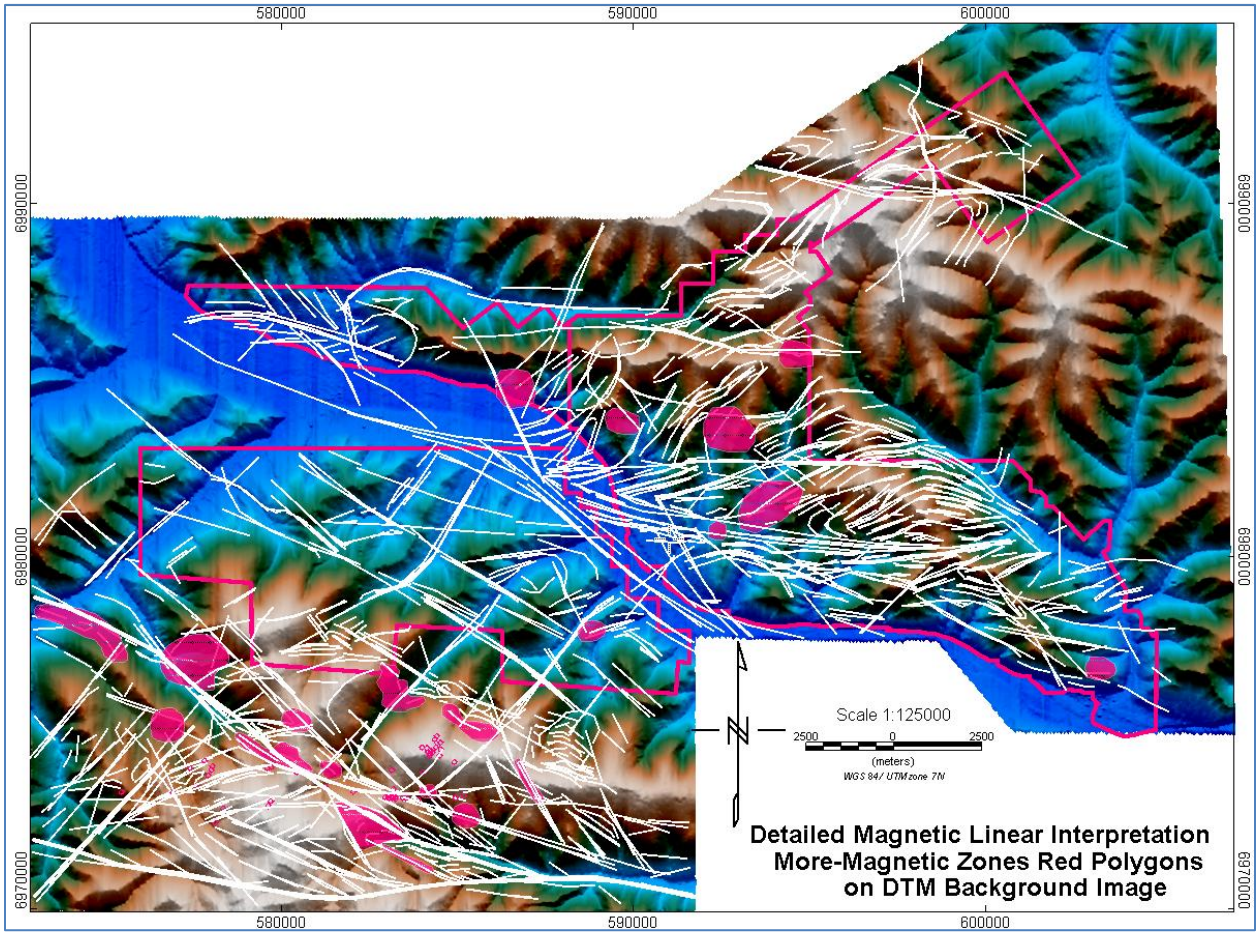



Figure 23. Detailed magnetic linear interpretation in white line with red polygons being discrete local zones of higher amplitude magnetic response.

The 33 sample sites in Figure 24 were located on top of either higher response discrete magnetic signatures or magnetic horizons, or just down-slope from these signatures.  Sites were picked on top of ridgelines or ridge crests, or mountain peaks, which should facilitate access. The new sample sites were picked outside of the existing Dan Man, Dan Man 2010, and TL sample grids.  The 33 sample sites are

listed in the Sample Site Table below. Geologic or site access information not available to the writer at the time of report writing could reprioritize any of the sample sites to a higher or lower status.

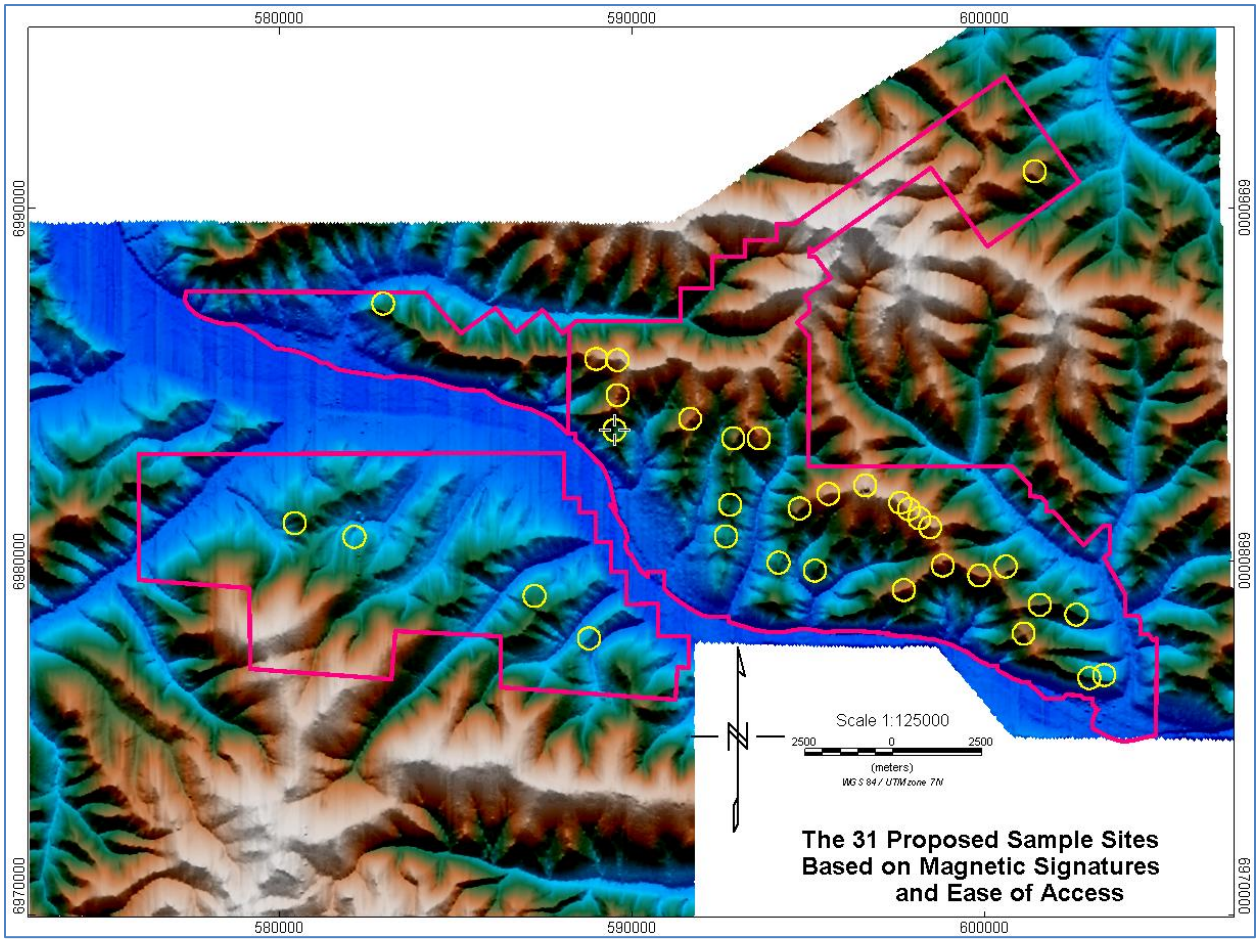



Figure 24. The 33 proposed sample sites on the DTM grid.

## Table of 33 sample sites

| X | Y | DTM | ID | License | Notes | Rank |
|---|---|---|---|---|---|---|
| 599825 | 6979618 | 949 | 1 | TL | A kms long ENE-WSW striking linear, sited in southward bend in signature | Moderate |
| 601087 | 6977973 | 934 | 2 | TL | NW-SE linear | Low |
| 589573 | 6984725 | 980 | 3 | TL | Down slope discrete higher amplitude magnetic signatures | High |
| 580419 | 6981100 | 731 | 4 | Dan Man | On top of a NW-SE striking subtle linear | Low |
| 582112 | 6980712 | 623 | 5 | Dan Man | Just down slope of a ENE-W-SW striking subtle linear | Low |
| 587218 | 6979037 | 768 | 6 | Dan Man | On top of the higher amplitude response in a magnetically disrupted area | Low |
| 588763 | 6977835 | 660 | 7 | Dan Man | On top of a discrete higher amplitude response | Moderate |

| | | | | | | |
|---|---|---|---|---|---|---|
| 603367 | 6976796 | 649 | 8 | TL | Near the top of a ridge, on top of a discrete magnetic signature | Moderate |
| 602948 | 6976714 | 751 | 9 | TL | On the top of a ridge, on top of a discrete magnetic signature | Moderate |
| 602581 | 6978512 | 779 | 10 | TL | ESE-WNW striking magnetic linear, on a ridge | Moderate |
| 600579 | 6979870 | 854 | 11 | TL | On top of a NE-SW striking magnetic linear, on a NE sloping ridgeline | High |
| 598792 | 6979901 | 989 | 12 | TL | On top of the kink in a NE-SW striking magnetic linear, on a ridgeline | High |
| 597688 | 6979206 | 953 | 13 | TL | On top of a magnetic linear crossroads, main strike is ESE-WNW, on a ridgeline | Moderate |
| 595166 | 6979758 | 779 | 14 | TL | Just north of the peak response of an E-W linear, on a ridgeline | High |
| 598434 | 6980984 | 1066 | 15 | TL | On top of one magnetic linear in the E-W striking elliptical magnetic structure, on a ridgeline | High |
| 598128 | 6981239 | 1098 | 16 | TL | On top of one magnetic linear in the E-W striking elliptical magnetic structure, on a ridgeline | High |
| 597831 | 6981494 | 1097 | 17 | TL | On top of one magnetic linear in the E-W striking elliptical magnetic structure, on a ridgeline | High |
| 597586 | 6981678 | 1094 | 18 | TL | On top of one magnetic linear in the E-W striking elliptical magnetic structure, on a ridgeline | High |
| 596596 | 6982168 | 1126 | 19 | TL | On a NE-SW striking linear, on a ridgeline | Moderate |
| 592645 | 6980727 | 735 | 20 | TL | On a ridgeline the east side of a discrete magnetic signature, might be necessary to traverse west down slope a few tens of metres to get on top of the signature | Moderate |
| 588969 | 6985749 | 1062 | 21 | TL | Subtly elevated magnetization in a NNE-SSW striking magnetic linear, on a ridgeline | Low |
| 589571 | 6985716 | 1117 | 22 | TL | Subtly elevated magnetization in a N-S striking magnetic linear, on a ridge crest | Low |
| 591629 | 6984054 | 962 | 23 | TL | On a NNE-SSW striking magnetic linear, on a ridgeline | Low |
| 593581 | 6983502 | 958 | 24 | TL | ME-SW striking magnetic linear, on a ridge crest above a highly magnetic rock down slope to the west | Moderate |
| 601398 | 6991067 | 939 | 25 | TL | Subtle NE-SW striking linear on a ridge crest | Low |
| 582927 | 6987321 | 731 | 26 | Dan Man 2010 | On top of an E-W striking magnetic linear, a few tens of metres down slope of a ridgeline | Low |
| 594138 | 6979978 | 748 | 27 | TL | On a ridgeline just down-slope to the north of a ESE-WNW striking magnetic linear | High |
| 589486 | 6983737 | 805 | 28 | TL | On top of discrete higher amplitude magnetic signature | High |

| | | | | | | |
|---|---|---|---|---|---|---|
| 601542 | 6978787 | 877 | 29 | TL | On a plateau down slope of an E-W striking magnetic linear | High |
| 592761 | 6981620 | 773 | 30 | TL | On a ridgeline just south of a peak magnetic signature, To the west up-slope is a much higher magnetization lithology | High |
| 592854 | 6983500 | 892 | 31 | TL | On a ridgeline on top of the highest magnetic response rocks in the TL zone | Highest |
| 595552 | 6981932 | 1052 | 32 | TL | On a magnetic linear on a ridge crest | High |
| 594735 | 6981516 | 915 | 33 | TL | On a ridge with a magnetic signature, may be difficult access | Highest |

# Conclusions

The Kirkman dataset was microleveled and filtered to provide higher-resolution magnetic grids with less line level corrugation. The analytic signal amplitudes were used to as a first pass to prioritize 12 higher amplitude AS signatures for possible field investigation. When the AS signatures are superimposed on topography, they identify local drainages and topographic ridges as potential stream or soil sampling sites. The available geochemistry data when plotted on magnetic imagery draped on topography provides information on discrete magnetic horizons locations relative to elevated assays and locates the drainage catchments that include the assay sample sites.

A basic magnetic linear interpretation was undertaken over the survey grid with no prior geologic knowledge of the survey area to locate the major structural elements on the grid. The more-obvious magnetic linears identifiable in the dZ grid were traced out, and 11 magnetic domains were identified, based on local magnetic gradient textures and background TMI amplitudes. Some Domain magnetic textures may be influenced by topography. The extreme topography in the Kirkman survey grid complicates the interpretation of magnetic horizon geometry. Erosion effects on magnetic units in extreme topography can mimic both faulting and folding and cause misinterpretation of the magnetic data. Draping the magnetic images on the DTM grid aids the interpretation. The “Z” folds near high gradient AS signature #12 on Figure 15 may not be folds, but flatiron type signatures that result from a continuous N-S striking magnetic horizon traversing across an incised V-shaped drainage. Also, what may be interpreted as broad open folding in the mountains of the grid east near high gradient AS signature #10 may rather be N-NE to S-SW striking linear magnetic signatures that dip to the E-SE, with the “folds” being the 3D topographic representation of eroded linear magnetic horizons.

That topography may shape some of the magnetic signatures on the Kirkman grid doesn’t preclude there being evidence of significant geologic structures like folds and faults including normal, reverse, or thrust faults in the magnetic data. The significant changes in TMI character between Domain 4 and adjacent Domains 3 and 7 indicate there may be either vertical or lateral offsets between these zones. The complexity of the magnetic horizon geometry in Domain 4 may indicate that magnetic horizon folding and not just topography may contribute to this Domain’s complex geometry. In some locations

magnetic horizons and textural domains appear horizontally disrupted across regional magnetic linears that may be lateral movement faults. The southward kink in the Yukon River channel in the center of the survey grid may be one site to check for a significant lateral offset. En-Echelon magnetic horizons and magnetic linears that asymptote up against or splay away from other magnetic linears are also noted in the Kaminak and Yukon River channel areas. It is not known if these magnetic signatures are sites of listric faulting or splays, but the signatures are spoon-shaped. The change in magnetic texture from north to south in Domain 10 across a 20 km long NW-SE striking linear zone of magnetic signature complexity that asymptotes into a 2nd longer E-W striking magnetic linear 2nd may indicate lateral movement of the "wedge" bounded on the north and south by the two regional linears. Any geologic mapping of the survey area would aid the geophysical interpretation of the data. Inversion plate modeling and profile analysis of the magnetic horizons in specific areas would help further a more detailed geophysical interpretation for these areas.

A more detailed magnetic signature analysis was completed for the Kaminak area and the license blocks north of Kaminak. This was undertaken to "fingerprint" the magnetic signatures in the Kaminak area, including the 11 Coffee Zones, that is an area of known mineralization. The more detailed magnetic signature vectors were then overlain on the DTM for the subsequent location of potential sample sites. The most diagnostic Kaminak magnetic signature fingerprint was the curvilinear obtained from the well-drilled Latte Zone. The subsequent Magnetic signature search in the Dan Man and TL licenses to the north wasn't just limited to curvilinear signatures though; all identifiable magnetic signatures near ridge crests or mountain tops were considered. Magnetic signatures in drainages, including those that may indicate highly magnetic rocks or fold structures such as verging or hinges were ignored due to reported field access difficulties such as talus slopes.

Respectfully Submitted,



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May 13 2011
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# Review of Precision Geosurveys Final Kirkman Delivery (5) Magnetic Data from the Yukon

**Condor Consulting**
**Lakewood, CO USA**

# Delivery 5

**Height deviation- Topography**

The final delivery 5 adds 603 km for a total of 6931 Kirkman line km, the complete flight and tie line data set is seen in Figure 1 covering the DTM image. The red-colored altitude deviation line segments show there are no new line segments flown higher than the tolerance of 10 metres above the 35 meter nominal height, over distances longer than 1000 m. The red line segments flagged on the older lines L260, L1150, L1170, and L1180 as pointed out in prior reviews are located in severe terrain and were flown higher for safety reasons. The cross-line DTM striping seen on the image, that is offsets of a few meters, is expected particularly in severe terrain like this. There is 1353 m of relief on the grid.

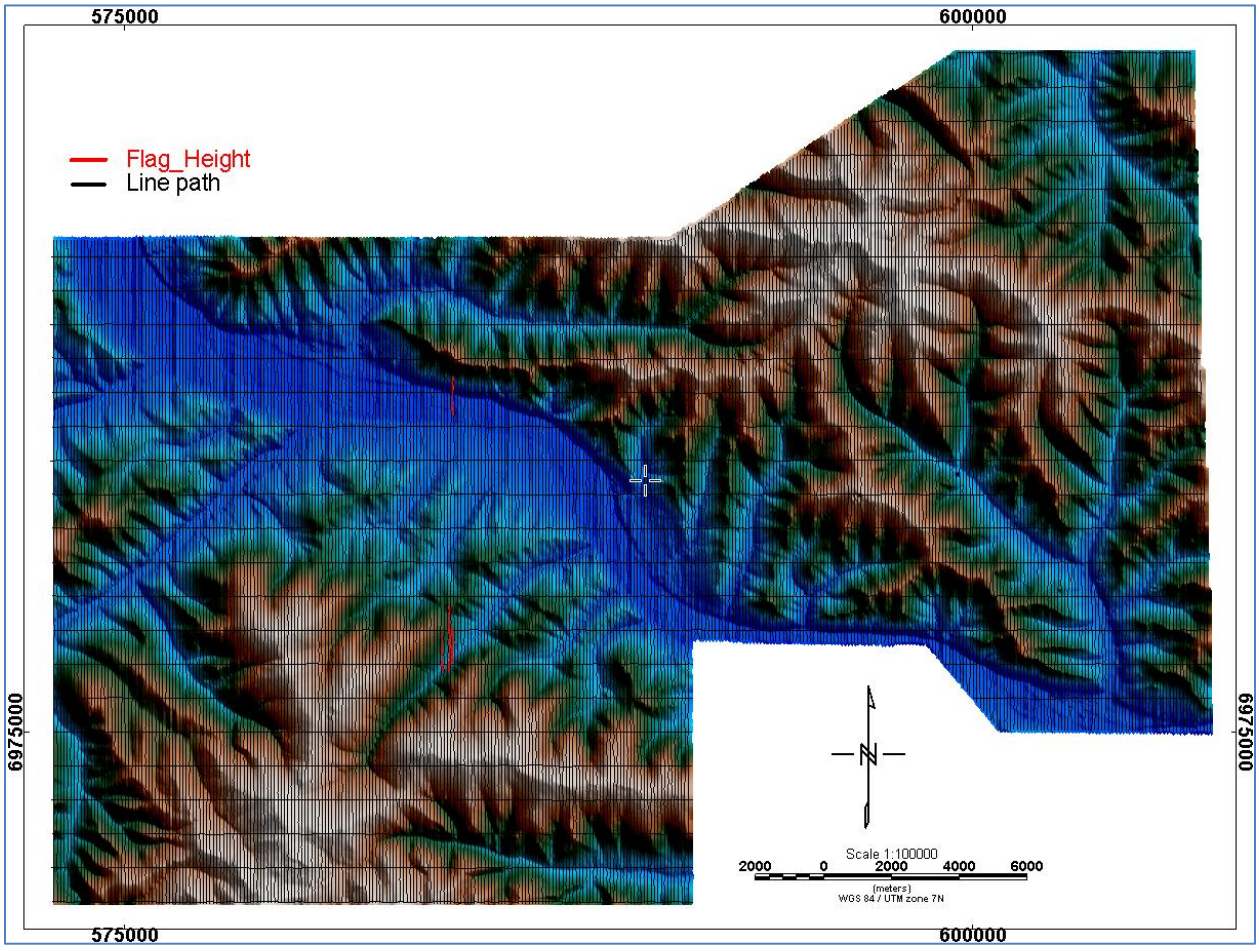


Figure 1. Final Kirkman lines in black, No new line segments exceed the height tolerance of > 10 m above 35 metres.

**Line Separation & Deviation**

Figure 2 below is a plot of the line separation. No new lines deviate past the tolerance of greater than 20 meters deviation over 1000 m line segments. The one red line on the south reflects the several km wide gap to the flight lines to the east of the north arrow.

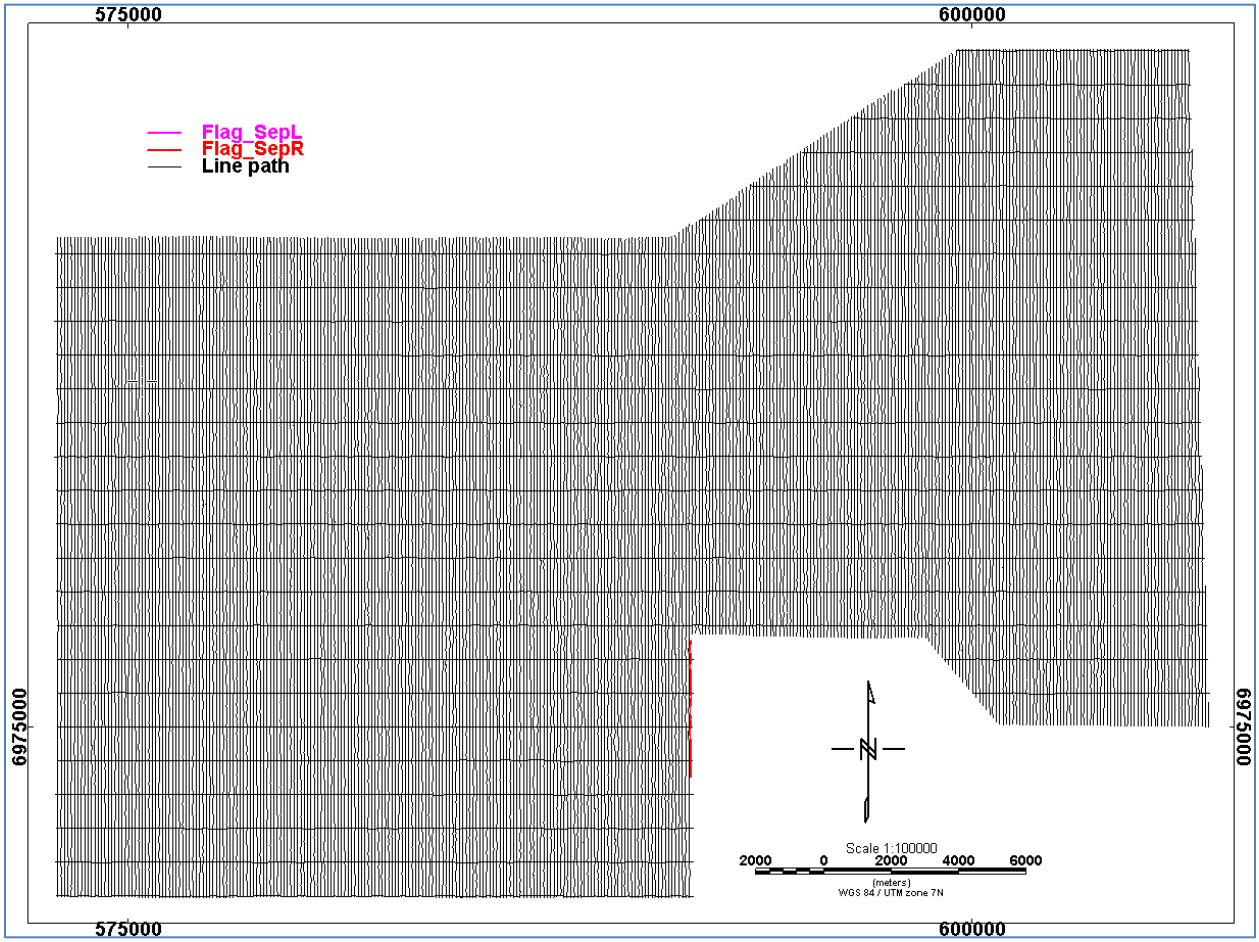


Figure 2. Flight line separation and deviation are within tolerance, no line segments are flagged as excessive anywhere on the grid. The one red line flags the line gap containing the north arrow.

**TMI and noise spikes**

Figure 3 is a plot of the 4th difference noise response. Some fourth difference spikes appear to arise from higher magnetic gradients associated with geology, i.e. are real geologic responses. One of these areas is enclosed by the box in Figure 3 on lines L1970-L2020.

There are a few hundred randomly scattered fourth difference noise spikes in the Kirkman dataset that are generally a few tens of metres long and a few tens to a few hundred nT in amplitude, the yellow line links the plan location of a 4th difference flag with one of the spikes on line L1880. Most of these are near topographic breaks, either near the top of ridges or near valley bottoms. Most of these don't have an associated basemag spike or step. It's assumed these are due to the changing magnetic sensor orientation/position with respect to surrounding magnetic topography, that it is a consequence of magnetic surveying in severe terrain with a rapidly moving helicopter-borne magnetic sensor. These spikes do not exceed the diurnal tolerance specification.

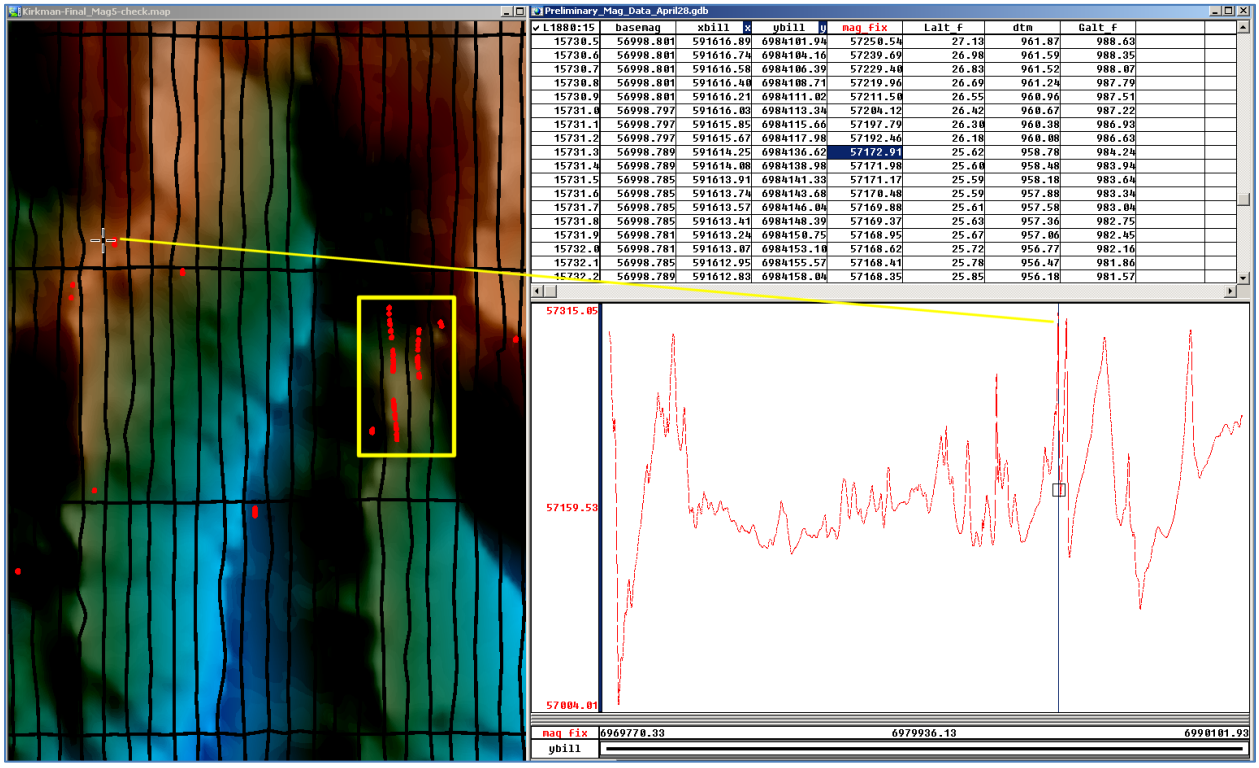

Figure 3. Lines L1970-L2020 appear to have a high natural magnetic gradient. The yellow line links one random ~100 nT spike over ~ 40 metres on the top of a ridge.

**dX and line leveling**

Figure 4 below shows the residual line level effects in the TMI data. The most noticeable line effect is on L250. Figure 5 illustrates the enhancement of TMI line level noise by the x-derivative filter. Subtle TMI line leveling effects become more noticeable when the dX filter is run through the data, returning the north-south striping seen in  Figure 5. Precision Geosurveys have advised that final leveling of this field dataset should reduce much of the preliminary data level effects seen below.

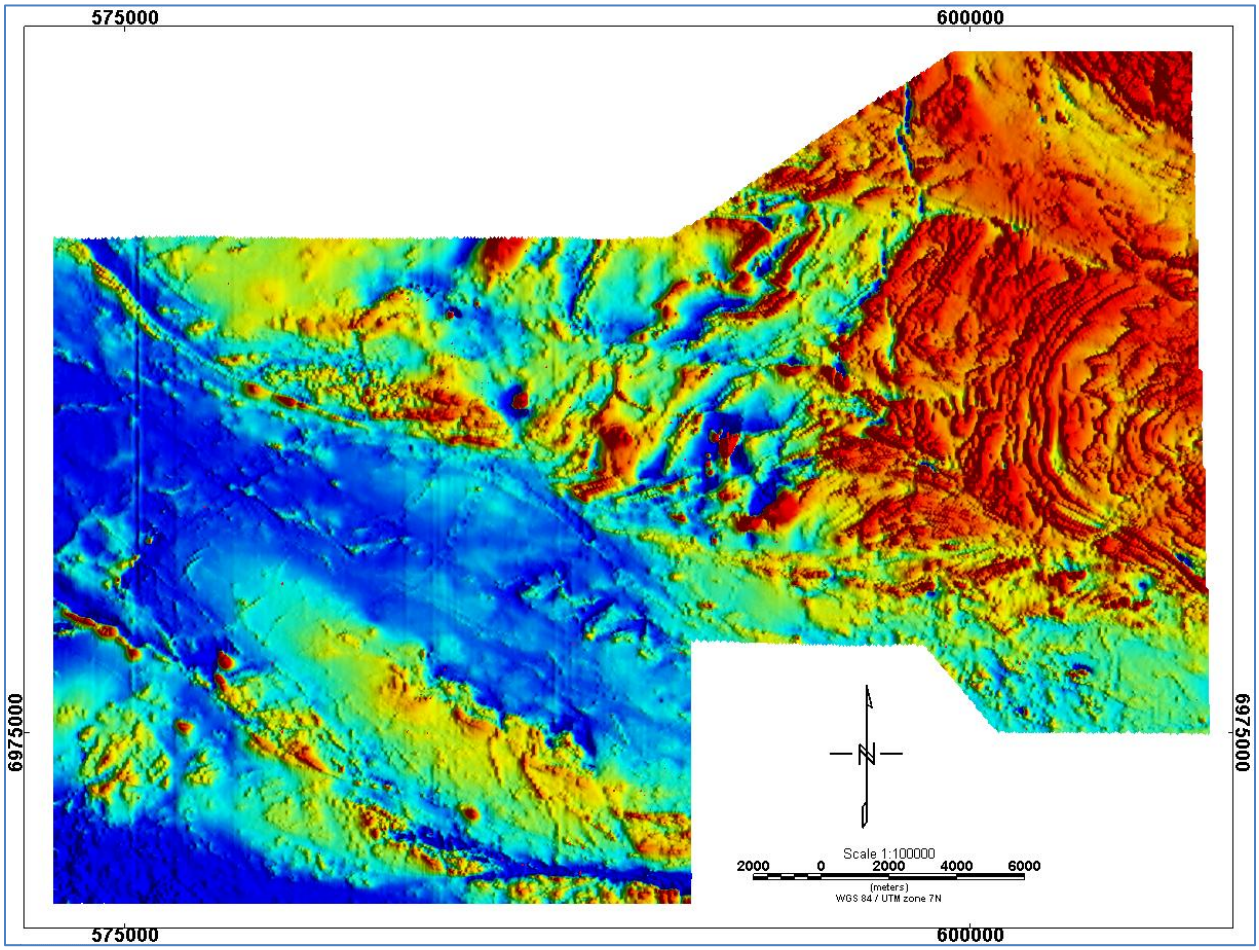


Figure 4. Final Kirkman field TMI grid, L250 on the grid west is the most noticeable line level effect.

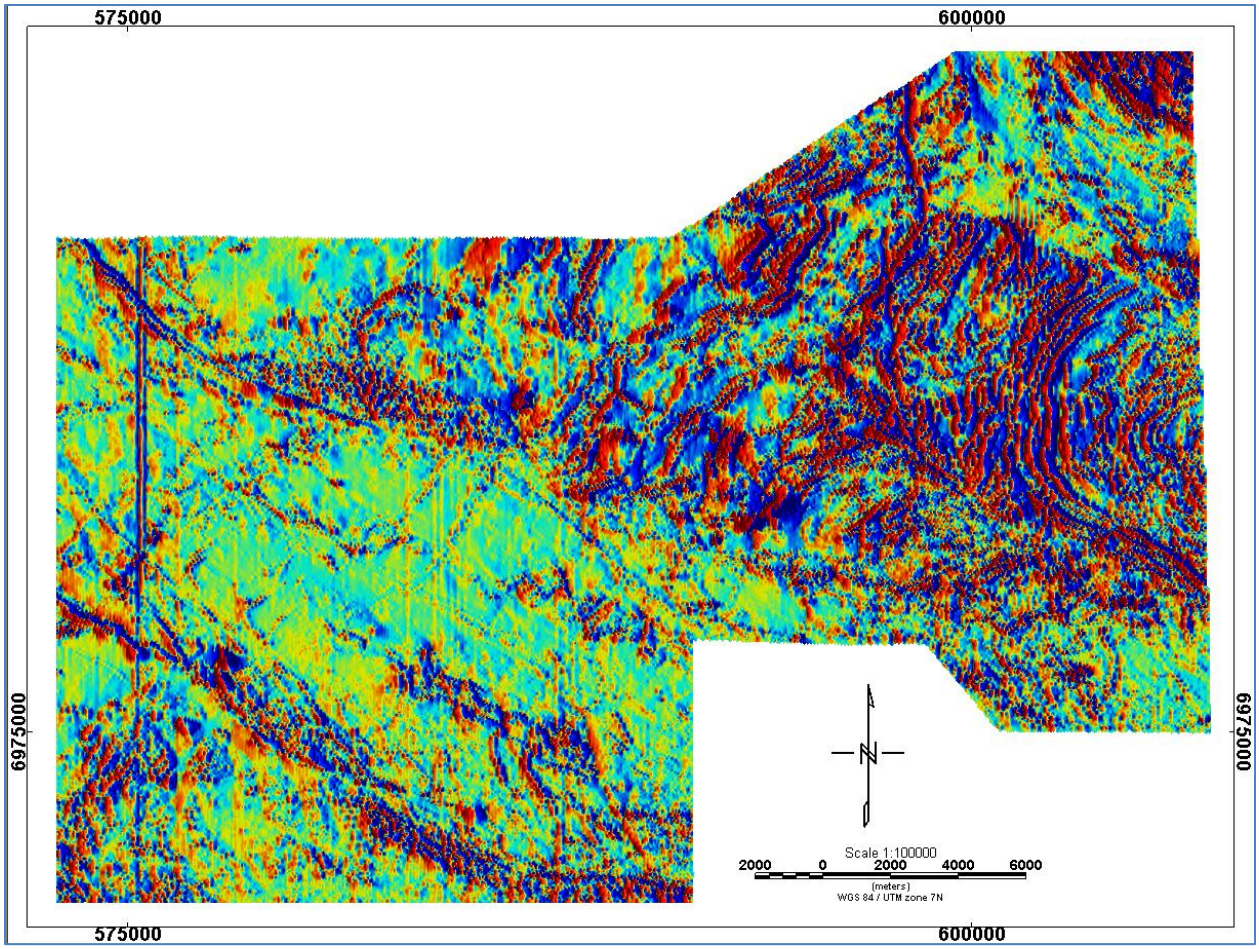

Figure 5. Final Kirkman field dX grid. Residual line level effects are noted particularly on L240-L250-L260.

**Diurnal Activity**

The diurnal range for the dataset has remains 235 nT. No lines exceed the 10 nT over 1 minute chord length. Diurnal activity has been within specifications during the survey. The few diurnal steps (not spikes) seen in the data, that are generally less than 10 nT, occur at merged flight-line junctions, where different flights are merged together. Some of the flight line junctions are enclosed by boxes in Figure 6. In some cases the adjacent flight line segments were flown on different days.

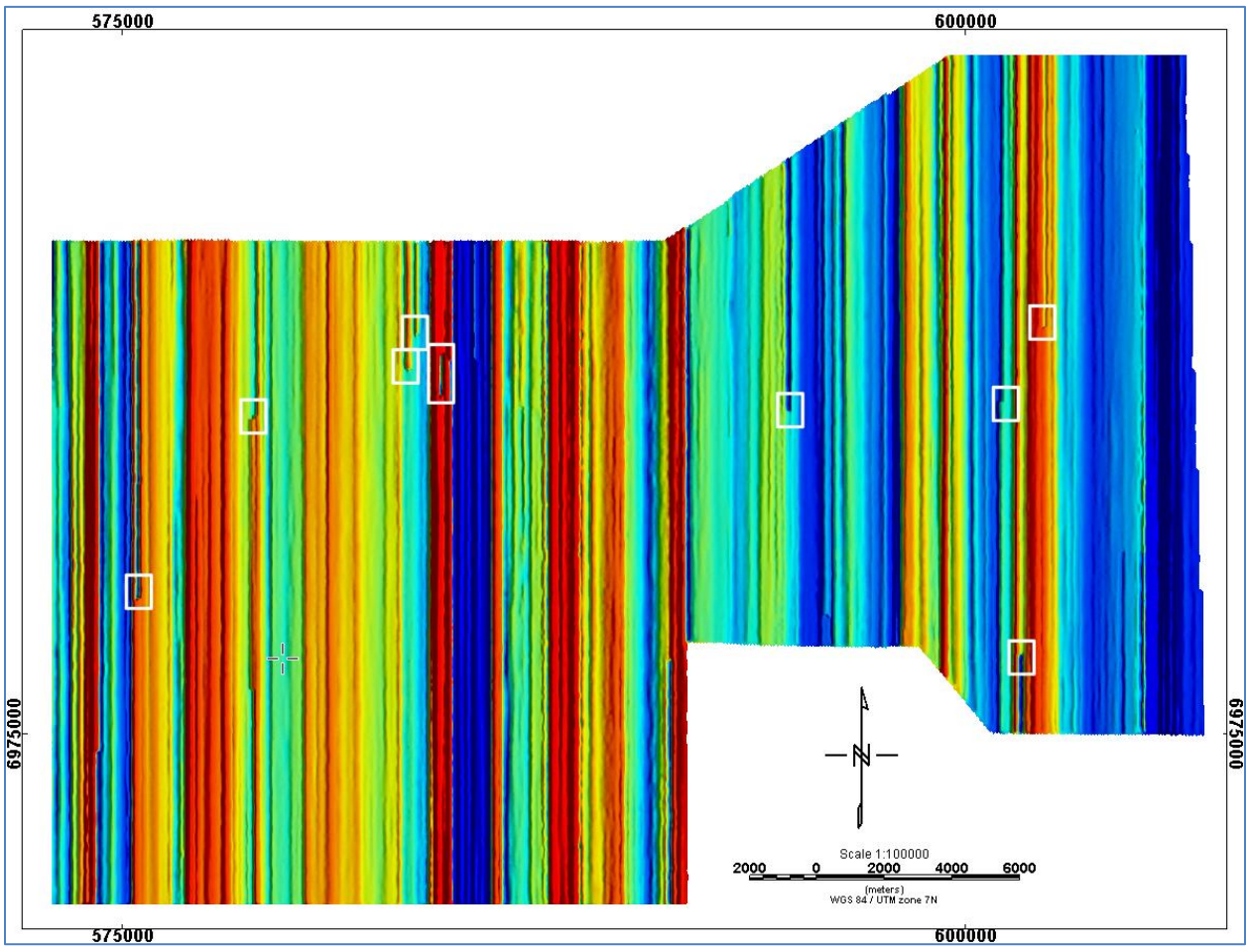


Figure 6. No diurnals exceed the prescribed tolerance. A few base magnetometer data steps up to a few tens of nT are noted on selected lines, usually where two flights merge. The diurnal corrections and leveling remove these effects from the final TMI dataset.

## Conclusions

The final Kirkman data delivery is within the prescribed survey tolerances. Precision Geosurveys advises that the residual line level noise in the data should be removed by further leveling for the final data delivery.

Respectfully Submitted,



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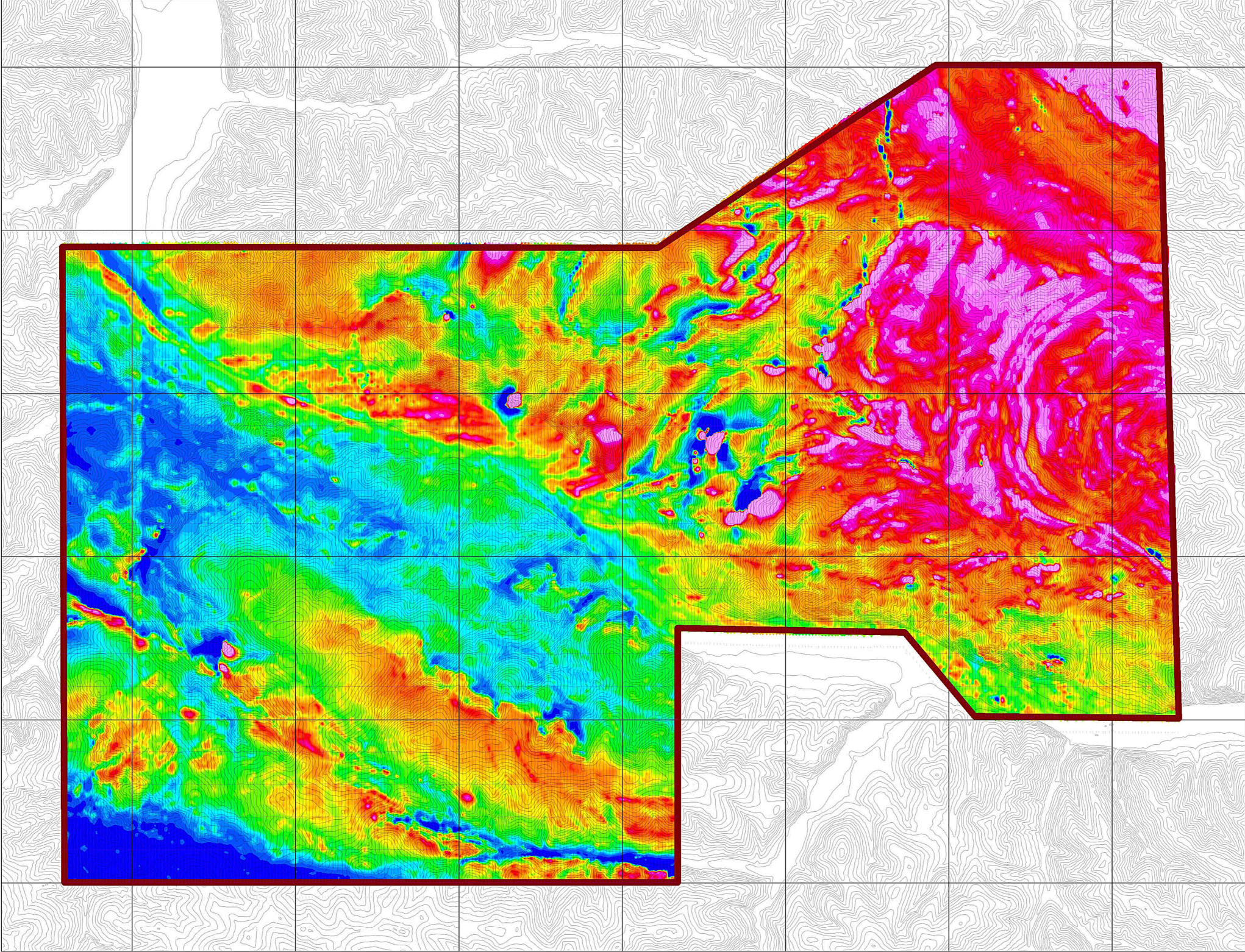
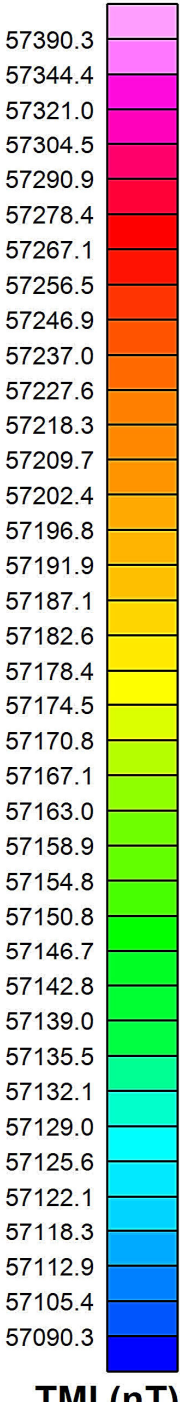
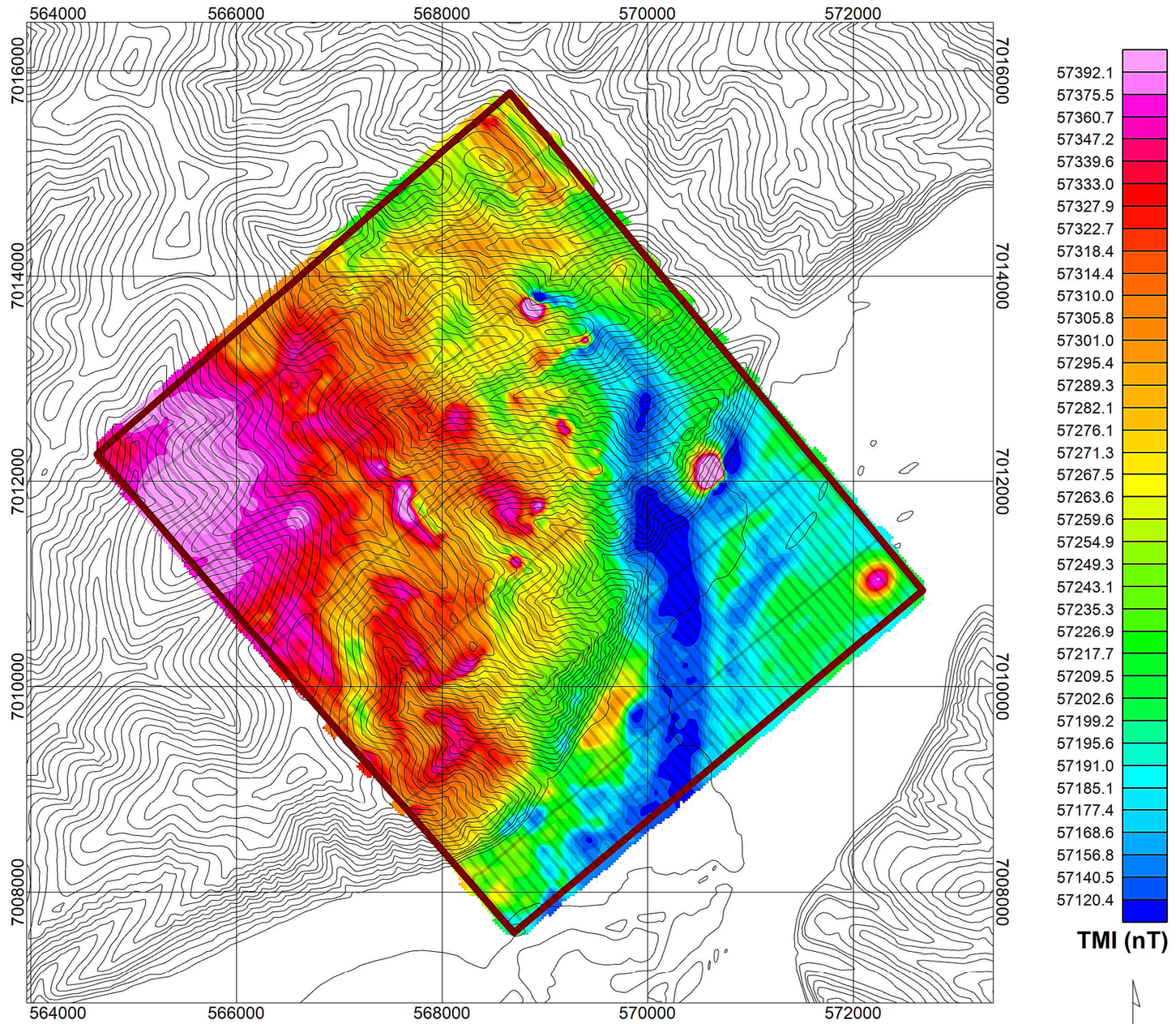



57390.3
57344.4
57321.0
57304.5
57290.9
57278.4
57267.1
57256.5
57246.9
57237.0
57227.6
57218.3
57209.7
57202.4
57196.8
57191.9
57187.1
57182.6
57178.4
57174.5
57170.8
57167.1
57163.0
57158.9
57154.8
57150.8
57146.7
57142.8
57139.0
57135.5
57132.1
57129.0
57125.6
57122.1
57118.3
57112.9
57105.4
57090.3
TMI (nT)

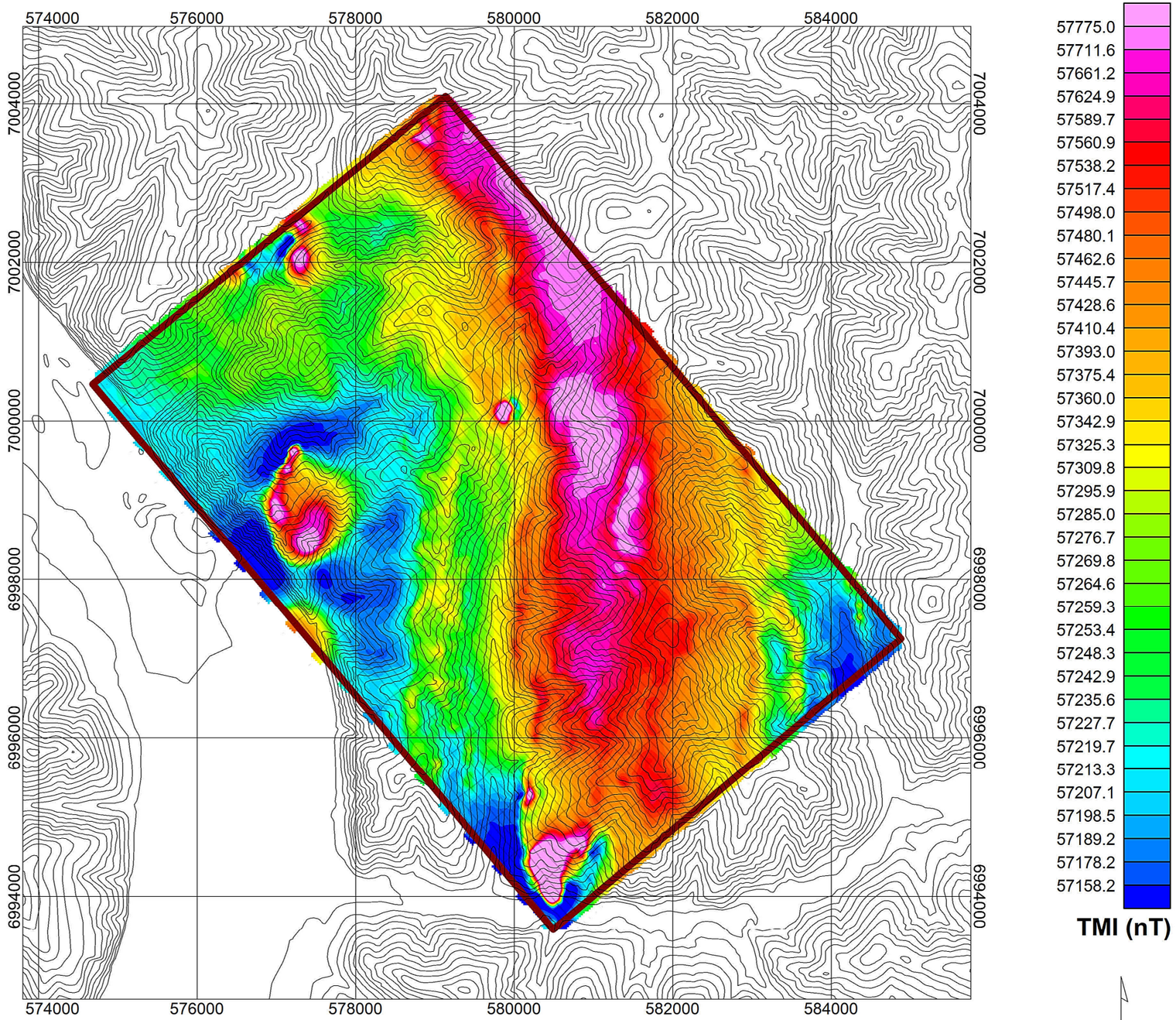



Precision GeoSurveys Inc.

**Shamrock Block**

Preliminary Map - Total Magnetic Intensity

April 2011




Precision GeoSurveys Inc.

**Thistle Block**

Preliminary Map - Total Magnetic Intensity

April 2011

# APPENDIX VI

# PETROGRAPHIC REPORT

# PETROGRAPHIC REPORT ON 10 SAMPLES FROM TOULEARY PROJECT, YUKON

Report for: Heather Smith, P. Geo.
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Invoice 111213

Dec. 29, 2011.

SUMMARY:

Four of the samples are massive to semi-massive sulfides, composed mainly of pyrite with lesser chalcopyrite and sphalerite or less commonly chalcopyrite with lesser pyrite and sphalerite, both showing crudely banded (and/or foliated) textures. Chalcopyrite and to a lesser degree sphalerite are both locally partly to rarely completely replaced by fine-grained covellite, and chalcopyrite rarely contains trace bornite showing alteration to covellite and chalcocite (?). In the chalcopyrite-rich sample, significant accessory sulfosalt, possibly Ag-bearing tetrahedrite (?), and trace galena (minute inclusions in pyrite only) occur. Gangues in the massive sulfides appear to include significant barite as well as more common quartz, sericite/muscovite. SEM study would be required to confirm the identity of the possible Ag-bearing sulfosalt.

The other 6 samples are moderately to strongly foliated, quartz-sericite/muscovite-local talc?-chlorite, epidote, pyrite schist with relict sieve-textured porphyroblasts of garnet, amphibole-chlorite-epidote-minor Fe carbonate-accessory Fe/Ti oxides (magnetite or ilmenite partly oxidized to hematite, sphene/rutile) or in places a colourless mineral tentatively identified as either plagioclase or cordierite (?), partly altered to sericite, but requiring SEM study to confirm. These rocks appear likely to represent former felsic (especially where quartz-rich and with relict quartz "eyes" or lenses), and mafic volcanic rocks (especially chlorite, possible talc?-rich examples) but are so deformed and metamorphosed as to render this speculative at best. Capsule descriptions are as follows:

TL11-05-116.7: semi-massive sulfides (chalcopyrite, lesser pyrite, sphalerite) with abundant gangues of quartz and barite, accessory sulfosalt (possibly tetrahedrite, could be Ag-bearing?) and trace galena (only as inclusions in pyrite), slightly oxidized to covellite.

TL11-03-64.6: semi-massive, mainly pyrite-rich sulfides with lesser sphalerite and chalcopyrite (both partly replaced by covellite), in gangues of barite, adjacent to strongly folded and crenulated quartz-sericite schist containing very little pyrite, sphalerite or covellite.

TL11-03-71.3: moderately foliated, quartz-sericite/muscovite-plagioclase or cordierite?-epidote schist with large relict porphyroblasts of either garnet or some other prograde mineral now retrograded to amphibole, chlorite, epidote, minor carbonate and magnetite (slightly altered to hematite).

TL11-05-115.3: quartz-sericite schist with coarse, porphyroblastic, sieve-textured garnet and lesser, variably sized chlorite-Fe carbonate-hematite aggregates (possibly pseudomorphs after other prograde metamorphic mineral porphyroblasts?) in strongly foliated and crenulated, quartz-sericite/muscovite matrix.

TL11-05-114.1: quartz-sericite/muscovite, accessory pyrite (±chalcopyrite, rutile) schist containing porphyroblasts of plagioclase or cordierite (?) and lesser chlorite; pyrite, minor rutile and trace chalcopyrite are concentrated along foliation in lensy aggregates.

TL11-05-132.9: sericite/muscovite, almost semi-massive sulfides (pyrite ±chalcopyrite, sphalerite), minor quartz, rutile, sphene schist containing porphyroblasts of plagioclase or cordierite (?); sulfides and minor rutile and sphene are concentrated along foliation in wispy laminae.

TL11-05-133.0: quartz-sericite/muscovite-accessory rutile schist with heavy, almost semi-massive sulfides concentrated along wispy discontinuous laminae, consisting mainly of pyrite but with locally significant chalcopyrite, trace bornite and sphalerite, all the latter locally partly altered to covellite and trace chalcocite.

TL11-03-62.9: quartz-sericite/muscovite-accessory rutile schist (local quartz lenses of "eyes" possibly suggestive of former quartz phenocrysts), with heavy sulfides concentrated along wispy discontinuous laminae, consisting mainly of pyrite but with locally significant chalcopyrite, locally partly altered to limonite and covellite respectively.

TL11-03-65.5: sericite/muscovite (or talc?) schist (almost soapstone, possibly after mafic volcanic?) with local deformed/disrupted lenses or bands composed of chlorite-epidote-quartz-plagioclase (or cordierite?)-accessory magnetite (oxidized to hematite, limonite) and pyrite.

TL11-03-60.0: chlorite-epidote-plagioclase or cordierite?-quartz-accessory ilmenite-magnetite (largely oxidized to hematite) with strongly attenuated, sieve-textured porphyroblasts of either plagioclase/cordierite (?) or amphibole.

Detailed petrographic descriptions and photomicrographs are appended (on CD). If you have any questions regarding the petrography, please do not hesitate to contact me.

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TL11-05-116.7: SEMI-MASSIVE SULFIDES (CHALCOPYRITE-MINOR PYRITE-SPHALERITE –TRACE SULFOSALT?-COVELLITE-GALENA?), GANGUE OF QUARTZ-BARITE

Hand specimen shows chalcopyrite-rich, medium/coarse-grained, semi-massive sulfides with siliceous gangue. The rock is not magnetic, is not scratched by steel, shows no reaction to cold dilute HCl, and no stain for K-feldspar in the etched offcut. Modal mineralogy in polished thin section is approximately:

| | |
|---|---|
| Chalcopyrite | 40% |
| Quartz (secondary) | 35% |
| Barite | 15% |
| Pyrite | 3-5% |
| Sphalerite | 3-5% |
| Sulfosalt (tetrahedrite?) | <1% |
| Covellite (after chalcopyrite, sphalerite) | <1% |
| Galena | <<1% |

This sample consists of semi-massive sulfides (mainly chalcopyrite, minor pyrite, sphalerite) in a matrix of quartz and lesser barite. There is a faint, crude, irregular/discontinuous banding or layering to the sample.

Chalcopyrite forms irregular subhedra up to about 3 mm in size, locally in loose aggregates up to 1-2 cm long sub-parallel to the crude banding, and containing rare inclusions of sphalerite. Margins of chalcopyrite, particularly finer grains, and in contact with pyrite, commonly contain minor amounts of a grey, apparently isotropic sulfosalt (possibly tetrahedrite; this phase could be Ag-bearing?). The tetrahedrite (?) forms irregular aggregates to 0.45 mm of granular subhedra mainly <35 um, in intimate symplectic intergrown with chalcopyrite and a gangue mineral <5 um in size that is not identifiable without SEM analysis (which would also confirm the possible tetrahedrite and if it is Ag-bearing). Margins of some chalcopyrite crystals are slightly altered to covellite as minute flakes <10 um in size.

Quartz forms irregular-shaped anhedral to locally subhedral crystals up to about 1.5 mm in maximum dimension, with a slight tendency to elongation in the plane of the crude banding (length:width rarely over ~2:1), probably due to deformation/flattening. Most crystals show only mild to rarely moderate undulose extinction, sub-grain development, and suturing of grain boundaries indicative of strain.

Barite is intimately intergrown with quartz (and incidentally with sphalerite and pyrite). The colourless mineral tentatively identified as barite has positive relief against quartz, low (first order white to rarely yellow) birefringence, small positive 2V, and right-angle cleavage. It forms somewhat elongated to rounded, irregular subhedra up to about 2 mm long, locally aligned in the plane of crude banding.

Pyrite occurs as small mainly euhedral crystals up to about 1.2 mm across, typically with small (<0.1 mm) rounded subhedral inclusions of chalcopyrite and rarer, elongated inclusions of galena (?) up to 0.2 mm long by <20 um thick, in outer zones of the pyrite crystals.

Sphalerite forms subhedral crystals up to about 2 mm diameter, locally in aggregates up to 4 mm long. Very pale colour indicates a low Fe content for the sphalerite. It is typically intergrown with chalcopyrite at the margins, contains minute (<5 um) crystallographic oriented inclusions of chalcopyrite, and is slightly altered along minute fractures to covellite as described above for chalcopyrite.

In summary, this is semi-massive sulfides (chalcopyrite, lesser pyrite, sphalerite) with abundant gangues of quartz and barite, accessory sulfosalt (possibly tetrahedrite, could be Ag-bearing?) and trace galena (only as inclusions in pyrite), slightly oxidized to covellite.

TL11-03-64.6: SEMI-MASSIVE PYRITIC SULFIDES (MINOR SPHALERITE, CHALCOPYRITE BOTH ALTERED TO COVELLITE) WITH GANGUES OF BARITE, ADJACENT TO FOLDED OR CRENULATED QUARTZ-SERICITE/MUSCOVITE SCHIST

Hand specimen shows pyrite-rich, medium/coarse-grained, semi-massive sulfides with mostly siliceous interstitial gangue. The rock is not magnetic, is partly scratched by steel, and shows no reaction to cold dilute HCl, even where scratched by steel; the etched offcut stained for K-feldspar is missing. Modal mineralogy in polished thin section is approximately:

| | |
|---|---|
| Pyrite | 30% |
| Quartz (secondary) | 30% |
| Sericite/muscovite | 18% |
| Barite (partly plucked to leave voids) | 15% |
| Sphalerite (partly altered to covellite) | 3% |
| Chalcopyrite (partly altered to covellite) | 2% |
| Covellite (after sphalerite and chalcopyrite) | 2% |

This sample consists mainly of granular, coarse-grained pyrite, lesser sphalerite and minor chalcopyrite (partly remobilized into fractures in pyrite) both partly replaced by covellite, in a gangue matrix of barite, or (in adjacent schist) coarse-grained quartz and sericite/muscovite.

Pyrite occurs as relatively coarse, sub/anhedral crystals up to about 3 mm, commonly fractured, in loose aggregates up to about 0.5 cm across. Pyrite locally contains rounded subhedral inclusions of sphalerite up to 0.2 mm in size, and is commonly cut by narrow (<0.1 mm thick) veinlets of chalcopyrite that have likely been remobilized into the fractures by deformation (softer chalcopyrite flows into the more brittle pyrite, which fractures). Chalcopyrite is also intergrown with pyrite or forms sub/anhedral crystals up to 2 mm across, interstitial to pyrite; the chalcopyrite is locally intergrown with or contains inclusions of, sphalerite up to 0.25 mm in diameter. Sphalerite also occurs more commonly as ragged, corroded subhedra to 0.5 mm (highly fractured aggregates to 2.5 mm) within the gangue; almost colourless character indicates a low Fe content. Both sphalerite and chalcopyrite are commonly partly (10-40%) replaced, beginning around the margins, by covellite (aggregates to 0.5 mm long of randomly oriented, minute flakes mostly <10 um in size with normal, strongly developed anisotropism under crossed polars in reflected light). Despite detailed examination of the surface of the polished section, none of the isotropic sulfosalt seen in the previous sample could be found.

Quartz occurs as either coarse, irregular sub/anhedra up to ~3 mm across, in rounded aggregates up to ~1 cm across, or as finer-grained, commonly highly flattened/elongated subhedra to 0.5 mm long by <0.1 mm thick (length:width ratio up to 5:1) where interleaved with alternating, isoclinally folded or crenulated laminae of muscovite (euhedral flakes up to ~1 mm diameter) or, around sulfides, fine-grained sericite as randomly oriented subhedral flakes mostly <0.1 mm.

Barite occurs mainly intergrown with the sulfides, not with the quartz and muscovite/sericite, forming mainly subhedral to locally irregular, anhedral crystals <1 mm in diameter characterized by two cleavages at right angles and plucking during section preparation along these cleavages to leave voids.

In summary, this is semi-massive, mainly pyrite-rich sulfides with lesser sphalerite and chalcopyrite (both partly replaced by covellite), in gangues of barite, adjacent to strongly folded and crenulated quartz-sericite schist containing very little pyrite, sphalerite or covellite.

TL11-03-71.3: GARNET AND CHLORITE-EPIDOTE-AMPHIBOLE-CARBONATE ALTERED PORPHYROBLASTS IN FOLIATED QUARTZ-SERICITE-PLAGIOCLASE OR CORDIERITE?-EPIDOTE-MAGNETITE SCHIST

Hand specimen shows mottled, fine-grained schist composed of lensoid dark green relict phenocrysts (?) or clasts (?) and rare reddish jasperoid (?) clasts set in a foliated, pale pearly grey sericitic matrix. The rock is weakly magnetic, and partly scratched by steel, but shows no reaction to cold dilute HCl (even where scratched by steel), and no stain for K-feldspar in the etched offcut. Modal mineralogy in polished thin section is approximately:

| | |
|---|---|
| Quartz | 30% |
| Sericite/muscovite | 20% |
| Plagioclase (or cordierite?) | 20% |
| Chlorite | 10% |
| Epidote (Fe-poor, clinozoisite) | 10% |
| Garnet (partly altered to chlorite) | 5% |
| Amphibole (hornblende?) | 1-2% |
| Magnetite (partly altered to hematite) | 1-2% |
| Carbonate (ankerite?) | 1-2% |

This sample consists of large, relict porphyroblasts (?) of garnet or some other prograde metamorphic mineral, now largely altered to chlorite, epidote and minor amphibole and carbonate, in a foliated matrix of quartz-sericite/muscovite-plagioclase (or cordierite?), with accessory opaque oxides.

In the dark green porphyroblasts, which have lensoid outlines up to about 1 cm long (typically somewhat aligned with long axes sub-parallel to foliation), chlorite is most abundant, forming somewhat randomly oriented sub/euhedral flakes up to ~1.5 mm diameter with weak but distinct pale green pleochroism and weakly anomalous greenish grey, length-fast birefringence suggestive of Fe:Fe+Mg, or F:M, ratio around 0.5 (?). The chlorite appears to be after both garnet (?) and amphibole, and is accompanied by pale yellow-coloured, non-pleochroic (Fe-poor) epidote or clinozoisite as mainly euhedral, locally skeletal crystals up to about 1.2 mm long (commonly aligned with long axes sub-parallel to foliation). Amphibole forms ragged, poikiloblastic crystals up to about 3 mm long which consist of about 50% inclusions of quartz <0.25 mm long and minor sericite <35 um in size. Relict magnetite (euhedra to 0.5 mm, now partly altered to hematite) are concentrated in the relict mafic porphyroblast sites, which also contain euhedral muscovite and quartz <0.3 mm. Minor carbonate (ragged subhedra to 0.35 mm, likely ankerite?) is locally included in the sites.

In the reddish “clasts” or actually garnet porphyroblasts, also almost 1 cm diameter in diameter, sieve-textured poikiloblastic garnet up to at least 7 mm in diameter contains about 35-40% inclusions of quartz <0.35 mm or local hematite after magnetite <0.2 mm, and is altered to chlorite and epidote as described above. The garnet is completely isotropic, pale reddish and unzoned.

In the matrix, quartz typically occurs as interlocking ragged sub/anhedra <0.25 mm in maximum dimension, with a tendency to flattening/elongation (length:width ratios rarely over 2:1) in the plane of foliation defined by aligned sericite/muscovite flakes (sub/euhedral, up to 0.7 mm). Alternating laminae mainly <0.7 mm thick consist of similarly elongated sub/anhedra of either plagioclase or cordierite (?) up to 0.6 mm long. These crystals display slight negative relief against quartz, local polysynthetic twinning and minor alteration to sericite (flakes <20 um) and carbonate (subhedra <0.1 mm) that fit either plagioclase or cordierite, but lack of the typical white etch in the offcut suggests the latter is more likely (?). Euhedral epidote/clinozoisite crystals as described above mostly <0.25 mm in size are scattered throughout.

In summary, this appears to be moderately foliated, quartz-sericite/muscovite-plagioclase or cordierite?-epidote schist with large relict porphyroblasts of either garnet or some other prograde mineral now retrograded to amphibole, chlorite, epidote, minor carbonate and magnetite (slightly altered to hematite).

TL11-05-115.3: QUARTZ-SERICITE SCHIST WITH COARSE GARNET PORPHYROBLASTS AND AGGREGATES OF CHLORITE-CARBONATE-HEMATITE

Hand specimen shows metamorphic rock composed of large (>1 cm diameter) red garnets and oblong ochre-coloured relict porphyroblasts (?) up to ~1 cm long, set in foliated pale pearly greenish grey schist that wraps around the garnet porphyroblasts. Limonite (partly after pale orange-brown, likely ankeritic carbonate?) occurs along the schistosity and narrow sub-parallel fractures. The rock is locally slightly magnetic, shows no reaction to cold dilute HCl (even where scratched, fairly readily, but steel), and no stain for K-feldspar in the etched offcut. Modal mineralogy in polished thin section is approximately:

| | |
|---|---|
| Quartz | 45% |
| Sericite/muscovite | 35% |
| Garnet | 10% |
| Chlorite | 5% |
| Carbonate (ankerite?) | 2-3% |
| Pyrite, trace chalcopyrite | 1-2% |
| Hematite, sphene/rutile (after ilmenite, magnetite?) | ~1% |

This sample consists of relatively well-defined, coarse red garnet porphyroblasts and poorly defined, lensoid/wispy chlorite-carbonate-Fe/Ti oxide aggregates generally aligned along the foliation in the surrounding, strongly foliated/crenulated quartz-muscovite matrix.

Garnet porphyroblasts have rounded outlines mainly <0.5 cm in thin section (up to 1.5 cm in hand specimen) composed of sieve-textured subhedra or aggregates of reddish garnet that is completely isotropic, and unzoned, but shows suggestions of "snowball" texture around the margins (suggestive of some syn-metamorphic growth). Inclusions of quartz and sericite, lesser sulfides (mainly hematite, lesser pyrite) all mainly <0.35 mm diameter make up ~40% of the porphyroblasts. The garnets are relatively unaltered except along narrow fractures sub-parallel to foliation, where incipient breakdown to possible Fe-carbonate and chlorite (see below) is present. Sulfides in the surrounding matrix (mainly pyrite as subhedra <0.5 mm but in aggregates up to 2 mm long aligned along the foliation, rare chalcopyrite as subhedra <0.2 mm) appear to be related to the garnet-rich portion of the sample. Garnets locally occur adjacent to other porphyroblasts (describe below).

The large ochre-coloured, sub-rectangular porphyroblasts seen in hand specimen are not present in the thin section, but may be represented by smaller, wispy lensy concentrations of chlorite (euhedral flakes mostly <0.5, but locally blastic to 1.5 mm, with pale green pleochroism/length-fast weak green anomalous birefringence suggestive of F:M around 0.4-0.5?), Fe-carbonate (elongated subhedra mainly <0.1 mm with brownish colour and strong limonite stain suggestive of ankerite or siderite?), and accessory Fe-Ti oxides that are mostly tabular euhedra up to ~1 mm long (hematite as euhedral flakes to 0.7 mm with traces of relict ilmenite <15 um, local traces of sphene/rutile).

In the matrix, quartz forms mainly sub- to anhedral crystals <0.5 mm in maximum dimension that are not generally flattened/elongated except in local aggregates up to about 1.5 mm long composed of crystals with length:width ratios up to 3:1, defining the foliation with the adjoining alternately muscovite-rich foliae typically <1 mm thick, composed of strongly aligned, mainly euhedral flakes up to ~1 mm in diameter. Quartz shows mild to rarely moderate strain (undulose extinction, sub-grain development, rare suturing of grain boundaries).

Carbonate (also likely Fe-carbonate, ankerite and/or siderite?) also occurs, with limonite, along narrow (<0.2 mm) wispy discontinuous fractures sub-parallel to the foliation.

In summary, this is quartz-sericite schist with coarse, porphyroblastic, sieve-textured garnet and lesser, variably sized chlorite-Fe carbonate-hematite aggregates (possibly pseudomorphs after other prograde metamorphic mineral porphyroblasts?) in strongly foliated and crenulated, quartz-sericite/muscovite matrix.

TL11-05-114.1:PLAGIOCLASE OR CORDIERITE (?), LOCAL CHLORITE PORPHYROBLASTS IN FOLIATED/CRENULATED QUARTZ-SERICITE-PYRITE±RUTILE SCHIST

Hand specimen shows pale greenish-white/grey, well foliated schist with small white relict plagioclase (?) phenocrysts, and wispy discontinuous laminae of sulfide (mainly pyrite) along the foliation. The rock is not magnetic, shows no reaction to cold dilute HCl (even where scratched, fairly easily, by steel), and no stain for K-feldspar in the etched offcut. Modal mineralogy in polished thin section is approximately:

| | |
|---|---|
| Quartz | 40% |
| Sericite/muscovite | 40% |
| Plagioclase or cordierite (?) | 10% |
| Chlorite | 5% |
| Pyrite, trace chalcopyrite | 3-5% |
| Rutile | <1% |
| Covellite | rare |

This sample consists of scattered, small porphyroblasts of plagioclase or cordierite (?) in a strongly foliated matrix of quartz-sericite-minor chlorite-lensy pyrite-accessory rutile.

The small porphyroblasts have lensy or rounded, ovoid outlines up to about 3.2 mm in maximum dimension (typically aligned with the foliation and locally partly plucked out by section preparation), composed of interlocking randomly oriented sub/anhedral crystals mainly <1.5 mm long, typically mixed with minor quartz and sericite <0.25 mm in size. The mineral making up these porphyroblasts is similar in appearance to quartz (first-order grey/white birefringence) but shows slight negative relief compared to quartz, local weakly developed cleavage which is length-fast, and local poorly defined polysynthetic twinning which looks more like that of cordierite than plagioclase. Interference figure with moderate negative 2V is not diagnostic, but is permissive for cordierite, as is slight alteration around margins and along cleavage/fractures to traces of minute sericite flakes.

Chlorite occurs as widely scattered, somewhat skeletal subhedra to about 1 mm in diameter, with very pale green colour but virtually no pleochroism, and length-fast, slightly greenish-grey birefringence suggestive of F:M around 0.4 (?).

In the matrix, quartz forms mainly sub- to anhedral crystals <0.5 mm in maximum dimension that are not generally flattened/elongated, except in local aggregates that may be up to about 1.5 mm long (sandwiched between alternating sericite-rich laminae), composed of crystals with length:width ratios up to 3:1, defining the foliation with the adjoining alternately muscovite-rich foliae typically <1 mm thick, composed of strongly aligned, mainly euhedral flakes up to ~1 mm in diameter. Quartz shows mild to rarely moderate strain (undulose extinction, sub-grain development, rare suturing of grain boundaries).

Pyrite is concentrated in wispy aggregates up to about 1 mm thick by several mm long aligned with the foliation, composed of somewhat rounded sub/euhedra up to ~1 mm diameter, rarely associated with traces of chalcopyrite as ragged subhedra to 0.4 mm showing traces of oxidation to covellite (minute flakes <10 um) at margins and along fractures. The sulfides are locally associated with accessory rutile forming aggregates to 0.4 mm of brown euhedra mainly <0.1 mm long.

In summary, this is quartz-sericite/muscovite, accessory pyrite (±chalcopyrite, rutile) schist containing porphyroblasts of plagioclase or cordierite (?) and lesser chlorite; pyrite, minor rutile and trace chalcopyrite are concentrated along foliation in lensy aggregates.

TL11-05-132.9: SERICITE/MUSCOVITE-MINOR QUARTZ SCHIST WITH LENSY SEMI-MASSIVE PYRITE±CHALCOPYRITE, SPHALERITE, PORPHYROBLASTS OF PLAGIOCLASE OR CORDIERITE (?), ACCESSORY RUTILE/SPHENE

Hand specimen shows medium greenish-grey, well foliated schist with abundant wispy discontinuous laminae of sulfide (mainly pyrite) along the foliation. The rock is not magnetic, shows no reaction to cold dilute HCl (even where scratched, fairly easily, by steel), and no stain for K-feldspar in the etched offcut. Modal mineralogy in polished thin section is approximately:

| | |
|---|---|
| Sericite/muscovite | 55% |
| Pyrite | 25% |
| Plagioclase or cordierite (?) | 15% |
| Quartz | 3-5% |
| Chalcopyrite | <1% |
| Rutile, sphene | <1% |
| Sphalerite | <<1% |
| Covellite | rare |

This sample consists mainly of strongly foliated sericite/muscovite with wispy/discontinuous laminae of sulfides (mainly pyrite) and only minor quartz, accessory rutile or sphene, commonly containing irregular/lensy porphyroblasts of plagioclase or cordierite (?).

The small porphyroblasts have lensy or rounded, ovoid outlines up to about 4.5 mm in maximum dimension (typically aligned with the foliation, rarely plucked out by section preparation), composed of interlocking randomly oriented sub/anhedral crystals up to about 2.5 mm long, locally mixed with or containing inclusions of minor quartz and sericite <0.25 mm in size. The mineral making up these porphyroblasts is similar to quartz (first-order grey/white birefringence) but shows distinct negative relief compared to quartz, local weakly developed cleavage which is length-fast, and local poorly defined polysynthetic twinning which looks more like that of cordierite than plagioclase. Interference figure with moderate negative 2V is not diagnostic, but is permissive for cordierite, as is slight alteration around margins and along cleavage/fractures to traces of minute sericite flakes. The "sector" twinning characteristic of cordierite is not observed, however.

In the matrix, quartz is relatively rare, in aggregates up to about 1.5 mm across composed of mainly sub- to anhedral crystals <0.35 mm in diameter that are not generally flattened/elongated, and tend to occur with pyrite (sandwiched between enclosing sericite-rich laminae). Instead, the sample is mainly sericite/muscovite, defining the foliation with foliae typically <1 mm thick, composed of strongly aligned, mainly euhedral flakes up to ~1 mm in diameter that alternate with pyritic laminae. Quartz shows mild to rarely moderate strain (undulose extinction, sub-grain development, rare suturing of grain boundaries).

Pyrite is concentrated in wispy laminae up to about 1 mm thick by several cm long, aligned with the foliation, composed of somewhat rounded sub/euhedra up to ~2 mm long (length:width ratios up to 5:1, strongly flattened/elongated in the plane of foliation), locally associated with minor chalcopyrite as ragged subhedra to 0.7 mm long mantling the pyrite, and with traces of sphalerite as almost colourless (low Fe) subhedra <0.2 mm (both slightly altered to traces of covellite along fractures). The sulfides are locally associated with accessory rutile forming aggregates to 0.2 mm of brown euhedra mainly <0.1 mm long, or sphene as rounded sub/euhedra to .0.3 mm.

In summary, this is sericite/muscovite, pyrite (±chalcopyrite, sphalerite, rutile, sphene), minor quartz schist containing porphyroblasts of plagioclase or cordierite (?); sulfides and minor rutile and sphene are concentrated along foliation in lensy aggregates or wispy laminae, amounting to almost semi-massive sulfides in places.

TL11-05-133.0: STRONGLY FOLIATED QUARTZ-SERICITE/MUSCOVITE-ACCESSORY RUTILE SCHIST WITH SEMI-MASSIVE LAMINAE OF PYRITE-CHALCOPYRITE-TRACE BORNITE, SPHALERITE (PARTLY ALTERED TO COVELLITE±CHALCOCITE)

Hand specimen shows medium greenish-grey, well foliated schist with abundant wispy discontinuous laminae of sulfide (mainly pyrite, minor chalcopyrite, local dark bluish-grey covellite) along the foliation. The rock is not magnetic, shows no reaction to cold dilute HCl (even where scratched, with difficulty, by steel), and no stain for K-feldspar in the etched offcut. Modal mineralogy in polished thin section is approximately:

| | |
|---|---|
| Quartz | 45% |
| Sericite/muscovite | 25% |
| Pyrite | 25% |
| Chalcopyrite | 3% |
| Covellite, trace chalcocite | <1% |
| Rutile | <1% |
| Sphalerite | <1% |
| Bornite (intergrown with chalcopyrite) | <<1% |

This sample consists mainly of strongly foliated quartz-sericite/muscovite with wispy/discontinuous laminae of sulfides (mainly pyrite, lesser chalcopyrite/trace bornite, and very minor sphalerite, the latter two slightly altered to or replaced by covellite and/or chalcocite) and accessory rutile.

Quartz and lesser sericite/muscovite occur in alternating laminae mainly <1 mm thick, the latter locally partly plucked out by section preparation due to their relative softness. The quartz forms mainly sub- to anhedral crystals <1.5 mm in maximum dimension that are generally moderately flattened/elongated, with length:width ratios up to 3:1, or in local aggregates that may be up to about 3.5 mm long (sandwiched between alternating sericite-rich laminae), defining the foliation with the adjoining alternately muscovite-rich foliae typically <1 mm thick, composed of strongly aligned, mainly euhedral flakes up to ~1 mm in diameter. Quartz shows mild to rarely moderate strain (undulose extinction, sub-grain development, rare suturing of grain boundaries).

Pyrite is concentrated in wispy laminae up to about 1.5 mm thick by several cm long, aligned with the foliation, composed of somewhat rounded sub/euhedra up to ~2 mm long (length:width ratios up to 5:1, strongly flattened/elongated in the plane of foliation), locally associated with minor chalcopyrite as ragged subhedra to 1.2 mm long closely associated with the pyrite, and with very minor sphalerite as almost colourless (low Fe) subhedra <0.2 mm (both slightly altered to traces of covellite along fractures). Small grains of chalcopyrite in the gangue matrix are commonly completely replaced by covellite. Rare bornite intergrown with chalcopyrite forms subhedra to 0.2 mm, partly altered at rims to chalcocite (?) <0.1 mm and with covellite as subhedral flakes <10 um. The sulfides are locally associated with accessory rutile forming aggregates to 0.2 mm of brown euhedra mainly <0.1 mm long.

In summary, this is quartz-sericite/muscovite-accessory rutile schist with heavy, almost semi-massive sulfides concentrated along wispy discontinuous laminae, consisting mainly of pyrite but with locally significant chalcopyrite, trace bornite and sphalerite, all the latter locally partly altered to covellite and trace chalcocite.

TL11-03-62.9: QUARTZ-SERICITE/MUSCOVITE-PYRITE-MINOR CHALCOPYRITE-TRACE COVELLITE, ACCESSORY RUTILE SCHIST

Hand specimen shows yellow-greenish-grey, well foliated schist with abundant wispy discontinuous laminae of sulfide (mainly pyrite) along the foliation. The rock is not magnetic, shows no reaction to cold dilute HCl (even where scratched, fairly readily, by steel), and no stain for K-feldspar in the etched offcut. Modal mineralogy in polished thin section is approximately:

| | |
|---|---|
| Quartz | 50% |
| Sericite/muscovite | 30% |
| Pyrite | 2% |
| Chalcopyrite | 1% |
| Covellite (after chalcopyrite) | <1% |
| Rutile | <1% |
| Limonite | <1% |

This sample consists of scattered, lensy or locally ovoid, rarely rounded, knots or "eyes" of quartz in strongly foliated quartz-sericite/muscovite with wispy/discontinuous laminae of sulfides (mainly pyrite slightly oxidized to traces of limonite, and very minor chalcopyrite, locally altered to or replaced by covellite), plus accessory rutile.

The quartz lenses and/or "eyes" consist of either aggregates up to 3.5 mm long composed of interlocking subhedra up to about 1 mm long, or single rounded sub/anhedral crystals of similar size respectively. The former locally is mixed with lesser pyrite. It is possible that some of the quartz "eyes" and/or the lenses could represent former quartz phenocrysts in a felsic volcanic rock, but this is speculative.

In the well-foliated matrix, quartz and lesser sericite/muscovite occur in alternating laminae mainly <1 mm thick, the sericite/muscovite locally partly plucked out by section preparation due to their relative softness. The quartz forms mainly sub- to anhedral crystals <0.5 mm in maximum dimension that are generally not flattened/elongated, showing length:width ratios rarely up to 2:1 but not typically oriented with long axes sub-parallel to foliation. Instead, the foliation is largely defined by the adjoining alternately muscovite-rich foliae typically <0.5 mm thick, composed of strongly aligned, mainly euhedral flakes up to ~1 mm in diameter. Quartz shows mild to rarely moderate strain (undulose extinction, sub-grain development, rare suturing of grain boundaries).

Pyrite is concentrated in wispy laminae up to about 1.5 mm thick by several mm long, aligned with the foliation, composed of somewhat rounded sub/euhedra mostly <1 mm long (length:width ratios rarely to 2:1, elongated in the plane of foliation), locally associated with very minor chalcopyrite as ragged subhedra to 0.4 mm in size intergrown with or separate from the pyrite, and slightly altered to or locally completely replaced by covellite as randomly oriented, minute flakes mostly <5 um in size). Small grains of chalcopyrite in the gangue matrix are commonly the most completely replaced by covellite. The sulfides are locally associated with accessory rutile forming aggregates to 0.2 mm of brown euhedra mainly <40 um long. Sulfides are locally slightly oxidized to traces of red-brown (goethitic?) limonite as amorphous or microcrystalline material, especially along narrow (<0.1 mm thick) fractures sub-parallel to foliation; the limonite also stains nearby sericite.

In summary, this is quartz-sericite/muscovite-accessory rutile schist (local quartz lenses of "eyes" possibly suggestive of former quartz phenocrysts), with heavy sulfides concentrated along wispy discontinuous laminae, consisting mainly of pyrite but with locally significant chalcopyrite, locally partly altered to limonite and covellite respectively.

TL11-03-65.5: SERICITE (OR TALC?) SCHIST WITH BANDS/LENSES OF CHLORITE-EPIDOTE-QUARTZ-RELICT (SERICITIZED) PLAGIOCLASE OR CORDIERITE (?), ACCESSORY MAGNETITE/HEMATITE, LOCAL MINOR PYRITE

Hand specimen shows greenish-grey, well foliated schist with local dark green wispy relict porphyroblasts or discontinuous laminae stretched out into the foliation, and minor disseminated sulfide (mainly pyrite) and Fe-Ti oxides. The rock is locally weakly magnetic, but shows no reaction to cold dilute HCl (even where scratched, fairly readily, by steel), and no stain for K-feldspar in the etched offcut. In places, the rock has a "soapstone" feel (i.e. very soft). Modal mineralogy in polished thin section is approximately:

| | |
|---|---|
| Sericite/muscovite (or talc?) | 60% |
| Chlorite | 17% |
| Epidote/clinozoisite (Fe-poor) | 10% |
| Quartz | 5% |
| Relict plagioclase/cordierite (?), sericitized | 5% |
| Relict magnetite (largely oxidized to hematite) | 2-3% |
| Pyrite (partly after magnetite?) | <1% |
| Limonite | <1% |

This is a more mafic sample, composed almost entirely of strongly foliated and crenulated muscovite (or talc?) with lens-like (possibly disrupted, segmented bands/layers?) aggregates of chlorite, epidote, quartz and a sericitized mineral that could be plagioclase or cordierite (?), plus accessory magnetite partly oxidized to hematite, and minor pyrite.

In the matrix, sericite/muscovite (softness in hand specimen, and presence of other mafic minerals suggest it might actually be talc, i.e. Mg-silicate that is indistinguishable optically from sericite) forms mainly sub/euhedral, strongly aligned flakes up to about 1 mm diameter that show local bending and deformation (crenulation). These crystals have faint, pale greenish pleochroism (could be phengitic?) and host an apparently different generation of randomly oriented, distinctly euhedral crystals up to 0.75 mm that are relatively clear by comparison. Locally, randomly oriented crystals of almost colourless epidote (Fe-poor, clinozoisite?) as described below are mixed with the muscovite, and there are scattered aggregates of magnetite and pyrite (see below).

In the lenses, chlorite forms sub/euhedral flakes also up to almost 1 mm in diameter, with distinct to moderate green pleochroism and length-fast, anomalous green birefringence suggestive of F:M around 0.5 (?). The chlorite is intergrown with muscovite around the lens margins, but in the cores it is intergrown with variable mixtures of epidote (euhedral, locally skeletal crystals up to 1 mm long, likely Fe-poor or clinozoisite as mentioned above), quartz (curving, lens-like aggregates to 3.5 mm long composed of interlocking, rounded sub/anhedral crystals to 1.2 mm long with moderate to locally strong undulose extinction, sub-grain development, and minor suturing of grain boundaries indicative of strain), and a mineral that could be plagioclase or cordierite (?). This mineral forms ragged irregular sub/anhedra up to about 2.5 mm diameter, with polysynthetic twinning (extinction on 010 up to 15 degrees and negative relief compared to adjacent quartz, suggestive of albite?), typically 10-50% replaced by minute randomly oriented flakes of sericite mainly <30 um in diameter) and traces of limonite; the altered crystals are partly plucked out by section preparation, leaving irregular shaped voids up to ~1.5 mm across.

Magnetite occurs as small porphyroblastic crystals with euhedral outlines up to almost 1.5 mm across that are generally partly to largely replaced by hematite as sub/euhedral flakes to 0.4 mm. Local pyrite (possibly replacing former magnetite?) occurs as somewhat rounded-off, irregular subhedra up to about 1.5 mm across, locally aggregating to 2.5 mm. Limonite is locally concentrated along narrow fractures <0.2 mm thick, sub-perpendicular to the lenses but in general not extending out into the surrounding muscovite matrix.

In summary, this is sericite/muscovite (or talc?) schist (almost soapstone, possibly after mafic volcanic?) with local deformed/disrupted lenses or bands composed of chlorite-epidote-quartz-plagioclase (or cordierite?)-accessory magnetite (oxidized to hematite, limonite) and pyrite.

TL11-03-60.0: CHLORITE-EPIDOTE-PLAGIOCLASE/CORDIERITE?-QUARTZ-SERICITE-ACCESSORY ILMENITE/HEMATITE SCHIST WITH ATTENUATED PORPHYROBLASTS OF PLAGIOCLASE OR AMPHIBOLE

Hand specimen shows greenish-grey, well foliated schist with local dark green wispy or discontinuous laminae along the foliation, and minor disseminated Fe-Ti oxides, cut by narrow orange-brown limonitic fractures. The rock is locally weakly magnetic, but shows no reaction to cold dilute HCl (even where scratched, fairly readily, by steel), and no stain for K-feldspar in the etched offcut. Modal mineralogy in polished thin section is approximately:

| | |
|---|---|
| Chlorite | 20% |
| Epidote/clinozoisite (Fe-poor) | 20% |
| Plagioclase/cordierite (?) | 20% |
| Quartz | 20% |
| Amphibole (hornblende?) | 10% |
| Sericite/muscovite | 7% |
| Relict ilmenite, magnetite (largely oxidized to hematite) | 2-3% |
| Limonite | <1% |

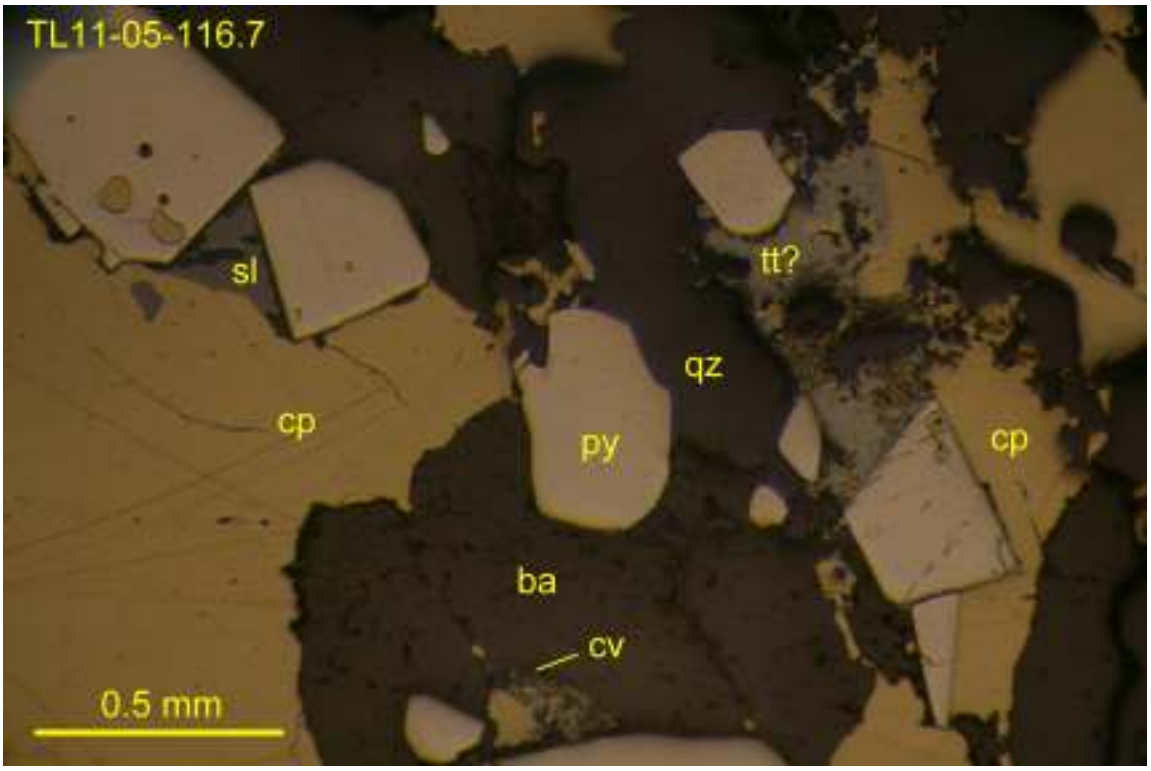
This sample consists of strongly elongated/attenuated relict porphyroblasts of plagioclase or cordierite (?) and amphibole, in a strongly foliated matrix of chlorite, epidote-group mineral, quartz, sericite/muscovite, and accessory relict (hematized) ilmenite-magnetite.

Porphyroblasts of unaltered plagioclase or cordierite (?) have lensoid to very elongated outlines up to almost 5 mm long (strongly tapered out into the foliation) and although difficult to distinguish from surrounding quartz, are optically continuous over larger areas than the quartz, have slight negative relief compared to quartz, which (with sericite, epidote and local chlorite) occurs as inclusions mostly <0.2 mm in size within the sieve-textured, locally partly skeletal porphyroblasts. SEM analysis would be required to determine if these porphyroblasts are plagioclase or cordierite.

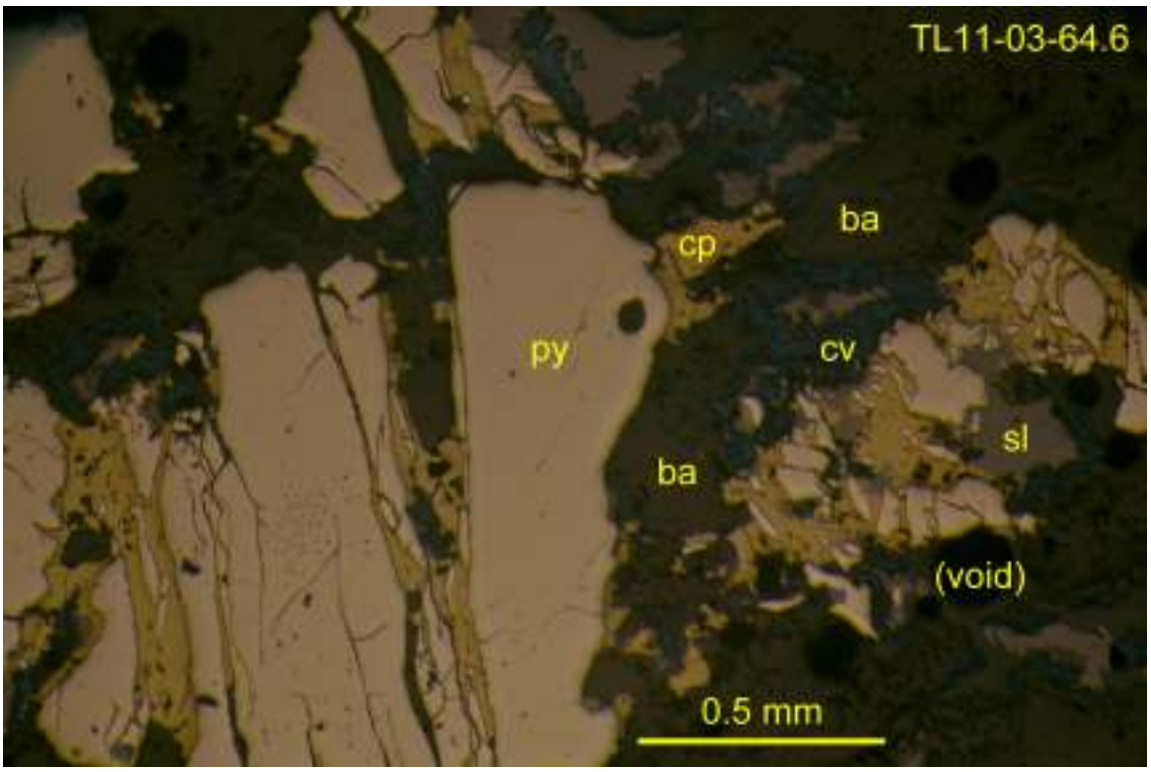
Porphyroblasts of amphibole have ragged irregular outlines up to almost 1.5 cm long (almost discontinuous bands?), composed of interlocking, highly sieved, skeletal subhedral crystals up to about 5 mm long, with pale to medium olive-green pleochroism and extinction angle at least 15 degrees, suggestive of hornblende (?). The amphibole is mixed with, but not obviously replaced by, chlorite as sub/euhedral flakes to ~1 mm, similar to those in the matrix, epidote similar to that in the matrix, and contains inclusions of quartz and sericite like those and with similar orientation to those in the matrix, suggestive of syn-tectonic growth of the amphibole.

In the matrix, thin laminae or bands rich in quartz or the plagioclase/cordierite (?) mostly <0.5 mm thick alternate with bands rich in chlorite or epidote, minor sericite/muscovite and accessory opaque oxides Quartz crystals are mostly sub/anhedral, rarely over 0.35 mm long, with only slight to weak elongation in the plane of foliation (length:width ratios <2:1). Plagioclase or cordierite (?) crystals show more flattened/elongated habit, with length:width ratio up to 5:1. Chlorite forms slightly bent, deformed sub/euhedral flakes up to about 1 mm diameter, typically strongly aligned in and defining the foliation, with distinct to moderate green pleochroism and length-fast, anomalous green birefringence suggestive of F:M around 0.5 (?). Epidote (colourless, Fe-poor, or clinozoisite?) forms mainly euhedral but commonly skeletal or sieve-textured crystals up to 1.5 mm long, commonly (but not everywhere) aligned with the foliation. Sericite or muscovite forms mainly euhedral flakes <0.5 mm in diameter, aligned with and defining the foliation. Accessory ilmenite and minor magnetite (?) forming mainly tabular, euhedral to locally more equant, subhedral relicts up to 0.5 mm are mostly partly to locally completely replaced by hematite as sub/euhedral flakes <0.2 mm.

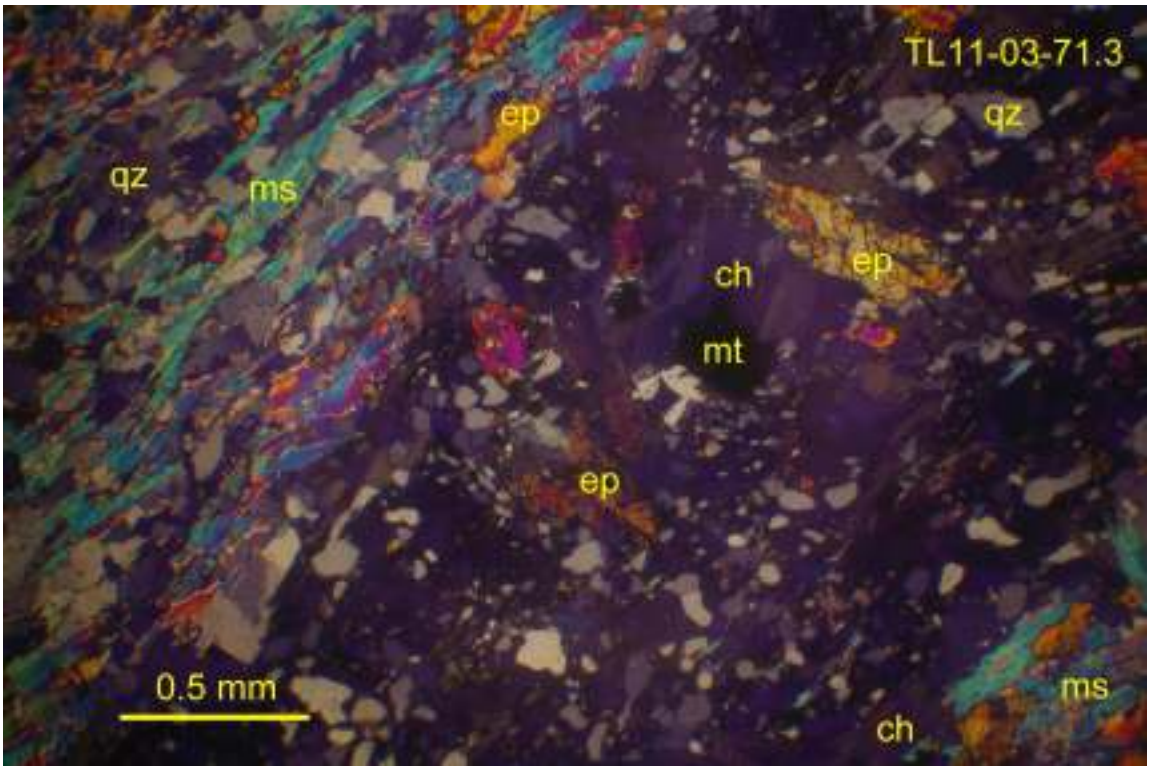
In summary, this is chlorite-epidote-plagioclase or cordierite?-quartz-accessory ilmenite-magnetite (largely oxidized to hematite) with strongly attenuated, sieve-textured porphyroblasts of either plagioclase/cordierite (?) or amphibole.



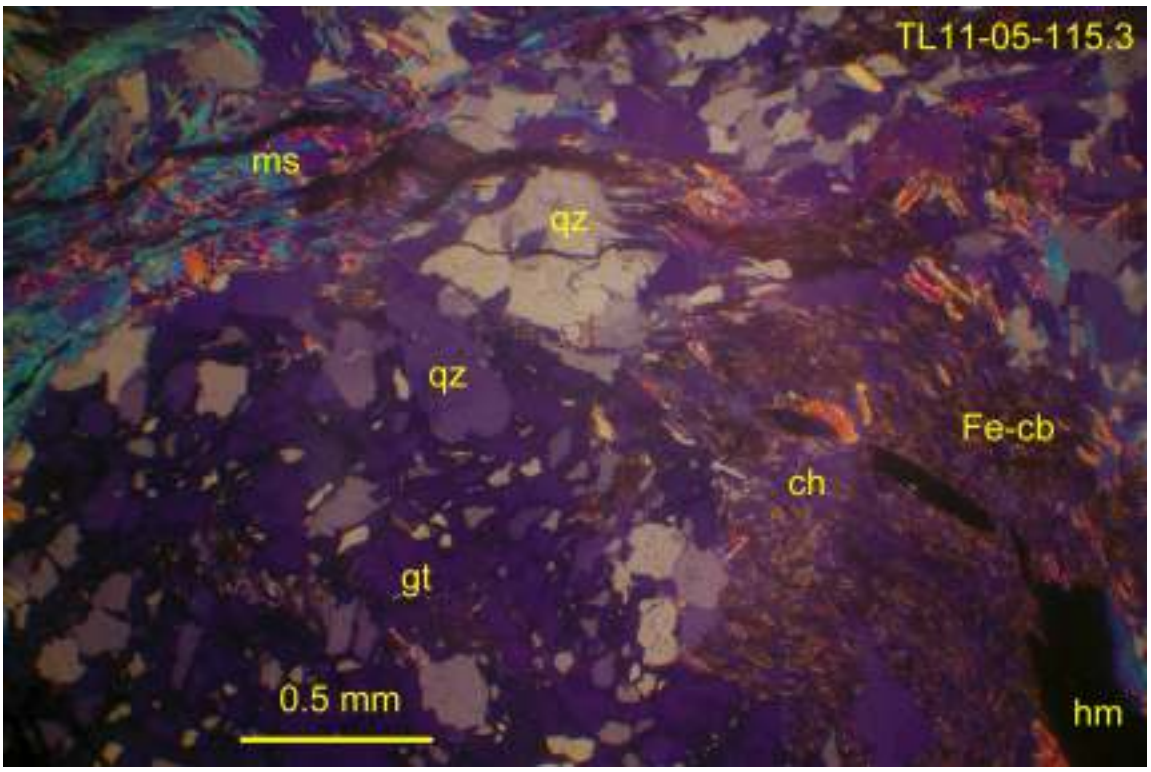

TL11-05-116.7: Semi-massive sulfides composed of chalcopyrite (cp) and gangues of quartz (qz) and barite (ba), minor pyrite (py) and sphalerite (sl) associated with symplectic intergrowths of sulfosalt, possibly tetrahedrite (tt?) and gangue with chalcopyrite (trace alteration to covellite, cv, at margins). Reflected light, uncrossed polars, field of view 2.25 mm.



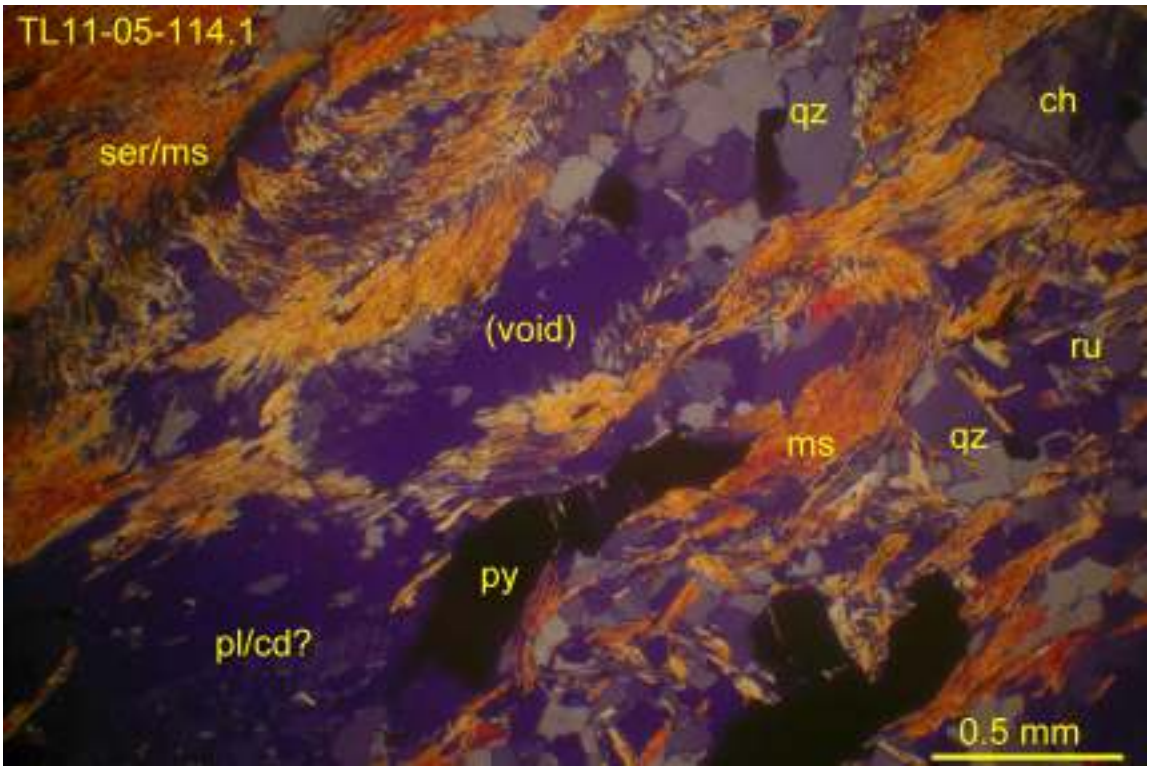

TL11-03-64.6: Coarse pyrite (py) cut by fractures into which chalcopyrite (cp) has been remobilized; chalcopyrite and sphalerite (sl) adjacent to pyrite, in gangue of barite (ba) partly plucked out to leave voids, are commonly partly replaced around margins by covellite (cv). Reflected light, uncrossed polars, field of view 2.25 mm wide.



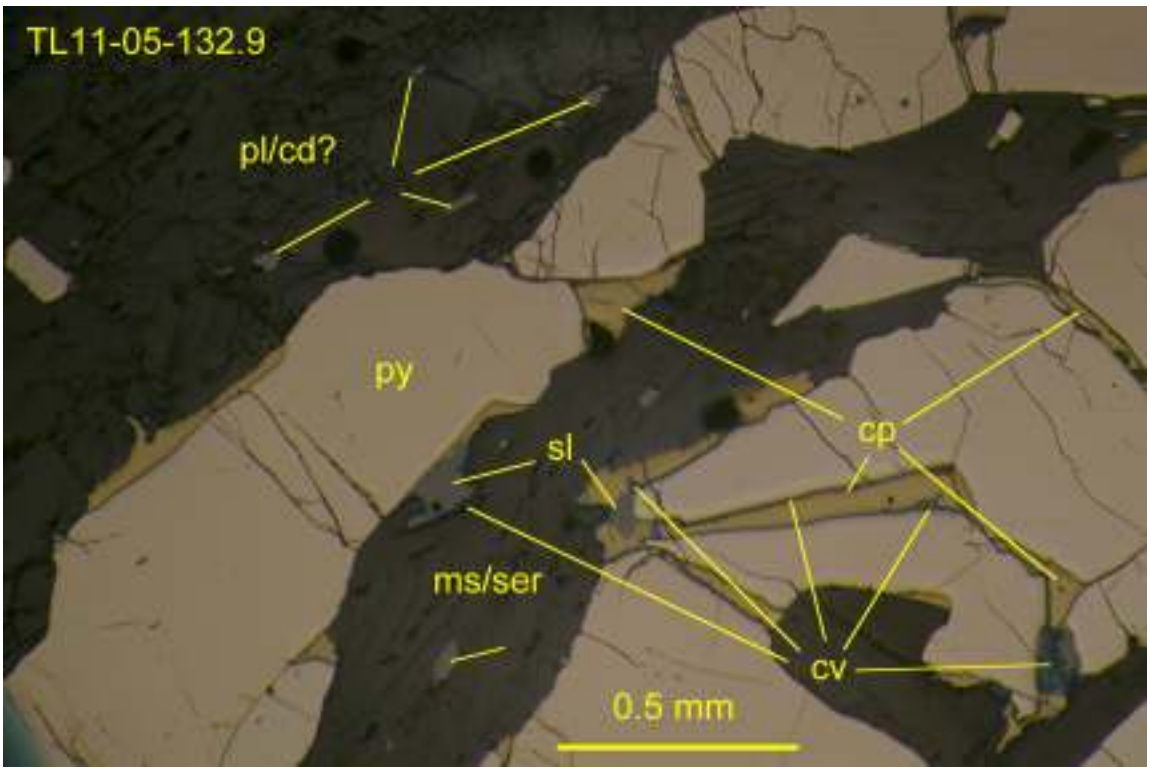

TL11-03-71.3: Lensoid relict porphyroblast of chlorite (ch, dark) and lesser epidote (ep), with sieve-like texture due to inclusions of quartz, in foliated matrix of quartz (qz), sericite/muscovite (ms), and local plagioclase or cordierite (difficult to distinguish from quartz). Transmitted light, crossed polars, field of view 3.0 mm wide.



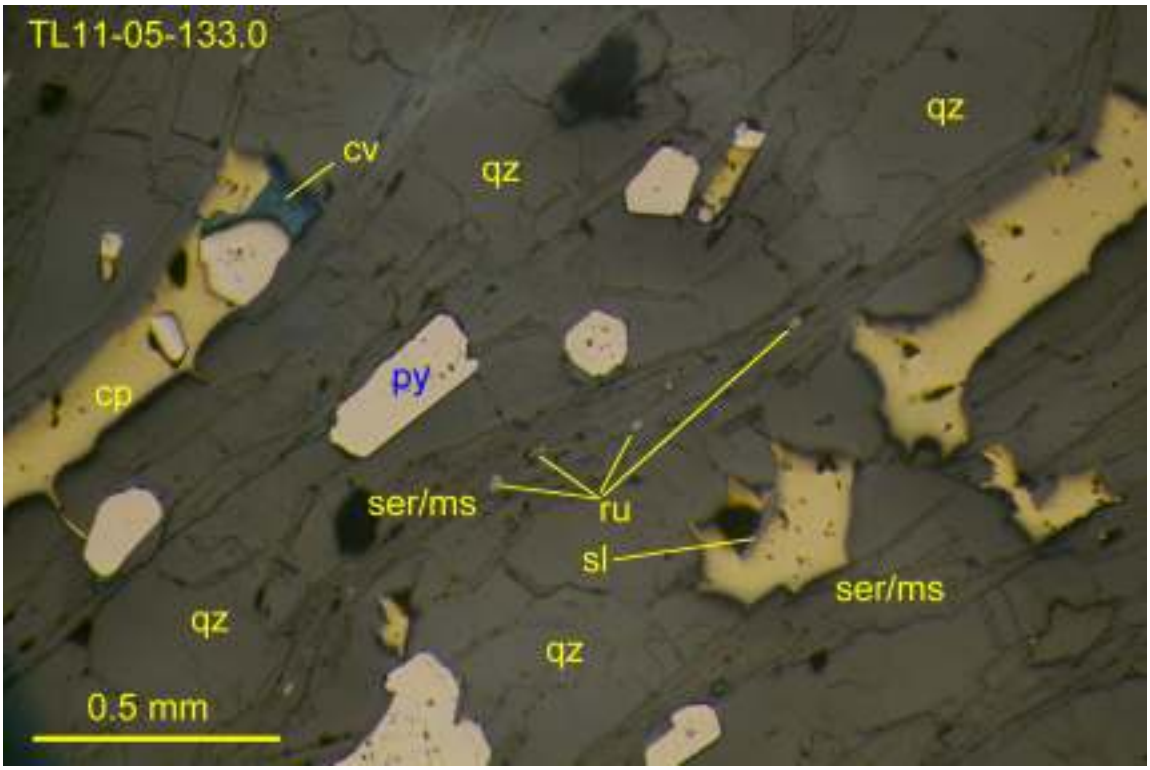

TL11-05-115.3: Rounded porphyroblasts of sieve-textured garnet (gt, isotropic, with inclusions of quartz) and adjacent aggregate of chlorite-Fe carbonate-hematite (hm, after ilmenite?) in foliated, crenulated matrix of quartz (qz) and muscovite (ms) that wraps around the blastic crystals. Transmitted light, crossed polars, field of view 3.0 mm wide.



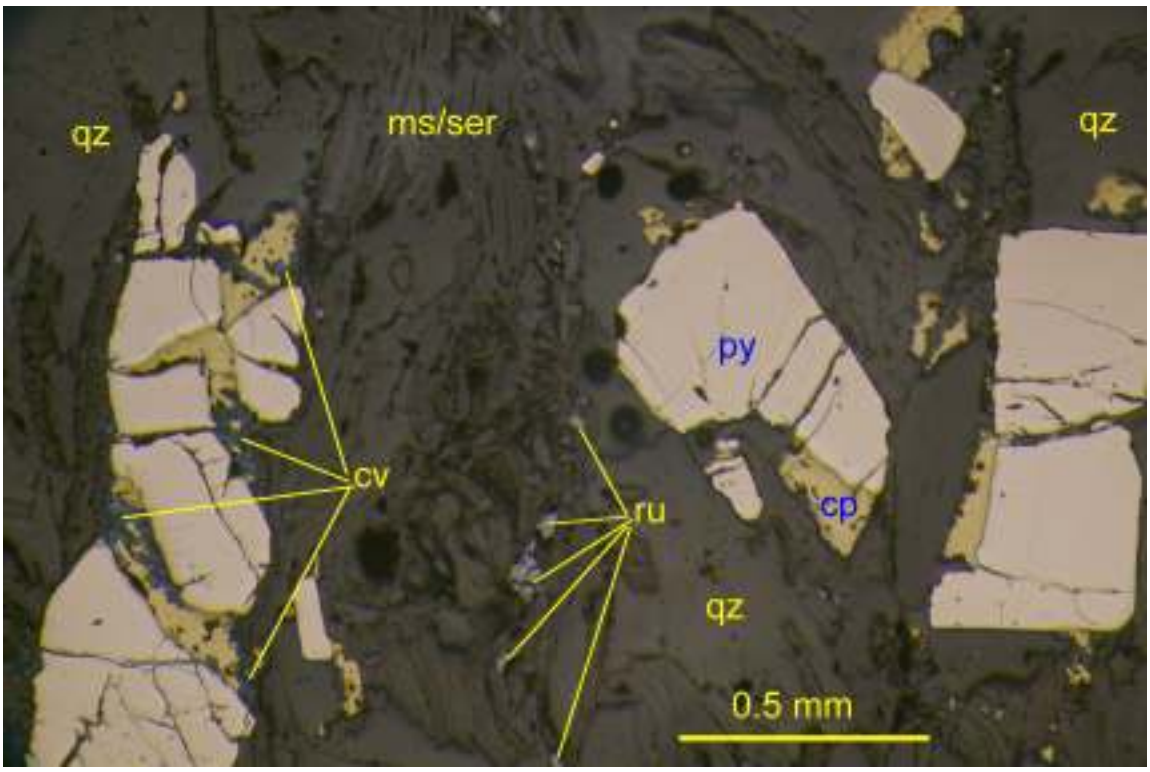

TL11-05-114.1: Porphyroblasts of plagioclase or cordierite (pl/cd?), partly plucked out to leave voids, or locally chlorite (ch), set in foliated matrix of quartz (qz) and crenulated sericite/muscovite (ser/ms) plus lensy aggregates of pyrite (py, opaque) and accessory rutile (ru). Transmitted light, crossed polars, field of view 3.0 mm wide.



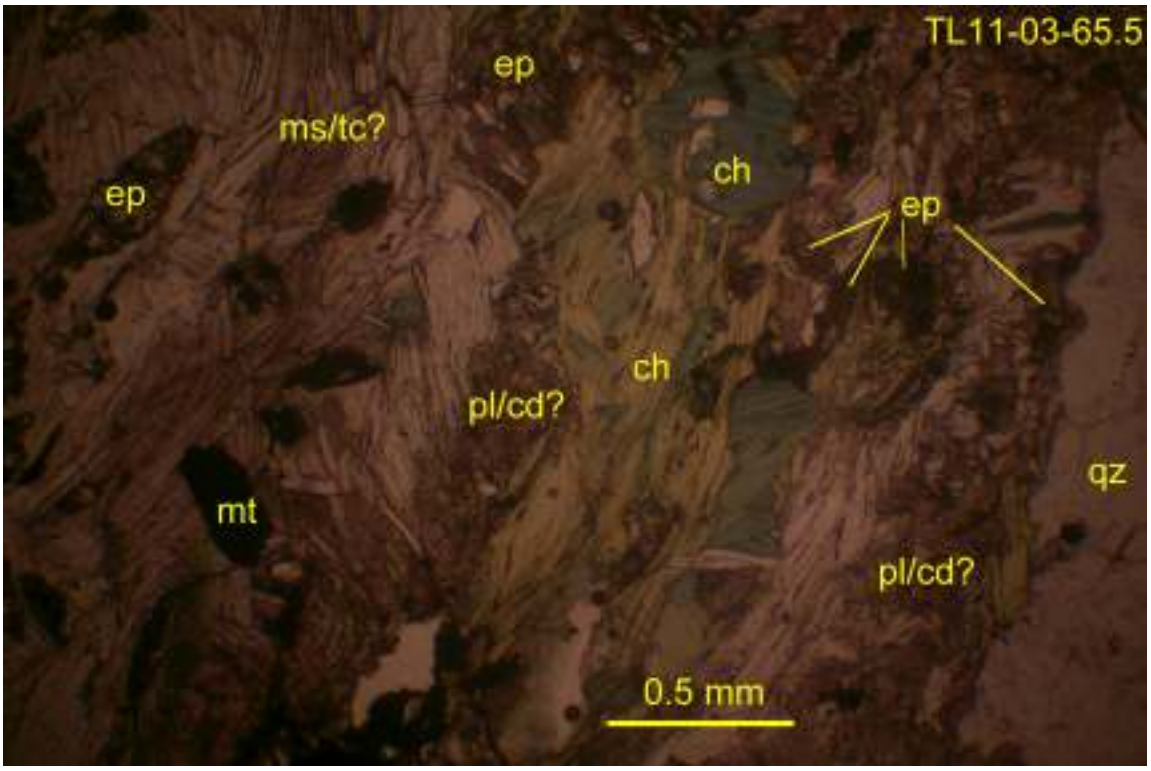

TL11-05-132.9: Discontinuous laminae of pyrite (py), minor mantling chalcopyrite (cp) and sphalerite (sl), both slightly altered to traces of covellite (cv), alternating with laminae of sericite/muscovite (ser/ms) containing local porphyroblasts of plagioclase or cordierite (pl/cd?), and accessory rutile (ru). Reflected light, uncrossed polars, field of view 2.25 mm.



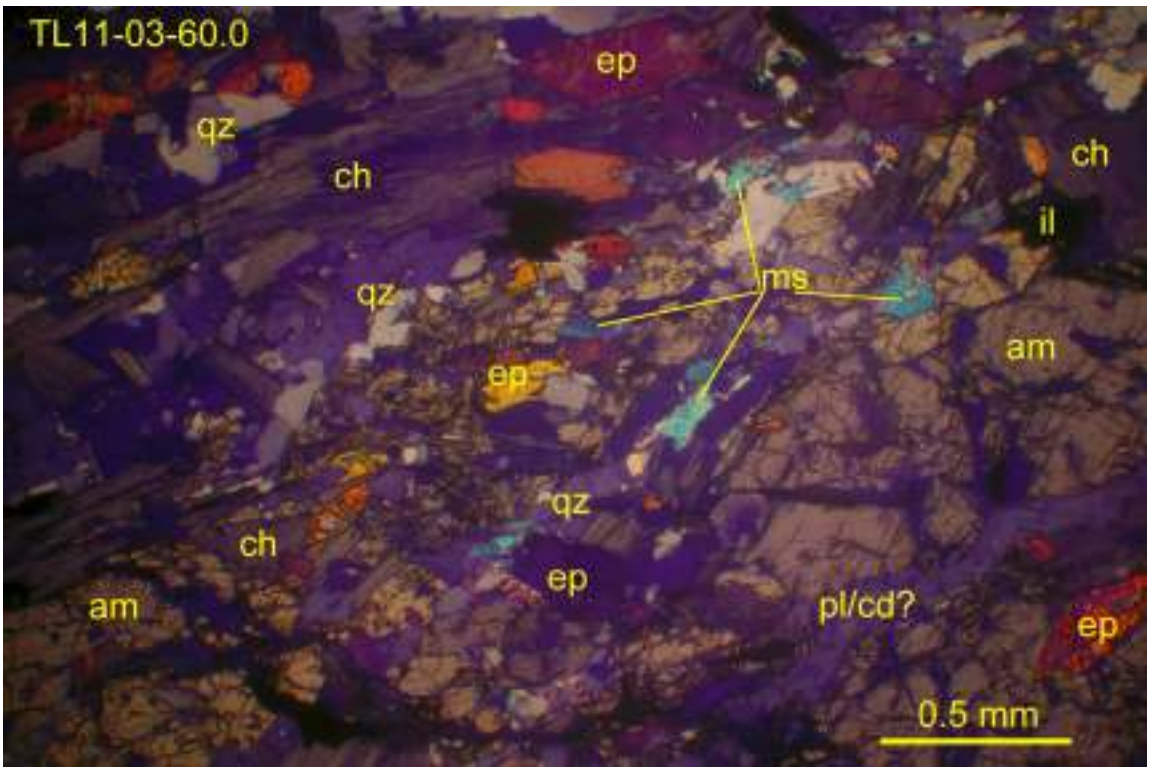

TL11-05-133.0: Discontinuous laminae of pyrite (py), lesser chalcopyrite (cp) and minor sphalerite (sl), both slightly altered to minor covellite (cv), alternating with laminae of quartz (qz) and sericite/muscovite (ser/ms) containing accessory rutile (ru). Reflected light, uncrossed polars, field of view 2.25 mm wide.




TL11-03-62.9: Quartz (qz)-sericite/muscovite (ms)-accessory rutile (ru) schist with wispy discontinuous laminae of pyrite (py), locally intergrown or associated with minor chalcopyrite (cp) which is partly oxidized to covellite (cv). Reflected light, uncrossed polars, field of view 2.25 mm wide.




TL11-03-65.5: Foliated/crenulated muscovite/sericite (or talc?) schist with local epidote (ep) and relict magnetite (mt, opaque; partly oxidized to hematite) enclosing bands or lenses enriched in chlorite (ch), epidote, sericite altered plagioclase or cordierite (pl/cd?) and quartz (qz). Transmitted plane light, field of view 3.0 mm wide.




TL11-03-60.0: Sieve-textured porphyroblast of amphibole (am) containing inclusions of or intergrown with epidote (ep), chlorite (ch), plagioclase or cordierite (pl/cd?), minor quartz (qz) and muscovite (ms), in foliated matrix of chlorite, quartz and epidote plus accessory opaque oxides (mainly ilmenite, il, altered to hematite). Transmitted light, crossed polars, field of view 3.0 mm wide.



Overview of thin sections and offcuts (blue semi-circles mark photomicrograph locations).

Statement of Expenditures
Touleary 1-632 Mineral Claims
December 12, 2011

| | |
|---|---|
| Contract Diamond Drilling | |
| Elite Diamond Drilling | 160,703.98 |
| Contract VTEM Survey | |
| Geotech Ltd. | 141,899.11 |
| Total | $302,603.09 |