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### A REPORT OF PROSPECTING AND GEOPHYSICAL SURVEYS

HELEN AND GLEAM PROPERTIES GLEAM 1-42, YB94107-94148 & GLEAM 43-50, YC 24194-24201 HELEN 1-4, YC 24190-193 & HELEN 5-14, YC 24260-24373

(61°22' N. LAT. AND 130°56' W. LONG., N.T.S. 105 G/07)

WATSON LAKE MINING DISTRICT OF YUKON

JUNE TO SEPTEMBER 2004

YMIP # 04-068

MARK FEKETE, P.GEO. JANUARY 31, 2005



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#### SUMMARY

The 50-claim (2582-acre) Gleam and 18-claim (930-acre) Helen properties are situated within the Watson Lake Mining Division and located in the Finlayson Lake Area of southeastern Yukon approximately 225 kilometres east-northeast of the capital city of Whitehorse. Based on the results of the exploration program completed in 2004 and a review of relevant reports and maps obtained from various sources, an evaluation of the exploration potential of the properties is presented and an exploration program is proposed.

Hinterland Metals Inc. may earn 100% of the property mineral rights from True North Gems Inc. subject to an agreement signed by the parties on December 11, 2002 with respect to the Gleam property. Both properties are subject to an underlying 3% royalty on all gemstone and metal production in favour of Glacier Gems Inc. The Helen claims were staked in September 2003 within an area of influence and are subject to the terms and conditions of the Gleam agreement.

Access to the properties is limited by the lack of roads into the area. The closest road to the properties ends at Teck-Cominco's Kudz Ze Kayah camp some 15 km to the northeast. At present, the most practical access to the properties is provided by floatplane to West Grass Lake which is suitable for the establishment of a base camp and then by helicopter from the base camp to the properties on a daily or fly-camp basis. Both properties are in steep, rugged terrain where snow conditions and short daylight hours in winter mean that the best period for exploration is from mid-June to mid-September.

The Finlayson Lake Area lies within the northern Canadian Cordillera in a region underlain primarily by several fault- and unconformity-bound meta-sedimentary and meta-volcanic successions and affiliated meta-plutonic rocks of the Yukon-Tanana Terrane. The region is bound to the south by the Tintina Fault and to the north by rocks of the North American Miogeocline. The properties lie in the southwestern part of the region footwall to the Money Creek thrust. Meta-sediments and meta-volcanics of the Grass Lake succession and coeval granitic and monzonitic rocks of the Grass Lakes Plutonic Suite underlie the properties. These Late Devonian to Early Mississippian rocks were deformed and imbricated prior to the emplacement of a mid-Cretaceous suite of peraluminous granitic rocks. The properties cover the eastern margin one such pluton in contact with sub-horizontal layers of the lowermost section of the Grass Lake succession variously displaced by normal and thrust faults.

The Finlayson Lake Area is best known for the Fyre Lake, Wolverine, Kudz Ze Kayah, Ice and GP4F volcanic massive sulphide-type deposits and more recently for the emerald mineralization found on the Regal Ridge Property. Recent geological mapping surveys of the area on a regional scale and several technical studies on a property scale have contributed greatly to the overall understanding of the mineral potential of the area. Similar to Regal Ridge, the Dazzle, Gleam and Helen properties lie adjacent to a mid-Cretaceous granitic intrusion that may have generated quartz veins or pegmatite dykes to cut neighboring schistose meta-sediments and meta-volcanics. This juxtoposition of Be-rich rocks against Cr-rich rocks may, under certain conditions, produce emeralds.





The Helen Gold Zone was discovered by Hinterland in 2003. A series of six chip samples across the showing returned a weighted average of 3.86 g/t Au and 48.1 g/t Ag over a width of 5.0 m. The zone is a vertical hydrothermal arsenopyrite-quartz vein of uncertain origin. A gold bearing rusty quartz vein was found by prospecting in 2004. The vein is in place on YC 24360 some 540 m north of the Helen Showing and suggests that the Helen Gold Zone is not the only mineralized structure on the property.

The 2004 sampling and geophysical results clearly demonstrate that the Helen Gold Zone continues for at least a 300 m strike length. The zone is a weakly conductive structure that appears to dip gradually to the southwest. There is little more surface work that can be done to evaluate the zone. The results justify further, sub-surface exploration of the zone by diamond drilling. A 500 m drill program is recommended at an estimated cost of \$197,800.





### **CERTIFICATE OF QUALIFICATIONS**

I, Mark Fekete, having my place of residence at 178 Dennison Boulevard in Val d'Or in the Province of Quebec do hereby certify that:

- 1. I obtained a Bachelor of Science Degree in Geology from the University of British Columbia in 1986, I have been engaged as a Geologist continuously since 1986, I am a Member in good standing of the Order of Geologists of Quebec (# 553) and I am a "qualified person" as defined in Section 1.2 in and for the purposes of National Instrument 43-101;
- 2. I have visited the Helen and Gleam properties (the "Properties") most recently in August 2004;
- 3. I wrote and am solely responsible for the contents of this technical report entitled "A Report of Prospecting and Geophysical Surveys, Helen and Gleam Properties, YMIP # 04-068" based on my professional experience, a review of relevant reports and maps and my own work on the Properties;
- 4. I am not aware of any material fact or material change with respect to the subject matter of the report that is not disclosed in the report which, by its omission, makes the report misleading;
- 5. I am an officer and director and I beneficially hold a number of shares in Hinterland Metals Inc.;
- 6. I hold no direct interest in either of the Properties as a result of any prior involvement in the Properties;
- 7. I have read, and this report has been prepared in compliance with, National Instrument 43-101 and Form 43-101; and
- 8. I hereby give consent to Hinterland Metals Inc. to use or reproduce this report in whole or in part for the purposes of exploring and developing the Properties (including the raising of funds) provided that no portion of the report is used in such a manner that conveys any misrepresentation of the information contained in the report.

Respectfully submitted this 31<sup>st</sup> day of Jnauary, 2005,

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Mark Fekete, P.Geo.



iv



# TABLE OF CONTENTS

Summary Certificate of Qualifications Table of Contents List of Tables List of Figures

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•

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W

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•

Introduction and Terms of Reference 1
Disclaimer1
Location and Property Description1
Accessibility, Local Resources, Infrastructure, Physiography and Climate
Exploration History
Regional Geology
Local Geology
Property Geology
Deposit Model7
Mineralization12
Exploration 200313
1.1.Introduction.131.2.Prospecting, Outcrop Examination and Rock Sampling.141.3.Sampling and Analytical Procedures
Adjacent Properties
Mineral Processing and Metallurgical Testing15
Mineral Resource and Mineral Reserve Estimates15
Other Relevant Data and Information15
Conclusions19
Recommendations
References





APPENDIX A	1
SAMPLE DESCRIPTIONS	1
APPENDIX B	2
SAMPLE LOCATION	2
&	Error! Bookmark not defined.
& COMPILATION OF ANALYTICAL RESULTS	
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# LIST OF FIGURES

Figure 1 - Location Map	2
Figure 2 - Claim Map	
Figure 3 - Regional Terrane Map	
Figure 4 - Finlayson Regional Geology Map	
Figure 5 - Property Geology Map	11
Figure 6 - Helen Gold Zone Showing	
Figure 7 - 2004 Sample Locations Helen Claims	
Figure 8 - 2004 Sample Locations Gleam Claims	
Figure 9 - Helen Compilation	

## LIST OF TABLES

Table 1 - List of Mineral Titles	4
Table 2 - Finlayson Lake Area VMS Deposits	
Table 3 - Adjacent Mineral Occurrences	
Table 4 – Cost Estimate for Proposed Drill Program	



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#### 1. Introduction and Terms of Reference

Breakaway Exploration Management Inc. ("Breakaway") was retained by Hinterland Metals Inc. ("Hinterland") to complete a program of prospecting, geochemical and geophysical surveying on the Helen and Gleam properties located in the Finlayson Lake Area of southeastern Yukon. This work is a continuation of work initiated on the properties in 2003. The purpose of this report is to describe the details of the work program, to provide an opinion of the exploration potential of the properties and to recommend a program for further exploration of the properties.

This report was prepared as part of continuous disclosure on the part of Hinterland. It was also prepared as a requirement of the Yukon Mining Incentive Program in order to complete the application for \$20,000 of funds under YMIP # 04-068. Finally this report will be filed to complete assessment work requirements of the *Yukon Quartz Mining Act*. The report is based on the results of the exploration program as well as information obtained from a review of relevant reports and maps available from various sources cited throughout the report. Mark Fekete, P.Geo. is the sole author of the report. In his capacity as President of Hinterland, Mr. Fekete also accepts responsibility as the qualified person for the Company.

The metric system is used for all units of measure mentioned in this report and all dollar amounts are in Canadian funds unless otherwise stated. All maps presented in this report are plotted in map projection UTM NAD 83, Zone 9 unless otherwise stated.

#### 2. Disclaimer

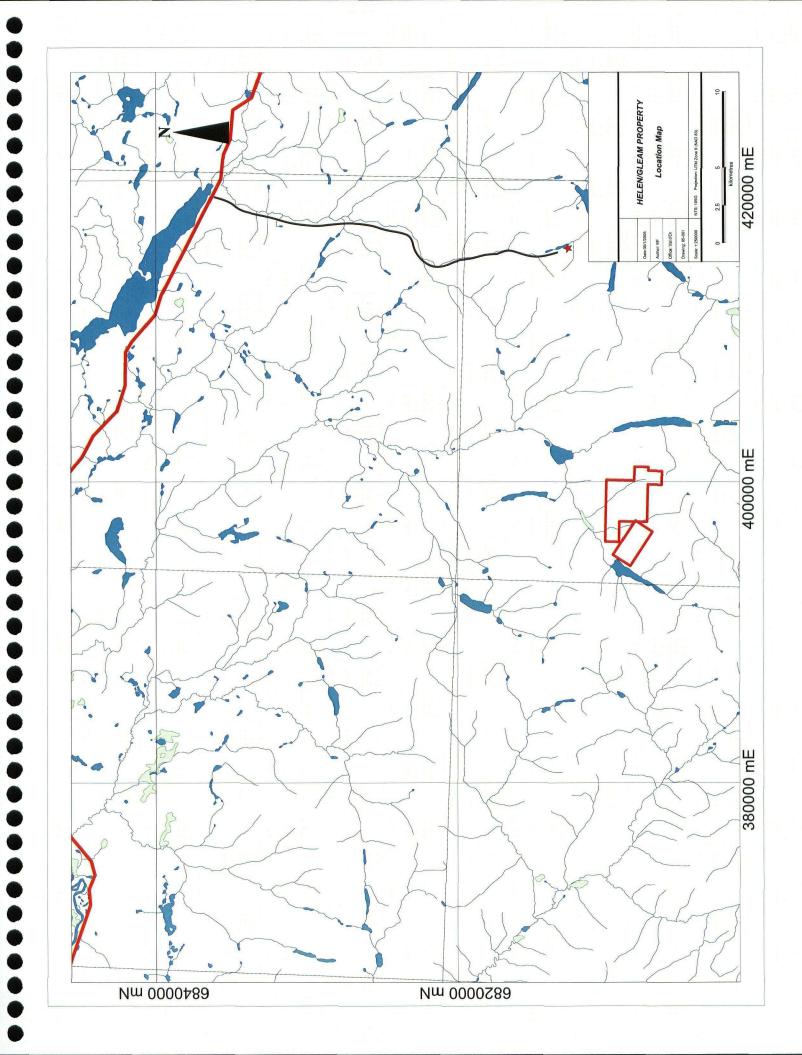
The author has relied on the technical data and interpretation found in various sources cited throughout the report. The author has not verified this information and takes no responsibility for its accuracy or completeness. The author does not offer any opinion concerning legal, title, environmental, political or other non-technical issues that may be relevant to the technical report.

#### 3. Location and Property Description

The Helen and Gleam properties are located in the Finlayson Lake Area of southeastern Yukon approximately 225 kilometres east-northeast of the capital city of Whitehorse (Figure 1). The properties are situated within the Watson Lake Mining Division and lie on N.T.S. map sheet 105 G/07 at an approximate geographic centre of 61°22' North Latitude and 130°56' West Longitude. The most notable topographic features near these properties is West Grass Lake which touches the west boundary of the Helen Property.

The surface rights for the area of the properties are held by the Crown. The mineral rights (Figures 2) are held under the statutes of the *Yukon Quartz Mining Act*" and are listed as follows:





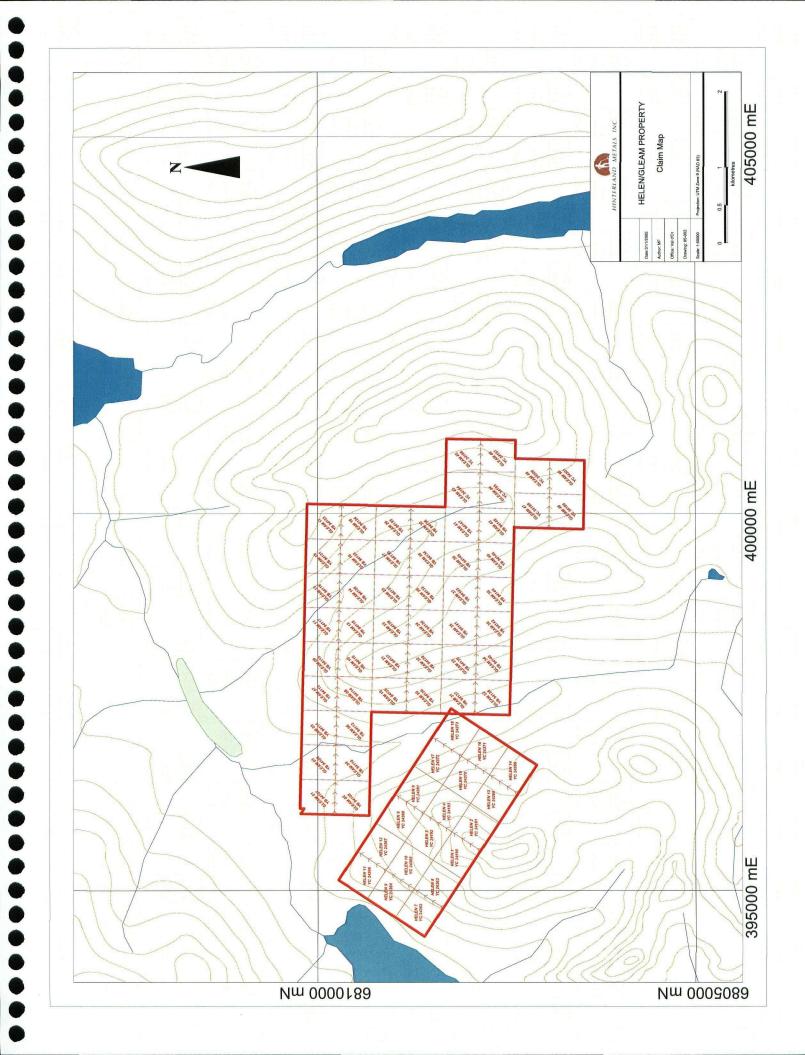




Table	1	-	List	of	Mineral	Titles
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Claim Name	Claim Number						
Gleam 1 to Gleam 42 inclusive	YB94107 to YB94148 inclusive						
Gleam 43 to Gleam 50 inclusive	YC 24194 TO YC 24201 inclusive						
Helen 1 to Helen 4 inclusive	YC 24190 to YC 24193 inclusive						
Helen 5 to Helen 14 inclusive	YC 24260 to YC 24373 inclusive						

Hinterland holds the option to acquire a 100% interest in the Gleam Property from True North Gems Inc. ("True North") under the terms and conditions of an option agreement exectued between the two parties on December 11, 2002. Under this agreement Hinterland has paid \$11,000 cash, issued 50,000 shares and must complete \$200,000 of work expenditures by the third anniversary of the agreement. True North may earn back a 50% interest by completing an additional \$200,000 of work on the property. True North may earn an additional 10% by funding all costs through to production. The Helen Property, was staked adjacent to Gleam Property and lies within an area of influence. Consequently it is subject to the terms and conditions of the Gleam agreement and for all intents and purposes may be considered part of the Gleam Property. The properties are subject to an underlying agreement with Glacier Gems Inc. ("Glacier") whereby Glacier is entitled to a 3% royalty on all metal and gemstone production from the properties.

#### 4. Accessibility, Local Resources, Infrastructure, Physiography and Climate

The Helen and Gleam properties are relatively isolated as there are no roads or trails that provide vehicle access. The Robert Campbell Highway, passes approximately 40 km to the north and a secondary road leads from the highway to the Kudz Ze Kayah camp located some 15 km to the northeast. This is a private road operated by Teck-Cominco and access to it is restricted. However, True North has gained access on two occassions in the past in order to mobilize equipment and supplies into its Regal Ridge Project. Therefore it may be possible to obtain permission to use the Kudz Ze Kayah road to mobilize equipment and supplies into the properties at sometime in the future. For the time being however, access by air is the most practical method.

The most suitable place to establish a base camp is on either Grass Lake or West Grass Lake located east and west of the properties respectively. Both lakes provide excellent access to fixed wing aircraft on floats or skis. A helicopter is necessary to move exploration crews onto the properties on a daily basis or on a fly-camp basis. Helicopters are available for charter in Whitehorse and Ross River. During the summer months, Kluane Airways operates a helicopter out of Inconnu Lodge on McEvoy Lake some 50 km north of the project area.

All supplies and services for the base camp are available in Whitehorse. Although Ross River and Faro are much closer, these villages offer only limited services. Whitehorse also offers claim staking, linecutting, geological, geophysical, trenching and diamond drilling services through a number of contracters. Analytical services must be obtained outside Yukon.





The properties lie in rugged mountainous terrain ranging from 1250 m to 2050 m above sea level. They are drained northward into Big Robert Campbell Creek, a tributary of the Pelly River in the Yukon River Watershed. The higher elevations are either barren or covered with mosses, lichen grasses and low brush. The lower elevations are covered by stunted fir forest with intermittent grassy meadows and brush covered creek bottoms. Rock outcrops are frequent and well exposed although talus slides obscure much of the geology.

The Finlayson Lake Area is characterized by a semi-arid, sub-arctic continental climate with mild summers and very cold winters. Precipitation is generally light in the summer although overcast conditions can persist for weeks without any rain. Heavy morning fog can be a problem epecially towards the end of the summer season. Maximum snow accumulations in the winter are less than two metres although avalanches result in areas of much thicker snow pack that may last into July. Due to the northerly latitude of the region, summer days are long and winter days very short. The best season for exploration is during the summer months from mid-June to mid-September.

#### 5. Exploration History

The properties have seen limited exploration for VMS-type or replacement type gold mineralization. In the past, no mineral showings have been located in place on the properties although there is reference to an occurrence of arsenopyrite float on the Helen Property (MINFILE # 105G 030). A review of the Yukon Geology Program MINFILE database reveals that the immediate area of the properties has seen three periods of exploration activity.

The first period covers the early-1950's and is poorly documented. Records show that limited staking, prospecting and geophysical surveying took place during this period (Allan 1955). The second period covers the late-1960's when North Lake Mines Ltd. led a syndicate into the area with a regional airborne geophysical survey followed by prospecting, geochemical and ground geophysical surveys (MacDonald 1967, Sevensma 1966, Sevensma 1967, Sevensma and Heard 1967). The third period of exploration in the area was touched off by the discovery of Kudz Ze Kayah deposit in 1994 and continued into the late-1990's. During this period a number of companies completed work in the area of the properties. Expatriate Resources Ltd. has been the most active company in the area. It participated in a regional airborne geophysical survey followed by prospecting, geological mapping, geochemical and ground geophysical surveys followed by limited trenching and diamond drilling on a number of adjacent properties (Burgert 1997, Eaton 1997, Wenzynowski 1996, Wenzynowski 1998, Wenzynowski 1999, Woolham 1997). Arcturus Resources Ltd. also completed exploration programs on a number of adjacent blocks. This work included participation in a regional airborne survey followed by prospecting, geological mapping, geochemical and ground geophysical surveys followed by limited diamond drilling (Davidson 1997, Davidson 1998, MacDonald 1995, Woolham 1997). Based on a regional geophysical survey flown in 1994, Cominco Ltd. staked and subsequently optioned a block of claims to Pacific Bay Minerals Ltd. Work on these claims was limited to cursory prospecting and geological mapping (MacRobbie 1996, Moyle and Wesa 1998).





#### 6. Regional Geology

The Helen and Gleam properties lie within the northern Canadian Cordillera and cover complexely deformed greenschist to lower amphibolite grade metamorphic rocks of the Yukon-Tanana Terrane in contact with mid-Creatceous granitic plutons (Figure 3). Southwest of the property area, the Yukon-Tanana is faulted against sedimentary rocks of the Cassiar Platform by the right lateral Tintina Fault. Northwest of the property area, the Yukon-Tanana is thrusted over clastic and carbonate sediments of the North American Miogeocline by the Inconnu Thrust. The properties lie in an area located north of the Tintina Fault where the Yukon-Tanana is comprised mainly of pre- to Late Devonian quartz-rich meta-clastic rocks and carbonates and Late Devonian and Mississippian meta-volcanic and meta-plutonic rocks. These rocks were deformed and imbricated in the late Paleozoic and again in the Eartly Cretaceous prior to the emplacement of a suite of ca. 112 Ma peraluminous granitic intrusions (Mortenson 1999).

#### 7. Local Geology

The most recent compilation of Finlayson Lake Area by Murphy et al (2001) divides the Yukon-Tanana Terrane locally into several fault- and unconformity-bound, meta-sedimentary and meta-volcanic successions and affiliated meta-plutonic rocks (Figure 4). The southernmost and structurally deepest rocks are found in the footwall of the Money Creek thrust and include the Grass Lakes succession, mid-Paleozoic granitic meta-plutonic rocks and the unconformably overlying Wolverine succession. On the hanging wall of the thrust is the narrow, discontinuous, largely undifferentiated Tuchitua succession of Upper Devonian to Pennsylvanian quartites, phyllites, limestones, greywackes and cherts, as well as intermediate metavolcanic rocks coeval to those in both the Grass Lakes and Wolverine successions. Dark clastic rocks and cherts of probable Late Pennsylvanian age overlap both the footwall and thrust sheet of the Money Creek thrust. Rocks in the footwall of the Money Creek thrust, the Money Creek thrust sheet, and the Pennsylvanian overlap rocks have been thrust to the northeast along the Jules Creek and thereby placed over the Finlayson succession composed of clastic rocks, cherts, limestones and metavolcanics. Permian basalts and cherts of the Campbell Range succession overlie all the thrust sheets. Foliated mafic and ultramafic intrusives, possibly sub-volcanic feeders to the Campbell Range basalts, are found within much of the older rock units. In the southern part of the map area there are several weakly foliated mid-Cretaceous intrusions. In the west-central part of the map area, three bodies of non-foliated Jurassic granitic rocks intrude Yukon-Tanana rocks.

The Helen and Gleam properties lie within the Upper Devonian and Lower Mississippian Grass Lake succession. The lowermost section of the Grass Lakes succession includes muscovite-quartz phyllite, augen phyllite and minor chloritic phyllite, marble and calcareous schist. The Fyre Lake meta-volcanic unit, composed mainly of chloritic phyllite with lesser carbonaceous phyllite and rare muscovite-quartz phyllite, overlies the lowermost section. Carbonaceous phyllite, lesser quartz-feldspar schists and pebble schists and thick sections of feldspar-muscovite-quartz phyllite and augen phyllite (felsic meta-volcanic rocks) of the Kudz Ze Kayah unit overlie the Fyre Lake unit. The upper part of the Grass Lakes succession is composed of carbonaceous phyllite, chloritic phyllite (mafic meta-volcanic rocks and dykes), quartzite and quartzo-feldspathic meta-conglomerate. These layered rocks are sub-horizontal with an easterly strike. They are variously displaced by normal and thrust faults.





The Grass Lakes succession is intruded by the extensive Grass Lake Plutonic Suite of Early Mississippian age. These well foliated and lineated granites and monzonites are medium- to coarse-grained and generally equigranular, although augen textures are present locally. Smaller bodies of the late Devonian North Lakes Meta-diorite, which includes foliated hornblende-biotite meta-diorites, meta-gabbros, meta-pyroxenites and serpentinized ultramafic rocks, also intrude the Grass Lakes succession. Several weakly foliated to non-foliated peraluminous granitic mid-Cretaceous plutons intrude both the Grass Lakes succession and Grass Lake Plutonic Suite in the southern part of the region. Crosscutting relationships in this area suggest that this plutonic suite is late kinematic with respect to deformation in the host rock.

#### 8. Property Geology

The Helen and Gleam properties cover the eastern margin of a mid-Cretaceous granitic pluton measuring 10 km from east to west and 6 km from north to south (Figure 5). A cursory inspection of the intrusion shows it to be medium- to coarse-grained, generally equigranular and zoned; the author observed muscovite granite in places and reddish-weathering biotitemuscovite granite elsewhere. The pluton intrudes into layered meta-sediments and meta-volcanics of the Grass Lakes succession and meta-plutonic rocks of the Grass Lakes Plutonic Suite. Lithological abbreviations used by Murphy et al (2001) are used in the following discussion for the sake of clarity.

The Gleam Property covers a north trending ridge and is drained by two creeks flowing northwards. Roughly 50% of the property is above treeline and shows good rock outcrops. The ridge exposes mainly foliated, lineated and equigranular granitic rocks belonging to the Grass Lakes Plutonic Suite ("MGg"). The ridge is capped by flatlying tan-coloured quartz-mica schists ("Dq") overlain by Fyre Lake metavolcanic schists ("Df"). The Helen Property straddles a contact between the mid-Cretaceous granitic pluton ("Kg") to the south and MGg granitic rocks to the north. Moving west, Dq schists lie on the north side of the contact. The elevation of the Helen Property is relatively high and shows abundant outcrop.

#### 9. Deposit Model

Hinterland's exploration of the Helen and Gleam properties initially targeted two deposit models. Primarily, the properties were considered to have potential for emerald mineralization similar to that found on True North's Regal Ridge Project (Groat et al. 2002). Historically the Finlayson Lake Area is best known the Fyre Lake, Wolverine, Kudz Ze Kayah, Ice and GP4F volcanic massive sulphide-type ("VMS" or "VMS-type") deposits (Murphy et al. 2002). VMS-type deposits are still considered a secondary target for exploration of the properties.

The discovery of the Helen Gold Zone on the Helen Property in 2003 shifted Hinterland's focus towards a lode gold-type deposit model. The Helen Gold Zone is a weakly deformed hydrothermal vein composed of semi-massive arsenopyrite and quartz. The vein carries significant gold and silver values. Lode gold-silver deposit models are numerous and diverse (Poulsen 1996). At this early stage it is difficult to identify the Helen gold discovery with a specific model. It does not show very high copper or zinc values so it does not appear to be related to VMS-type mineralization. Its setting within quartz-mica schists adjacent to a granitic





pluton implies that it may be a mesothermal vein replacement associated with a dyke related to the pluton. Its high arsenopyrite content and texture suggests this is a credible model although no dykes were observed when the vein was sampled.

VMS-type deposits are an important source for base and precious metals in Canada (Franklin 1996). The Finlayson Lake Area has a number of VMS-type deposits that are well described in the Yukon Geology Program MINFILE database and summarized as follows:

MINFILE # Name	NTS Sheet	Host Rock (Murphy et al., 2001)	Resource
105G 034 Fyre Lake	105G/02	Fyre Lake meta-volcanic (DF)	15.4 million tonnes within which 8.2 million tonnes grade 2.1% Cu, 0.11% Co, and 0.73 g/t Au, using a 1.0% copper cut-off
105G 072 Wolverine	105 G/08	Wolverine Succession (MWcp/Mwt)	6.237 million tonnes grading 1.33% Cu, 1.55% Pb, 12.66% Zn, 1.76 g/t Au and 370.9 g/t Ag
105G 117 Kudz Ze Kayah	105G/07	Kudz Ze Kayah felsic meta-volcanic (DK)	11,100,000 tonnes averaging 5.61% Zn, 0.85% Cu, 1.56% Pb, 136.9 g/t Ag and 1.33 g/t Au
105G 118 Ice	105G/14	Campbell Range Succession basalts (PCb)	4,561,863 tonnes grading 1.48% Cu with minor gold, silver and cobalt
105G 143 GP4F	105G/07	Kudz Ze Kayah felsic Meta-volcanic (DK).	1.5 million tonnes grading 6.4% Zn and 3.10% Pb, 0.10% Cu, 90 g/t Ag and 2.0 g/t Au.

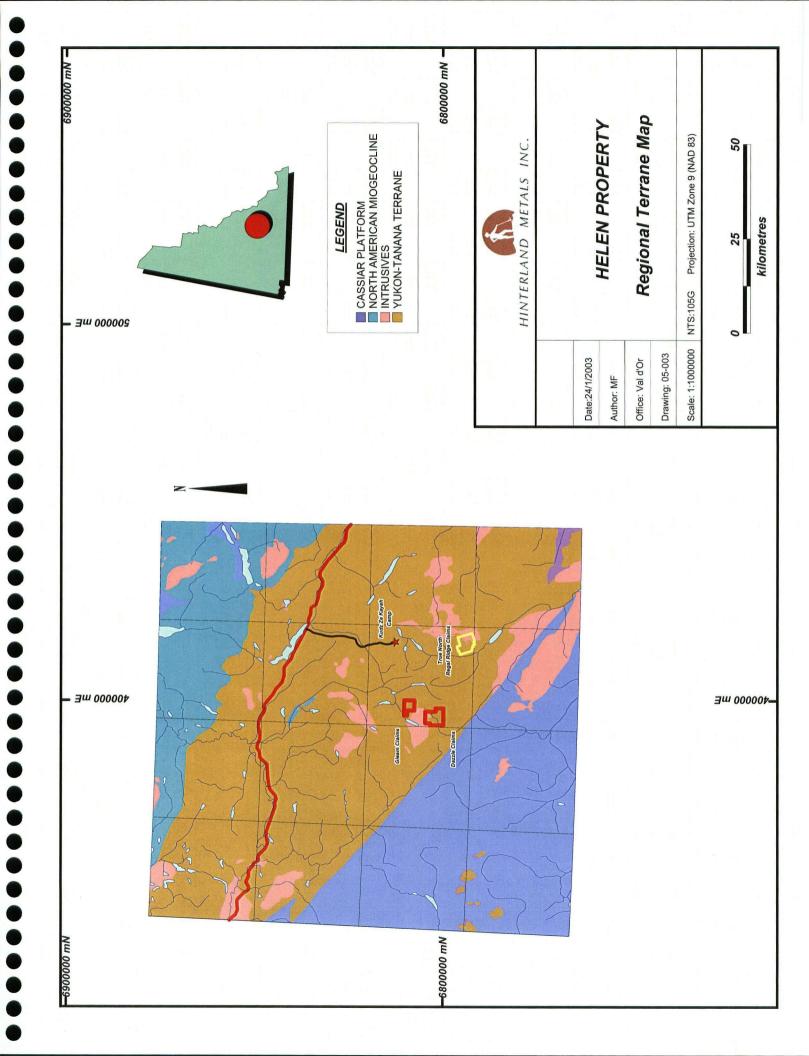
#### Table 2 - Finlayson Lake Area VMS Deposits

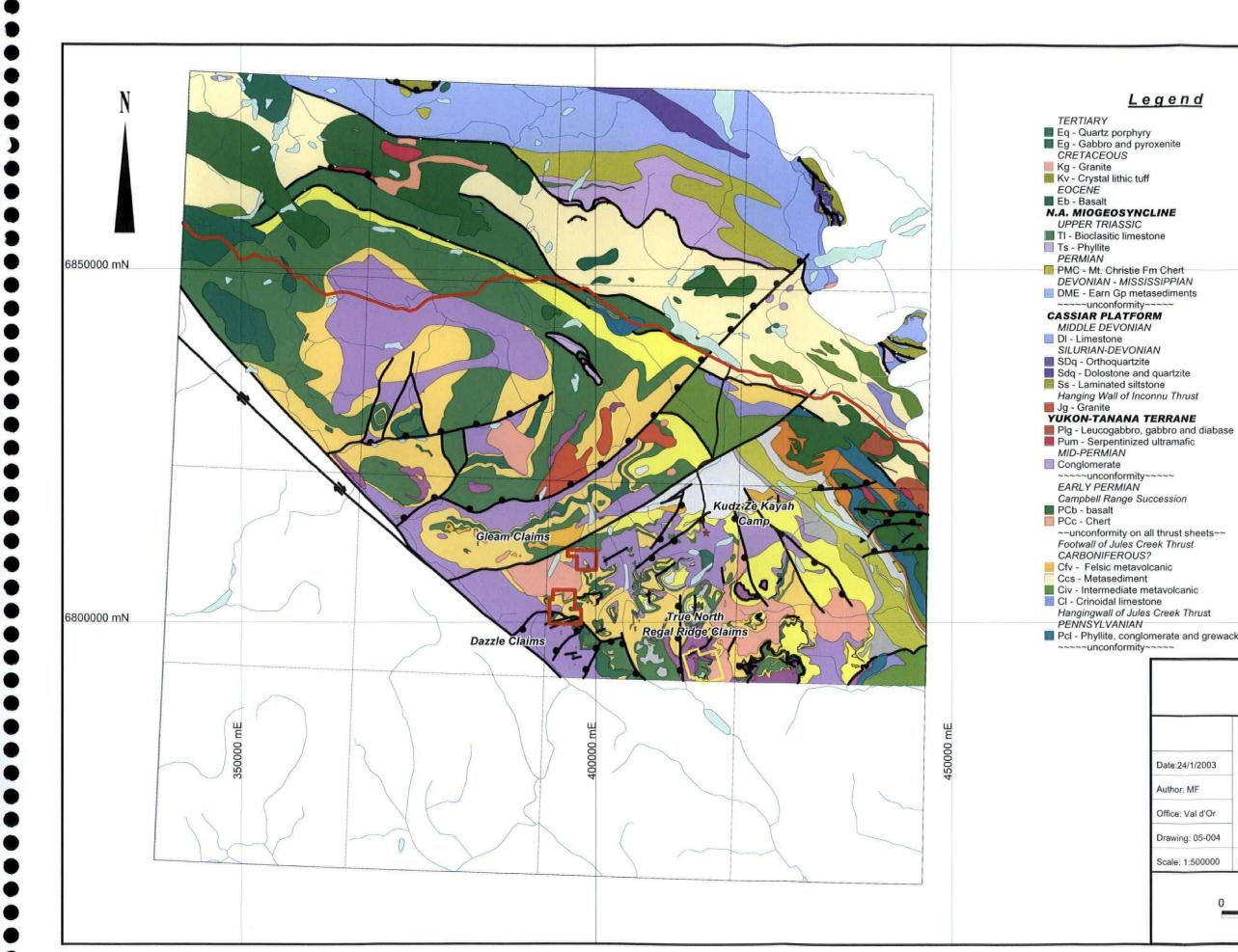
Murphy et al (2002) provide an excellent description of the VMS-type potential of the Finlayson Lake Area:

"The recognition of the several different and sequentially developed paleogeographic settings within Yukon-Tanana Terrane has implications for the exploration for new mineral deposits. With the exception of the Fyre Lake deposit, all of the known volcanic-hosted massive sulphide deposits occur within rocks inferred to have been deposited in back-arc settings (Piercey and Murphy, 2000; Piercey, 2001b). The Kudz Ze Kayah and GP4F deposits formed in the Late Devonian back-arc region, while Wolverine Lake formed in the early Mississippian back-arc region, all of these in the footwall of the Money Creek thrust. The Ice deposit formed during rifting behind a coeval Early Permian arc recently recognized in southern Yukon (Roots et al., in press). As was noted by Piercey et al. (2000, 2001b), back-arc settings have the structural and thermal characteristics necessary for the generation and maintenance of large-scale hydrothermal circulatory systems that lead to the development of sea floor massive sulphide deposits."

Although the VMS-type deposit model is currently secondary to lode gold-type model, the potential for VMS-type mineralization to occur on the Helen or Gleam properties must not be understated. Lode gold is often associated with VMS-type deposits and the Helen Gold Zone may be a surface expression of buried VMS mineralization.







### Legend

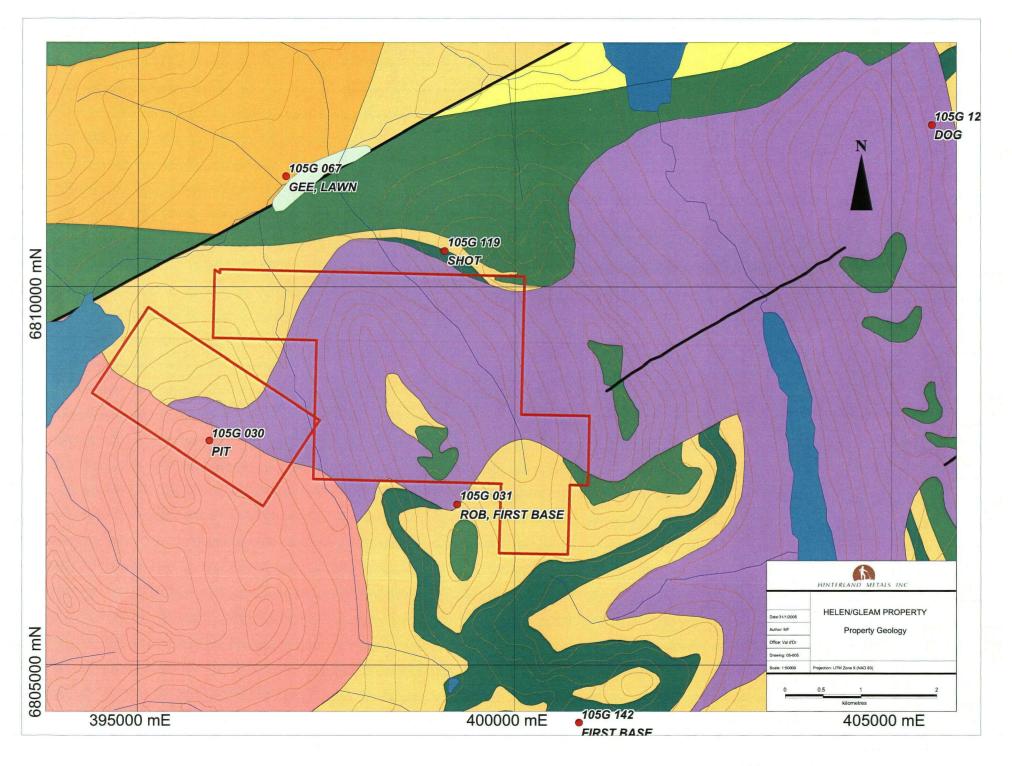
PcI - Phyllite, conglomerate and grewacke

Hangingwall of Money Creek Thrust EARLY MISSISSIPPIAN MSg - Simpson Range Granites LATE DEVONIAN - EARLY MISSISSIPPIAN Dqp - Mafic poor granite Dum - Serpentinized ultramafic CMCu - Felsic metavolcanic and metasediments PENNSYLVANIAN Pg - Quartzite UPPER MISSISSIPPIAN TO MID-PENNSYLVANIAN Cc - Crinoidal limestone LOWER MISSISSIPPIAN Miv - Mica-quartz phyllite UPPER DEVONIAN Df - Metavolcanic DFcp - Carbonaceous phyllite DFr - Rhyolite Footwall of Money Creek Thrust EARLY MISSISSIPPIAN Wolverine Succession MWb - Chloritic phyllite MWt - Phyllite MWf - Metaporphyry MWcp - Carbonaceous phyllite MWcl - Metasediment 110 ~~~~unconformity~~~~ EARLY MISSISSIPPIAN MGg & Mgag - Grass Lakes Suite - granite LATE DEVONIAN North Lakes Meta-diorite DNd - Foliated diorite DMi - Metagabbro Dum - Serpentinized ultramafic UPPER DEVONIAN TO LOWE MISSISSIPPIAN Grass Lakes Succession DMq- Quartzite DMn - Chloritic phyllite DMcp - Phyllite and quartzite DMcg - Metaconglomerate Kudz Ze Kayah felsic metavolcanic DKcp - Carbonaceous phyllite DKcs - Calcareous metasediment DF - Fire Lake Metavolcanic UPPER DEVONIAN & OLDER Dg - Mica-Quartz-feldspar schist Dgm - Marble and calcareous schist Dm - Chlorite schist Dfv - Felsic metavolcanic



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#### **10. Mineralization**

Previous work does not document any metal or gemstone occurrences on the Helen or Gleam properties. The Yukon Geology MINFILE data base contains five files describing mineral occurrences in close proximity to these properties summarized as follows:

MINFILE # Name	NTS Sheet	Deposit Type/Status	Location Description Best Assay Values
105G 029 Gee	105G/07	Vein/Showing	3 km west of Gleam NW Corner Galena in small quartz stringers NA
105G 030 Pit	105 G/07	Unknown/Showing	1.5 km west of Gleam SW corner Arsenopyrite float 68.6 g/t Ag
105G 031 Rob	105G/07	VMS/Showing	0.3 km south of Gleam S boundary on ridge Massive arsenopyite in schist NA
105G 067 Lawn	105G/07	Unknown/Anomaly	1.5 km north of Gleam NW corner EM anomaly NA
105G 119 Shot	105G/07	VMS/Drilled	0.3 km north of Gleam N boundary on ridge Malachite, chalcopyrite, sphalerite and pyrite in feldspar-micas-quartz schist 0.24% Cu, 2.34% Pb, 4.24% Zn and 41.5 g/t Ag

#### **Table 3 - Adjacent Mineral Occurrences**

The Helen Property covers MINFILE # 105G 030 known as the Pit Showing which is generally described as arsenopyrite float carrying up to 68.6 g/t Ag. There is no evidence that previous workers identified the Helen Gold Zone in place. It is thought that the zone has only recently been revealed by retreating snow. It stands out as an outcrop within a talus slide and is hosted within flatlying tan-coloured quartz-mica schists several hundred metres north of a contact with a mid-Cretaceous granitic pluton. A series of six chip samples taken across the showing returned a weighted average of 3.86 g/t Au and 48.1 g/t Ag over a width of 5.0 m (Fekete 2004).

Petrography, ore microscopy and S.E.M. evidence conclude the sulphide zone to be a hydrothermal vein comprised of semi-massive arsenopyrite with quartz (Miller 2003). The vein is mineralogically simple and contains approximately 65% arsenopyrite and 35% quartz. Ultra fine-grained metallic aggregates comprised of alloys of bismuth and silver, native bismuth and galena are present as inclusions in arsenopyrite and interstitial to arsenopyrite and quartz.







Figure 6 - Helen Gold Zone Showing

#### 11. Exploration 2003

#### 11.1. Introduction

Field exploration work was completed on the Helen and Gleam properties from June to August, 2004. The work consisted of prospecting, outcrop examination, rock sampling, gridding and geophysical surveys. The main goal of the exploration work was better evaluate the suitability of the Helen Gold Zone for diamond drilling. A secondary goal was to prospect the remainder of the Helen Property and follow-up some interesting results obtained along the southern boundary of the Gleam Property in 2003.

All aspects of the exploration program were co-ordinated and supervised by Mark Fekete of Val d'Or, Quebec; a Professional Geologist registered in Quebec, the author of this report and a "qualified person" as defined in Section 1.2 in and for the purposes of National Instrument 43-101. The field crew consisted of prospectors Dan Ferderber and Ray Grenier of Val d'Or, Quebec. Mark Fekete also spent several days in the field. Carl Schultz, P.Geo. of Whitehorse also spent one day sampling the Helen showing. Geophysical services were provided by Aurora Geosciences Ltd. ("Aurora") of Whitehorse. John Small and Anthony Fekete of Whitehorse provided transportation and expediting services. The work was carried out from a fly camp set up at the north end of West Grass Lake. Helicopter support was provided by Kluane Airways based at Inconnu Lodge and by Heli-Dynamics based in Whitehorse. Kluane Airways made several supply trips to the camp with a Beaver float plane. All sample sites were recorded with Garmin 12XL receivers in the NAD 83, Zone 9 map projection and plotted on appropriate maps included in this report. Data compilation, drafting and report preparation was done by Mark Fekete with the assistance of Nicole Beaudet from September 2004 to January 2005.





#### 11.2. Prospecting, Outcrop Examination and Rock Sampling

Prospecting was focused on tracing the Helen Gold Zone on surface. Most of the Helen property was covered by the prospectors whom followed claim lines, ridge tops, creek valleys and often wandered randomly according to the terrain or the weather. A total of 28 samples were collected on the Helen claims. One day of prospecting was completed at the southeastern corner of the Gleam Claims and three rock samples were collected. This work was to follow up some weakly anomalous values obtained in 2003. Sample locations and results are included in Appendix A. Assay certificates are included in Appendix B. Sample locations are plotted at a scale of 1:20,000 (Figure 6 and 7).

#### 11.3. Sampling and Analytical Procedures

A description of each rock sample including its location, sample type (i.e. grab, float etc.), rock type and mineralization was recorded. A representative hand specimen marked with the appropriate sample number was also kept for later reference. The remainder of each sample was placed in a plastic sample bag marked with the appropriate sample number and sealed with flagging tape. Batches of rock samples were subsequently sealed in rice bags and delivered by courier to ALS Chemex Labs in North Vancouver B.C. These samples were analyzed for gold by 30 g Fire Assay with Atomic Absorption (AA) finish and for 27 other elements by partial acid digestion with Induced Coupled Plasma (ICP) Emission Spectroscopy finish.

ALS Chemex follows an internal quality control program that uses a system of duplicates, blanks and standards. It is the author's opinion that the sampling procedure, security measures, sample preparations and analytical methods described above were diligently followed and were adequate to meet industry standards commonly accepted for this level of exploration.

#### 11.4. Grid and Geophysical Surveys

An EM-16 was used to provide a rough trace of the Helen Gold Zone for prospecting and to determine the orientation of the gird. This survey was done prior to the establishment of the grid. No readings were recorded and no map was plotted.

A picket line was laid out with a 450 m long baseline oriented at 065° Azimuth. Lines were laid out at right angles left and right of the baseline. A GPS receiver was used to record the location of all the lines. Approximately 3.5 line km of grid were completed. A horizontal loop electromagnetic ("HLEM") survey was completed over the grid by Aurora. The survey operators were Casey Adshead from Aurora and Dan Ferderber from Breakaway. The specifications of the survey are fully described in a memorandum from Aurora included as Appendix C. The survey results are plotted at 1:2500 scale (Figure 9).

#### 11.5. Discussion of Results

The HLEM survey traced a weak conductor for 300 m in a northwest to southeast direction. The source of the conductor appears to be a deep, highly conductive body. The asymetry of the in-phase component suggests that the conductor dips gradually to the southwest. Further





mineralization was found in place approximately 50 m southeast of the original discovery and along the trend of the conductor. This second site is mostly buried by talus and no surface dimensions were determined. Gold and silver values from grab samples collected at this site range from 0.77 to 3.41 g/t Au and 1.4 to 2.9 g/t Ag. Similar to the original showing, the mineralization at the second showing is characterized by anomalous arsenopyite and bismuth values ranging form 774 to 8980 ppm As and 426 to 1855 ppm Bi. The mineralization is composed of semi-massive arsenopyite and pyrite within white to black quartz veins. Folding is evident within the quartz veins.

A third site was located an additional 80 m southeast along the trend of the conductor. A single grab sample from a 1.5 m wide rusty quartz vein exposed at this site returned 59.6 g/t Ag and 4100 ppm Bi but low gold and arsenic values. This quartz vein shows the same general orientation as the HLEM conductor and may be related to the mineralization found at the first two sites.

A poorly exposed, narrow, folded, rusty quartz vein was found in place on YC 24360 some 540 m north of the Helen Showing. Both grab samples taken from this vein returned strongly anomalous assay results. The first sample (No. 33704) returned 0.965 g/t Au, 2,1 g/t Ag and 774 ppm As. The second sample (No. 33705) returned 2.06 g/t Au, 1.4 g/t Ag and 8980 ppm As.

The three samples collected on the Gleam property did not return any results of merit.

#### **12. Adjacent Properties**

Information concerning adjacent properties is included in Sections 9 and 10 of this report. This information was obtained from the publically available Yukon Geology Program MINFILE database. The author has not attempted to verify any of the information contained in the MINFILE reports and **any such information is not necessarily indicative of similar mineralization existing on either of the Helen or Gleam properties.** The author cautions the reader to distinguish between the descriptions of mineralization found on adjacent properties provided in this report and the descriptions of mineralization found on the Helen or Gleam properties if and when any are provided.

#### 13. Mineral Processing and Metallurgical Testing

To date, Hinterland has not completed any mineral processing and/or metallurgical testing on the Helen or Gleam properties.

#### 14. Mineral Resource and Mineral Reserve Estimates

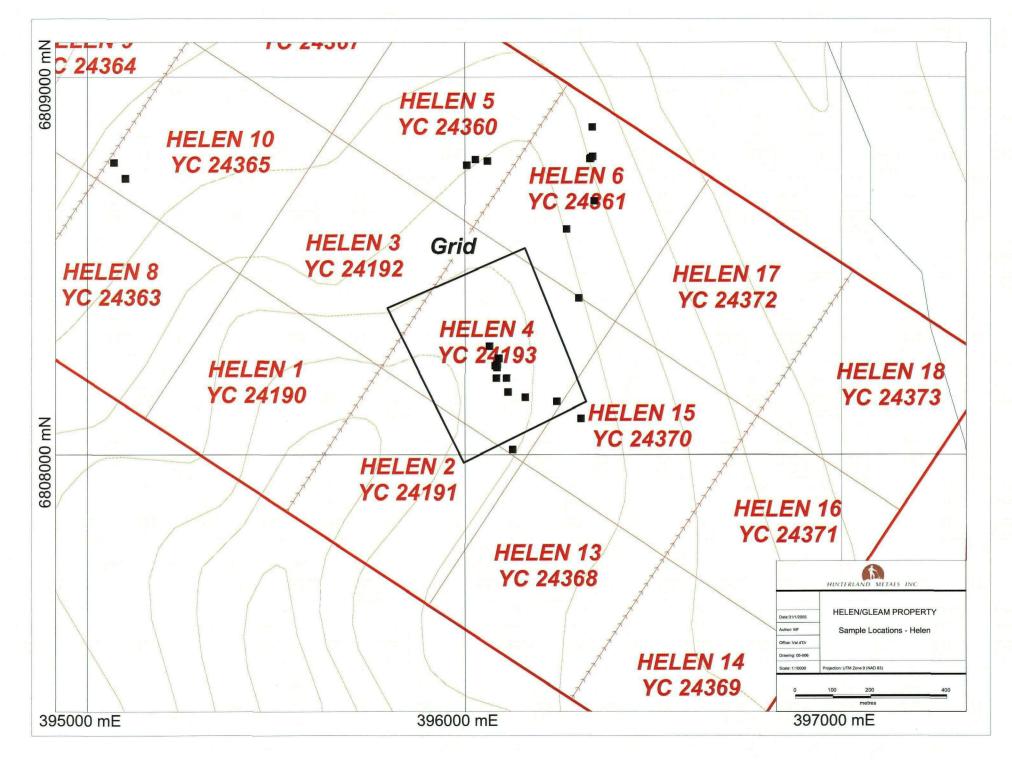
No mineral resource or mineral reserve estimates exist for the Helen or Gleam properties.

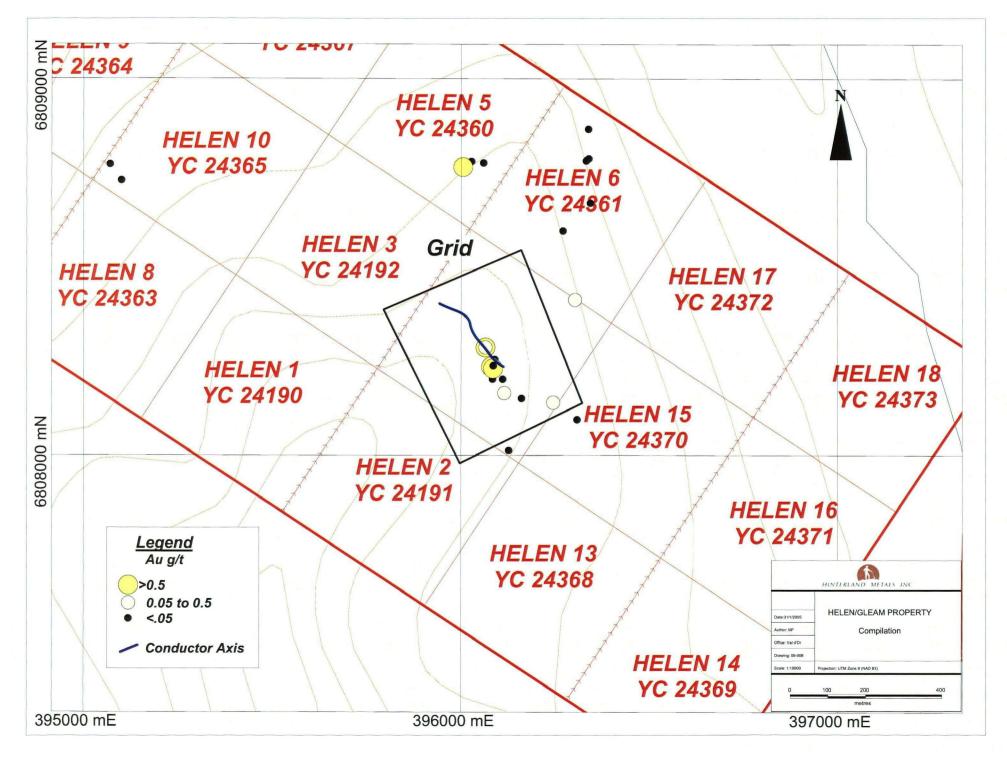
#### 15. Other Relevant Data and Information

The author is not aware of any other information or explanation necessary to make this technical report more understandable and not misleading.











#### **16.** Conclusions

The Finlayson Lake Area shows an impressive record of mineral discoveries over the past decade. These discoveries include the both volcanic massive sulphide-type base metal deposits and the Regal Ridge emerald deposit. Recent geological mapping surveys of the area on a regional scale and several technical studies on a property scale have contributed greatly to the overall understanding of the mineral potential of the area. The ongoing compilation and revision of the mineral occurrence database in terms of these recent surveys and studies provides new insights for further exploration in the area.

The discovery of the Helen Gold Zone represents a significant breakthrough for Hinterland in the Finlayson Lake area. It moves the Company's efforts in the area from the grassroots stage to the target evaluation stage. The results of the 2004 work reveal linear continuity to the Helen Gold Zone (Figure 8) and justify further, sub-surface exploration of the zone by diamond drilling. The gold bearing rusty quartz vein found in place on YC 24360 some 540 m north of the Helen Showing suggests that the Helen Gold Zone is not the only mineralized structure on the property.

#### **17. Recommendations**

The 2004 sampling and geophysical results clearly demonstrate that the Helen Gold Zone continues for at least a 300 m strike length. The zone is a weakly conductive structure that appears to dip gradually to the southwest. There is little more surface work that can be done to evaluate the zone. It is the author's opinion that the structure is of sufficient merit to recommend that Hinterland proceed with a limited drill program in order to test the size and tenor of the zone at depth. A 500 m drill program is recommended at an estimated cost of \$197,800 as summarized below. This estimate includes a 15% contingency.

				Phase II Total	\$197,800
				Contingency ~15%	\$25,800
				Subtotal	\$172,000
Drafting	50	_hours @	\$50	\$2,500	
Report	10	days @	\$500	\$5,000	
Sat Phone	1	month @	\$2,500	\$2,500	
Truck	1	month @	\$1,500	\$1,500	
Float Plane	500	miles @	\$10	\$5,000	
Helicopter	30	hours @	\$1,100	\$33,000	
Camp	1	fixed @	\$10,000	\$10,000	
Mob/demob	1	fixed @	\$15,000	\$15,000	
Drilling	500	m @	\$125	\$75,000	
Assistant	30	days @	\$250	\$7,500	
Geologist	30	days @	\$500	\$15,000	

#### Table 4 – Cost Estimate for Proposed Drill Program





#### **18. References**

Bond J.D., Murphy, D.C., Colpron, M., Gordey, S.P., Plouffe, A., Roots, C.F., Lipovsky P.S., Stronghill, G. and Abbott J.G., 2002. Digital Compilation of Bedrock Geology and Till Geochemicstry, northern Finlayson Lake Map Area, Southeastern Yukon (105G), EGSD Open File 2002-7D, and GSC Open File 4243.

Burgert, A., 1997. Assessment Report #093653 for EXPATRIATE RESOURCES LTD.

Davidson, G.S., 1997. Assessment Report #093647 for ARCTURUS RESOURCES LTD.

Davidson, G.S., 1998. Assessment Report #093844 for ARCTURUS RESOURCES LTD.

Eaton, W.D., 1997. Assessment Report #093587 for EXPATRIATE RESOURCES LTD.

Franklin, J.M., 1996. Volcanic-associated massive sulphide base metals. *In* Geology of Canadian Mineral Deposit Types, (ed.) O.R. Eckstrand, W.D. Sinclair, and R.I. Thorpe; Geological Survey of Canada: Geology of Canada No. 8, p. 158-183 Groat, L., 2003. Personal Communication dated October 1, 2003

Gordey, S.P. and Makepeace, A.J., 1999. Yukon Digital Geology. S.P. Gordey and A.J. Makepeace (comps.), Geological Survey of Canada, Open File D3826, and Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File 1999-1(D).

MacDonald, A.J., 1967. Assessment Report #019114 for NORTHLAKE MINES LTD.

MacDonald, G., 1995. Assessment Report #093433 for MACDONALD, B., Aug/95.

MacRobbie, P.A., 1996. Assessment Report #093332 for COMINCO LTD.

Miller, A.L., 2003. Petrography, Ore Microscopy and Scanning Electron Microscope Investigation of Samples from the Helen Au-Ag Prospect and Chris Chrysoprase Prospect, Yukon

Mortensen, J.K. (comp.), 1999. YUKONAGE, An isotopic age database for the Yukon Territory. *In* Yukon Digital Geology, S.P. Gordey and A.J. Makepeace (comps.), Geological Survey of Canada, Open File D3826, and Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File 1999-1(D),.

Moyle, F. and Wesa, G.L., 1998. Assessment Report #093855 for PACIFIC BAY MINERALS LTD.

Murphy, D.C., 1997. Preliminary geological map of the Grass Lakes area, Pelly Mountains, southeastern Yukon. Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 1997-3.





Murphy, D.C., 1998. Stratigraphic framework for syngenetic mineral occurrences, Yukon-Tanana Terrane south of Finlayson Lake: A Progress Report. *In* Yukon Exploration and Geology 1997, Exploration and Geological Services Division, Indian and Northern Affairs Canada, p.51-58.

Murphy, D.C. and Piercey, S.J., 1999. Geological map of parts of Finlayson Lake (105G/7, 8 and parts of 1, 2, and 9) and Frances Lake (parts of 105H/5 and 12) map areas, southeastern Yukon (1:100 000-scale). Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 1999-4.

Murphy, D.C. and Piercey, S.J., 2000. Syn-mineralization faults and their re-activation, Finlayson Lake massive sulphide district, Yukon-Tanana Terrane, southeastern Yukon. *In* Yukon Exploration and Geology 1999, D.S. Emond and L.H. Weston (eds.), Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 55-66.

Murphy, D.C., Colpron, M., Gordey, S.P., Roots, C., Abbott, J.G. and Lipovsky, P.S., 2001. Preliminary bedrock geological map of northern Finlayson Lake area (NTS 105G), Yukon Territory. Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File 2001-33, 1:100 000 scale.

Murphy, D.C., Colpron, M., Roots, C.F., Gordey, S.P. and Abbott, J.G., 2002. Finlayson Lake Targeted Geoscience Initiative (southeastern Yukon), Part 1: Bedrock geology. *In* Yukon Exploration and Geology 2001, D.S. Emond, L.H. Weston and L.L. Lewis (eds.), Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, p. 189-207.

Piercey, S.J., 2001. Petrology and tectonic setting of felsic and mafi c volcanic and intrusive rocks in the Finlayson Lake volcanic-hosted massive sulphide (VHMS) district, Yukon, Canada: A record of mid-Paleozoic arc and back-arc magmatism and metallogeny. Unpublished PhD thesis, University of British Columbia, 304 p.

Piercey, S.J. and Murphy, D.C., 2000. Stratigraphy and regional implications of unstrained Devono-Mississippian volcanic rocks in the Money Creek Thrust Sheet, Yukon-Tanana Terrane, southeastern Yukon. *In* Yukon Exploration and Geology 1999, D.S. Emond and L.H. Weston (eds.), Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, p. 67-78.

Piercey, S.J., Murphy, D.C., Mortensen, J.K. and Paradis, S., 2000. Arc-rifting and ensialic backarc basin magmatism in the northern Canadian Cordillera: Evidence from the Yukon-Tanana Terrane, Finlayson Lake region, Yukon. *In* Slave-Northern Cordilleran Lithospheric Experiment (SNORCLE)-Lithoprobe Report 72, Vancouver, British Columbia, Lithoprobe Secretariat, p. 129-138.





Piercey, S.J., Murphy, D.C., Mortensen, J.K. and Paradis, S., 2001a. Boninitic magmatism in a continental margin setting, Yukon-Tanana Terrane, southeastern Yukon, Canada. Geology, vol. 29, p. 731-734.

Piercey, S.J., Paradis, S., Murphy, D.C. and Mortensen, J.K., 2001b. Petrological constraints on the tectonic setting of felsic volcanic-hosted volcanogenic massive sulfide (VMS) mineralization in the Finlayson Lake district, Yukon, Canada. Economic Geology.

Poulsen, K.H., 1996. Disseminated and replacement gold: <u>in</u> Geology of Canadian Mineral Deposit Types, (ed.) O.R. Eckstrand, W.D. Sinclair, and R.I. Thorpe: G.S.C., Geology of Canada No. 8, p.383-392

Roots, C.F., Harms, T.A., Simard, R.L., Orchard, M.J. and Heaman, L., 2002. Constraints on the age of the Klinkit assemblage east of Teslin Lake, northern British Columbia, Geological Survey of Canada, Current Research 2002-A7.

Sevensma, P.H., 1966. Prospectus Report for NORTH LAKE MINES LTD.

Sevensma, P.H., 1967. Assessment Reports # 019115 for NORTH LAKE MINES LTD.

Sevensma, P.H.and Heard, R.T., 1967. Assessment Reports # 060250 for NORTH LAKE MINES LTD.

Simandl, G.J., Paradis, S., and Birkett, T., 2001. Schist Hosted Emeralds: Mineral Deposit Profiles, B.C. Geological Survey, 5 pp.

Sinkankas, J., 1981. Emerald and Other Beryls: Geoscience Press, Prescott, Arizona, 665 pp.

Sliwa, A.S., and Nqualuwe, C.A., 198. Geological Setting of Zambian Emerald Deposits: Precambrian Research, v. 25, p. 213-228.

Walton, L., 1996, Exploration Criteria for Gemstone Deposits and Their Application to Yukon Geology: INAC Open File 1996 2(G), 130 pp.

Wengzynowski, W.A., 1996. Assessment Report #093412 for EXPATRIATE RESOURCES LTD.

Wengzynowski, W.A., 1998. Assessment Report #093818 for EXPATRIATE RESOURCES LTD.

Wengzynowski, W.A., 1999. Assessment Report #093995 for EXPATRIATE RESOURCES LTD.

Woolham, R.W., 1997. Assessment Report #093655 for EXPATRIATE RESOURCES LTD.





# APPENDIX A

# SAMPLE DESCRIPTIONS



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2004 ROCKS Helen

ID	UTM mE	UTM Mn	Elev.	Claim No.	Туре	Host	Chryso	Description
33646	396084	6808202	1883	Helen	Grab	NA	NA	Rusty vuggy quartz vein trace sulfides, mica
33647	396115	6808165	1845	Helen	Grab	NA	NA	Rusty brown quartz vein 3' wide 20' long, trace sulfides smokey grey quartz
33648	396161	6808151	1855	Helen	Grab	NA	NA	Quartz vein - rusty 2-3' wide 15' long, trace sulfides smokey grey quartz
33649	396245	6808140	1860	Helen	Grab	NA	NA	Very sheared & fractured, rusty weathered some sulfides, mica (green) fibres
33650	396309	6808095	1843	Helen	Float	NA	NA	Rusty weathered boulders with sulfides, weakly magnetic
33701	395070	6808772	1357	Helen	Float	NA	NA	Pegmatite - boulders with rusty quartz and mica
33702	395100	6808730	1364	Helen	Grab	NA	NA	Rusty, purple coloured, weathered, micaceous, medium grained with quartz
33703	396090	6808254	1803	Helen	Float	NA	NA	Quartz vein - semi-massive chalcopyrite, arsenopyrite
33704	396080	6808235	1805	Helen	Grab	NA	NA	Helen #2 - folded quartz vein with some arsenopyrite
33705	396085	6808230	1832	Helen	Grab	NA	NA	Helen #2 - folded quartz vein with some arsenopyrite
33706	396005	6808765	1583	Helen	Grab	NA	NA	Fine grained maftic - rusty with some sulfides
33707	396028	6808780	1579	Helen	Grab	NA	NA	Blue grey mafic - rusty with fine grained pyrite, 070°/90°
33708	396060	6808776	1580	Helen	Grab	NA	NA	Blue grey mafic - rusty with fine grained pyrite, 070°/90°
33709	396127	6808013	1883	Helen	Grab	NA	NA	Rusty quartz vein - at top of hill, 170°/90° strike
33710	396172	3808108	1870	Helen	Float	NA	NA	Massive sulfide some chalcopyrite, near helicopter pad
33711	396111	6808202	1825	Helen	Grab	NA	NA	Quartz vein - rusty
33712	396111	6808202	1825	Helen	Grab	NA	NA	Quartz vein - rusty
33713	396086	6808238	1801	Helen	Grab	NA	NA	Helen #2 - shallow trench beside smoky black qtz. Vn., highly ox arpy, py 010°/70°W
33714	396065	6808286	1780	Helen	Grab	NA	NA	Helen #1 - quartz with arsenopyrite - trench into footwall - chalcopyite in wallrock
33715	396065	6808286	1780	Helen	Grab	NA	NA	Helen #1 - quartz with arsenopyrite - trench into footwall - chalcopyite in wallrock
33751	396303	6808413	1783	Helen	Grab	NA	NA	Rusty brown, very weathered, small qtz veins, galena?
33752	396271	6808596	1737	Helen	Grab	NA	NA	Rusty very weathered some quartz, trace sulfides
33753	396344	6808670	1753	Helen	Grab	NA	NA	Quartz vein - rusty, weathered sulfides, 180°/90°, 14-16" wide
33754	396340	6808788	1719	Helen	Grab	NA	NA	Rusty quartz - very weathered, trace sulfides, mica, quartz stringers
33755	396335	6808784	1720	Helen	Grab	NA	NA	Gabbro? with quartz vein - rusty, some sulfides, mica , chlorite slightly magnetic
33756	396333	6808782	1710	Helen	Grab	NA	NA	Gabbro? with quartz veins - weathered, rusty, trace sulfides
33757	396339	6808866	1708	Helen	Grab	NA	NA	Rusty quartz vein - very weathered, trace sulfides, mica, 180°/90°
33758	399970	6807255	1646	Gleam	Float	NA	NA	Lampophyre with massive amounts of mica
33759	399899	6807418	1640	Gleam	Float	NA	NA	Rusty quartz - trace sulfides, mica, chlorite
33760	399934	6807406	1601	Gleam	Grab	NA	NA	Quartz vein - chlorite with magnatite, some sulfides



# APPENDIX B

# ASSAY CERTIFICATES



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# ALS Chemex

EXCELLENCE IN ANALYTICAL CHEMISTRY ALS Canada Ltd. 212 Brooksbank Avenue North Vancouver BC V7J 2C1 Canada Phone: 604 984 0221 Fax: 804 984 0218 To: BREAKAWAY EXPLORATION MANAGEMENT INC. 144-D PERREAULT AVE VAL-D'OR PQ J9P 2G3

Page: 1 Finalized Date: 23-SEP-2004 Account: BREAK

#### CERTIFICATE VA04059325 SAMPLE PREPARATION ALS CODE DESCRIPTION **WEI-21 Received Sample Weight** Project: **PUL-31** Pulverize split to 85% <75 um P.O. No .: SPL-21 Split sample - riffle splitter This report is for 131 Rock samples submitted to our lab in Vancouver, BC, Canada on **CRU-31** Fine crushing - 70% <2mm 2-SEP-2004. LOG-22 Sample login - Rcd w/o BarCode The following have access to data associated with this certificate: MARK FEKETE ANALYTICAL PROCEDURES ALS CODE DESCRIPTION INSTRUMENT ICP-AES ME-ICP61 27 element four acid ICP-AES Cu-AA62 Ore grade Cu - four acid / AAS AAS Au-AA23 Au 30g FA-AA finish AAS

To: BREAKAWAY EXPLORATION MANAGEMENT INC. ATTN: MARK FEKETE 144-D PERREAULT AVE VAL-D'OR PQ J9P 2G3

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:





# ALS Chemex EXCELLENCE IN ANALYTICAL CHEMISTRY

ALS Canada Ltd. 212 Brooksbank Avenue North Vancouver BC V7J 2C1 Canada Phone: 804 984 0221 Fax: 604 984 0218 To: BREAKAWAY EXPLORATION MANAGEMENT INC. 144-D PERREAULT AVE VAL-D'OR PQ J9P 2G3 Page: 2 - A Total # Pages: 5 (A - B) Finalized Date: 23-SEP-2004 Account: BREAK

# CERTIFICATE OF ANALYSIS VA04059325

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg 0.02	Au-AA23 Au ppm 0.005	ME-ICP61 Ag ppm 0.5	ME-ICP61 Al % 0.01	ME-ICP61 As ppm 5	ME-ICP61 Ba ppm 10	ME-ICP61 Be ppm 0.5	ME+ICP61 Bi ppm 2	ME-ICP81 Ca % 0.01	ME-ICP61 Cd ppm 0.5	ME-ICP61 Co ppm 1	ME-ICP61 Cr ppm 1	ME-ICP61 Cu ppm 1	ME-1CP61 Fe % 0.01	ME-ICP61 K % Q.Q1
33501		1,40	<0.005	<0.5	5.67	<5	110	<0.5	<2	6.15	<0.5	25	283	45	4,88	0.24
33502		1.48	<0.005	<0.5	0.71	11	20	<0.5	<2	19.45	<0.5	8	24	15	4.00	0.05
33503		1.22	0.036	1.2	<b>8.</b> 11	60	30	<0.5	<2	0.26	<0.5	220	416	8650	14.10	0.04
33504		1.32	0.052	0.7	0.70	203	40	<0.5	<2	0.10	<0.5	107	3390	2210	16.50	0.01
33505		1.60	<0.005	0.6	8.53	<5	60	<0.5	<2	5.95	<0.5	19	251	54	4.32	0.12
33506		2.60	<0.005	<0.5	0.34	5	110	0.9	<2	0.27	<0.5	80	2390	40	4.57	0.06
33508		1,28	0.120	0.7	0.25	96	130	<0.5	<2	0.50	<0.5	82	2200	61	3.04	0.02
33509		1.24	<0.005	<0.5	3.90	<5	200	<0.5	<2	0.10	<0.5	5	345	51	2.27	0.02
33510		1.48	0.006	15.0	0.06	5	60	<0.5	12	0.64	76.8	1	315	69	1. <b>82</b>	0.01
33511		1.14	<0.005	<0.5	3.52	<5	2410	2.4	<2	0.04	1.4	<1	249	8	3.31	3.14
33512		0.62	<0.005	<0.5	1.44	284	380	<0,5	<2	10.15	<0.5	35	1270	5	4.34	0.04
33513		0,90	<0.005	<0.5	1.79	<5	450	<0.5	<2	1.22	0.8	3	348	35	1.60	0.04
33514		0.38	<0.005	<0.5	1.38	<5	320	<0.5	<2	0.05	<0.5	90	1565	13	5.04	0.01
33515		0.92	0.013	<0.5	5.83	<5	120	<0.5	<2	0.85	<0.5	97	366	1135	18.10	0.45
33516		0.92	<0.005	<0.5	3.80	<5	90	0.5	<2	13.45	<0.5	65	1520	4	5.32	0.16
33517		1,08	<0.005	<0.5	0.50	<5	20	<0.5	<2	2.23	<0.5	88	1375	32	4.30	0.03
33518		1.02	<0.005	<0.5	0.13	<5	40	<0.5	<2	8.91	<0.5	52	291	2	2.15	<0.01
33519		1.48	1.725	0.5	0.26	21	80	<0.5	<2	0.40	<0.5	69	1375	6	4.73	0.09
33520		1.22	<0.005	<0.5	1.48	79	180	<0.5	<2	10.45	<0.5	31	844	2	3.50	0.17
33521		0.94	0.268	<0.5	0.16	<5	10	<0.5	<2	0.20	<0.5	91	1420	5	4.72	<0.01
33522		0.68	0.020	<0.5	0.31	<5	10	<0.5	<2	0.03	<0.5	120	1640	5	6.35	<0.01
33523		0.92	0.043	<0.5	0.09	112	10	<0.5	<2	0.08	<0.5	88	1690	7	5.90	<0.01
33524		1.24	0.006	<0.5	0.46	93	90	<0.5	<2	1.96	<0.5	78	1490	4	4.22	0.05
33525		1.34	<0.005	<0.5	1.01	48	70	<0.5	<2	0.60	<0.5	94	1780	8	5,29	0.05
33526		0.72	<0.005	<0.5	4.55	46	130	<0,5	<2	16.20	<0.5	43	416	13	7.18	0,18
33527		2.70	0.383	<0.5	0.60	202	190	<0.5	<2	4.40	<0.5	79	2330	4	4.86	0.05
33528		0.76	<0.005	<0.5	2.02	34	140	<0.5	<2	0.13	<0.5	6	322	54	1.84	0.20
33529		0.82	<0.005	<0.5	0.83	79	110	<0.5	<2	3.69	<0.5	84	1715	3	5.14	0.07
33530		0.44	0.129	<0.5	0.25	559	90	<0,5	<2	3.55	<0.5	54	1105	2	3.98	0.09
33531		0.82	0.123	<0.5	0.70	191	230	1.0	<2	11.00	<0.5	39	777	3	4.13	0.07
33532		0.36	<0.005	<0,5	0.38	102	40	<0.5	<2	1.83	<0.5	88	1330	10	4.84	<0.01
33533		0.60	0.016	<0.5	0,23	316	50	1.2	<2	0.52	<0.5	106	1915	7	5.88	0.06
33534		0.52	<0.005	<0.5	0.10	534	10	<0.5	<2	0,09	<0,5	114	1295	2	5.30	<0.01
33535		0.56	<0.005	<0.5	1.10	6	30	<0.5	<2	0.46	<0.5	94	1770	3	5,06	0,01
33536		0.36	<0.005	<0.5	1.15	<5	40	<0.5	<2	0.09	<0.5	106	1700	3	5,81	0.01
33537		0,74	<0.005	<0.5	0.03	<5	10	<0.5	<2	23.6	<0.5	8	15	1	2,45	<0.01
33538		0.50	<0.005	<0.5	0.83	<5	60	<0.5	<2	1.46	<0.5	90	854	23	4.88	0.05
33539		0.58	<0.005	<0.5	0.58	688	30	<0.5	<2	9.84	<0.5	37	1185	16	2.96	0.25
33540		0.26	<0.005	<0.5	0.45	14	40	<0.5	<2	3.04	<0.5	89	1980	158	4.02	0.01
33541		0.74	<0.005	<0.5	2.32	5	130	<0.5	<2	7.91	<0.5	13	254	4	3.89	0.58





## ALS Chemex EXCELLENCE IN ANALYTICAL CHEMISTRY

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# CERTIFICATE OF ANALYSIS VA04059325

ample Description	Method Analyte Units LOR	ME-ICP61 Mg % 0.01	ME-ICP61 Mn ppm 5	ME-ICP61 Mo ppm 1	ME-ICP61 Na % 0.01	ME-ICP61 Ni ppm 1	ME-1CP61 P ppm 10	ME-ICP61 Pb ppm 2	ME-ICP61 S % 0.01	ME-ICP61 Sb ppm 5	ME-ICP61 Sr ppm 1	ME-1CP61 Ti % 0.01	ME-ICP61 V ppm 1	ME-ICP61 W ppm 10	ME-ICP61 Zn ppm 2	Cu-AA82 Cu % 0.01
33501		3.40	1120	2	0.82	96	120	2	0.01	8	111	0.23	200	<10	65	
33502		10.15	1085	<1	0.01	23	10	8	<0.01	9	530	0.03	77	<10	53	
33503		7.48	1080	2	0.01	756	130	4	0.30	5	5	0.25	323	<10	60	
33504		0.30	207	4	<0.01	267	130	5	0.15	8	4	0.01	161	<10	65	
33505		4.86	698	2	3.15	71	150	2	0.80	6	265	0.35	258	<10	23	
33506		12,15	779	1	0,02	1325	20	5	0.07	14	23	0.01	31	<10	23	
33508		12.55	577	1	0.01	1495	20	2	0,04	137	46	<0.01	30	<10	76	
33509		0.66	166	3	2,54	33	490	7	0.14	6	27	0.24	89	<10	45	
33510		0,31	321	1	0.02	17	120	3660	0.79	8	42	<0.01	4	<10	3950	
33511		0.12	66	1	0.08	13	240	75	0.09	<5	798	80.0	20	<10	102	
33512		10.40	2270	1	0.01	605	40	20	0.01	10	1350	0,02	75	<10	121	
33513		0.49	1465	2	0.60	23	220	61	0.10	5	137	0.02	7	<10	89	
33514		20.3	669	<1	0.01	2070	<10	8	0.02	<5	11	0.01	36	<10	52	
33515		3.79	544	<1	0.01	110	180	10	0.10	11	24	0.29	257	<10	10	
33516		10.10	1290	4	0.01	507	50	3	<0.01	7	143	0.07	120	20	34	
33517		16.10	601	<1	<0.01	1595	<10	6	<0,01	11	68	0.01	29	<10	47	
33518		18.45	940	1	<0.01	1220	<10	3	<0.01	88	662	<0.01	10	<10	10	
33519		17.20	642	<1	0.01	1500	10	5	<0.01	57	61	<0.01	18	<10	23	
33520		8.19	2780	<1	0.01	641	50	6	<0.01	28	314	0.04	53	<10	46	
33521		20.2	814	1	<0.01	2100	<10	3	<0.01	10	29	<0.01	22	<10	34	
33522		22.3	1050	1	<0.01	2420	10	2	0.02	9	1	<0.01	29	10	28	
33523		19.90	670	1	<0.01	1635	<10	3	<0.01	30	4	<0.01	26	<10	29	
33524		15.90	485	<1	<0.01	1610	20	3	<0.01	49	154	<0.01	20	<10	32	
33525		18.00	423	<1	<0.01	1920	10	2	<0.01	30	92	0.02	51	<10	36	
33526		5.20	2530	1	0.01	287	920	6	<0.01	<5	1355	1,12	117	<10	118	
33527		12.10	463	1	0.01	1735	<10	2	<0.01	136	393	0.01	34	10	46	
33528		0.34	371	1	0.03	43	150	18	<0.01	14	10	0.12	39	<10	23	
33529		14.75	604	<1	<0.01	1765	20	2	<0.01	132	226	0.01	38	10	22	
33530		15.55	768	<1	0.01	1125	<10	3	<0.01	63	710	<0.01	19	<10	38	
33531		10.25	1245	<1	0.01	701	20	2	<0.01	44	471	0.01	33	10	30	
3532		22.2	365	<1	<0,01	1975	<10	3	0.01	14	173	0.01	28	<10	46	
33533		19,45	1430	<1	<0.01	1755	20	7	0.01	822	25	<0.01	26	10	68	
33534		21.3	1480	<1	0.01	1685	<10	<2	<0.01	140	6	<0.01	18	<10	35	
33535		21.5	858	<1	0.01	2180	<10	2	0.01	5	4	0.02	45	<10	52	
33538		21.8	887	<1	<0.01	2160	10	3	0.01	8	4	0.02	37	<10	69	
33537		11.20	4100	<1	<0.01	46	<10	6	0.03	<5	208	<0.01	3	<10	3	
33538		16.60	752	<1	0.02	1675	<10	2	0.02	5	27	0.03	22	<10	24	
33539		9.17	720	1	<0.01	773	<10	2	0.01	26	266	0.01	17	10	31	
33540		13.35	337	<1	<0.01	1840	<10	<2	0.44	<5	42	<0.01	25	<10	50	
33541		3.54	906	2	0.05	41	50	<2	0.01	<5	110	0.07	100	<10	14	





ALS Chemex

EXCELLENCE IN ANALYTICAL CHEMISTRY

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## CERTIFICATE OF ANALYSIS VA04059325

						<u></u>										
	Method	WEI-21	Au-AA23	ME-ICP61	ME-ICP61	ME-ICP61	ME-1CP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
	Analyte	Recvd Wt.	Au	Ag	AI	As	Ba	Be	81	Ca	Cd	Co	Cr	Cu	Fe %	K %
iample Description	Units LOR	kg 0.02	ppm 0.005	ррт 0.5	% 0.01	ppm 5	ppin 10	99m 9.5	ppm 2	% 0.01	ррт 0.5	ppm 1	ppm 1	ppm 1	<sup>™</sup> 0.01	
								<0.5	<2	1.40	<0.5	22	2160	96	1.63	0.02
33542		0.60	<0.005	<0.5	2.00	<5	20 30	<0.5	<2	9.67	<0.5	66	1695	6	3.16	0.06
33543		0.64	<0.005	<0.5	3.51	<5 <5	60	<0.5	<2	11.10	<0.5	90	1470	2	3.79	0.08
33544		0.60	<0.005	<0.5	2.35	<0 <5	30	<0.5	<2	14.80	<0.5	41	609	7	3.82	<0.01
33545		0.36	<0.005	<0.5	0.67	<5	130	<0.5	<2	16.25	<0.5	12	52	2	2.94	0.82
33546		0.60	<0.005	<0,5	2.50						<0.5	13	102	35	4,06	0.59
33547		0.84	<0.005	<0.5	2.17	10 6	80 70	<0,5 <0,5	<2 <2	11.90 6,33	<0.5	42	202	33 91	8.84	0.05
33548		0.98	<0.005	<0.5	8.03	-		<0.5	<2	3.17	<0.5	83	1620	4	4.26	0.03
33549		0.52	<0.005	<0.5	0.27	17	80 40	<0.5	<2	0.27	<0.5	26	737	4	1.85	0.02
33550		0.72	<0.005	<0.5	0.11	24 80	110	<0.5	<2	4.20	<0.5	71	1595	7	4.21	0.13
33551		1.06	<0.005	<0.5	0.51										15.25	<0.01
33552		0.78	<0.005	<0.5	7.37	10	120	<0.5	<2	0.13	<0.5	66	386	44 6	2.07	3.07
33553		1.20	0.005	1.2	5.78	71	5480	2.6	2	0.05	3.4	1	171	4	2,07	0.80
33554		0.66	<0.005	<0,5	2.81	26	1610	1,3	<2	0.02	<0.5	1	215 333	2	1.22	0.82
33555		1.02	<0.005	<0.5	2.00	37	1710	0.7	<2	0.20	<0.5	1 30	333 147	2 38	6.46	0.02
33556		1.04	<0.005	<0.5	8.29	<5	100	<0.5	<2	4.47	<0.5					
33557		0.96	<0.005	<0.5	2.59	490	30	<0.5	<2	7.23	<0.5	36	974	4	3.25	0.02
33558		1.08	0.005	<0.5	0.11	29	90	<0.5	<2	0.31	<0.5	34	640	18	2.56	0.01
33559		1.00	0.008	<0,5	0.48	12	110	0,5	<2	0.38	<0.5	66	1155	7	4.33	0.07 0.02
33560		0.70	0.096	<0.5	0.24	83	30	<0.5	<2	2.36	<0.5	82	1355	12 36	5.17 5.88	0.02 <0.01
33561		0.72	0.006	<0.5	0.17	154	50	<0.5	<2	0.10	<0.5	94	1780			-
33562		3.62	0.015	<0.5	1.54	87	170	<0.5	<2	2.22	<0.5	44	1425 1245	16 35	2,83 2,45	0.08 0.06
33563		1.84	<0.005	<0.5	2.46	120	160	<0.5	<2	4.98	<0.5	44	1245	30	3.29	0.00
33564		1.04	<0.005	<0.5	0.27	157	40	<0.5	<2	0,15	<0.5	66 50	238	34	6.79	0.05
33565		1.60	<0.005	<0.5	8.87	<5	40	<0.5	<2	4.40	<0.5	50	238 1270	54 66	4.28	0.03
33566		2.82	<0.005	<0.5	1.71	52	160	<0.5	<2	5.75	<0.5	60				
33567		0.82	<0.005	<0.5	1.32	<5	20	<0.5	<2	5.09	<0.5	72	843	11	4.05	0.01
33568		1.00	0.265	7.3	1.86	76	20	<0.5	13	0.12	<0.5	333	2290	>10000	11.65	<0.01
33612		1.42	<0.005	<0.5	1.26	10	30	<0.5	<2	18.15	<0.5	14	41	199	3.36	0.08
33613		1.46	<0.005	<0.5	7.14	9	140	<0.5	<2	6.00	<0.5	26	220	22	4.72	1.62
33614		2.00	0.013	<0.5	0.31	122	110	0.5	<2	0.95	<0.5	79	1035	110	4.31	0.03
33615		1.34	0.018	<0.5	0.18	109	250	0.5	<2	0.46	<0.5	79	1405	8	3.67	0.03 0.01
33616		1.06	0.008	<0.5	1.78	570	40	<0.5	<2	0.38	<0.5	109	1690	10	5.18	
33817		1.92	<0.005	<0.5	1.95	843	130	<0.5	<2	11.90	<0.5	30	1010	14	4,16	0.02
33618		1.26	<0.005	<0,5	1.70	17	640	<0.5	<2	0.69	<0.5	6	632	20	1.45	0.27 0.02
33619		1.94	0.042	<0.5	1.44	17	880	<0.5	<2	1,95	<0.5	73	1665	4	3.38	
33620		1.62	<0.005	<0,5	0.28		70	<0,5	<2	1.45	<0.5	79	1395	3	4.10	0.01
33621		1.50	<0.005	<0.5	0.82	28	510	<0.5	<2	3.09	<0.5	58	1000	6	2.82	0.32
33622		1.64	<0.005	<0.5	1.96	19	50	<0.5	<2	6.63	<0.5	59	1270	33	4.56	0.03
33623		0.90	<0.005	<0.5	0.80	6	60	<0.5	<2	0.04	<0.5	94	1575	8	4.98	<0.01 0.02
33624		1.12	<0.005	<0.5	0.21	<5	150	<0.5	<2	0.32	<0.5	77	1455	4	3.47	0.02





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Sample Description	Method Analyte Units LOR	ME-ICP61 Mg % 0.01	ME-ICP61 Mn ppm 5	ME-ICP61 Mo ppm 1	ME-ICP61 Na % 0.01	ME-ICP61 Ni ppm 1	ME-ICP61 P ppm 10	<b>МЕ-ІСР</b> 61 РЬ рэт 2	<b>ME-ICP61</b> \$ % 0.01	ME-ICP61 Sb ppm 5	ME-JCP61 Sr ppm 1	ME-ICP61 Ti % 0.01	ME-ICP61 V ppm 1	ME-ICP61 W ppm 10	ME-ICP61 Zn ppm 2	Cu-AA62 Cu % 0.01
33542		1.30	223	2	<0.01	594	20	<2	<0.01	<5	24	0.01	60	<10	14	
33543	1	8.02	846	<1	<0.01	2080	60	<2	<0.01	<5	114	0.10	48	<10	41	
33544		6.73	737	1	0.02	1670	20	<2	0.05	<5	223	0.05	33	<10	36	
33545		10.10	1135	<1	<0.01	556	10	<2	0.11	<5	438	0.14	100	<10	22	
33546		7.96	614	<1	0.09	37	110	<2	0.02	<5	297	0.14	127	<10	12	
33547		5.72	1320	3	0.03	35	50	<2	0.02	<5	260	0.08	130	10	32	
33548		4.21	960	6	0.39	51	480	<2	1.67	<5	252	0.74	270	<10	30	
33549		15.25	977	<1	0.01	1520	20	<2	0.02	166	238	0.01	20	<10	70	
33550		10.30	342	2	0.01	617	10	<2	0.02	138	16	<0.01	7	<10	9	
33551		13.05	556	<1	0.01	1660	10	<2	0.01	9	98	<0.01	32	<10	37	
33552		5,28	1190	<1	<0.01	64	160	<2	0.09	<5	9	0.25	242	<10	27	
33553		0.58	167	7	0.05	12	310	60	0.41	<5	14	0.15	11	<10	617	
33554		0.08	21	3	3.40	9	110	31	0.05	<5	12	0.11	8	<10	20	
33555		0.23	286	1	0.30	9	100	20	0.13	<5	17	0.05	5	<10	33	
33556		3.26	999	1	4.49	69	170	<2	0.77	<5	138	0.31	297	<10	43	
33557		7.58	1880	1	0.01	713	20	6	<0.01	5	777	0.04	58	<10	88	
33558		15.90	315	<1	0.01	759	10	<2	0.01	51	24	<0.01	13	<10	20	
33559		18.50	343	<1	0.01	1725	10	<2	0.02	15	32	0.01	28	10	22	
33560		21.3	766	1	<0.01	1975	10	<2	0.03	41	230	0.01	18	<10	37	
33561		19.80	502	<1	<0.01	2340	<10	<2	0.01	17	17	<0.01	38	<10	41	
33562		7.87	491	1	0.01	860	10	<2	0.01	48	102	0.01	51	<10	24	
33563		5.40	618	1	0.01	919	20	<2	<0.01	45	212	0.10	72	<10	28	
33564		14.25	393	<1	<0.01	1200	<10	<2	<0.01	15	23	<0.01	20	<10	29	
33565		5.17	873	<1	3.79	281	150	<2	1.18	<5	210	0.48	349	<10	37	
33566		12.50	1025	1	0.02	1310	70	<2	0.02	8	191	0.05	61	<10	34	
33567		15.30	797	<1	0.10	1195	60	<2	0.03	<5	12	0.05	33	<10	31	
33568		1,75	299	6	<0.01	310	540	3	0.95	<5	2	0.04	265	<10	74	8.00
33612		9.83	1030	15	0.04	80	50	8	0.02	14	514	0.03	48	<10	84	
33613		3.20	748	<1	0.12	96	120	<2	<0.01	5	51	0,19	198	<10	22	
33614		21.3	819	<1	<0.01	1565	30	3	0.01	67	71	<0.01	30	<10	45	
33615		18.45	555	1	0.01	1465	20	2	0.09	76	56	<0.01	20	<10	20	
33616		19.45	399	- <1	<0.01	1970	10	<2	0.02	15	40	0.05	65	<10	53	
33617		8.22	4080	1	<0.01	550	50	28	<0.01	7	2460	0.05	46	<10	140	
33818		0,73	1375	6	0.70	68	210	46	0,02	<5	79	0.03	13	10	37	
33819		15.85	542	<1	0.01	1670	10	<2	0.02	71	139	0.02	41	<10	24	
33620		21.0	916	<1	<0.01	2060	10	<2	<0.01	45	52	<0,01	23	<10	43	
33621		15.20	468	1	0.01	1195	10	3	0.07	155	148	0.01	28	<10	33	
33622		14.50	963	1	0.16	954	160	<2	0.02	<5	11	0.10	48	<10	51	
33623		19.55	730	<1	<0.01	2140	10	<2	0.15	<5	4	0.02	28	<10	45	
33624		15.85	795	<1	0.01	1750	10	3	0.01	6	34	<0.01	13	<10	28	





#### ALS Chemex EXCELLENCE IN ANALYTICAL CHEMISTRY

ALS Canada Ltd. 212 Brooksbank Avanue North Vancouver BC V7J 2C1 Canada Phone: 604 984 0221 Fax: 604 984 0218 To: BREAKAWAY EXPLORATION MANAGEMENT INC. 144-D PERREAULT AVE VAL-D'OR PQ J9P 2G3 Page: 4 - A Total # Pages: 5 (A - B) Finalized Date: 23-SEP-2004 Account: BREAK

Sample Description	Method Analyte Units LOR	WEJ-21 Rocvd Wt. kg 0.02	Au-AA23 Au ppm 0.005	ME-ICP61 Ag ppm 0.5	ME-1CP61 Al % 0.01	ME-ICP61 As ppm 5	ME-ICP61 Ba ppm 10	ME-ICP61 Bu ppm 0.5	ME-ICP61 Bi ppm 2	ME-ICP61 Ca % 0.01	ME-ICP61 Cd ppm 0.5	ME-ICP61 Co ppm 1	ME-ICP61 Cr ppm 1	ME-ICP61 Cu ppm 1	ME-ICP61 Fe % 0.01	ME·ICP61 K % 0.01
33625		1.16	<0.005	<0.5	0.17	<5	160	<0.5	<2	0.45	<0.5	88	1610	8	4.52	0.02
33626		1.68	<0.005	<0.5	2.27	<5	110	<0.5	<2	13.95	<0.5	41	679	1	3.37	0.01
33627		1.30	0.263	<0.5	0.25	233	140	<0.5	<2	0.69	<0.5	68	1765	7	3.11	0.01
33628		1,28	0.007	<0.5	0.42	113	90	<0.5	<2	6,27	<0.5	85	1615	2	4.14	0.03
33629		0,86	<0.005	<0.5	4.97	54	800	0.8	<2	5.97	<0.5	21	311	13	4.62	0.30
33630		0.82	0.075	<0.5	0.25	9	220	<0.5	<2	0.37	<0.5	89	1335	2	4.34	0.01
33631		1.04	<0.005	<0.5	1.39	<5	30	<0.5	<2	0.62	<0.5	92	1470	14	4,93	0.01
33632		0.92	<0.005	<0.5	0.89	<5	10	<0.5	<2	12.45	<0.5	53	877	9	3,59	<0.01
33633		0.66	<0.005	<0.5	4.18	<5	290	<0.5	<2	10.60	<0.5	28	284	46	4.60	1.45
33634		1.00	<0.005	<0.5	7.99	<5	220	<0.5	<2	3.23	<0.5	37	125	1	6.33	0.40
33635		1.12	<0.005	<0.5	1.10	5	50	<0.5	<2	9.07	<0.5	64	1545	1	3.69	0.02
33636		0,74	<0.005	<0.5	3.40	27	430	0.5	<2	8.71	<0.5	78	5080	3	3.62	1.12
33637		0.86	<0.005	<0.5	0.96	<5	20	<0.5	<2	4.48	<0.5	65	1630	2	3.24	0.02
33638		1.02	<0.005	<0.5	1.14	5	30	<0.5	<2	14.95	<0.5	71	1715	21	3.91	0.07
33639		0.90	<0.005	<0.5	5,77	<5	50	<0.5	<2	8.67	<0.5	40	687	6	5.28	0.02
33640		0,80	<0.005	<0.5	1.64	6	30	<0.5	<2	11.00	<0.5	28	822	2	3.07	0.07
33641		1.06	<0.005	<0,5	6,70	10	40	<0,5	2	6.81	<0.5	55	180	69	8.14	0.01
33642		0.96	<0.005	<0,5	6.13	6	320	<0.5	<2	5.84	<0.5	43	671	73	5.24	1.14
33643		0.88	<0.005	<0.5	6.58	<5	20	<0,5	<2	6.65	<0.5	24	99	71	3.74	0.04
33844		0.94	<0.005	<0.5	1.88	<5	10	<0.5	<2	2.72	<0.5	78	1280	4	4.80	0.01
33645		0,98	<0.005	<0,5	0.75	28	180	<0,5	<2	3.34	<0.5	45	1055	3	4.45	0.16
33646		1.10	0.269	1.8	5.73	192	270	4.6	511	0.48	1.0	2	176	25	2.31	1.98
33647		1.04	0.037	59,6	0.38	25	20	<0.5	4100	0.51	2.0	1	289	58	1.06	0.21
33648		1.08	0.108	4.6	5.52	<5	130	13.6	1485	0.45	<0.5	2	241	80	1.40	0.68
33649		0.76	<0.005	1.2	8.11	77	200	1.7	14	1.48	<0.5	13	154	268	1.89	0.60
33650		1.26	0.015	<0.5	8.10	<5	130	38.1	54	10.35	<0.5	18	43	148	6.52	0.41
33701		1.06	0.007	<0.5	6.41	<5	210	4.3	10	0.29	<0.5	1	252	9	1.00	3.66
33702		0.58	0.012	<0.5	3.40	<5	180	3.8	10	0.57	<0.5	5	236	28	1.60	0.78
33703		1,34	3.41	2.9	1.21	2410	100	0.8	1855	0.13	<0.5	87	165	1215	12.75	0.87
33704		0.94	0.965	2.1	1.79	774	130	1.2	426	1,01	<0,5	24	348	72	2.14	1,20
33705		1.20	2.08	1.4	0.24	8980	30	<0.5	750	10.35	<0.5	48	219	80	1.43	0.16
33706		0.98	0.023	<0.5	5.64	73	60	8.0	10	11.35	<0.5	72	146	286	13,45	0.46
33707		1.48	<0.005	<0.5	7.40	12	70	32.3	10	12.00	<0.5	34	158	352	11.15	0.30
33708		1.60	<0.005	0.7	6.87	33	70	1.5	<2	10.45	<0,5	161	298	1130	13.65	0.41
33709		0.84	<0.005	<0.5	1.83	6	80	1.0	92	0.10	<0.5	9	328	22	0.66	1.00
33710		1,34	0.009	1.3	1.57	421	50	6,0	11	0.52	<0,5	27	47	2770	38.5	0.61
33711		0.82	<0.005	<0.5	0.12	<5	10	<0.5	<2	0.02	<0.5	1	375	18	0.85	0.03
33712		1.32	<0.005	<0.5	6.27	23	30	1.0	<2	16.80	<0.5	11	148	11	3.04	0.11
33713		1.40	0.771	2.8	1,50	4140	70	1.2	743	0.53	<0.5	39	545	211	5.24	1.36
33714		1.64	0.122	29.4	6.50	>10000	520	3.6	99	0.67	14.5	24	254	3230	10. <b>65</b>	4.60





EXCELLENCE IN ANALYTICAL CHEMISTRY

ALS Canada Ltd. 212 Brooksbank Avenue North Vancouver BC V7J 2C1 Canada Phone: 604 984 0221 Fax: 604 984 0218 To: BREAKAWAY EXPLORATION MANAGEMENT INC. 144-D PERREAULT AVE VAL-D'OR PQ J9P 2G3 Page: 4 - B Total # Pages: 5 (A - B) Finalized Date: 23-SEP-2004 Account: BREAK

Sample Description	Method Analyte Units LOR	ME-ICP81 Mg % 0.01	ME-IGP61 Mn ppm 5	ME-ICP61 Mo ppm 1	ME-ICP61 Na % 0.01	ME-ICP61 Ni ppm 1	ME-ICP61 Р ррт 10	ME-ICP61 Pb ppm 2	ME-IGP61 8 % 0.01	ME-ICP61 Sb ppm 5	ME-ICP61 Sr ppm 1	ME-ICP61 Ti % 0.01	ME-1CP61 V ppm 1	ME-ICP61 W ppm 10	ME-ICP61 Zn ppm 2	Cu-AA62 Cu % 0.01
33825		17.25	763	<1	0.01	1695	10	<2	0.01	Ð	- 29	<0.01	16	<10	26	
33626		8.90	1265	1	0.01	800	80	<2	0.01	<5	385	0.05	70	<10	25	
33627		16.10	524	1	0.01	1070	10	4	<0.01	172	68	<0.01	22	<10	36	
33628		16.25	642	<1	<0.01	2190	10	<2	<0.01	84	578	<0.01	25	<10	25	
33629		3.71	1545	<1	1.17	98	560	2	<0.01	5	134	0.47	146	<10	53	
33630		20.1	669	<1	0.01	1905	10	<2	0.01	65	30	0.01	22	<10	35	
33631		20.4	938	<1	0.02	1910	60	<2	<0.01	<5	4	0.05	14	<10	52	
33632		15.10	2450	<1	<0.01	1060	50	<2	0.10	<5	74	0.02	30	<10	22	
33633		5.37	2190	<1	0.02	106	80	3	<0.01	5	175	0.13	150	<10	215	
33634		3.64	655	1	2,21	51	370	<2	<0.01	<5	67	0.55	270	<10	15	
33635		7.72	807	1	0,02	1475	10	<2	0.01	<5	191	0.01	47	<10	36	
33636		5.14	964	1	0.03	1275	30	<2	<0.01	<5	305	0.02	97	<10	71	
33637		8.47	606	2	0.01	978	10	<2	<0.01	<5	93	0.02	39	<10	37	
33638		7.55	1095	<1	0.02	1380	30	<2	0.01	<5	513	<0.01	38	<10	50	
33639		8.34	1230	<1	1.26	<del>889</del>	270	<2	0.34	<5	102	0.16	169	<10	36	
33640		5.81	808	1	0.02	435	330	<2	0.01	<5	361	0.06	55	<10	32	
33641		2.12	941	1	0.01	32	470	<2	2.48	<5	269	0.51	234	<10	31	
33642		4.46	1180	<1	0.03	214	90	<2	0.07	5	103	0.18	194	<10	40	
33643		3,61	900	<1	4.15	53	100	<2	0.19	<5	116	0.17	179	<10	15	
33644		18.50	938	<1	0.07	1780	50	<2	0.01	<5	5	0.05	36	<10	52	
33845		13.35	738	<1	0.01	1070	20	<2	<0.01	<5	122	0.01	45	<10	40	
33646	1	1.23	420	3	1.98	21	360	127	0.02	<5	62	0.15	110	<10	274	
33647		0.12	38	6	0.01	37	10	1695	0.03	<5	5	<0.01	2	<10	188	
33648		0.07	39	1	2.82	15	60	102	0.04	<5	159	<0.01	1	<10	70	
33649		1.39	245	2	4.70	76	200	9	0.12	<5	144	0.06	14	<10	18	
33650		2.15	2720	<1	2.30	33	160	9	0.65	<5	745	0.06	70	90	217	
33701		0,20	163	1	1.40	14	290	28	0.02	<5	60	0.06	7	10	11	
33702		0.35	212	2	1.12	13	190	8	0.19	<5	86	0.10	20	<10	29	
33703		0.64	183	21	0.03	242	130	178	>10,0	9	21	0.09	19	70	116	
33704		0.59	217	6	0.14	21	200	100	0.17	<5	33	0.20	44	460	68	
33705		0.09	160	4	<0.01	15	10	25	0.36	<5	13	0.01	2	40	5	
33706		3.08	2540	<1	0.72	102	3040	6	0.79	<5	269	1.61	369	<10	241	
33707		2.06	7040	2	1,15	69	2880	8	1.7 <del>9</del>	<5	537	0.96	210	20	229	
33708		2.05	1870	1	0.53	223	2810	12	5.09	<5	477	2.02	187	<10	170	
33709		0.05	71	6	0.33	48	120	24	0.05	<5	14	0.02	3	<10	24	
33710		0.73	108	<1	0.33	81	560	12	>10.0	<5	138	0.33	36	110	19	
33711		0.05	28	1	<0.01	9	10	<2	0.13	<5	1	0.01	4	<10	<2	
33712		0.75	878	1	1.30	25	690	27	0.04	<5	465	0.36	45	<10	54	
33713		1.31	281	13	0.04	29	140	74	0.97	<5	21	0.14	36	220	32	
33714		2.84	663	3	1.21	39	770	1015	3.22	16	151	0.73	157	20	1435	

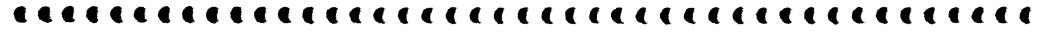




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ALS Canada Ltd. 212 Brooksbank Avenue North Vancouver BC V7J 2C1 Canada Phone: 604 984 0221 Fax: 604 984 0218 To: BREAKAWAY EXPLORATION MANAGEMENT INC. 144-D PERREAULT AVE VAL-D'OR PQ J9P 2G3 Page: 5 - A Total # Pages: 5 (A - B) Finalized Date: 23-SEP-2004 Account: BREAK

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg 0.02	Au-AA23 Au ppm 0.005	ME-ICP61 Ag ppm 0.5	ME-ICP61 AI % 0.01	ME-ICP61 As ppm 5	ME-1CP61 Ba ppm 10	ME-ICP61 Be ppm 0.5	ME-ICP61 Bi ppm 2	ME-ICP61 Ca % 0.01	ME-ICP61 Cd ppm 0.5	ME-ICP61 Co ppm 1	ME-ICP61 Cr ppm 1	<b>МЕ-ICP61</b> Си ррт 1	ME-ICP61 Fo % 0.01	ME-ICP61 K % 0.01
33715		1.34	0.384	37.6	4.00	>10000	170	1.7	180	0,36	7.6	34	185	950	14.30	3.21
33751		0.76	<0.005	<0.5	7.93	387	660	1.3	3	5.41	<0.5	19	184	46	<b>8.12</b>	1.47
33752		0.62	<0.005	<0.5	7.57	133	190	3.8	<2	2.33	<0.5	7	199	95	5.18	0.63
33753		1.34	<0.005	<0.5	1.34	154	90	1.6	<2	0.04	<0.5	2	243	29	1.30	0.56
33754		0.94	<0,005	<0.5	4.43	22	320	3.0	<2	0.25	<0.5	1	296	17	1.40	1.52
33755		0.92	<0.005	<0.5	8.42	58	1320	3.9	<2	5.20	<0.5	17	151	71	6.18	4.32
33756		1.04	0.014	<0.5	5.46	20	570	0.8	7	3.87	<0.5	2	142	129	6.39	4.71
33757		1.00	<0.005	<0.5	5.50	12	1030	3.0	3	3.63	<0.5	18	247	18	5.74	3.31
33758		0.46	<0,005	<0.5	7.70	16	760	2.8	2	5.43	<0.5	37	252	5	9.15	3.00
33759		1.04	<0.005	<0.5	11.10	26	20	1.1	2	12.65	<0.5	12	226	16	6.09	0.06
33760	_	0.52	<0.005	2.8	5.64	18	50	2.0	8	12.15	<0.5	28	215	24	7.60	0.29

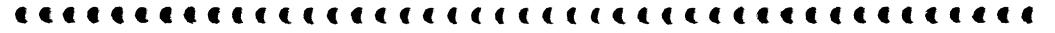




EXCELLENCE IN ANALYTICAL CHEMISTRY

ALS Canada Ltd. 212 Brooksbank Avenue North Vancouver BC V7J 2C1 Canada Phone: 604 984 0221 Fax: 604 984 0218 To: BREAKAWAY EXPLORATION MANAGEMENT INC. 144-D PERREAULT AVE VAL-D'OR PQ J9P 2G3 Page: 5 - B Total # Pages: 5 (A - B) Finalized Date: 23-SEP-2004 Account: BREAK

ample Description	Method Analyte Units LOR	ME-ICP61 Mg % 0.01	ME-ICP61 Mn ppm 5	ME-ICP61 Mo ppm 1	ME-ICP61 Na % 0.01	ME-ICP61 NI ppm 1	ME-ICP61 P ppm 10	ME-ICP61 Pb ppm 2	ME-ICP61 8 % 0.01	ME-ICP61 Sb ppm 5	ME-ICP61 Sr ppm 1	ME-ICP61 Ti % 0.01	ME-1CP61 V ppm 1	ME-1CP61 W ppm 10	ME-ICP61 Zn ppm 2	Cu-AA62 Cu % 0.01
33715		0.88	252	3	0.63	26	390	1375	6.83	45	1 <b>04</b>	0.27	58	10	644	
33751		2.85	1495	1	1.86	39	1290	12	0.05	<5	231	1.71	243	<10	90	
33752		1.97	492	4	1.54	8	580	5	0.14	<5	332	0.72	233	20	58	
33753		0.09	75	3	0.02	7	40	<2	0.03	<5	4	0.04	7	<10	6	
33754		0.13	180	2	1.80	6	90	<2	0.12	<5	26	0.07	4	<10	7	
33755		1.06	1475	2	0.62	15	2490	10	0.67	<5	177	1.67	198	10	35	
33756		0.88	1185	1	0.85	5	90	9	0.86	<5	156	0.09	8	<10	32	
33757		0.72	1240	1	0.46	24	1210	8	0.05	<5	119	0.97	122	10	43	
33758		4.15	1075	2	0.55	66	970	4	0.01	<5	282	1.08	304	<10	120	
33759		1.39	618	<1	1.04	29	1920	258	0.05	<5	1890	0.70	102	<10	63	
33760		4.50	1225	<1	0.65	49	<del>69</del> 0	1130	0.08	<5	1030	0.71	178	<10	156	





**EXCELLENCE IN ANALYTICAL CHEMISTRY** ALS Canada Ltd. 212 Brooksbank Avenue North Vancouver BC V7J 2C1 Canada Phone: 604 984 0221 Fax: 604 984 0218

To: HINTERLAND METALS INC. 144-D PERREAULT AVE VAL D'OR PQ J9P 2G3

Page: 1 Date: 28-JUN-2004 Account: HINMET

### CERTIFICATE VA04037517

Project: Helen

P.O. No.:

This report is for 6 Rock samples submitted to our lab in Vancouver, BC, Canada on 16-JUN-2004.

The following have access to data associated with this certificate:

MARK FEKETE

CARL SCHULZE

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

#### ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP41	34 Element Aqua Regia ICP-AES	ICP-AES
Au-AA24	Au 50g FA AA finish	AAS

To: HINTERLAND METALS INC. ATTN: MARK FEKETE 144-D PERREAULT AVE VAL D'OR PQ J9P 2G3

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: Plaste Com





EXCELLENCE IN ANALYTICAL CHEMISTRY

ALS Canada Ltd. 212 Brooksbank Avenue North Vancouver BC V7J 2C1 Canada Phone: 604 984 0221 Fax: 604 984 0218 To: HINTERLAND METALS INC. 144-D PERREAULT AVE VAL D'OR PQ J9P 2G3 Page: 2 - A Total # Pages: 2 (A - C) Date: 28-JUN-2004 Account: HINMET

Project: Helen

#### CERTIFICATE OF ANALYSIS VA04037517

	Method Analytø Units	WEI-21 Recvd Wt.	Au-AA24 Au	ME-ICP41 Ag ppm	ME-ICP41 Al %	ME-ICP41 As ppm	ME-JCP41 B ppm	ME-ICP41 Ba ppm	ME-ICP41 Be ppm	ME-ICP41 Bi ppm	ME-ICP41 Ca %	ME-ICP41 Cđ ppm	ME-ICP41 Co ppm	ME-ICP41 Cr ppm	ME-ICP41 Cu ppm	ME-ICP4 F <del>a</del> %
Sample Description	LOR	kg 0.02	ppm 0.005	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1	1	0.01
RM269511		0.56	0.082	<0,2	0.18	132	10	40	<0.5	<2	4,48	<0.5	57	563	5	3.36
RM269512		1.14	0.011	<0.2	0.08	112	20	30	<0.5	<2	1.79	<0.5	43	455	9	2.80
RM269513		1.52	1.645	26.8	0.09	>10000	<10	10	<0.5	499	2.85	9.5	3	108	5190	9.70
RM269514		1.30	1.515	9.4	0.18	>10000	<10	10	<0.5	636	0.63	2.1	8	166	481	2.33
RM269515		1.96	7.49	57.6	0.01	>10000	<10	<10	<0.5	<b>2</b> 440	0.71	1.5	98	47	277	24.3
RM269516		1.40	0.061	15.6	0.10	1020	<10	10	<0.5	1845	0.03	2.8	2	198	140	0.97

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**EXCELLENCE IN ANALYTICAL CHEMISTRY** ALS Canada Ltd.

212 Brooksbank Avenue North Vancouver BC V7J 2C1 Canada Phone: 604 984 0221 Fax: 604 984 0218 To: HINTERLAND METALS INC. 144-D PERREAULT AVE VAL D'OR PQ J9P 2G3

Page: 2 - B Total # Pages: 2 (A - C) Date: 28-JUN-2004 Account: HINMET

Project: Helen

					1				CERTIFICATE OF ANALTSIS VA040						037517		
Sample Description	Method Analyte Units LOR	ME-ICP41 Ga ppm 10	ME-LCP41 Hg ppm 1	ME-ICP41 K % 0.01	ME-ICP41 La ppm 10	ME-ICP41 Ma % 0.01	ME-ICP41 Mn ppm 5	ME-ICP41 Mo ppm 1	ME-1CP41 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	
RM269511		<10	<1	0.02	<10	8.18	362	2	<0.01	1215	10	3	<0.01	83	5	349	
RM269512		<10	<1	0.02	<10	10.50	451	1	<0.01	943	10	4	<0.01	56	4	118	
RM269513		<10	<1	0.08	<10	0.04	10	5	0.01	8	20	159	4.63	42	1	17	
RM269514		<10	<1	0.08	<10	0.07	50	6	0.01	10	30	206	0.54	6	1	18	
RM269515		<10	<1	0.01	<10	<0.01	<5	6	0.01	23	10	917	9.85	93	<1	1	
RM269516		<10	<1	0.04	<10	0.02	55	9	<0.01	16	30	502	0.04	<2	<1	4	





EXCELLENCE IN ANALYTICAL CHEMISTRY ALS Canada Ltd.

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212 Brooksbank Avenue North Vancouver BC V7J 2C1 Canada Phone: 804 984 0221 Fax: 604 984 0218

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To: HINTERLAND METALS INC. 144-D PERREAULT AVE VAL D'OR PQ J9P 2G3

Page: 2 - C Total # Pages: 2 (A - C) Date: 28-JUN-2004 Account: HINMET

Project: Helen

	Method Analyte	ME-ICP41 Ti	ME-ICP41 Ti	ME-ICP41 U	ME-ICP41 V	ME-ICP41 W	ME-ICP41 Zn
Sample Description	Unita LOR	% 0.01	ррт 10	ppm 10	ppm 1	ppm 10	ppm 2
RM269511		<0.01	<10	<10	13	<10	16
RM269512		<0.01	<10	<10	13	<10	25
RM269513		<0.01	<10	<10	3	<10	264
RM269514		<0.01	<10	<10	5	<10	45
RM269515		<0.01	<10	<10	1	<10	20
RM289516		<0.01	<10	<10	2	<10	287



#### APPENDIX C

AURORA GEOSCIENCES MEMORANDUM



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Whitehorse Office 108 Gold Road Whitehorse, Yukon Y1A 3W2 Phone (867) 668-7672 Fax: (867) 393-3577

www.aurorageosciences.com aurora@klondiker.com

# MEMORANDUM

To: Mark Fekete Hinterland Metals Inc. Date: 27 Oct 2004

From: Mike Power

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**<u>Re:</u>** Helen Property - HLEM Survey

This memorandum is a survey operations report describing a horizontal loop electromagnetic (HLEM) survey conducted at the Helen Property in the Finlayson Lake area, southeastern Yukon Territory. The survey was performed for Hinterland Minerals Ltd. to delineate vein-hosted massive sulphide mineralization.

**a. Crew and equipment.** The geophysical survey was performed by Casey Adshead, c.E.T. assisted by a helper provided by Hinterland Metals Inc. The crew was equipped with the following instruments and equipment:

Instruments:	1 -	Apex Parametrics MaxMin I-10 with MaxMin Computer (MMC) equipped with 50, 100 and 150 m cables. (s/n 10359)
Data processing:	1 - 1 - 1 -	P-866 laptop HP340C colour printer. Garmin GPS72 GPS receiver
Other equipment:	1 - 1 -	Globalstar Sat phone. Electronic repair tools

**b.** Survey specifications. The HLEM survey was performed according to the following specifications:

Coil spacing: 100 m

Station spacing: 25 m

Frequencies: 1760 Hz

<u>Terrain corrections:</u> Slope chain method using oriented coils (ie. tilt corrected in the field). Short coil errors introduced by irregular topography were removed during data processing.

The HLEM method requires that the coils be held a constant distance apart and be coplanar. In steep irregular terrain, the coils will frequently be less than the nominal coil spacing (short coiling) and may not be coplanar. These variations in coil geometry produce strong in-phase errors and must be removed from the data before plotting and interpretation. The method used to mitigate these effects requires a slope chained grid and requires the operator to measure the station to station terrain slope in percent with a clinometer. This is normally done by the receiver operator who was in the lead position on the surveys. The correct slope required to maintain the coils coplanar is the arithmetic average of the station to station slopes in the interval between the two coils. The operators hold the coils coplanar during the surveys by holding their coils at this orientation which is calculated and displayed for each reading station by the Maxmin MMC. The effect of short coiling created by irregular topography was removed with Apex Parametrics data processing software (MMCFIX1). The numerical method is described in Varre (1990)(pp AlI-3-4).

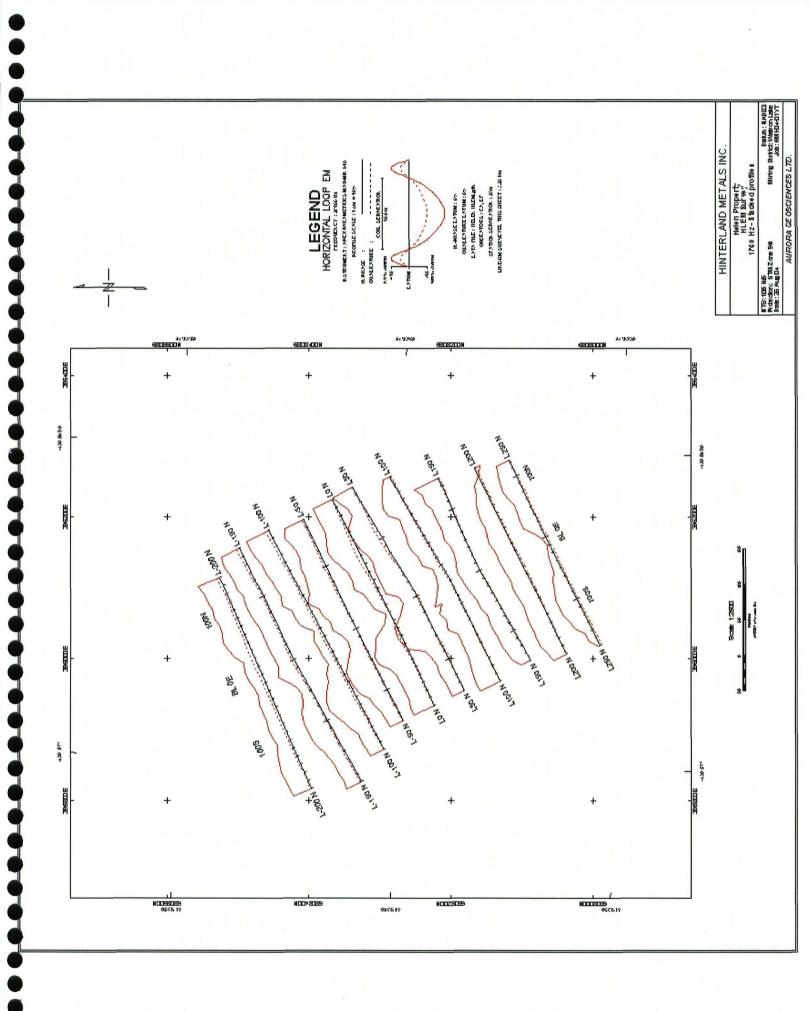
**c. Results.** The final corrected HLEM data is appended to this report as an ASCII text file (HELEN HLEM.TXT) together with the UTM registration points collected by the crew in the field (HELEN UTM.TXT). The data has been registered to UTM Zone 9N (NAD1983) coordinates by linear interpolation from the measured line end points and base line intersections. Figure 1 (attached in 4 copies) is a stacked profile plot of the HLEM data plotted at 1:2500. The in-phase component is shown as a solid red line and the quadrature component is shown as a dashed red line. The data is plotted with zero coincident with the survey line and values plotting above / to the left of the line are positive.

A single conductor defined solely by the in-phase component is shown in blue (Anomaly A-1). This anomaly has a low amplitude response, minimal excess width and virtually no quadrature component. It appears that the source may be a deep, highly conductive body or, alternatively a shallow magnetically susceptible body. Specimens of the vein material should be checked to determine their magnetite content and perhaps resolve this ambiguity. The asymmetry in the in-phase response suggests that the source body dips to the southwest at a moderate angle.

Respectfully submitted, AUBORA GEOSCIENCES LTD.

2700-04 Mike Power, M.Sc., Preeoph. Geophysicist T.

/attach.





#### APPENDIX D

#### STATEMENT OF COSTS



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#### 2004 Breakdown Helen Summary Geop

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Geophysics	Outside Yukon (non-	Inside Yukon	
	eligible)	(eligible)	
Aurora Geosciences (Max-min)		1,875.00	
D.Ferderber		1,500.00	
R.Grenier		2,400.00	
J.Small (Expediting)		785.00	
Food and Lodgings	32.13	996.58	
Food and Lodgings		108.28	
Camp Rental		600.00	
Supplies		37.96	
Supplies		3.13	
Gas, Airfare etc.	1,607.83	129.97	
Truck Rentals		150.00	
Helicopter		792.00	
Helicopter		1,089.00	
Helicopter		2,574.00	
Beaver		520.00	
VLF rental		75.00	
	1,639.96	13,635.92	15,275.88
Prospecting	Outside	Inside	
	Yukon (non-	Yukon	
	eligible)	(eligible)	
M.Fekete	1,320.00	1,320.00	
D.Ferderber	1,050.00	2,700.00	
R.Grenier	1,050.00	3,300.00	
C.Schultze	.,	327.25	
J.Small		37.50	
Food and Lodgings	623.75	960.24	
Camp Rental	020.10	1,000.00	
Supplies		301.15	
Assays - analysis (estimate)		930.00	
Assays - analysis		22.46	
Assays - shipping		135.58	
Gas, Airfare etc.	1,761.10		
Truck Rentals		247.68	
Helicopter	100.00	150.00	
Beaver		7,227.00	
Hand-held radios		325.00	
		50.00	
Sat phone rental		80.95	
Sat phone usage		334.70	
	5,904.85	19,449.51	25,354.36
			40.000.04

40,630.24



Yukon Energ Library 1000710292