# TECHNICAL REPORT ON THE ONAMAN PROPERTY, THUNDER BAY MINING DIVISION, ONTARIO, CANADA

N.T.S. 42E13NE & 42L4SE Beardmore Area, Ontario

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#### **SUMMARY**

This report is written as a technical report regarding the 2006 exploration program on the Onaman Property which is currently 100% held by Sage Gold Inc. The Onaman Property is situated within the Thunder Bay Mining Division of northwestern Ontario 40 km north of Jellicoe and 200 km north-east of Thunder Bay.

The metavolcanics underlying the Onaman Property are part of the Wabigoon greenstone belt and consist of extensive mafic flows & their volcaniclastic equivalents as well as relatively minor felsic pyroclastic rocks. Iron formation, cherts and probable komatiites are also present in small amounts. The base of the sequence is intruded by granitoids. The metavolcanic belt is isoclinally folded about steep northeast-trending, west-plunging axes, with a synclinal axis centered on the Onaman River.

The 2006 exploration program consisted of stripping & channel sampling, detailed mapping and diamond drilling at a number of showings on the Onaman Property. Extensive stripping of overburden was completed at Lynx #2, Cane Gold-Silver, Cane Copper, Km 51, Km 52, D-9 and Abitibi. The stripped areas were mapped in detail and channel sampling of exposed mineralization was carried out. BQ diameter drilling was completed at Lynx #1, #2 & #3, Cane Gold-Silver, Cane Copper, D-9 and Abitibi. A ground magnetic and horizontal loop electromagnetic survey was conducted on the Lynx showings.

The work completed at Lynx involved the collection of approximately 420 channel samples (Lynx #2) and the drilling of 15 drillholes (Lynx #1, #2 and #3). Drilling at Lynx # 1 yielded a 6 m interval grading 1.7 g/t Au, 141.1 g/t Ag and 5.83% Cu (drillhole S06-01). Significant intercepts at Lynx #2 include 2.60 m of 2.25 g/t Au, 112.60 g/t Ag and 6.33% Cu (drillhole S06-13). Highlights from the Lynx #3 zone include 2.1 m of 1.29 g/t Au, 35 g/t Ag and 1.59% Cu (drillhole S06-11).

The work completed at Cane Gold-Silver included the collection of approximately 400 channel samples and the drilling of 8 drillholes. Assay highlights from drilling include 2.5 m grading 0.36% Cu, 1.32% Pb, 3.34% Zn, 1.2 g/t Au and 118.6 g/t Ag (drillhole CA06-06).

The work completed at Cane Copper involved the collection of approximately 140 channel samples and the drilling of 4 drillholes. Assay highlights from drilling includes a 5 m interval containing 1.91% Cu and 95.40 g/t Ag which includes a 2 m interval grading 4.47% Cu, 216 g/t Ag and 0.13 g/t Au (drillhole CC06-04).

The work completed at Km51 included the collection of approximately 275 channel samples. Assay result highlights include a **0.92 m interval containing 0.65% Cu, 0.21% Pb, 3.37% Zn, 1.12 g/t Au and 110 g/t Ag.** 

The work completed at D-9 involved the collection of approximately 120 channel samples and the drilling of three drillholes. Assay highlights from drilling include a **0.3 m section containing 0.2% Cu and 839 ppb Au.** 

The work completed at Abitibi included the collection of approximately 275 channel & grab samples and the drilling of 4 drillholes. Results from drilling include a **0.45 m interval containing 0.15% Cu, 1.99% Pb, 0.48% Zn 1410 ppb Au and 130 g/t Ag.** 

#### 1.0 INTRODUCTION

This report is written as a technical report for the Onaman Property ("the Property") which is 100% held by Sage Gold Inc. ("Sage Gold") of Toronto.

The author of this report ("report" or "technical report"), Ulrich Kretschmar (the "current author"), was retained by Sage Gold during 2006-2007 to oversee an exploration program consisting of diamond drilling, outcrop stripping, grab and channel sampling, line cutting and ground geophysics on the Property. In addition, the current author was asked to review and prepare a technical summary of the historical work and 2006 exploration program carried out on the Property. The Onaman Property is situated on the Onaman River greenstone belt approximately 40 kilometres (km) north of Jellicoe in north-central Ontario. The primary target of exploration is base/precious metal volcanogenic massive sulfide mineralization.

The intent of this technical report is to put forth and interpret information gathered from the Onaman Property to date in addition to making sound scientifically based recommendations for future work on the Property. The data used in this report includes those references listed in the "References" section as well as data gathered during the 2006 field season.

#### 2.0 RELIANCE ON OTHER EXPERTS

The current author, in writing this report, uses sources of information as listed in the 'References' section of this report. This report is a compilation of proprietary and publicly available information as well as information obtained during the 2006 exploration program on the Onaman Property. The government reports, some Assessment filings, and geological reports were prepared by a person (or persons) holding post secondary geology or a related university degree(s), prior to the implementation of the standards relating to National Instrument 43-101. The information in those reports is, therefore, assumed to be accurate. Those reports written by other geologists are also assumed to be accurate based on the current authors work on the Property.

The information available to the author includes but is not limited to various geological maps, geophysical surveys, reports from past exploration, government papers as well as the documents listed in the References section. All data gathered from the 2006 field season was also available to the current author during the preparation of this report. The current author is familiar with Archean Volcanogenic Massive Sulfide (VMS) and gold deposits and has

knowledge of the techniques that are in general use in mineral exploration in Archean VMS environments in Canada. The current author is considered a Qualified Person as defined under policy National Instrument (NI) 43-101 guidelines.

#### 3.0 PROPERTY DESCRIPTION AND LOCATION

The Onaman Property is situated within the Thunder Bay Mining Division of northwestern Ontario on National Topographic System (NTS) maps 42E13NE & 42L4SE. It is located 40 km north of the small community of Jellicoe, 200 km north-east of Thunder Bay (Figure 1; Figure 2). Jellicoe is on the Trans-Canada Highway (highway 11) between the former gold mining towns of Beardmore and Geraldton. An all weather gravel road 62 km long leads from the highway to the Property. The distance by road from the Property to Beardmore is 103 km, and to Geraldton is 104 km.

The Property consists of 66 claims, totalling 10,416 hectares (ha). A complete listing of all claims and their status is given in  $\underline{\text{Table 1}}$ . The Property is 100% owned by Sage Gold Ltd.

# 4.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE & PHYSIOGRAPHY

Access to the Property is gained via gravel roads which run off of highway 11. The road which runs the length of the Property, from the south-west corner to the north-eastern extremity, is referred to as the Tashota Mine Road, as it was originally constructed to serve the former Tashota-Nipigon gold-copper mine which lies 6 km east of the north end of the Property. It connects with the Kinghorn Road (formerly called the Camp 40 Road), which runs from Highway 11 at a point 9 km east of Jellicoe, to the Onaman River Resort (the former Domtar Camp 40), with branch roads leading to Auden, Lake Nipigon, and Tashota Station.

A road branching off to the east of the Tashota Mine Road in the southern part of the Property leads to Onaman Lake, and is referred to as the Onaman Lake Road. A road leading north-west from the Tashota Mine Road to the Onaman River at the head of MacDonald Lake is referred to as the Camp Road as it leads to the Goldbrook-Castlewood camp-site. A third side road, leading north-west and north from the Tashota Mine Road in the northern part of the Property, is called the Beaver Dam Road. These roads are shown on Figure 1

and <u>Figure 2</u>, and their names are used when making reference to locations throughout this report. Other roads which branch off the Kinghorn Road, and which give access to the southern part of the Property, are temporary logging roads constructed in the early 1970's. They are now somewhat overgrown.

The topography on the Property is relatively flat with hills 15 to 30 m high in the area of Barn Lake. The lower reaches of the North Onaman River are deeply incised, with the surrounding hills 30 to 60 m above the river level. The area around Onaman Lake is quite flat and in particular the eastern and the central part of the western shore is swampy. Outcrop is not abundant. The area south of Tashota Mine Road is low and swampy with 2 to 3 percent (%) outcrop. The area between the Tashota Mine Road and the North Onaman River and the hilly area around Barn Lake are the only parts of the area with good outcrop exposure.

The Property lies within the central plateau section of the Boreal Forest Region. On the uplands common tree species are jackpine, black spruce, white birch and aspen. Along the river banks aspen, white spruce, balsam fir, black spruce, balsam poplar and white birch are present. Tamarack and black spruce populate the swampy areas.

Beardmore, Jellicoe and Geraldton are of sufficient size to provide for most exploration needs on the Property. Samples for geochemistry are sent to ALS Laboratories in Thunder Bay.

#### **5.0 HISTORICAL WORK**

The following is a chronological list of geological activity that has taken place on or adjacent to the Onaman Property over the past 90 years.

1916: Gregory Brennan, a prospector, probably working south from the newly completed National Transcontinental Railway at Tashota, panned free gold from lead-zinc mineralization in two showings, probably the Coulee No's. 2 and 4 zones.

1922-1925: Brennan returned to the area and found a quartz vein system with free gold. Canadian Mines Syndicate, and later South Onaman Mines was formed to develop the property, and carried out extensive stripping and trenching. Results were probably not very encouraging despite local spectacular assays.

Late 1930's: Percy Hopkins (and a Mr. Pauloski?) acquired claims roughly in the area of the Headway-Coulee property. The Middleton Vein was discovered, which yielded locally elevated silver values. Canadian Mines Syndicate trenches were cleaned and re-sampled. The Johnson Vein (a narrow quartz vein rich in gold tellurides) was tested by six X-ray drill holes with poor results.

1949: Hopkins' claims were acquired by Coulee Lead and Zinc Mines. Extensive prospecting uncovered several zinc-lead-silver zones and the Friday Vein Float, with up to 196 oz/t Ag. A dip-needle survey and 5,018 feet (ft) of drilling in 24 holes, 15 on the Coulee No. 5 zone, 3 on the Canadian Mines Syndicate zone, and 6 on other targets were completed. Gold values from the Coulee No. 5 Zone were reportedly encouraging.

1949: Headway Red Lake Gold Mines acquired ground to the SW of Coulee (both companies controlled by the McDonough family). Prospecting located the Headway Main Zone, with more tonnage potential than the Coulee zones.

1950: The Coulee property was optioned to McIntyre Porcupine Mines, or its subsidiary Carndesson Mines. They drilled 11,440 ft in 26 holes, mainly along the felsic volcanic trend.

1951: The McIntyre option on the Coulee claims was dropped and the Coulee claims were assigned to the Chubb-Stuart Syndicate, which held them at least until 1968, apparently without doing any work.

1951-1952: Headway drilled 139 holes totaling about 33,000 ft of which 106 were on the Headway Main Zone, 12 on the sulphide zones extending south from the Main Zone, 5 on the Middleton Vein and 16 on scattered targets. The Headway Main Zone was estimated to contain 739,400 tons of 3.15% Zn and  $\pm$  1 oz/ton Aq.

1972-1974: Noranda held the Headway and Coulee claims under option and staked a large surrounding area. They carried out magnetic, vertical loop EM, and IP surveys, geological mapping, and a soil geochemical survey. Some old trenches were cleaned out and 5,487 ft was drilled in 17 holes, 8 on EM anomalies (including one each on anomalies M1 and M2 – "Big Mac Zone"), 3 on IP anomalies, 3 on the Headway Main Zone, and 3 on the Coulee No. 5 Zone.

1974: Local prospectors Nolan Cox and David Thorsteinson found malachite-cemented till near MacDonald Creek. They staked claims, which were optioned to Lynx-Canada Explorations. Prospecting located boulders with elevated values of Cu, Au and Ag. A horizontal loop EM survey was carried out.

1975-1976: Lynx, with partners Dejour Mines and Canadian Reynolds Metals, drilled in the area of the malachite-bearing till and located the No. 1 Cu-Au-Ag zone. They then optioned the Headway and Coulee claims, and commenced an extensive exploration program. The bulk of the property was surveyed with horizontal loop EM and magnetometer, and prospecting and stripping was carried out. 55 holes totaling 16,926 ft were drilled. A basal till sampling program was also completed. The outcome was the discovery of the No.1 and No. 2 Zones, and other Cu-Au-Ag zones, as well as molybdenite occurrences.

1976-1977: Legal action by the Dighem Syndicate caused cessation of work. Interests of Lynx and Reynolds in the southern half of the property were assigned to the Dighem Syndicate, which, in joint venture with Dejour Mines, carried out magnetic and HLEM surveys and geological mapping over this southern area. Dighem Syndicate re-assigned its interest back to Lynx and Reynolds in late 1977.

1978-1979: R. DiLabio of the GSC examined the property and described the glacial dispersion train down-ice from the No. 2 Zone. He also recognized the presence of bismuth in the Cu-Au-Ag mineralization.

1981-1982: Six claims just south of the Headway Main Zone were optioned to Mattagami Lake Mines, where 1951 drilling had reported cobalt values. Magnetic, HLEM and soil geochemical surveys were carried out and 5 drill holes totaling 2,008 ft were drilled (4 on the "Swamp Zone" and 1 on conductor M3 – "Little Mac Zone"). No significant cobalt mineralization was found and the option was dropped.

1982-1985: S. Osterberg carried out geological mapping and rock geochemical studies for a M.Sc. thesis. His work gave an excellent description of the felsic volcanism and demonstrated the existence of extensive hydrothermal alteration.

1988: Goldbrook held an option to acquire 50% interest in the property. An airborne magnetic and VLF survey was carried out, and a number of targets were examined by stripping. The 88-A Zn-Pb-Ag zone was discovered.

1990: Goldbrook and Castlewood (in joint venture) carried out line cutting, magnetic, and VLF EM surveys on claims acquired in 1988 adjoining the Onaman River claims to the north-west (now considered part of the property).

1991: Goldbrook and Castlewood (in joint venture) acquired the option on the property from CS Resources et al. Line cutting, magnetic and VLF-EM surveys were carried out, an airborne EM/magnetic survey was flown, geological mapping was commenced, and a stripping program was done over the 91-A, 91-

#### 6.0 REGIONAL AND LOCAL GEOLOGY

The regional geology within the area of the claims is covered by the Ontario Geological Survey Report 208: Geology of the Northern Onaman Lake Area (Thurston, 1980) and Ontario Geological Survey Report 197: Geology of the Conglomerate Lake Area (Amukun, 1980). The Property lies within the 1989 survey (maps 81299 and 81300) of the Tashota-Geraldton-Longlac Area, Airborne Electromagnetic Survey, scale 1:20,000.

Goldbrook Resources carried out extensive work in the area and the Properties geology was summarized by Colin Bowdidge. The geology of the Onaman Property is illustrated on <a href="Figure 3">Figure 3</a> and <a href="Figure 4">Figure 4</a>. The following excerpt (Sections 6.0 & 7.0) is taken verbatim from Bowdidge (1993) on the 1992-1993 exploration program of Goldbrook Resources. The below verbatim text is marked by italicizes to ensure proper separation from this technical report and the one referenced above. References to locations on the 1992 Goldbrook cut grid have been retained in this report as these locations will be re-mapped and described in the course of the 2007-2008 exploration program.

#### **6.1 INTRODUCTION**

This section reviews published accounts of the geology of the area around the Onaman River property, in order to put the detailed property geology in context. Previous interpretations of stratigraphic and structural relations in the area are reviewed and found to be inadequate. A revised interpretation is proposed.

The geology of the area has been mapped by Gledhill (1925), Moorhouse (1938), Amukun (1980) and Thurston (1980). The last two of these reports represented standard O.G.S. mapping at 1:31,680 scale. The boundary between the two map-areas is the 50° parallel, which runs through the Onaman River property. Thurston's (1980) map of the Northern Onaman Lake area covers the north part of the region in Fig. 2, while Amukun's (1980) map of the Castlewood Lake area covers the southern part.

#### **6.2 REGIONAL SETTING**

The property covers the south-eastern side of the south-western end of the Onaman River greenstone belt. The area lies in the Tashota-Onaman (Blackburn & Johns, 1988), a division of the Wabigoon sub-province of the Superior

Province. All the rocks are of Archean age, with the exception of early Proterozoic diabase dykes. The Onaman River greenstone belt is typical of the greenstone belts in the Superior Province. It is an arcuate belt between two granitic plutons; it is composed dominantly of submarine mafic volcanics; it has been subject to variable deformation and greenschist facies metamorphism during the Kenoran Orogeny.

#### **6.3 LITHOLOGICAL / STRATIGRAPHIC UNITS**

The main lithostratigraphic elements of the area are:

- 1. The Onaman Lake Batholith, a large granodioritic intrusive body with a core of migmatite.
- 2. The Jackson Lake Pluton, to the north-west, an intrusive body of granodiorite.
- To the south-west, a large area of dominantly mafic volcanics intruded by large stocks of gabbro/diorite and smaller stocks of granite/granodiorite. For the purposes of this report, these rocks are referred to as the Castlewood Lake Volcanics.
- 4. Around the western edge of the Onaman Lake Batholith, a 1-2 km thick succession of mafic volcanics here referred to as the Onaman River Volcanics.
- 5. Around the edge of the Jackson Lake Pluton, a 1-3 km thick sequence of mafic volcanics here referred to as the Conglomerate Lake Volcanics.
- 6. A conglomerate unit, whose outline on the map resembles an inverted "L", the two limbs of which separate the Castlewood Lake Volcanics from the Onaman River and Conglomerate Lake Volcanics.
- 7. A narrow (up to 500 metres) bands of felsic volcanics, separating the Onaman River Volcanics from the Conglomerate Lake Volcanics.

#### **6.4 STRUCTURAL AND STRATIGRAPHIC RELATIONS**

All stratigraphic tops from the maps of Amukun (1980) and Thurston (1980) were compiled in an attempt to resolve the stratigraphic and structural relationships between the various units in the area. This simple exercise, as part of an attempt to make a single map of the area, forced some reinterpretation of the regional and local geology. Since most of the top

directions are based on pillows, it is necessary to consider the direction of the majority of tops of a whole population, to arrive at a facing direction for a group of rocks.

#### 6.4a Onaman River Volcanics

Amukun (1980) did not recognize the Onaman River Volcanics as a separate group from the Castlewood Lake Volcanics, possible because they occupy only a small area in the north-eastern corner of his map area. Thurston (1980) postulated a synclinal fold axis through the felsic volcanics along the Onaman River, implying that the mafic volcanics on each side were equivalent to each other.

It is clear that the Onaman River Volcanics face to the west and north-west, while the Castlewood Lake Volcanics face to the north and north-east. It is therefore possible that these two groups may be equivalent to each other, and be separated by a synclinal fold. However, the Onaman River Volcanics are distinct from the other mafic volcanic sequences in the area in that they contain interbedded chemical sediments with numerous occurrences of copper of zinclead sulphides. Base metal mineralization is essentially unknown elsewhere in the area.

The conglomerate Lake Volcanics face to the north-west, and therefore overlie both the Onaman River Volcanics and the Castlewood Lake Volcanics.

#### 6.4b Stratigraphic Relations of the Conglomerates

Moorhouse (1938) mapped the L-shaped conglomerate and interpreted its outcrop trace as being caused by a fold. This conclusion probably influenced Thurston (1980) to postulate a synclinal fold between the Onaman River Volcanics and the Conglomerate Lake Volcanics. Amukun (1980), however, noted certain differences between the east-west striking (Conglomerate Lake) and the north-south striking (Con Creek) conglomerates, and hesitated to make a firm correlation between them. The virtual absence of outcrop in the "junction" area allows a variety of possible interpretations. While both conglomerates are characterized by an abundance of cobbles of granite and mafic volcanics, the Conglomerate Lake conglomerate is matrix-supported, while the Con Creek conglomerate is clast-supported. Also, the Con Creek conglomerate contains prominent cobbles of chert-magnetite iron formation.

Both Moorhouse (1938) and Amukun (1980) postulated a source area for the conglomerates to the south-east, on the basis of provenance. The only substantial development of magnetite iron formation in the area is in the

Grasser Lake area, on the south-west side of the Onaman Lake Batholith. An additional consideration of provenance is the presence of migmatitic rocks in the Onaman Lake Batholith, which strongly suggests that it is an "older" granitic complex, part of which may have been the basement on which the volcanics were deposited. Uplift and erosion of such a basement would provide a source for granitic cobbles in the conglomerate. Moorhouse (1938) also postulated a source-area to the east or south-east on the basis of "tails" of arkosic material on the west side of many cobbles in the conglomerate. These "tails" were presumed to be on the downstream side of the cobbles, thus implying transport from east to west.

The presence of conglomerate horizons ("diamictite") in the felsic pyroclastic sequence at the top of the Onaman River Volcanics complicates interpretation of the conglomerates. It does, however, demonstrate that sedimentation was contemporaneous with the felsic volcanism.

#### **6.5 POSTULATED STRATIGRAPHIC RECONSTRUCTION**

The following provisional interpretation of the volcanic and sedimentary history of the area is proposed to explain how the various groups of rocks in the area attained their present configuration. Because of the absence of outcrop in the "junction" area, it may not be possible to confirm or refute this hypothetical reconstruction.

- 1. The Onaman Lake Batholith was a segment of continental crust, with the Onaman River Volcanics deposited in a submarine environment around its western margin. The continental margin environment could explain the apparent calc-alkaline nature of the felsic volcanic sequence, as well as the apparent base metal enriched nature of the mafic volcanics. More or less contemporaneously with the deposition of the mafic Onaman River Volcanics, the Castlewood Lake mafic volcanic complex developed, but in an oceanic environment.
- 2. Tectonic activity brought the Castlewood Lake Volcanics into contact with the Onaman Lake "micro-continent". The basement and at least part of the overlying volcanics were uplifted and subjected to subaerial erosion. A north-west flowing river system brought coarse clastic sediments into the trough-like suture zone between the Castlewood Lake Volcanics and Onaman River Volcanics (the Con Creek Conglomerate). Simultaneously, a shallow-water felsic volcano developed at the outer edge of the Onaman River Volcanics. This low felsic edifice acted as a barrier to northward transport of clastic sediment, which only occasionally overlapped it and contributed a sedimentary component to the pyroclastics.

- 3. After the trough between the Castlewood Lake and Onaman River Volcanics was filled with sediment, the north-west flowing river system continued, and conglomerate (the Conglomerate Lake conglomerate) was deposited along the northern, outer edge of the Castlewood Lake Volcanics. The greater distance of transport would result in a higher proportion of finer material, giving rise to a matrix-supported conglomerate.
- 4. The Conglomerate Lake Volcanics were deposited above and to the north-west of the now united Onaman Lake/Castlewood Lake "micro-continent".
- 5. Deformation, metamorphism, and intrusion of granitic batholiths.

The felsic volcanic sequence is thickest and most complex, and has the coarsest pyroclastics in the southern part of the property (the MacDonald Lake area), demonstrating the existence of a volcanic centre in this area. Little attention had been devoted to this part of the property in the past, largely because of poor outcrop, but possible also because alteration has given rise to rocks that may not look felsic on a casual inspection. The felsic rocks thin northwards and probably undergo a facies change to conglomerate to the south.

- 1. The felsic volcanics appear to have been erupted in a shallow-water marine environment. This conclusion is based on a number of different lines of evidence.
- 2. Hydrothermal alteration is best developed in the MacDonald Lake area, where chlorite and chloritoid alteration are both widespread and intense. This implies, predictably, that the alteration system is focused on the felsic volcanic centre.
- 3. The kyanite alteration zone near the Headway Zn-Pb deposit has been previously interpreted as representing a local hydrothermal discharge site to the sea floor. A second kyanite alteration zone has been found in the MacDonald Lake area. A third example of intense hydrothermal fluid channeling has also been located, with anastomosing chlorite stringers cutting sericitized vesicular rhyolite. All three indicate hydrothermal fluid discharge channels.
- 4. Ground geophysical surveys have outlined a series of conductors within or at the top of the felsic sequence. The longest, widest, and most conductive is known as conductor M1 and vM2, vor vthe v"Big Mac" vzone (it lies near

MacDonald Lake). To the North, it is succeeded along strike by M3, M5, M6, M7 and M10.

5. Previous drilling on conductors M1 and M2 had indicated that they were caused by wide zones of massive pyrite-pyrrhotite. Re-examination of drill core from 1972 Noranda holes indicates that these sulphides are volcanogenic massive sulphide type, with highly altered felsic pyroclastic host rocks.

#### 7.0 PROPERTY GEOLOGY

#### 7.1 INTRODUCTION

Geological mapping of most of the northern part of the property was previously carried out by Noranda (Moffatt, 1974), while the Dejour-Dighem Syndicate joint venture did mapping over most of the southern part of the property (Routledge, 1977). These geological maps were adequate in the context of the prevailing exploration philosophy of the times, but neither shows any of the detailed volcanological features noted by Osterberg (1985). More important, they show no recognition of the widespread hydrothermal alteration first recognized by Osterberg. In order to carry out an integrated exploration program targeted at volcanogenic massive sulphides, it was essential to map the property in as much detail as possible.

Geological mapping was commenced in 1991 by S. Amukun, who had mapped the Conglomerate Lake area for the O.G.S. The 1991 map covered the area between the north base line and the river, and a few outcrops west of the river. Amukun was retained to map the remainder of the property in 1991. This object was accomplished, with the exception of most of the area north-west of the river, which was considered of secondary importance. Delays caused by persistent wet weather meant that Amukun was not able to map as much detail as was required in the key area of the felsic volcanics.

To provide additional detailed mapping data, and to introduce a fresh viewpoint on alteration and volcanology, Y. Diner was retained to map the area of the felsic volcanics up to approximately 1500N, referred to here as the MacDonald Lake area. His previous experience in mapping unmetamorphosed volcanics and epithermal alteration systems brought a fresh perspective to the project, and resulted in the acquisition of useful geological information in this key area.

Amukun's report follows as section 8.2, with maps NG.GEOL and SG.GEOL.

Diner's report is reproduced as section 8.3, with maps ML.GEOL and ML.ALT. No attempt has been made to consolidate the two reports, as they are largely complementary. Amukun deals mainly with primary lithologies, stratigraphy, and structure, while Diner gives a general description of the volcanic stratigraphy and volcanology and concentrates on alteration mineralogy.

There are a few differences in terminology between the two: Diner uses the term "Mixed Sequence", i.e. mixed volcanic/pyroclastic/sedimentary rocks in reference to the main group of felsic pyroclastics with associated felsic flows, porphyry intrusions and interbedded "diamictite". Amukun simply refers to "felsic volcanics" or "felsic-dominated sequence" to refer to the same group of rocks. There are also a number of differences between the two maps, in terms of identifications of primary lithologies on specific outcrops. For example, contacts between mafic and felsic rocks are sometimes shown differently. This is a result of the hydrothermal alteration, which has often obscured primary lithology, so that giving a name to a rock may be a very subjective process.

# 7.2 GENERAL GEOLOGY by Samuel E. Amukun

Geological mapping of the property was carried out during October and November 1991, and from June 5<sup>th</sup> to September 24<sup>th</sup>, 1992. The entire property was covered, with the exception of the area north-west of the Onaman River, which was only covered in the MacDonald Lake area, and where it was underlain by felsic volcanics.

#### 7.2a Metavolcanic Rocks

#### Mafic to Intermediate Volcanics (Unit 1)

Mafic metavolcanics are the dominant rock type on the property, underlying approximately 80% of the area. They consist largely of pillowed flows separated by minor interflow tuffs and sedimentary horizons. They are typically aphanitic to fine-grained, and are generally foliated, but there are occasional outcrops of medium to coarse grained, usually massive, mafic rocks.

# Mafic Lava Flows (Units 1a, 1b)

Preliminary petrochemical studies indicate that the mafic volcanics fall into two categories; Mg-tholeiite and Fe-tholeiite. In some areas, these two types can be distinguished visually. Mg-tholeiites tend to be greenish-grey in colour, while Fe-tholeiites tend to be bluish-grey to black, are often softer and more

weathered, and lack well-preserved pillows. These criteria were used to separate the two lithologies during mapping, but it should be emphasized that the identification is provisional. Only whole-rock chemical data can make a positive separation of the two units.

Almost all outcrops of mafic lavas show some pillow structure. In a few cases, there appears to be a cycle sequence within an individual flow: massive lava large pillows small pillows weakly bedded tuffaceous lava. This is well seen at 900S/30W in a 12 meter thick flow, but a combination of deformation and poor quality of outcrop make it difficult to distinguish individual flows elsewhere.

Pillows are typically oblong to subrounded and of various sizes (e.g. 2900S/150W, 2550N,0E). In most cases, deformation has obscured or modified the original pillow outlines so that reliable top determinations are not possible. However, there are a sufficient number of well-defined pillows to recognize that the top direction is west or north-west. The best top determinations are at 4100N/200W, 46500N/137W, 3450N/400W, 3925S/0W and 2675S/1050W.

A fairly common feature in pillowed lavas is the development of a light grey epidotized core, surrounded by a darker green shell, then a dark green or black aphanitic selvage. This feature is well seen at 850N/375W, 4335N/0E, and 5150N/025W. In areas of more intense deformation, the more competent epidotized cores become detached from the remaining pillows. This is observed at 1300N/800W and 2400N/050E.

### Vesicular or Amygdaloidal Mafic Lavas (Unit 1c)

Vesicular or amygdaloidal mafic lavas are rare, but examples are exposed at 4100N/200W, 300N/310W, and 2105N/0E. They contain amygdules of quartz and/or carbonate in the size range of 3-6 mm. Apparently, vesicular sections are assumed to represent weathered-out carbonate filled amygdules.

The most westerly mafic lavas exposed in the southernmost part of the property, between 3200S and 3650S, and between 700W and 800W, are highly vesicular, with vesicles/amygdules up to 5 cm in diameter. This area has almost no true outcrops, but rather contains numerous scattered slabs of the vesicular/amygdaloidal mafic lava as well as minor amounts of volcanic-rich conglomerate.

### Porphyritic Mafic Lavas (Unit 1d)

Porphyritic mafic lavas are uncommon; where they are observed, e.g. at 1000S/200E, 2600N/50W and 2425N/140E, they contain anhedral to subhedral

phenocrysts of partially altered feldspar from 5 mm to 20 mm long. In the absence of clear-cut field relations, these rocks are difficult to distinguish from porphyritic intrusive units of similar composition.

### Coarse Grained Massive Mafic Lavas (Unit 1e)

The best exposed coarse-grained mafic lava is at 475N/725W, west of the Onaman River, where the coarse-grained centre of a thick flow grades into finer-grained pillowed lavas on each side, without intrusive relationships. Other examples occur at 200N/150W, 0N/50W, 3200N/100E and 760N/725W.

Coarse grained flows can only be recognized if they, or finer grained rocks which grade into them, contain diagnostic flow features such as pillows or amygdules. For this reason, Unit 1e also includes a number of occurrences which are not identified as flows, and may represent gabbroic sills. Examples of such indeterminate coarse grained mafic rocks were found at 3400N/232W and 3200N/40E.

# Laminated Mafic Tuffs (Unit 1f)

Pyroclastic rocks account for only a small proportion of the mafic volcanic sequence, probably less than 5%. The laminated tuffs are well-bedded, with beds typically 1 m thick, composed of mafic bands of the order of 2.5 cm thick, separated by quartzofeldspathic bands less than 5 mm thick. Good examples of laminated mafic tuffs are exposed at: 975N/135W, 1750N/250W, 3950S/175W, 2500S/200W and 1070N/225W.

Although most of the laminated tuffs are thin (1-5 meter) interflow units between pillowed flows, a thick laminated tuff unit is exposed at the intersection of the Beaver Dam road and the Tashota Mine road (4100N/550E). At this locality, spectacular "S" folds are displayed in the banded tuff and in the iron formation in contact with it.

#### Lapilli Tuffs (Unit 1g)

Occasional coarse sections of mafic interflow tuff occur, especially in the mafic volcanics on the west side of the Onaman River.

# Pillow Breccias and Flow Breccias (Unit 1h)

Breccias composed of mafic volcanic are rare, and occur as thin units between pillowed flows. Pillow breccias are exposed at 4660N/660E and

2010N/885E. They are poorly sorted chaotic breccias composed of whole pillows, epidotized pillow cores and assorted angular to subrounded pillow fragments.

Flow breccias are similar to pillow breccias but do not contain whole pillows are large pillowed fragments. Rather, they contain angular pillow fragments with portions of selvages attached, and fragments of mafic flows and tuffs. An excellent example is located just north of the camp, on the west shore of the Onaman River, at 800N/475W, where the breccia contains fragments of amygdaloidal or vesicular basalt.

# <u>Unsubdivided Mafic Volcanics (Unit 1j)</u>

A number of schistose rock types have been produced by metamorphism, alteration and deformation of mafic to intermediate volcanics. These include chloritic, sericitic and garnetiferous schists. Examples are exposed at 1925N/90E, 2250N/25E, 2145N/225W, 3150N/170W and 3325N/285W. Other situations in which diagnostic textures have been obliterated, which are noted individually on the map, are silicified and carbonatized zones, breccias and mylonites.

### Felsic to Intermediate Volcanics and Pyroclastics (Unit 2)

Pyroclastic rocks with minor lavas and associated subvolcanic intrusions of intermediate to felsic composition underlie the central part of the property. The felsic sequence has been extended by the current mapping program. It is inferred to extend from about L2550S, between 450W and 900W, to its apparent maximum width of 600 meters of L1650S, to its northern extremity at 4400N/70W, where it is less than 10 meters wide, before pinching out altogether. Thus, the felsic sequence has a strike length of over 6 km, a maximum width of 600 meters, and an average width of 300-400 meters.

Alteration is very intense throughout most of the felsic sequence and makes identification of original composition and texture difficult. Even differentiation between mafic and felsic rocks if often imprecise. The location of the lower contact of the felsic sequence was revised more than once during field mapping and it is emphasized that this contact may still be inaccurate.

#### 7.2b Felsic to Intermediate Flows

### Spherulitic Flows, Massive Flows (Units 2g and 2h)

Rhyolitic flows are generally massive and contain blue opalescent quartz

"eyes" up to 2mm in diameter. Flow textures are generally not observed in the field, except in the extremely vesicular felsic flows exposed by stripping at 1950S/550W, where vesicles are sometimes concentrated in bubble trains. Flows in this outcrop also exhibit will-developed autobrecciation. Spherulitic Flows (Unit 2g) are visually distinctive because of the larger size (up to 2cm) of the blue quartz eyes. The term "spherulitic" is used to distinguish this unit, but it should be emphasized that the origin of the quartz eyes has not been confirmed. It is possible that they might represent quartz-filled amygdules. Excellent examples occur at 1275S/530W.

### Quartz and/or Feldspar-phyric Flows (Unit 2c)

This is an enigmatic rock type in that it appears in the field to be a quartz-phyric felsic lava without flow textures or any pyroclastic texture, and was mapped as a felsic flow-rock by Osterberg (1985). However, since it consist largely of quartz and kyanite with minor sericite and pyrite, it may simply be a product of intense alteration in which original textures have been obliterated. The bluish quartz eyes which generally characterize felsic lavas on the property are common. A foliation is typically present, and quartz veins are abundant. Examples are exposed at 1165N/275W, 1225S/500W, 1100S/650W and 1100S/625W.

### Pillowed Dacite Flows

Pillowed lavas which appear to be dacitic in composition were mapped at 2300N/150W and 2450N/200W. Preliminary examination of analytical data (Sample 91-044, Appendix III) suggests that this may be a silicified andesite.

#### Felsic to Intermediate Pyroclastics

Felsic pyroclastics are the most difficult rocks on the property to classify and map on a systematic basis. Firstly, they have been subject to ubiquitous hydrothermal alteration, and it is often difficult to discern original textures. In some cases, heterogeneous distribution of alteration minerals gives the appearance of a fragmental texture (see paragraph on "coarse pyroclastics"). Secondly, the presence of conglomeratic material at various places in the felsic sequence shows that sedimentary material has been incorporated into the pyroclastic rocks. In the absence of identifiable clasts of sedimentary origin, the proportion of sedimentary input in a tuffaceous rock is impossible to estimate, especially with the level of alteration present.

# Thickly Bedded Tuffs (Unit 2a)

This is the dominant unit of the felsic sequence. It contains lithic fragments up to 10cm long and 5cm thick. The original shape and angularity of the fragments is difficult to estimate because of the development of schistosity in the rocks. The schistosity, as well as the alteration, also obscure the proportion and nature of fine-grained matrix material. The bedded nature of the tuffs suggests deposition in a marine environment. In a general way, the tuffs appear to become more thinly bedded towards the top of the sequence, and pass into laminated tuffs (2b).

# Thinly Laminated Tuffs (Unit 2b)

Thinly laminated tuffs are arbitrarily defined as those with bedding planes at intervals of 10cm or less, although they are often laminated on a scale of less than 1cm. Lithic fragments are smaller, and in the most thinly-laminated tuffs, are absent. Good outcrops of laminated tuffs were mapped at 3200N/375W and 1680S/350W, but the best examples are on the trail along the Onaman River between lines 1500N and 1700N, and at 1850-1950N/250W. At the latter occurrence, well-developed small-scale folding is present.

### Quartz Crystal Tuff (Unit 2d)

Quartz crystal tuffs are light greenish-grey to tan rocks which are usually so severely altered that the only recognizable texture is a banding produced by alternation of chlorite-rich and sericite-rich layers. The distinctive feature of the unit is the presence of opalescent quartz "eyes" in a fine-grained schistose matrix. The presence of banding distinguishes the crystal tuffs from quartz-phyric flows.

#### Quartz-Feldspar Crystal Tuffs (Unit 2f)

These units consist of up to 30% of subhedral quartz and feldspar (now mostly altered to sericite) in a fine-grained ashy matrix. Crystal fragments average about 5mm in size, but are occasionally up to 1cm across. Bedding is defined by variations in the size and abundance of crystal fragments, and indicates aqueous deposition. Good examples occur at 900-950N/250-275W and 1800N/410W.

# Coarse Pyroclastics (Unit 2j)

Only one occurrence of coarse agglomerate was found at 850S/365W. The rock is highly altered, with carbonate-rich, sericite-rich, and chlorite+chloritoid-

rich phases. In many cases, it is impossible to tell if a particular "fragment" is pyroclastic or if it is an isolated patch of one alteration type. The rock grades from tuff-breccia to lapilli-tuff and agglomerate, with lenticular volcanic fragments up to 50cm across in a fine-grained matrix. The fragments appear to be vesicular or amygdaloidal, with many quartz cavity fillings or metacrysts which are, however, angular rather than round.

Lapilli-tuff is exposed at 1080N/250W and at 1615S/360W. At the latter location, lapilli-sized lithic and sulphide (near massive pyrite) fragments occur in a sericitic matrix at the base of the felsic sequence. Intermediate lapilli tuff is also present on the Beaver Dam Road at 4850N/400W, in an isolated zone of intermediate to felsic pyroclastics in the mafic volcanics.

# Quartz-Feldspar Porphyry (Unit 2e) and Felsic Sills & Dykes (Unit 2m)

There are several bodies of quartz-feldspar porphyry on the property. In some cases, where the outcrop is small or because of deformation, metamorphism and/or alteration, they are difficult to distinguish in outcrop from porphyritic flows or crystal tuffs. In the case of better-exposed bodies, the absence of lithic fragments, bedding or flow texture identifies them as intrusions. The bodies range in shape from dykes and sills to irregular plugs, and in size from 3 meters to more than 100 meters across. They may be massive, but are more commonly schistose. Cross cutting contacts are locally exposed. Chilled or phenocryst-free margins have been observed.

- 1. South Grid QFP: This is a sill about 40 meters wide that extends from 3100S to 3400S between 310W and 375W. It consists of a white weathering, fine grained matrix containing phenocrysts of blue quartz and white altered feldspar. It is cut by numerous pods and discontinuous veins of quartz.
- 2. Coulee No. 3 QFP: This is the largest body of QFP on the property, extending from 125W to 200W, between 3300N and 3450N. It is heterogeneous, with massive quartz-feldspar porphyry alternating with applyric sections, some of which appear to be spherulitic lavas. Schistosity and alteration obscure these internal contacts.
- 3. 92A Zone QFP: A massive to foliated body of QFP is exposed between 2785N and 2850N, from 550E to 620E. In this body, purple to blue quartz "eyes" are distinctive. The intrusion is partly altered to sericite schist adjacent to pyrrhotite-chalcopyrite mineralization.
- 4. "Cabin" QFP: A body of QFP is exposed around the very old cabin at

960S/650W. It has very abundant phenocrysts of quartz and altered feldspar in a fine-grained sericitic matrix with minor chlorite. The rock is strongly lineated with phenocrysts elongated along the lineation direction, but is not particularly schistose. The intrusion is cut by discrete shears where the porphyritic texture is obliterated.

5. Other QFP's: Other bodies of QFP occur at 3880N/485E, 2825N/125W, 3990N/520E, 4450N/75W and 4750N/675E. Cross cutting aphyric felsic dykes were observed at 1650N/207W and 1675N/245W. Both of these dykes are schistose, and have been sericitized.

# Unsubdivided Felsic Volcanics (unit 2k)

This unit includes mainly sericite or sericite-chlorite schist presumed to be derived from felsic pyroclastics or flow rocks, where the original texture if obscured by alteration and/or metamorphism. Some occurrences of chloritoid and garnet-bearing schist have been included in this category.

#### 7.3 METASEDIMENTARY ROCKS

### 7.3a Clastic Sedimentary Rocks (Unit 3)

# Conglomerate (Unit 3a)

Only a small area of the property contains outcrops of conglomerate, between 2130S and 2290S, from 990W to 1085W. To the south and west of these outcrops is an extensive overburden-covered area; it is inferred on the basis of aeromagnetic data and lithological similarity, that the conglomerate is part of the Con Creek and/or Conglomerate Lake conglomerate units mapped in these areas by Moorhouse (1938) and Amukun (1980).

The conglomerate contains interbeds of arkose; these are the only places where bedding attitudes can be measured. The conglomerate contains clasts up to 15cm in diameter in a schistose matrix of arkose with occasional silty lenses. The clasts are composed dominantly of granitic rocks and mafic volcanics, with subordinate amounts of felsic volcanic, quartz porphyry and chert-magnetite iron formation. The granitic cobbles are rounded and have resisted deformation, but the volcanic clasts tend to be somewhat flattened in the plane of schistosity. Clasts make up over 75% of the conglomerate, which is definitely clast-supported rather than matrix –supported. This fact, together with the presence of iron formation cobbles, suggests a correlation with the Con Creek conglomerate to the south (cf Amukun, 1980).

Within the felsic pyroclastic sequence, there are several occurrences, different stratigraphic levels, polymictic probably at of conglomerate/agglomerate, referred to as "diamictite" by Osterberg (1985). Diamictite is a non-genetic term for a clastic rock with larger clasts in a finergrained matrix. Because of the earlier use of the term by Osterberg, "diamictite" is used here to refer to this particular rock type, even though it could apply equally to the conglomerate. The diamictite differs from the conglomerate described above in that (1) clasts of granite, quartz and ironformation are less abundant; (2) the range of lithologies represented by the volcanic clasts is much greater; (3) the size range of volcanic clasts is greater - up to 50cm by 15cm, i.e. larger than the largest granitic clasts; (4) the larger volcanic clasts appear to have been much less rounded than the granitic clasts, even allowing for deformation; and (5) the matrix is tuffaceous rather than arkosic.

In the outcrop at 900-930M/250W-2752W, which has been stripped and washed, the diamictite is underlain by a laminated tuff cut by a lamprophyric dyke, and overlain by sericitized banded tuff and crystal tuff. The rock is intensely deformed, with irregular drag folds plunging to the north-west and boudinaged sections with quartz fillings between the boudins. Several of the larger volcanic clasts are composed of a greenish rock which appears to have been silicified and in which a fuchsite-like mica is developed. Many of the volcanic clasts contain the same angular quartz metacrysts, which give them an amygdaloidal appearance, as those in the coarse agglomerate outcrop at 850S/365W (see description of unit 2j, above). At least one clast of massive pyrite is present.

The precise origin of this rock is not known. Osterberg (1985) concluded that it represented a debris flow deposit. Certainly, it represents a local influx of conglomeratic sedimentary material into an area otherwise dominated by volcanism. Also, the presence of volcanic clasts with green alteration, which is an "exotic" lithology not found elsewhere on the property, suggest transport of very coarse material for a considerable distance. The debris flow genesis is considered to be the most likely explanation for the diamictite. The debris flow, even though it was apparently deposited in a submarine environment, may have started in a subaerial part of the volcanic complex, perhaps triggered by a flood, which could also have been responsible for introducing the sedimentary component.

### Volcaniclastic Metasediments (Unit 3e)

On the ridge extending from 3200S to 3650S, between 700W and 800W, there are no good outcrops, but numerous large angular boulders and slabs suggest an essentially in situ origin. Many of the rocks are of amygdaloidal or vesicular mafic volcanics, described above (Unit 1c), but other are of sedimentary rock. They consists of clasts, up to 5cm by 10cm in size, of volcanic origin in a matrix of arkose with occasional silty layers. The range of volcanic lithologies is similar to that in the conglomerate, with mafic rocks more abundant than felsic. However, clasts of granite, quartz and iron formation are absent.

The juxtaposition of highly vesicular mafic lavas and conglomerate of volcanic provenance suggests that the top of the mafic volcanic sequence at this point was erupted subaerially or in very shallow water, and was then covered with the basal unit of the overlying sedimentary sequence. This basal conglomerate was of more local derivation than the overlying sediments. It contained cobbles only of volcanics. Possibly, erosion had not yet exposed either the iron formations lying deeper in the volcanic pile, or the granitic/migmatitic basement. Alternatively, clastic material from these more distant sources had not yet reached the area.

# Chemical Metasediments (Unit 4)

There are several horizons of interflow sedimentary material within the mafic volcanic sequence, and possibly more within the felsic sequence. These units are both discontinuous and variable along strike, and consist of various proportions of banded chert, chert-magnetite iron formation, sulphide iron formation, banded or massive carbonate, and graphitic schist or shale. These exhalative horizons are associated with most, if not all, of the strata-bound  $Zn-Pb-Ag\pm Au$  and  $Cu-Ag\pm Au$  mineralization in the mafic volcanics.

### Iron Formation (Units 4a, 4b)

Oxide facies (chert-magnetite) and sulphide facies (pyrite-pyrrhotite±magnetite) iron formations are narrow (usually less than 1 meter), discontinuous units. They are composed of alternating laminae, usually 1-2cm thick, of light grey to greenish-grey chert, quartz or occasionally carbonate, and black magnetite and/or fine-grained pyrite-pyrrhotite. They can seldom be traced along strike, even in stripped areas, for more than a few tens of meters.

The best exposure of iron formation is at the Coulee No. 2 showing (4350N/250W), where stripping has exposed a 1 meter wide band of chert-magnetite iron formation at the contact between mafic flows and intermediate

laminated tuffs. An adjacent quartz-feldspar porphyry sill is cut by fuchsite-quartz veins and contains pyrite-pyrrhotite-sphalerite-chalcopyrite mineralization with local high values in gold and silver. Another good exposure of iron formation is in a stripped area near the 88A Zn-Pb-Ag zone, where there are three sub-parallel bands of banded chert-magnetite iron formation, or possibly one band repeated by folding. The best-exposed iron formation band in this area varies from 1 to 1.5 meters in thickness, and lies in contact with a graphitic schist on the south-east (footwall) side.

## Chert and/or Carbonate Exhalite (units 4c, 4d)

Chert and carbonate chemical sediments are more common in outcrop than iron formations. They are usually less than 1 meter thick, and are discontinuous along strike, possibly because of boudinage during deformation. The cherty exhalites are thinly laminated on a scale of 1-2mm and are composed of a variety of colors of chert or crystalline quartz. Outcrop-scale folding is common, and brecciation of the chert is also frequent. The carbonate exhalite units occasionally show thin laminations similar to that in the chert, but are more often recrystallized to a coarse carbonate rock.

Good examples of the chert and carbonate units are exposed as: (1) the Swamp Zone, 550-650S/200-225W, where there are four cherty and/or carbonate horizons with some pyrite-pyrrhotite bands and some associated sphalerite-galena mineralization; (2) 925S/450-465E, where there is a 5 meter wide bed of laminated quartz-ankerite with disseminated pyrite and pyrrhotite; (3) 2750S/240W, with chert predominating over carbonate; (4) 2790S/225W, where a pinkish chert band is folded into Z-shaped folds with an amplitude of 3-5 meters and (5) 3050S/250W with a partly brecciated chert band.

# Ferruginous Chert/Carbonate (unit 4e)

These are cherty and/or carbonate exhalites similar to those above, but with a variable proportion of dark grey to black ferruginous material in discrete bands. This may be magnetite and/or pyrite-pyrrhotite, and is usually finegrained. This rock type is transitional between the chert carbonate exhalites and the iron formations.

# Graphitic Schist (Unit 4f)

Although not strictly chemical sediments, graphitic schists are included here for convenience. Only two occurrences of graphitic schists have been found in outcrop. The first is at 1275N/500E, where a band of graphitic schist up to 50 cm wide lies in contact with a chert-magnetite iron formation, between mafic

flows. It is black, fine-grained and fissile. It contains fine-grained disseminated pyrite and minor sphalerite-galena. The second occurrence is on the north part of conductor M7, between 1700N and 1900N, from 400W to 450W. Fine-grained grey graphitic schist with up to 50% fine to medium-grained pyrite is exposed between thinly laminated felsic tuffs at the top of the felsic sequence. The combination of graphite and pyrite explains the conductor.

#### 7.4 INTRUSIVE ROCKS

A variety of intrusions post-date the Archean volcanic and sedimentary rocks. To a large extent, the intrusives have undergone the same degree of deformation and metamorphism as the volcanics and sediments, although the inner portions of the larger intrusive bodies, being more massive, show fewer effects of deformation.

# 7.4a Mafic Intrusives (Unit 5)

Gabbro/diorite stocks (Unit 5a) or as dykes and sills (Units 5c, 5f) is the main intrusive mafic lithology. The sills and dykes are indistinguishable from coarse mafic flow centers unless intrusive contacts are exposed. No large mafic intrusive bodies exist, but several stocks, sills and dykes up to 100 meters thick are present.

Between 3200S and 3350S, from 25W to 200W, large phenocrysts of plagioclase up to 6cm long are present in a medium to coarse-grained gabbro (Unit 5d). This type of porphyritic gabbro is known as "leopard rock" elsewhere in northern Ontario. On the Tashota Mine Road, at 4700N/675E, xenoliths of mafic volcanics were observed in a gabbro body.

A 50 cm wide dyke of hornblende lamprophyre cuts the felsic tuffs underlying the "diamicite" at about 900N/250W.

#### 7.4b Intermediate to Felsic Intrusive Rocks (Units 6, 7)

The north-eastern part of the property is underlain by the margin of the Onaman Lake Batholith. This is generally poorly exposed, and its contact with the volcanics was not seen in outcrop. It consists of coarse-grained, biotite and/or hornblende-bearing, massive to weakly foliated granite, granodiorite, quartz monzonite and trondhjemite. A xenolithic phase, with numerous inclusions of mafic volcanics is exposed at 4550N/660E.

Both the granitic rocks and the volcanics are cut by later, essentially unmetamorphosed dykes of quartz-feldspar porphyry (Unit 7c) and aplite (Unit

At 3050-3100N/700-775E, an unusual intrusive breccia appears to cut the mafic volcanics. It consists of a dark, fine-grained matrix probably of dioritic composition (sample 92-048, Appendix III), containing numerous angular blocks of granite, vein quartz and granite cut by quartz veins. Many of the quartz vein blocks are mineralized with flakes of molybdenite. This rock type is assumed to represent a cross-cutting pipe or diatreme of gas-charged breccia, possible related to hydrothermal activity in the underlying granite. Its contacts are not exposed.

### 7.4c Late Precambrian Diabase Dykes (Unit 8)

Late, fresh diabase dykes cut all other rock types in the area. They strike in a variety of directions, but a NNW-SSE trend is most common. They vary in width up to 30 meters, but can seldom be traced along strike for any great distance. Occasionally they form erosion-resistant ridges.

Good examples of the late dykes are exposed on the base line at 4350N, and extending easterly to 4450M/50E where a porphyritic phase is developed, on the Tashota Mine Road at 4225N/530E, 4000N/525E where a strong magnetic attraction was noted and 3350N/50W.

#### 7.5 STRUCTURE

#### 7.5a Structure Elements

#### Bedding & Banding

Primary bedding (So) is best developed in the laminated tuffs, but some sort of primary compositional layering can be seen in most of the volcanic and sedimentary rocks. The mafic volcanics are often massive, but alternations of varying lithology can often be seen in better outcrops. The bedding in the north part of the property strikes NE-SW, and dips NW at steep angles; in the southern part of the property it strikes N-S and dips W at steep angles.

#### Foliation, Schistosity, Cleavage

Foliation and schistosity are defined by orientation of platy minerals. Foliation also includes non-schistose planar features such as flattened pillows. There are two main directions of these planar elements on the property; subparallel to the bedding (S1), and westerly to north-westerly at high angles to the primary bedding (S2). The westerly to north-westerly striking planar

structures are probably related to numerous small-scale folds (F2?). Cleavage refers to the tendency of the rock to break in a particular direction, without associated schistosity.

#### Lineations

Lineation may be defined by the intersection of two planar elements such as bedding and schistosity, or by elongation of originally equant primary features such as pillows or by the axial planes of small-scale folds. A spectacular lineation is developed in the "cabin" quartz-feldspar porphyry at 950-1000S/650W, where the phenocrysts are stretched along a west-plunging lineation, with an aspect ration of 20:1 or more. This is considered to be an L2 (S2/S1) lineation. Elsewhere, a lineation plunging at moderate to steep angles to the south or south-west is observed on bedding or early schistosity planes, and is presumed to be an L1, (S1/S0) lineation.

### Folding

Small-scale folds have been observed at a number of places on the property. Most, if not all, are believed to be folds of F2 age, on westerly to north-westerly striking axial planes. In the northern part of the property, where the strike of the bedding is north-easterly, the folds tend to be asymmetrical and S-shaped, while in the southern part of the property, where the primary bedding strikes north-south, the folds tend to be more symmetrical (W-shaped). The S-shaped folds are well developed in thinly laminated tuffs at 1750N/250W, where S0 strikes at 040° and S2 strikes at 110°. The W-shaped folds are well developed in vesicular rhyolite flows at 1900-2000S/550-600W, where they have amplitudes in the 10-30 meter range.

There are unequivocal F1 folds on the property. As is typical in volcanic-dominated belts in the Superior Province, the main phase of deformation (D1) has developed a widespread bedding-parallel schistosity without significant folding on the large scale. There are at least two outcrop-scale folds which are possible candidates for F1 folding: at 2790S/225W where a chert band is folded into tight "Z" shapes; and at 1700S/250-275W, just east of the junction of the Tashota Mine road and the Onaman Lake Road, where mafic volcanics are folded into a broad "S" shape with an east-west middle limb and NNE-WSW flanks. At neither location is there sufficient development of schistosity to determine if S1 is axial planar to the folds, but at the second occurrence there are a series of quartz-filled fractures trending 020°, which appears to be an axial plane structure.

The curvature of the major units on the property from N-S to NE-SW is not

a fold, but rather reflects wrapping of the supracrustal rocks around the Onaman Lake Batholith. The thickening of the lower (Onaman River) mafic volcanic sequence accentuates this curvature in the overlying felsic-dominated volcanics, which curve sharply in the vicinity of the Camp road.

### Faulting

A few faults have been interpreted on the map, based on apparent offsets of lithological units, local brecciation or shearing, etc. However, faulting does not appear to be important in the large-scale structure of the area.

#### 8.0 2006 EXPLORATION

The location of major showings on which stripping, mapping, drilling and geophysical surveys were carried out in 2006 is shown on  $\frac{\text{Figure 2}}{2}$ . The following section describes the stripping, mapping and sampling work completed on the Property in 2006 as well as the geochemical results of channel and grab sampling.

#### 8.1 MECHANICAL STRIPPING AND CHANNEL SAMPLING

Work on the Property commenced in May, 2006 and consisted of reconnaissance and location of claim corners, drill holes, roads and showings. This was followed by mechanical stripping using a backhoe provided by Nolan Cox. Stripping was carried out at the Lynx #2, Cane Silver, Cane Copper, Abitibi, D-9, Km 51 and Km 52 showings.

Channel samples were cut and samples were shipped by truck or hand delivered to either Accurassay Labs in Thunder Bay or Temiskaming Testing Lab (Polymet Resources) in Cobalt.

The following individuals worked on this project in the period between May 15 and August 4: N. Cox, M. Nelson, Dan Dampier, Peter Olafson, J.B. McAdam, J. Koski, U. Kretschmar.

Drill logs, core photos, ground geophysical data, Sage Gold news releases and a compilation of historic drilling can be found in Appendix A, B, C, D and E respectively.

## 8.1a Lynx #2 Channel Sampling

## Stripping

Systematic channel sampling was carried out on Lynx #2 and approximately 420 samples were sent to the lab for assay analysis. The main Lynx #2 Copper-Zinc-Gold-Silver showing was cleared of overburden and washed with high pressure pumps and hoses. Subsequently, a concrete cutting saw with a double blade was used to cut channels across visibly identified mineralized zones. Samples were chiseled out with masonry and stone chisels and put in plastic bags, which were tied with orange flagging tape. Assay tags were included with each sample and the assay tag number was written on the sample bags. Each channel was labeled with an aluminum tag, which was fastened to the rock by means of a nail, and a drilled nail hole.

<u>Figure 5</u> is a detailed map showing the location of saw cut channels 3-6 cm deep within the area of stripping at Lynx #2, which is a 30 m X 70 m area.

# Geology

Shown also in <u>Figure 5</u> is the geological interpretation from contacts within the stripped area. Two major lithologies were uncovered during mapping. Predominating is a sequence of pillowed to massive basalt flows and fragmental equivalents (Unit 1a). Contained within this sequence are chloritic tuffs and pyroclastic breccia (Unit 1b), which represent the volcaniclastic equivalent of the basaltic flows.

# Mineralization

Sulfide minerals are represented predominantly by chalcopyrite, pyrrhotite and various sulfosalts. They occur interstitially to individual pillows in the interpillow hyaloclastite material, within Unit 1a and also disseminated throughout Unit 1b. Semi-massive chalcopyrite and pyrrhotite, with a brecciated appearance and occasional bedding or lamination features, occurs as several 2-5 cm layers within Unit 1b. The mineralization at Lynx is discussed in greater depth in section 10.0 of this report.

# Geochemistry

Selected results for the 2006 channel sampling at Lynx are shown in <u>Table 2.</u> Values are erratically distributed and range up to 203.66 g Ag/t (sample #151220) and 6.38 g Au/t (sample #151234). Gold and silver do not appear to be invariably correlated.

<u>Figure 6</u> and <u>Figure 7</u> illustrate contoured data for Ag and Cu respectively within the stripped area of Lynx #2.

## 8.1b Cane Gold-Silver

# Stripping

Stripping, channel sampling and assaying was carried out on the Cane Gold (also known as the Cane Silver or Americ #5) showing. The sampling methodology was the same as described above for the Lynx #2 channel sampling program. Approximately 400 channel samples were taken on the showing in 2006. The approximate size of the stripped area is 15 m X 50 m.

# Geology

The geology at the Cane Gold/Silver showing is illustrated in Figure 8. Stratigraphy is oriented at approximately  $340\text{-}350^\circ$  dipping moderately ( $\sim65^\circ$ ) to the west. Pillow structures indicate that stratigraphy is facing to the west. The eastern part of the stripped area is dominated by pillow and pillow breccia of basaltic composition. To the west, the showing is dominated by tuffaceous volcaniclastic sediments including graphitic horizons. The western most lithology identified at the showing is a chert unit.

# <u>Mineralization</u>

The mineralized zone at Cane Gold-Silver trends approximately north-south and is dipping steeply to the west. The gold rich base metal horizon occurs toward (west of) the contact between a basaltic pillow and pillow brecccia sequence to the east and a fine grained volcaniclastic unit to the west. Mineralization is in the form of galena, sphalerite and minor chalcopyrite, which occur as lenses in the tuffaceous carbonate-chlorite-quartz altered host rock.

# Geochemistry

Selected results for the 2006 channel sampling at Cane Gold-Silver are shown in  $\underline{\text{Table 3.}}$  Significant elevations in Au-Ag and Pb-Zn contrast with lower copper values.

# 8.1c Cane Copper

# Stripping

An area of approximately 10 m X 50 m has been stripped at the Cane

Copper showing. The sampling methodology was the same as described above for the Lynx #2 channel sampling program. A total of 137 channel samples were taken from 43 channels and sent to PolyMet Laboratories in Cobalt. The geology and channel sample locations for Cane Copper are shown in <a href="Figure 9">Figure 9</a>.

# Geology

The volcanic rocks at Cane Copper exhibit an approximate north-south strike which both dip and face to the west. Mineralization occurs at the boundary between a massive to pillowed basalt unit to the west and an intermediate pyroclastic unit to the east.

## Mineralization

Mineralization at Cane Copper consists of a steeply west dipping north-south trending silver-copper rich horizon situated near the contact between basalt flows and intermediate volcaniclastics. The copper and silver are contained within chalcopyrite and sulphosalts which occur together with pyrrhotite as lenses within the volcaniclastic host rock. The thickness of the mineralized zone varies from 1-3 m. Mineralization is associated with carbonate-chlorite-quartz alteration. The mineralized zone has been traced along strike for at least 80 m, but previous airborne and ground geophysical studies have traced it discontinuously for more than 500 m.

# Geochemistry

Select results from channel sampling at Cane Copper are shown in <u>Table 4</u>. The best results occur in the northern part of the showing. Silver and copper contents are of the greatest interest as lead and zinc are present in only small amounts while gold values are irregularly distributed. Gold values show a weak correlation with silver.

## 8.1d Km51, Km 52

#### Stripping

Stripping, channel sampling and assaying was carried out on Km 51, which is located immediately adjacent to the Kinghorn Road, south of the Cane Copper and Cane Silver turnoff. <u>Figure 10</u>, <u>Figure 11</u> and <u>Figure 12</u> illustrate the channel sampling completed at the Km51 showing in 2006 (<u>Figure 10</u>) and 2007 (<u>Figure 11</u> & <u>Figure 12</u>). <u>Figure 13</u> shows the geology and sample locations of the Km52 showing.

# Geology

The geology of the Km51 showing is characterized by interlayered tuffaceous and massive mafic flow units intruded by sulphide bearing quartz +/- carbonate veins. Stratigraphy trends approximately north-south. Foliation measurements suggest that the dominant fabric is oriented counterclockwise of bedding.

# Mineralization

#### NA

# Geochemistry

Select results from channel sampling at Km51 and grab sampling at Km52 are shown in <u>Table 5</u> and <u>Table 6</u> respectively. Km51 is associated with elevated base metal values, particularly zinc. Elevated base metals correspond well with increased gold and silver values. Grab samples from the Km52 showing have yielded elevated base and precious metal values, however, chip sampling results were generally poor.

#### 8.1e D-9

# Stripping

The D-9 showing is located in the southern part of the MacDonald Lake block, immediately east of the Abitibi showing. Encouraging grab sample results prompted a stripping program to be completed on the showing. Approximately 120 channel samples were taken from the showing in 2007.

# Geology

A detailed map of the D-9 showing is published as Map P. 3361 by Parker and Nicholls, 1996 (<u>Figure 14</u>). It is divided into a northern and southern section. The work completed in 2007 was carried out on the northern section only.

#### Mineralization

The mineralized zones at D-9 occurs within 1-5 m zones which trend NNE and dip moderate-steeply to the west. The zones come in two forms - semimassive sulphide zones associated with quartz veining and sulphide gossan zones in strongly sheared folded and brecciated fissile chlorite-carbonate schists. The main sulphide minerals consist of pyrite, pyrrhotite, chalcopyrite and

arsenopyrite.

# Geochemistry

Select results from channel sampling at D-9 are shown below in <u>Table 7</u>.

#### 8.1f Abitibi

# Stripping

2006 work consisted of stripping, washing and channel sampling of a narrow, elongated zinc, lead and silver showing over a strike length of 100 m. Four short holes were drilled to test continuity to depth. The best surface assay is over 1.05 m grading Pb 0.67 %, Zn 3.4 % and 33 g Ag/t. Mineralization occurs in a chemical carbonate-quartz tuff unit at the contact between pillow basalt sequences. Figure 15 shows the geology and 2006 sampling at the Abitibi showing.

# Geology

The geology of the Abitibi showing is dominated by pillowed to feldspar porphyritic mafic metavolcanic flows with lesser quartz-feldspar porphyry dykes. Proximal to mineralized zones these rocks become carbonate-chlorite-sericite altered. Stratigraphy is oriented approximately north-south and faces to the west.

#### Mineralization

Mineralized zones consist of quartz-iron carbonate-chlorite-tourmaline-sulphide veins which exhibit an approximate north-south strike. The veins are host to variable amounts of pyrite, sphalerite, galena and chalcopyrite. The veins are invariably bordered by similarly trending chlorite and iron carbonate altered high strain zones.

## Geochemistry

Select results from channel sampling at Abitibi are shown below in <u>Table 8</u>. Results indicate elevations in Pb-Zn with variable Au-Ag signatures.

#### 9.0 2006 DRILL PROGRAM

#### **9.1 LYNX**

Fifteen BQ diameter holes totalling 2018 m were drilled in the Lynx area between Oct 18 and November 18, 2006. Drill hole statistics are shown in <u>Table</u> 9 while collar locations and drill hole traces are illustrated in Figure 16.

# 9.1a Lynx # 1

Eight drill holes were completed at the Lynx # 1 showing in 2006. Their locations are shown in <u>Figure 17</u>. Sections for each of the holes are illustrated in <u>Figure 18</u>, <u>Figure 19</u>, <u>Figure 20</u>, <u>Figure 21</u>, <u>Figure 22</u>, <u>Figure 23</u>, <u>Figure 24</u>, <u>Figure 25</u> and <u>Figure 26</u>. Assay result highlights are shown in <u>Table 10</u>.

The main zone at the Lynx # 1 showing was intersected in hole S06-01 and yielded 5.83% Cu, 141 g/t Ag and 1.7 g/t Au over a width of 6.0 m. The intersection included 9.36% Cu, 206.8 g/t Ag and 1.72 g/t Au over 2.5 m. The intent of this hole was to duplicate historical hole 75-13, for which reported results are 5.38% Cu, 4.55 oz/t Ag (156.3 g/t) and 0.291 oz/t Au (10.0 g/t) over 5.52 m.

Holes S06-02 to 07 were designed to test the lateral continuity of the mineralization identified in S06-01. Drilling suggests the existence of several separate sulphide horizons representing a stacked mineralized system which has been established over a vertical distance estimated at 100 m and extending for a strike length of at least 200 m.

Hole S06-12 intersected a separate parallel horizon, approximately 100 m lower in the stratigraphy.

# 9.1b Lynx #2

Five drill holes were completed at the Lynx # 2 showing in 2006. Their locations are shown in <u>Figure 27</u>. Sections for each of the holes are illustrated in <u>Figure 28</u>, <u>Figure 29</u>, <u>Figure 30</u>, <u>Figure 31</u> and <u>Figure 32</u>. Assay result highlights are shown in <u>Table 11</u>.

Drilling of the Lynx #2 zone in 2006 resulted in extending the mineralization an additional 25 m beyond the strike length identified in the historic drilling. The zone has now been traced over a strike length of 150 m and from surface to a depth of 300 m. Each of the drillholes encountered meter scale massive and disseminated sulphide (pyrrhotite-chalcopyrite) zones hosted within

chloritized pillow basalts and volcaniclastic tuffs.

## 9.1c Lynx # 3

Two drill holes were completed at the Lynx #3 showing in 2006. Sections for each of the holes are illustrated in  $\frac{\text{Figure 33}}{\text{Figure 34}}$  and  $\frac{\text{Figure 34}}{\text{Figure 34}}$ . Assay result highlights are shown in Table 12.

Hole S06-10 was drilled to twin historical hole 75-2 for which 0.18 m grading 4.24% Cu, 2.43 oz/t (83.3 g/t) Au and 4.44 oz/t (152.23 g/t) Ag were obtained. The results for hole S06-10 include 2.0 m grading 2.77% Cu, 0.45 g/t Au and 56.7 g/t Ag.

Hole S06-11 was designed to test the near-surface thickness of the mineralization. The best intersection returned 4.2 m grading 0.98% Cu, 0.87 g/t Au and 21.25 g/t Ag, within which there is an 2.1 m interval grading 1.59% Cu, 1.29 g/t Au and 35.0 g/t Ag.

#### 9.2 CANE GOLD-SILVER

Eight short drillholes were completed on the Cane Gold-Silver showing in 2006. Their locations are shown in <u>Table 13</u> and <u>Figure 35</u>. Sections for each of the holes are illustrated in <u>Figures 36</u>, <u>Figure 37</u>, <u>Figure 38</u> and <u>Figure 39</u>. Assay result highlights are shown in <u>Table 14</u>.

Each of the eight holes targeted a disseminated sulphide zone within a quartz-carbonate unit, sandwiched between brecciated pillow basalts and volcaniclastic tuffs. The mineralization dips moderately to the west and so most of the 2006 drilling was done from west to east.

Holes CA06-01 and CA06-02 were drilled from the same setup at  $45^{\circ}$  and  $60^{\circ}$  respectively on the east side of the showing. CA06-01 encountered several mineralized intervals within a quartz-carbonate unit. Assay results include a 3.0 m section containing 0.76% Cu, 0.81% Pb, 1.77% Zn, 0.25 g/t Au and 5.7 g/t Ag. CA06-02 did not encounter significant mineralization as it was drilled at a steeper angle and in the direction the mineralized zone is dipping.

Holes CA06-03 to CA06-08 were drilled from the same set-up on the west, hanging-wall side of the stratigraphy in a fan shaped pattern with drill hole azimuth orientations of  $050^{\circ}$ ,  $080^{\circ}$  and  $105^{\circ}$  and dips of  $45^{\circ}$  and  $60^{\circ}$ .

The 2006 drilling and surface sampling programs confirmed the existence of mineralization of potentially economic grade to a depth of greater than 30 m over a strike length of greater than 50 m.

#### 9.3 CANE COPPER

Four short drillholes were completed on the Cane Copper showing in 2006. Their locations are shown in <u>Table 15</u> and <u>Figure 40</u>. Sections for each of the holes are illustrated in <u>Figure 41</u> and <u>Figure 42</u>. Assay result highlights are shown in <u>Table 16</u>.

The intention of the program was to determine if the mineralized zones that were sampled on surface continue to a sufficient depth and strike length to be of economic interest.

Holes CC06-01 and CC06-02 were drilled from the same setup at dips of 45°and 60° respectively. DDH CC06-01 encountered a 5.0 m interval grading 1.02 % Cu, 98 g/t Ag and 0.11 g/t Au. Within this interval was a 1.0 m section grading 4.26% Cu, 458 g/t Ag and 0.11 g/t Au. DDH CC06-02 yielding a 5.0 m interval grading a weighted average of 0.465% Cu and 30 g/t Ag.

Holes CC06-03 and CC06-04 were drilled 25 m along strike to the south of CC06-01/02 at dips of 60° and 45° respectively. In DDH CC06-03 a 0.30 m section of massive pyrrhotite with minor chalcopyrite occurred at a depth of 53 m. In DDH CC06-04 four mineralized intervals were encountered. Interval 1 consists of 0.7 m grading 4.18% Cu, 274 g/t Ag and 0.05 g/t Au. Interval 3 consists of 5.0 m grading 1.91% Cu, 95.40 g/T Ag and 0.05 g/t Au. Interval 4 consists of 1.8 m grading 1.44% Cu, 84 g/t Ag and 0.04 g/t Au.

#### 9.4 ABITIBI

Four drillholes were completed at the Abitibi showing in 2006. Their locations are shown in Table 17. Assay result highlights are shown in Table 18.

The intention was to test the depth extension of the high grade mineralization visible on surface. Each of the holes encountered elevated Zn and Pb values over short intervals. The best intersection was from DDH A06-01 which contained an intersection grading 1.39% Pb and 4.42% Zn over 0.5 m.

#### 9.5 D-9

Four drillholes were completed at the D-9 showing in 2006. Their locations are shown in  $\underline{\text{Table 19}}$ . Assay result highlights are shown in  $\underline{\text{Table 20}}$ . Weakly anomalous copper was encountered in DDH D9-06-01

#### 10.0 MINERALIZATION DESCRIPTION

Three primary styles of mineralization have been identified to date at the Lynx showing. Typical mineralization at Lynx is illustrated in Figure 43.

Quartz-pyrrhotite-chalcopyrite (QPC): Massive (1-2 m thick) and disseminated pyrrhotite-chalcopyrite mineralization occurs within 2-6 m thick quartz-carbonate exhalite horizons. Carbonate commonly displays a colloform banded texture. Silver occurs within the mineral tetrahedrite and gold values show a positive correlation with copper. Massive chalcopyrite and chalcopyrite-pyrrhotite may display banding parallel to bedding. Breccia textures have been noted in massive pyrrhotite zones.

Sulfide tuff (ST): Thin pyrrhotite-chalcopyrite beds (mm scale) within calcareous ash tuffs.

*Pillow selvage sulphides (PSS):* pyrrhotite with variable amounts of chalcopyrite, calcite and quartz often occurs within basaltic pillow selvages and pillow interstices.



**Figure 43:** Photo of typical mineralization at Lynx consisting of semi-massive chalcopyrite-pyrrhotite in a bedded quartz-calcite-chlorite matrix, within a chloritic tuff unit. From DDH S06-03.

#### 11.0 MAGNETIC AND HORIZONTAL LOOP EM SURVEY

In December 2006 a ground geophysical investigation consisting mainly of Horizontal Loop Electromagnetic (Apex MaxMin I) survey was carried out on the Onaman Project - Lynx Property for Sage Gold Inc. The purpose of this survey was to detect the presence of metallic mineralization such as massive, semimassive and stringer sulphides in the bedrock, and also to outline potentially auriferous structural traps and shear zones. This geophysical investigation was also completed in order to gain a better understanding of the general geology of the Property and its relationship with known mineral occurrences near the Property. A separate report describes the geophysical work performed on the

Property. The survey was carried out by a crew of Géophysique TMC, Val-d'Or, Québec. Interpretation of this data by Frank Jagodits is included below:

# 11.1 MAGNETIC SURVEY by Frank Jagodits (Figure 44; Figure 45)

The survey was conducted with a GEM Systems "walking mag" along northwest-southeast lines in the west and the southeast of the grid and along northeast-southwest lines in the east of the grid. The southeast of the grid is covered by both survey lines. An observation was extracted from the "walking mag" database every 12.5 m. The magnetic maps were prepared by CGI Controlled Geophysics Inc. The data are presented as solid colour and black contours and as posting and profiles at a scale of 1:5 000

The dominant feature of the map is the north-south striking anomalous trend, in the central map area indicating an oxide iron formation. The magnetic field is markedly different east and west of the iron formation. To the west, the intensity of the background field is lower and basically void of significant anomalies, excepting the nearly north-south striking anomalies. These are about 350 m west of the iron formation and may indicate a sub-parallel iron formation, albeit, not as continuous as main iron formation.

In the east, five magnetic units, marked A, B, C, D and E were outlined. These cover increased magnetic activity. The enclosed anomalies have no preferential strikes, creating a mottled overall pattern. The units represent more magnetic volcanic rocks.

It is noted that Magnetic Units A and D hosts major conductive events.

# 11.2 HORIZONTAL LOOP ELECTROMAGNETIC SURVEY by Frank Jagodits

The survey was conducted by Geophysique TMC of Val d'Or, Quebec, employing a MaxMin instrument. The in-phase and quadrature components of the secondary magnetic field were observed at 444Hz, 888 Hz, 1777 Hz and 3555 Hz. The basic coil separation was 200 m and selected lines were detailed using 150 m and 100 m coil separation. Observations were made at stations 25 m apart.

The coverage of the northeast-southwest lines, Lines 400W to 400E (the lines 25 m apart), and Lines 500E and 600E) forms the bulk of the survey; Lines 100E to 150E were detailed using a coil separation of 100 m. Detailing with a 150 m coil separation covered Lines 0, 125E, 200E and 300E.

The following northwest-southeast lines were surveyed: 350N to 300S and 400S 500S; the survey line interval varies from 25 m to 50 m. Lines 175S, 300S, 350S, 400S, 450S and 500S were detailed using a coil separation of 150 m.

Please see Figure 44 and Figure 45 for the location and orientation of the conductors described below.

## 11.2a Conductor C1, C1A and C1B

The northeast-southwest trending conductor extends from Line 275S to Line 500S, some 225 m. In the north, the 150 m coil separation data of Lines 300S and 350S indicate that there are two conductors about 90 m apart. However, a single conductor could also be interpreted along Line 350S/90E (approximate depth: 33 m; conductance: 40 siemens); 100 coil separation data along this line would have helped to elucidate the problem.

In the south, along Lines 450S and 500S, the estimated depth to the current centre is about 30 m and the computed conductance is 16 s (siemens), derived from the 444 Hz, 200 m coil separation data. The indicated dip of the conductor is steeply to the east.

A drill hole is recommended along Line 350S to solve the ambiguity posed by the 150 coil separation results and the hole along Line 450S intends to investigate the southern part of the conductor.

#### 11.2b Conductor C2

The conductor extends from Line 150E to Line 350E, it is well defined by the basic, 200 m coil separation data as well as by the 100 m and 150 m coil separation detail survey data. The conductor describes the Lynx 1 deposit which was explored by several drill holes. The drill holes are shown on the overlay.

#### 11.2c Conductor C3

The short, north-northwest striking conductor is observed along Lines 325E, 350E and 375E.at about from 95N to 125N. It is best described along Line 3750 E (444 Hz; 200 m coil separation) and the data of this line is used to recommend a drill hole location (approximate depth: 45 m; conductance: 11 s); steep dip to the north is implied.

## 11.2d Conductor C4

The 100 m long, west-northwest striking conductor is observed from Line

100E to Line 200E at about 50N. The conductor was also detected along Lines 125E and 200E using 150 m coil separation. However, the 100 m coil separation coverage only vaguely indicates the conductor along Line 150E, indicating that depth to the conductor is about the same or greater than the effective depth of exploration using 100 m coil separation and frequency of 444 Hz. The following estimates were obtained along Line 125E (150 m coil separation, 444 Hz): depth: 75 m, conductance: 20 s. It is noted that these estimates are not reliable because of the very small amplitude of the responses. The unusual behaviour of the quadrature component (nearly zero or positive) hindered the reliable estimation of depth and conductance.

#### 11.2e Conductor C5

The west-northwest striking conductor is observed from Line 150E to Line 0. The last survey line is Line 0 on the west is Line 0, hence any possible extension towards the west is not defined. The conductor was observed using all three coil separations. It is well defined and reliable estimates were obtained from the 200 m and 100 m coil separation data along Lines 100E (200 m and 100 m coil separations) and Line 25E (200 m coil separation data). The depths vary from 15 m to 30 m and the conductances range from 8 s to 25 s. The indicated dip is to the north. The conductor may have been tested, however a drill hole recommendation is made along Line 100E.

# 11.2f Conductor Region C6

C6 is a region of very complex signatures which more or less coincides with Magnetic Unit A. The various measurements with different coil separation seem to indicate multiple conductors or edges of a conductive assemblage. The conductive region was drilled. It would be difficult to make recommendations fro further drilling, however, it could be beneficial to attempt to model the data.

## 11.2g Conductor C7

The conductor is observed near the northeastern ends of Lines 275W and 300W. The 200 m cable length survey defined only the southern half of the anomalies. Further work using shorter coil separations would be required to define the anomaly.

#### 11.2h Conductor C8

The north-south striking conductor is located immediately east of the iron formation. It is observed along Lines 150S, 175S with possible extension to the south, on Lines 200S and 225S. The northernmost line surveyed is Line 150S, hence, any northerly extension is not defined. The conductor is not well defined,

the ratio of the amplitudes of the in-phase and quadrature components is nearly 1, suggesting a poor conductor. If the conductor is in a favourable geologic environment, detailed surveying with shorter coil separations is recommended.

# 11.3 DRILL RECOMMENDATIONS by Frank Jagodits

## 11.3a Conductor C1

Conductor Location: 350S/90E

Proposed Collar: 350S/135E; azimuth: grid west: dip: - 45°; length: 75 m

#### 11.3b Conductor C2

Conductor Location: 350S/90E

Proposed Collar: 450S/135E; azimuth: grid west: dip: - 45°; length: 75 m

#### 11.3c Conductor C3

Conductor Location: 375E/95N

Proposed Collar: 375E/155N; azimuth: grid south; dip: 45°; length: 90 m

#### 11.3d Conductor C5

Conductor Location: 100E/195S

Proposed Collar: 100E/155S; azimuth: grid south; dip: 45°; length: 70 m

or

Proposed Collar: 350S/235E; azimuth: grid north; dip: 45°; length: 70 m

#### **12.0 OTHER WORK**

#### 12.1 CANE GOLD-SILVER MINERAL BENEFICIATION STUDY

Sage Gold supplied a 60 kg composite sample from the Lower Bench area of the Cane Gold-Silver showing to the Research and Productivity Council (RPC, Fredericton, New Brunswick). The following note is an excerpt from the RPC report.

Sage Gold Inc. supplied a bulk sample to RPC of Cane Gold for mineral beneficiation test work including mineralogy, heavy liquid gravity separation (TBE), Wilfley tabling and preliminary scoping flotation tests. The ore mineralogy consists mainly of pyrite, sphalerite, and galena, with minerals of lesser abundance including freibergite, gudmundite, arsenopyrite, chalcopyrite, pyrrhotite, and pyrargyrite ranging in size from 1 µm to 500 µm, but typically

<100  $\mu$ m. Gravity separation was relatively poor; however the rougher flotation tests at  $P_{80}$  of 63 micron achieved 97/96/90%, Pb/Ag/Au recovery, grading 43%/1896 ppm/21.4 ppm, respectively (Table 21). Actual grades and recoveries of Pb, Au, Ag and Zn were determined in the cleaning test results. Final rougher and cleaner recoveries for Pb/Ag/Au were 93.7/93.9/81.6%, respectively with a Pb grade of 66.3%. The Pb concentrate also carries most of the Ag assaying 4402 ppm and Au assaying 23.8 ppm. Final rougher and cleaner combined Zn recovery with a 1 stage cleaning was 91.8% at a grade of 56.2%.

The recoveries and grades reported are based on batch tests with no recycle. A locked cycle test is necessary to confirm and establish the Pb/Ag/Au and Zn grades and recoveries. A continuous pilot run is also recommended to validate the findings as part of a pre-feasibility study.

#### 12.2 LINE CUTTING

24 km of line cutting was carried out in the area of the Lynx showings as illustrated in <u>Figure 46</u>. The purpose of the line cutting was to complete ground geophysical surveys on the showing.

#### 12.3 HISTORIC DRILLING COMPILATION

At the request of the current author, Mike White (M.V.W. White and Associated Ltd.) prepared a compilation of 33 historic drillholes at the Lynx showing. The final report is posted in Appendix F and includes figures and text detailing drillhole locations, traces, geological logs and geochemistry.

#### 13.0 DISCUSSION

#### 13.1 DISCUSSION OF SELECT SHOWINGS

#### 13.1a Lynx

Current understanding suggests that the higher grade mineralization occurs as thin sulphide-carbonate-quartz-chlorite tuff sheets of exhalitive origin with a disk-shaped geometry. Sulphides occur in rod-shaped stringers. The geometry of the mineralized zones are likely a function of original bottom topography, modified during regional isoclinal folding of the enclosing strata. Evidence of mineral zonation at Lynx # 3 consists of an upper horizon that is silver-gold rich relative to the lower horizon (see assays for DH S06-10).

Magnetic and HLEM geophysical surveys were able to define the signature

of known mineralization and locate conductors and anomalies with similar signatures. This work permitted the inference that Lynx #1 and #3 may be correlated. Furthermore, in the area of Lynx #2, conductor OVJ #12 (Jagodits anomaly C3 and C4) may correlate. The magnetometer survey was able to confirm a N-S strike of an oxide-silicate facies iron formation defining the western limit of the Lynx mineralization.

## Lynx #1 and #3

The 2006 program was successful in proving the existence of Cu-Ag-Au mineralization with grades and intersection widths similar to historic results. The potential for additional mineralization along strike and at depth is considered high by the current author. There remain a number of untested geophysical targets both from historic surveys and the ones completed in 2006. Exploration is at an early stage and the next phase of work should involve extending the two zones along strike and at depth in additional to drilling known geophysical anomalies.

A conservative historical tonnage estimate for the Lynx No. 1 zone has been made by Derry, Michener & Booth. It quotes 70,000 tons grading 3.6% Cu, 2.40 g Au/T, and 99.43 g Ag/T.

# Lynx #2

Mineralization at the Lynx #2 showing was encountered in all 2006 drillholes. This drilling has extended high grade mineralization to the northwest and has indicated that the width of mineralized zones increases in this direction. To the east, mineralization appears to terminate in the area of drillhole S06-15. This may be related to faulting or folding.

A preliminary estimate of the feasibility for an open pit at Lynx #2 is described here. The numbers and calculations listed below are not 43-101 compliant. The stripped area currently exposed is  $1,152 \, \text{m}^2$ . Assuming a block thickness of 5 m and a specific gravity of  $2.86 \, \text{t/m}^3$ , the block contains  $16,473.6 \, \text{ton}$ . The average (weighted mean) of 419 assays is Cu at  $0.565 \, \%$  and Ag at  $10.77 \, \text{g/t}$ . Thus, the copper content is  $93.07584 \, \text{ton}$  or  $205,197.1 \, \text{lb}$ . The price of copper as quoted at www.quotecopper.com (April13, 2008) is  $3.9961 \, \text{s/lb}$ , yielding a Cu value of \$819,998.13. The silver content is,  $5,723.25 \, \text{oz}$  with a value at \$17.77/oz (www.quotesilver.com; April 13, 2008) yielding a total value of \$101,702.15. The total value (Cu + Ag) is\$921,700.28.

#### 13.1b Cane Gold-Silver & Cane Copper

Mineralized zones at Cane Gold-Silver consist of bands/beds of sulphides

(pyrrhotite-pyrite-chalcopyrite-galena). The work during 2006 has shown that there are multiple horizons of mineralization which occur within quartz-chlorite-carbonate altered mafics. The assay results from stripping and drilling indicate it is rich in precious metals. Elevated silver values correlate quite well with percent-scale lead and zinc values. Copper values tend to be low.

The mineralization at Cane Gold-Silver occurs preferentially at the boundary between mafic flows and mafic fragmentals. This suggests that either 1) the contact has been preferentially exploited by hydrothermal (mineralizing) fluids; or 2) The zone is the result of chemical precipitation of sulphides during the hiatus between effusive (flows) and explosive (volcaniclastic) volcanism. If the later option is correct, significant remobilization of the sulphides during metamorphism would be expected.

The mineralization at Cane Copper is situated in a similar lithostratigraphic setting as Cane Gold-Silver, but contains a different metal signature. Channel sampling and drilling has produced elevated copper-silver values with low lead-zinc and sporadic gold. It is interesting to note the stratigraphic and metal relationships between Cane Copper and Cane Gold-Silver. Based on facing directions Cane Copper is lower in the system. Its high copper values as compared to the elevated lead-zinc values at the overlying Cane Gold-Silver suggests a metal zonation typical of VMS systems.

# 14.0 RECOMMENDATIONS by R. Therriault

#### General

The reader is referred to the March 27, 2008 Memorandum by R. Therriault for details regarding logistical recommendations for the Onaman project.

## Soil sampling

If possible, historic soil sampling grids and results (from mid 1970's & early 1980's) should be folded into the existing database. This data may prove to be a powerful vectoring tool, particularly when combined with the 2006 ground geophysics.

Additional soil sampling should be conducted in areas of interest and areas of poor outcrop exposure. There are two possible approaches in regards to sampling medium: local lodgement till and nonlocal carbonate till.

The first variety was recommended by Hicock and Kristjansson (1988?) in the Beardmore area as it is locally derived and contains the highest metal content of the three till varieties in the area. Based on their Figure 1, lodgement till is an available sampling medium on the Onaman Property. It is likely that the malachite-bearing compacted till found by Nolan Cox is of the lodgement variety, making this approach that much more attractive. Furthermore, DiLabio (1982) reports a 600 m long dispersal train in the lodgement till in the Onaman River area.

The second medium (nonlocal carbonate till) is recommended by S. Hamilton and others. The technique relies upon complex chemical and biochemical reactions which take place in carbonate-bearing till above sulphide bearing rock. The analytical technique differs from classic FA/ICP in that you do not analyze the till per se, but rather, metals which have been added (adsorbed) onto mineral grains. The most common technique to analyze this fraction is enzyme leach and has been used with success in the Abitibi region where the overburden is quite thick.

# Drilling

Drilling is currently underway at the Lynx zones in an attempt to carry the mineralization along strike and to depth and to test untested geophysical targets. The ultimate goal of this drilling is to expand the known resources at the showings and to report found resources in an NI 43-101 complaint manner. In that vein, it is recommended that a 43-101 report be started for the Property. Depending on interest, the 43-101 can be written specific to the Lynx zones or for the entire Onaman Property.

Additional drilling at Cane Gold-Silver and Cane Copper is recommended. The drilling should be done in conjunction with stripping and attempt to trace mineralization along strike, particularly to the south.

For the purposes of resource modeling and drillhole tracking it is recommended that Micromine be purchased and used. The program is just as powerful as Gemcom and much easier to use. Training courses are available upon request.

## Reconnaissance and showing scale work

Sampling and mapping should continue on the Onaman Property with priority first given to those areas that have not yet been mapped, and secondly to areas showing geophysical anomalies and areas along strike of known mineralization. Stripping should continue at Lynx, Cane Gold-Silver and Cane Copper.

Considering the stratabound nature of many of the zones, it is important to

properly measure and record structural measurements, including UTM locations. As the belt exhibits tight D2 structures with a strong D3 overprint, it is likely that stratigraphy and mineralized beds will be repeated.

The summers field program should emphasis the importance of order and data management. All field data should be routinely digitized in an organized fashion and a manner that is consistent project-wide. Ideally, all the data would eventually end up in a single ArcGIS or MapInfo database.

## Petrology and lithogeochemistry

A petrographic study of mineralized zones from some of the more important showings is considered prudent. A handful of judiciously chosen samples from the major showings is recommended for thin section work. This data can go a long way toward creating a genetic model for the showings on the Property which will undoubtedly help to guide future exploration.

A better understanding of the lithogeochemistry on the Property is warranted. Much of the known mineralization on the Property is controlled by lithological contacts between units that are volcanologically similar. Being able to distinguish between similar units (either through volcanological or lithogeochemistry characteristics) is considered an asset when tracing mineralization out along strike in a structurally complex area. This may or may not require whole rock analyses. In my experience, good ICP data (particularly the immobile elements Ti, Nb, Cr, Ni, Nd, Zr, Y, Yb) can be useful for separating different mafic lithostratigraphic units.

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# **16.0 CERTIFICATE OF QUALIFICATIONS**

- I, **Ulrich Kretschmar**, residing at 408 Bay St, Orillia, Ontario, Canada, L3V 3X4 hereby certify that:
- 1) I am a consulting mineral exploration geologist, and have been engaged in the geological profession continuously since graduation with particular experience on a world-wide basis in exploring for base metals, gold, diamonds, and industrial mineral deposits.
- 2) I am a graduate of McMaster University with a BSC. (1966) and MSC. (1968) in geology and a graduate of McGill University and University of Toronto (1973); with a Ph.D. in geology and I have been working in my field continuously since graduation. I have written numerous qualifying reports for junior and senior mining companies.
- 3) I have been an elected Fellow of the Geological Association of Canada since 1975; an elected Fellow of the Society of Economic Geologists since 1984; a Member of the Canadian Institute of Mining and Metallurgy since 1984 and the memberships are in good standing. I have the status of "qualified person" for the purpose of National Instrument 43-101 and I am a member in good standing (P.Geo#1160) of The Association of Professional Geologists of Ontario.
- 4) I accept responsibility for the compilation of data and hypotheses expressed in this report and for the work carried out by me and under my supervision.
- 5) My knowledge of the Onaman Lake properties of Sage Gold Inc. was acquired from a study of publications and information sources described under References of the report to which this certificate is attached;
- 6) I accept responsibility for the compilation of data and hypotheses expressed in this report and for the work carried out by me and under my supervision.
- 7) I am not aware of any material fact or material change with respect to Onaman Lake Properties which is not reflected in this report, the omission to disclose which makes the report misleading;
- 8)I am the President, owner and a director of Exploration Geoscience Associates Inc, a consulting company who carried out the work described in this report. I hold options in the client company.

- 9) I have read Instrument and Form 43-101 and Form 43-101F, and the sections of the technical for which I am responsible have been prepared in compliance with the same;
- 10)This report has been prepared and is addressed to the TSX Venture Exchange and Sage Gold Inc. of Toronto.
- 11) I hereby consent to the use of this report to satisfy the requirements of any Securities Commission or Stock Exchange anywhere.

Dated at Orillia, Ontario this 15th day of April, 2008.

Ulrich Kretschmar, B.Sc., M.Sc,. Ph.D., F.G.A.C. (F#0270), F.S.E.G., M.C.I.M.M, P.Geo (A.P.G.O. No.#1160)

Table 1: Onaman Property claims status

Claim number	Recording date	Units	Township
TB3011813	2006-Feb-13	6	Coughlan Lake (G-0026)
TB3011826	2006-Feb-13	2	Coughlan Lake (G-0026)
TB3011872	2004-Feb-20	4	Coughlan Lake (G-0026)
TB3011873	2004-Feb-20	1	Coughlan Lake (G-0026)
TB1233877	2004-Jul-21	9	Coughlan Lake (G-0026)
TB3007228	2004-Jul-21	8	Coughlan Lake (G-0026)
TB3008410	2004-Aug-09	1	Coughlan Lake (G-0026)
TB3008411	2004-Aug-09	2	Coughlan Lake (G-0026)
TB1233888	2004-Sep-10	2	Coughlan Lake (G-0026)
TB3011520	2006-Jun-01	15	Coughlan Lake (G-0026)
TB4210030	2006-Jun-01	4	Castlewood Lake (G-0022)
TB4210031	2006-Jun-01	16	Castlewood Lake (G-0022)
TB4210032	2006-Jun-01	15	Coughlan Lake (G-0026)
TB4210033	2006-Jun-01	16	Castlewood Lake (G-0022)
TB4210034	2006-Jun-01	4	Castlewood Lake (G-0022)
TB4210036	2006-Jun-01	16	Castlewood Lake (G-0022)
TB3011531	2006-Jun-30	6	Coughlan Lake (G-0026)
TB4210043	2006-Jun-30	2	Coughlan Lake (G-0026)
TB4210044	2006-Jun-30	4	Coughlan Lake (G-0026)
TB4210045	2006-Jun-30	4	Coughlan Lake (G-0026)
TB4210046	2006-Jun-30	4	Coughlan Lake (G-0026)
TB4210048	2006-Jun-30	9	Coughlan Lake (G-0026)
TB4210053	2006-Aug29	16	Castlewood Lake (G-0022)
TB4210114	2007-April-18	2	Coughlan Lake (G-0026)
TB4210115	2007-April-18	3	Coughlan Lake (G-0026)
TB4210116	2007-April-18	4	Coughlan Lake (G-0026)
TB4215325	2008-Jan-14	3	Coughlan Lake (G-0026)
TB4222426	2008-Jan-14	4	Castlewood Lake (G-0022)
TB4222430	2008-Jan-14	8	Coughlan Lake (G-0026)
TB4223457	2008-Jan-14	16	Coughlan Lake (G-0026)
TB4223459	2008-Jan-14	9	Coughlan Lake (G-0026)
TB4222429	2008-Jan-14	1	Coughlan Lake (G-0026)
TB4227923	2008-Jan-14	16	Coughlan Lake (G-0026)
TB4227924	2008-Jan-14	16	Coughlan Lake (G-0026)
TB4227926	2008-Jan-14	16	Coughlan Lake (G-0026)
TB4227933	2008-Jan-14	4	Castlewood Lake (G-0022)
TB4228014	2008-Jan-14	14	Coughlan Lake (G-0026)
TB4229886	2008-Jan-28	2	Metcalfe Lake (G-0084)
TB4229887	2008-Jan-28	12	Metcalfe Lake (G-0084)
TB4229888	2008-Jan-28	16	Metcalfe Lake (G-0084)
TB4229890	2008-Jan-28	16	Metcalfe Lake (G-0084)
TB4229891	2008-Jan-28	16	Coughlan Lake (G-0026)

Claim number	Recording date	Units	Township
TB4229892	2008-Jan-28	16	Metcalfe Lake (G-0084)
TB4229894	2008-Jan-28	2	Metcalfe Lake (G-0084)
TB4223458	NA	16	Coughlan Lake (G-0026)
TB4227925	NA	16	Coughlan Lake (G-0026)
TB4229830	NA	16	Coughlan Lake (G-0026)
TB4229831	NA	16	Coughlan Lake (G-0026)
TB4229833	NA	16	Coughlan Lake (G-0026)
TB4229179	NA	16	Coughlan Lake (G-0026)
TB4229180	NA	3	Coughlan Lake (G-0026)
TB4229824	NA	3	Coughlan Lake (G-0026)
TB4229834	NA	16	Coughlan Lake (G-0026)
TB4229904	NA	16	Coughlan Lake (G-0026)
TB4229176	NA	9	Coughlan Lake (G-0026)
TB4229177	NA	16	Coughlan Lake (G-0026)
TB4229178	NA	14	Coughlan Lake (G-0026)
TB4229183	NA	16	Coughlan Lake (G-0026)
TB4229835	NA	8	Coughlan Lake (G-0026)
TB4229902	NA	16	Coughlan Lake (G-0026)
TB4229903	NA	16	Coughlan Lake (G-0026)
TB3008675	2006-Apr-19	16	Coughlan Lake (G-0026)
TB4213482	2006-Dec-01	16	Coughlan Lake (G-0026)
TB4213507	2007-Aug-02	12	Coughlan Lake (G-0026)
TB4222391	2007-Aug-20	4	Coughlan Lake (G-0026)
TB4222399	2007-Nov-01	12	Coughlan Lake (G-0026)

TOTAL 651

**Table 2:** 2006 Lynx # 2 channel sampling highlights

Table 2:				•		
Sample		Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)
Number	Length					
	(m)					
151167	1.12	0.75	22.63	1.59	-	0.06
151194	0.60	0.27	-	2.42	0.01	0.10
151199	0.55	0.96	-	0.62	0.01	0.01
151206	0.50	1.85	50.74	2.48	0.02	0.07
151217	0.20	0.07	98.74	10.53	0.01	0.16
151218	0.45	0.07	6.86	2.83	0.01	0.06
151219	0.55	1.30	163.89	13.80	0.02	0.24
151220	0.20	-	203.66	26.00	0.01	0.44
151223	0.35	2.06	6.86	1.51	0.08	0.09
151225	0.35	0.41	23.31	0.23	0.03	0.05
151227	0.40	0.21	130.29	10.68	0.01	0.13
151234	0.30	6.38	75.09	5.15	0.01	0.07
151235	0.35	2.88	51.43	5.35	0.01	0.08
151236	0.45	0.07	29.49	3.43	0.06	0.07
151239	0.60	0.62	24.69	0.14	0.02	0.05
151240	0.40	0.07	28.80	2.19	0.02	0.14
151243	0.40	0.55	32.23	0.12	0.03	0.06
151244	0.30	-	-	10.09	0.02	0.42
151432	0.70	0.27	67.00	1.74	0.03	0.09
151433	0.69	0.35	250.00	7.25	0.03	0.17
169850	0.55	1.24	68.00	3.37	0.01	0.17
199755	0.47	0.36	40.00	2.65	0.01	0.03
199779	0.93	0.97	8.00	0.35	0.00	0.02
199780	0.30	0.10	37.00	2.19	0.00	0.04
199798	0.63	0.14	35.00	2.49	0.00	0.05
199812	0.54	0.87	91.00	5.24	0.01	0.09
199813	0.51	0.03	55.00	4.06	0.01	0.10
199832	0.49	1.01	29.00	1.27	0.01	0.07
199838	0.55	0.32	37.00	2.06	0.01	0.06
199857	0.55	0.85	95.00	2.40	0.06	0.82
199863	0.53	0.85	93.00	1.72	0.04	0.21
199886	0.51	0.50	122.00	2.38	1.30	0.32
199955	0.78	0.11	115.00	1.81	0.00	0.06
199956	0.32	1.00	21.00	0.56	0.00	0.03
199957	0.48	0.78	82.00	2.44	0.01	0.08
199958	0.50	1.37	128.00	2.47	0.02	0.04
199959	0.63	0.19	191.00	5.76	0.02	0.14

**Table 3:** 2006 Cane Gold/Silver channel sampling highlights

Assay Tag No	Length (m)	Location	Au (g/T)	Ag (g/T)	Cu (%)	Pb (%)	Zn (%)
151055	NA	Main carbonate- chlorite vein	1.81	66.00	0.07	0.91	1.58
151058	NA	Upper tuff	0.29	121.00	0.07	2.15	0.76
151051	NA	Footwall Tuff and pyroclastic breccia	0.64	60.00	0.07	0.80	1.05
151054	NA	Footwall Tuff and pyroclastic breccia	1.09	108.00	0.07	1.22	3.17
151056	NA	Footwall Tuff and pyroclastic breccia	0.47	64.00	0.02	1.17	0.27
151082	NA	Lower Bench	8.73	481.00	0.08	6.25	6.87
151083	NA	Lower Bench	3.69	160.00	0.08	2.32	3.23
151084	NA	Lower Bench	4.95	216.00	0.27	2.23	2.47
151085	NA	Lower Bench	1.86	74.00	0.04	1.20	1.84
151087	NA	Lower Bench	2.32	212.00	0.07	2.46	2.80
151088	NA	Lower Bench	2.08	118.00	0.04	1.78	1.72
151089	NA	Lower Bench	3.83	543.00	0.08	4.47	2.55
151090	NA	Lower Bench	0.96	155.00	0.08	1.75	2.29
151090	NA	Lower Bench	0.90	172.00	0.08	1.73	2.26
151091	NA	Lower Bench	12.83	743.00	0.15	5.93	4.16
151082	NA	Lower Bench	8.73	481.00	0.08	6.25	6.87
151083	NA	Lower Bench	3.69	160.00	0.08	2.32	3.23
151084	NA	Lower Bench	4.95	216.00	0.27	2.23	2.47
151085	NA	Lower Bench	1.86	74.00	0.04	1.20	1.84
151087	NA	Lower Bench	2.32	212.00	0.07	2.46	2.80
151088	NA	Lower Bench	2.08	118.00	0.04	1.78	1.72
151089	NA	Lower Bench	3.83	543.00	0.08	4.47	2.55
151090	NA	Lower Bench	0.96	155.00	0.08	1.75	2.29
151090	NA	Lower Bench	0.90	172.00	0.08	1.73	2.26
151091	NA	Lower Bench	12.83	743.00	0.15	5.93	4.16
151001	NA	Lower Bench	0.16	375.00	>10	0.09	0.22
151002	NA	Lower Bench	0.20	427.00	>10	0.06	0.21
151003	NA	Lower Bench	0.29	21.00	0.22	0.15	>10
151007	NA	Lower Bench	0.17	15.00	0.33	0.04	>10
151008	NA	Lower Bench	0.18	234.00	>10	0.02	0.26
151010	NA	Lower Bench	0.45	184.00	>10	0.12	0.14
151010	NA	Lower Bench	0.39	177.00	>10	0.12	0.14
151432	NA	NA NA	0.27	67.00	1.74	0.03	0.09
151433	NA	NA NA	0.35	250.00	7.25	0.03	0.17
151452	NA	NA	0.46	248.00	0.20	1.36	2.73
151453	NA	NA	1.08	242.00	0.12	9.13	9.86
151454	NA	NA NA	0.16	21.00	0.06	0.64	1.89
151458	NA	NA NA	2.20	673.00	0.11	NA	4.77
151459	NA	NA NA	1.18	526.00	0.05	NA	4.29
151464	NA	NA NA	1.00	492.00	0.05	3.63	4.92
169850	NA	NA NA	1.24	68.00	3.37	0.01	0.17
169850	NA	NA NA	1.43	66.00	3.34	0.01	0.17
169854	NA NA	NA NA	1.43	387.00	0.08	5.38	2.26
169859	NA NA	NA NA	0.28	164.00	0.00	2.09	1.12
169868	NA NA	NA NA	0.45	332.00	0.02	3.01	1.54

**Table 4:** 2006 Cane Copper channel sampling highlights

Sample	4: 2006 ( Sample	Channel	Au (g/t)	Ag (g/t)	Cu (%)		_
Number	Length (m)	Number					
151103	0.86	1.4N	0.14	0.00	1.73	0.05	0.06
151104	1.10	1.4N	0.00	145.37	3.00	0.04	0.06
151105	0.90	2.4N	0.00	232.80	3.95	0.07	0.10
151106	0.90	2.4N	0.41	179.32	3.41	0.04	0.10
151107	1.22	4.5N	0.00	117.94	2.85	0.04	0.18
151108	0.74	4.5N	1.65	344.23	3.23	0.04	0.18
151109	1.07	5.7N	0.00	288.00	5.05	0.06	0.17
151110	0.89	5.7N	0.00	76.46	1.60	0.03	0.07
151111	1.09	5.7N	0.00	Trace	0.47	0.01	0.04
151112	0.97	6.5N	0.27	149.83	2.93	0.07	0.19
151113	0.63	6.5N	0.00	284.92	4.79	0.06	0.13
151114	0.37	6.5N	0.07	194.74	2.33	0.03	0.09
151116	0.53	7.9N	0.00	261.26	0.51	0.08	0.04
151117	0.48	7.9N	0.00	181.72	2.56	0.04	0.09
151125	0.63	10.7N	0.07	181.72	2.27	0.06	0.06
151129	0.41	13.4N	0.21	167.32	4.20	0.02	0.10
151131	0.56	14.2N	0.14	213.26	2.43	0.06	0.07
151132	0.53	14.2N	0.14	264.69	2.77	0.08	0.27
151134	0.76	15.3N	0.00	544.46	0.16	0.04	0.02
151135	0.76	15.3N	0.07	77.83	0.88	0.15	0.10
151136	1.00	16.9N	0.00	62.74	0.89	0.02	0.08
151137	0.91	16.9N	0.07	270.86	3.35	0.06	0.16
151139	0.58	17.5N	0.07	61.71	1.20	0.02	0.08
151140	0.43	17.5N	0.07	99.09	1.00	0.00	0.01
151142	1.35	19.0N	0.14	177.26	2.11	0.01	0.01
151145	0.46	19.8N	0.07	58.63	1.60	0.01	0.06
198261	0.50	2.28	0.04	146.00	0.14	0.06	0.01
198262	0.70	2.28	0.38	169.00	1.90	0.02	0.04
198283	0.51	18.0S	0.25	69.00	0.51	0.01	0.02
198284	0.52	18.0S	0.20	120.00	1.09	0.01	0.02
198288	0.56	18.9S	1.43	78.00	0.31	0.00	0.02
198303	0.68	21.3S	0.11	68.00	2.62	0.01	0.03
198305	0.63	21.3S	0.42	95.00	3.40	0.01	0.16
198306	0.40	21.3S	0.11	172.00	1.83	0.02	0.27
198307	0.62	22.2S	0.61	356.00	0.85	0.12	0.06

**Table 5:** 2006 Km51 channel sampling highlights

Sample	Sample	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn(%)
Number	Length					
	(m)					
E817251	0.41	0.18	24	0.26	0.06	0.02
E817255	0.92	1.12	110	0.65	0.21	3.37
E817263	0.74	0.13	28	0.29	0.06	0.83
E817268	0.58	0.35	40	0.25	0.08	2.07
E817275	0.54	0.49	35	0.25	0.04	0.05
E817294	0.46	0.43	35	0.64	0.04	0.94
E817334	0.42	0.43	49	0.43	0.09	0.15
E817343	0.43	0.34	20	0.30	0.03	0.08
E817344	0.46	0.34	28	0.27	0.05	0.14
E817355	0.64	0.83	17	0.16	0.03	0.06
E817356	0.42	0.22	21	0.33	0.02	0.07
E817357	0.32	0.30	25	0.38	0.05	0.10
E817382	0.51	0.13	17	0.29	0.03	0.37
E817383	0.49	0.22	28	0.25	0.12	4.63
E817401	0.43	0.34	7	0.05	0.03	0.02
E817408	0.50	0.12	7	0.07	0.02	0.03
E817409	0.45	0.28	30	0.50	0.03	0.21
E817427	0.58	0.21	31	0.41	0.05	0.04
E817450	0.47	0.04	24	0.00	0.08	0.02
419053	NA	0.27	103	0.87	0.34	1.02
419057	NA	0.74	84	0.79	0.13	2.55
419058	NA	0.34	69	0.69	0.12	0.09
419064	NA	0.19	94	0.74	0.13	0.15

**Table 6:** 2006 Km 52 grab sample highlights

Sample Number	Type	Ag (ppm)	As (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
169901	Grab	<1	52	19	15	90
169901	Grab	<1	54	19	15	92
169902	Grab	2	296	46	109	41
169903	Grab	49	41	>5,000	400	3135
169904	Grab	5	12	783	25	511
169905	Grab	<1	12	18	16	75
169906	Grab	37	51	474	1304	>10,000

**Table 7:** 2006 D-9 channel sampling highlights

169957         0.5         133         28         3462         400         2740         52         < 50         7.8           169958         0.5         450         62         >5,000         580         3510         141         < 50         25.5           169960         0.5         323         < 5         1531         540         221         81         < 50         3.5           169961         0.5         147         37         >5,000         350         232         68         < 50         3           169963         0.5         1790         21         2262         500         20700         145         < 50         89.5           169966         0.5         7590         52         >5,000         2450         3590         148         < 50         27.3           169976         0.5         1170         < 5         4205         590         8360         103         300         59.8           169982         0.5         327         22         4466         590         956         98         < 50         8.5           169983         0.5         156         < 5         1789         490         1240	rable 7: 2006 ט-9 channel sampling								1115	
169957         0.5         133         28         3462         400         2740         52         < 50		-		Ag	Cu		As (ppm)	Co	Ni (ppm)	Sb
169958         0.5         450         62         >5,000         580         3510         141         < 50         25.5           169960         0.5         323         < 5         1531         540         221         81         < 50         3.5           169961         0.5         147         37         >5,000         350         232         68         < 50         3           169963         0.5         1790         21         2262         500         20700         145         < 50         89.5           169966         0.5         7590         52         >5,000         < 40         90700         475         2060         104           169971         0.5         273         30         >5,000         2450         3590         148         < 50         27.3           169976         0.5         1170         < 5         4205         590         8360         103         300         59.8           169982         0.5         327         22         4466         590         956         98         < 50         8.5           169983         0.5         110         < 5         >5,000         1570         1050 </th <th>Number</th> <th>Length (m)</th> <th>(ppb)</th> <th>(ppm)</th> <th>(ppm)</th> <th>(ppm)</th> <th></th> <th>(ppm)</th> <th></th> <th>(ppm)</th>	Number	Length (m)	(ppb)	(ppm)	(ppm)	(ppm)		(ppm)		(ppm)
169958         0.5         450         62         >5,000         580         3510         141         < 50         25.5           169960         0.5         323         < 5         1531         540         221         81         < 50         3.5           169961         0.5         147         37         >5,000         350         232         68         < 50         3           169963         0.5         1790         21         2262         500         20700         145         < 50         89.5           169966         0.5         7590         52         >5,000         < 40         90700         475         2060         104           169971         0.5         273         30         >5,000         2450         3590         148         < 50         27.3           169976         0.5         1170         < 5         4205         590         8360         103         300         59.8           169982         0.5         327         22         4466         590         956         98         < 50         8.5           169983         0.5         110         < 5         >5,000         1570         1050 </th <th></th>										
169960         0.5         323         < 5	169957	0.5	133	28	3462	400	2740	52	< 50	7.8
169961         0.5         147         37         >5,000         350         232         68         < 50	169958	0.5	450	62	>5,000	580	3510	141	< 50	25.5
169963         0.5         1790         21         2262         500         20700         145         < 50	169960	0.5	323	< 5	1531	540	221	81	< 50	3.5
169966         0.5         7590         52         >5,000         < 40	169961	0.5	147	37	>5,000	350	232	68	< 50	3
169971         0.5         273         30         >5,000         2450         3590         148         < 50	169963	0.5	1790	21	2262	500	20700	145	< 50	89.5
169976         0.5         1170         < 5	169966	0.5	7590	52	>5,000	< 40	90700	475	2060	104
169982         0.5         327         22         4466         590         956         98         < 50	169971	0.5	273	30	>5,000	2450	3590	148	< 50	27.3
169983         0.5         156         < 5	169976	0.5	1170	< 5	4205	590	8360	103	300	59.8
169991         0.5         110         < 5	169982	0.5	327	22	4466	590	956	98	< 50	8.5
169995         0.5         303         51         >5,000         1480         3460         137         < 50	169983	0.5	156	< 5	1789	490	1240	64	< 50	0.4
169996         0.5         730         248         >5,000         2160         9040         771         890         32.4           169998         0.5         483         260         >5,000         3540         5080         299         < 50	169991	0.5	110	< 5	>5,000	1570	1050	66	< 50	9.4
169998         0.5         483         260         >5,000         3540         5080         299         < 50	169995	0.5	303	51	>5,000	1480	3460	137	< 50	11.3
169999         0.5         318         98         >5,000         680         1870         45         < 50	169996	0.5	730	248	>5,000	2160	9040	771	890	32.4
170000         0.5         67         22         4172         310         732         21         < 50	169998	0.5	483	260	>5,000	3540	5080	299	< 50	36.1
151301         0.5         215         < 5	169999	0.5	318	98	>5,000	680	1870	45	< 50	13.8
151311       0.5       1050       107       >5,000       1080       15700       194       < 50	170000	0.5	67	22	4172	310	732	21	< 50	9.2
151315     0.5     666     24     >5,000     480     1220     52     < 50	151301	0.5	215	< 5	>5,000	610	4050	117	< 50	9.7
151318     0.5     148     16     1987     240     509     98     < 50	151311	0.5	1050	107	>5,000	1080	15700	194	< 50	44.9
151319     0.5     142     < 5	151315	0.5	666	24	>5,000	480	1220	52	< 50	6.2
151321 0.5 248 25 4728 380 3600 66 < 50 14.6	151318	0.5	148	16	1987	240	509	98	< 50	4.5
	151319	0.5	142	< 5	1013	850	20300	323	380	35.4
151322 0.5 138 < 5 1602 350 1940 63 < 50 < 0.2	151321	0.5	248	25	4728	380	3600	66	< 50	14.6
151522 5.5 156 157 55 15	151322	0.5	138	< 5	1602	350	1940	63	< 50	< 0.2
151326         0.5         235         53         >5,000         690         2940         123         < 50	151326	0.5	235	53	>5,000	690	2940	123	< 50	13.8
151327 0.5 114 43 2774 240 1690 27 < 50 7.1	151327	0.5	114	43	2774	240	1690	27	< 50	7.1
151331 0.5 384 < 5 3072 370 5860 89 < 50 0.4	151331	0.5	384	< 5	3072	370	5860	89	< 50	0.4
151332         0.5         141         < 5	151332	0.5	141	< 5	1614	370	1510	139	< 50	6.6

**Table 8:** 2006 Abitibi channel sampling highlights

Client Tag	Interval (m)	Au ppb (*g/t)	Ag (ppm)	Cu (%)	Pb (%)	Zn (%)
421578	0.55	73	27	0.01	0.55	3.24
421579	0.50	75	39	0.02	0.79	3.51
421510	0.46	*0.069	Nil	0.03	0.13	1.05
421556	0.55	Nil	Nil	0.02	0.54	1.09
421563	0.54	Nil	Nil	0.02	1.88	2.04
421564	0.49	Nil	Nil	0.07	1.88	3.30
421576	0.70	18	2	0.01	0.00	0.02
421577	0.70	18	8	0.01	0.14	0.17
421569	0.54	Nil	Nil	0.02	0.17	0.34
602691	Grab	*0.617	48	0.01	0.44	6.00
602692	Grab	*0.137	16.46	0.02	0.39	4.68
602693	Grab	*0.274	98.74	0.09	2.70	2.92
602694	Grab	*0.206	165.26	0.07	2.42	11.80
602695	Grab	*0.069	166.63	0.39	2.47	11.75
602696	Grab	*0.274	65.83	0.02	0.36	6.85
602697	Grab	*0.137	213.26	0.04	3.45	12.30
602698	Grab	*0.206	78.17	0.06	1.51	7.00
602699	Grab	Nil	Nil	0.03	0.03	0.04
602700	Grab	*0.206	111.09	0.74	0.93	4.01

Table 9: 2006 Lynx drilling statistics

Hole	Location	Easting	Northing	Azimuth	Dip	Depth (m)
Number		(NAD83)	(NAD83)	(o)		
S06-01	Lynx #1	453426	5540387	35	-45	134.00
S06-02	Lynx #1	453480	5540350	45	-50	126.00
S06-03	Lynx #1	453446	5540373	45	-55	99.00
S06-04	Lynx #1	453445	5540317	35	-50	135.00
S06-05	Lynx #1	453521	5540322	35	-50	93.00
S06-06	Lynx #1	453461	5540294	35	-50	135.00
S06-07	Lynx #1	453561	5540361	35	-50	45.00
S06-08	Lynx #2	453467	5540888	35	-50	164.00
S06-09	Lynx #2	453433	5540910	35	-50	164.00
S06-10	Lynx #3	453460	5540613	35	-50	139.00
S06-11	Lynx #3	453435	5540587	35	-50	47.00
S06-12	Lynx #1	453349	5540375	35	-50	137.00
S06-13	Lynx #2	453414	5540913	35	-50	200.00
S06-14	Lynx #2	453516	5540859	35	-50	200.00
S06-15	Lynx #2	453548	5540836	35	-50	200.00

**Table 10:** 2006 Lynx # 1 drilling highlights

Hole Number	From (m)	To (m)	Interval	Au (g/t)	Ag (g/t)	Cu (%)	Zn (%)
	(,	(,	(m)	(8)	38 (8/ 3/	()	
S06-01	102.00	108.00	6.00	1.70	141.40	5.83	
including							
	105.50	108.00	2.50	1.72	206.80	9.36	
S06-02	69.80	71.00	1.20	0.160	20.2	0.11	
	72.00	74.00	2.00	1.470	21.3	0.60	
	76.00	79.20	3.20	1.420	25.2	0.77	
S06-03	90.80	106.50	15.70	0.331	29.2	0.89	
including							
	90.80	95.80	5.00	0.284	25.4	0.43	
	96.60	98.00	1.40	0.308	42.7	2.04	
	99.50	103.50	4.00	0.450	28.4	1.75	
	105.00	106.50	1.50	0.818	51.0	0.94	
S06-04	90.00	90.60	0.60	0.579	23.0	1.09	
S06-05	15.35	16.00	0.65	0.582	17.0	0.63	
S06-06	58.90	63.30	4.40	0.075	4.6	0.18	
including	59.90	60.40	0.50	0.325	14.0	0.67	0.47
S06-12	57.70	58.50	0.80	0.131	14.0	0.11	

**Table 11:** 2006 Lynx # 2 drilling highlights

Hole Number	From (m)	To (m)	Interval	Au (g/t)	Ag (g/t)	Cu %
			(m)	,		
S06-08	27.30	31.30	3.95	0.09	0.00	0.10
	56.50	57.30	3.95	0.00	0.00	0.26
	74.70	78.00	3.35	0.12	0.00	0.18
	80.70	83.70	3.00	0.13	0.00	0.39
	137.30	139.30	2.00	0.07	2.74	0.03
S06-09	66.10	71.00	4.90	0.26	5.60	0.34
	88.60	93.10	4.50	0.05	10.10	0.75
	88.60	89.70	1.10	-	45.60	1.75
	122.00	124.00	2.00	0.34	17.20	0.64
	134.90	137.50	2.60	2.25	112.60	6.33
S06-13	26.50	29.40	2.85	0.22	5.17	0.15
	34.40	37.80	3.40	0.19	14.60	0.36
	44.60	53.20	8.55	0.03	1.30	0.07
	66.20	77.00	10.85	0.08	2.85	0.09
	90.30	96.00	5.70	0.09	4.36	0.28
	97.50	113.60	16.10	0.39	13.90	0.66
	111.00	113.60	2.60	1.55	44.40	1.91
	117.20	117.90	0.70	0.63	26.00	1.02
	121.00	125.80	7.80	0.03	8.44	0.32
	140.00	146.40	6.40	0.39	7.64	0.41
	170.70	171.80	1.10	0.09	12.88	0.50
S06-14	37.50	38.00	0.50	0.14	22.00	1.18
	127.00	127.60	0.60	0.58	16.00	1.07
S06-15	17.50	18.00	0.50	0.06	10.00	0.15
	19.00	19.30	0.30	0.84	10.00	0.20

**Table 12:** 2006 Lynx # 3 drilling highlights

Hole Number	From (m)	To (m)	Interval (m)	Au (g/t)	Ag (g/t)	Cu %
S06-10	7.00	11.20	4.20	0.26	29.83	1.51
	8.00	10.00	2.00	0.45	56.74	2.77
S06-11	18.20	20.30	2.10	1.29	35.00	1.59
	18.20	22.40	4.20	0.87	21.25	0.98

 Table 13: 2006 Cane Gold-Silver drilling statistics

Hole	Location	Easting	Northing	Azimuth	Dip	Depth (m)
Number		(NAD83)	(NAD83)	(o)		
CA06-01	Cane Gold	453517	5536376	260	-45	43.90
CA06-02	Cane Gold	433517	5536376	260	-60	35.00
CA06-03	Cane Gold	453485	5536382	50	-60	29.00
CA06-04	Cane Gold	453485	5536382	50	-45	40.70
CA06-05	Cane Gold	453485	5536382	80	-45	25.40
CA06-06	Cane Gold	453485	5536382	80	-60	29.00
CA06-07	Cane Gold	453485	5536382	105	-45	35.00
CA06-08	Cane Gold	453485	5536382	105	-60	30.00

Table 14: 2006 Cane Gold-Silver drilling highlights

Table 14: 2006 Cane Gold-Sliver drilling nightights									
Hole Number	From (m)	To (m)	Interval (m)	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	
DH CA06-01	21.95	22.70	0.75	0.26	0.04	0.04	-	14.26	
	23.45	24.20	0.75	-	0.02	0.01	0.14	31.06	
	26.50	27.42	0.92	-	0.01	-	-	77.83	
	29.65	30.40	0.75	0.05	0.06	1.58	0.14	-	
	37.25	38.00	0.75	0.02	0.04	2.05	-	-	
DH CA06-03	16.65	17.15	0.50	0.06	3.40	2.60	0.21	349.03	
	17.15	18.00	0.85	0.20	0.22	7.13	0.27	21.26	
	18.00	18.60	0.60	0.18	1.99	0.53	0.27	80.57	
	18.60	19.30	0.70	0.09	0.24	0.42	0.14	18.86	
	21.95	22.70	0.75	-	0.02	0.02	2.88	-	
DH CA06-04	14.10	14.85	0.75	0.18	2.85	3.13	7.36	252.34	
	14.85	15.45	0.60	0.01	0.06	0.22	-	-	
	15.45	16.25	0.80	0.17	1.70	3.98	2.61	89.49	
	16.25	16.70	0.45	0.04	0.08	1.24	-	-	
	16.70	17.40	0.70	0.02	0.09	0.36	-	-	
DH CA06-05	18.48	19.12	0.64	0.01	0.02	0.02	-	13.85	
DH CA06-06	15.75	16.25	0.50	0.03	2.39	1.51	1.78	168.69	
	16.25	16.75	0.50	0.14	1.05	5.10	0.96	109.72	
	16.75	17.25	0.50	0.46	1.10	4.90	1.23	96.69	
	17.25	17.75	0.50	0.68	0.31	1.18	0.62	67.20	
	17.75	18.25	0.50	0.14	0.41	0.66	0.21	32.23	
DH CA06-07	16.25	16.75	0.50	0.09	1.65	2.63	0.30	166.00	
	16.75	17.25	0.50	0.08	3.63	5.06	1.49	321.00	
	18.80	19.30	0.50	0.06	0.47	1.54	0.19	34.00	
	19.30	19.80	0.50	0.30	0.19	1.82	1.04	26.00	
DH CA06-08	17.00	17.50	0.50	0.03	0.14	0.86	0.12	24.00	
	17.50	18.00	0.50	0.08	0.81	3.01	0.31	67.00	
	18.00	18.50	0.50	0.10	0.48	1.80	0.44	45.00	
	18.80	19.30	0.50	0.06	0.47	1.54	0.19	34.00	
	19.30	19.80	0.50	0.30	0.19	1.82	1.04	26.00	
	19.80	20.30	0.50	0.24	0.16	2.00	0.36	26.00	

Table 15: 2006 Cane Copper drilling statistics

Hole	Location	Easting Northing		Azimuth	Dip	Depth (m)
Number		(NAD83)	(NAD83)	(o)		
CC-1	Cane Copper	453707	5536694	270	-45	32.00
CC-2	Cane Copper	453707	5536694	270	-60	52.60
CC-3	Cane Copper	453711	5536669	270	-60	58.65
CC-4	Cane Copper	453711	5536669	270	-45	44.70

**Table 16:** 2006 Cane Copper drilling highlights

				e Copper							
Hole	From (m)	To (m)	Interval	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)			
Number			(m)								
CC06-01	25.00	25.50	0.50	0.52	0.00	0.02	0.03	22.00			
	25.50	26.00	0.50	1.00	0.02	0.02	0.13	66.00			
	26.00	26.50	0.50	5.45	0.14	0.13	0.58	514.00			
	26.50	27.00	0.50	3.07	0.09	0.13	0.28	401.00			
	27.00	27.50	0.50	0.23	0.01	0.02	0.04	33.00			
	29.00	29.35	0.35	0.49	0.01	0.02	0.04	25.00			
	30.50	31.00	0.50	0.28	0.00	0.07	0.03	11.00			
CC06-02	41.80	42.15	0.35	1.08	0.03	0.03	0.07	74.74			
	42.15	43.80	1.65	0.89	0.03	0.03	0.14	62.40			
	43.80	44.20	0.40	0.04	0.01	0.02	-	-			
	44.20	44.80	0.60	0.51	0.03	0.02	0.14	34.97			
	44.80	45.25	0.45	0.11	0.01	0.03	-	-			
	45.25	45.85	0.60	0.05	-	0.03	-	-			
	45.85	46.25	0.40	0.12	0.01	0.04	-	-			
CC06-04	17.80	18.50	0.70	4.18	0.03	0.14	0.05	274.00			
	19.40	19.90	0.50	0.29	0.00	0.02	0.03	14.00			
	25.60	26.10	0.50	0.19	0.00	0.01	0.02	10.00			
	26.10	26.60	0.50	0.23	0.01	0.01	0.03	21.00			
	27.70	28.20	0.50	1.96	0.02	0.06	0.05	111.00			
	28.20	28.70	0.50	2.45	0.01	0.07	0.08	109.00			
	28.70	29.20	0.50	2.62	0.01	0.07	0.04	132.00			
	29.20	29.70	0.50	10.88	0.05	0.32	0.10	513.00			
	29.70	30.20	0.50	0.31	0.01	0.01	0.12	34.00			
	30.20	30.60	0.40	0.40	0.01	0.03	0.01	15.00			
	36.80	37.20	0.40	0.25	0.00	0.01	0.01	13.00			
	37.20	37.70	0.50	2.00	0.02	0.03	0.03	92.00			
	37.70	38.20	0.50	2.28	0.02	0.03	0.04	86.00			
	38.20	38.60	0.40	1.23	0.04	0.03	0.10	147.00			
	39.30	40.00	0.70	0.86	0.04	0.03	0.02	150.00			

Table 17: 2006 Abitibi drilling statistics

Hole Number	Location	Easting (NAD83)	Northing (NAD83)	Azimuth (o)	Dip	Depth (m)
A06-1	Abitibi	453201	5538032	95	-50	34.00
A06-2	Abitibi	453201	5538032	95	-60	58.60
A06-3	Abitibi	453202	5538080	80	-60	60.00
A06-4	Abitibi	453205	5538086	80	-60	28.50

Table 18: 2006 Abitibi drilling highlights

Hole	From (m)	To (m)	Interval	Au (ppb)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)
Number			(m)					
A06-01	21.10	21.55	0.45	73	18	0.01	0.11	0.87
	21.55	22.15	0.60	291	15	0.03	0.19	0.30
	22.15	22.60	0.45	424	20	0.02	0.26	1.11
	22.60	23.10	0.50	391	87	0.02	1.39	4.42
	24.60	24.95	0.35	29	6	0.00	0.02	0.03
A06-02	35.10	35.55	0.45	1410	130	0.15	1.99	0.48
	35.55	36.00	0.45	36	9	0.03	0.34	0.84
	36.65	37.20	0.55	13	2	0.01	0.02	0.05
A06-03	6.90	7.40	0.50	103	18	0.01	0.21	0.03
	8.90	9.40	0.50	32	23	0.02	0.37	1.35
A06-04	12.95	13.45	0.50	128	15	0.01	0.20	0.88
	13.45	13.90	0.45	78	9	0.01	0.14	0.75
	13.90	14.50	0.60	572	67	0.02	0.81	1.43
	14.50	15.00	0.50	43	30	0.01	0.66	0.67
	15.00	15.50	0.50	183	43	0.07	0.83	0.85

Table 19: 2006 D-9 drilling statistics

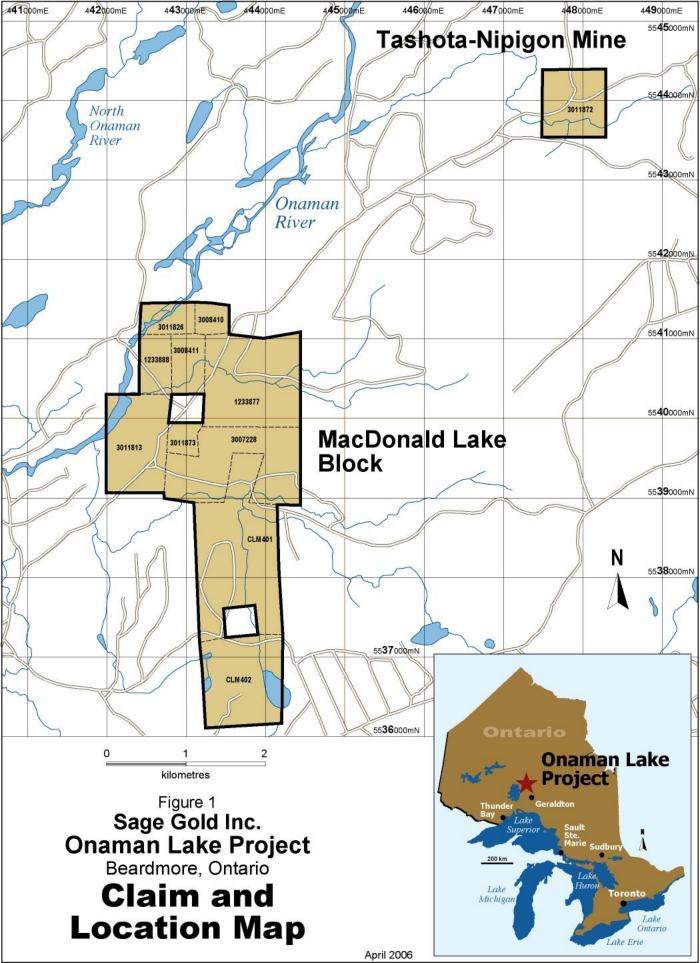
Hole	Location	Easting	Northing	Azimuth	Dip	Depth (m)
Number		(NAD83)	(NAD83)	(o)		
D9-06-01	D-9	453550	5538216	090	-50	99
D9-06-02	D-9	453626	5538156	090	-50	100
D9-06-03	D-9	453572	5538112	NA	NA	NA

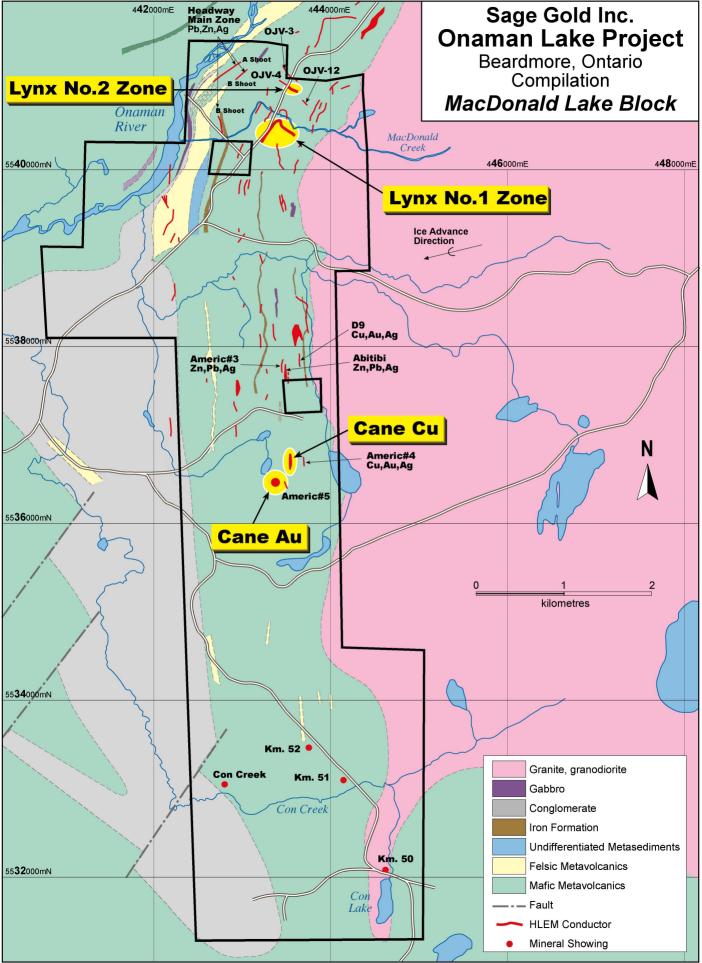
**Table 20:** 2006 D-9 drilling highlights

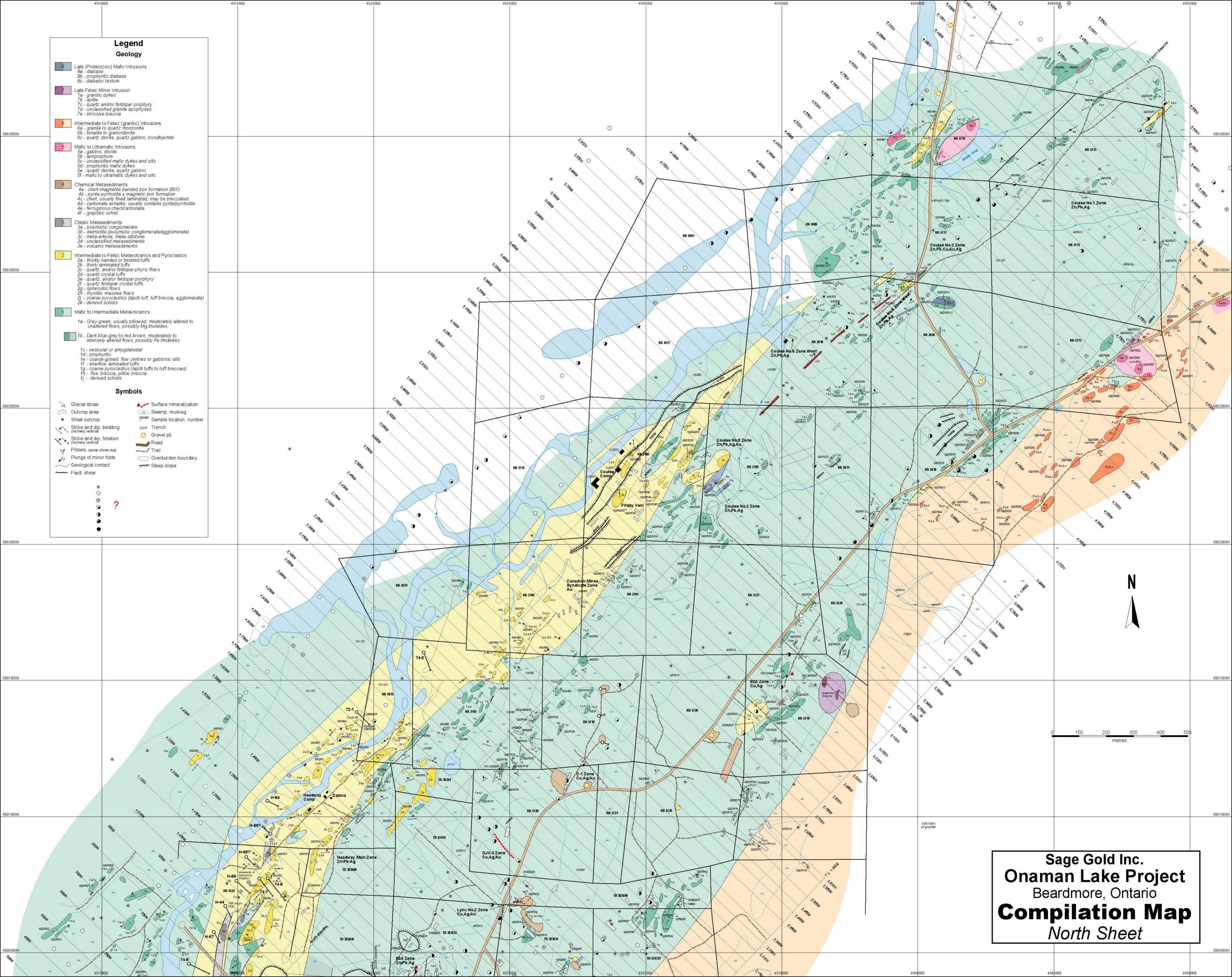
Hole Number	From (m)	To (m)	Interval (m)	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
D9-06-01	17.50	18.00	0.50	55	10	1483	98	155
D9-06-01	19.00	19.30	0.30	839	10	1989	41	159
D9-06-01	61.70	62.20	0.50	-	3	289	25	99
D9-06-01	75.00	75.50	0.50	-	1	119	16	63
D9-06-01	75.50	76.00	0.50	15	2	673	18	92
D9-06-01	80.00	80.50	0.50	-	1	120	18	57
D9-06-01	78.90	79.50	0.60	8	2	1129	16	68
D9-06-01	79.90	80.20	0.30	-	2	96	92	72
D9-06-02	14.40	14.90	0.50	-	-	105	11	32
D9-06-02	14.90	15.40	0.50	-	1	102	24	73
D9-06-02	19.80	20.30	0.50	-	-	301	17	22
D9-06-02	20.30	20.80	0.50	-	-	43	11	14
D9-06-02	20.80	21.30	0.50	-	-	28	19	62

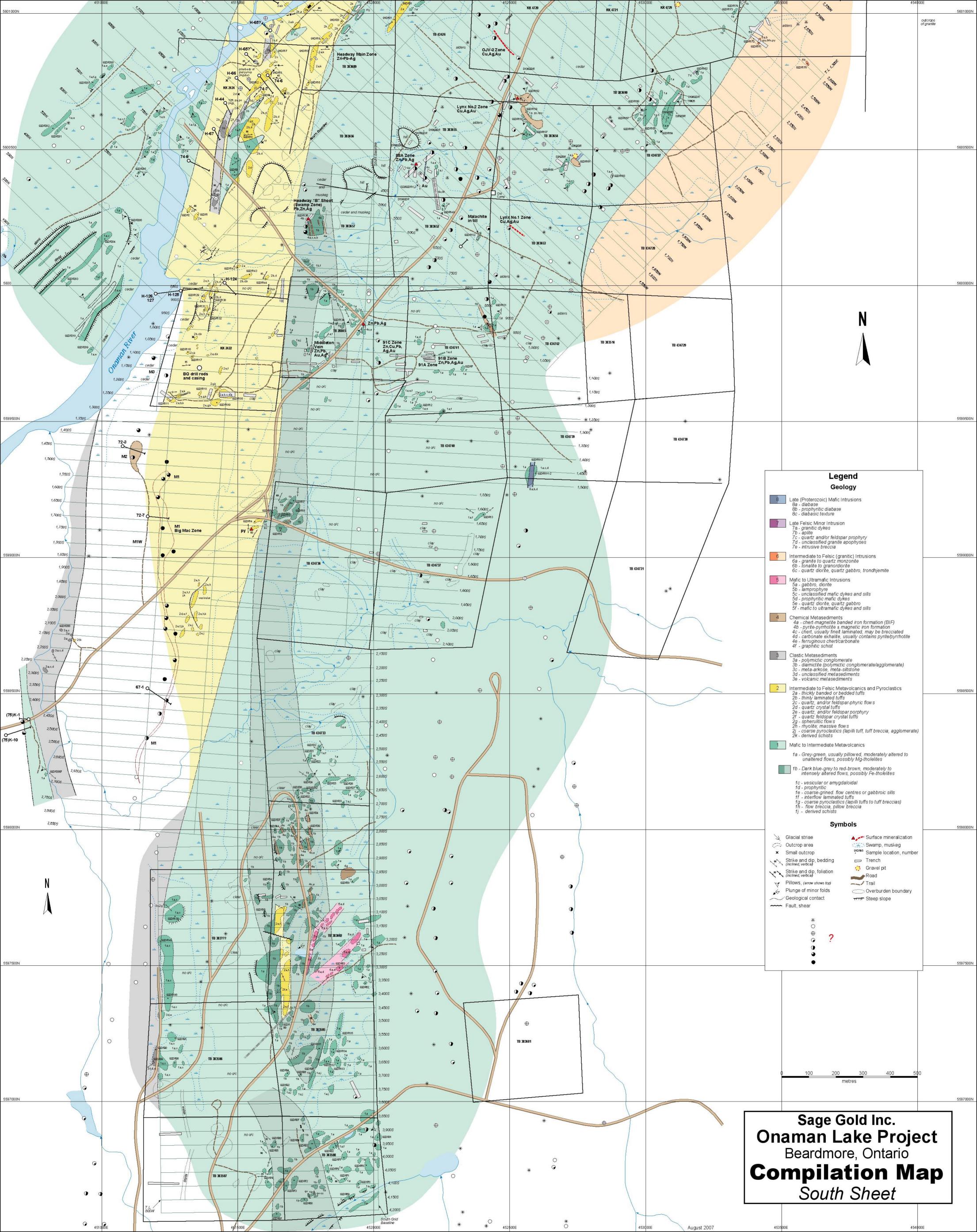
Table 21: Cane Gold-Silver mineral beneficiation study results

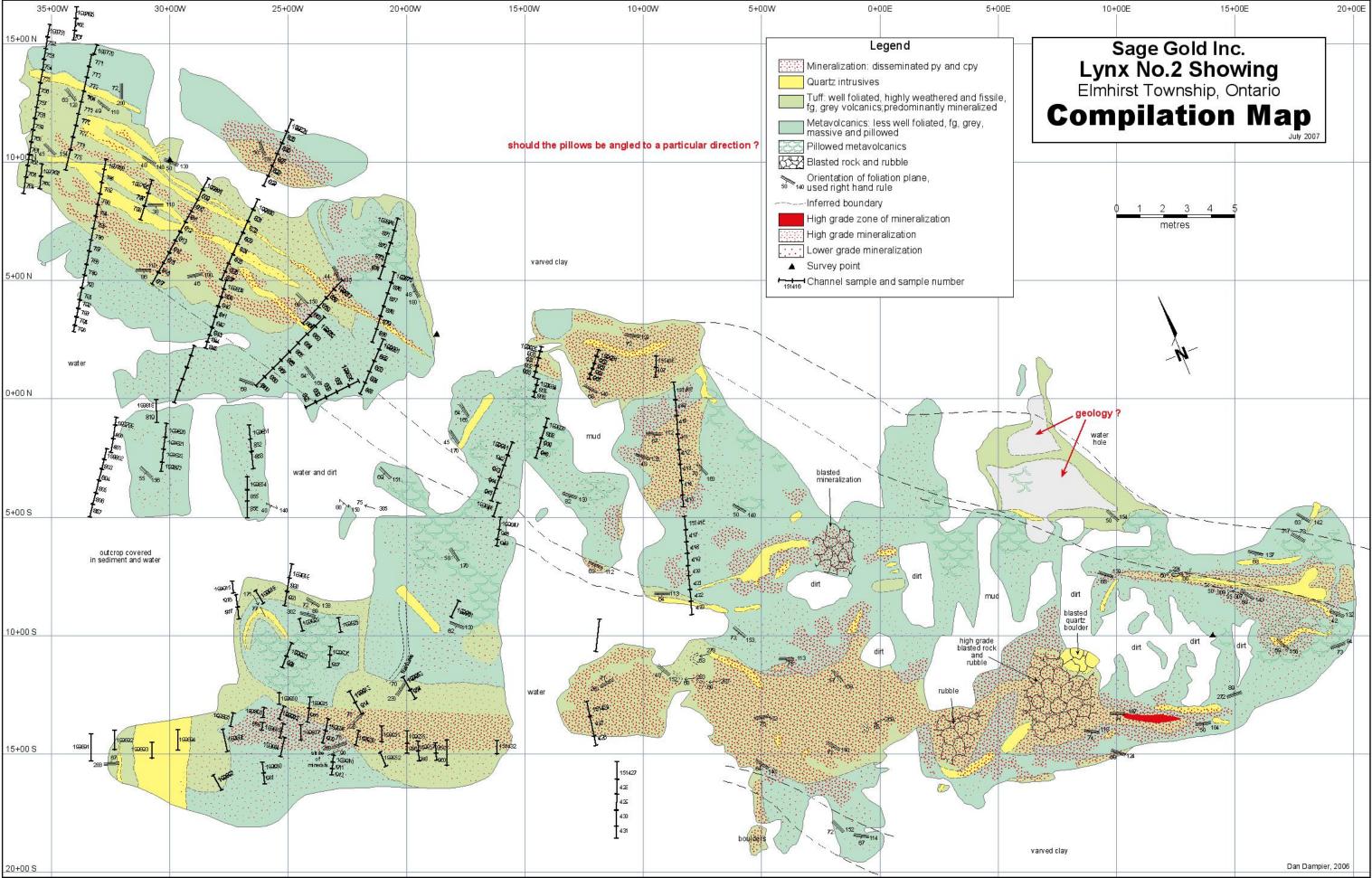
Table 21: Cane Gold-Sliver mineral benef						iciati	UII S	tuuy	1650	1115			
	Mass	Wt. %	Wt. %					Dist	ributio	n %			
	Dist.												
Description	(%)	Fe	Cu	Pb	Zn	Ag	Au	Fe	Cu	Pb	Zn	Ag	Au
Head Assay	-	6.10	0.13	4.20	3.20	426	3.37	-	-	-	-	-	-
TBE Results													
Sink	36.30	11.77	0.14	22.18	6.00	353	7.18	67.30	62.30	84.50	67.60	63.70	74.30
Pan	7.90	7.52	0.17	11.35	4.66	668	2.46	9.20	17.30	11.10	12.20	22.90	6.70
Float	55.70	2.50	0.02	0.65	0.85	59	0.83	23.50	20.30	4.40	20.30	13.40	19.10
Wilfley Table Results (-0.5mm)													
Con	9.10	13.62	0.13	51.93	4.00	1562	12.04	19.50	14.10	50.20	12.50	27.50	36.10
Tail	89.90	5.68	0.08	5.19	2.81	414	2.15	80.50	85.90	49.80	87.50	72.50	63.90
Scoping Rougher Float Results (P80 = 63													
	micron)												
Pb Rougher	21.80	15.52	0.36	43.32	3.45	1896	21.43	43.90	85.40	96.70	24.20	96.10	89.90
Zn Rougher	6.50	9.03	0.12	1.39	44.85	139	1.54	6.00	6.70	0.70	73.90	1.70	1.50
Tail	71.70	5.27	0.01	0.35	0.08	13	0.61	50.10	8.00	2.60	1.90	2.20	8.60
Pb Rougher (P80 =	63 micro	n)/Clea	ner (P	80 = 3	5 micr	on) Fl	oat Re	sults					
Pb Rougher	22.00			38.90	3.40	2373				96.90	23.80	97.50	85.90
Pb Cleaner				66.30	1.50	4402	23.80			96.70	4.50	96.40	95.00
Overall Pb	9.80			66.30	1.50	4402	23.80			93.70	4.50	93.90	81.60
Recovery													
Zn Rougher (P80 =	63 micror	ı)/Clea	ner (P	80 = 3!	5 micr	on) Fl	oat Re	sults					
Zn Rougher	5.90			3.20	45.20	334				2.10	91.90	3.70	4.40
Zn Cleaner				3.40	56.20	366				97.80	99.80	97.70	96.70
Overall Zn	4.70			3.40	56.20	366	2.50			2.10	91.80	3.60	4.30
Recovery													
Tail	85.50			2.60	2.80	213	3.80			4.20	3.70	2.50	14.20





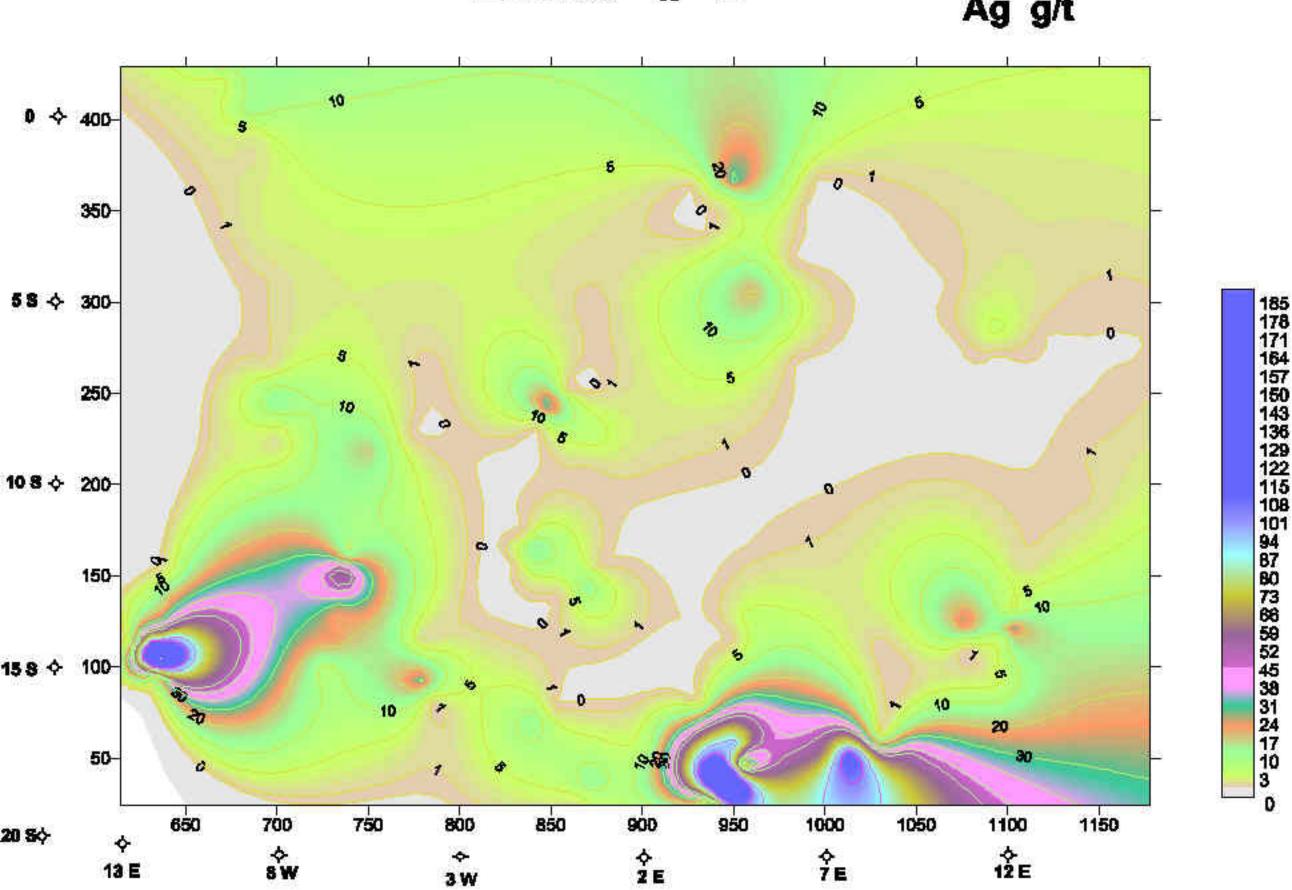




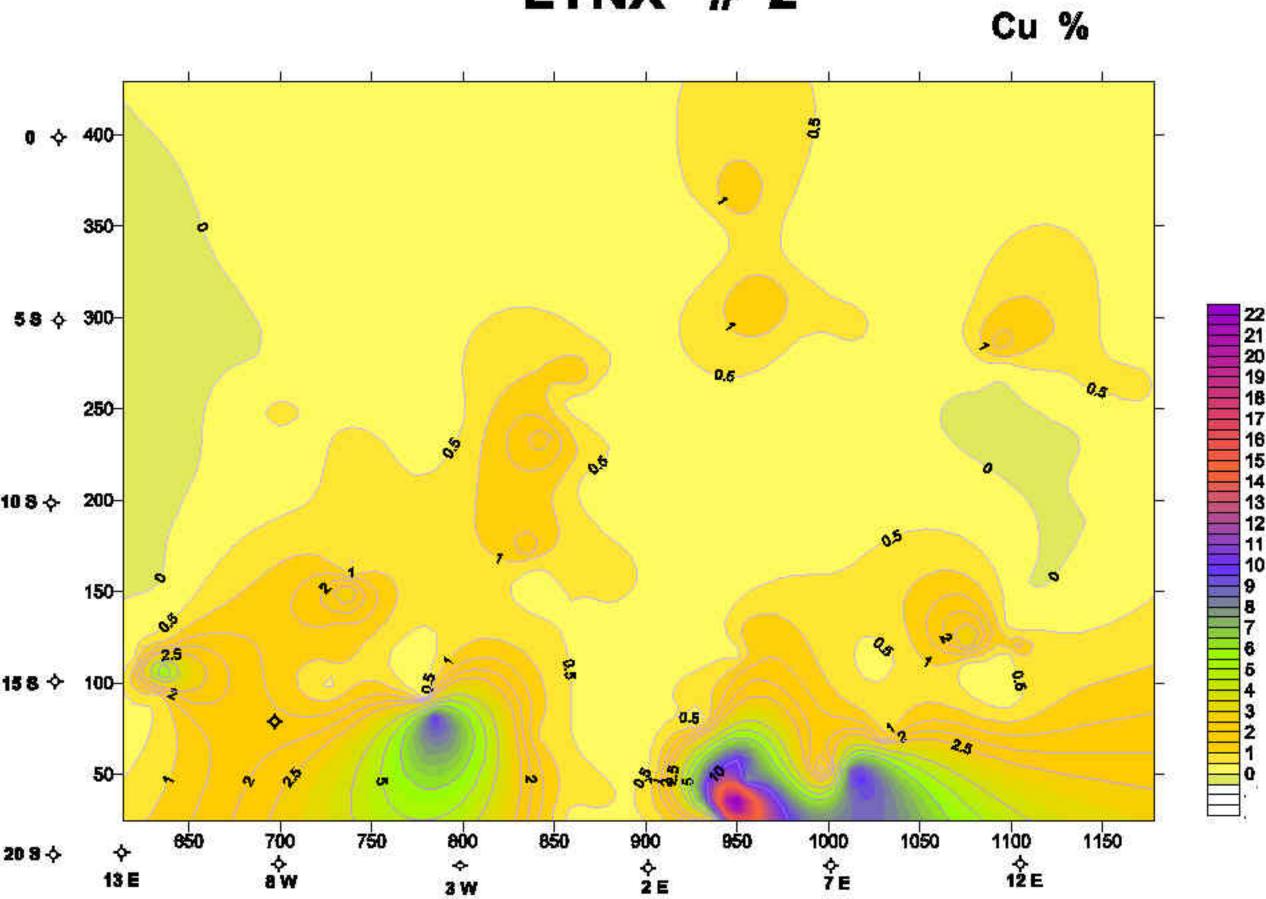


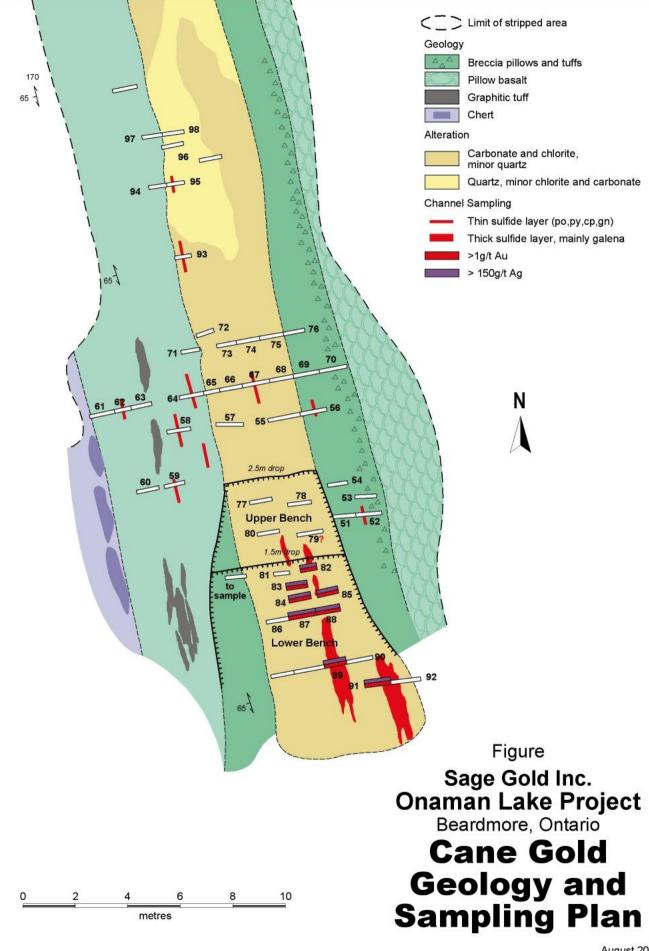
LYNX # 2

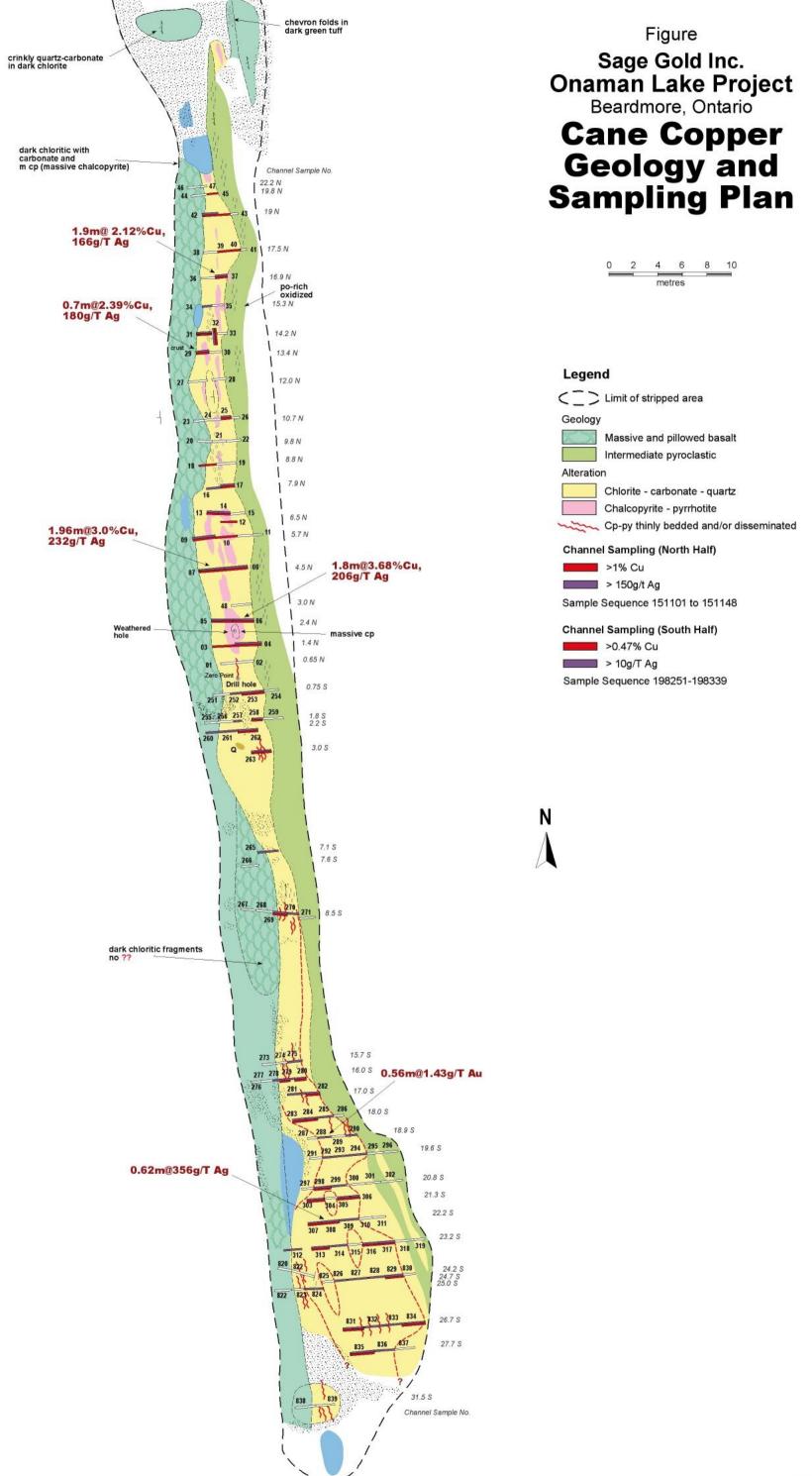


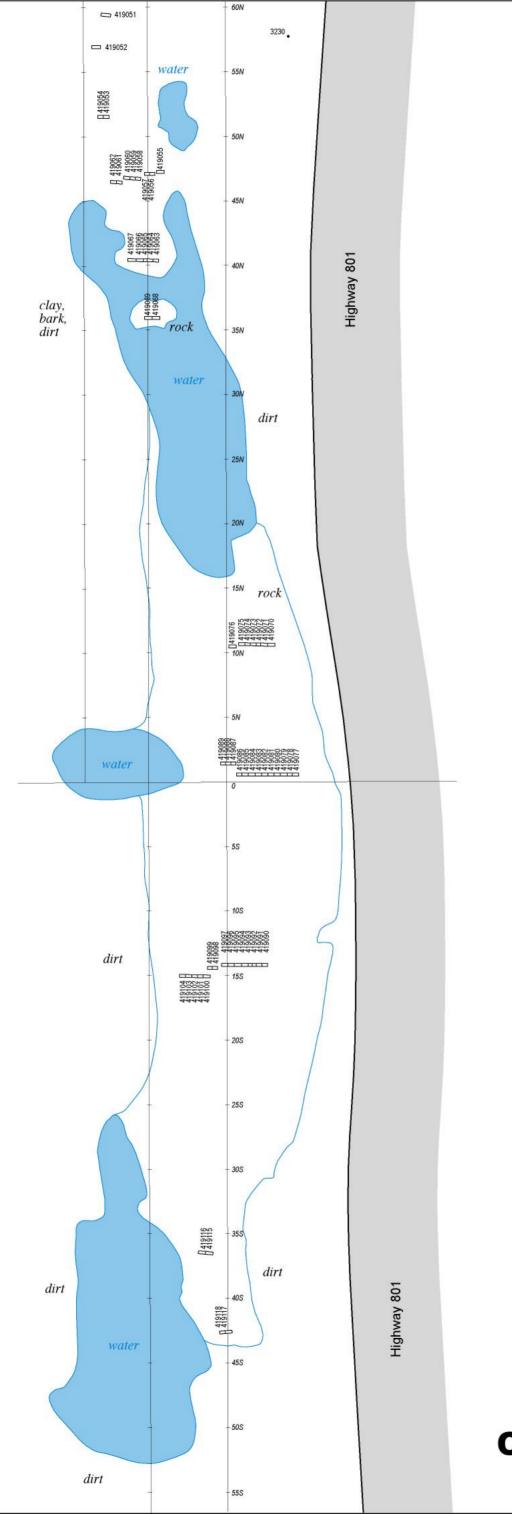


LYNX # 2











Sage Gold Inc.
Onaman Lake Project
Beardmore, Ontario
Km51 Prospect
Plan of
Channel Samples

