NI 43-101 TECHNICAL REPORT
on the
CAT MOUNTAIN PROPERTY

Omineca Mining Division
British Columbia
Canada

NTS MAPSHEET 94C/13W
Latitude 56.0614° N; Longitude 125.3702° W

PREPARED FOR: RIFT VALLEY RESOURCES CORP.
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Effective Date: May 15, 2012
Amended Date: May 7, 2013

SUMMARY

Rift Valley Resources Corp. has recently acquired an option on the Cat Mountain property located in the Osilinka River area of northeast British Columbia, Canada. The Cat Mountain property is a copper-gold prospect situated in the Quesnellia geological terrane, approximately 300 kilometres northwest of Prince George, British Columbia. The project area measures 5,985 hectares and consists of 20 contiguous MTO mineral claims that are held in good standing. There is road access to the southern and central area of the property and 4WD access to the main mineral showings.

The property lies along the east perimeter of the large, polyphase, Late Triassic to Early Cretaceous Hogem Batholith, where small satellite intrusions of this body intrude the Witch Lake Formation of the Upper Triassic Takla Group volcanic sequence. The Witch Lake rocks are comprised of thick, massive basaltic breccias and pyroclastic rocks overlying tuffs, argillite and lesser limestone of the Inzana Lake Formation, which underlies much of the east slopes of Cat Mountain and the low lying terrain farther east. The Hogem Batholith is an important metallogenic intrusive body known to host significant porphyry copper-gold deposits such as the Lorraine and the Kwanika deposits.

Gold was first discovered on the summit area of Cat Mountain in the 1940’s in the form of narrow magnetite-rich veins and lodes, which were later tested by trenching and several short diamond drill holes. Mineralization at the discovery showing is comprised of a number of steeply dipping magnetite and magnetite quartz-calcite veins of variable thickness with chalcopyrite, pyrite, native gold, hematite, malachite and azurite present. The “No. 1” vein contains visible gold and has returned assays up to 548 g/t Au. More typical assays are 11.7 g/t Au and 0.49% Cu over 1.1 m and 9.6 g/t Au and 0.58% Cu over 2.3 m.

Prospecting and extensive trenching on the summit also identified widespread porphyry-related copper-gold zones to the west and south of the main discovery that comprised disseminations and facture-fillings of malachite, azurite, chalcopyrite, pyrite and chalcocite in intrusive syenitic rocks and coarse fragmental volcanic rocks of the Witch Lake Formation. These zones became known as the Bet zone, the Upper and Lower Copper zones, and the Hoffman zone. Historical trenching on these targets returned some significant results; including 0.65% Cu over 59 m in trench 53; and 2.07% Cu and 1.37 g/t Au over 15 m trench 45. Drill hole 90-1 had an intercept of 0.12% Cu and 1.23 g/t Au over 74 m.

More comprehensive follow-up programs were conducted in the late 1980s and throughout the 1990s to drill test the Bet zone and further investigate other showings. Exploration work was resumed during the period 2004-2007 and continued exploration on the Bet zone, tested the Hoffman zone to the east and completed grid preparation, soil sampling and 10 km of 3D induced polarization work on the North zone. This work outlined a broad zone of potassic altered volcanic rocks, mineralized with copper-magnetite, and associated with an arcuate assemblage of dyke-like syenitic intrusions along the summit of Cat Mountain. The work also identified a second zone of intensely potassic altered volcanic and syenitic dikes along the lower slopes to the southeast. Both zones are typical of Cu-Au alkalic suite deposits found throughout the Quesnellia metallogenic belt.

Regional airborne magnetic and electromagnetic surveys were flown in 2007 and covered Cat Mountain. Analysis of ASTER satellite data was also undertaken. Cadillac Mining Corp. drilled a total of seven diamond drill holes comprising 1,290.80 metres in 2007. A ground magnetometer survey was carried out by Cadillac Mining during 2008. A small ground magnetometer survey was completed by the vendors in 2011.

The Bet zone has more recently be reconsidered for its potential to host a relatively high-grade alkalic gold porphyry deposit, and remains largely untested along strike and at depth. Significant drill results, in

this light, include Hole 90-1 which returned 122 metres of 1.1 g/t Au (apparent width) and hole 94-1 which intersected 100 metres (apparent width) of 1.36 g/t Au.

Similarly, the Hoffman zone (to the east of the Bet Zone) has return some very encouraging copper intercepts over variable intervals; and remains largely untested along its strike length and at depth. Significant drill results from the Hoffman zone include 46 metres (apparent width) of 0.24% Cu in hole 05-17, and 46 metres (apparent width) of 0.31% Cu in hole 07-24.

The property has now been acquired by Rift Valley Resources Corp. who aim to complete a phased mineral exploration program and advance the knowledge and understanding of the geological setting over the next several years.

The Cat Mountain is an enigmatic property with a number of different mineral occurrences and a significant history of sporadic exploration. The property warrants further exploration to drill test the continuity of the known zones.

A detailed program of geological and geochemical compilation, field survey and 3D IP and diamond core drilling is recommended for the property in 2012. The total estimated cost of the Phase One program is approximately $940,000, including 10% contingency but net of sales tax (HST). A follow-up Phase Two program of more detailed IP and ground magnetometer survey and diamond drilling is recommended with an estimated cost of $1,775,000, including 10% contingency but net of HST.

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INTRODUCTION

This technical report provides a summary of the exploration history, geological setting and mineral potential of the Cat Mountain Property located in the Omineca Mining Division of north central British Columbia, Canada.

Rift Valley Resources ("Rift Valley"), a private company incorporated pursuant to the laws of the province of British Columbia, has recently entered into an option agreement to explore and, if warranted, develop the project. The Cat Mountain Property is located approximately 300 kilometres northwest of Prince George, BC.

Recommendations are provided in this report for a two-stage exploration program to further define areas of gold-copper mineralization on the property.

Scope of Work

Rift Valley requested that the author review the available exploration and geological data and prepare a technical summary of the property, following the guidance and format of a NI 43-101 compliant Technical Report. It is the authors' understanding that this report is to be submitted to the Canada National Stock Exchange ("CNSX"), in support of a planned listing on the exchange.

The purpose of this report is to provide an independent evaluation of the exploration potential of the Cat Mountain Property. Based on a site visit and review of historical exploration data, this report makes recommendations for further exploration to determine the extent of mineralization currently known on the property. The author is an independent geological consultant and served as the Qualified Person responsible for the preparation of this Technical Report, as defined in National Instrument 43-101, Standards of Disclosure for Mineral Projects (NI 43-101), and in compliance with Form 43-101F1 (the Technical Report). The author has no ownership in the mineral claims and no financial interest in Rift Valley.

The author conducted a field examination of the property on October 5th, 2011 for the purpose of examining the project site, collecting representative geological samples, assessing the geology, styles of mineralization and alteration on the property, and to confirm location of the mineral claims. Sample results are discussed in the Mineralization, Sampling Method and Approach and Data Verification sections. The sample collected for analysis by the author is for comparison value only. No independent verification of historical geological, geochemical, geophysical or drill data was undertaken aside from review of all known assessment reports previously filed; and a number of unpublished reports provided by the property vendors.

Sources of Information

This report was supplemented by information available in the public domain, including published assessment reports (ARIS), the BC government mineral occurrence database (MINFILE) and the BC government geoscience portal (Map Place). Studies were also referenced that document bedrock mapping, deposit mapping, and geological fieldwork conducted by the Geological Survey Branch of the British Columbia Ministry of Energy, Mines & Petroleum Resources. Where cited, references are referred to in the text by author and date. Complete references are provided in the References section.

Units and Currency

Metric measurements are used throughout the report, unless otherwise stated. Distance is stated in metres or kilometres (1,000 metres). Area is stated in hectares (ha), equivalent to 10,000 $metre^2$ or

1/100 kilometre^2. Tonnages are metric tonnes and precious metals (gold and silver) are usually recorded as grams per metric tonne (g/t) or parts per billion (ppb). Base metals (copper, lead and zinc) are either reported as parts per million (ppm) or weight percent (%). Other references to geochemical analysis are in parts per million (ppm) or parts per billion (ppb) as reported by the originating laboratory. Currency is expressed in Canadian dollars (CAN$) unless noted. Map coordinates are projected to Zone 10 UTM based on the NAD 1983 Datum.

RELIANCE ON OTHER EXPERTS

This report was prepared by Ken MacDonald, P.Geo; an independent qualified person for the purposes of NI 43-101. The information, conclusions and opinions contained herein are based on the qualified person's field observations and from review of data, reports and other information either available in the public domain or provided by the property vendors.

The author has assumed that all of the information and technical documents reviewed and listed in the References section are accurate and complete in all material aspects. The author has visited the Property but was not present during earlier exploration campaigns and cannot verify the exploration results documented herein, but is confident the work was done to professional standards of the day. The statements and opinions expressed in this document are in good faith and in the belief that such statements and opinions are not false or misleading at the date of the report. The author reserves the right to revise this report and conclusions should additional information become known subsequent to the date of this report.

For the purpose of this report, the author has relied on ownership information provided by Rift Valley and verified by online review at www.mtonline.gov.bc.ca. Mineral Titles Online is an online portal to provincial tenure data and is administrated under the Mineral Tenure Act.

Much of the geological information of this report has been taken from Assessment Report #30725, entitled, "ASSESSMENT REPORT ON THE CAT MOUNTAIN PROPERTY" BY Donald K. Mustard (2009) and a draft unpublished summary report, entitled "CAT MOUNTAIN PROPERTY" by Barry Price and Peter Fox (2011).

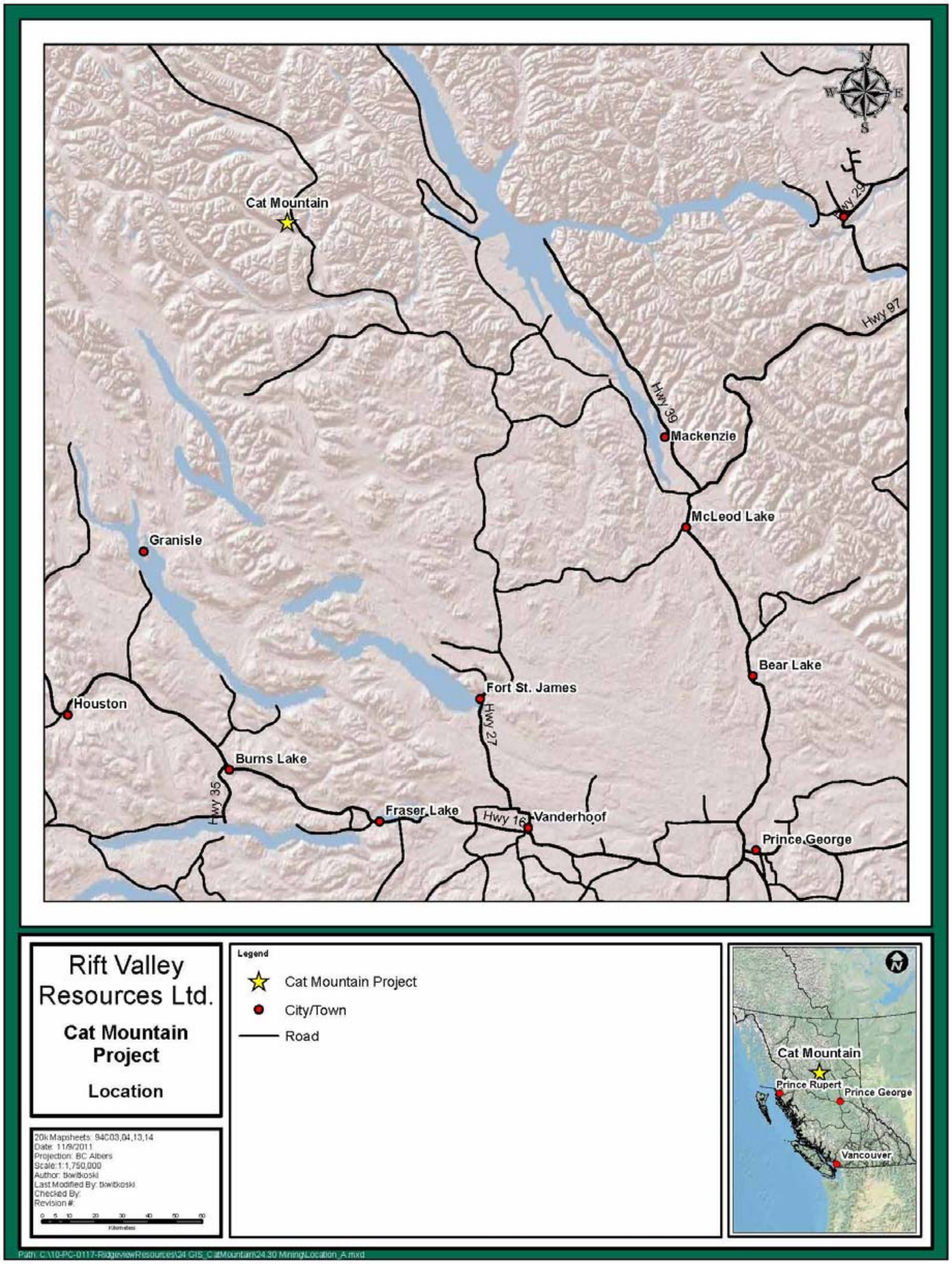
PROPERTY DESCRIPTION AND LOCATION

Description

The Cat Mountain Property is located in the Omineca Mining Division of north central British Columbia, Canada. It is approximately 300 kilometres northwest of the City of Prince George. The property is almost exclusively confined to NTS mapsheet 094C/03 (BCGS mapsheet: 94C.004) and is centered at Latitude 55.0614° N and Longitude 125.3702° W; or UTM Zone 10, 352505 East and 6215571 North (Figure 1).

The property is situated on the western side of the Swannell Range of the Omineca Mountains. The property is approximately 5 kilometres west of Uslika Lake. The southern property boundary straddles the Osilinka River at its confluence with Haha Creek. The northern property boundary terminates at Thane Creek.

Figure 1: Property Location Map



Claims and Title

The property consists of 20 contiguous mineral claims covering approximately 5,985 hectares of unsurveyed crown land (Figure 2). The claims are 100% owned by Donald K. Bragg (Free Miner Certificate# 103083). Beneficial interest is held in the claims, after all expenses have been paid to Donald K. Bragg, by Donald K. Bragg (40%), Donald Mustard (20%), Peter Fox (20%) and Barry Price (20%). The claim expiry dates; and the governing tenure assessment requirements have changed since the effective date of the report. The changes are described below.

Maintenance requirements for mineral claims in British Columbia are regulated by the Mineral Tenure Act and its related regulation. The exploration work requirements are defined as the value of exploration and development required to maintain a claim in good standing for one year. In exchange for this work, and submission of a geological assessment report, the claim expiry date is extended into the future, commensurate with the amount of exploration expenditure.

The assessment work requirements to maintain mineral tenure were changed on July 1st, 2012 to a four tier system. The new assessment work requirements in BC are now as follows:

- $5.00 per hectare for anniversary years 1 and 2;
- $10.00 per hectare for anniversary years 3 and 4;
- $15.00 per hectare for anniversary years 5 and 6; and
- $20.00 per hectare for subsequent anniversary years

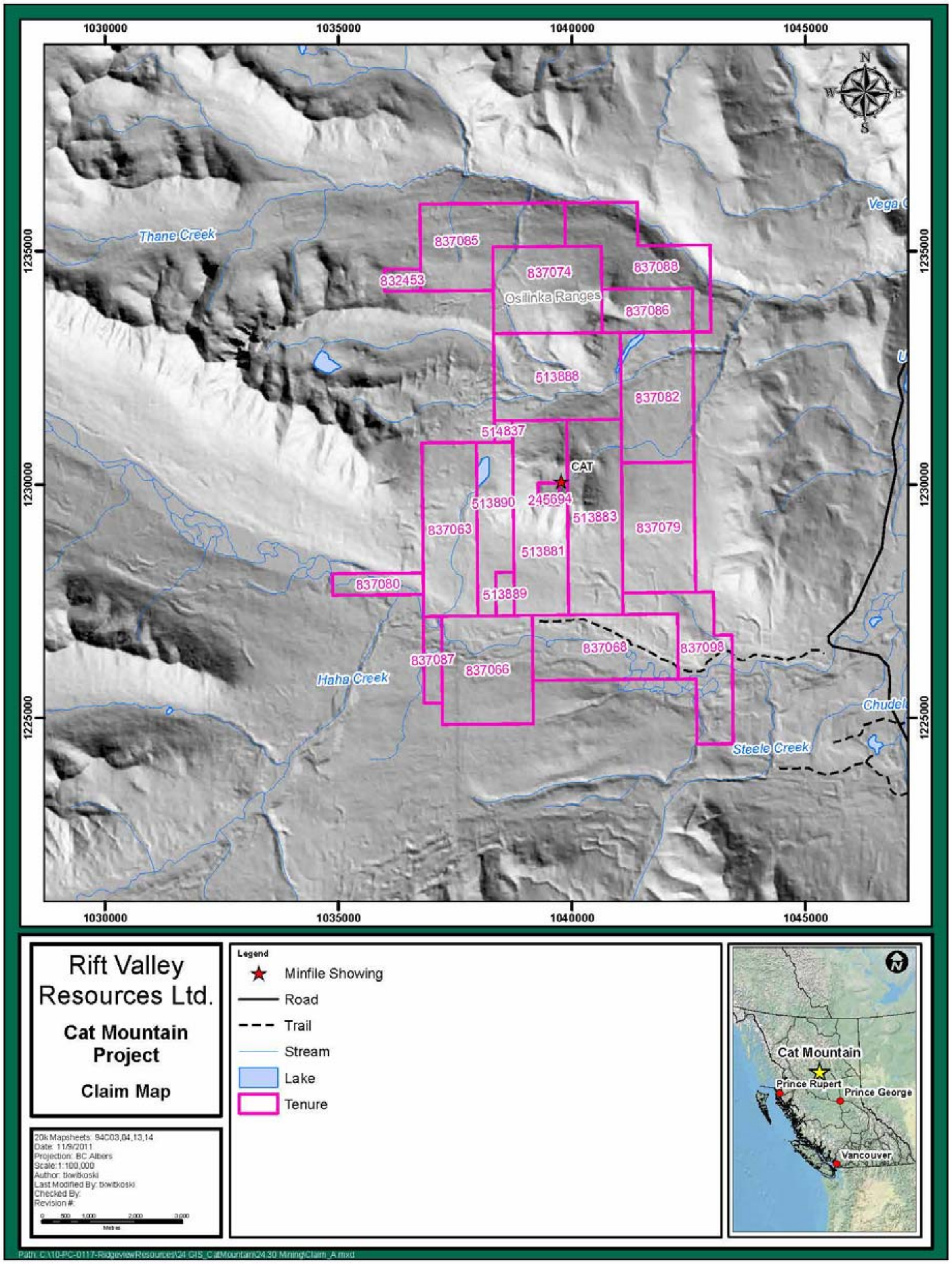
To aid in the adjustment to the new work requirements, all claims were treated as if they are in their first anniversary year as of the date of implementation (July 1, 2012). Regardless of the age of the claim, the next time work is registered on or after July 1, 2012, the assessment work requirement for a mineral claim will be $5.00 per hectare per year. Bragg registered assessment work on all of the Cat Mountain claims on October 30, 2012 at the $5.00 per hectare rate. The claims are currently in good standing until October 1, 2014, with the exception of BET 1 which is in good standing until October 1, 2017. The annual maintenance cost to maintain the Cat claims in good standing will be $59,895.00 in 2014, and again in 2015, and then increasing in subsequent years by the 3rd and 4th tier of the tiered system. There are no recording fees.

A list of valid claims and their respective anniversary dates is provided in the Table 1 below.

Table 1: Cat Mountain Claims

Tenure Number	Claim Name	Owner	Map Number	Issue Date	Good To Date	Area (ha)
245694	BET 1	103083 (100%)	094C004	1972/nov/28	2017/oct/01	25.0
513881		103083 (100%)	094C	2005/jun/03	2014/oct/01	487.7
513883		103083 (100%)	094C	2005/jun/03	2014/oct/01	487.7
513888		103083 (100%)	094C	2005/jun/03	2014/oct/01	505.5
513889		103083 (100%)	094C	2005/jun/03	2014/oct/01	36.1
513890		103083 (100%)	094C	2005/jun/03	2014/oct/01	252.9
514837	KIM 7	103083 (100%)	094C	2005/jun/20	2014/oct/01	18.1
832453		103083 (100%)	094C	2010/aug/30	2014/oct/01	36.1
837063	ZIP 1	103083 (100%)	094C	2010/nov/01	2014/oct/01	433.6
837066	BAP6	103083 (100%)	094C	2010/nov/01	2014/oct/01	451.9
837068	BAP 7	103083 (100%)	094C	2010/nov/01	2014/oct/01	433.8
837074	ZIP 2	103083 (100%)	094C	2010/nov/01	2014/oct/01	433.1
837079	ZIP 3	103083 (100%)	094C	2010/nov/01	2014/oct/01	433.5
837080		103083 (100%)	094C	2010/nov/01	2014/oct/01	90.4
837082	ZIP 4	103083 (100%)	094C	2010/nov/01	2014/oct/01	433.3
837085	BAP 8	103083 (100%)	094C	2010/nov/01	2014/oct/01	433.0
837086	ZIP 5	103083 (100%)	094C	2010/nov/01	2014/oct/01	180.5
837087	BAP 9	103083 (100%)	094C	2010/nov/01	2014/oct/01	72.3
837088	BAP10	103083 (100%)	094C	2010/nov/01	2014/oct/01	396.9
837098	BAP 11	103083 (100%)	094C	2010/nov/01	2014/oct/01	343.4
					Total	5984.8

Figure 2: Claim Map



Option Agreement

Rift Valley entered into an option agreement, dated November 30, 2011, with the Cat Syndicate (a syndicate comprised of Donald K. Bragg and 3 beneficial partners listed above) for the acquisition of up to 100% of twenty mineral claims in the Osilinka River area, informally known as the Cat Mountain claims. Various options to acquire between 75% and 100% ownership of the claims are available to Rift Valley. The option agreement contains an "Area of Common Interest" provision that any claim staked by Rift Valley within 2 kilometres of the external boundary of the Cat Mountain claims would be enjoined into the option agreement.

Based on the 75% ownership option, Rift Valley may earn a 75% undivided right, title and interest in, and to the Cat Mountain claims by expenditure of exploration dollars, and cash payments and issuance of common shares to the syndicate members. The option has a five-year term during which time there shall be cash payments of $50,000 on signing, and $500,000 in aggregate by the fifth anniversary of the date of the Agreement. Exploration and development expenditures total $1,500,000 over 5 years; and any amounts expended in excess of the required amount are carried forward into the subsequent period (or periods). A total of 1,000,000 common shares will be issued by Rift Valley to the individual syndicate members, by their percentage of ownership. 500,000 shares are due on or before execution of the Agreement. Upon exercise of the 75% option there is a royalty owed to the syndicate of 2% of the net smelter returns of which 1% can be bought for $2 million.

An additional 15% undivided interest in the Cat Mountain claims can be acquired, after the option has been exercised, upon completion of an additional $3,500,000 in exploration expenditures; within three years after the exercise of the 75% Option. The syndicate will grant Rift Valley an additional 10% undivided interest in the Cat Mountain claims upon funding the property to commencement of commercial production.

The parties agree to form a joint venture if Rift Valley exercises the 75% option but elects not to exercise the 15% Option. The percentage interests and deemed expenditures by each party are proportional to the ownership percentage (Rift Valley=75%; syndicate=25%). A management committee will be formed to approve programs of exploration and development formulated by the Operator.

Rift Valley will be the initial operator and will remain so as long as the company maintains the largest single interest. Upon exercise of the 75% option, Rift Valley will pay the syndicate a royalty of 2% of the Net Smelter Returns. Rift Valley will have the option to "buy down" one half of the NSR Royalty for $2,000,000; within three years of exercise of the 75% option.

The agreement was amended in 2013 subsequent to the effective date of the report, to provide additional time to execute the 75% option, commencing in 2013. All other terms and conditions remain the same as stated in the November 2011 agreement.

There are no other agreements, liens, judgments, debentures, royalties, or back-in rights known to the author. There are no surface tenure rights over the claims, and no other underlying subsurface claims.

Work Permit

The Mines and Mineral Resources Division of the Ministry of Energy, Mines and Natural Gas is the authority responsible for issuing permit approval for mechanized exploration on mineral claims. Prior to conducting mechanized exploration, a Notice of Work, including a plan for reclamation, must be filed with and approved by, the local division office in Prince George. The Notice of Work must describe the proposed exploration activities and any remedial reclamation. A reclamation bond must be posted with the agency, with the bond amount commensurate with the size of the proposed disturbance.

The Cat Syndicate (vendors) previously held a permit on the property that allowed diamond drilling, trail construction and excavator trenching. Rift Valley will be required to apply for a permit before conducting any additional mechanical surface disturbance, including IP survey, trail construction, trenching and diamond drilling. Rift Valley will also be required to post a reclamation bond prior to issuance of the permit. Rift Valley has commenced the application process for a permit to authorize planned exploration on the property. Low-impact exploration including mapping and geochemical sampling does not require a permit.

Tree cutting of merchantable timber will require approval from the Ministry of Forests, Lands and Natural Resource Operations. Depending on timber volumes, either a Free Use permit or a License to Cut will be required.

Environmental Liability

There are no known environmental liability issues related to mineral exploration so far identified on the property. Previous surface disturbance by historical operators is limited to construction of short exploration trails to access trench and drill sites. These trails are generally only accessible by tracked equipment or ATV and normally require some rehabilitation to re-open the trail, due to falling slough.

The author has examined the main exploration workings on Cat Mountain (drill sites and open trenches). Some drill pads and trenches at the main zone remain open and available for further sampling or drilling. The trenches are generally shallow or open with well-sloped trench walls; and the drill sites are stable. The author is of the belief that the sites are stable, non-erosive and present no significant health, safety or environmental issues.

Commercial logging has been done on parts of the property but the replanting requirements are the responsibility of the tenured forestry company.

ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Access

There are two main forestry road networks that connect to the southern part of the property - the Thutade FSR–Germansen North gravel road network that connects to the town of Fort St. James (200 km) or the Osilinka FSR-Finlay FSR gravel road network (250 km) that connects to the town of Mackenzie. Both networks meet just south of Uslika Lake and within a few kilometres of the Thane Creek road, which is the secondary road that leads directly onto the property. Local access to the claims and camp area is by a branch logging road that leaves the Thane Creek road at kilometre 7.

There are old excavator and cat tracks on the property that have been used over the years for trench and drill access but these trails are generally only passable by tracked equipment or ATV. Access to currently untracked areas would require helicopter, particularly in the northern part of the claims.

The main logging roads are generally all-weather, well-constructed logging roads that are normally maintained by logging companies that are working in the area. The roads are generally snow-free from May until October unless plowed for winter timber harvesting.

Commercial helicopter services are available in Prince George, Fort St. James and Mackenzie. Helicopters are occasionally stationed in the local area if involved with forestry, environmental or mining exploration work.

Climate

The climate of the region is typical of the north central interior of BC, with long cold dry winters and short, warm, dry to moist summers. The lower claim elevations are snow free from May to November while at higher elevations snow may linger until June and occur again by September.

The average temperature recorded at Fort St. James is 3.1°C, with an average monthly temperature of 15.3 °C in July and an average monthly temperature of -11.3°C in January.

Precipitation is mainly in the form of snow with an average annual snowfall accumulation of 192 cm. Average annual rainfall at Fort St. James is 29.4 cm. The average annual monthly precipitation is 48.7 cm. The annual number of frost free days is approximately 54. Exploration is normally done between May and October.

Local Resources and Infrastructure

The area is somewhat isolated and there are no local resources for food, accommodation, fuel or propane. The Osilinka Forestry camp, formerly owned by Abitibi Bowater, is located 26 road kilometres east of the property but is presently closed and not expected to re-open in the near future. All supplies and services must be brought in from Prince George, Mackenzie or Fort St. James.

There is no exploration or mine infrastructure located on the property. There is a small exploration camp located on the property, in an old clear-cut, that consists of several log shelters and core racks.

Prince George is the regional economic centre and is a service and labour supply center for exploration including field supplies and diamond drilling services. There are active open-pit mining operations in the region, including Thompson Creek's Endako Molybdenum mine (west of Prince George) and their Mt. Milligan Cu-Au mine located north of Fort St. James (presently under construction).

The Cat Mountain property is located approximately 17 km southwest of the Kemess power line, a private high capacity powerline that connects the idled Kemess South open-pit Cu-Au mine to the BC Hydro grid at the Kennedy substation, near Mackenzie, BC. The nearest active railhead to the property is also available at Mackenzie, and is approximately 295 road kilometres from the eastern edge of the property. There is sufficient water available in the immediate vicinity of the property to support both exploration and potential mining activities.

Physiography

The Cat Mountain property is located on the western side of the Swannell Range, a major northwest trending range of the Omineca Mountains. The property is characterized by Cat Mountain, a conical hill that sits in the approximate center of the property; and a second similar-sized unnamed mountain to the north (Figure 3). Cat Mountain ranges in elevation from 1,740 m above sea level (ASL) at the top dropping down to the Osilinka River valley at approximately 920 m ASL. The northern mountain rises to its summit at 1,620 ASL and drops down to 1,080 ASL at Thane Creek.

Slopes are generally shallow at the base, rising to precipitous at the peak of both mountains. Outcrop is well exposed on the high eastern edge of Cat Mountain. Talus development is extensive on the southern and western slopes of Cat Mountain, while the northern and mid-easterly slopes are commonly vegetated. The tree line is variable but in general can be found on mountain slopes at about 1,650 m ASL. A series of ridges on the western and southern sides of the top of Cat Mountain form an L-shaped cirque that encloses a small, boggy area.

The main valleys are occupied by the Osilinka River to the south, and Thane Creek to the north. The Osilinka River valley is broad and U-shaped. Thane Creek is more narrow and v-shaped. An airphoto interpretive terrain analysis of the area was completed by BP Resources in 1990 using stereo-pairs (Humphreys et al, 1990). This work identified that the last major movement of the Cordilleran ice sheet over the area was towards the northeast (030°-060° azimuth). The characteristic landforms of the area are, however, erosional forms produced by mountain glaciers moving down broad east and southeast trending trunk valleys that are interconnected through valleys and low passes. Surface glacial deposits are generally related to the later valley glaciers and have covered or reworked older deposits of the major ice sheet. Erosion and deposition by cirque glaciation has also modified north-facing slopes, whereas south-facing slopes were not subject to intense alpine glaciation and are more precipitous. Late-stage valley ice flow was eastward along the Osilinka Valley and southward out of the tributary through valleys bounding the ridge covered by the claims.

Glacial effects are widespread over the property. Local tills and colluvium predominate on the slopes of Cat Mountain. There is glacial till and fluvioglacial outwash that blankets the valley bottoms. Outcrop exposure is generally limited to ridge tops, mountain slopes above treeline and occasional creek gullies where fluvial processes have eroded the till blanket. Some mid-elevation slopes are extensively covered by talus which can make prospecting difficult. Soils are generally characterized by thin organic and A horizon soils, overlying well-developed B horizon soils that overlie weathered subcrop.

All tributary creeks and streams flow to the Osilinka River which itself flows eastward to the Omineca Arm of Williston Lake. Williston Lake drains through the east flowing Peace River, eventually reaching the Arctic watershed. First order streams are mainly ephemeral and are generally not expected to flow year round except for several that connect to second order tributaries.

Vegetation is dominated by sub-alpine spruce and balsam trees that form a thick carpet over much of the mid-elevation areas, giving over to spruce and Lodgepole Pine at lower elevations. Broadleaf deciduous trees and shrubs, such as alder, birch and aspen, are dominant at lower elevations, especially valley bottoms and along the banks of the Osilinka River. The understory is dominated by shrub, berries, lichen and mosses. Above tree-line the slopes can be covered with low shrub and small evergreen trees.

Wildlife in the area includes goats, mountain sheep, mountain caribou, wolf, grizzly bear, black bear, deer, moose, elk, beaver, lynx, bobcat, and several species of birds. Moose are common in the upland forest and deer are found in areas where adequate grazing exists. The Osilinka River and its tributaries support trout and kokanee fisheries.

Figure 3: View of workings on Cat Mountain prospect: looking north

HISTORY

Exploration work dates back to 1957 when Croydon Mines, a subsidiary of Bralorne Mines, conducted trenching and drilled two short holes on gold-copper-silver-magnetite lodes exposed on the summit area of Cat Mountain. Croydon dropped their interest in 1963. The prospect was later staked in 1972 by geologist A. Gerun who located the Bet 1 claim over the most favorable mineralization. A modest 4-day program was completed in 1974, and included mapping and a small ground magnetometer survey. Mapping identified 8 north-trending “mineralized fault” zones of chalcopyrite-dominated copper mineralization, ranging in length from 80’ to 230’, and widths between 1’ and 15’. Three mini-bulk samples taken from the “G” zone returned grades that averaged between 2.561 oz/ton Au and 3.714 oz/ton Au (Tegart, 1974). No assay certificates were provided in the 1972 assessment report to confirm the reported grades.

In 1974 BP Minerals Limited (BP) completed reconnaissance soil and stream sediment geochemistry as well as geological mapping at Cat Mountain. They subsequently staked two claims in 1975 to cover the prospect. The work in 1975 included 100 kilometres of line cutting, geological mapping, geochemical sampling, a ground magnetic survey and 6.5 line kilometres of IP survey. Geochemistry included talus, rock-chip, seepage and stream sediment sampling. An additional 48 line kilometres of grid was established using hip chain and compass. A low level airborne magnetic survey was also completed at this time, as part of a larger airborne survey, and covered 110 line kilometres on the CAT claims. A total of 620 samples were collected and submitted for copper, lead, zinc and molybdenum. Trace metal distributions identified 5 anomalous areas elongated along a northeastwardly trending zone (Mustard, 1976).

A number of small drilling campaigns were completed by BP: two BQ holes in 1977 totaling 315m and 7 EX holes totaling 214m in 1979. The 1977 drill campaign targeted the eastern side of the Bet shear zones and identified near ubiquitous pyrite throughout most of the drill intervals, with chalcopyrite mineralization noted in several intervals of lapilli tuff to agglomerate. No results were provided in the report (Bates, 1977). Humphreys later reported that copper and gold values in both holes were "sparse: (Humphreys et al, 1990).

The 1979 drill campaign also included a small VLF-EM and magnetic survey and three cat trenches to test the aeromagnetic high in the southern part of the claims. The drilling was focused on the southern contact area of a syenite porphyry body and was intended to test for disseminated copper and fracture-fill, magnetite-copper-gold mineralization. Secondary objectives included: test the continuity of the structure and grade of the "No. 1 Vein" (the main vein of interest to that point); and to expose and drill test the source lithology of a prominent ground and aeromagnetic anomaly trending northwest through the southern claim area which was suspected to reflect magnetite-Au-Ag-Cu values similar to "No. 1" vein.

The program focused 5 holes on the upper and lower trench areas but three holes were abandoned due to poor ground conditions. A geophysical EM and ground magnetometer survey on a 10.7 line km grid located a prominent magnetic linear in the southern claim area which was trenched and drilled. Drilling in the upper trench area intersected syenite porphyry with up to 6% pyrite with lesser chalcopyrite and returned low-level values in copper and gold. The contact volcanics adjacent to the porphyry were found to be weakly altered to chlorite and epidote and enriched in pyrite. The copper-gold-silver mineralization in the upper trench area was determined to be predominantly in an oxide phase in magnetite-quartz-tourmaline-specularite veins; whereas in the lower trench area copper-gold mineralization occurred with pyrite and pyrrhotite in a sulphide phase.

Two holes tested the magnetic linear which was explained by magnetic-pyrrhotite rich, biotite hornfelsed volcanic rock that marked the contact zone between a monzodiorite intrusion to the west and Takla Group volcanics to the east. The hornfels was found to be intimately intruded by k-feldspar veinlets and narrow granite dykes. It contained an average of 6% fine-grained disseminated, occasionally massive, pyrite-pyrrhotite-chalcopyrite; which returned low-level assays for copper and gold. The best result was from a chip sample in trench 3 that returned >10,000 ppm Cu, 5 ppm Ag and 1,060 ppb Au. IP surveys were recommended in the valley surrounding Cat Mountain in the hope of identifying a porphyry copper-gold source for the Cat Mountain mineralization (Bradley et al, 1980).

BP Resources acquired the property again in 1986 and formed a joint venture with Lysander Gold Corporation. Exploration resumed in 1989 looking for a Mount Milligan type, alkalic Au-Cu porphyry deposit. Alkalic porphyry potential was indicated by the local geology comprising syenite porphyry bodies of the Hogem Batholith, associated with potassic alteration, intruding propylitized pyroclastic andesite of the Takla Group volcanic assemblage.

Work included drilling, trenching, geochemical surveys and 47 line km of grid work and a ground magnetometer survey. Sampling of B-horizon soil (1262 samples) established six distinct Au-Cu anomalies in thin overburden in an area that measured 2.2 km by 0.5 km, with an anomaly threshold of 40 ppb Au and 150 ppm Cu. Excavator trenching recovered 221 samples from test pits and 325 samples from trenches. 114 samples were taken from 97 deep overburden pits. Seven NQ diamond drill holes were drilled for a total of 552 m of core and 220 samples. Six holes tested the Bet zone (holes 89-1 to 6) and one hole tested the south magnetic anomaly (89-7). No drill muds were used and drill recovery was considered poor.

Anomalous Au-Cu in soil values were strongest in the a "V-shaped" zone that measured 700 m X 800 m overlying the west and south facing slopes of Cat Mountain. Diamond drilling confirmed anomalous trench results, including 0.18% Cu and 1.44 g/t Au across 35.7 m in hole A89-1 and 0.20% Cu and 0.51 g/t Au over 29.9 m in hole A89-4. Ground magnetic data revealed Au and/or Cu-rich zones can follow magnetic highs (south slope), magnetic lows (western mineralized zone), and can also lie adjacent to these features. Lithogeochemical Cu-Au trends identified Mo, Ag, W and Bi as important pathfinder elements at Cat Mountain. By contrast Pb and Zn were found to be distinctly peripheral to Cu-Au anomalies. A large exploration program was recommended for follow-up (Hoffman et al, 1990).

In 1990 BP completed a series of reconnaissance geochemical programs whose purpose was to identify alkalic porphyry copper-gold targets in areas outside of the known copper and gold showings. The 1990 sampling was a continuation of a program of soil geochemistry begun in 1989. A program on the northern claims consisted of geological mapping, soil/talus fine sampling, drainage sediment sampling and rock chip sampling. A total of 116 samples, comprised of 78 soils, 11 talus fines, 11 stream sediments, 5 seepage sediments and 13 rock chip samples, were collected at a nominal 100 m interval along four traverse routes; two in the hills in the north and one each along opposite sides of Thane Creek. Several multi-element Cu, As and Au anomalies were identified and warranted follow-up (Bradley et al, 1991).

A soil survey consisting of 727 samples was done on the Cat 3, 4, 5, 16 and 17 claims. Samples were collected at 50 m intervals on grid lines spaced from 100 m to 400 m apart (Humphreys, 1991). A soil survey consisting of 889 samples was done on the Cat 2, 7, 8, 9, 10 and 12 claims. Samples were collected at 50 m intervals on grid lines spaced from 100 m to 400 m apart (Humphreys, 1991). A soil survey consisting of 91 soil samples on a semi-reconnaissance level was completed on the Cat 18 claim (Humphreys, 1991). The results tended to show that copper and gold soil anomalies exist away from the areas with known copper-gold bedrock showings and thus represent targets for future exploration. A program of infill soil sampling followed by trenching and diamond drilling was recommended to test the anomalies found in 1990.

BP mounted another program in 1990 on the property (Humphreys et, 1990). Work included geological mapping, 106 line km of cut grid; 20 km of flagged lines, 1908 soil samples, 125 chip samples, an IP/Resistivity survey, a ground magnetic survey, and drilling 14 holes for a total of 2164.8 m. Ten holes totaling 1,528.1 m tested the Bet zone and the remaining 4 holes tested geophysical targets in the southern grid area. A total of 480 m of cat trail was cut to provide access for trenching, which totaled 500 linear metres.

The 1990 soil survey identified three new geochemical targets and extended the size of the Cat Mountain zone defined in 1989. Magnetic and IP anomalies, however, could not be directly correlated with soil anomalies other than over the Cat Mountain summit area.

Core recoveries in the 1990 drill campaign were superior to earlier efforts and usually averaged >90%. Hole CD-90-1 cut a massive magnetite vein in strongly fractured and oxidized latite from 95m that returned 6.6 ppm Au and 0.07% Cu over 16m, including 1.4 m of 63.1 ppm Au and 0.60% Cu. An upper shear zone returned 3.3% Cu over 2m from 41m. High copper and gold values were assumed to be related to brittle, oxidized fault zones. Hole CD-90-3 cut two distinct mineralized zones. An upper zone of strongly fractured, altered and limonite-rich latite returned 26 m of 0.86 ppm Au and 0.07% Cu from 3m. A second deeper zone cut a strongly faulted and malachite-rich section of syeno-monzonite that assayed 26m of 0.06 ppm Au and 1.2% Cu from 51m. Although massive magnetite was not intersected in hole 3, it was considered the up-dip extension of the zone encountered in hole CD-90-1.

Drilling at the Bet zone showed the mineralization decreases rapidly along strike to the south. BP felt there was little likelihood of a buried porphyry copper-gold deposit directly beneath the Bet zone; and that the prospect for a sizeable high grade vein deposit at Bet was considered poor due to the irregular distribution of gold in the host shear/fault zones. Drilling in the southern area revealed porphyry-related alteration and considerable pyrite mineralization in latite fragmental rocks (hole CD-90-14) that enhanced the potential of this area. BP postulated the Bet zone is analogous to a peripheral zone to a mineralized alkalic copper-gold porphyry system, comparable to the Creek and Esker zones at Mt. Milligan. Diamond drilling was recommended to test geochemical and geophysical targets around the "skirt" edge of Cat Mountain.

Drilling work continued into 1991 with BP completing a further 15 holes (91-15 to 29) comprising 2,122m of core drilling (results of this work were not available for review). A small program was conducted by BP in 1992 including a low level airborne magnetometer survey (results of this work were not available for review).

Lysander Minerals (Lysander) as sole owner carried out two drilling campaigns in 1994 and 1995 focused on the known quartz-magnetite veins at the Bet zone. Drilling included four holes totaling 465m in 1994 and three holes totaling 178m in 1995. The 1994 fall campaign drilled the Upper Copper zone. DDH C94-1 was drilled to test the continuity of the gold intersections obtained in DDHs 90-1 and 90-3. It intersected the best interval of the program; 5.68m of 0.357 oz/ton from 69.28m. Hole C94-4 tested this interval to the north and cut 2.44m of 0.220 oz/ton from 39.04m (Richardson, 1994).

In 1995, three additional holes were drilled to extend northwards, and to depth, the favorable intersections from 1994. A heli-portable hydraulic drill was used but was unable to penetrate silicified rock. The program was unsuccessful in testing targets due to difficult drilling conditions. However, Richardson felt the Upper Copper Zone gold mineralization was still open at depth and results on Magnetite Vein #1 and #2 justified additional testing of the veins for grade and continuity (Richardson, 1995).

Lysander drilled the property in 2004 and successfully completed a total of 1,117 metres in holes 04-8 and 04-9 on the Bet zone, with combined NQ-2 and HQ equipment. The program consisted of rehabilitation of original access roads (for tracked machinery and ATV access) from the Thane Creek road to the drill area on the summit area of Cat Mountain. The purpose of the drill program was to confirm previous assay results obtained in past programs, assess the geometry of the Bet zone and to test the mineralization at depth. Hole 04-8 was collared at the site of hole 89-1 and was drilled to a depth of 544.7 metres. It intersected 39 metres of 0.14% Cu and 1,240 ppb Au from below the drill collar down to a depth of 42m. Hole 04-9 was collared 100 metres west at the site of hole 90-1 to determine the geometry of the zone along section 189+8ON. It cored to a depth of 672 metres and returned 27m of 0.23% Cu and 840 ppb Au from below the drill collar down to a depth of 30m. Steeply dipping pyrite-magnetite structures were believed to be the chief controls on mineralization where gold grades increased above 1 g/t. These zones were often faults and shear zones and appeared to be largely restricted to the host volcanic strata, with the intervening host rock also mineralized but of low gold tenor. Further work was recommended to trace these mineralized structures northerly along the trace of the Bet zone (Fox, 2005).

The 2005 program continued exploration of the Bet zone where five holes were drilled on the westerly slopes of the mountain. Two holes were also drilled on the Hoffman zone some 200 metres east to test a copper-gold soil anomaly previously determined by BP Resources, and one hole was drilled on the North zone on the northerly slopes of Cat Mountain to test a chargeability anomaly outlined during the 2005 IP survey. In addition, 15 km of grid preparation, 10 km of 3D induced polarization work and 336 soil samples were completed on the North zone. Drilling recovered 1,447 m of NQ-2 core in eight holes (Fox, 2006).

The Bet zone was tested with five holes (05-11 to 15, 741 metres) collared over a strike distance of 500 metres between hole 04-8 and hole 05-11 at the north end of the zone. These holes cored variably altered and mineralized Witch Lake volcanics and narrow syenitic feldspar porphyry dikes. The chief mineralized structure was intersected by holes 05-11 and 05-13, the northerly extension of the structure exposed at 04-8 drill site. Hole 05-11 cut 12m of 1.01% Cu and 87 ppb Au from 8 m depth. Hole 05-13 cut 14 m of 1.01% Cu and 60 ppb Au from a downhole depth of 8m. Drilling at the Hoffman zone cored pyritic, intensely altered coarse volcaniclastic rocks and feldspar porphyry throughout. Pyrite and lesser amounts of finely disseminated chalcopyrite were dispersed throughout hole 05-17. The hole cut 46 m of 0.24% Cu and 81 ppb Au from a downhole depth of 24m, and bottomed in pyritic, highly altered, fractured and sheared feldspar porphyry. The hole drilled at the North zone was barren. Further work was recommended (Fox, 2006).

In 2007, Lysander completed 238 line kilometres of heliborne magnetic and electromagnetic surveys over the Cat Mountain area, including 24 line-km of tie lines. Flight lines were flown in an azimuthal direction of 90° with a line separation of 150 metres. The purpose of the survey was to assist in the search for Cu-Au porphyry deposits along the eastern extremity of the Hogem Batholith, where small satellite intrusions of this body intrude the Witch Lake Formation and where a number of showings of disseminations and fracture fillings of malachite, azurite, chalcopyrite, pyrite and chalcocite have been noted and explored in the past. The survey results clearly defined a prominent magnetite-rich circular resistive unit associated with Cat Mountain. Lying directly south of Cat Mountain is a northwest trending magnetite-bearing unit approximately 1.5 km in length. This feature is more conductive than Cat Mountain and does not have any topographic relief. It was recommended that a complete assessment and detailed evaluation of the survey results be carried out, in conjunction with all available geophysical, geological and geochemical information (Walcott, 2007).

Lysander proceeded to option the property to Cadillac Mining who drilled 7 NQ holes (1,290m) in late 2007. The drilling tested 300 metres of strike length of the northerly trending “Hoffman” copper-gold geochemical anomaly (07-18 through 07-24). All drill holes intersected copper mineralization. Semi-massive sulphides carrying chalcopyrite, pyrite, pyrrhotite and magnetite were seen in ‘core zones’ controlled by shearing and bounded by disseminated pyrite - chalcopyrite margins extending for tens of metres away from the core zones. DDH 07-21 intersected 5.15 metres (from 45.2m) of semi-massive sulphides returning 5.7% Cu with coincident gold and silver values of 3.1 g/t and 4.6 g/t, respectively; including 1.5 m of 9.9% Cu and 5.8 g/t Au. The overall mineralized interval returned 1.11% copper over 29.7 metres of disseminated pyrite/chalcopyrite. Hole 07-24 returned 46.4 metres of 0.31% copper from a downhole depth of 29.3 m. The drill geology and results suggested to Cadillac the property may host potential for Iron-Oxide Copper-Gold (IOCG) deposits, both large low-grade and smaller high grade deposits. DDH 07-21 was believed to represent potential for a high-grade deposit composed of multiple interrelated sub-zones that might support a modest underground operation if the size, grade and distribution of individual pods could prove to be sufficiently regular and predictable (Audet, 2008)

Cadillac Mining conducted a detailed ground magnetic survey on the summit and western flank of Cat Mountain in August 2008 to determine the size, direction and continuity of structurally controlled magnetite. A total of 46.5 line-kilometres were surveyed on 31 lines spaced at 50 metres. The survey identified a broad zone of parallel linear magnetic bands striking nearly north-south. Preliminary evaluation indicated that zones of high magnetic intensity covered an area measuring about 700 metres in length and 400 metres east-west (Mustard, 2009).

In 2009, Cadillac Mining failed to maintain the option payments and the claims reverted to Lysander. Donald Bragg assembled the present claim blocks in 2010 and 2011 with the assistance of the other beneficial owners.

In the fall of 2011 Bragg completed a short ground magnetometer program on the southern slope below the Cat Mountain summit. A total of 37.1 line kilometres were surveyed with 16 lines surveyed parallel to the UTM grid on a true north azimuth of 88°; 15 lines were surveyed on 100 metre spacing and a single 50m spaced in-fill line was run in the center of the grid.

Historical Trenching

The following tables show some of the significant historical trench results.

Table 2: Highlighted Trench Results (sorted by copper grade)

Trench	Length(m)	Cu %	Au g/t
Tr 53	59.0	0.65	
Road Cut	55.5	0.72	
Tr 24	50.6	0.23	
Tr H	30.5	0.42	
Tr 25	29.6	1.64	0.6
Tr N	27.0	0.50	
Tr 01	25.6	0.31	
Tr 20	23.5	0.84	0.6
Tr 08	23.5	0.76	0.3
Tr 12	21.0	0.24	
Tr B	20.1	0.20	1.6
Tr 57	18.0	0.47	
Tr 10	18.0	0.42	0.3
Tr 18	15.2	1.50	
Tr L	15.0	2.07	1.2

Table 3: Highlighted Trench Results (sorted by gold grades)

Trench	Length(m)	Cu %	Au g/t
Tr 17	1.1	0.78	31.7
Tr 16c	1.1	0.49	10.6
Tr 16b	2.3	0.58	8.7
Tr 30	0.6	0.75	7.5
Tr 42	1.8	0.18	5.6
Tr 31	1.4	0.51	5.0
Tr 16a	1.1	0.51	4.4
Tr 29	4.6	0.64	4.0
Tr 36	2.3	0.16	2.8
Tr B	20.1	0.20	1.6
Tr L	15.0	2.07	1.2
Tr A	11.9	0.32	1.2
Tr 55	3.0	0.47	1.2

Historical Drilling

The following table shows a summary, by year, of the drill holes completed on the property since 1977.

Table 4: Property Drill Summary

Year	Number of Drill Holes	Total Depth (m)
1977	2	315
1979	7	214
1989	7	552
1990	14	2164.8

1991	15	2122
1994	4	465
1995	3	178
2004	2	1117
2005	8	1447
2007	7	1290
Total	69	9864.8

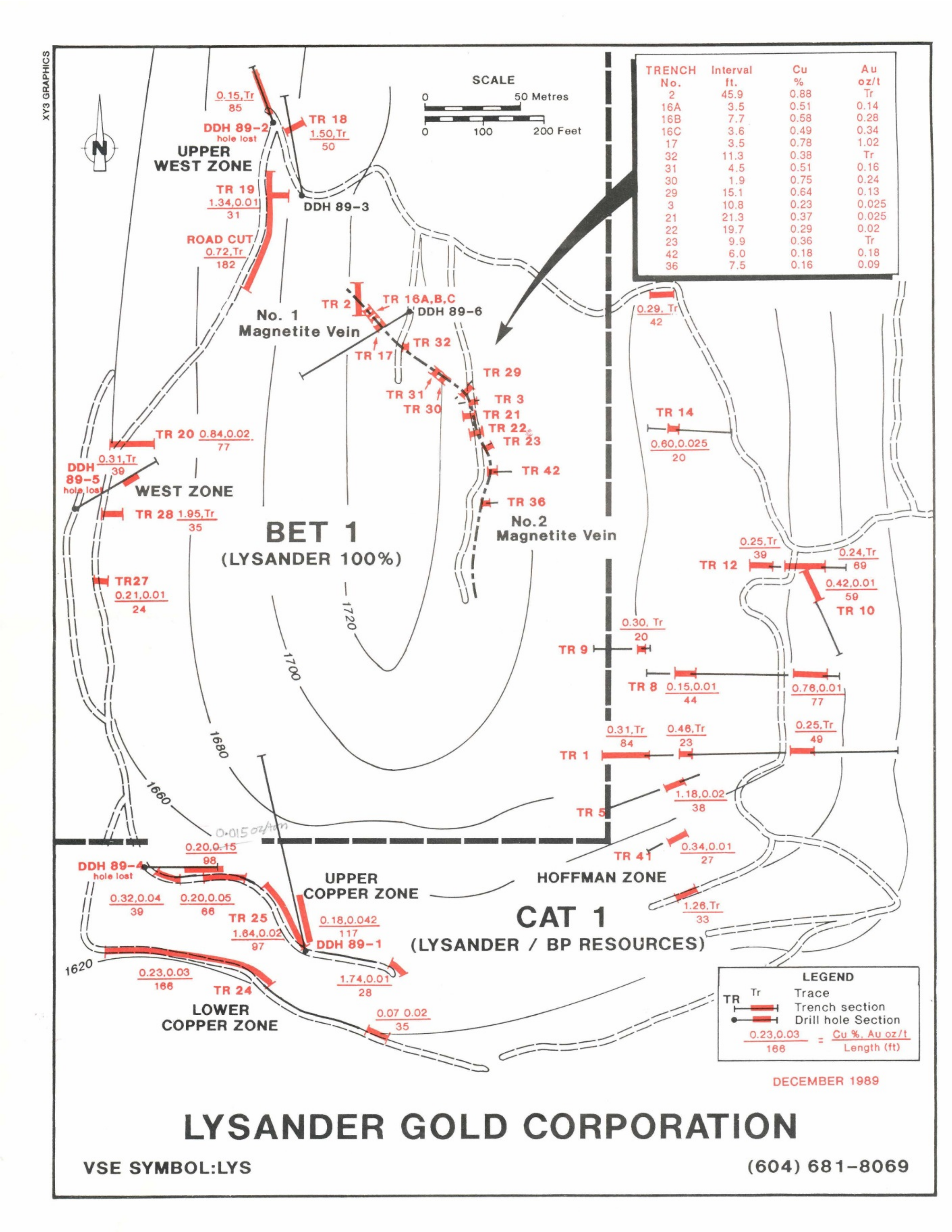
The following table shows some of the historical drill intercepts from various targets.

Table 5: Highlights of Drill hole Intercepts

Hole	From (m)	To (m)	Length (m)	Cu %)	Au (g/t)	Zone
89-1	15.10	66.10	51.00	0.17	1.01	Upper Cu
89-2	16.80	42.80	26.00	0.15	-	Bet
89-4	6.10	52.70	46.60	0.16	0.26	Upper Cu
89-5	6.70	47.90	41.20	0.10		Upper Cu
90-1	41.00	43.00	2.00	3.35	0.08	Upper Cu
90-1	7.00	129.00	122.00	-	1.10	Upper Cu
90-3	3.00	29.00	26.00	-	0.87	Upper Cu
90-3	35.00	77.00	42.00	0.88	-	Upper Cu
90-8	160.00	170.00	10.00	-	0.94	Upper Cu
94-1	3.05	102.71	99.66	0.15	1.37	Upper Cu
94-1	3.05	31.15	28.10	0.43	1.05	Upper Cu
94-4	3.05	61.00	57.95	0.15	1.15	Upper Cu
95-5	3.04	33.50	30.46	0.24	0.38	Upper Cu
04-8	3.05	42.0	39.00	0.14	1.24	Bet
04-9	3.05	30	27	0.23	0.84	Bet
05-11	8	20	12	1.01	-	Bet
05-13	8	22	14	1.01	-	Bet
05-17	24	70	46	0.24	-	Hoffman
07-18	312.7	328.2	15.5	0.22	-	Hoffman
07-19	71.9	78.2	6.3	0.19	-	Hoffman
07-21	36.1	65.8	29.7	1.11	-	Hoffman
07-24	29.3	82.7	46.4	0.31	-	Hoffman

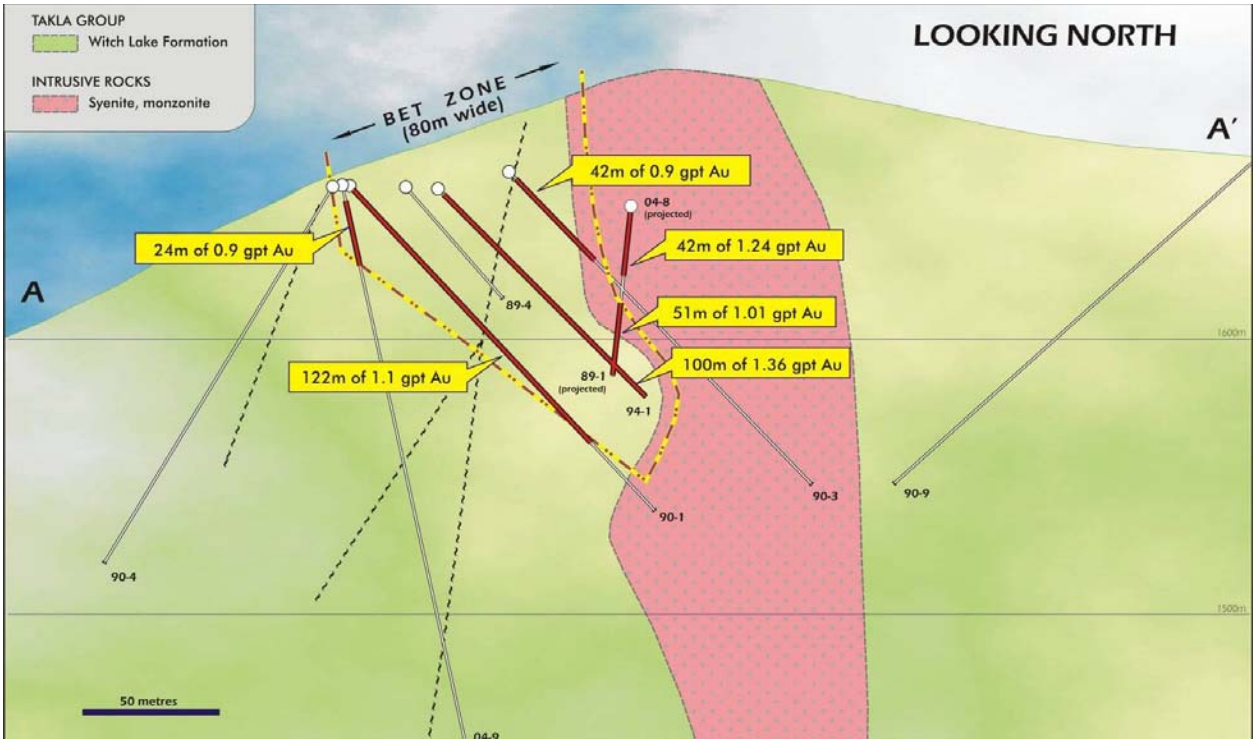
A map showing some of the historical trench and diamond drill hole intersections is shown below (Figure 4).

Figure 4: Historical Trench and Drill Results



A cross-section showing significant gold-rich drill intercepts in the Bet zone is shown below (Figure 5).

Figure 5: Bet Zone: Section 198+80N (from Lysander Minerals)



Discussion:

The Cat Mountain property has seen a history of exploration on a number of different prospect targets, including high-grade gold-bearing magnetite veins, disseminated copper-gold mineralization in altered volcanics, and veinlet and disseminated copper mineralization in altered intrusives. To date, almost 10,000 metres have been drilled in 69 drill holes on three principal zones: the Bet, the Upper Copper and the Hoffman; with a few outlying holes targeted at geochemical or geophysical targets. Drill holes range from less that 100m deep up to 600m deep; and at various orientations, as workers have sought to understand the geometry of the various zones (Figure 6 & 7).

Figure 6: Historical Drilling on Cat Mountain

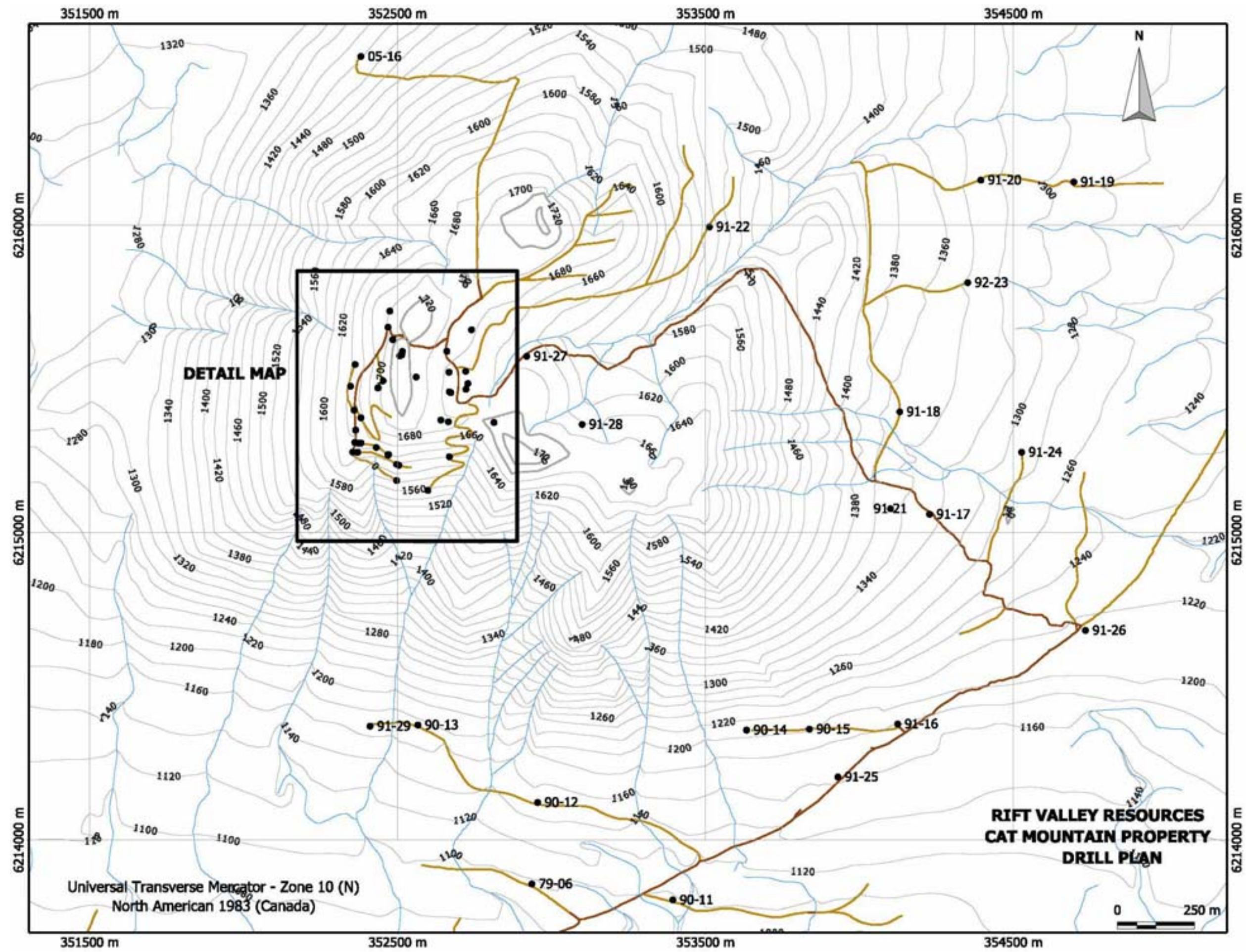
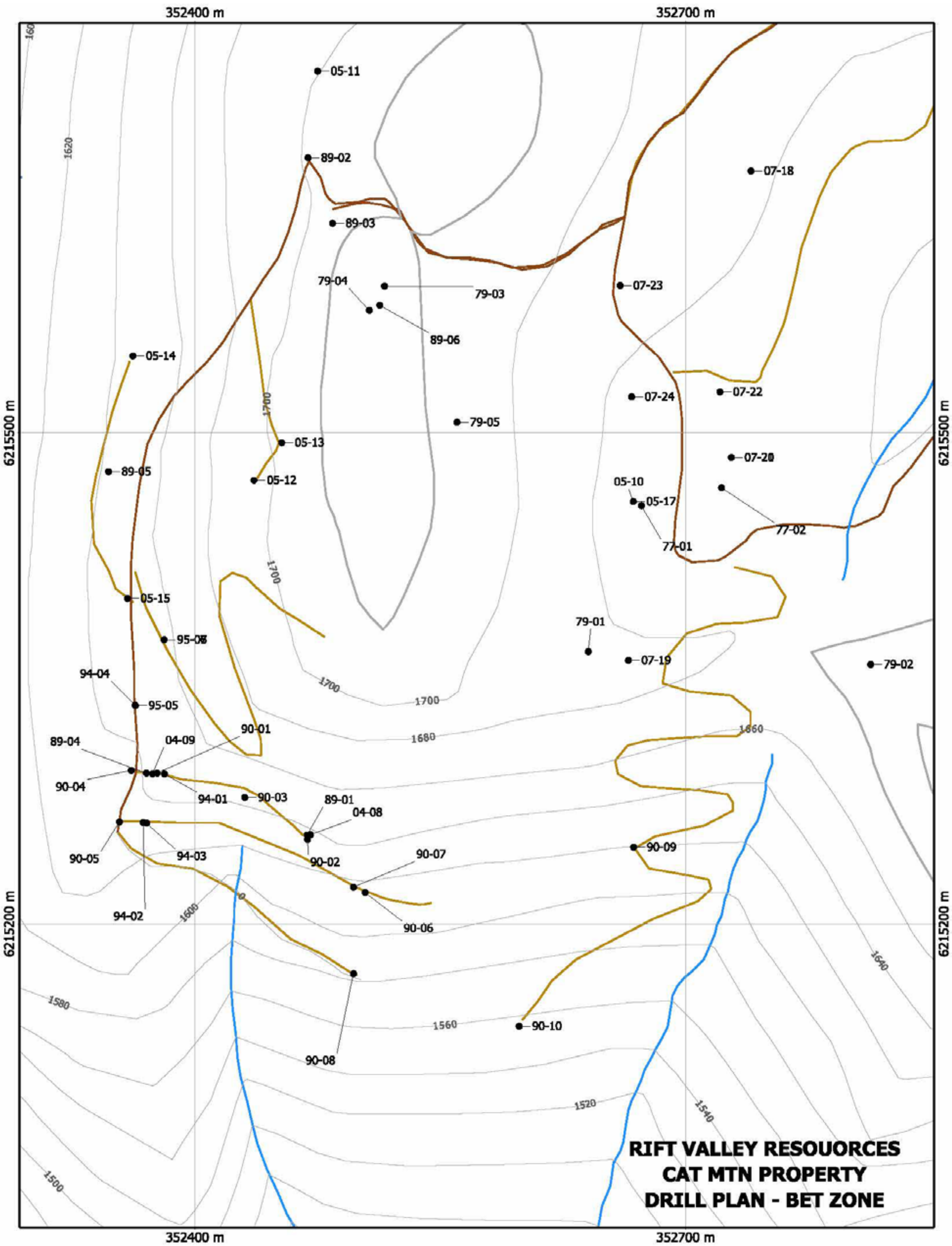


Figure 7: Historical Drill Hole Location Map: Bet Zone Detail



Work has also included extensive soil geochemical sampling and geophysical surveys. Past geophysical work comprised large-scale induced polarization, magnetometer and airborne surveys from the 1970's through to the 2005 program. Soil sampling work included several thousand samples collected from numerous grids covering much of the summit, flanks and lowlands surrounding Cat Mountain (Figure 8).

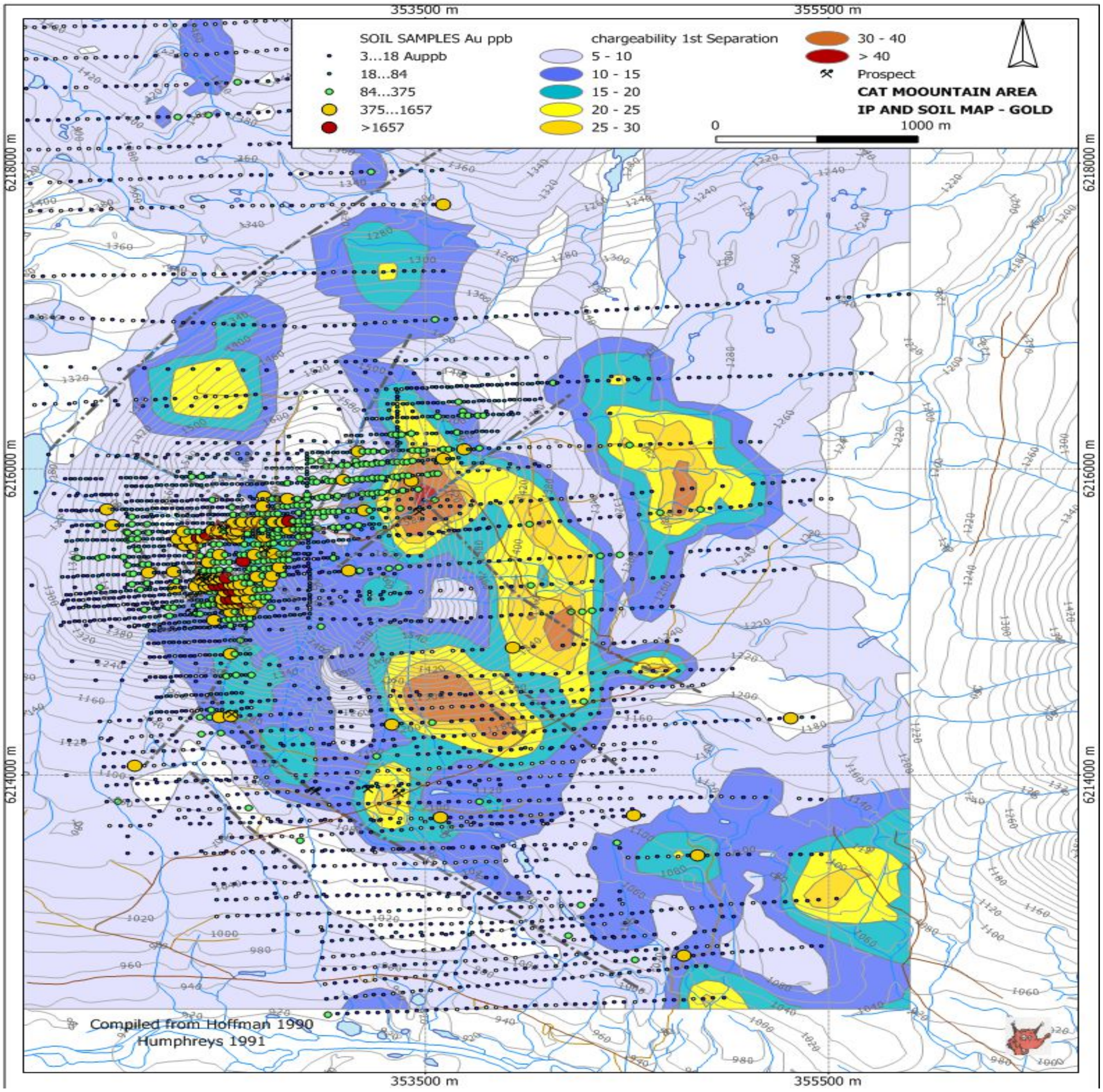
Despite the array of data there is no conclusive geological model that has been developed, and no effort yet to calculate a preliminary mineral resource on any zone. Some workers have proposed that the mineralization intersected to date more properly fits within an alkaline porphyry model typical of the district. Other workers have sought to compare the mineralization to a typical IOCG deposit (iron oxide copper-gold) based on the abundance of magnetite rimming the Cat Mountain summit.

Fox points out that much of the effort to-date has been directed to barren pyritic rocks of the Inzana Lake Formation underlying the eastern summit and the north and east slopes; and to variable and sporadic mineralized magnetite-rich volcanics along the southwest flank of the Mountain, the so-called Bet zone (Fox, 2006).

The most recent drill program (2007) focused on the Hoffman zone, a large copper-gold soil anomaly that had been tested earlier by several drill holes (77-1, 2) and several shallow trenches, and holes' 05-10 and 05-17 in the 2005 program. It was originally thought the anomaly was a large glacial dispersion train but digital compilation work done by Crest Geological in 2004 demonstrated that the exposure of intensely K-altered volcanics and syenite porphyry bodies near hole 77-2, in an area supposedly of transported glacial deposits, suggested that at least part of the Hoffman soil anomaly had a local mineralized bedrock source.

Drill holes 05-10 and 05-17 cored volcanic strata and syenite porphyry intrusions intensely altered to K feldspar throughout, and variably mineralized with pyrite, chalcopyrite and magnetite – a typical alkaline porphyry mineral assemblage, which is well developed over some 300m coincident with a small portion of the Hoffman soil anomaly (Fox, 2006). Based on the extent and intensity of K alteration and the copper mineralization in several drill holes from 2005 and 2007, the Hoffman zone has become a better defined target on the property. The 2007 drilling was the first attempt to focus solely on strike length and down-dip extension of the porphyry-related copper mineralization intersected in hole 05-17. Results were encouraging enough that additional detailed drilling was felt by Fox to be warranted.

Figure 8: IP and Soil Coverage



GEOLOGICAL SETTING AND MINERALIZATION

Regional Geology

The Cat property is situated in the north-central portion of the Quesnel Terrane, a major accretionary tectonic-metallogenic volcanic belt that extends almost the full length of British Columbia.

The Quesnel Terrane in the vicinity of Cat Mountain is underlain by Upper Triassic and Lower Jurassic Takla Group volcanic and sedimentary lithologies that are intruded by granitic plutons and satellite stocks of the northwest-elongate Late Triassic to Early Cretaceous Hogem Plutonic Suite (aka Hogem Batholith) (Figure 9).

The Hogem Batholith is a large, differentiated, multistage intrusive complex that extends a distance of approximately 170 kilometres from the Nation Lakes northwest to the headwaters of Dortatelle Creek. The batholith measures up to 40 kilometres in width. The batholith comprises alkalic and calc-alkaline intrusive rocks of different lithologies; from granite to syenite to monzonite to ultramafic and gabbrioic varieties, in part coeval with, and in part intruding, the enveloping Takla Group volcanic rocks. Small satellite stocks, dykes and sills are abundant in the Takla Group and late Paleozoic rocks (of the Lay Range assemblage) surrounding the batholith.

Along the eastern margin of the batholith the Takla Group consists mainly of dark green tuff and volcanic breccias of andesitic to basaltic composition, interbedded with flow rocks and commonly cut by pyroxene and feldspar porphyry dykes. Moderate fracturing, mild hornfelsing, and local pyritization are common features along this contact zone (Garnet, 1978). Further east Takla Group rocks are characterized by mudstone and fine laminated clastic rocks.

Rocks on the west side of the batholith belong to the Cache Creek Terrane, a large complex of Late Paleozoic to Late Jurassic deformed, fine grained, clastic marine sedimentary rocks that are in fault contact with varying intervals of limestone, serpentinized ultramafics, and metamorphic greenstone. There are coeval gabbroic to dioritic intrusive rocks of the Rubyrock Igneous Complex that intrude the sedimentary package. Outbound to the west of the Cache Creek Terrane are slivers of greenstone that belong to the Sitlika Assemblage, a metamorphic greenstone assemblage. Further west are Hazelton Group andesitic volcanics of the Stikine Terrane.

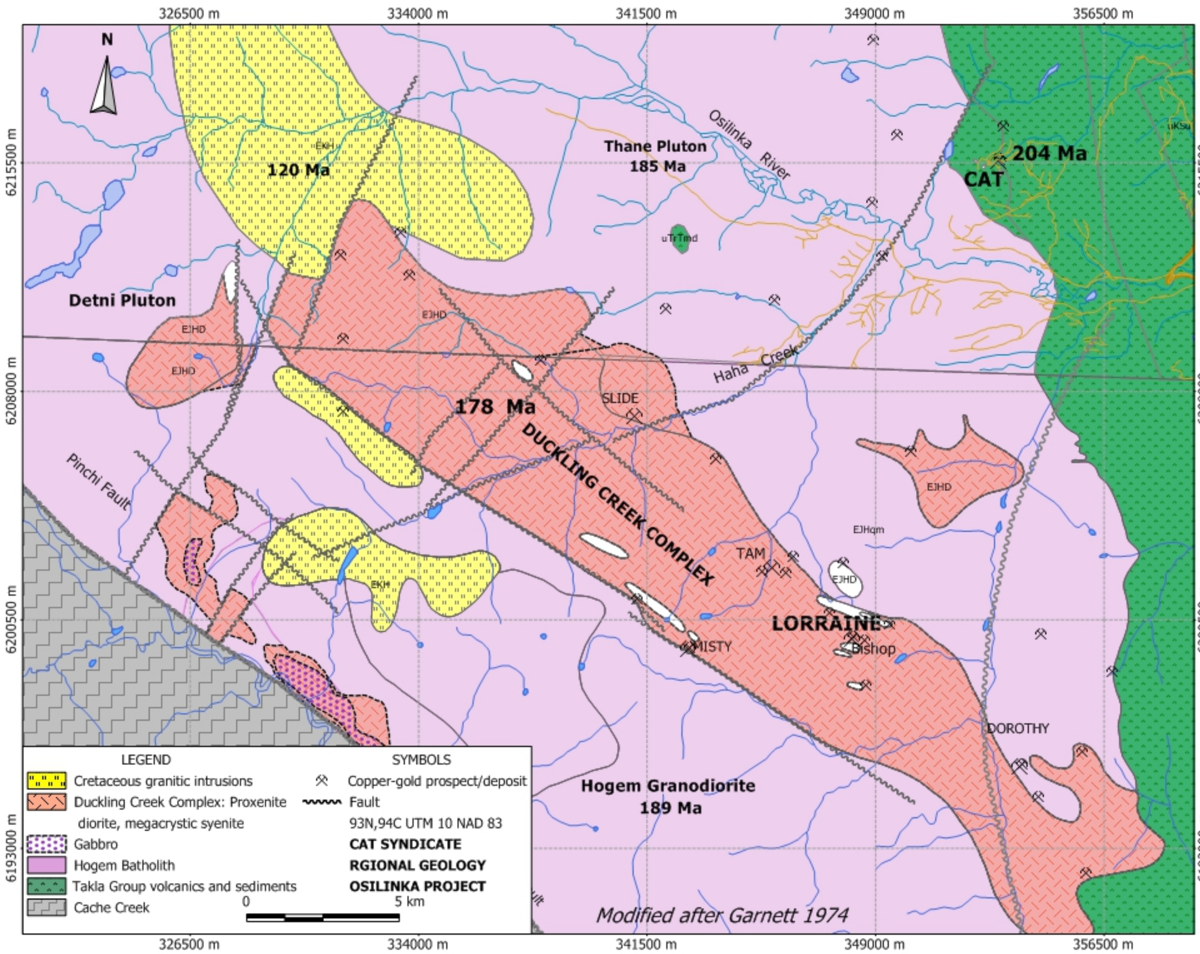
The older rocks in the region are locally overlapped by post-accretion Tertiary volcanic and sedimentary rocks.

The structural setting of the Hogem batholith and the intruded Takla Group volcanic rocks has been explained by vertical tectonics associated with graben development along major fault structures, including the Pinchi Fault and the Manson Fault (Garnet, 1978).

The Cat Mountain prospect straddles the east contact of the Hogem Batholith at the apex of a marked kink and a dramatic southward narrowing of the batholith. The deflection coincides with a narrowing of the Takla Group and a large flexure of the dominantly northwest trending Manson Fault system.

The Quesnel Terrane hosts several calc-alkalic porphyry copper-molybdenum and alkalic porphyry copper-gold-silver deposits throughout its length. Examples of alkalic past and present producing mines include Copper Mountain, Afton and Mt. Polley, as well as a number of deposits that have reached advanced stages of exploration such as Galore Creek. Deposits in the region that are likely also related, but are more of a calc-alkaline character, are represented by the Red-Chris deposit, the Kemess Mine deposits and the Mt. Milligan deposit. The Lorraine copper deposit lies 25 km to the south and the large Mt. Milligan Cu-Au deposit is situated 250km to the south just east of Nation Lakes.

Figure 9: Regional Geology Map



Property Geology

There are various descriptions and maps showing the local property geology that have derived over time from trenching, drilling, industry mapping and government survey mapping. Not all descriptions agree on the nomenclature of the main units. A generalized geology map of the main showing at the summit of Cat Mountain is shown below (Figure 10).

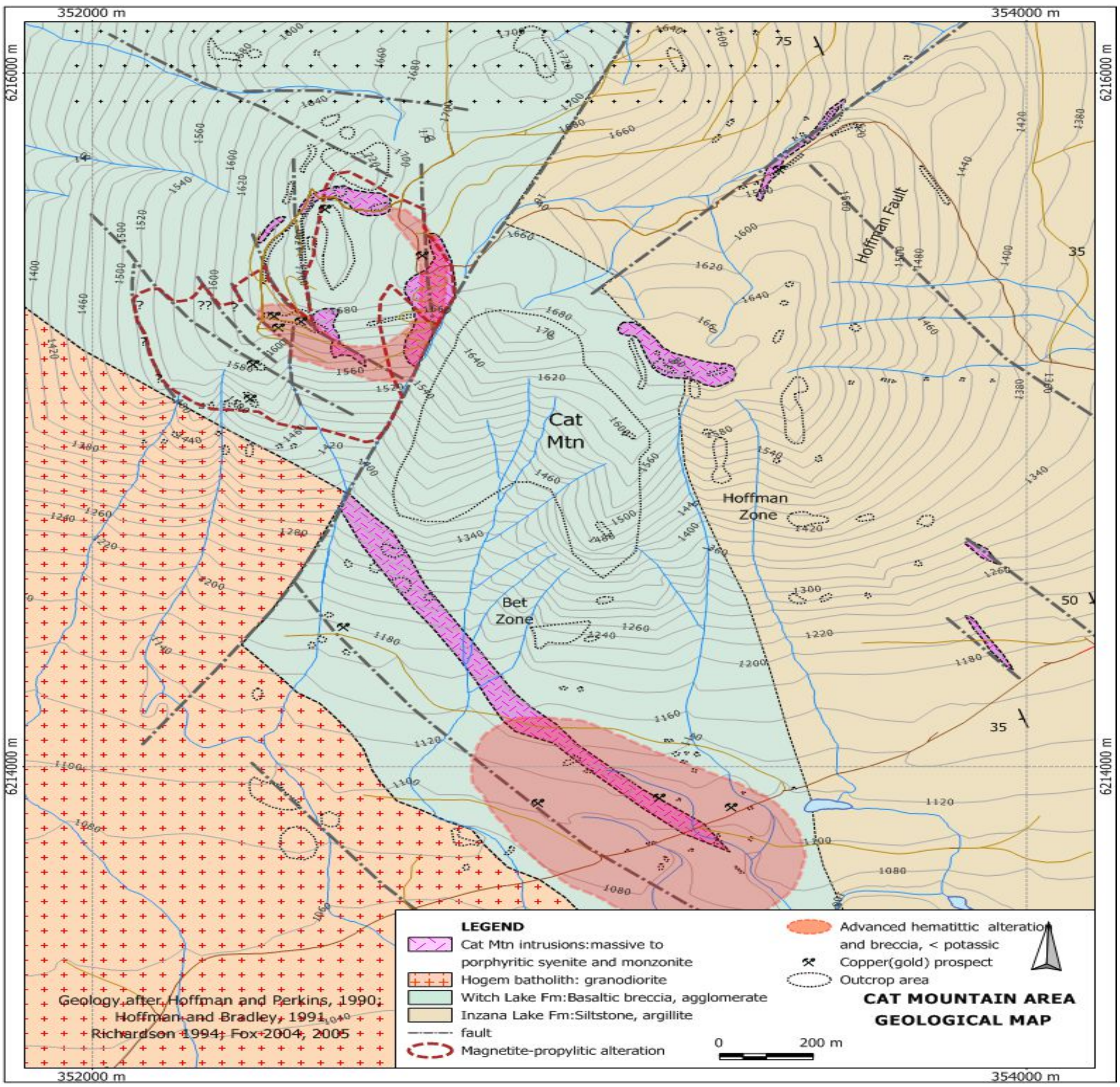
In general agreement is that the center of the property is underlain by an assemblage of Takla Group basaltic breccias and coarse pyroclastic rocks (Unit 1) that are intruded by small, syenitic intrusions of the informally named “Cat Mountain Intrusive Suite” (Unit 3). The latter comprises porphyritic syenite and monzonite and local megacrystic phases that form irregular dikes and small stocks in a roughly circular pattern (Fox, 2006). A large monzodiorite body of the Hogem Batholith (unit 2) in present in the southwest corner of the claims.

Volcanic rocks include augite basalt porphyry, and trachyandesite pyroclastics including ash and lapilli tuffs and epiclastics. The volcanic rocks have been variably assigned to the Upper Triassic Plughat Mountain Formation (Takla Group) and the Witch Lake Formation (Takla Group).

North, northeast and east-west directed shear and brittle fault zones transect all units and appear to have controlled emplacement of intrusions. A major northwest-striking fault that follows Anomaly Creek bisects the property and strikes 040° and dips 60° degrees NW. Other, less prominent faults and shear zones strike north, north-northeast and northwest. Some of these faults appear to postdate alteration and mineralization (the Anomaly Creek fault) while others are mineralized. High-angle faulting, striking approximately north and northwest (015° to 315°) and dipping 75° to 90° east, may be the major control on quartz-calcite and quartz-magnetite veins that are known to carry copper and gold mineralization.

This suggests a complex faulting history which may involve reactivation of early and possibly syn-intrusive structures. North trending fracture zones appear to control Cu-Au mineralization and locally k-feldspar alteration. Weak propylitic alteration is widespread in the volcanics and locally overprints potassic alteration. The magnetite lode that attracted early prospectors is found along the footwall and hanging wall faults that are believed in part to bind the Bet zone. Several magnetite veins of varying width up to 0.5 metres carry chalcopyrite. Minor disseminated chalcopyrite, molybdenite, tourmaline and specular hematite are found in syenite porphyry exposed in the trenches.

Figure 10: Generalized Geology Map

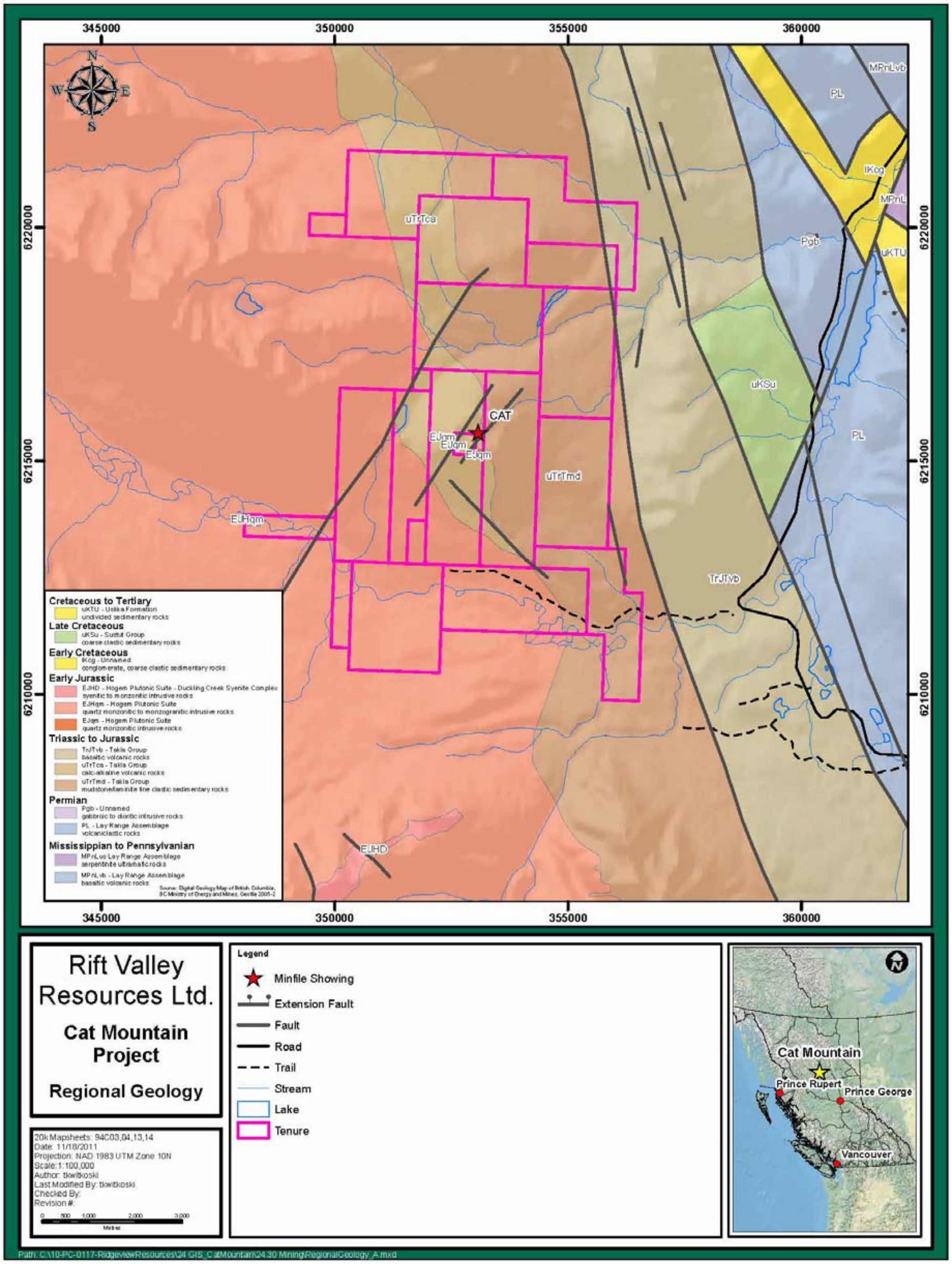


A more regionalized property map (Figure 11) shows the claims underlain to the west by a large lobe of Early Jurassic quartz diorite to monzonitic to monzogranitic intrusive rocks of the Hogem Batholith. In the center is an elongate north-trending assemblage of Triassic to Jurassic calc-alkaline fragmental basaltic volcanic rocks of the Witch Lake Formation of the Takla Group, intruded by small bodies and dykes of quartz monzonite porphyry that are satellite bodies of the Hogem Batholith.

The Witch Lake rocks are plagioclase-clinopyroxene/magnetite rocks commonly comprised of compact coarse breccias and local thin bedded tuff. To the immediate east is a northerly trending sliver of bedded and westerly dipping Triassic to Jurassic argillite, siltstone and laminated fine clastic sedimentary rocks of the Inzana Lake Formation of the Takla Group, that underlie the Witch Lake rocks, and are notably pyritic and locally graphitic.

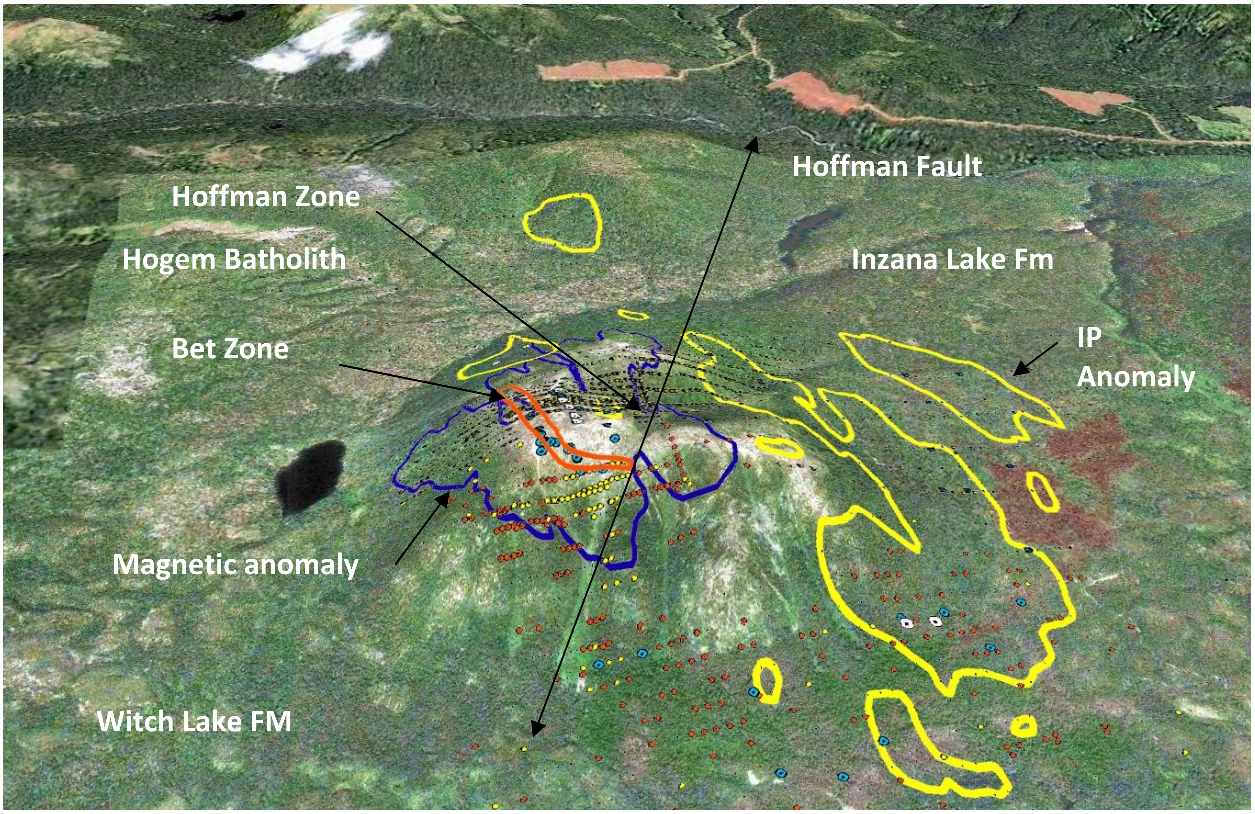
Further to the east is a co-eval sequence of basaltic volcanic rocks of the Takla Group, bounded to the east by a sequence of coarse clastic sediments of the Late Cretaceous Sustut Group.

Figure 11: Regionalized Property Geology Map (BCGS data source)



The major rock units and known zones of Cat Mountain are depicted on a satellite image below; overlain with magnetic and IP anomalies.

Figure 12: Cat Mountain Satellite Image



Mustard in his 1975 assessment report (Mustard, 1975) provided a detailed description of the rock units that outcrop (or were exposed in early trenching) on Cat Mountain; which is excerpted and provided below (with minor edit):

Description of Units:

Takla Volcanics (Upper Triassic)

Augite Andesite/Basalt Porphyry:

This unit is found in the north and south central sections of the property. The porphyry is commonly recessive, moderately fractured and moderate to strongly magnetic. It varies from dark gray to very dark green in color, contains up to 15% feldspar "microlites" moderately altered to sericite and, occasionally amygdules infilled with calcite, zeolite and epidote. Augite porphyry is pervasively weak to moderately epidotized and chloritized. The unit is composed of 50% augite euhedra, weakly altered to chlorite, set in a very fine-grained matrix. Disseminated fine-grained pyrite averages 1% in the unit but can vary 3-5%. Pyrite is also found in vugs, as disseminated blebs and as fracture fill. In the trenches, augite porphyry is strongly fractured and healed with k-feldspar, quartz and calcite veinlets. It is pervasively strongly epidotized and chloritized and weakly silicified except adjacent to quartz magnetite veins, where it is strongly silicified and chloritized. Quartz veinlets are more numerous in the east of the trenches with k-feldspar veinlets most numerous in the west. Disseminated fine-grained pyrite varies 1-3% locally and fracture fill pyrite is occasionally found in concentrations of 2 mineralized fractures per square foot.

Andesite Ash tuff:

This unit is restricted to the eastern edge of the property, although non-pyritiferous ash tuff is occasionally found as minor intercalations in augite porphyry and as intercalations and fragments in andesite-basalt agglomerate. The ash tuff is characteristically medium to dark green, strongly fractured, non-magnetic and very recessive. The matrix is fine-grained and pervasive, weakly altered to chlorite and epidote. In minor part, ash tuff contains weakly sericitized "microlites" and subrounded phenocrysts of feldspar. One outcrop is strongly silicified throughout and contains 1% fine-grained disseminated pyrite. In some outcrop the unit contains lapilli size subrounded fragments of augite porphyry and argillite. Ash tuff contains an average of 1% disseminated pyrite, variable 0-3%. In the southeast of the property the unit is weak to moderately limonitized and contains approximately 2% disseminated pyrite. A single outcrop in this area is strongly fractured and healed with quartz veins (~20/m), containing blebs of pyrite and possible admixed fine-grained chalcopyrite.

Andesitic Lapilli tuff:

Lapilli tuff is located in the south central and southwest of the property. It is moderately to strongly fractured, massive, weakly magnetic and dark gray to green in color. The tuff contains 60-70% subrounded fragments of augite porphyry and 10-20% fine-grained flow or ash tuff. The unit is pervasively weakly chloritized and epidotized, more strongly so where local to quartz and magnetite veins. Lapilli tuff is characteristically compact except in minor outcrop near the contact with syenite porphyry, where it is strongly altered, vuggy and contains amygdules infilled with zeolite, quartz and acicular tourmaline (?). Pyrite content averages 1% as irregular blebs and fine-grained disseminations. In the eastern contact zone with syenite porphyry, the tuff is cut by several quartz-magnetite veins, and locally contains 3% disseminated fine- and coarse-grained pyrite and is moderately limonitized throughout.

Andesite-Basalt Agglomerate:

The agglomerate unit is located in a northwest elongate zone in the south center of the property. It is characteristically dark green in color, massive and weakly to moderately magnetic. Agglomerate is moderately fractured throughout, shows well preserved joint faces and weathers to a medium gray, angular outcrop. The unit contains approximately 70% subrounded fragments of augite porphyry varying in size from 10 to 100 cm in diameter, and occasional fragments of ash tuff and altered diorite(?) porphyry less than 10 cm in diameter, set in a fine-grained matrix. The agglomerate is weakly chloritized and epidotized throughout. Agglomerate shows k-feldspar flooding local to k-feldspar veins and syenite (?) porphyry; and weak silicification adjacent to quartz veins. The unit contains minor disseminated pyrite throughout and approximately 5% disseminated fine- and coarse-grained pyrite local to zones of quartz, calcite and k-feldspar veining.

Intrusive Rocks:

Hogem Batholith (Jurassic or older)

Hornblende Diorite

Diorite occurs in the south and southwest sections of the property. The unit is poorly exposed in a northwest elongate zone which coincides with a northwest elongate 1750-4000 gamma magnetic "high". Diorite is massive, moderately fractured, moderately magnetic and dark gray-green in color. It is composed of 50% subhedral and anhedral hornblende phenocrysts, 5-10% fine- to medium-grained biotite and 30-40% interstitial plagioclase. The unit is moderately epidotized throughout; hornblende is moderately altered to chlorite and in part to biotite, and feldspar is moderately altered to epidote and sericite (?). In the south, diorite is frequently cut by k-feldspar veins in epidotized fractures, enveloped for several centimetres outwards by salmon pink colored diorite with green mafics. The pink coloration is due to secondary k-feldspar but in some samples the pink mineral is plagioclase. In the southwest, diorite has been intruded and strongly altered by granite. Mafics are strongly altered to chlorite and biotite, fine-grained, interstitial, secondary k-feldspar is abundant and magnetite content is reduced to 1%. The unit contains variable amounts of fine-grained and blebby pyrite up to 2%. Magnetite content is commonly 10%, occurring as blebs disseminated in hornblende phenocrysts; less commonly interstitial to mafics.

Syenite Porphyry:

This unit is found in the east intruding lapilli tuff and as small dykes scattered about the property. It is moderately fractured, non-magnetic, medium gray-green in color, massive and recessive weathering. Syenite porphyry contains 30-40% generally euhedral, medium-grained, lath and subrounded k-feldspar phenocrysts; 5% (variable up to 20%) euhedral plagioclase phenocrysts and 10-15% fine-grained, subhedral hornblende, in a matrix of very fine-grained feldspar. Feldspar phenocrysts are moderately altered to clay or sericite and hornblende is altered to chlorite. In minor outcrop this unit is pervasively-moderately silicified and sericitized. Pyrite content in syenite porphyry is variable up to 1% as blebby and fine-grained disseminations.

Altered Syenite Porphyry:

This unit appears to be an altered version of the unit above and is restricted to the trench area of the property. The porphyry is very recessive, moderately to strongly fractured, massive, moderately magnetic and medium to dark gray pink in color. It contains 40-50% subhedral and anhedral, medium-grained, stubby and subrounded k-feldspar phenocrysts, 5-15% anhedral hornblende and 1-10% fine-grained quartz eyes in a matrix of very fine-grained gray k-feldspar. The k-feldspar phenocrysts are mainly salmon pink in color (lending an overall pink cast to the rock) and moderately altered to sericite. Hornblende is moderately to strongly altered to chlorite. It is possible that syenite porphyry was moderately metasomatized by a granite stock (?) exposed to the southwest of the trenches. The syenite porphyry is pyrite deficient but contains 1-5% blebby magnetite throughout. Fracture fill quartz veinlets were noted to carry hematite and magnetite.

Granite:

A mass of granite is partially exposed in the southwest of the property. It intrudes and underlies hornblende diorite, large fragments of which are preserved in minor outcrop of intrusion breccia, in the contact zone. The granite is variable in composition to quartz monzonite and granodiorite in part, over narrow zones within the unit. It is massive, non-magnetic, weak to moderately fractured and jointed, medium pink in color and weathers to blocky talus and bold, angular outcrop. The unit is fine- to medium-grained equigranular and composed of 20% (varying 5-25%) medium-grained interstitial quartz, 5% euhedral to subhedral k-feldspar, 10% (varying 5-20%) generally euhedral plagioclase, 5% fine-grained hornblende and minor fine-grained biotite. Hornblende is weakly altered to chlorite and plagioclase is moderately altered to sericite. The unit is deficient in sulphides but minor tourmaline was noted in 2 quartz veins.

Structure:

Regional structure in the Omineca Mountains follows a northwest trend but does not significantly control local tectonic "grain" on the CAT claims. A prominent fault (Anomaly Creek) marked by a creek gully in the northeast, strikes 40° and dips 60° northwest and appears to transect the property. This structure does not seem to have influenced emplacement of mineralization but may have controlled the intrusions. High angle faulting striking north (variable 15° east and west) and dipping 75°-90° east has provided strong control for quartz-calcite and quartz-magnetite veins carrying copper and gold mineralization. A high angle, northeast trending shear zone has localized quartz-calcite veins containing specular hematite and copper mineralization. Radial fracturing was noted in the vicinity. No significant structure was observed in the intrusive units. No bedding attitudes were exposed in volcanic units.

Alteration:

Pervasive, weak chlorite and very weak epidote alteration occurs throughout the Takla Group volcanic rocks. Moderate to strong chloritization of the volcanics occurs in shear zones. Local veinlets of chlorite are not uncommon. Large areas of limonite staining appear to be related to zones of fault-controlled ankerite carbonatization and/or pyritization, containing ankerite, carbonate and lesser quartz-chalcedony veins. The alteration zones commonly are associated with, or cut by, syenite porphyry dykes. Pyrolusite veins and wad were noted within the ankerite zone. Syenite porphyry dykes are weakly to moderately altered to sericite, carbonate and chlorite. Augite porphyry basalt on Thane Creek has been pervasively weakly to moderately silicified, sericitized, pyritized and cut by quartz ± pyrite veins. An angular talus block of feldspar (hornblende) syenite porphyry is pervasively weakly to moderately epidotized. Epidote-carbonate veins occur with banded, drusy carbonate-ankerite veins, in a shear zone.

MINERALIZATION

Much of the exploration effort has been focused on the summit of Cat Mountain at or near the discovery zone of gold and copper bearing magnetite veins in 1957. Since that time a number of drill holes and trenches have tested a large area of variably mineralized rock that measures some 700 x 400 m and is associated with a ring dike complex of porphyritic monzonite and syenite.

The overall mineralized zone consists of brecciated volcanics of the Witch Lake unit variably altered to actinolite, chlorite, magnetite, biotite, prehnite, carbonate, pyrite and, proximal to the Cat Mountain intrusions, with variable amounts of reddish fine grained K feldspar forming a distinctly mottled green, gray and pink rock. Well-developed zones of potassic K feldspar/magnetite alteration form an arcuate zone in part coincident with bodies of monzonite and syenite of the Cat Mountain intrusions.

These zones comprise the Bet and Hoffman mineralized zones. Northwest-trending sulphide-rich veins cut mineralized rocks of the Bet zone and lie along the western slopes of Cat Mountain. The Hoffman fault truncates the mineralized units along the east edge of the Hoffman zone. Elsewhere northwest faults are common and disrupt and locally truncate mineralized rocks within the Bet zone.

Three types of potential economic mineralization have been noted on the Cat Mountain property:

- Gold-silver-copper in quartz-magnetite veins
- disseminated copper mineralization
- fracture-fill gold-copper mineralization

a) Mineralized Veins

Massive magnetite and quartz-magnetite veins from 0.1 to 1.5 metres in width are exposed in the trenches in the west center of the property and at 3 locations in the east center of the property. All of these veins are iron stained and in part weathered to gossan and minor boxwork of limonite and quartz. The veins in the east appear to contain only minor amounts of blebby chalcopyrite, pyrite and malachite. Magnetite veins in the trenches carry irregular knots, blebs and fine-grained disseminations of chalcopyrite, pyrite and minor bornite. The veins trend north to northwest along brittle fracture zones in k-feldspathized augite porphyry basalt with epidote-quartz-magnetite selvages.

The "No. 1" and "No. 2" magnetite veins are located on a ridge northwest of the upper trench area. The veins are up to 0.6m wide. The "No. 1" vein strikes approximately 315° and dips 77° northeast. The vein is composed of magnetite-quartz with limonite boxwork and contains blebby visible, gold, chalcopyrite, tetrahedrite (?), and cuprite. The walls of the vein are strongly chloritized, grading outward into epidote veinlets containing chrysocolla and peripheral propylitically altered augite porphyry. The "No. 1" vein contains visible gold and has returned assays up to 548 g/t Au. More typical assays are 0.49% Cu and 11.7 g/t Au over 1.1 m and 0.58% Cu and 9.6 g/t Au over 2.3 m.

A one metre wide quartz-carbonate vein exposed 160 metres to the west contains massive chalcopyrite and pyrite, malachite, minor tetrahedrite (?) and some blebs of magnetite and specular hematite. Numerous fracture fill quartz-calcite veins and veinlets in a shear zone contain massive specular hematite with minor blebs of chalcopyrite, bornite and chalcocite (?), with malachite alteration.

b) Disseminated Mineralization

Minor amounts of disseminated fine-grained and blebby chalcopyrite, associated with disseminated magnetite and pyrite, is found in altered augite porphyry in several trenches. Vein type mineralization occurs nearby. Altered lapilli tuff contains up to 2% admixed fine-grained pyrite and chalcopyrite.

c) Fracture-Fill Mineralization

Fracture-fill chalcopyrite, sometimes with pyrite or magnetite-specular hematite, occurs in average concentrations of 3 mineralized fractures per square metre, local to and sub-paralleling most vein type mineralization. Malachite-chalcopyrite-pyrite-bornite+magnetite veins, with associated k-feldspar and epidote alteration, commonly occupy north trending shear and fracture zones within augite porphyry basalt. The basalt is potassic altered and contains disseminated pyrite, chalcopyrite and bornite. Copper minerals include native copper, cuprite, chalcopyrite, tetrahedrite, bornite, chrysocolla, azurite and malachite. Extensive trenching on the summit of Cat Mountain has identified widespread copper zones; e.g. Trench 53 contained 0.65% Cu over 59 m and Trench 45 had 2.07% Cu and 1.37 g/t Au over 15 m. Drill hole 90-1 had an intercept of 0.12% Cu and 1.23 g/t Au over 74 m.

DEPOSIT TYPES

There have been several attempts to generalize the differing types of copper ± gold mineralization on Cat Mountain into a holistic deposit model. To-date there is no definitive property-specific geological model that has been developed. Deposit types in the area are primarily alkalic porphyry copper-gold deposits related to the syenitic Duckling Creek phase of the Hogem Batholith.

The Hawk (MINFILE 093N 171) and Cat Mountain (MINFILE 093N 069) prospects are gold-bearing magnetite veins that have been considered more traditionally as vein-related rather than alkalic porphyry. But features of the Cat Mountain prospect, or at least some zones; like the Bet and Hoffman zones, fit a more traditional albeit transition porphyry model.

Recently Fox et al (2012) have proposed that the Bet Zone may host a relatively high gold (~1 g/t Au) and low Cu (0.1% Cu) porphyry-related deposit, hosted in altered rocks of the Witch Lake Formation in close proximity and associated with the emplacement of a high evolved subvolcanic syenite intrusive. In all likelihood the mineralization identified on Cat Mountain fits into a transitional model, from vein setting to alkalic porphyry copper-gold setting. Features that fit this model are:

- Propylitic alteration predominates, and hydrothermal K alteration is poorly developed to absent
- Gold is generally associated with "advanced" propylitic alteration in hematized breccia zones near intrusions and faults

- Rocks are rich in carbonate, high in calcium and total iron
- Geochemical zoning provides useful guides to shallow (Fe, Au, Co, Mn) and deep zones (Mo, W, Ag, Pb, Zn).

In general, alkaline porphyries are diverse mineralizing systems that can be commonly associated with small, complex, diorite to syenite plutons, and can be co-magmatic with the enclosing host rocks. Ore is generally hosted in the intrusions and immediate wallrock, occurring in zones of intense structural preparation and hydrothermal alteration, including K-feldspar and biotite, fringed by more diffuse and enlarged propylitic zones. The central copper ore bodies commonly grade outward into metasomatic or skarn deposits.

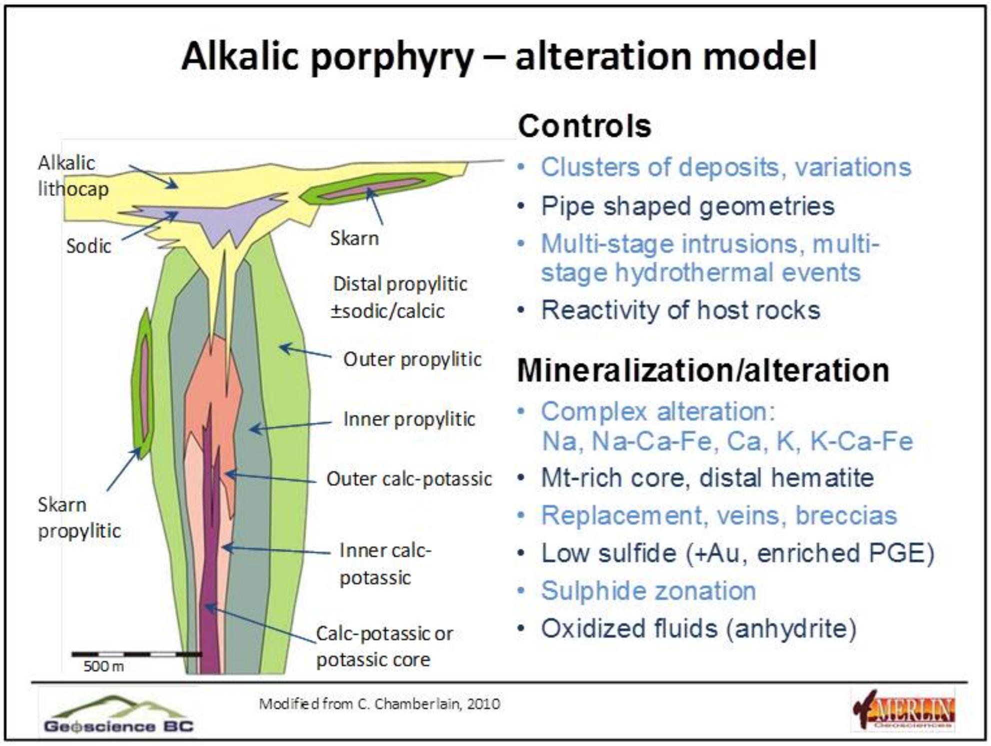
Alkalic porphyry deposits in BC are typically characterized by stockworks, veinlets and disseminations of pyrite, chalcopyrite, bornite and magnetite in large zones of bulk-mineable mineralization, in or adjoining porphyritic intrusions of diorite to syenite composition. The mineralization is typically spatially, temporally and genetically associated with hydrothermal alteration of the intrusive bodies and host rocks.

A generalized alteration model of an alkalic porphyry deposit is shown in the figure below (Devine, 2011). Typical features include:

- Pipe shaped geometry
- Multistage intrusive events with accompanying and increasingly complex multi-stage hydrothermal (and over-printing) alteration assemblages
- Potassic core enveloped by Propylitic zones
- Magnetite-rich core can be useful for detection by airborne-ground geophysical methods
- Low-sulphide content but distinctive sulphide zonation evident

British Columbia alkalic porphyry deposits range from <10 to >300 Mt and contain from 0.2 to 1.5 % Cu, 0.2 to 0.6 g/t Au and >2 g/t Ag. Median values for 22 British Columbia deposits with reported reserves (with a heavy weighting from a number of small deposits in the Iron Mask batholith) are: 15.5 Mt with 0.58 % Cu, 0.3 g/t Au and >2 g/t Ag (Panteleyev, 1995).

Figure 13: Alkalic Porphyry Model - Alteration Assemblages (Devine, 2011)



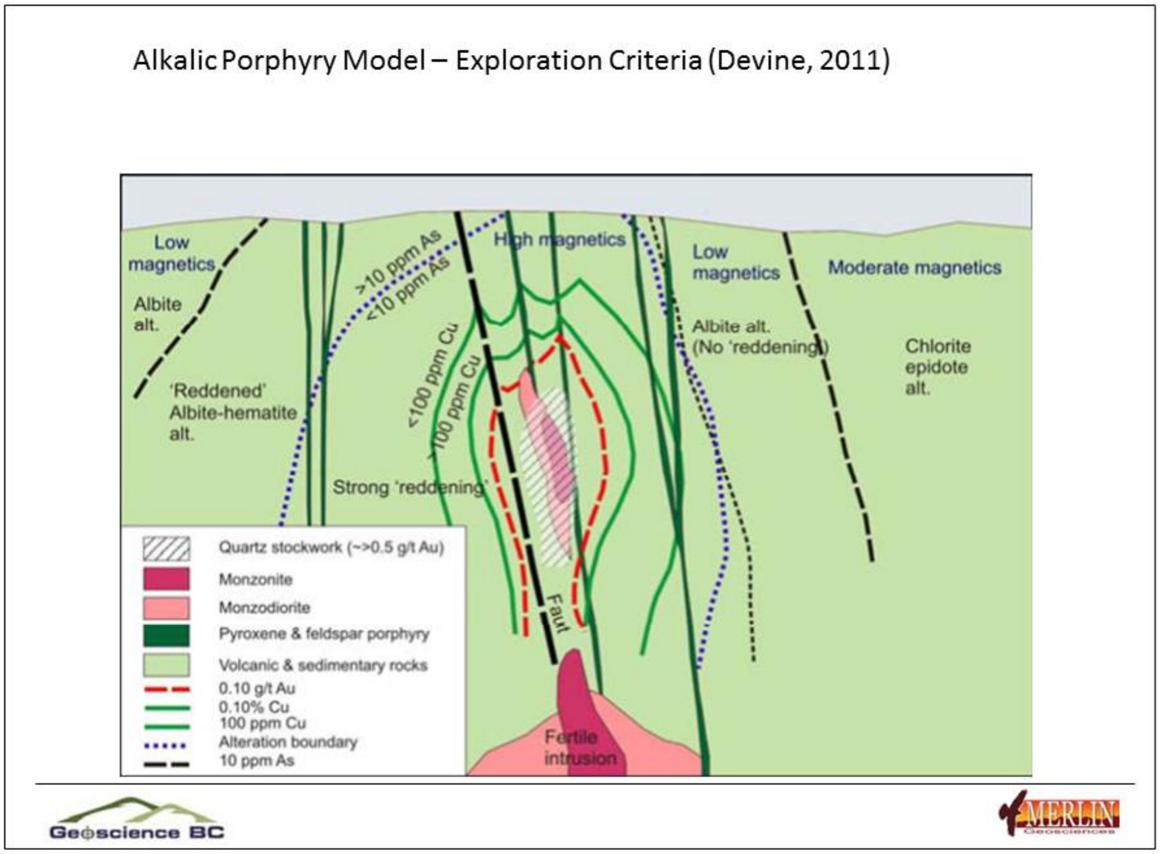
Alkalic porphyry deposits are often found in Late Triassic and Early Jurassic volcanic arc terranes in which emergent subaerial rocks are present (Panteleyev, 1995). They are typically marked by large-scale, zoned metal and alteration assemblages; with a central core with higher Au/Cu ratios than the margins. The presence of hydrothermally altered rocks if found through mapping and prospecting can be used to locate mineralized intrusive centres.

Soil, rock and silt and organic geochemistry are effective means for detecting buried deposits. Elevated Cu-Au-Ag±Mo signatures can help vector towards mineralization, and elevated pathfinder elements such as Ti, V, P, F, Ba, Sr, Rb, Nb, Te, Pb, Zn, and PGE can help identify anomalism associated with buried deposits. Leaching and supergene enrichment effects can be slight and surface outcroppings normally do not indicate significant copper remobilization. Secondary mineral, when present, are useful guide for exploration, including malachite, azurite, and copper oxide.

Ore zones, particularly those with high Au content, are frequently found in association with magnetite-rich rocks and can be located by magnetic geophysical surveys. Pyritic haloes surrounding cupriferous rocks respond well to induced polarization surveys. The more intensely hydrothermally altered rocks produce resistivity lows. Radiometric surveys can assist with detection of large potassic alteration zones.

Exploration criteria are schematically shown on Figure 22 below (Devine, 2011).

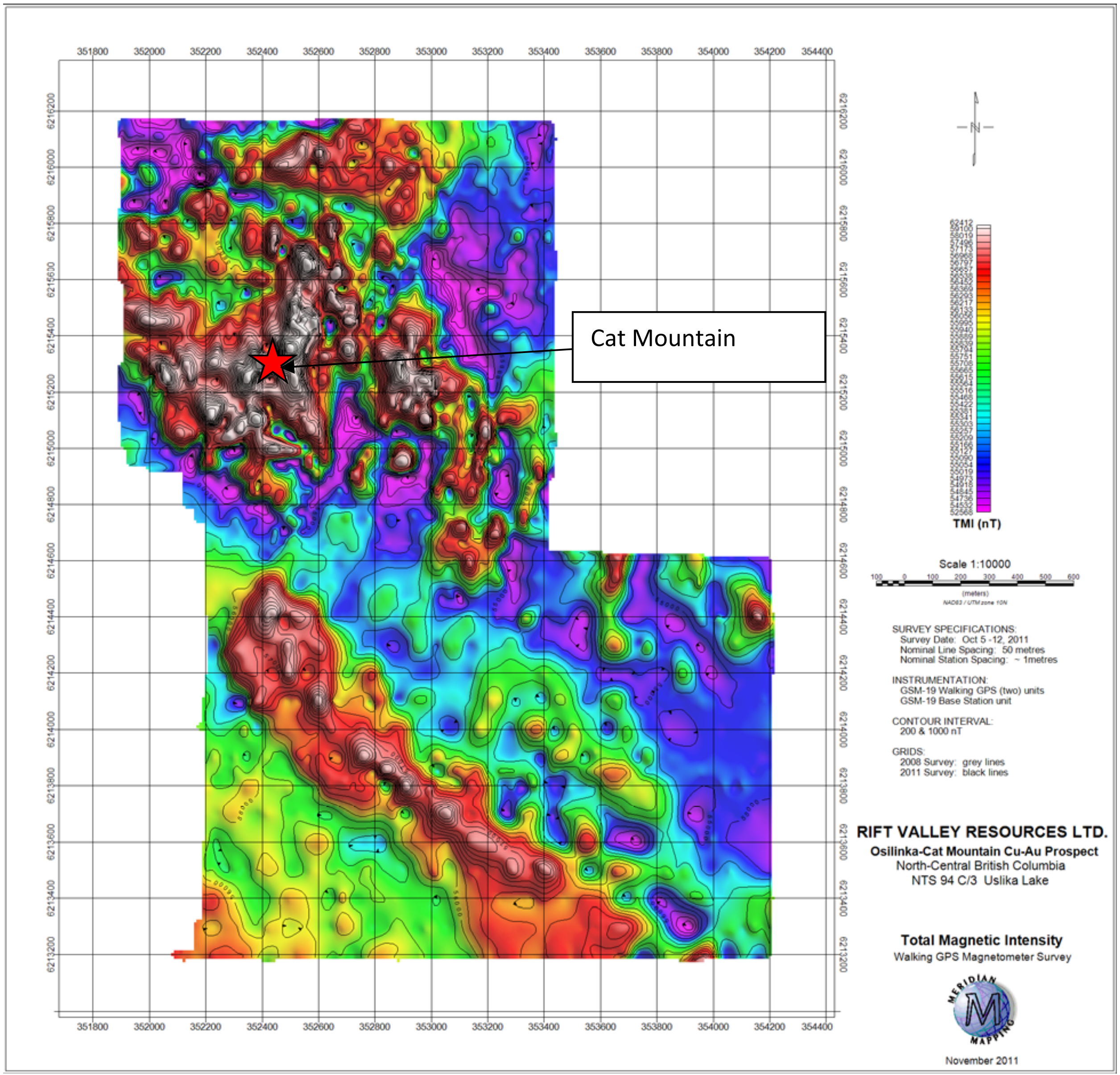
Figure 14: Alkalic Porphyry Model: Exploration Criteria



EXPLORATION

Rift Valley has not completed any exploration on the Cat Mountain property since acquisition. Don Bragg (representing the vendors) completed a modest, one week ground magnetometer survey in October, 2011 on the southern slope of Cat Mountain. The work tied in to the 2008 ground magnetometer survey completed by Cadillac Mining. The merged map, showing total field magnetics, is shown below. The author was onsite during this survey.

Figure 15: Total Field Magnetics (2008 & 2011 Surveys)



DRILLING

Rift Valley has not completed any drilling on the Cat Mountain property but anticipates drilling select targets in 2012; after completion of deep 3D IP geophysics. Historical drilling has been described previously.

SAMPLE PREPARATION, ANALYSES AND SECURITY

Rift Valley has not completed any sampling on the Cat Mountain Property. The author collected one sample on a short reconnaissance property inspection in October, 2011 on Cat Mountain, from a well-sampled and previously described trench on Magnetite # 1 vein. The result confirms previous sampling on the same trench. Inclement weather and an early snow-fall prevented a more substantial inspection of the workings and more detailed check sampling of the mineralization at Cat Mountain.

The author is of the opinion that previous historical sampling (as described in numerous assessment reports identified in the Reference section below) was done to the standard of the day. More recent work by Lysander Minerals and Cadillac Mining (since 2004) included quality control measures introduced into the sample stream that are now standard protocol for exploration, including the use of blanks, commercially prepared standards, and duplicates; and proper chain of custody for sample handling.

Rift Valley will have to prepare an internal Quality Control/Quality Assurance protocol for future exploration prior to any field sampling.

The most recent core drilling was done in 2007. Sampling was by standard half core sawing. Analysis was done by Acme Analytical Laboratory of Vancouver BC by standard analytical methods (IDX-15). Acme is a certified laboratory and neither the property vendors nor the principals of Cadillac had any relationship with the laboratory.

DATA VERIFICATION

The author has taken a confirmatory sample as outlined below:

SAMPLE	DESCRIPTION	Au ppm	Ag ppm	Cu %
638039	Magnetite Vein #1: UTM 352505 E & 6215571 N Elevation: 1,725m Vein is boxwork quartz with massive magnetite and locally semi-massive sulphide mineralization, including chalcopyrite ± galena. VG noted. Vein seems to grade outward to intensely Fe-oxidized selvage, to either strongly silicified or very soft, rubbly, earthy altered limonite-pyrolusite-malachite. Wallrock is pale grey-green, weathered, locally pitted and oxide-stained, minor patchy epidote-calcite-K-Spar altered crystal to lapilli tuff volcaniclastic rock. FW is trending 344°/74° SW. HW is rusty broken, Fe oxidized and patchy malachite stained.	139.0	24.8	0.535

The sample was bagged, tagged and locked with a security strap, before transportation by a bonded courier to the ALS Chemex in North Vancouver. Sample preparation comprised drying then crushing the whole sample to 70% passing 10 mesh (<2mm). Samples were then riffle split with a 250 gram sub-sample pulverized with 85% passing <75 micron. A 30 gram portion of each sub-sample was then analysed for trace gold by fire assay with gravimetric finish while a 0.5 gram portion was analysed for trace elements by ICP-AES method.

The author has not attempted to verify past historical results apart from the confirmatory sampling noted above. The author did not use a QA/QC sample protocol given the small sample set submitted to ALS Chemex Lab. The internal QA/QC standards employed by ALS Chemex returned expected analytical values indicating that the analytical results were within expected allowable tolerance limits.

The assessment reports referred to herein are available in the public domain and can be viewed online.

The site is http://www.empr.gov.bc.ca/Mining/Geoscience/ARIS/Pages/default.aspx.

MINERAL PROCESSING AND METALLURGICAL TESTING

Rift Valley has not completed any metallurgical testing on the property. There is no historical metallurgical testing or mineral processing known to the author.

MINERAL RESOURCE ESTIMATES

There are no historical or compliant NI 43-101 resources identified on the property.

ADJACENT PROPERTIES

There are large claim blocks staked in and around the Cat property, mainly covering the mapped extent of the syenitic Duckling Creek phase of the Hogem Batholith which is host to a large number of alkalic porphyry copper ± gold occurrences (Table 7), the Lorraine being the most developed to-date.

The Lorraine alkalic porphyry deposit is located approximately 15 km southwest of Cat Mountain. The Lorraine deposit (Lorraine Copper Corp - Teck Resources joint venture) is temporally related to potassic-altered alkali pyroxenite to syenite intrusions of the Duckling Creek Syenite Complex of the Hogem Batholith. The Duckling Creek syenite rocks in the Lorraine area comprise a multiple-stage dyke swarm into older Hogem calc-alkaline intrusive rocks and Takla volcanic rocks. Rafts of Takla volcaniclastic and volcano-sedimentary rocks are locally preserved within the Duckling rocks (Garratt and Lindinger, 2009)

A preliminary resource estimate in 1973 (historical, non-43-101 compliant), at a cut-off grade of 0.4% copper, calculated that the Lower Main zone contained an inferred resource of 5,500,000 tons (4,989,516 tonnes) grading 0.6% copper and 0.1 g/t gold, and the Upper Main Zone contained an inferred resource of 4,500,000 tons (4,082,331 tonnes) grading 0.75% copper and 0.34 g/t gold.

An updated 1998 resource (historical, non-43-101 compliant) showed a total of 12 M tonnes of measured and indicated resource in the Upper Main zone, grading 0.71% Cu and 0.26 g/t Au; and a further 7.7 M tonnes of measured and indicated resource in the Bishop Zone, grading 0.64% Cu and 0.07 g/t Au. A further ~7 M tonnes of inferred resource was thought to be split about evenly in both zones. The lower zone resource remained the same (Garratt and Lindinger, 2009).

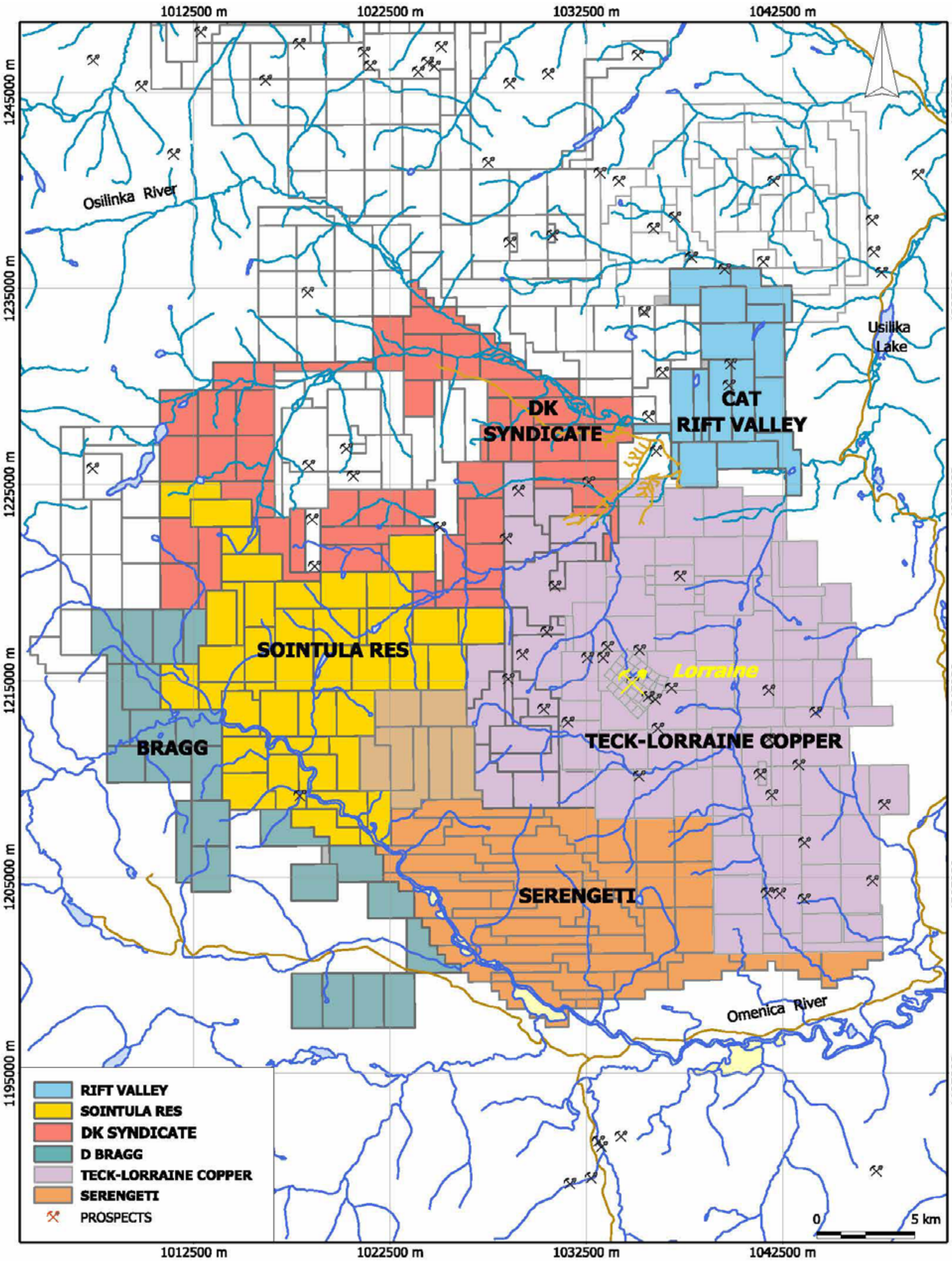
The above-quoted historical mineral resource estimates were prepared before the introduction of National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101"). The key assumptions, parameters and methods used to calculate the historical resources are not known and the author is not treating the historical estimates as current mineral resources or mineral reserves. These estimates are reported herein to demonstrate the exploration potential of the Cat Mountain area but should not be construed to reflect a calculated resource (inferred, indicated or measured) under the current standard required of NI 43-101. The potential quantities and grades reported above are conceptual in nature and there has been insufficient work to date to define a NI 43-101 compliant resource. The economic viability of the historical resources is not demonstrated, furthermore, it is uncertain if additional exploration will result in discovery of an economic mineral resource on those properties.

Adjacent properties are held by Lorraine Copper, Serengeti Resources, Donald K Bragg, Sointula Resources and the DK syndicate (Figure 10). Information on these prospects is available in the public domain, including assessment reports (ARIS); documents from company websites and press releases published on the Internet. The author has not been able to independently verify the information contained although there is no reason to doubt the accuracy of the technical descriptions and results. The information on adjoining properties is not necessarily indicative of the mineralization on the Cat property. The reader is referred to the MINFILE database (www.minfile.ca) for more detailed information about known occurrences in the area of Cat Mountain.

Table 6: Mineral occurrences known from the general area near Cat Mountain

MINFILE #	NAME	STATUS	MAP	COMMODITY
93N 003	JENO	Prospect	093N14	Cu Au Ag Pd Pt
93N 066	BISHOP	Prospect	093N14	Cu Au
94C 138	HAWK (AD)	Prospect	094C04	Au Cu Pb Zn
94C 139	HAWK (RADIO)	Prospect	094C04	Au Cu
93N 151	TED	Showing	093N14	Cu
93N 155	GK, COL	Showing	093N14	Cu
93N 166	PIK	Showing	093N14	Cu
93N 171	HAWK	Showing	093N13	Cu
93N 176	FLAME	Showing	093N13/094C04	Cu Mo
93N 177	JO ANN	Showing	093N14	Cu Pb
93N 224	PAGE	Showing	093N14	Cu Au
93N 059	PERRETTS CLIFF, MISTY	Showing	093N13	Au Ag Pb Zn Cu
94C 051	DETNI CREEK	Showing	094C04	Cu
94C 058	HAHA CREEK	Showing	094C03	Au Cu
94C 063	DOVE	Showing	094C04	Cu Mo Zn Ag
94C 077	ND	Showing	094C04	Cu
94C 097	REM	Showing	094C03	Cu Pb
94C 123	LINK	Showing	094C03	Cu Fe
94C 140	HAWK (HSW)	Showing	094C04	Au Cu

Figure 16: Regional Property Map



OTHER RELEVANT DATA AND INFORMATION

The author is not aware of any other relevant information for the property, the absence of which would make this report incomplete or misleading.

INTERPRETATION AND CONCLUSIONS

Significant previous exploration on the Cat Mountain has demonstrated the property's mineral potential and continues to intrigue and attract new efforts to identify a mineable deposit for exploitation.

Early work at Cat Mountain focused on the narrow, high-grade gold-silver-copper-magnetite veins exposed at the summit. Mineralization at the discovery showing is comprised of a number of steeply dipping magnetite and magnetite quartz-calcite veins of variable thickness; often weathered to gossan and a box textured aggregate of limonite and quartz. Variable amounts of chalcopyrite, pyrite, native gold, hematite, malachite and azurite are also reported present. The "No. 1" vein contains visible gold and has returned assays up to 548 g/t Au. More typical assays are 0.49% Cu and 11.7 g/t Au over 1.1 m and 0.58% Cu and 9.6 g/t Au over 2.3 m. A check grab assay taken by the author from # 1 vein returned 139.0 ppm Au, 24.8ppm Ag and 0.535 % Cu confirming the high grade gold tenor.

Later work tended to exploit the potential of the property to host copper-gold porphyry mineralization, similar to the Lorraine deposit, and others known copper occurrences from the local area. Extensive soil sampling, IP/magnetometer geophysics, trenching and diamond drilling identified widespread copper ± gold zones, including the Bet zone, the Upper and Lower Copper zones and the Hoffman zone.

More recently Fox et al (2012) have proposed that the Bet zone could potentially host a relatively high gold (~1 g/t Au) and low Cu (0.1% Cu) porphyry associated with the emplacement of a high evolved subvolcanic intrusive. In all likelihood the mineralization identified on Cat Mountain fits into a transitional model, from vein setting to alkalic porphyry copper-gold setting. Steeply dipping pyrite-magnetite structures could be the chief controls on mineralization where gold grades increase above 1 g/t. These zones, as noted from historical drilling, are often faults and shear zones and appear to be largely restricted to the volcanic strata, with the intervening intrusive rock also mineralized but of lower gold tenor.

The Bet zone is defined by a small cluster of holes near the summit ridge that historically targeted the potential for copper porphyry mineralization. The zone remains largely untested along strike to the west and at depth. In light of the most recent interpretation by Fox, the Bet zone should be reconsidered for potential to host a relatively high grade gold porphyry. Significant drill results, in this light, include Hole 90-1 which returned 122 metres of 1.1 g/t Au (apparent width) and hole 94-1 which intersected 100 metres (apparent width) of 1.36 g/t Au.

Similarly, the Hoffman zone (to the east of the Bet Zone) has return some very encouraging copper intercepts over variable intervals; and remains untested along its strike length and at depth. Significant drill results from the Hoffman zone include 46 metres (apparent width) of 0.24% Cu in hole 05-17, and 46 metres (apparent width) of 0.31% Cu in hole 07-24.

Further testing of the #1 Magnetite Vein structure to depth is an attractive, high grade gold target. In addition, the large zones of alteration southeast may warrant more drill testing. Planned IP geophysics in this area should assist with target identification. Other targets comprise mineralized drill intersections not followed up, particularly prior drilling performed by BP Minerals in 1990 and 1991. Overall the Cat Mountain property offers a number of high grade, magnetite-gold targets along with several large disseminated porphyry zones of the alkalic porphyry type. The property merits additional mineral exploration.

RECOMMENDATIONS

A phased exploration program is recommended to further test zones of interest on the Cat Mountain property, including the Bet, and Hoffman zones. Work would include pre-field compilation and assessment to finalize drill targets, based on a full and systematic evaluation of all historical geophysical and geochemical data.

A large compilation effort was done in 2004 by Crest Geological, on behalf of Lysander Minerals, and this work needs to be updated with the results of work done up to and including 2011.

A comprehensive Phase I mineral exploration assessment is recommended for the Cat Mountain property. The total cost of the program is recommended at $940,000 (Table 8) and would include 42 line kilometres of deep 3D IP survey followed by a minimum of 2,000 m of diamond core drilling. A phase II program of more detailed geophysical survey and a minimum of 5,000 m of diamond drilling is recommended, dependant on successful conclusion of Phase I. The total cost of the Phase II program is recommended at $1,775,000 (Table 9). Budgets are inclusive of 10% contingency but net of sales tax (HST).

A phased approach is outlined below:

Pre-field:

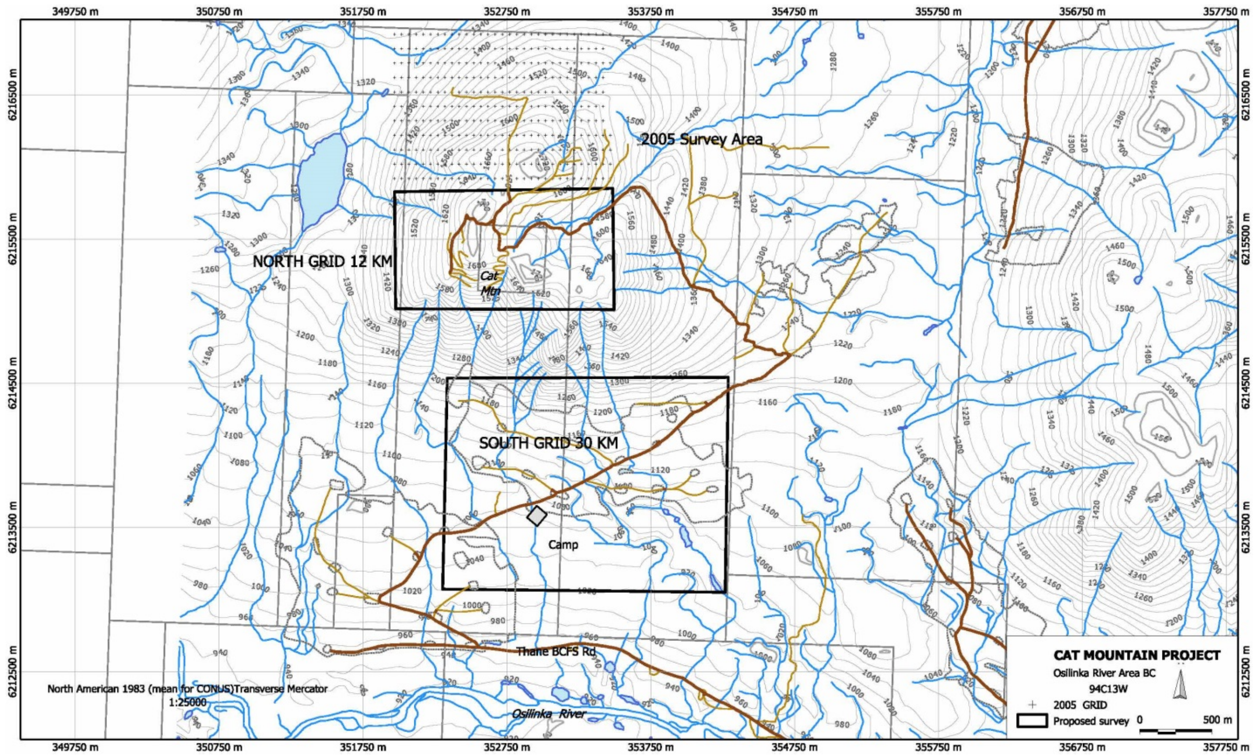
- Obtain orthophoto/satellite imagery and produce an ortho-rectified and geo-registered image and topography for base map
- Update the Crest Geological Compilation with all exploration data not included in the compilation (post 2004)
- Develop compilation maps of geophysical, geological and geochemical data
- Develop a comprehensive drill database in 3D mine planning/exploration software; to advance planning for new drill holes; and to allow development of cross sections and drill hole location maps on a suitable topographic base
- Complete a Gap Analysis and identify where infill geochemistry and geophysics is required to bridge zones and improve zone definition
- Identify high priority target areas for field follow-up
- Identify Phase One diamond drill targets, in particular extensions to gold porphyry, high grade gold vein mineralization and porphyry copper ± gold mineralization

Field:

- Geological mapping to synthesize the various different property geology maps into one cohesive property-scale map
- Infill soil geochemistry on priority target areas
- Infill ground magnetometer and targeted IP Surveys on priority target areas
- Diamond drilling to follow up on the best historical drill holes
- Preliminary mineralogical and metallurgical studies using drill core

A preliminary IP survey plan is shown below.

Figure 17: Proposed 3D IP Survey areas



A preliminary cost estimate for Phase I exploration is provided below.

Table 7: Phase I Exploration Expenditures

Cat Mountain Property Proposed Phase One Budget (Can $)					
Category	**Number**	**Unit**	**Cost per Unit**	**Total**	**Sub-total**
Pre-field					
Orthophoto/Satellite Imagery	1	ls	$ 3,500.00	$ 3,500.00	
Update 2004 Geological Comp.	40	hr	$ 75.00	$ 3,000.00	
Geologist	3	day	$ 600.00	$ 1,800.00	
Drill Database	30	hr	$ 75.00	$ 2,250.00	
sub-total					**$ 10,550.00**
Line Cutting					
Line Cutting (6-man crew)	42	km	$ 1,200.00	$ 50,400.00	
IP Survey					
IP Survey (5 man crew)	42	km	$ 1,800.00	$ 75,600.00	
sub-total					**$ 126,000.00**
Field Mapping & Sampling					
Field Geologist	30	day	$ 600.00	$ 18,000.00	
Prospector	30	day	$ 300.00	$ 9,000.00	
Soil Samplers	60	day	$ 300.00	$ 18,000.00	
Samples	750	sample	$ 35.00	$ 26,250.00	
sub-total					**$ 71,250.00**
Drill 2,000 metres					
Drill Mob/Demob	2	day	$ 15,000.00	$ 30,000.00	
Drill Moves (waterline, pumps, etc.)	10	#	$ 3,800.00	$ 38,000.00	
Drilling (2,000m)	2000	metre	$ 110.00	$ 220,000.00	
Drilling (muds, setup/teardown)	2000	metre	$ 35.00	$ 70,000.00	
Low-bed	20	hr	$ 90.00	$ 1,800.00	
Excavator	10	day	$ 1,200.00	$ 12,000.00	
Core Boxes	450	#	$ 25.00	$ 11,250.00	
Core Logging	30	day	$ 600.00	$ 18,000.00	
Core Teck/Core Splitting	30	day	$ 450.00	$ 13,500.00	
Core Samples	1000	#	$ 25.00	$ 25,000.00	
sub-total					**$ 439,550.00**
Support					
Camp Manager	60	man-day	$ 400.00	$ 24,000.00	
Camp Cook - First Aid	60	man-day	$ 400.00	$ 24,000.00	
Camp Set-up	1	ls	$ 2,500.00	$ 2,500.00	
Camp Materials	1	ls	$ 13,500.00	$ 13,500.00	
Camp Equipment: Gen-set, etc.	1	ls	$ 10,000.00	$ 10,000.00	
Propane	2	mon	$ 1,000.00	$ 2,000.00	
Diesel Fuel	2	mon	$ 3,000.00	$ 6,000.00	
Freight	1000	km	$ 2.50	$ 2,500.00	
Food	700	man-day	$ 40.00	$ 28,000.00	
Truck	120	man-day	$ 125.00	$ 15,000.00	
ATV/Trailer	120	man-day	$ 60.00	$ 7,200.00	
Helicopter	40	hr	$ 1,200.00	$ 48,000.00	

Supplies	5	ls	$ 1,000.00	$ 5,000.00	
sub-total					**$ 187,700.00**
Report & Drafting	1	ls	$ 5,000.00	$ 5,000.00	
Petrography	10	sample	$ 250.00	$ 2,500.00	
Preliminary Metallurgy	1	sample	$ 7,500.00	$ 7,500.00	
Miscellaneous	1	ls	$ 5,000.00	$ 5,000.00	
sub-total					**$ 20,000.00**
Sub-total					**$ 855,050.00**
10% Contingency					**$ 85,505.00**
Total*					**$ 940,555.00**

* Exclusive of HST

A phase II budget is shown below, including additional ground geophysics and 5,000 m of follow-up diamond core drilling to extend the strike and down-dip extent of favorable Phase I targets.

Table 8: Phase II Exploration Expenditures

Cat Mountain Property Proposed Phase Two Budget (Can $)					
Category	**Number**	**Unit**	**Cost per Unit**	**Total**	**Sub-total**
Pre-field					
Geologist	3	day	$ 600.00	$ 1,800.00	
Update Drill Database	20	hrs	$ 75.00	$ 1,500.00	
sub-total					**$ 3,300.00**
Line Cutting					
Line Cutting (6-man crew)	75	km	$ 1,200.00	$ 90,000.00	
IP Survey					
IP Survey (5 man crew)	75	km	$ 1,800.00	$ 135,000.00	
sub-total					**$ 225,000.00**
Field Mapping & Sampling					
Field Geologist	30	day	$ 600.00	$ 18,000.00	
Prospector	30	day	$ 300.00	$ 9,000.00	
Soil Samplers	60	day	$ 300.00	$ 18,000.00	
Samples	750	sample	$ 35.00	$ 26,250.00	
sub-total					**$ 71,250.00**
Drill 5,000 metres					
Drill Mob/Demob	2	day	$ 15,000.00	$ 30,000.00	
Drill Moves (waterline, pumps, etc.)	20	#	$ 3,800.00	$ 76,000.00	
Drilling (2,000m)	5000	metre	$ 110.00	$ 550,000.00	
Drilling (muds, setup/teardown)	5000	metre	$ 35.00	$ 175,000.00	
Low-bed	20	hrs	$ 90.00	$ 1,800.00	
Excavator	25	days	$ 1,200.00	$ 30,000.00	
Core Boxes	1200	#	$ 25.00	$ 30,000.00	
Core Logging	70	day	$ 600.00	$ 42,000.00	
Core Teck/Core Splitting	70	day	$ 450.00	$ 31,500.00	
Core Samples	2500	#	$ 25.00	$ 62,500.00	
sub-total					**$ 1,028,800.00**
Support					
Camp Manager	90	man-day	$ 400.00	$ 36,000.00	
Camp Cook - First Aid	90	man-day	$ 400.00	$ 36,000.00	
Camp Set-up	1	ls	$ 2,500.00	$ 2,500.00	
Camp Materials	1	ls	$ 13,500.00	$ 13,500.00	
Camp Equipment: Gen-set, etc.	1	ls	$ 10,000.00	$ 10,000.00	
Propane	3	mon	$ 1,000.00	$ 3,000.00	
Diesel Fuel	3	mon	$ 3,000.00	$ 9,000.00	
Freight	2000	km	$ 2.50	$ 5,000.00	
Food	1250	man-day	$ 40.00	$ 50,000.00	
Truck	180	man-day	$ 125.00	$ 22,500.00	
ATV/Trailer	180	man-day	$ 60.00	$ 10,800.00	
Helicopter	40	hrs	$ 1,200.00	$ 48,000.00	
Supplies	10	ls	$ 1,000.00	$ 10,000.00	
sub-total					**$ 256,300.00**

Report & Drafting	2	ls	$ 5,000.00	$ 10,000.00	
Petrography	10	sample	$ 250.00	$ 2,500.00	
Preliminary Metallurgy	1	sample	$ 7,500.00	$ 7,500.00	
Miscellaneous	2	ls	$ 5,000.00	$ 10,000.00	
sub-total					**$ 30,000.00**
Sub-total					**$ 1,614,650.00**
10% Contingency					**$ 161,465.00**
Total*					**$ 1,776,115.00**

*Net of HST

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CERTIFICATE OF AUTHOR

I, Ken MacDonald, P. Geo., do hereby certify that:

I am an independent consulting geologist, residing at 2665 Carlisle Way, Prince George, British Columbia, Canada.

I graduated with a Bachelor of Science degree with Specialization in Geology from the University of Alberta in 1987 and have been practicing my profession continuously since graduation.

I am a Registered Professional Geoscientist and a member in good standing of the Professional Engineers and Geoscientists of British Columbia, License Number 23018.

I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of education, affiliation with a professional organization and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

I examined the property on October 5th, 2011.

I am responsible for all sections of the report entitled "NI 43-101 Technical Report on the Cat Mountain Property"; with an effective date of May 15th, 2012, and an amended date of May 7th, 2013.

To the best of my knowledge, information, and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.

I have read National Instrument 43-101 and Form 43-101F1 and confirm the Technical Report has been prepared in compliance with that instrument and form.

I have read the written disclosure being filed. The disclosure fairly and accurately represents the information in the technical report that supports the disclosure.

I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by Rift Valley Resources Corp., including electronic publication in the company public files on their websites accessible by the public.

Dated this 7th Day of May, 2013

Ken F. MacDonald, P.Geo.

APPENDICES

APPENDIX I: Assay Certificate

ALS Minerals

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

To: RIDGEVIEW RESOURCES
2665 CARLISLE WAY
PRINCE GEORGE BC V2K 4B5

Finalized Date: 17- NOV- 2011
Account: RIDGRE

CERTIFICATE VA11210510

Project: PINCHI
P.O. No.:
This report is for 10 Drill Core samples submitted to our lab in Vancouver, BC, Canada on 12- OCT- 2011.

The following have access to data associated with this certificate:

KEN MACDONALD		

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
ME- OG46	Ore Grade Elements - AquaRegia	ICP- AES
Zn- OG46	Ore Grade Zn - Aqua Regia	VARIABLE
Cu- AA46	Ore grade Cu - aqua regia/AA	AAS
Au- GRA21	Au 30g FA- GRAV finish	WST- SIM
ME- MS41	51 anal. aqua regia ICPMS	

To: RIDGEVIEW RESOURCES
ATTN: KEN MACDONALD
2665 CARLISLE WAY
PRINCE GEORGE BC V2K 4B5

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

Signature:
Colin Ramshaw, Vancouver Laboratory Manager

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

ALS Minerals

To: RIDGEVIEW RESOURCES
2665 CARLISLE WAY
PRINCE GEORGE BC V2K 4B5

Finalized Date: 17- NOV- 2011
Account: RIDGRE

Project: PINCHI

CERTIFICATE OF ANALYSIS VA11210510

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	ME- MS41 Ag ppm 0.01	ME- MS41 Al % 0.01	ME- MS41 As ppm 0.1	ME- MS41 Au ppm 0.2	ME- MS41 B ppm 10	ME- MS41 Ba ppm 10	ME- MS41 Be ppm 0.05	ME- MS41 Bi ppm 0.01	ME- MS41 Ca % 0.01	ME- MS41 Cd ppm 0.01	ME- MS41 Ce ppm 0.02	ME- MS41 Co ppm 0.1	ME- MS41 Cr ppm 1	ME- MS41 Cs ppm 0.05
638039		4.40	24.8	0.21	386	>25.0	<10	10	<0.05	2.45	0.07	0.03	1.04	14.5	12	0.25

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

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PRINCE GEORGE BC V2K 4B5

Finalized Date: 17- NOV- 2011
Account: RIDGRE

Project: PINCHI

CERTIFICATE OF ANALYSIS VA11210510

Sample Description	Method / Analyte / Units / LOR	ME- MS41 Cu % 0.00002	ME- MS41 Fe % 0.01	ME- MS41 Ga ppm 0.05	ME- MS41 Ge ppm 0.05	ME- MS41 Hf ppm 0.02	ME- MS41 Hg ppm 0.01	ME- MS41 In ppm 0.005	ME- MS41 K % 0.01	ME- MS41 La ppm 0.2	ME- MS41 Li ppm 0.1	ME- MS41 Mg % 0.01	ME- MS41 Mn ppm 5	ME- MS41 Mo ppm 0.05	ME- MS41 Na % 0.01	ME- MS41 Nb ppm 0.05
638039		0.535	40.0	9.25	1.12	0.03	0.60	13.40	0.02	0.5	0.7	0.05	120	4.52	0.01	0.54

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

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2665 CARLISLE WAY
PRINCE GEORGE BC V2K 4B5

Finalized Date: 17- NOV- 2011
Account: RIDGRE

Project: PINCHI

CERTIFICATE OF ANALYSIS VA11210510

Sample Description	Method Analyte Units LOR	ME- MS41 Ni ppm 0.2	ME- MS41 P ppm 10	ME- MS41 Pb ppm 0.2	ME- MS41 Rb ppm 0.1	ME- MS41 Re ppm 0.001	ME- MS41 S % 0.01	ME- MS41 Sb ppm 0.05	ME- MS41 Sc ppm 0.1	ME- MS41 Se ppm 0.2	ME- MS41 Sn ppm 0.2	ME- MS41 Sr ppm 0.2	ME- MS41 Ta ppm 0.01	ME- MS41 Te ppm 0.01	ME- MS41 Th ppm 0.2	ME- MS41 Ti % 0.005
638039		14.6	130	5.2	1.3	0.003	0.13	4.18	3.6	18.2	2.6	9.2	<0.01	5.66	<0.2	0.015

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

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To: RIDGEVIEW RESOURCES
2665 CARLISLE WAY
PRINCE GEORGE BC V2K 4B5

Finalized Date: 17- NOV- 2011
Account: RIDGRE

Project: PINCHI

CERTIFICATE OF ANALYSIS VA11210510

Sample Description	Method / Analyte / Units / LOR	ME- MS41 Tl ppm 0.02	ME- MS41 U ppm 0.05	ME- MS41 V ppm 1	ME- MS41 W ppm 0.05	ME- MS41 Y ppm 0.05	ME- MS41 Zn ppm 2	ME- MS41 Zr ppm 0.5	Zn- OG46 Zn % 0.001	Cu- AA46 Cu % 0.001	Au- GRA21 Au ppm 0.05
638039		0.04	0.12	94	106.0	0.57	36	0.9		0.516	139.0

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

ALS Minerals

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

To: RIDGEVIEW RESOURCES
2665 CARLISLE WAY
PRINCE GEORGE BC V2K 4B5

Finalized Date: 17- NOV- 2011
Account: RIDGRE

Project: PINCHI

CERTIFICATE OF ANALYSIS VA11210510

Method	CERTIFICATE COMMENTS
ME- MS41	Gold determinations by this method are semi- quantitative due to the small sample weight used (0.5g).

APPENDIX II: Logistics Report on Ground Magnetic Survey, Meridian Mapping Ltd.

MERIDIAN Mapping Ltd
9400 Bel Air Drive, Coldstream, BC, V1B-1C3
Tel: (250)558-5068 Fax: (250)558-5068
www.MeridianMapping.ca

LOGISTICS REPORT

On

GROUND MAGNETIC SURVEY

CAT MOUNTAIN PROJECT
OMINECA MINING DISTRICT, BC
55° 02’ 52” N Lat, 125° 21’ 25” W Long
NAD 83 UTM Zone 10 353200E, 6213900N
NTS Mapsheet: 94C/03
BCGS Mapsheet: 094C.004

October 5th to 12th 2011

For

RIFT VALLEY RESOURCES LTD.
800 – 885 West Georgia Street
Vancouver, British Columbia
V6C 3H1

By

Meridian Mapping Ltd.

Coldstream, British Columbia

November 2011

INTRODUCTION:

Between October 5th and 12th 2011, Meridian Mapping Ltd. (Meridian) completed a ground magnetometer survey over a portion of the Cat Mountain Property in the Omineca region of British Columbia for Rift Valley Resources Ltd.

PROPERTY LOCATION & ACCESS:

The Cat Mountain Property is located on the north side of the Osilinka River, approximately 9 kilometers southwest of Uslika Lake in the Omineca Mining Division, and approximately 300 Km northwest of Prince George, British Columbia.

Access was gained from Mackenzie BC via the Kemess Mine, Osilinka and Thane Creek Forest Service Roads. A secondary logging road branching north off the Thane Creek FSR at kilometer 7 provided access to the Cat Mountain mining camp from which the survey was conducted.

SURVEY SPECIFICATIONS:

Survey Grid:

No existing grid had been established in the immediate survey area. Survey lines were therefore run by GPS navigation with only the endpoints flagged. The survey grid was designed to adjoin a ground magnetics survey completed by Meridian in 2008 and extend the coverage to the south and east.

A total of 16 lines were surveyed parallel to the UTM grid on a true north azimuth of 88°. 15 lines were surveyed on 100 meter spacing and a single 50m spaced in-fill line was run in the center of the grid.

A total of 37.1 line kilometers were surveyed over four field days.

Magnetic Survey:

The magnetic survey was conducted by two operators using two GPS equipped GSM Ver 7.0 19W Overhauser walking magnetometers manufactured by GEM Systems of Richmond Hill, Ontario (see Appendix I for detailed instrument specifications). This instrument measures variations in the total intensity of the earth's magnetic field to an absolute accuracy of +/- 0.1 nT. They were used in 'walking mode' and set to record a reading every 2 seconds. A third GSM 19 magnetometer was employed as a stationary base to measure the diurnal variations in the earth's magnetic field. Data was recorded at a 3 second interval at the base. This base data was used to apply diurnal correction to the rover data. A 250 meter length of overlap line was walked each morning by both units. Data from this overlap line was used to level the data between the two instruments, between survey days, and between the 2008 and 2011 surveys.

Positional Control:

The GSM 19W magnetometers are equipped with Novatel SuperStar II DGPS boards. The GPS attaches 3-dimensional coordinates, differentially corrected in real-time using the WAAS service, to each magnetometer reading. Accuracies of +/- 1.5m can be achieved in ideal conditions, however ~5m is more typical under tree canopy. Garmin GPSMap 60CSx units, which provide a similar accuracy, were also used for navigation and recorded track data at a 2 second interval for backup.

DATA PROCESSING:

Preliminary Processing:

Preliminary processing of the field data included:

- Diurnal correction of the rover data using data from the stationary base.
- Leveling of data from the individual units and multiple survey days using data from the overlap line.

- Cleaning GPS ‘spikes’ and extrapolating positions to fill GPS gaps.
- Trimming of unnecessary data.
- Preliminary QA/QC of both magnetic and positional data to ensure quality and completeness of field data prior to the field crew leaving the project.

Final Processing:

Final processing of the total field magnetometer data was performed in Geosoft Oasis Montaj, and followed conventional processing techniques. Processing steps were as follows:

- Diurnally corrected total magnetic profile data was despiked either manually, or by a non-linear filter, as required. This step removes one-station spikes that are caused by instrument dropouts or sensor “knocks”.
- The despiked data was then lightly smoothed using a 7 fiducial-long low pass filter. This step removed the 10 to 15nT saw-tooth noise which is inherent in walking magnetometer data.
- The 2011 magnetic data was merged and leveled with magnetic data from the 2008 survey.
- A total magnetic intensity (TMI) grid was generated by gridding the final filtered data using the minimum curvature algorithm, with a grid cell size typically 1/5 of the line separation.
- A calculated 1st vertical derivative (1VD) grid was generated from the TMI grid using a convolution grid filter.
- An analytic signal (AS) grid was generated from the TMI grid using a fast Fourier transform algorithm.
- Geotiff maps of TMI profiles, TMI colour grid, TMI B&W contours, 1VD colour grid, 1VD B&W contours, AS colour grid, AS B&W contours, and line path maps were exported.

DATA DELIVERABLES:

Deliverable data includes:

1. Total Magnetic Intensity
2. Calculated 1st Vertical Derivative
3. Analytic Signal
4. B&W Contour Plots of above three.
5. Profiles of Total Magnetic Intensity
6. Survey Line Path Plot

Respectfully Submitted,
Meridian Mapping Ltd.

Dugald Dunlop
B.Sc. (Geology)

APPENDIX I – EQUIPMENT SPECIFICATIONS

GEM SYSTEMS
ADVANCED MAGNETOMETERS

Overhauser

Magnetometer / Gradiometer / VLF (GSM-19 v7.0)

Version 7.0

Our World is **Magnetic.**

GEM's unique Overhauser system combines data quality, survey efficiency and options into an instrument that takes the leading place in the industry.

And the latest v7.0 technology upgrades provide even more value:

- Data export in standard XYZ (i.e. line-oriented) format for easy use in standard commercial software programs
- Programmable export format for full control over output
- GPS elevation values provide input for geophysical modeling Enhanced GPS positioning resolution
- Standard GPS:
  <1.5m SBAS (WAAS, EGNOS, MSAS)
  High resolution CDGPS Option:
  <0.6m SBAS (WAAS, EGNOS, MSAS)
  <0.6m CDGPS (Canada, USA, Mexico)
  <0.7m OmniStar VBS2
- Multi-sensor capability for advanced surveys to resolve target geometry
- Picket and line marking / annotation for capturing related surveying information on-the-go

And all of these technologies come complete with the most attractive savings and warranty in the business!

Overhauser (GSM-19) console with sensor and cable. Can also be configured with additional sensor for gradiometer (simultaneous) readings.

The GSM-19 v7.0 Overhauser instrument is the total field magnetometer / gradiometer of choice in today's earth science environment -- representing a unique blend of physics, data quality, operational efficiency, system design and options that clearly differentiate it from other quantum magnetometers.

With data quality exceeding standard proton precession and comparable to costlier optically pumped cesium units, the GSM-19 is a standard (or emerging standard) in many fields, including:

- **Mineral exploration**
  (ground and airborne base station)
- **Environmental and engineering**
- **Pipeline mapping**
- **Unexploded Ordnance Detection**
- **Archeology**
- **Magnetic observatory measurements**
- **Volcanology and earthquake prediction**

Taking Advantage of the Overhauser Effect

Overhauser effect magnetometers are essentially proton precession devices - except that they produce an order-of magnitude greater sensitivity.

These "supercharged" quantum magnetometers also deliver high absolute accuracy, rapid cycling (up to 5 readings / second), and exceptionally low power consumption.

The Overhauser effect occurs when a special liquid (with unpaired electrons) is combined with hydrogen atoms and then exposed to secondary polarization from a radio frequency (RF) magnetic field.

The unpaired electrons transfer their stronger polarization to hydrogen atoms, thereby generating a strong precession signal -- that is ideal for very highsensitivity total field measurements.

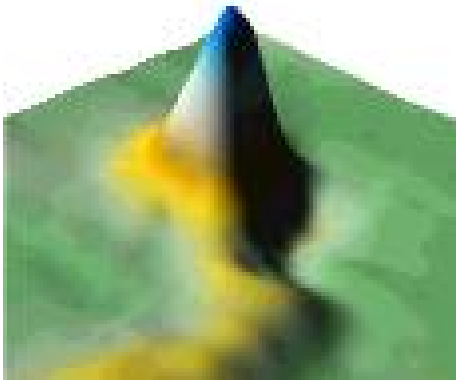
In comparison with proton precession methods, RF signal generation also keeps power consumption to an absolute minimum and eliminates noise (i.e. generating RF frequencies are well out of the bandwidth of the precession signal).

In addition, polarization and signal measurement can occur simultaneously - which enables faster, sequential measurements. This, in turn, facilitates advanced statistical averaging over the sampling period and/or increased cycling rates (i.e. sampling speeds).

Other advantages are described in the section called, "GEM's Commercial Overhauser System" that appears later in this brochure.

Maximizing Your Data Quality with the GSM-19

Data quality is a function of five key parameters that GEM has taken into consideration carefully in the design of the GSM-19. These include sensitivity, resolution, absolute accuracy, sampling rates and gradient tolerance.



Data from Kalahari Desert kimberlites. Courtesy of MPH Consulting (project managers), IGS c. c. (geophysical contractor) and Aegis Instruments (Pty) Ltd., Botswana.

Sensitivity is a measure of the signal-to-noise ratio of the measuring device and reflects both the underlying physics and electronic design. The physics of the Over-hauser effect improves sensitivity by an order of magnitude over conventional proton precession devices. Electronic enhancements, such as high-precision precession frequency counters (see the v6.0 & v7.0 - New Milestones section) enhance sensitivity by 25% or more.

The result is high quality data with sensitivities of 0.02 nT / √Hz. This sensitivity is virtually the same as the sensitivity of costlier optically-pumped cesium systems.

Resolution is the minimum step of the counter used to measure precession frequency and its conversion into magnetic field. It is generally higher than the sensiti-vity to avoid a contribution of the counter to overall system noise. The GSM-19 has unmatched resolution (0.01 nT).

This level of resolution translates into well-defined, characteristic anomalies; impro-ved visual display; and enhanced numeri-cal data for processing and modeling.

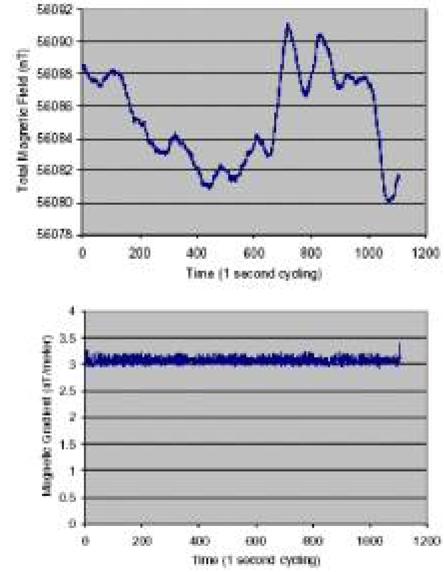
Absolute accuracy defines maximum deviation from the true value of the measu-knows the true value of the field, absolute accuracy is determined by considering factors involved in determining the field value and their accuracy, including the gyromagnetic constant, maximum offset of the time base frequency, etc.

With an absolute accuracy of +/- 0.1 nT, the GSM-19 is ideal for total field work and gradient measurements maintain the same high standard of quality. Both configurations are also specially designed to minimize overall system noise, so you can be sure that results truly reflect the geologic signal that is of most interest to you.

Sampling rates are defined as the fastest speed at which the system can acquire da-ta. This is a particularly important parame-ter because high sampling rates ensure accurate spatial resolution of anomalies and increase survey efficiency.

GEM's Overhauser system has 3"measurement modes" or maximum sampling rates - "Standard" (3 sec. / reading), "Walking" (0.5 sec. / reading) and "Fast" (0.2 sec. / reading). These rates make the GSM-19 a versatile system for all ground uses (including vehicle-borne applications).

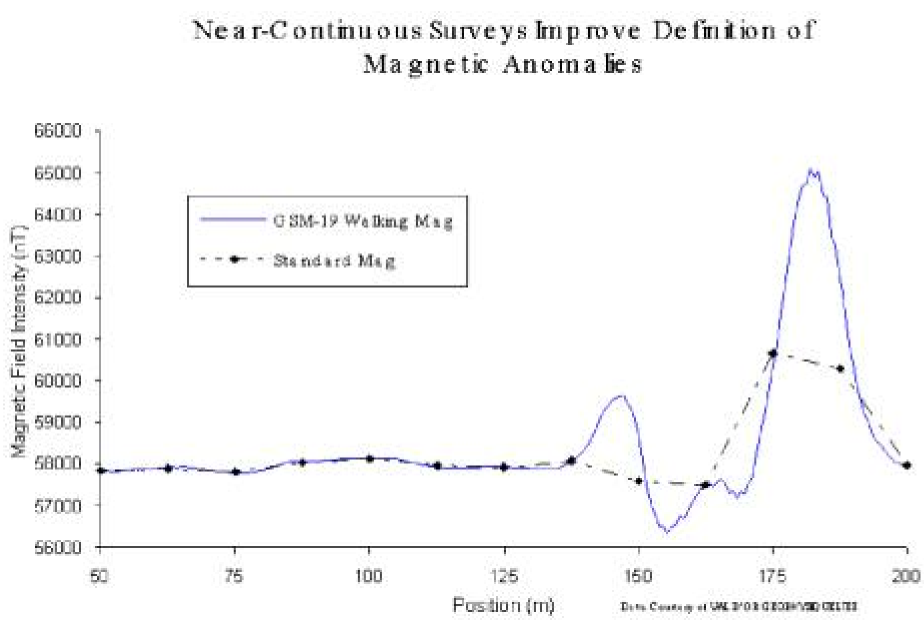
Gradient tolerance is the ability to obtain reliable measurements in the presence of extreme field variations. GSM-19 tolerance is maintained through internal



Total Field and Stationary Vertical Gradient showing the gradient largely unaffected by diurnal variation. Absolute accuracy is also shown to be very high (0.2 nT/meter).

signal counting algorithms, sensor design and Overhauser physics. For example, the Overhauser effect produces high amplitude, long-duration signals that facilitate measurement in high gradients.

The system's tolerance (10,000 nT/m) makes it ideal for many challenging environments, such as highly magnetic rocks in mineral exploration or near cultural objects in environmental, UXO or archeological applications.



Much like an airborne acquisition system, the GSM-19 "Walking" magnetometer option delivers very highly-sampled, high sensitivity results that enable very accurate target location and / or earth science decision-making.

Increasing Your Operational Efficiency

Many organizations have standardized their magnetic geophysical acquisition on the GSM-19. This reflects enhancements such as memory capacity; light weight; GPS and navigation; no warm-up time; no dead zones or heading errors; easy dumping and processing.

Memory capacity controls the efficient daily acquisition of data, acquisition of positioning results from GPS and the ability to acquire high volumes of data to meet daily survey objectives.

V7.0 upgrades have established the GSM-19 as the commercial standard for memory with over 838,000 readings (based on a basic configuration of memory, a survey with time, coordinate and field values).

Optional increments of memory to over 2 million readings making the GSM-19 an ideal system for acquisition of data with integrated GPS readings (when required).

Portability characteristics (ruggedness, light weight and power consumption) are essential for operator productivity in both normal and extreme field conditions.

GEM's Overhauser magnetometer is established globally as a robust scientific instru-ment capable of withstanding temperatu-re, humidity and terrain extremes. It has the reputation as the lightest and lowest power system available, reflecting Overhau-ser effect and RF polarization advantages.

In comparison with other systems, the GSM-19 is the choice of operators as an easy-to-use and robust instrument

GPS and navigation options are very important for earth science professionals. GPS technologies are revolutionizing data acquisition, productivity, increasing spatial resolution and providing a new level of data quality for informed decision-making.

GEM has made GPS a cornerstone of its magnetic R&D program. Real time GPS and DGPS options are now available in different survey resolutions. For more details, see the GPS and DGPS section.

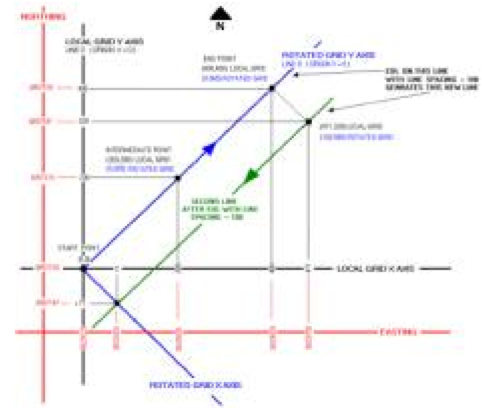
GEM has also developed a GPS Navigation feature with real-time coordinate transformation to UTM, local X-Y coordinate rotations, automatic end-of-line flag, guidance to the next line, and survey "lane" guidance with cross-track display and audio indicator.

Other enhancements include way point preprogramming of up to 1000 points. Professionals can define a complete survey on PC and download points to the magnetometer via RS-232 before leaving for the field.

The operator performs the survey using the way points as a survey guide. This capability decreases survey errors, improves efficiency and ensures more rapid survey completion.

Dumping and processing effectiveness is also critical consideration. Historically, up to 60% of an operator's "free" time can be spent on data dumping. Data dumping times are significantly reduced through GEM's implementation of high-speed, digital data links (up to 115 kBaud).

This functionality is facilitated through a new RISC processor and GEM's proprietary GEMLinkW acquisition/display software. This software serves as a bi-directional RS-232 terminal. It also has integrated processing functionality to streamline key processing steps, including diurnal data reduction. GEMLinkW is provided free to all GSM-19 customers. Regular updates are



Navigation and Lane Guidance

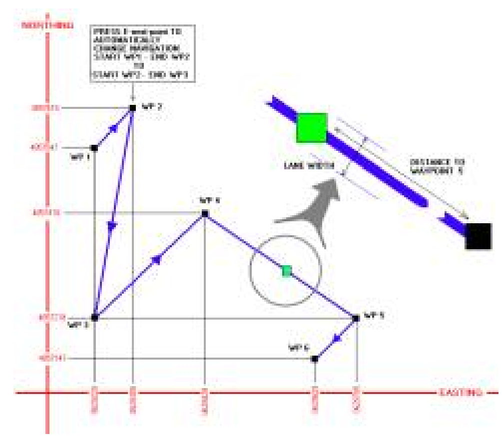
The figure above shows the Automatic Grid (UTM, Local Grid, and Rotated Grid). With the Rotated Grid, you can apply an arbitrary origin of your own definition. Then, the coordinates are always in reference to axes parallel to the grid. In short, your grid determines the map, and not the NS direction.

The Local Grid is a scaled down, local version of the UTM system, and is based on your own defined origin. It allows you to use smaller numbers or ones that are most relevant to your survey.

The figure below shows how programmable waypoints can be used to plan surveys on a point-by-point basis.

Initially, you define waypoints and enter them via PC in the office or via PC in the field or office. When you perform your survey, the unit guides you to each point.

While walking between waypoints, lane guidance keeps you within a lane of pre-defined width using arrows (< - or - >) to indicate left or right. The display also shows the distance (in meters) to the next waypoint.



Adding Value through Options

When evaluating the GSM-19 as a solution for your geophysical application we recommend considering the complete range of options offered by GEM. These options can be added at time of original purchase or later to expand capabilities as your needs change or grow.

GEM's approach with options is to provide you with an expandable set of building blocks:

- o Gradiometer
- o Walking Magnetometer / Gradiometer
- o Fast Magnetometer / Gradiometer
- o VLF (3 channel)
- o GPS (built-in or external)

GSM-19G Gradiometer Option

The GSM-19 gradiometer is a versatile, entry level system that can be upgraded to a full-featured "Walking" unit (model GSM-19GW) in future. The GSM-19G configuration comprises 2 sensors and a "Standard" console that reads data to a maximum of 1 reading every 3 seconds.

An important GEM's design feature allows gradiometer sensors measure the 2 magnetic fields concurrently to avoid any temporal variations that could distort gradiometer readings. Other features, such as single-button data recording, are included for operator ease-of-use.

GSM-19W / GW "Walking" Magnetometer / Gradiometer Option

GEM Systems pioneered the innovative "Walking" option that enables the acquisi-tion of nearly continuous data on survey lines. Since introduction, the GSM-19W and GSM-19GW have become one of the most popular magnetic instruments in the world.

Similar to an airborne survey in principle, the system records data at discrete time intervals (up to 5 readings per second) as the instrument is carried along the line.

At each survey picket (fiducial), the operator touches a designated key. The system automatically assigns a picket coordinate to the reading and linearly interpolates the coordinates of all intervening readings (following survey completion during post-processing). A main benefit is that the high sample den-sity improves definition of ge-ologic struc-tures and other targets (UXO, archeological relics, drums, etc.).

It also increases survey efficiency because the operator can record data almost continuously. Another productivity feature is the instantaneous recording of data at pickets. This is a basic difference between the “Walking” version and the GSM-19 / GSM-19G (the “Standard” mode version which requires 3 sec. to obtain a reading each time the measurement key is pressed).

GSM-19W / GW Magnetometer

The GSM-19 reads up to 5 readings per sec. (sensors and console are the same as other models.) This system is ideal for vehicle-borne surveys, such as UXO, archaeological or some mineral exploration applications, where high productivity is required.

GSM-19 "Hands-Free" Backpack Option

The "Walking" Magnetometer and Gradiometer can be configured with an optional backpack-supported sensor. The backpack is uniquely constructed - permitting measurement of total field or gradient with free hands.

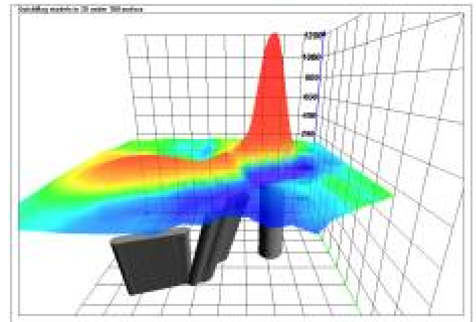
This option provides greater versatility and flexibility, which is particularly valuable for high-productivity surveys or in rough terrain.

GSM-19V / GV "VLF" Option

With GEM's omnidirectional VLF option, up to 3 stations of VLF data can be acquired without orienting. Moreover, the operator is able to record both magnetic and VLF data with a single stroke on the keypad.

3rd Party Software - A One-Stop Solution for Your Potential Field Needs

Now it’s even easier to take data from the field and quality control stage through to final map preparation and modeling.



GEM-VIS provides links to fast 3D modeling via Encom’s professional QuickPro software.

GEM provides very comprehensive solution available for working with magnetometer data:

- o Free GEMLinkW Transfer and Internet Upgrade software
- o Optional, low-cost GEM-VIS Quality Control, Visualization and Analysis
- o Optional Data Processing
- o Optional QuickMag Pro Automated Modeling and Inversion

V7.0 and V6.0 - Technology Developments

One of the main differences between GEM and other manufacturers is GEM's 30 years consistent focus on developing leading-edge magnetic technologies.

This commitment has led to many innovations in sensor technology; signal counting; firmware and software; and hardware and console design, culminating in the release of v7.0.

v7.0 and the previous release (v6.0) of the GSM-19 system provides many examples of the ways in which GEM continues to advance magnetics technologies for its customers.

Enhanced data quality:

o 25% improvement in sensitivity (new frequency counting algorithm)
o new intelligent spike-free algorithm (in contrast to other manufacturers, GEM does not apply smoothing or filtering to achieve high data quality)

Improved operational efficiency:

o Enhanced positioning (GPS engine with optional integrated / external GPS and real-time navigation)
o 16 times increase in memory to 32 Mbytes standard
o 1000 times improvement in processing and display speed (RISC microprocessor with 32-bit data bus)
2 times faster digital data link (115 kBaud through RS-232)

Innovative technologies:

o Battery conservation and survey flexibility (base station scheduling option with 3 modes - daily, flexible and immediate start)
o Survey pre-planning (up to 1000 programmable waypoints that can be entered directly or downloaded from PC for greater efficiency)
o Efficient GPS synchronization of field and base units to Universal Time (UTC)
o Cost saving with firmware upgrades

GEM's Proven Overhauser System

In a standard Proton magnetometer, current is passed through a coil wound around a sensor containing a hydrogen-rich fluid. The auxiliary field created by the coil (>100 Gauss) polarizes the protons in the liquid to a higher thermal equilibrium.

When the current, and hence the field, is terminated, polarized protons precess in the Earth's field and decay exponentially until they return to steady state. This process generates precession signals that can be measured as described below. Overhauser magnetometers use a more efficient method that combines electron-proton coupling and an electron-rich liquid (containing unbound electrons in a solvent con-taining a free radical). An RF magnetic field that corresponds to a specific energy level transition, stimulates the unbound electrons.

Instead of releasing this energy as emitted radiation, the unbound electrons transfer it to the protons in the solvent. The resulting polarization is much larger, leading to stronger precession signals.

Overhauser and proton precession, measure the scalar value of the magnetic field based on the proportionality of precession frequency and magnetic flux density (which is linear and known to a high degree of ac-curacy). Measurement quality is calculated using signal amplitude and its decay cha-racteristics. Values are averaged over the sampling

As the world's experienced manufacturer of commercial Overhauser systems, GEM's technical focus on the GSM-19 has resulted in a superior magnetic measuring device with high sensitivity, high cycling speed, low noise, and very low power consumption over a wide temperature range.

With minor software modifications (i.e. addition of a small auxiliary magnetic flux density while polarizing), it can be easily configured for high sensitivity readings in low magnetic fields (for equatorial work).

GPS - Positioning You for Effective Decision Making

The use of GPS technology is increasing in earth science disciplines due to the ability to make better decisions in locating anomalies, and in improving survey cost effectiveness and time management.

Examples of applications include:

o Surveying in remote locations with no grid system (Arctic for diamond exploration)

o High resolution exploration mapping

o High productivity ferrous ordnance (UXO) detection

o Ground portable magnetic and gradient surveying for environmental and engineering applications

o Base station monitoring for observing diurnal magnetic activity and disturbances with integrated GPS time

GEM addresses requests for GPS and high-resolution Differential GPS (DGPS) through internal and external options. Customer units can also be integrated. GPS surveys return a variety of real data to the user, including Time, Latitude and Longi-tude, UTM, Elevation and # of Satellites. This data is available to be applied in various ways by the user. The table below shows GPS modes, ranges and services.

Description	Range	Services
GPS Option A		Time reception only
GPS Option B	<1.5m	DGPS*
GPS Option C	<0.6m	DGPS*, OmniStar
GPS Option D	<0.6m <0.6m <0.7m	CDGPS, DGPS*, OmniStar
Output		
Time, Lat / Long, UTM, Elevation and number of Satellites		
***DGPS with SBAS (WAAS / EGNOS / MSAS)**		

Key System Components

Key components that differentiate the GSM-19 from other systems on the market include the sensor and data acquisition console. Specifications for components are provided on the right side of this page.

Sensor Technology

GEM's sensors represent a proprietary innovation that combines advances in electronics design and quantum magnetometer chemistry.

Electronically, the detection assembly includes dual pick-up coils connected in series opposition to suppress far-source electrical interference, such as atmospheric noise. Chemically, the sensor head houses a proprietary hydrogen-rich liquid solvent with free electrons (free radicals) added to increase the signal intensity under RF polarization.

From a physical perspective, the sensor is a small size, light-weight assembly that houses the Overhauser detection system and fluid. A rugged plastic housing protects the internal components during operation and transport.

All sensor components are designed from carefully screened non-magnetic materials to assist in maximization of signal-tonoise. Heading errors are also minimized by ensuring that there are no magnetic inclusions or other defects that could result in variable readings for different orientations of the sensor.

Optional omni-directional sensors are available for operating in regions where the magnetic field is near-horizontal (i.e. equatorial regions). These sensors maximize signal strength regardless of field direction.

Data Acquisition / Console Technology

Console technology comprises an external keypad / display interface with internal firmware for frequency counting, system control and data storage / retrieval. For operator convenience, the display provides both monochrome text as well as real-time profile data with an easyto-use interactive menu for performing all survey functions.

The firmware provides the convenience of upgrades over the Internet via the GEMLinkW software. The benefit is that instrumentation can be enhanced with the latest technology without returning the system to GEM -- resulting in both timely implementation of updates and reduced shipping / servicing costs.

Specifications

Performance

Sensitivity:	0.022 nT / √Hz
Resolution:	0.01 nT
Absolute Accuracy:	+/- 0.1 nT
Range:	20,000 to 120,000 nT
Gradient Tolerance:	< 10,000 nT/m
Samples at:	60+, 5, 3, 2, 1, 0.5, 0.2 sec
Operating Temperature:	-40C to +50C

Operating Modes

Manual: Coordinates, time, date and reading stored automatically at minimum 3 second interval.
Base Station: Time, date and reading stored at 1 to 60 second intervals.
Remote Control: Optional remote control using RS-232 interface.
Input / Output: RS-232 or analog (optional) output using 6-pin weatherproof connector.

Storage - 32 MB (# of Readings)

Mobile:	1,465,623
Base Station:	5,373,951
Gradiometer:	1,240,142
Walking Mag:	2,686,975

Dimensions

Console:	223 x 69 x 240 mm
Sensor:	175 x 75mm diameter cylinder

Weights

Console with Belt:	2.1 kg
Sensor and Staff Assembly:	1.0 kg

Standard Components

GSM-19 console, GEMLinkW software, batteries, harness, charger, sensor with cable, RS-232 cable and USB adapter, staff, instruction manual and shipping case.

Optional VLF

Frequency Range: Up to 3 stations between 15 to 30.0 kHz. Parameters: Vertical in-phase and out-of-phase components as % of total field. 2 components of horizontal field amplitude and total field strength in pT.

Resolution: 0.1% of total field

Our World is Magnetic.

About GEM Advanced Magnetometers

GEM Systems, Inc. delivers the world's only magnetometers and gradiometers with built-in GPS for accurately positioned ground, airborne and stationary data acquisition. The company serves customers in many fields including mineral exploration, hydrocarbon exploration, environmental and engineering, Unexploded Ordnance Detection, archeology, earthquake hazard prediction and observatory research.

Key products include the Proton Precession, Overhauser and Optically-Pumped Potassium instruments.

Each system offers unique benefits in terms of sensitivity, sampling, and acquisition of high-quality data. These core benefits are complemented by GPS technologies that provide metre to sub-metre positioning.

With customers in more than 50 countries globally and more than 25 years of continuous technology R&D, GEM is known as the only geophysical instrument manufacturer that focuses exclusively on magnetic technology advancement.

GEM SYSTEMS
ADVANCED MAGNETOMETERS

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03/09/2008