

**Geological Report  
On the  
Coppercorp Property of Amerigo Resources Ltd.  
Mamainse Point Area, Ontario**

**By**

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## Summary

The Amerigo Property is located in the Mamainse Point area 80 kilometres north of Sault Ste. Marie, Ontario. It is situated on the eastern edge of the Mid-Continental Rift system that was active during mid-Proterozoic time. The tectonic setting and geology of the region as well as the presence of several copper deposits with significant iron oxide, suggest that this area has potential for iron oxide copper-gold (IOCG) deposits of the Olympic Dam-type.

The Coppercorp Mine, a past producer, along with several surface copper occurrences are located on the western portion of the property. The Coppercorp deposit and associated occurrences are structurally controlled with mineralization found in fault-related breccias and veins which transect flood basalts, conglomerates, and felsic intrusives and volcanics of the Keweenawan-age Mamainse Point Formation. Historical records of the Coppercorp Mine indicate that gold and silver were recovered along with copper. Past exploration and recent sampling of veins, grab samples, and concentrate verify the presence of high gold and silver values.

Regional westward warping of the Mamainse Point Formation along with possible concurrent radial faulting may have provided the structural conduits for the mineralizing fluids in the Coppercorp Mine and elsewhere on the property. The presence of a high area of magnetic intensity in the focal area of the radial fault system, along with associated felsic intrusive and extrusive activity in the lower volcanic sequence, suggest the presence of a volcanic or intrusive centre in the area.

A preliminary surface exploration program of data compilation and assessment, reconnaissance geological mapping, prospecting and sampling is recommended for the property. Follow-up exploration should consist of ground geophysical surveys, using magnetometer and induced potential methods. Gravity and magnetic profiling should be completed using the logging road network and along selected transects. Geochemical surveys of soil and humus can supplement the geological, geophysical and prospecting surveys. Target areas can then be identified for more detailed assessment, including stripping, detailed mapping, geophysics, and drilling.

For the follow-up exploration, consideration should be given to subdividing the large property holding into two main blocks: a western block covering the Coppercorp Mine and surrounding area, and a central block covering the high aeromagnetic anomaly and surrounding area in the lower volcanic package.

## **1. Introduction and Terms of Reference**

This technical report was prepared at the request of the management of Amerigo Resources Ltd. (Amerigo) in support of an option agreement between Amerigo and the group of prospectors from whom the Coppercorp Property was optioned.

The sources of information used in the technical report includes, published papers, Sault Ste. Marie District Geologist assessment files, unpublished theses and unpublished company reports. Where possible these sources are referenced where used and a full citation is included in the references (Item 19).

The writer is familiar with the geology and mineral deposits in the Batchewana and Mamainse Point areas, having visited the Coppercorp Mine area as well as other copper and uranium deposits in the area associated with Keweenawan-age rocks over the past several years. A field visit was made to a southeastern portion of the property prior to writing this technical report.

## **2. Disclaimer**

The use of the term 'ore reserve' in this report should be viewed strictly in its historical context and should not be correlated with the categories set out in sections 1.3 and 1.4 of National Instrument 43-101.

The historical pre-production estimated ore reserve figures for the Coppercorp Mine were obtained from Source Mineral Deposit Records (SMDR000852) of the Sault Ste. Marie District Geologist's Office, Ministry of Northern Development and Mines and a Coppercorp Mine report dated November 12, 1965. Although there are a few underground plans and drill holes showing mineralized intersections related to the mineralized zones, the author did not find any reports or records which represent official ore reserve calculations for the Coppercorp Mine. As such it is not possible to determine the reliability of the historical estimates or whether they are in accordance with the categories set out in sections 1.3 and 1.4 of National Instrument 43-101. In addition, no records have been found which document any remaining reserves in the mine when it ceased operation in 1972.

For the purposes of this technical report, production figures for the Coppercorp Mine are based on data from Source Mineral Deposit Record 000852 (Sault Ste. Marie District Geologist's Office, Ministry of Northern Development and Mines).

## **3. Property Description and Location**

The property is located in Ryan Township, Sault Ste. Marie Mining Division, Sault Ste. Marie, Ontario, Canada (Figure 1). It consists of 23 unpatented, contiguous claims in 203 claim units (Table 1, Figure 4). One claim was staked in February 2001, but most of the claims (16) occur within the Montreal Mining Company Sand Bay Location, ground that

was closed for staking until June 1, 2002. At this time, the 16 claims were staked together with 6 others to the east of the Sand Bay Location.

Amerigo subsequently entered into an option agreement to earn a 100% interest in the property from a group of three prospectors. In order to earn the 100% interest, Amerigo has agreed, subject to TSX Venture Exchange approval, to:

- 1) Pay \$30,000 cash and issue 200,000 common shares on approval of an option agreement,
- 2) Issue a further 400,000 common shares and pay a further \$70,000 cash over 4 years, provided that, Amerigo may at its option, issue shares of equivalent value in lieu of cash for all but the initial cash payment,
- 3) Spend \$200,000 on exploration over 4 years, and
- 4) Provide the prospectors with a net smelter return royalty of 3% from any future production from the property. Amerigo retains an option to buy back 1.5% of the royalty for \$1,500,000.00.

*Figure 1: General Location Map of the Amerigo Property*



Several mine hazards dating from mining activities carried out between 1954 and 1972 are present on the property (Figure 2 & 3). A site assessment of the mine hazards in and around the Coppercorp Mine was completed by staff of the Ministry of Northern Development and Mines in June 1998 (Hamblin, 1998) and the report is available for viewing at the Sault Ste. Marie District Geologist's office.

*Figure 2. Old mine workings in the vicinity of the Coppercorp Minesite. Source: Hamblin, 1998, with additional data collected during field visits.*

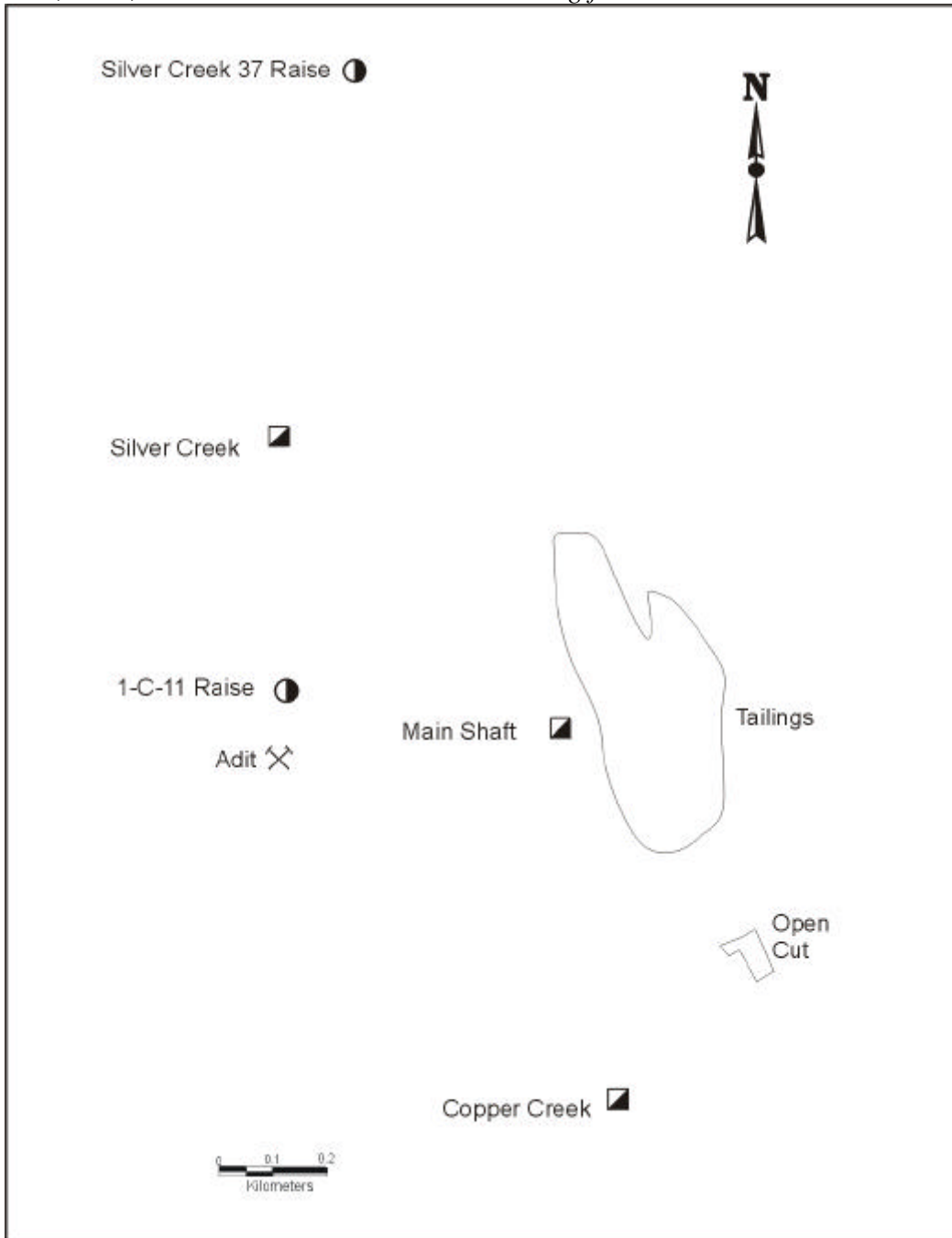
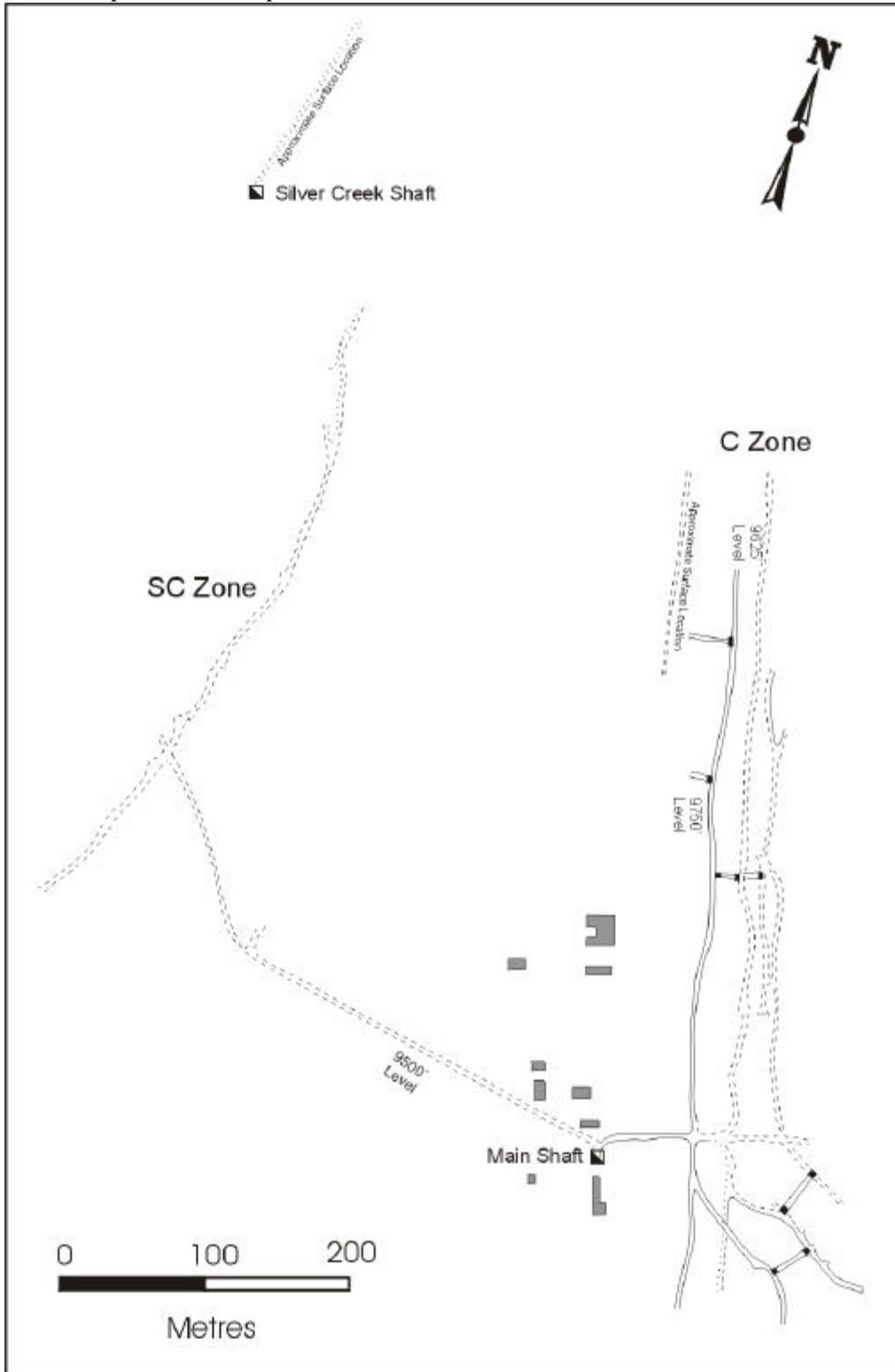


Figure 3. Location of Coppercorp underground development and surface buildings up until October, 1964. Source. Coppercorp Limited Surface Plan and Underground Composite, Unpublished Map, October 25, 1964.





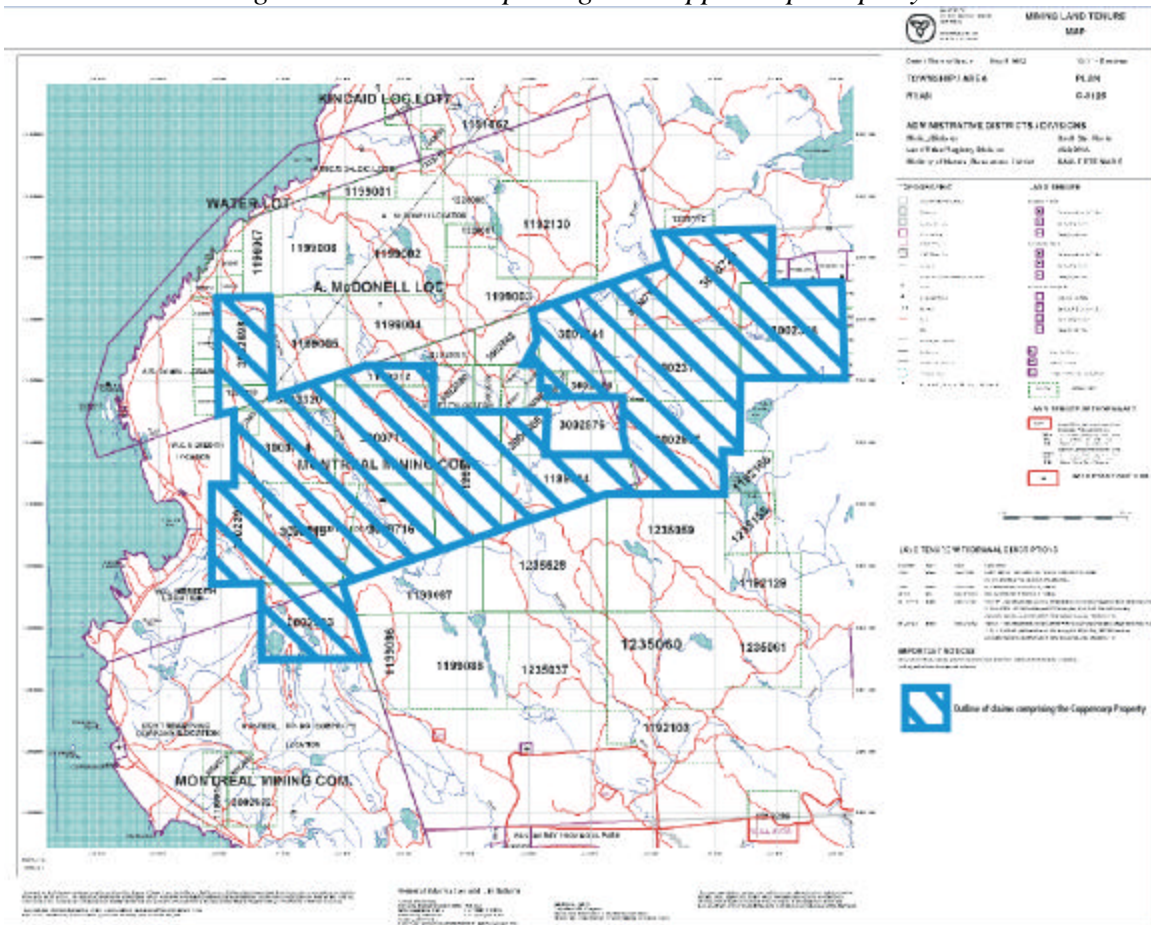
Under the Ontario Mining Act, holders of unpatented claims are not held responsible for hazards created by prior owners, provided that they do not materially disturb the existing hazards. If the owner decides to take the unpatented claims to lease, which would normally only be done if mining was contemplated, then the owner assumes responsibility for all mine hazards, regardless of who created them. Of course, owners are always responsible for any hazards they themselves create, and a process of progressive rehabilitation for such hazards is encouraged. The sections of the Ontario Mining Act pertinent to the mine hazards covered by the Coppercorp Property are reproduced in Appendix 1.

*Table 1. Claims comprising the Coppercorp Property*

| Claim Number | Number of units | Approximate Area (ha) | Due date      | Expenditure Required |
|--------------|-----------------|-----------------------|---------------|----------------------|
| 3000714      | 11              | 176                   | June 26, 2004 | \$4,400              |
| 3000715      | 15              | 240                   | June 26, 2004 | \$6,000              |
| 3000716      | 13              | 208                   | June 26, 2004 | \$5,200              |
| 3000717      | 16              | 256                   | June 26, 2004 | \$6,400              |
| 3002392      | 8               | 128                   | June 26, 2004 | \$3,200              |
| 3002393      | 11              | 176                   | June 26, 2004 | \$4,400              |
| 3000720      | 15              | 240                   | June 26, 2004 | \$6,000              |
| 3000719      | 5               | 80                    | June 26, 2004 | \$2,000              |
| 1199911      | 15              | 240                   | June 26, 2004 | \$6,000              |
| 3000666      | 4               | 64                    | June 26, 2004 | \$1,600              |
| 1199912      | 4               | 64                    | June 26, 2004 | \$1,600              |
| 1199984      | 14              | 224                   | June 26, 2004 | \$5,600              |
| 3002319      | 2               | 32                    | June 26, 2004 | \$800                |
| 3002697      | 13              | 208                   | June 26, 2004 | \$5,200              |
| 3000718      | 1               | 16                    | June 26, 2004 | \$400                |
| 3002341      | 11              | 176                   | June 26, 2004 | \$4,400              |
| 3002310      | 15              | 240                   | June 26, 2004 | \$6,000              |
| 3002398      | 16              | 256                   | June 26, 2004 | \$6,400              |
| 3002698      | 6               | 96                    | June 10, 2004 | \$2,400              |
| 1235019      | 3               | 48                    | Feb 26, 2003  | \$1,200              |
| 3002577      | 1               | 16                    | July 15, 2004 | \$400                |
| 3002320      | 3               | 48                    | June 10, 2004 | \$1,200              |
| 3002342      | 1               | 16                    | June 10, 2004 | \$400                |
| <b>Total</b> | <b>203</b>      | <b>3232</b>           |               |                      |

The western extremities of the Amerigo Property are within 500 to 1000 metres of the Lake Superior coastline. Any future advanced exploration or claim staking activities should be mindful that much of the Lake Superior coastline has been, and will likely continue to be, incorporated into Ontario's Living Legacy (OLL) land use policy as part of the Great Lakes Heritage Coastline Signature Site (Ontario's Living Legacy, 1999). Any claims staked prior to an area being designated as a new Park or Conservation Reserve will remain in good standing as long as the work requirements are met. If a claim is not kept in good standing and reverts to the Crown, then the land within these designated areas falls under the OLL land use policy that restricts mining and forestry operations. There are no OLL sites on the Amerigo property.

Figure 4. Claims comprising the Coppercorp Property.



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

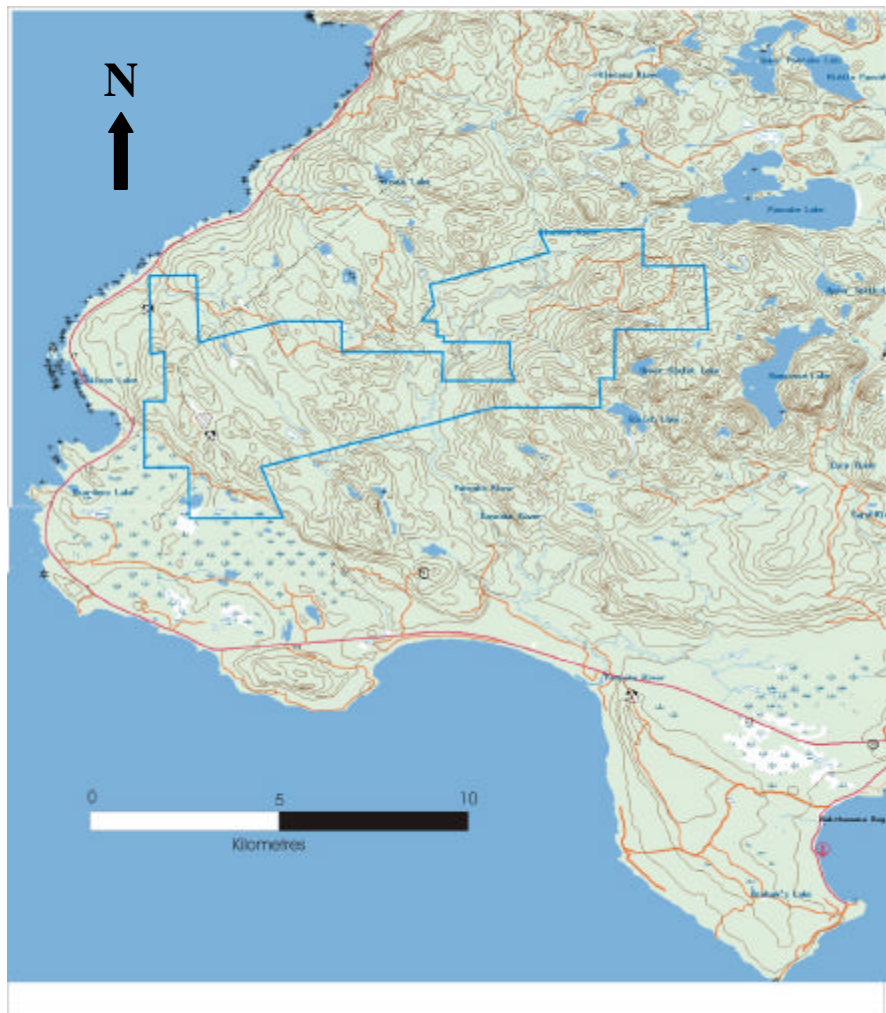
The property is located in the Batchawana Bay area on the east shore of Lake Superior (Figure 5). Access to the property is by paved highway (Highway 17) about 80 kilometres north of Sault Ste. Marie, followed by a gravel road. A system of logging roads provides further access to different parts of the property.

The western portion of the Coppercorp Property is characterised by moderate to low relief. Drainage and topography are influenced by the northwest trending strike of the volcanic and sedimentary strata of the Mamainse Point Formation. The eastern part of the property has moderate to high relief and partly overlies the metavolcanic rocks of the Batchawana Greenstone Belt. Separating these physiographic areas is the Pancake River and river valley, which runs southerly through the central part of the property (Figure 5).

Elevation ranges from 700 - 1000 feet a.s.l. in the western portion and 700 to 1700 feet a.s.l. in the eastern section. Vegetation consists of mixed hardwoods and softwoods, and there are several logging companies active in the area.

An industrial electric transmission corridor was constructed by Great Lakes Power Company to serve the Coppercorp Mine, and crosses the western part of the property. Water is available from Lake Superior and in limited quantities from small creeks throughout the property.

*Figure 5: Topographic Map of the Mamainse Point Area*



## 5. History

The Amerigo Property has a history of prospecting, mineral exploration and mining activity that dates back to the late 1800's. The history of ownership of the Montreal Mining Company Sand Bay Location is summarized in Table 2.

*Table 2. History of Ownership of Montreal Mining Sand Bay Location*

| Years     | Ownership  |
|-----------|--|
| 1856-1857 | Montreal Mining Co.  |
| 1871      | Ontario Mineral Lands Co.  |
| 1882-1884 | Silver Islet Consolidated Mining and Lands Co.                                 |
| 1890      | Canada Lands Purchase Synd.  |
| 1892      | Nipigon Mining Co.   |
| 1906-1908 | Calumet and Hecla Co.  |
| 1948      | Macassa Mines Ltd.   |
| 1951      | C.C. Huston and Associates   |
| 1955      | Coppercorp Ltd.  |
| 1964      | Part of Property leased by Vauze Mines Ltd.<br>North Canadian Enterprises Ltd. |
| 2002      | Terry Nicholson & William Gibbs  |

Source: Ontario Division of Mines Source Mineral Deposit Record 000852.

In 1948-49 old copper showings in the area were examined and drilled by Macassa Mines who later optioned the property to C.C. Houston and Associates. Subsequent drilling of 33,400 feet by the end of 1952 had outlined several mineralized zones in the Coppercorp Mine area, including the C Zone, D Zone, SB Zone and Silver Creek Zone (see Figure 7).

A new company, Coppercorp Limited, was created and in 1954 proceeded to sink a shaft to 550 feet with levels at 250, 375, and 500 feet (Coppercorp Annual Report 1965). During the underground development, 14,000 feet of lateral development were completed and 60,000 tons of ore were stockpiled. Operations ceased in 1957 due to falling copper prices.

From 1962 to 1964 Vauze Mines Limited (controlled by Sheridan Geophysics Limited) completed additional drilling along with a surface exploration program which included geophysical surveys and geological and geochemical examinations.

A decision was made in 1965 to bring the Coppercorp deposit into production and the original shaft was de-watered and deepened to 629 feet. Underground development resumed at a production rate of 500 tons per day producing copper concentrate (approximately 50% copper) with a recovery in excess of 90%. Concentrates from the Coppercorp deposit contained copper, silver, and gold (example: 1087 short tons of concentrate contained 50.18% copper, 7.72 oz/ton silver, and .222 oz/ton gold; Heslop, 1970, pg. 63).

Some of the available historical statistics on underground development, drilling, pre-production ore reserve estimates and production figures are provided in Tables 3, 4 and 5.

*Table 3: Historical statistics on underground development and drilling at the Coppercorp Mine.*

| <b>Exploration Activity</b> | <b>Type of Activity</b>  | <b>Information Source</b> |
|-----------------------------|--------------------------|---------------------------|
| Underground Development     | Drifting : 34,882 feet   | SMDR 000852               |
|                             | Crosscuts: 3,628 feet    | SMDR 000852               |
| Drilling                    | Surface: 16,000 feet     | SMDR 000852               |
|                             | Underground: 20,000 feet | SMDR 000852               |

*Table 4: Historical Pre-Production Ore Reserve Estimates\* at the Coppercorp Mine*

| <b>Mineralized Zone</b>                               | <b>Ore Reserve Estimate</b> | <b>Information Source</b>                                    |
|---|-----------------------------|--|
| C Zone and C Zone South**                             | 400,000 tons @ 2.3% Cu      | SMDR 000852; Coppercorp Report for 1965                      |
| Silver Creek South Zone                               | 490,000 tons @ 1.9% Cu      | SMDR 000852; Coppercorp Report for 1965                      |
| SB and Silver Creek North Zones                       | 650,000 tons @ 2.1% Cu      | SMDR 000852; Coppercorp Report for 1965                      |
| Total Ore Reserve Estimate for the Coppercorp Deposit | 1,540,000 tons @ 2.1% Cu    | SMDR 000852; Coppercorp Report for 1965; Northern Miner 1965 |

\* Ore reserve estimates were given to the 500 foot level. See Note below on the use of 'ore reserve' terminology.

\*\* C Zone South was also referred to as the C2 Zone.

*Table 5: Coppercorp production (Source: SMDR 000852)*

| <b>Year</b>     | <b>Tons Hoisted</b> | <b>Tons Milled</b> | <b>Au (Oz)</b> | <b>Ag (Oz)</b> | <b>Cu (lbs)</b>   |
|-----------------|---------------------|--------------------|----------------|----------------|-------------------|
| 1957*           | 60,000              |                    |                |                |                   |
| 1965            | 14,882              | 38,919             | 386            | 30,069         | 832,928           |
| 1966            | 118,848             | 149,691            | 390            | 37,296         | 3,716,325         |
| 1967            | 146,601             | 146,441            | -              | 35,500         | 3,557,000         |
| 1968            | 142,986             | 142,986            | 268            | 33,622         | 3,175,730         |
| 1969            | 161,488             | 161,488            | 249            | 55,761         | 4,769,452         |
| 1970            | 141,055             | 140,830            | 231            | 1,785          | 2,447,500         |
| 1971            | 155,811             | 156,111            | 440            | 33,570         | 3,109,758         |
| 1972**          | 83,519              | 84,892             | ?              | ?              | 2,173,235         |
| <b>Total***</b> | <b>965,190</b>      | <b>1,021,358</b>   | <b>1,964</b>   | <b>237,603</b> | <b>23,782,028</b> |

\* From 1955-1957 development ore was stockpiled by Coppercorp; not included in total.

\*\* Copper grade was reported to be 1.28%.

\*\*\* From 1969 to 1972 the Coppercorp Mine had disputed accounting for ore production (Northern Miner Handbook, 1972-73, pg.97). For the purposes of this technical report a production figure of 1,021,358 tons milled at 1.16% Cu is used based on data from Source Mineral Deposit Record , Sault Ste. Marie District Geologist's Office, MND&M).

**NOTE: *The use of the term 'ore reserve' in this report should be viewed strictly in its historical context and should not be correlated with the categories set out in sections 1.3 and 1.4 of National Instrument 43-101 (See item 2).***

## **5.1 Recent Exploration**

### **5.1.1 Coppercorp Limited**

Much of the Amerigo Property was closed to staking up to June 1, 2002, and so only those parts of the property outside of the Montreal Mining Company Sand Bay Location have received the recent attention of prospectors and explorationists. Recent exploration activity has focused on the area of the Lutz vein and L zone, situated approximately 3 kilometres north-northwest of the Coppercorp Shaft (Figure 7). An adit was driven into the Lutz vein, but historical records are unavailable. Both mineralized zones are located on the northwestern strike extension of the Coppercorp Mine workings.

In the mid-1960's, Coppercorp Limited completed induced potential, magnetic, electromagnetic and geochemical surveys in this area as part of a surface exploration program on their property holdings. The magnetometer surveys were considered useful in delineating geological contacts and geologic structure. The electromagnetic survey identified several intermediate to poor conductors which appeared to coincide with superficial clay deposits (altered felsite). The geochemical survey was useful in identifying strong copper anomalies. The IP survey was useful in outlining known copper occurrences and identifying similar anomalies not previously explored.

Results from the surface exploration program (Burns, 1965; Disler, 1967) identified several geochemical and geophysical anomalies in the Lutz vein and L zone area and elsewhere on the Coppercorp property to the south for follow-up drill testing.

### **5.1.2 J. F. Paquette**

More recently, in 1991-92, the property containing the Lutz vein and L zone was explored by J.F. Paquette who completed a self-potential survey along with prospecting, and sampling (Rupert, 1991 and 1993). Results from the self-potential survey identified a number of anomalies. However it was concluded that there was no clear correspondence between known zones of mineralization and the SP anomalies (Rupert, 1993). Assays for gold taken from the mineralized areas of the Lutz vein and L zone returned values ranging from 1 to 7.19 gm/tonne from 8 of the samples. Although gold values occur with copper, there is no apparent correlation between copper and gold concentration (Rupert, 1991).

### **5.1.3 Cominco Limited**

In 1993, Cominco Limited optioned the property containing the Lutz vein and L zone and completed geological mapping, surficial geochemistry, electromagnetic (UTEM) and magnetic surveys (Lum, 1994; Smith, 1995).

The magnetic survey identified several magnetic highs that were interpreted as geological units offset by cross-cutting faults. The UTEM survey, designed to identify deep-seated conductors, showed no significant anomalies. Several narrow zones of low resistivity are associated with magnetic lows and with some known copper showings (Lum, 1994).

Geochemical surveys using soil and humus samples identified copper anomalies over the L zone, but not the Lutz vein. A broad area of above average copper and gold values was identified north and south of an exposed felsic porphyry intrusion which is situated approximately 300 metres west of the mineral occurrences (Smith, 1995).

Chip samples taken by Cominco across a mineralized section of the Lutz vein adit contained up to 6000 ppb gold and 28,000 ppm copper from a chalcocite-bearing, quartz-carbonate breccia. Chip samples taken across a mineralized section of the L zone contained up to 19,500 ppb gold and 50,500 ppm copper in a chalcocite-chalcopyrite vein (Smith, 1995, Assessment File Records, Ryan Township, Sault Ste. Marie District Geologist's Office).

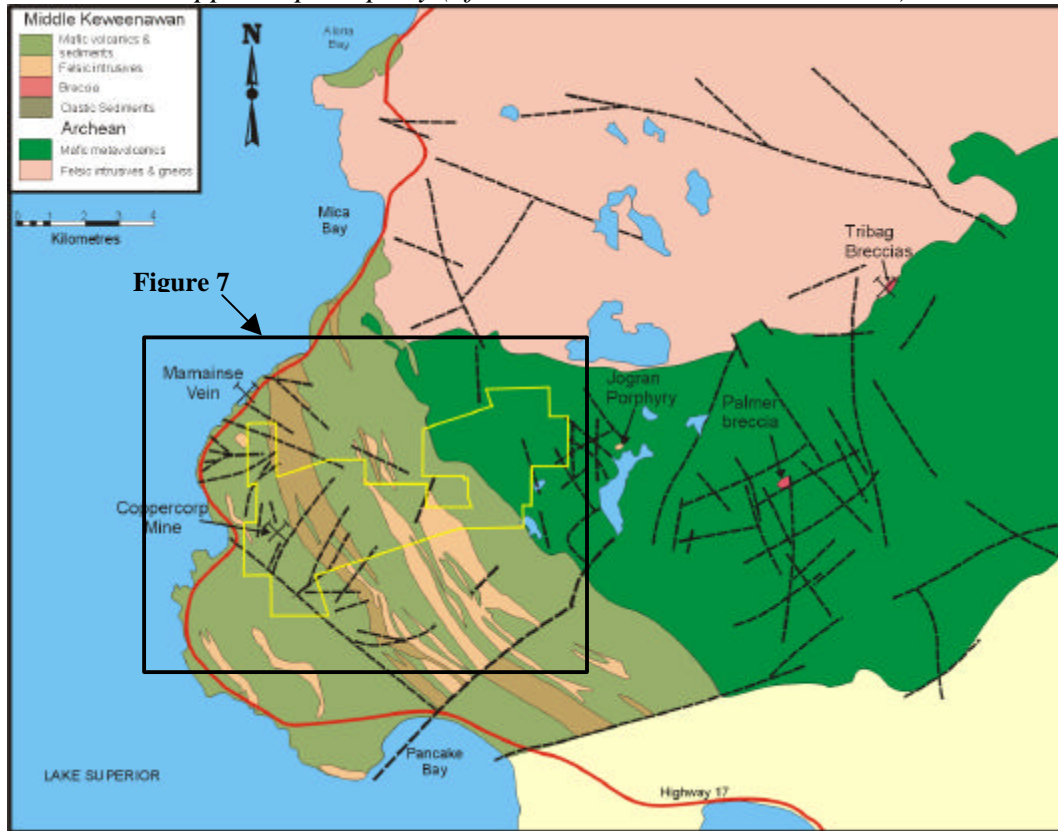
## **6. Geological Setting**

### **6.1 Regional Geology**

The area of interest is situated on the eastern edge of the Mid-Continental Rift (MCR) which underlies what is now Lake Superior and was active during the mid-Proterozoic, Keweenawan period (1100-1200 Ma). The Keweenawan rocks of the MCR are characterized by regionally extensive gravity and magnetic anomalies, and by large-scale crustal structures throughout the Lake Superior region.

The western three-quarters of the Amerigo Property covers Keweenawan-age (1100-1200 Ma) volcanic and sedimentary rocks of the Mamainse Point Formation. This rock formation unconformably overlies Archean-age metavolcanic rocks of the Batchawana Greenstone Belt which cover the eastern quarter of the property (Figure 6).

Figure 6. Regional geology of the Batchawana - Mamainse area, showing outline of the Coppercorp Property.(after Giblin, 1973; Richards, 1995).



## 6.2 Detailed Geology

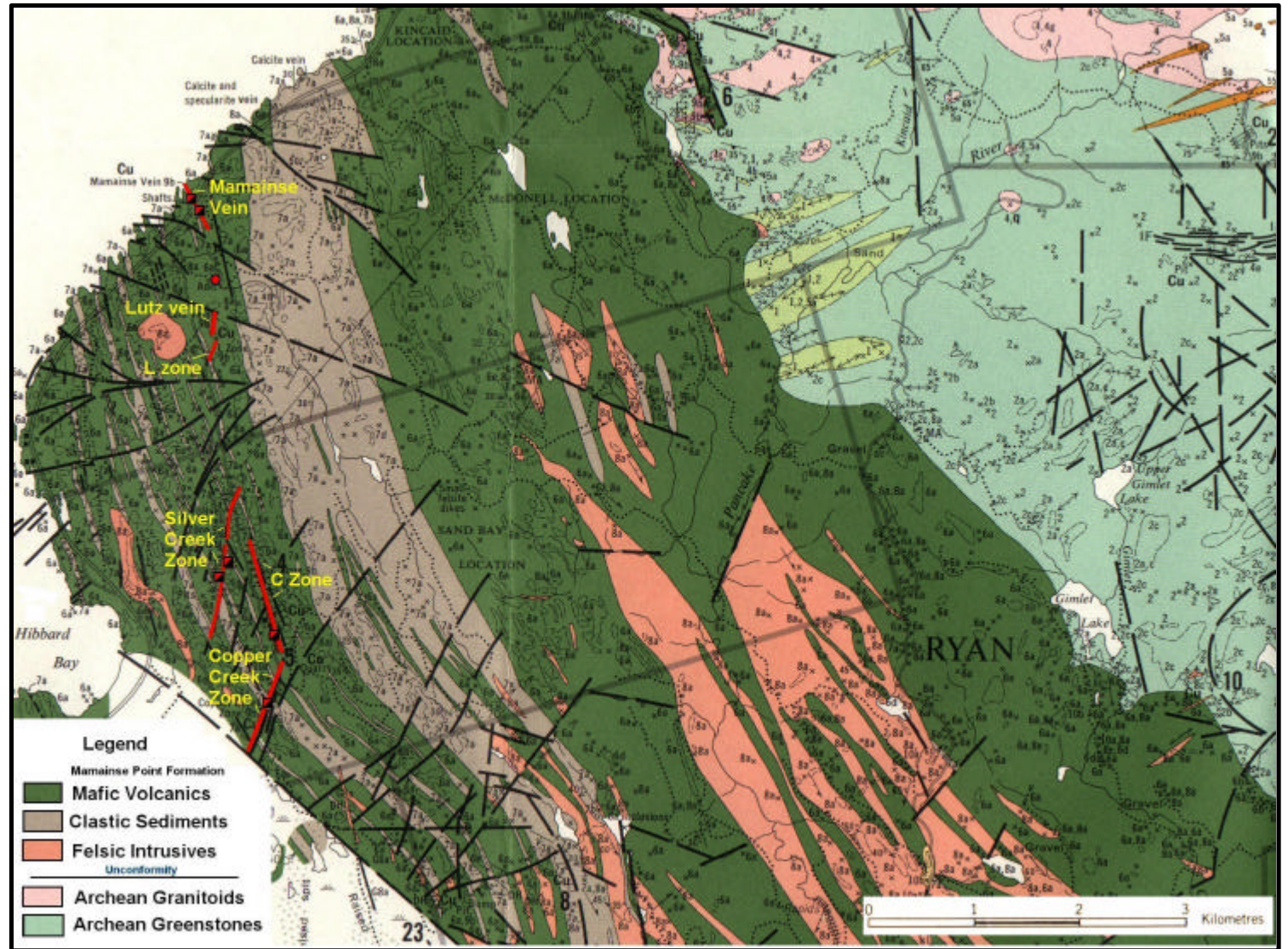
### 6.2.1 Archean Rocks

The rocks of the Batchawana Greenstone Belt on the property consist of mafic to intermediate metavolcanics containing minor felsic metavolcanic units. The Pancake Lake Iron Formation which trends roughly east-west occurs just east of the northeasternmost end of the property and consists of Algoma-type iron formation. The Archean rocks have been deformed and metamorphosed up to amphibolite rank resulting in northeast trending isoclinal folds and a penetrative fabric with steep dips (Figure 6).

The rocks have been intruded by felsic dikes, felsic porphyry, and felsic breccias considered to be Keweenaw in age and related to the Keweenaw felsic volcanic and intrusive rocks occurring more extensively within the Mamainse Point Formation to the west. A Keweenaw-age felsic intrusion, the Jogran Porphyry, intrudes the mafic metavolcanics about 1 kilometre east of the eastern edge of the property. The Jogran Porphyry is notable for having several Cu-Mo prospects associated with it.



Figure 7: Detailed Geology around the Coppercorp Mine area showing the location of some of the surface and projected mineralized zones (Giblin, 1973)



## **6.2.2 Keweenawan Rocks**

The Mamainse Point Formation consists of a 6 kilometre thick sequence of sub-aerial flood basalts intercalated with conglomerates and felsic volcanic and sub-volcanic units (Figure 7 & 8). The sequence generally trends to the northwest with a homoclinal dip of 30-40° southwest.

To the north, the Mamainse Point Formation is unconformably overlain by the Mica Bay Formation, considered to be the equivalent of the Freda Formation on the south side of Lake Superior. (Hamblin, 1961; Annells, 1973, Giblin, 1969). To the south, the Mamainse Point Formation is in fault contact with red sandstone of the Jacobsville Formation. Both the Jacobsville Formation and the Mica Bay Formation (Freda Formation) are considered to be late Keweenawan in age based on paleomagnetic age estimates (Halls and Pesonen, 1982).

### **6.2.2.1 Mafic Volcanics**

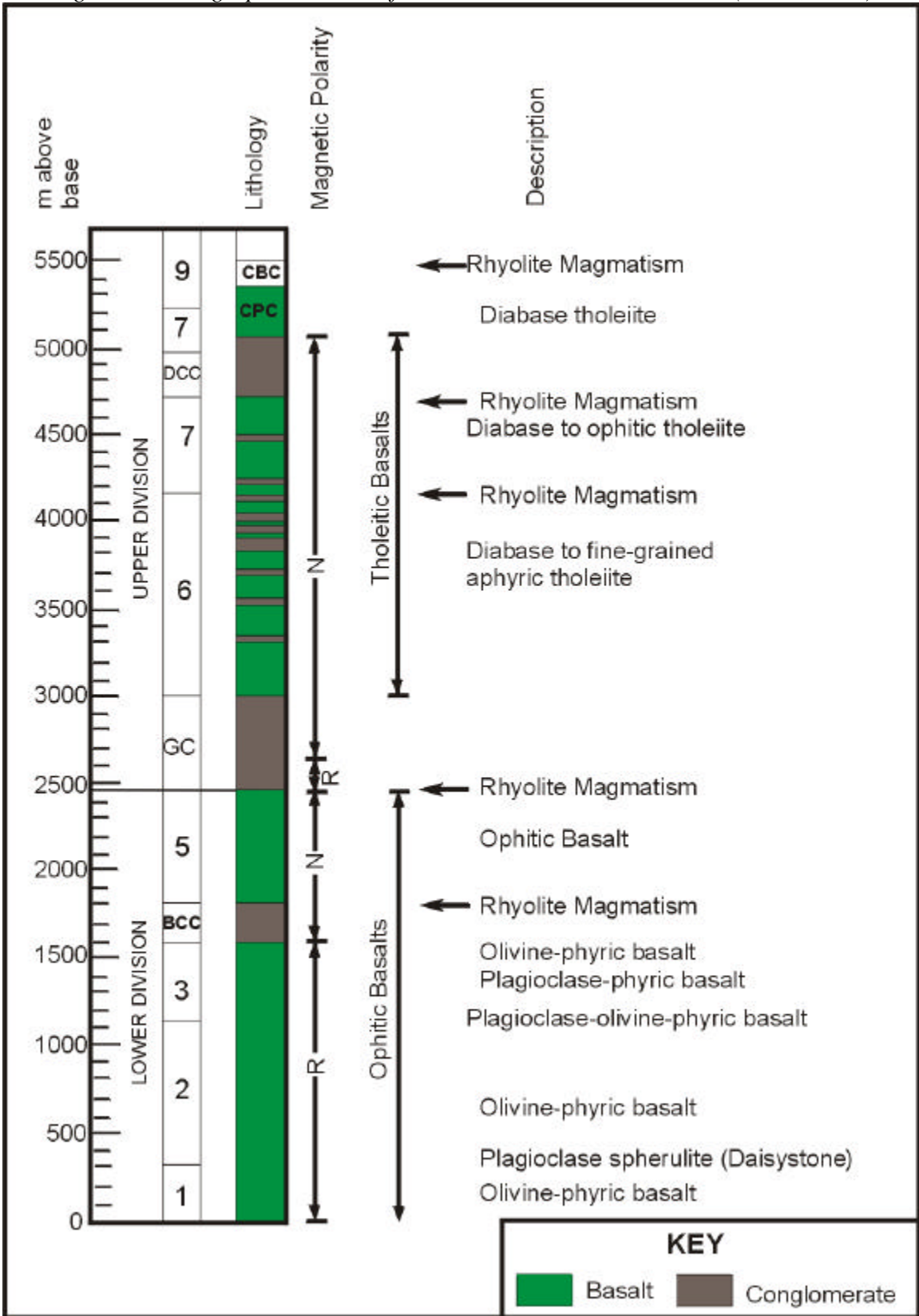
Basalt volcanic flows generally range from 1.5 to 30 metres in thickness, with upper vesicular zones and topped by ropy pahoehoe or scoriaceous flow tops, depending on the rock composition (Annells, 1973). In some cases, clastic material occurs as dike-like structures in joints and fissures in the basalt, which are thought to indicate the occurrence of minor earth movements contemporaneous with the accumulation of the lava pile. The clastic sediment in these structures is often highly altered, suggesting that the fissures acted as channelways for hydrothermal fluids (Richards, 1985).

### **6.2.2.2 Conglomerates and Sandstones**

The clastic sediments within the Mamainse Point Formation consists primarily of poorly sorted, clast-supported polymictic conglomerate containing minor lenses and sheets of cross-bedded, coarse sandstone. Conglomerate clasts are rounded, ranging from pebbles to boulders in size, and are derived predominantly from mafic volcanic (Keweenawan) and granitic (Archean) source areas.

The polymictic conglomerate has been interpreted as forming within an alluvial fan depositional environment in a rifted crustal setting. The conglomerate most likely originated as fault scarp deposits resulting from normal faulting occurring at the edge of the rift. Syn- to slightly post-tectonic sediment transport occurred from the craton towards the down-dropped blocks within the rift (Smith, 1995).

Figure 8: Stratigraphic Section of the Mamainse Point Formation (Smith, 1995)



### **6.2.2.3 Felsic Volcanics and Intrusives**

Hypabyssal felsic rocks occur throughout the stratigraphic succession and have been identified as being predominantly intrusive and sub-volcanic in nature. The three main rock types found are: quartz porphyry, felsite, and flow-banded rhyolite (Giblin, 1969c; Annells, 1973). Although many of the felsic rocks have intrusive contact relationships with the mafic volcanics and conglomerates, the presence of agglomerates and felsic tuffs in the sequence indicate that felsic intrusive activity extended to surface and was contemporaneous with the eruption of basaltic lavas (Annells, 1973; Giblin 1969b; Richards, 1985).

In the upper part of the volcanic pile, near the Lake Superior shore, flow-banded felsic units are strongly hematized to the extent that they can be easily confused with the red Jacobsville sandstone in the area. The hematite alteration is irregularly overprinted by a white, bleaching alteration (kaolinitization). In some felsic units, the extent of this alteration is such that several areas were investigated for their kaolin potential in the 1960's.

### **6.2.3 Geologic Structure**

The Mamainse Point Formation is transected by three major faults that offset or truncate the stratigraphy: the Mamainse Point Fault, the Mamainse Lake Fault, and the Hibbard Bay Fault (Figure 6).

The Mamainse Point Fault trends east-northeast and juxtaposes rocks of the Mamainse Point Formation with the red sandstones of the Jacobsville Formation. The Mamainse Lake Fault trends northeast and displays a variable, left-hand strike displacement of the volcanic and sedimentary units. The fault appears to converge with the Mamainse Point Fault under Pancake Bay. The Hibbard Bay Fault is a northwest trending fault that truncates the stratigraphy at an acute angle. The fault is oriented sub-parallel to the rift axis under what is now Lake Superior.

Many of the north-east trending crustal-scale faults along the Lake Superior shore have been interpreted as having late reverse movement based on geophysical analysis (gravity, magnetic, and paleomagnetic data). Manson and Halls (1993) attribute the reverse movement to the compressional effects of deformation from the southeast related to the Grenville orogenesis in late Keweenawan time.

In addition to the large crustal scale structures in the area, stratigraphic units of the Mamainse Point Formation have been offset by a series of radially distributed faults with a focal point located in the central part of the Amerigo Property. The radial distribution of faults coincides with a regional convex upwarping of the Mamainse strata towards the west. The focal area is dominated by an area of high magnetic intensity, and many of the faults radiate westward from a large body of felsite about 4 kilometres east of the

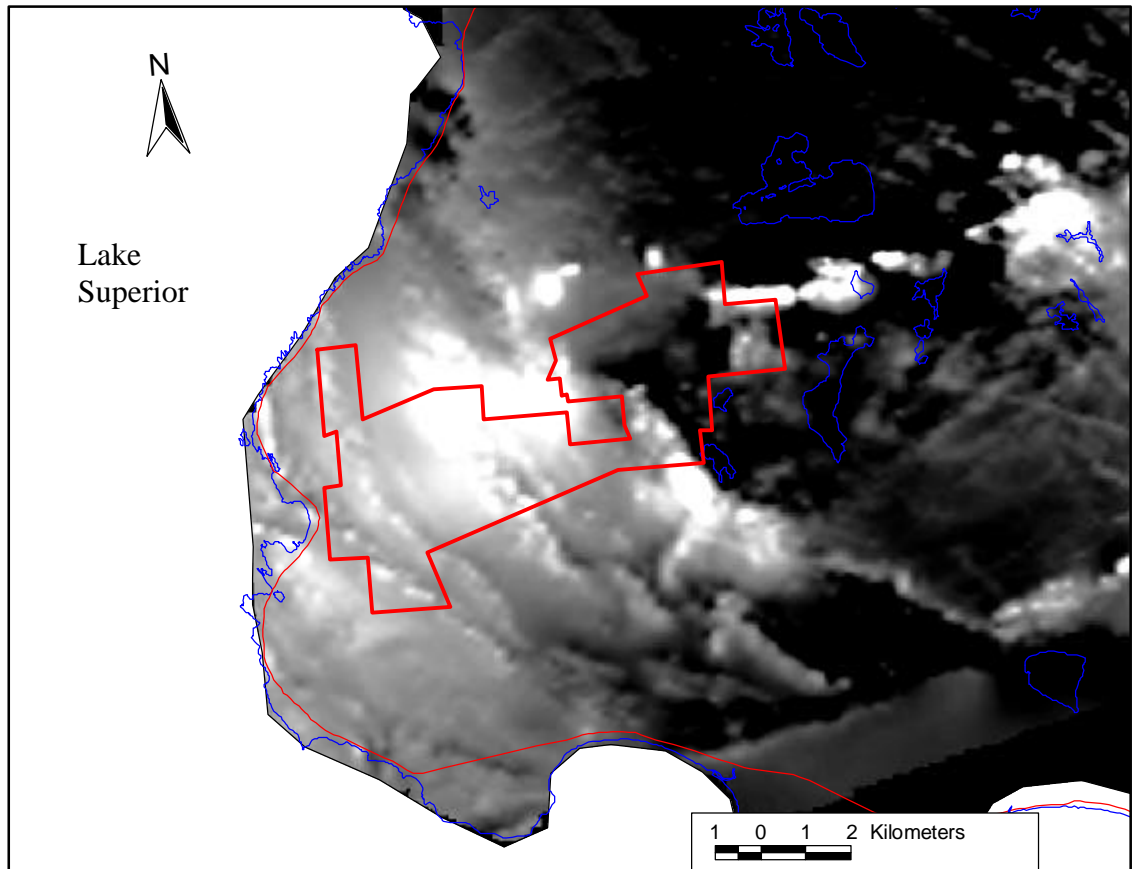
Coppercorp Mine. These same radially distributed faults form some of the mineralized zones in the Coppercorp Mine.

This regional warping of the Mamainse Point Formation with possible concurrent radial faulting appears to be a late stage feature that may be significant to the mineralization process in the Coppercorp area and elsewhere on the property.

### 6.3 Geophysical Setting

Regional airborne magnetic and electromagnetic surveys were flown over the Batchewana area at 200 metre line spacing by the Ontario Geological Survey (OGS, 1992). In the Mamainse Point area there is a dramatic increase in the regional magnetic intensity of the rocks for the Mamainse Point Formation, primarily due to the mafic volcanic lavas in the sequence (Figure 9). The volcanic stratigraphy is partly outlined by the aeromagnetic survey due to the higher magnetic susceptibility of some of the volcanic flows. Segmentation of the magnetic horizons can be correlated with lateral displacement along faults.

*Figure 9. Aeromagnetic Map of the Mamainse Point area displaying the Amerigo Property outline; whiter areas represent areas of higher magnetic intensity.*



An area of high magnetic intensity occurs in the north-central part of the Amerigo Property (Figure 9). The magnetic anomaly has a broad east-west trend and is segmented by regional faults. Mapped geological units in this area follow a northwest trend and do not coincide with the orientation of the magnetic feature.

An east-west trending linear magnetic high occurs at the northeast end of the property and can be attributed to the Pancake Lake Iron Formation. There are a number of circular to elliptical magnetic features in areas near the property which cannot be easily explained.

Airborne electromagnetic anomalies have low conductance, are irregularly distributed and appear to reflect areas of conductive overburden (Pancake River valley).

## **7. Deposit Type**

### **7.1 Introduction**

An iron oxide copper-gold (IOCG) deposit of the Olympic Dam-type is the target of exploration on the Coppercorp Property. The tectonic setting, the geology of the region and the presence of several copper deposits with significant associated iron oxide suggest that this area has potential for Olympic Dam-type deposits.

Iron oxide copper-gold deposits are attractive exploration targets due to their common large size and multi-metal nature. Exploration for these deposit types, especially among junior explorers, has suffered from the lack of rigorously defined models, both empirical and genetic, and well documented case histories. Several recent publications (Vancouver Mining Exploration Group, 2000; Porter, 2000; 2002) have however provided a broad framework of models and case histories that may be used in targeting areas for IOCG potential, and for designing follow-up exploration programs. However, as pointed out by Pollard (2000), IOCG deposits are part of a broad spectrum of copper-gold deposits that include both porphyry and skarn-type deposits and rigid application of deposit specific characteristics to exploration should be avoided.

### **7.2 Characteristics of IOCG deposits**

While IOCG deposits range in age from the Archean to the Neogene, many of the deposits, including most Australian examples such as Olympic Dam and Ernest Henry, are Proterozoic in age. There are many inferred tectonic settings for the deposits, with an anorogenic or rift-related setting being most widely postulated (Barton and Johnson, 1996). However, it appears that regardless of the specific setting, an extensional environment is of fundamental importance (Gandhi and Bell, 1995). A strong structural control is noted in most deposits, with mineralization emplaced along major regional faults or fracture systems, at intersections of faults or in axes of major fold systems (Oreskes & Hitzman, 1993).

Typically IOCG deposits show spatial and temporal links with igneous rocks, including alkalic granitoids and volcanic rocks, calc-alkalic mafic, intermediate and felsic suites, continental flood basalts and rift-related basalts (Barton & Johnson, 1996). Many deposits are directly associated with the emplacement of high level felsic plutons (Ghandi & Bell, 1995; Wall, 2000), typically occurring in the roof zones of the pluton (Etheridge & Bartsch, 2000). Mineralization is commonly hosted by hydrothermal intrusive breccias or diatreme breccias (Reeve et al., 1990; Pollard, 2000).

IOCG mineralization consists of Ti-poor iron oxide, with lesser phosphates, Cu- and Cu-Fe sulphides, and variable Au, U, Ag and Co (Barton & Johnson, 1996). To some degree it is the low Ti nature of the iron oxide that ties otherwise disparate mineral deposits of the IOCG class together. The most common iron oxides are hematite and magnetite. Magnetite is typically early and occurs in the deeper or more proximal parts of the hydrothermal system, whereas hematite is later, more distal and may overprint the earlier magnetite (Barton & Johnson, 1996; Oreskes & Hitzman, 1993). The magnetite may be accompanied by apatite (e.g. Kiruna) and Cu-Fe-Sulfides (e.g. Ernest Henry, Candelaria) and widespread sodic alteration. Gold and Cu-Fe sulphides are associated with hematite-stage mineralization at Olympic Dam (Reeves et al., 1990; Barton & Johnson, 1996).

A broad range of elements may be associated with the mineralization. Apart from the Fe, Cu and in some cases Au and Ag, comprising the mineralization, deposits may be anomalous in Ba, P, F, Cl, Mn, B, K, REE, U and Na and have elevated Co, Ni, Te, As, Mo and Nb abundances, whereas Ti and Cr tend to be depleted (Foose & Grauch, 1995).

Exploration for IOCG deposits relies heavily on gravity and magnetic surveys, with coincident gravity and magnetic anomalies being the preferred target (Gow et al., 1994). Detailed aeromagnetic surveys are recommended to map structure in the area of interest with likely dilational sites targeted for further follow up using alteration and geochemistry to site drillholes (Etheridge & Bartsch, 2000).

### **7.3 Application to the Amerigo Property**

The following features, considered to be key exploration criteria for IOCG deposits, are relevant to the Mamainse-Batchewana area:

1. A continental rift-related tectonic setting on the eastern margin of the Mid Continent Rift system.
2. The Keweenawan basalts represent a significant volume of potential copper source rocks. A thickness of 14,300 to 19,900 feet (4.3 to 6 kilometres) has been estimated for the flows (Giblin, 1974).
3. The presence of a massive magnetite vein grading 3.9% copper over 1.05 metres at Jogran (Rupert, 1997) and flourite associated with the Breton Breccia at Tribag (Blecha, 1974) and with Coppercorp ore (Rupert, 1997).
4. The presence of numerous faults some of which are splays off major crustal faults such as the Mamainse Point Fault to the south of the property.

5. The apparent high level emplacement of the felsic intrusives (Richards, 1985)
6. The presence of dilational sites along active structures (Heslop, 1970).
7. The presence of a high temperature saline brine (350°C to 450°C), 15-20 eq. wt. % CaCl<sub>2</sub> believed to be magmatic in origin and a lower temperature fluid (<100°C to 350°C, 0 to 15 eq. wt. %) believed to be a mixture of magmatic and meteoric fluid (Richards, 1985).
8. The occurrence of widespread Cu mineralization in the area as both low tonnage medium grade deposits (e.g. Coppercorp) and high tonnage low grade deposits (e.g. East Breccia zone of Tribag mines).
9. The presence of a broad, regional aeromagnetic anomaly over the property (Figure).
10. The production of limited amounts of gold and silver along with the copper at the Coppercorp Mine and the anomalous concentrations of gold and silver found in the outlying copper occurrences.

## **8. Mineralization**

### **8.1 Introduction**

Copper mineralization in the area occurs in two forms:

- Disseminated sub-economic native copper in amydules and veins
- Vein-hosted copper sulphide deposits

While it was the first of these that apparently brought the initial explorers to the area, only the second type of mineralization has been mined. The Coppercorp mine produced 1,021,358 tons grading 1.16% Cu plus approximately 237,603 ounces of silver and 1,964 ounces of gold from such veins between 1965 and 1972 (Source Mineral Deposit Record 000852).

Mineralized veins occur in fault-related breccia zones typically with a gradation from high grade sulphide veins to barren oxide cemented breccias. The wallrock to the veins are commonly chloritized and sericitized and may contain epidote. The copper sulphides, dominantly chalcocite with lesser chalcopyrite and bornite, are usually accompanied by specular hematite.

Several other copper-dominant systems occur in the Mamainse Point - Batchawana area and are summarized in Table 6.

### **8.2 Coppercorp Deposit**

Mineralization at the Coppercorp Mine is structurally controlled, occurring within fault-related breccia zones and veins which transect the Keweenawan basalt flows and conglomerates. The width of the structural zones vary along strike from tight shears less than 1 metre to broad disrupted lenses up to 12 metres across (Richards, 1985). The veins



*Table 6: Copper deposits in the Mamainse Point – Batchawana Area*

| Deposit        | Deposit Type       | Production Years | Production             | Reserves   | Source |
|----------------|--------------------|------------------|------------------------|--|--------|
| Coppercorp     | Copper-quartz vein | 1965 to 1972     | 1.02 M tons @ 1.16% Cu | ?  | 4      |
| Mamainse       | Copper-quartz vein | 1882 to 1884     | ?                      | ?  | 2      |
| Tribag         | Breccia Pipes      | 1967 to 1973     | 1.1 M tons @ 1.65 % Cu | ?  | 1      |
| Breton Breccia |                    |                  |                        | 40M tons @0.2% Cu above 300m                     | 1      |
| East Breccia   |                    |                  |                        | 125M tons @0.13% Cu and 0.04% MoS <sub>2</sub>   | 3      |
| West Breccia   |                    |                  |                        | 0.1M tons @ 0.6 to 1.0% WO <sub>3</sub>          | 1      |
| Jogran         | porphyry           | N/A              |                        | 18M tonnes @ 0.19% Cu and 0.05% MoS <sub>2</sub> | 1      |

Sources: 1 Rupert, 1997; 2 Moore, 1926; 3. EM&R, 1989; 4. SMDR 000852

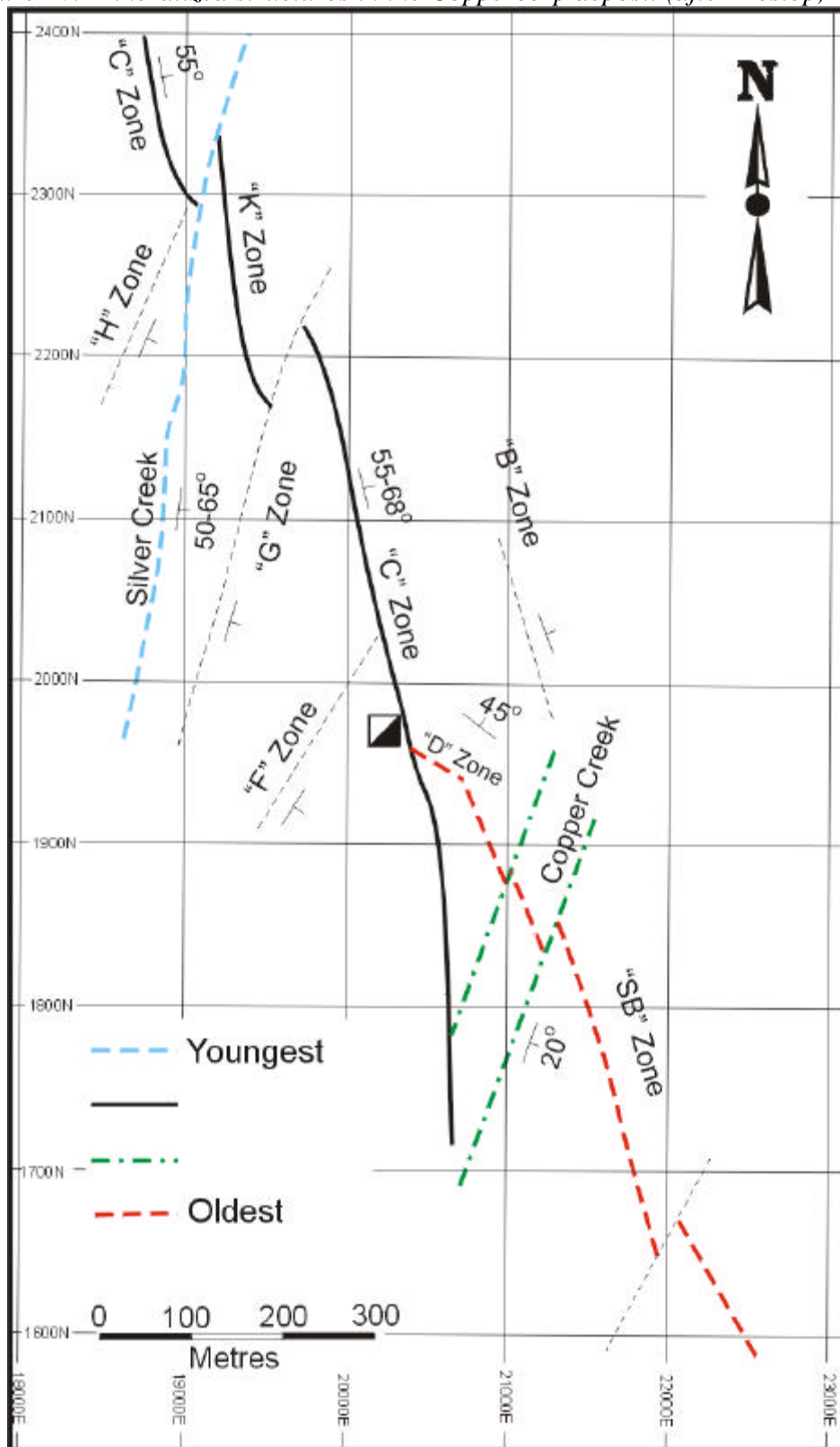
and breccias consist of quartz and carbonate with subordinate laumontite and fluorite. The principal ore mineral is chalcocite with lesser amounts of bornite, chalcopyrite, and rarely, native copper. Massive chalcocite veins, 20-25 cm wide, were found at numerous localities within the deposit. Large vugs of varying size are lined with quartz, calcite, and sulphides and were commonly found throughout the deposit, suggesting a shallow 'open space filling' type of mineralizing process (Heslop, 1970).

The fault system at Coppercorp consists of two sets of structures (Figure 10). A north-northeast trending set dips 50-65° east and comprises the Copper Creek Zone, Silver Creek Zone, and the 'G', 'H', and 'F' Zones. A north-northwest trending set dips 50-70 east and consists of the C Zone, SB Zone, D Zone and B Zone. The north-northwest trending set represents the most productive structures and strikes almost parallel, but with normal dips, to the volcanic and sedimentary strata. Where a north-northwest trending fault zone like the C Zone intersects the Great Conglomerate (at about 150 metre depth), the fracture zone narrows and there is a corresponding decrease in the sulphide mineral content. The narrower fracture system in the conglomerate was attributed to the lower competency of the rock compared to the mafic volcanics (Heslop, 1970).

Some of the mineralized structures such as the C Zone, SB Zone and further to the north-northwest along strike, the L zone, Lutz Vein and Mamainse Vein, display an apparent stratigraphic control. The mineralization occurs primarily within basalts of the upper section of the Mamainse Point Formation, 75-150 metres above the Great Conglomerate (Figure 7 & 8).

Heslop (1970) defined four major stages of fault development in the Coppercorp Deposit (Table 7, Figure 10). Based on the crosscutting relationships of these structures there is an apparent younging in the development of fault zones from south to north in the

Figure 10: Mineralized structures in the Coppercorp deposit (after Heslop, 1970)



deposit. Mineralogical changes in the ore or other characteristics associated with this relative structural timing have not been documented.

Richards (1985) recognised four stages of mineralization: 1. pyrite-chalcopyrite 2. chalcopyrite-bornite 3. chalcocite-hematite 4. native copper, native silver, copper arsenides, malachite and hematite. The third stage was the most important source of copper, producing rich veins of chalcocite and replacing earlier sulphides.

Mineralized structures cut across and are cut by felsite dikes within the mine. In addition, diabase dikes follow major fault zones, are brecciated in places, and also cut felsic intrusives. Both the diabase and felsite intrusions were considered to have been emplaced contemporaneously with fault movement, brecciation and sulphide deposition (Heslop, 1970).

*Table 7: Relative age of fault zones based on cross-cutting relationships (Heslop, 1970)*

| Mineralized (Fault) Zone | Strike  | Dip       | Relative Age<br>1 - oldest,<br>4 - youngest |
|--------------------------|---------|-----------|---|
| SB Zone                  | N18-25W | East      | 1   |
| Copper Creek Zone        | N20E    | 55-60 E   | 2   |
| C Zone                   | N15W    | 55-68 E   | 3   |
| Silver Creek Zone        | N10E    | 50-65 E   | 4   |
| D Zone                   | N60W    | 45 NE     | 4   |
| B Zone                   | N15W    | East      | 4*  |
| F Zone                   | N30E    | Southeast | 4*  |
| G Zone                   | N20E    | East      | 4*  |
| H Zone                   | N20E    | East      | 4*  |

\* age relationships uncertain

## 9. Exploration

No exploration work has been conducted by or on behalf of the Issuer. However, several field visits were made to the property during a due diligence review and samples of outcrop, mine dumps, tailings, water and concentrate were taken (Table 8). Sample descriptions and complete results of the analyses are given in Appendix 2 and a summary of the copper, gold and silver content is given in Table 8 below.

## 10. Drilling

Since the closure of the Coppercorp Mine in 1972 there has been no recent documented drilling on the Amerigo Property (MND&M Diamond Drillhole Database).

Table 8: Analysis of samples taken from the Amerigo property.

| SAMPLE              | Sample Type | Ag<br>ppm<br>ICP* | Cu<br>ppm<br>ICP* | Cu<br>%<br>ICP | Au<br>ppb<br>INAA | Ag<br>ppm<br>INAA |
|---------------------|-------------|-------------------|-------------------|----------------|-------------------|-------------------|
| MM02-T2             | Tailings    | 3.9               | 541               | NA             | 27                | <5                |
| MM02-T3             | Tailings    | 2.3               | 686               | NA             | 22                | <5                |
| MM02-T3 (Duplicate) | Tailings    | 2.4               | 693               | NA             |                   |                   |
| MM02-T5             | Tailings    | 3.1               | 698               | NA             | 20                | <5                |
| MMO2-C1             | Filter Cake | 345               | 99999             | NA             | 3330              | 352               |
| MMO2-C2             | Concentrate | 228               | 99999             | NA             | 2320              | 251               |
| MMO2-C3             | Concentrate | 254               | 99999             | NA             | 2310              | 254               |
| MMO2-C4             | Concentrate | 246               | 99999             | NA             | 2550              | 285               |
| MMO2-C5             | Concentrate | 233               | 99999             | NA             | 3000              | 252               |
| CC02-01             | Rock        | 6.5               | 99999             | 41.75          | 165               | 8                 |
| CC02-02             | Rock        | 1.0               | 1519              | NA             | 22                | <5                |
| CC02-03             | Rock        | 43.9              | 99999             | 11.60          | 209               | 55                |
| CC02-04             | Rock        | 8.4               | 65116             | 6.980          | 2860              | 10                |
| CC02-05             | Rock        | 121               | 94480             | 9.740          | 180               | 142               |
| CC02-06             | Rock        | 68.5              | 62465             | 6.115          | 61                | 85                |
| CC02-07             | Rock        | <0.3              | 86                | NA             | 9                 | <5                |
| CC02-08             | Rock        | <0.3              | 32                | NA             | <2                | <5                |
| CC02-09             | Rock        | <0.3              | 110               | NA             | 61                | <5                |
| SAMPLE              | Sample Type | Ag<br>ppb<br>ICP  | Cu<br>ppb<br>ICP  |                | Au<br>ppb<br>ICP  |                   |
| MM02-TSW            | Water       | -0.2              | 11.1              |                | -0.002            |                   |

\* Total digestion ICP-MS

## 11. Sampling Method and Approach

Sampling by Amerigo has been by grab and chip samples of the mineralized outcrop, locally derived boulders, and from tailings areas around the Coppercorp Mine area and property. Coppercorp filtercake and concentrate were also sampled. One water sample was obtained from a swamp next to the tailings. Description of the samples and assay results are given in Appendix 2 and summarized in Table 8.

## 12. Sample Preparation, Analysis and Security

To the author's knowledge no consideration has been made for sample security other than the usual care in field bagging and labelling of samples. Samples were delivered directly to the laboratory by Greyhound Courier Express.

All rock samples were crushed to minus 10 mesh (1.7mm), mechanically split (riffle) to obtain a representative sample and then pulverized to at least 95% minus 150 mesh (106 microns). Cleaner sand was used between each sample to minimize contamination between samples.

All samples were analyzed by Actlabs of Ancaster, Ontario, an analytical laboratory that is accredited to international quality standards (ISO Guide 25 accreditation). Samples were analyzed for Au, As, BA, Br, Ce, Co, Cr, Cs, Eu, Fe, Hf, Hg, Ir, La, Lu, Na, Nd, Rb, Sb, Sc, Se, Sm, Sn, Ta, Th, Tb, U, W, Y, and Yb by instrumental neutron activation analysis and for Ag, Cd, Cu, Mn, Mo, Ni, Pb, Zn, Al, Be, Bi, Ca, K, Mg, P, Sr, Ti, V, Y, and S by inductively coupled plasma-optical emission spectroscopy (ICP-OES) following a four acid digestion (HF, HClO<sub>4</sub>, HNO<sub>3</sub>, and HCl). Overlimit copper analyses were re-analysed by ICP-OES. The water sample was analysed for Ag, Cu, and Au and other elements using inductively coupled plasma - mass spectrometry (ICP-MS).

### **13. Data Verification**

No independent sampling has been done on the property.

In-lab duplicates and standards were used in all sample batches. The results are summarized in Table 9 and 10 below, and assay certificates are given in Appendix 2. Two measures of analytical quality are the precision and accuracy of the analyses. The precision is calculated from results of repeat analyses of the same sample, and is commonly represented as the relative precision, which is the ratio of the standard deviation to the mean of three or more analyses expressed as a percentage. If only one duplicate is analyzed, the precision can be estimated by the ratio of the two results expressed as a percentage (the percentage difference). Accuracy is typically estimated by comparing an analysis of a certified reference material to the recommended value for that material. This can be expressed as a percentage difference.

Sample duplicates show a relative precision of better than 5% for all elements analyzed by ICP except Mo (24) and Sr (6), and a percentage difference of less than 5% for elements analyzed by INAA and ICP-Assay except for Pb (8).

The accuracy of the INAA analyses is equal to or better than 10% for most elements analyzed (Table 10). Exceptions include: Rb (18%) and Zn (19%). Accuracy of the ICP analyses is very variable, ranging from a percentage difference of <1 to 65 (Table 10). The accuracy of the ICP assay analyses for Cu is excellent, with all analyses showing a difference of less than 2% from the recommended value.

Table 9. Summary of Sample Duplicate Data

| SAMPLE |     |     | SO-01-02 | SO-01-02/R | %Difference | SL02-04 | SL02-04/R | SL02-04<br>(PULP DUP) | Relative Precision |
|--------|-----|-----|----------|------------|-------------|---------|-----------|-----------------------|--------------------|
| Ag     | ppm | ICP | 0.4      | <0.3       | N/A         | 12.4    | 12.8      | 12.6                  | 1                  |
| Cd     | ppm | ICP | 6.9      | 7.0        | 2.0         | 1.1     | 1.0       | 1.0                   | 4                  |
| Cu     | ppm | ICP | 153      | 148        | -3.8        | 4551    | 4778      | 4606                  | 3                  |
| Mn     | ppm | ICP | 2102     | 2125       | 1.1         | 371     | 399       | 388                   | 4                  |
| Mo     | ppm | ICP | 1        | <1         | N/A         | 2       | 1         | 1                     | 24                 |
| Ni     | ppm | ICP | 36       | 36         | 1.4         | 8       | 8         | 8                     | 3                  |
| Pb     | ppm | ICP | 45       | 47         | 5.3         | 77      | 78        | 74                    | 2                  |
| Zn     | ppm | ICP | 475      | 485        | 2.2         | 43      | 43        | 42                    | 1                  |
| Al     | %   | ICP | 4.19     | 4.04       | -3.6        | 1.13    | 1.22      | 1.21                  | 4                  |
| Be     | ppm | ICP | <1       | <1         | N/A         | <1      | <1        | <1                    | N/A                |
| Bi     | ppm | ICP | <2       | <2         | N/A         | 148     | 146       | 143                   | 1                  |
| Ca     | %   | ICP | 4.31     | 4.34       | 0.7         | 0.96    | 1.01      | 0.99                  | 3                  |
| K      | %   | ICP | 0.82     | 0.83       | 1.1         | 0.62    | 0.66      | 0.64                  | 3                  |
| Mg     | %   | ICP | 2.98     | 3.00       | 0.7         | 0.09    | 0.09      | 0.09                  | 3                  |
| P      | %   | ICP | 0.047    | 0.048      | 1.2         | 0.011   | 0.011     | 0.011                 | 0                  |
| Sr     | ppm | ICP | 149      | 152        | 2.0         | 8       | 9         | 8                     | 6                  |
| Ti     | %   | ICP | 0.77     | 0.79       | 2.8         | 0.14    | 0.15      | 0.15                  | 3                  |
| V      | ppm | ICP | 330      | 335        | 1.5         | 59      | 62        | 62                    | 3                  |
| Y      | ppm | ICP | 21       | 21         | 2.2         | 5       | 6         | 5                     | 2                  |
| S      | %   | ICP | 0.103    | 0.104      | 0.6         | 0.130   | 0.127     | 0.130                 | 2                  |

| SAMPLE |     |      | MM02-T3 | MM02-T3/R | % Difference |
|--------|-----|------|---------|-----------|--------------|
| Ag     | ppm | INAA | 2.27    | 2.40      | 5            |
| Cd     | ppm | INAA | 0.54    | 0.57      | 5            |
| Cu     | ppm | INAA | 685.54  | 693.23    | 1            |
| Mn     | ppm | INAA | 1415.59 | 1457.59   | 3            |
| Mo     | ppm | INAA | -1.00   | -1.00     | 0            |
| Ni     | ppm | INAA | 54.66   | 55.39     | 1            |
| Pb     | ppm | INAA | 24.20   | 22.21     | 8            |
| Zn     | ppm | INAA | 120.72  | 120.73    | 0            |
| Al     | %   | INAA | 2.94    | 2.82      | 4            |
| Be     | ppm | INAA | 1.60    | 1.61      | 1            |
| Bi     | ppm | INAA | -2.00   | -2.00     | 0            |
| Ca     | %   | INAA | 9.48    | 9.56      | 1            |
| K      | %   | INAA | 1.67    | 1.72      | 3            |
| Mg     | %   | INAA | 0.69    | 0.68      | 2            |
| P      | %   | INAA | 0.10    | 0.09      | 3            |
| Sr     | ppm | INAA | 62.52   | 65.73     | 5            |
| Ti     | %   | INAA | 1.03    | 1.00      | 3            |
| V      | ppm | INAA | 203.25  | 195.02    | 4            |
| Y      | ppm | INAA | 28.21   | 27.64     | 2            |
| S      | %   | INAA | 0.06    | 0.06      | 2            |

| SAMPLE |   | ICP Assay | CC02-06 | CC02-06/R | % Difference |
|--------|---|-----------|---------|-----------|--------------|
| Cu     | % |           | 6.115   | 6.07      | 0.7          |

% Difference is the ratio of the two analyses expressed as a percentage (e.g. (Dup1/Dup2)\*100).

Relative precision is the ratio of the standard deviation to the average of the analyses expressed as a percentage.

Table 10. Summary of Reference Standard Data

|    |     |      | MA3A-3 | MA3A-2 | MA3A-1 | Stdev | Average | Relative Precision | MA3A (Recc.) | % Difference | DMMAS-15 | DMMAS-15 (Recc.) | % Difference |
|----|-----|------|--------|--------|--------|-------|---------|--------------------|--------------|--------------|----------|------------------|--------------|
| Au | ppb | INAA | 8570   | 8440   | 8570   | 75.1  | 8526.7  | 0.9                | 8560         | 0            | 713      | 713              | 0            |
| As | ppm | INAA | 8.6    | 8.8    | 8.9    | 0.2   | 8.8     | 1.7                | 8            | 9            | 2830     | 2900             | 2            |
| Ba | ppm | INAA | 1800   | 1700   | 1800   | 57.7  | 1766.7  | 3.3                |              |              |          |                  |              |
| Br | ppm | INAA | <0.5   | <0.5   | <0.5   |       |         |                    |              |              | 3        | 3.1              | 3            |
| Ca | %   | INAA | 7      | 5      | 6      | 1.0   | 6.0     | 16.7               | 6            | 0            |          |                  |              |
| Co | ppm | INAA | 30     | 29     | 29     | 0.6   | 29.3    | 2.0                | 30           | 2            | 73       | 76               | 4            |
| Cr | ppm | INAA | 220    | 208    | 218    | 6.4   | 215.3   | 3.0                |              |              | 156      | 151              | 3            |
| Cs | ppm | INAA | 4      | 4      | 4      | 0.0   | 4.0     | 0.0                |              |              |          |                  |              |
| Fe | %   | INAA | 5.71   | 5.19   | 5.51   | 0.3   | 5.5     | 4.8                | 5            | 9            |          |                  |              |
| Hf | ppm | INAA | 3      | 4      | 3      | 0.6   | 3.3     | 17.3               |              |              | 1.8      | 2                | 10           |
| Mo | ppm | INAA | 58     | 54     | 52     | 3.1   | 54.7    | 5.6                | 55           | 1            |          |                  |              |
| Na | %   | INAA | 1.57   | 1.5    | 1.52   | 0.0   | 1.5     | 2.4                | 1.5          | 2            |          |                  |              |
| Rb | ppm | INAA | 137    | 133    | 123    | 7.2   | 131.0   | 5.5                |              |              | 50       | 41               | 18           |
| Sb | ppm | INAA | 3.2    | 3.1    | 3.2    | 0.1   | 3.2     | 1.8                | 3            | 5            | 10.1     | 10.9             | 7            |
| Sc | ppm | INAA | 18.5   | 17     | 17.9   | 0.8   | 17.8    | 4.2                |              |              | 20.2     | 19.4             | 4            |
| Th | ppm | INAA | 8.9    | 7.8    | 9      | 0.7   | 8.6     | 7.8                |              |              | 1.2      | 1.3              | 8            |
| W  | ppm | INAA | 12     | 10     | 12     | 1.2   | 11.3    | 10.2               |              |              | 17       | 17               | 0            |
| Zn | ppm | INAA | <50    | 145    | 100    | 102.1 | 65.0    | 157.1              | 80           | 19           |          |                  |              |
| La | ppm | INAA | 55.2   | 51.5   | 53.7   | 1.9   | 53.5    | 3.5                |              |              | 13.6     | 13.2             | 3            |
| Ce | ppm | INAA | 103    | 102    | 105    | 1.5   | 103.3   | 1.5                |              |              | 26       | 25               | 4            |
| Nd | ppm | INAA | 49     | 47     | 48     | 1.0   | 48.0    | 2.1                |              |              | 12       | 13               | 8            |
| Sm | ppm | INAA | 9.6    | 9      | 9.6    | 0.3   | 9.4     | 3.7                |              |              | 4.1      | 4.2              | 2            |
| Eu | ppm | INAA | 2.5    | 2.2    | 2.4    | 0.2   | 2.4     | 6.5                |              |              | 1.3      | 1.3              | 0            |
| Tb | ppm | INAA | <0.5   | 0.6    | 0.8    |       |         |                    |              |              |          |                  |              |
| Yb | ppm | INAA | 2.3    | 2      | 1.8    | 0.3   | 2.0     | 12.4               |              |              | 3.6      | 3.8              | 5            |
| Lu | ppm | INAA | 0.35   | 0.31   | 0.27   | 0.0   | 0.3     | 12.9               |              |              | 0.54     | 0.56             | 4            |

Table 10 (Continued)

|    |     |     | AL-1   | AL-I  | %<br>Difference | SDC-1<br>cert | SDC-1  | %<br>Difference | DNC-1<br>cert | DNC-1   | %<br>Difference |
|----|-----|-----|--------|-------|-----------------|---------------|--------|-----------------|---------------|---------|-----------------|
| Ag | ppm | ICP |        | <0.3  | N/A             | 0.04          | <0.3   | N/A             | (.027         | <0.3    | N/A             |
| Cd | ppm | ICP | 0.03   | <0.3  | N/A             | (.08          | <0.3   | N/A             | (.182         | <0.3    | N/A             |
| Cu | ppm | ICP | 3      | 7.73  | 61              | 30.00         | 40.58  | 26              | 96.00         | 99.07   | 3               |
| Mn | ppm | ICP | 31     | 12.50 | 60              | 883.00        | 975.58 | 9               | 1154.00       | 1084.29 | 6               |
| Mo | ppm | ICP | 0.1    | 2.45  | 96              | (.25          | 3.29   | N/A             | (.7           | <1      | N/A             |
| Ni | ppm | ICP | 2      | <1    | N/A             | 38.00         | 34.41  | 9               | 247.00        | 260.39  | 5               |
| Pb | ppm | ICP | 4.5    | 12.10 | 63              | 25.00         | 32.79  | 24              | 6.30          | 10.19   | 38              |
| Zn | ppm | ICP | 8      | 6.12  | 24              | 103.00        | 98.23  | 5               | 66.00         | 56.62   | 14              |
| Al | %   | ICP | 9.841  | 7.50  | 24              | 8.34          | 11.39  | 27              | 9.69          | 7.38    | 24              |
| Be | ppm | ICP | 2.7    | 3.43  | 21              | 3.00          | 4.47   | 33              | 1.00          | <1      | N/A             |
| Bi | ppm | ICP | 0.03   | <2    | N/A             | 0.26          | <2     | N/A             | (.02          | <2      | N/A             |
| Ca | %   | ICP | 0.274  | 0.26  | 7               | 1.00          | 1.24   | 19              | 8.06          | 8.30    | 3               |
| K  | %   | ICP | 0.116  | 0.11  | 8               | 2.72          | 2.98   | 9               | 0.19          | 0.16    | 16              |
| Mg | %   | ICP | 0.021  | <0.01 | N/A             | 1.02          | 1.22   | 16              | 6.06          | 5.42    | 11              |
| P  | %   | ICP | 0.016  | 0.01  | 65              | 0.07          | 0.06   | 17              | 0.04          | 0.02    | 42              |
| Sr | ppm | ICP | 80     | 67.01 | 16              | 183.00        | 202.84 | 10              | 145.00        | 136.48  | 6               |
| Ti | %   | ICP | 0.007  | <0.01 | N/A             | 0.61          | 0.82   | 26              | 0.29          | 0.34    | 16              |
| V  | ppm | ICP | 2      | <2    | N/A             | 102.00        | 101.49 | 0               | 148.00        | 138.66  | 6               |
| Y  | ppm | ICP | 6.8    | 1.59  | 77              | 40.00         | 73.56  | 46              | 18.00         | 20.30   | 11              |
| S  | %   | ICP | 0.0085 | 0.00  | 82              | 0.07          | 0.07   | 12              | (0.039        | 0.06    | N/A             |



Table 10. (Continued)

| Standard |     |     | SCO-1<br>cert | SCO-1  | %<br>Difference | GXR-6<br>cert | GXR-6   | %<br>Difference | GXR-2<br>cert | GXR-2  | %<br>Difference |
|----------|-----|-----|---------------|--------|-----------------|---------------|---------|-----------------|---------------|--------|-----------------|
| Ag       | ppm | ICP | 0.13          | <0.3   | N/A             | 1.30          | <0.3    | N/A             | 17.00         | 17.20  | 1               |
| Cd       | ppm | ICP | 0.14          | <0.3   | N/A             | (1            | <0.3    | N/A             | 4.10          | 3.44   | 16              |
| Cu       | ppm | ICP | 28.70         | 32.18  | 11              | 66.00         | 68.23   | 3               | 76.00         | 84.85  | 10              |
| Mn       | ppm | ICP | 410.00        | 381.94 | 7               | 1008.00       | 1099.35 | 8               | 1008.00       | 855.38 | 15              |
| Mo       | ppm | ICP | 1.37          | 1.85   | 26              | 2.40          | 2.87    | 16              | (2.1          | 2.23   | N/A             |
| Ni       | ppm | ICP | 27.00         | 25.68  | 5               | 27.00         | 20.92   | 23              | 21.00         | 18.61  | 11              |
| Pb       | ppm | ICP | 31.00         | 33.52  | 8               | 101.00        | 101.10  | 0               | 690.00        | 662.56 | 4               |
| Zn       | ppm | ICP | 103.00        | 96.59  | 6               | 118.00        | 126.45  | 7               | 530.00        | 539.50 | 2               |
| Al       | %   | ICP | 7.24          | 5.05   | 30              | 17.68         | 13.85   | 22              | 16.46         | 5.80   | 65              |
| Be       | ppm | ICP | 1.84          | 2.27   | 19              | 1.40          | 1.60    | 12              | 1.70          | 2.12   | 20              |
| Bi       | ppm | ICP | 0.37          | <2     | N/A             | (.29          | 8.24    | N/A             | (.69          | 3.92   | N/A             |
| Ca       | %   | ICP | 1.87          | 1.76   | 6               | 0.18          | 0.24    | 25              | 0.93          | 0.63   | 32              |
| K        | %   | ICP | 2.30          | 2.07   | 10              | 1.87          | 1.88    | 1               | 1.37          | 1.34   | 2               |
| Mg       | %   | ICP | 1.64          | 1.41   | 14              | 0.61          | 0.71    | 14              | 0.85          | 0.68   | 19              |
| P        | %   | ICP | 0.09          | 0.07   | 26              | 0.03          | 0.06    | 37              | 0.10          | 0.06   | 47              |
| Sr       | ppm | ICP | 174.00        | 148.01 | 15              | 35.00         | 50.16   | 30              | 160.00        | 129.37 | 19              |
| Ti       | %   | ICP | 0.38          | 0.42   | 10              | 0.50          | 0.65    | 23              | 0.30          | 0.39   | 24              |
| V        | ppm | ICP | 131.00        | 126.69 | 3               | 186.00        | 184.21  | 1               | 52.00         | 56.55  | 8               |
| Y        | ppm | ICP | 26.00         | 20.85  | 20              | 14.00         | 23.95   | 42              | 17.00         | 10.11  | 41              |
| S        | %   | ICP | 0.06          | 0.06   | 5               | 0.02          | 0.01    | 33              | 0.03          | 0.02   | 46              |

Table 10. (Continued)

|    |     | ICP           | GXR-1<br>cert  | GXR-1   | %<br>Difference   | GXR-4<br>cert | GXR-4   | %<br>Difference   |               |       |                   |
|----|-----|---------------|----------------|---------|-------------------|---------------|---------|-------------------|---------------|-------|-------------------|
| Ag | ppm | ICP           | 31.00          | 29.80   | 4                 | 4.00          | 3.31    | 17                |               |       |                   |
| Cd | ppm | ICP           | 3.30           | 1.26    | 62                | (.86          | <0.3    | N/A               |               |       |                   |
| Cu | ppm | ICP           | 1110.00        | 1174.42 | 5                 | 6520.00       | 6106.91 | 6                 |               |       |                   |
| Mn | ppm | ICP           | 853.00         | 984.20  | 13                | 155.00        | 168.21  | 8                 |               |       |                   |
| Mo | ppm | ICP           | 18.00          | 15.11   | 16                | 310.00        | 387.52  | 20                |               |       |                   |
| Ni | ppm | ICP           | 41.00          | 43.17   | 5                 | 42.00         | 42.22   | 1                 |               |       |                   |
| Pb | ppm | ICP           | 730.00         | 736.55  | 1                 | 52.00         | 49.63   | 5                 |               |       |                   |
| Zn | ppm | ICP           | 760.00         | 756.97  | 0                 | 73.00         | 73.21   | 0                 |               |       |                   |
| Al | %   | ICP           | 3.52           | 1.86    | 47                | 7.20          | 5.88    | 18                |               |       |                   |
| Be | ppm | ICP           | 1.22           | 1.54    | 21                | 1.90          | 3.02    | 37                |               |       |                   |
| Bi | ppm | ICP           | 1380.00        | 1901.37 | 27                | 19.00         | 32.07   | 41                |               |       |                   |
| Ca | %   | ICP           | 0.96           | 0.96    | 0                 | 1.01          | 1.14    | 11                |               |       |                   |
| K  | %   | ICP           | 0.05           | 0.05    | 2                 | 4.01          | 4.29    | 7                 |               |       |                   |
| Mg | %   | ICP           | 0.22           | 0.19    | 14                | 1.66          | 1.76    | 6                 |               |       |                   |
| P  | %   | ICP           | 0.07           | 0.05    | 17                | 0.12          | 0.12    | 0                 |               |       |                   |
| Sr | ppm | ICP           | 275.00         | 322.40  | 15                | 221.00        | 246.39  | 10                |               |       |                   |
| Ti | %   | ICP           | 0.04           | 0.03    | 10                | 0.29          | 0.35    | 18                |               |       |                   |
| V  | ppm | ICP           | 80.00          | 88.12   | 9                 | 87.00         | 93.34   | 7                 |               |       |                   |
| Y  | ppm | ICP           | 32.00          | 46.45   | 31                | 14.00         | 20.31   | 31                |               |       |                   |
| S  | %   | ICP           | 0.26           | 0.27    | 6                 | 1.77          | 1.93    | 8                 |               |       |                   |
|    |     |               | CZn-3<br>CERT  | CZn-3   | Difference<br>(%) | KC-1a<br>CERT | KC-1a   | Difference<br>(%) | MP-1a<br>CERT | MP-1a | Difference<br>(%) |
| Cu | %   | ICP-<br>Assay | 0.685          | 0.68    | 0.7               | 0.629         | 0.63    | 0.16              | 1.44          | 1.44  | 0                 |
|    |     |               | CCu-1c<br>CERT | CCu-1c  | Difference<br>(%) | Su-1a<br>CERT | Su-1a   | Difference<br>(%) |               |       |                   |
| Cu | %   | ICP-<br>Assay | 25.62          | 25.61   | 0.04              | 0.967         | 0.95    | 1.76              |               |       |                   |

## **14. Adjacent Properties**

Intrepid Minerals Limited has a significant land holding abutting on the northern and southern boundaries of the Amerigo property. Both the central part of the Amerigo ground and those of Intrepid Minerals cover a large areomagnetic anomaly within the lower volcanic sequence of the Mamainse Point Formation (Figure 9). This positive magnetic feature is of interest in the search for IOCG-type deposits in the area (see section 7).

## **15. Mineral Processing and Metallurgical Testing**

To the author's knowledge, there has been no mineral processing or metallurgical sampling from the Amerigo property since the closure of the Coppercorp Mine in 1972.

## **16. Mineral Resource and Mineral Reserve Estimates**

No records have been found which document any remaining mineral resource or reserve in the Coppercorp Mine when it ceased operations in 1972.

## **17. Interpretation and Conclusions**

The Amerigo Property occurs at the eastern edge of a rifted crustal margin of mid-Proterozoic age similar to the geological setting which hosts significant iron oxide-copper-gold (IOCG) deposits found elsewhere around the world.

The presence of structurally controlled deposits and occurrences containing copper with lesser amounts of gold and silver, occurring within mid-Proterozoic (Keweenawan) flood basalts, conglomerates, and felsic volcanics and intrusives of the Mamainse Point Formation, attest to a significant mineralizing event which affected this area during Keweenawan time.

There is significant geological research on the deposits like Coppercorp, which supports an IOCG-type model of metallogenesis. Geological, fluid inclusion, and stable isotope work on the Coppercorp and surrounding vein systems indicate contemporaneous faulting, brecciation, and mineralization along with felsic and mafic intrusive activity. The mineralizing process involved repeated faulting and brecciation and a mixing of very hot, saline magmatic fluids with meteoric fluids resulting in the precipitation of ore and gangue minerals (Heslop, 1970; Richards, 1985). The paragenetic sequence at the Coppercorp can be interpreted as the evolution of mineralizing fluids towards a sulphur-poor, oxygen-rich hydrothermal system resulting in the development of a complex iron oxide, copper, gold and silver mineralogy.

The regional westward warping of the Mamainse Point Formation with possible concurrent radial faulting appears to be a late stage event that may have provided

structural conduits for the mineralizing process in the Coppercorp Mine and elsewhere on the property. The presence of a high area of magnetic intensity in the focal area of the radial faults, along with associated areas of felsic intrusive and extrusive activity in the lower volcanic sequence suggest the presence of a volcanic or intrusive centre.

## **18. Recommendations**

### **18.1 General Comments**

Previous exploration in the area has indicated that IP geophysical surveys can delineate near-surface mineralized zones. In addition, airborne and ground magnetometer surveys have been able to delineate the volcanic-sedimentary stratigraphy and identify fault offsets in the strata. Soil and Humus geochemical surveys have been able to identify broad areas of copper and gold anomalies in the Coppercorp area. Electromagnetic surveys have not been successful in delineating either shallow or deep level conductors.

Prior to initiating surface exploration over the property, all available geoscience, exploration, and topographic information should be compiled into GIS data sets. This can provide the necessary base maps, location of occurrences, mine workings, regional geology and geophysics, etc. for future fieldwork.

The logging road network on the property is now more extensive than during the Coppercorp mining operation and provides access to the central and eastern portion of the property. New logging road information can be obtained from the Ministry of Natural Resources and from forest products companies operating in the area.

Initially, reconnaissance geological mapping and prospecting should be completed on the entire property along and adjacent to the logging roads. Roads should be mapped using GPS technology to update the GIS topographic database. This will allow field geologists to become familiar with the area, geological rock types, mineralization, and geophysical features.

Due to the large size of the property, the area should be subdivided into two main blocks representing areas of high priority for further work:

- a central block covering much of the large aeromagnetic anomaly in the lower volcanic sequence, and
- a western block covering the Coppercorp Mine and surrounding area.

The size and extent of these blocks can be determined on the basis of the reconnaissance work carried out in the preliminary stage.

## **18.2 Exploration Program: Central Block**

The central block has received limited exploration in the past. The following work program is recommended:

- a) Ground magnetic and IP surveys over the area and surrounding property; concurrent with geological mapping, prospecting and sampling,
- b) Ground-based gravity and magnetic profiling using the available road network and on transects over selected areas of high magnetic intensity and or mineralized zones,
- c) Stripping, geological mapping and sampling of significant mineralised areas geophysical anomalies,
- d) Diamond drilling of selected mineralized zones and geophysical anomalies.

Each component of the work program would rely on the prior results to assist in setting targets and scope for the next stage.

## **18.3 Exploration Program: Western Block**

The western block covers the Coppercorp Mine and surrounding area. An assessment should be completed of the available geological, geophysical, and geochemical work done with the intent of identifying targets for additional follow-up. Some of the targets to follow-up should include:

- Re-sampling and prospecting the area of high copper and gold values in soil and humus associated with the circular porphyry intrusion 300 metres east of the Lutz vein and L zone,
- Prospecting and sampling the pre-historic pits at the western edge of the property, west of the Silver Creek Zone. These mineralized pits trend at the same orientation as the Coppercorp C Zone and extend over about a kilometre. Conduct soil and humus sampling for Cu, Au, and Ag in areas of overburden cover.
- Review Coppercorp soil geochemistry and re-sample anomalies for soil and humus Cu, Au, and Ag,
- Prospect the EM and IP anomalies from the Coppercorp surface exploration program; conduct soil and humus profiles for Cu, Au, and Ag,
- In 1969 a vertical drill hole was collared 1500 feet south and 700 feet west of the Coppercorp lease area which intersected 21 feet of 7.34% copper from 119 to 140 feet. This intersection was considered to be an extension of the Silver Creek Zone (Northern Miner, September 4, 1969, News Clippings, Sault Ste. Marie District Geologist's Files). The location of this drill hole should be verified and the surface projection of this significant mineralized intersection should be explored.

Based on the results of the reconnaissance exploration program and assessment of earlier exploration results, the following program is recommended:

- a) Ground magnetometer and IP surveys over selected structures, mineralized zones, and other targets identified from the first stage of exploration,

- b) Conduct ground-based gravity and magnetic profiling over the available road network and along transects over selected geophysical anomalies and mineralized zones,
- c) Stripping, geological mapping and sampling of significant mineralised areas, geochemical and geophysical anomalies,
- d) Diamond drilling of selected mineralized zones and geophysical anomalies.

Each component of the work program would rely on the prior results to assist in setting targets and scope for the next stage.

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## Certificate

The writer, Delio Tortosa, certifies that:

I am a consulting geologist residing at:

R.R.#1, 110 Robertson Lake Road  
Goulais River, Ontario  
P0S 1E0  
Telephone: (705) 649-0763

I am a Professional Engineer registered with the Professional Engineers of Ontario,  
Registration No. 46764015.

I graduated from Queen's University in 1974 with a B.Sc. (Applied Science) degree in  
Geological Engineering.

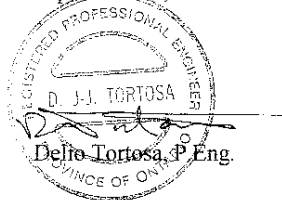
I graduated from the University of Saskatchewan in 1983 with a M.Sc. degree in  
Geology.

I have practiced my profession as a geologist for over 15 years.

I have prepared this report for Amerigo Resources Limited.

I have no interest directly or indirectly in the Amerigo property or securities of Amerigo  
Resources Limited, nor I do not expect to receive any.

September 26, 2002



## **APPENDIX 1**

**SECTIONS OF THE ONTARIO MINING ACT APPLICABLE TO MINE HAZARDS  
PRESENT ON THE COPPERCORP PROPERTY**

**PART VII  
REHABILITATION OF MINING LANDS**

Definitions and application of Part

Definitions

139. (1) In this Part,

"advanced exploration" means the excavation of an exploratory shaft, adit or decline, the extraction of

prescribed material in excess of the prescribed quantity, whether the extraction involves the disturbance or movement of prescribed material located above or below the surface of the ground, the installation of a mill for test purposes or any other prescribed work; ("exploration avancée")

"adverse effect" means,

- (a) injury or damage to property,
- (b) harm or material discomfort to any person,
- (c) a detrimental effect on any person's health,
- (d) impairment of any person's safety,
- (e) a severe detrimental effect on the environment; ("conséquence préjudiciable")

"closed out" means that the final stage of closure has been reached and that all the requirements of a closure plan have been complied with; ("fermé")

"closure" means the temporary suspension, inactivity or close out of advanced exploration, mining or mine production; ("fermeture")

"closure plan" means a plan to rehabilitate a site or mine hazard that has been prepared in the prescribed manner and filed in accordance with this Act and that includes provision in the prescribed manner of financial assurance to the Crown for the performance of the closure plan requirements; ("plan de fermeture")

"Director" means a Director of Mine Rehabilitation appointed under subsection 153 (2); ("directeur")

"inactivity" means the indefinite suspension of a project in accordance with a filed closure plan where

protective measures are in place but the site is not being continuously monitored by the proponent; ("inactivité")

"mine production" means mining that is producing any mineral or mineral-bearing substance for immediate sale or stockpiling for future sale, and includes the development of a mine for such purposes; ("production minière")

"progressive rehabilitation" means rehabilitation done continually and sequentially during the entire period that a project or mine hazard exists; ("réhabilitation progressive")

"project" means a mine or the activity of advanced exploration, mining or mine production; ("projet")

"proponent" means the holder of an unpatented mining claim or licence of occupation or an owner as defined in section 1; ("promoteur")

"protective measures" means steps taken in accordance with the prescribed standards to protect public health and safety, property and the environment; ("mesures de protection")

"rehabilitate" means measures, including protective measures, taken in accordance with the prescribed standards to treat a site or mine hazard so that the use or condition of the site,

(a) is restored to its former use or condition, or

(b) is made suitable for a use that the Director sees fit; ("réhabiliter")

"site" means the land or lands on which a project or mine hazard is located; ("lieu")

"temporary suspension" means the planned or unplanned suspension of a project in accordance with a filed closure plan where protective measures are in place and the site is being monitored continuously by the proponent. ("suspension temporaire") 1996, c. 1, Sched. O, s. 26.

#### Application of Part

(2) Without restricting the scope of this Part, this Part applies to projects including,

(a) the underground mining of minerals, excluding natural gas, petroleum and salt by brining method;

(b) the surface mining of metallic minerals;

(c) the surface mining of non-metallic minerals, excluding natural gas, petroleum and aggregate as defined in the Aggregate Resources Act, on land that is not Crown land;

(d) advanced exploration on mining lands. 1996, c. 1, Sched. O, s. 26.

## **Progressive Rehabilitation**

### Progressive rehabilitation

139.1 (1) A proponent shall take all reasonable steps to progressively rehabilitate a site whether or not closure has commenced or a closure plan has been filed. 1996, c. 1, Sched. O, s. 26.

### Report required

(2) A proponent who undertakes progressive rehabilitation of a site without being subject to a closure plan shall complete the rehabilitation work to the appropriate prescribed standard and submit to the Director a report prepared in the prescribed form within 60 days of the completion of the work. 1996, c. 1, Sched. O, s. 26.

## **Mine Hazards**

### Mine hazards, closure plan

147. (1) The Director may, in writing, order any proponent of any lands on which a mine hazard exists or any prior holder of an unpatented mining claim on any such lands, other than a current or prior holder of an unpatented mining claim with respect to a mine hazard that was created by others prior to the staking of the claim and that has not been materially disturbed or affected by the current or prior holder, as the case may be, since the staking of the claim, to file within the time specified in the order a certified closure plan to rehabilitate the mine hazard, and the proponent or prior holder shall file the certified closure plan within that time or any extension of time granted by the Director. 1996, c. 1, Sched. O, s. 26.

### Crown intervention

(2) If the proponent or prior holder of an unpatented mining claim does not comply with an order of the Director under subsection (1), the Director may, after having given notice to the proponent or prior holder in the prescribed time and manner, have the Crown or an agent of the Crown enter the lands to rehabilitate the mine hazard. 1996, c. 1, Sched. O, s. 26.

### Recommendation that lease be voided

(3) If the proponent does not comply with the Director's order under subsection (1) and is a lessee of the lands on which the mine hazard exists, the Director may recommend to the Minister that the lease be declared void on condition that the Director indicate in the notice referred to in subsection (2) the intention to make such a recommendation. 1996, c. 1, Sched. O, s. 26.

#### Declaration that lease void

(4) On the recommendation of the Minister, the Lieutenant Governor in Council may declare the lease void, in which case subsections 81 (11), (12) and (13) apply with necessary modifications. 1996, c. 1, Sched. O, s. 26.

#### Offence

(5) Failure to comply with an order under subsection (1) constitutes an offence that continues for each day during which the failure continues. 1996, c. 1, Sched. O, s. 26.

#### Liability of lessee, patentee concerning mine hazards

153.3 (1) A lessee or patentee of mining rights is, unless a contrary intention is shown, liable in respect of the rehabilitation under this Part of all mine hazards on, in or under the lands, regardless of when and by whom the mine hazards were created. 1996, c. 1, Sched. O, s. 28.

#### When lease expires

(2) This Part continues to apply with respect to a proponent who is a lessee until the earlier of,

(a) the day that is two years after the expiry of the lease; and

(b) the date of re-opening or other disposition of the land under this Act. 1996, c. 1, Sched. O, s. 28.

**APPENDIX 2.**

Sampling Undertaken by Amerigo Resources Ltd. Personnel.



Table A2-1. Description of samples taken by Amerigo Resources Ltd. on Coppercorp Property.

| SAMPLE                     | Easting | Northing  | Property                                 | Description   |
|----------------------------|---------|-----------|--|---|
| MM02-T2                    | 670952  | 5209439.0 | Coppercorp                               | Tailings  |
| MM02-T3                    | 671038  | 5209671.0 | Coppercorp                               | Tailings  |
| MM02-T3<br>(Duplicate<br>) | 671038  | 5209671.0 | Coppercorp                               | Tailings  |
| MM02-T5                    | 670926  | 5209891.0 | Coppercorp                               | Tailings  |
| MM02-C1                    |         |           | Coppercorp                               | Filter Cake   |
| MM02-C2                    |         |           | Coppercorp                               | Concentrate   |
| MM02-C3                    |         |           | Coppercorp                               | Concentrate   |
| MM02-C4                    |         |           | Coppercorp                               | Concentrate   |
| MM02-C5                    |         |           | Coppercorp                               | Concentrate   |
| CC02-01                    | 670439  | 5210995   | Coppercorp<br>(u-bet-u-wanit<br>showing) | Massive Cu mineralization, dominantly chalcocite with malachite stain in mafic volcanic, cm scale quartz-carbonate veins.                 |
| CC02-02                    | 670150  | 5211345   | Coppercorp<br>(Tower Showing)            | Quartz Carbonate veining and minor breccia in mafic flows, K-feldspar in vein margins, malachite staining (~2% mal.)                      |
| CC02-03                    |         |           | Coppercorp                               | Grab Sample from Coppercorp Mine dump dominantly chalcocite & malachite, with abundant calcite.   |
| CC02-04                    |         |           | Coppercorp                               | Chip sample from pits to east of tailings pond.   |
| CC02-05                    | 671031  | 5209222   | Coppercorp                               | Malachite-chalcocite mineralization in breccia near open cut  |
| CC02-06                    | 671320  | 5208804   | Coppercorp                               | Malachite- chalcocite mineralization in conglomerate, close to contact with mafic flows   |
| CC02-07                    | 675925  | 5210399   | Coppercorp                               | Quartz-carbonate breccia boulder with epidote blebs and veinlets & weak hematite  |
| CC02-08                    | 675986  | 5210481   | Coppercorp                               | Fine grained mafic volcanic with ~ 5% epidote & very fine grained hematite.   |
| CC02-09                    | 676788  | 5212364   | Coppercorp                               | Composite grab sample of boulders on side of road, maroon mafic volcanics cross-cut by quartz-carbonate-hematite veining 1mm to 1cm thick |
| MM02-T5W                   | 670926  | 5209891   | Coppercorp                               | Water sample from swamp next to tailings  |

Quality Analysis...



Innovative Technologies

Invoice No.: 25025  
Work Order: 25168  
Invoice Date: 30-JUL-02  
Date Submitted: 20-JUL-02  
Your Reference: SOUTHERN  
Account Number: A018

AMERIGO RESOURCES LTD.  
326 RUSHOLME RD.  
TORONTO, ONTARIO  
M6H 2Z5  
ATTN: ROGER MOSS

CERTIFICATE OF ANALYSIS  
-----

25 ROCK(S) (PREP.REV3.2) were submitted for analysis.

The following analytical packages were requested. Please see our current fee schedule for elements and detection limits.

REPORT 25025 CODE 1H - INAA(INAAGEO.REV1)  
REPORT 25025 B CODE 1H - TOTAL DIGESTION ICP(TOTAL.REV2)

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

CERTIFIED BY :

A handwritten signature in black ink, appearing to be "E. Hoffman", written over a horizontal line.

DR E.HOFFMAN/GENERAL MANAGER

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL ancaster@actlabs.com ACTLABS GROUP WEBSITE <http://www.actlabs.com>

Activation Laboratories Ltd. Work Order: 25168 Report: 25025

| Sample ID | Au   | Ag  | Ni   | Cu   | Zn   | Co  | Cr  | Ca  | Ba  | Br    | Kr   | Rb  | Sr  | Y    | Zr   | Hf   | Ta  | Th   | U    | W     | Zn    | La    | Ce   | Nd   | Sm   | Eu   | Tb   | Yb   | Lu   | Mass |       |      |      |       |       |       |       |
|-----------|------|-----|------|------|------|-----|-----|-----|-----|-------|------|-----|-----|------|------|------|-----|------|------|-------|-------|-------|------|------|------|------|------|------|------|------|-------|------|------|-------|-------|-------|-------|
|           | ppm  | ppm | ppm  | ppm  | ppm  | ppm | ppm | ppm | ppm | ppm   | ppm  | ppm | ppm | ppm  | ppm  | ppm  | ppm | ppm  | ppm  | ppm   | ppm   | ppm   | ppm  | ppm  | ppm  | ppm  | ppm  | ppm  | ppm  |      |       |      |      |       |       |       |       |
| CO02-01   | 155  | 8   | 2.1  | 260  | -0.5 | -1  | 2   | 683 | 1   | 17.3  | -1   | 1   | -5  | 6    | 0.01 | -20  | -15 | 1.3  | 0.4  | 168   | -0.01 | -0.05 | -0.5 | -0.2 | -0.5 | -3   | -5   | 0.2  | -0.2 | 0.05 | 49.11 |      |      |       |       |       |       |
| CO02-02   | 22   | -5  | 7.6  | 200  | -0.5 | -1  | 9   | 474 | 8   | 3.99  | 1    | -1  | -5  | -1   | 0.06 | -20  | 50  | 2.6  | 15.6 | -3    | -0.01 | -0.05 | -0.5 | 0.7  | -0.5 | 1    | 79   | 5.4  | 12   | 6    | 1.8   | 0.4  | -0.5 | 4.4   | 0.31  | 23.28 |       |
| CO02-03   | 209  | 65  | 10.6 | 340  | -0.5 | -1  | 61  | 172 | 25  | 16.55 | -1   | -1  | -5  | 14   | 0.04 | -20  | 99  | 7.1  | 12.7 | 44    | -0.01 | -0.05 | -0.5 | 0.5  | 1.5  | 69   | 63   | 49   | 10   | -5   | 1.5   | 0.6  | -0.5 | 1.2   | 0.19  | 35.94 |       |
| CO02-04   | 2860 | 10  | 15.8 | -50  | -0.5 | -1  | 4   | 100 | 2   | 5.74  | -1   | -1  | -5  | 7    | 0.04 | -20  | 28  | 7.1  | 9.9  | 6     | -0.01 | -0.05 | -0.5 | -0.2 | 3.8  | 3    | 50   | 11.4 | 25   | 7    | 2.5   | 1.1  | -0.5 | 1.3   | 0.23  | 25.08 |       |
| CO02-05   | 180  | 142 | 5.4  | 250  | -0.5 | -1  | 38  | 217 | 13  | 9.57  | 2    | -1  | -5  | -1   | 0.05 | 81   | 169 | 4.8  | 26.9 | -3    | -0.01 | -0.05 | -0.5 | 0.7  | 1    | 14   | 7    | 308  | 11.2 | 24   | 9     | 3.6  | 1.9  | -0.5  | 3     | 0.44  | 25.08 |
| CO02-06   | 61   | 65  | 3    | 430  | -0.5 | -1  | 30  | 219 | 21  | 5.39  | 2    | -1  | -5  | -1   | 0.08 | 66   | 188 | 0.8  | 23.9 | -3    | -0.01 | -0.05 | -0.5 | 3.4  | 1.3  | -1   | 243  | 12.1 | 31   | 7    | 2.8   | 1    | -0.5 | 2.4   | 0.36  | 22.01 |       |
| CO02-07   | 9    | -5  | 13.7 | -50  | -0.5 | -1  | 9   | 19  | 195 | 2     | 4.69 | -1  | -5  | -1   | 0.07 | 91   | -15 | 0.8  | 19.9 | -3    | -0.01 | -0.05 | -0.5 | 1.1  | -0.5 | 1    | -50  | 2.6  | 6    | -5   | 1.4   | 0.5  | -0.5 | 1.5   | 0.23  | 24.27 |       |
| CO02-08   | 42   | -5  | 6.9  | 230  | 1.5  | 3   | 13  | 120 | -1  | 8.67  | 1    | -5  | -1  | 0.74 | 54   | 53   | 1.2 | 23.2 | -3   | -0.02 | -0.05 | -0.5  | 0.8  | 1.4  | -1   | 143  | 17.7 | 36   | 13   | 3    | 1     | -0.5 | -0.5 | 1.9   | 0.27  | 19.16 |       |
| CO02-09   | 61   | 3   | 7.1  | 300  | 0.5  | 3   | 24  | 237 | 6   | 4.58  | 2    | -1  | -5  | -1   | 0.03 | 50   | 15  | 0.1  | 47.5 | -3    | -0.02 | -0.05 | -0.5 | 0.2  | 1.7  | -1   | 59   | 26.4 | 44   | 21   | 3     | 0.5  | -0.5 | 1.2   | 0.19  | 21    |       |
| CO02-10   | -2   | -5  | 7.1  | -50  | -0.5 | -1  | 4   | 58  | 43  | -1    | 10.3 | 2   | -1  | -5   | -1   | 0.08 | -20 | -15  | 1.3  | 6.8   | 5     | -0.05 | -0.5 | 3.7  | -0.5 | 1    | 50   | 0.8  | 3    | -5   | 1.2   | 0.9  | 0.9  | 2.2   | 0.33  | 25.62 |       |
| SC01-01   | 370  | -5  | 2.1  | -50  | 5.2  | -1  | 7   | 331 | -1  | 4.8   | -1   | -5  | -1  | 0.08 | -20  | -15  | 1.3 | 6.8  | 5    | -0.05 | -0.5  | 3.7   | -0.5 | 1    | 50   | 0.8  | 3    | -5   | 1.2  | 0.9  | 0.9   | 2.2  | 0.33 | 25.62 |       |       |       |
| SC01-02   | 448  | -5  | 1    | -50  | 6.3  | -1  | 3   | 321 | -1  | 4.8   | -1   | -5  | -1  | 0.08 | -20  | -15  | 1.3 | 6.8  | 5    | -0.05 | -0.5  | 3.7   | -0.5 | 1    | 50   | 0.8  | 3    | -5   | 1.2  | 0.9  | 0.9   | 2.2  | 0.33 | 25.62 |       |       |       |
| SC01-03   | 857  | -5  | 5.3  | -50  | -0.5 | -1  | 5   | 101 | -1  | 9.45  | 3    | -1  | -5  | -1   | 6.56 | -20  | -15 | 0.1  | 1.9  | -3    | -0.01 | -0.05 | -0.5 | 7.5  | 7    | -1   | 50   | 2.6  | 5    | 10   | 2.4   | 1.9  | -0.5 | 1.9   | 0.33  | 33.2  |       |
| SC01-04   | 70   | -5  | 4.2  | 140  | -0.5 | -1  | 34  | 111 | -1  | 28.4  | 3    | -1  | -5  | -1   | 6.56 | -20  | -15 | 0.1  | 1.9  | -3    | -0.01 | -0.05 | -0.5 | 7.5  | 7    | -1   | 50   | 2.6  | 5    | 10   | 2.4   | 1.9  | -0.5 | 1.9   | 0.33  | 33.2  |       |
| SC01-05   | 4    | -5  | 27.4 | -50  | -0.5 | -1  | 186 | 112 | -1  | 25    | 3    | -1  | -5  | 6    | 0.04 | 90   | -15 | 0.5  | 6.9  | -3    | -0.01 | -0.05 | -0.5 | 8.7  | 7.5  | -1   | 50   | 26.3 | 52   | 10   | 2.2   | 3    | -0.5 | 1.8   | 0.31  | 39.86 |       |
| SC01-06   | 4    | -5  | 4.2  | -50  | -0.5 | -1  | 24  | 144 | 2   | 2.57  | 3    | -1  | -5  | -1   | 4.5  | -20  | -15 | 0.3  | 5.1  | -3    | -0.01 | -0.05 | -0.5 | 9.6  | 4.6  | -1   | 50   | 2.6  | 6    | -5   | 0.8   | 0.4  | -0.5 | 2.2   | 0.34  | 23.05 |       |
| SC01-07   | -2   | -5  | 35   | -50  | -0.5 | -1  | 139 | 112 | -1  | 25.4  | 3    | -1  | -5  | 9    | 0.05 | 87   | -15 | 1.1  | 7.4  | -3    | -0.01 | -0.05 | -0.5 | 7.3  | 5.2  | -1   | 50   | 19.9 | 38   | 13   | 2.4   | -0.5 | 1.7  | 0.26  | 25.89 |       |       |
| SC01-08   | -2   | -5  | 3.2  | 250  | 3.1  | -1  | 18  | 198 | -1  | 1.69  | 3    | -1  | -5  | -1   | 3.35 | -20  | -15 | -0.1 | 2.7  | -3    | -0.01 | -0.05 | -0.5 | 3.5  | -0.5 | -1   | 50   | 25.7 | 43   | 19   | 2.5   | 0.6  | -0.5 | 0.3   | -0.05 | 22.54 |       |
| SC01-09   | -2   | -5  | 2.5  | -50  | -0.5 | -1  | 9   | 144 | -1  | 1.57  | 3    | -1  | -5  | -1   | 3.35 | -20  | -15 | -0.1 | 2.7  | -3    | -0.01 | -0.05 | -0.5 | 3.5  | -0.5 | -1   | 50   | 25.7 | 43   | 19   | 2.5   | 0.6  | -0.5 | 0.3   | -0.05 | 22.54 |       |
| SC01-10   | 28   | -5  | 73   | 50   | 0.5  | -1  | 195 | 143 | 1   | 14.2  | 1    | -1  | -5  | 14   | 0.06 | 20   | 61  | 0.7  | 2.4  | -3    | -0.01 | -0.05 | -0.5 | 1.2  | 4.2  | 14.9 | 17   | 50   | 340  | 592  | 202   | 28.1 | 4.8  | 1.3   | 1     | 0.15  | 27.32 |
| SC01-11   | 3    | -5  | 12.9 | 150  | -0.5 | -1  | 15  | 203 | 9   | 3.48  | 5    | -1  | -5  | 5    | 0.04 | -20  | 15  | 0.5  | 6.5  | -3    | -0.02 | -0.05 | -0.5 | 8    | 2    | 17   | 50   | 340  | 592  | 202  | 28.1  | 4.8  | 1.3  | 1     | 0.15  | 27.32 |       |
| SC01-12   | 3    | -5  | 12.9 | 150  | -0.5 | -1  | 15  | 203 | 9   | 3.48  | 5    | -1  | -5  | 5    | 0.04 | -20  | 15  | 0.5  | 6.5  | -3    | -0.02 | -0.05 | -0.5 | 8    | 2    | 17   | 50   | 340  | 592  | 202  | 28.1  | 4.8  | 1.3  | 1     | 0.15  | 27.32 |       |
| SC01-13   | 210  | 18  | 2.4  | 200  | -0.5 | -1  | 3   | 229 | 4   | 0.92  | -1   | -1  | -5  | 5    | 0.04 | -20  | 44  | 3.4  | 6.4  | -3    | -0.01 | -0.05 | -0.5 | 0.6  | -0.5 | -1   | 75   | 3    | 1    | 6    | -5    | 0.7  | 0.2  | -0.3  | 0.7   | 0.13  | 20.85 |
| SI02-01   | 292  | 17  | 2.4  | 200  | -0.5 | -1  | 3   | 229 | 4   | 0.92  | -1   | -1  | -5  | 5    | 0.04 | -20  | 44  | 3.4  | 6.4  | -3    | -0.01 | -0.05 | -0.5 | 0.6  | -0.5 | -1   | 75   | 3    | 1    | 6    | -5    | 0.7  | 0.2  | -0.3  | 0.7   | 0.13  | 20.85 |
| SI02-02   | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-1    | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-2    | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-3    | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-4    | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-5    | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-6    | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-7    | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-8    | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-9    | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-10   | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-11   | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-12   | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-13   | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-14   | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-15   | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-16   | 8570 | -5  | 8.6  | 1600 | -0.5 | -1  | 30  | 220 | 4   | 5.71  | 3    | -1  | -5  | 58   | 1.57 | -39  | 137 | 3.2  | 19.5 | -3    | -0.02 | -0.05 | -0.5 | 8.9  | -0.5 | 12   | 50   | 55.2 | 103  | 49   | 9.6   | 2.5  | -0.5 | 2.3   | 0.35  | 25.25 |       |
| MA3A-17   | 8570 |     |      |      |      |     |     |     |     |       |      |     |     |      |      |      |     |      |      |       |       |       |      |      |      |      |      |      |      |      |       |      |      |       |       |       |       |

Activation Laboratories Ltd. Work Order No. 25168 Report No. 25026B

Near Total Digestion Analysis: Code: HI

| SAMPLE             | Ag    | Cd   | Cu    | Mn   | Mo   | Ni  | Pb  | Zn   | Al    | Be   | Bi    | Ca    | K     | Mg    | P      | Sr  | Ti    | V   | Y   | S     |
|--------------------|-------|------|-------|------|------|-----|-----|------|-------|------|-------|-------|-------|-------|--------|-----|-------|-----|-----|-------|
|                    | ppm   | ppm  | ppm   | ppm  | ppm  | ppm | ppm | ppm  | ppm   | ppm  | ppm   | %     | %     | %     | ppm    | ppm | %     | ppm | ppm | %     |
| CC02-01            | 6.5   | -0.3 | 96539 | 84   | 2    | 4   | -3  | 120  | 0.15  | -1   | 2     | 0.03  | 0.06  | -0.01 | -0.001 | 13  | -0.01 | 378 | -1  | 8.926 |
| CC02-02            | 10.9  | 0.6  | 1519  | 172  | 2    | 18  | 14  | 65   | 1.38  | 2    | 9     | 0.23  | 0.70  | 0.23  | 0.031  | 25  | 0.50  | 131 | 11  | 0.070 |
| CC02-03            | 43.9  | 0.5  | 96989 | 357  | 5    | 20  | -3  | 48   | 1.53  | 1    | 9     | 1.96  | 1.01  | 0.32  | 0.021  | 15  | 6.52  | 235 | 9   | 3.710 |
| CC02-04            | 8.4   | 2.1  | 65116 | 961  | -1   | 6   | -3  | 12   | 0.50  | -1   | 9     | 17.10 | 2.02  | 0.05  | -0.041 | 23  | 0.14  | 119 | 16  | 1.763 |
| CC02-05            | 121   | -0.3 | 94480 | 953  | -1   | 79  | -3  | 233  | 3.07  | -2   | 2     | 0.23  | 0.28  | 0.77  | 0.048  | 14  | 0.89  | 256 | 22  | 2.561 |
| CC02-06            | 68.5  | -0.3 | 62495 | 983  | -1   | 64  | -3  | 122  | 3.55  | -1   | 4     | 5.75  | 2.30  | 1.22  | 0.026  | 13  | 0.53  | 155 | 15  | 1.644 |
| CC02-07            | -0.3  | -0.3 | 86    | 505  | -1   | 85  | 5   | 26   | 4.20  | 3    | 4     | 3.33  | 0.68  | 1.52  | 0.014  | 164 | 0.31  | 79  | 15  | 0.003 |
| CC02-08            | -0.3  | -0.3 | 32    | 439  | 1    | 164 | -3  | 44   | 6.48  | -1   | -2    | 3.18  | 0.50  | 5.28  | 0.022  | 176 | 0.82  | 218 | 10  | 0.001 |
| CC02-09            | -0.3  | -0.3 | 110   | 427  | 2    | 50  | -3  | 34   | 3.22  | 2    | -2    | 2.25  | 1.35  | 1.61  | 0.034  | 71  | 0.48  | 115 | 17  | 0.001 |
| SO-01-01           | -0.3  | -0.3 | 49    | 80   | 2    | 2   | -3  | 15   | 4.51  | -1   | -2    | 0.22  | 0.18  | 0.13  | 0.081  | 52  | 0.30  | 38  | 5   | 0.017 |
| SO-01-02           | 0.4   | 6.9  | 153   | 2102 | 1    | 39  | 45  | 476  | 4.19  | -1   | -2    | 4.31  | 0.82  | 2.86  | 0.347  | 49  | 0.76  | 395 | 1   | 0.162 |
| SO-01-03           | -0.3  | 7.0  | 498   | 2145 | -1   | 38  | 47  | 489  | 0.18  | -1   | -2    | 0.64  | 0.69  | 0.46  | 0.152  | 170 | 0.76  | 336 | 51  | 0.182 |
| SO-01-04           | -0.3  | -0.3 | 43269 | 138  | 27   | 7   | -3  | 9    | 0.16  | -1   | -2    | 0.04  | 0.69  | 0.02  | -0.001 | 7   | -0.01 | 4   | 31  | 4.856 |
| SO-01-05           | 5.7   | -0.3 | 5843  | 103  | 3    | 1   | -3  | 8    | 0.16  | -1   | -2    | 0.20  | 0.10  | 0.07  | -0.001 | 7   | -0.01 | 4   | 20  | 0.627 |
| SO-01-06           | 0.4   | -0.3 | 9364  | 173  | 3    | 1   | -3  | 28   | 3.69  | -1   | -2    | 0.05  | 0.27  | 0.07  | 0.045  | 47  | 0.11  | 55  | -1  | 0.865 |
| SO-01-07           | 0.4   | -0.3 | 7285  | 50   | 1    | 8   | -3  | 35   | 4.89  | -1   | -2    | 0.10  | 0.14  | 0.28  | 0.039  | 46  | 0.18  | 10  | 1   | 0.816 |
| SO-01-08           | -0.3  | -0.3 | 80    | 668  | -1   | 80  | -3  | 23   | 3.04  | 7    | -2    | 0.14  | 0.01  | 2.91  | 0.032  | 2   | 0.22  | 68  | 12  | 0.014 |
| SO-01-09           | -0.3  | -0.3 | 723   | 475  | -1   | 86  | -3  | 18   | 2.48  | 2    | -2    | 0.13  | 0.01  | 2.28  | 0.032  | 3   | 0.23  | 71  | 9   | 0.258 |
| SO-01-10           | 0.4   | -0.3 | 49    | 279  | 2    | 6   | 3   | 10   | 2.91  | -1   | -2    | 1.46  | 0.05  | 0.43  | 0.032  | 11  | 0.25  | 59  | 9   | 0.071 |
| SO-01-11           | -0.3  | -0.3 | 446   | 399  | -1   | 83  | -3  | 17   | 2.03  | 3    | -2    | 0.13  | 0.01  | 1.88  | 0.030  | 3   | 0.21  | 77  | 7   | 0.269 |
| SO-01-12           | -0.3  | -0.3 | 29    | 332  | 2    | 5   | -3  | 9    | 3.25  | -1   | -2    | 0.08  | 0.11  | 0.03  | 0.029  | 44  | 0.14  | 57  | 1   | 0.074 |
| SO-01-13           | -0.3  | -0.3 | 15    | 33   | 2    | 2   | -3  | 11   | 2.93  | 2    | -2    | 0.10  | 0.40  | 0.25  | 0.051  | 29  | 0.11  | 80  | 11  | 0.005 |
| SI02-01            | 5.3   | 15.0 | 5935  | 328  | 4    | 12  | 633 | 730  | 2.65  | 1    | 46    | 0.25  | 1.31  | 1.02  | 0.062  | 145 | 0.32  | 76  | 7   | 1.417 |
| SI02-02            | 1.4   | -0.3 | 1133  | 376  | 4    | 83  | 63  | 74   | 2.18  | -1   | 10    | 0.45  | 0.01  | 2.17  | 0.095  | 5   | 0.14  | 52  | 25  | 9.221 |
| SI02-03            | 0.5   | 0.6  | 148   | 468  | 5    | 8   | 16  | 55   | 3.04  | 2    | -2    | 2.95  | 0.94  | 1.02  | 0.062  | 145 | 0.32  | 76  | 7   | 1.417 |
| SI02-04            | 12.4  | 1.1  | 4651  | 371  | 2    | 8   | 77  | 43   | 1.13  | -1   | 148   | 0.96  | 0.62  | 0.09  | 0.011  | 8   | 0.14  | 59  | 5   | 0.190 |
| SI02-05            | 12.8  | 1.0  | 4778  | 399  | 1    | 8   | 78  | 43   | 1.22  | -1   | 146   | 1.01  | 0.66  | 0.09  | 0.011  | 9   | 0.15  | 62  | 5   | 0.127 |
| SI02-04 (PULP DUF) | 12.8  | 1.0  | 4606  | 388  | 1    | 8   | 74  | 42   | 1.21  | -1   | 143   | 0.99  | 0.64  | 0.09  | 0.011  | 8   | 0.15  | 62  | 5   | 0.150 |
| AL-1               | 0.03  | -0.3 | 3     | 31   | 0.1  | 2   | 4.5 | 8    | 9.841 | 2.7  | 0.03  | 0.74  | 0.115 | 0.021 | 0.616  | 80  | 0.007 | 2   | 6.8 | 0.005 |
| AL-1               | 0.03  | -0.3 | 3     | 31   | 0.1  | 2   | 4.5 | 8    | 9.841 | 2.7  | 0.03  | 0.74  | 0.115 | 0.021 | 0.616  | 80  | 0.007 | 2   | 6.8 | 0.005 |
| SO-1 cert          | 0.03  | -0.3 | 883   | 125  | 39   | 25  | 103 | 8    | 6.138 | 3.0  | 0.26  | 1.093 | 2.722 | 1.919 | 0.689  | 183 | 0.605 | 102 | 40  | 0.085 |
| SO-2 cert          | 0.03  | -0.3 | 34    | 640  | 34   | 24  | 101 | 6.13 | 6.13  | 3.0  | 0.26  | 1.14  | 3.95  | 1.03  | 0.681  | 170 | 0.70  | 103 | 31  | 0.070 |
| DNC-1 cert         | 1.037 | 1.82 | 96    | 1154 | 6.7  | 247 | 53  | 66   | 9.687 | -1   | 1.02  | 0.955 | 0.18  | 6.05  | 0.037  | 145 | 6.287 | 148 | 18  | 0.039 |
| DNC-1 cert         | 0.134 | 0.14 | 28.7  | 410  | 4.37 | 27  | 31  | 103  | 7.24  | 1.84 | 0.37  | 1.87  | 2.30  | 1.64  | 0.090  | 174 | 0.33  | 131 | 28  | 0.083 |
| SO-1               | -0.3  | -0.3 | 39    | 357  | 3    | 25  | 26  | 95   | 5.48  | 2    | -2    | 2.11  | 3.34  | 1.64  | 0.082  | 153 | 0.38  | 130 | 19  | 0.073 |
| GXR-6 cert         | 1.3   | (1   | 66    | 1008 | 2.4  | 27  | 101 | 118  | 17.68 | 1.4  | 1.29  | 0.179 | 1.87  | 0.61  | 0.635  | 35  | 0.488 | 186 | 14  | 0.016 |
| GXR-6              | 0.5   | -0.3 | 71    | 906  | 4    | 23  | 95  | 125  | 7.09  | 1    | -2    | 0.18  | 1.71  | 0.32  | 0.051  | 32  | 0.60  | 204 | 3   | 0.010 |
| GXR-2 cert         | 17    | 4.1  | 76    | 1008 | 2.1  | 21  | 690 | 530  | 16.46 | 1.7  | 1.69  | 0.929 | 1.37  | 0.85  | 0.105  | 160 | 0.3   | 52  | 17  | 0.031 |
| GXR-2              | 16.4  | 4.4  | 74    | 729  | 3    | 17  | 661 | 494  | 4.77  | 2    | -2    | 0.64  | 1.29  | 0.66  | 0.061  | 111 | 0.31  | 51  | 9   | 0.027 |
| GXR-1 cert         | 31    | 3.3  | 1110  | 853  | 18   | 41  | 730 | 760  | 3.52  | 1.22 | 1.380 | 0.958 | 0.05  | 0.22  | 0.065  | 275 | 0.036 | 89  | 32  | 0.257 |
| GXR-1              | 30.9  | 2.8  | 1225  | 664  | 20   | 42  | 768 | 729  | 1.46  | 1    | 1.384 | 1.11  | 0.05  | 0.20  | 0.068  | 298 | 0.03  | 95  | 39  | 0.272 |
| GXR-4 cert         | 4     | 1.86 | 6520  | 155  | 310  | 42  | 52  | 73   | 7.20  | 1.9  | 19    | 1.01  | 4.01  | 1.65  | 0.120  | 221 | 0.29  | 87  | 14  | 1.770 |
| GXR-4              | 3.1   | 0.3  | 6594  | 132  | 324  | 37  | 42  | 69   | 3.93  | 2    | 16    | 1.06  | 4.02  | 1.62  | 0.120  | 195 | 0.29  | 85  | 11  | 1.605 |

Note: Certificate data underlined are recommended values; other values are proposed except those preceded by a "V" which are information values.

Barite, galinite, chromite, cassiterite, zircon, hematite, magnetite, and sulphates may not be totally dissolved.

Aluminum and boron may only be partially extracted.

Sulphur associated with barite will not be extracted. Rutile, ilmenite and monazite may not be fully extracted.

Clients are advised to obtain assays for As, Pb, Cd, Cr, Ni, Cu, and Pb-210 ppm due to potential solubility problems.  
Values for Cu, Ni, Zn, Mo greater than 1% should be assayed if accuracy (error in assay) is required.  
Values above 1% are for informational purposes only and should not be relied upon for promotional or reserve calculations. Assays are recommended for this purpose.  
Sulphur will precipitate in samples containing massive sulphides.

Negative values indicate less than the reporting limit.  
9999 indicates greater than 10%.

Activation Laboratories Ltd.  
100 Tunney Pasture Drive  
Ottawa, Ontario K1T 1W6, Canada  
Tel: (613) 231-5521

Quality Analysis...



Innovative Technologies

Invoice No.: 25025B  
Work Order: 25168  
Invoice Date: 22-AUG-02  
Date Submitted: 01-AUG-02  
Your Reference: SOUTHERN  
Account Number: 3561

AMERIGO RESOURCES LTD.  
326 RUSHOLME RD.  
TORONTO, ONTARIO  
M6H 2Z5  
ATTN: ROGER MOSS

CERTIFICATE OF ANALYSIS  
-----

6 PULPS were submitted for analysis.

The following analytical packages were requested. Please see our current fee schedule for elements and detection limits.

REPORT 25025C CU ASSAYS-ICP

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

CERTIFIED BY :

  
E. HOFFMAN/GENERAL MANAGER

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL ancaster@actlabs.com ACTLABS GROUP WEBSITE <http://www.actlabs.com>

Activation Laboratories Ltd. Work Order No. 25168 Report No. 25025C

Assay Analysis: Code 8

| SAMPLE               | Cu<br>% |
|----------------------|---------|
| CC02-01              | 41.75   |
| CC02-03              | 11.60   |
| CC02-04              | 6.980   |
| CC02-05              | 9.740   |
| CC02-06              | 6.115   |
| CC02-06 /R           | 6.070   |
| SO-01-03             | 4.140   |
| METHOD REAGENT BLANK | -0.001  |
| METHOD REAGENT BLANK | -0.001  |
| CZn-3 CERT           | 0.6835  |
| CZn-3                | 0.680   |
| KC-1a CERT           | 0.629   |
| KC-1a                | 0.650   |
| MP-1a CERT           | 1.44    |
| MP-1a                | 1.440   |
| CCu-1c CERT          | 25.62   |
| CCu-1c               | 25.61   |
| Su-1a CERT           | 0.967   |
| Su-1a                | 0.960   |

\* Requires dilution for linear range.  
 "C" indicates provisional values

*Adrienne I. Rittau*  
 Adrienne I. Rittau, B.Sc.  
 ICP Technical Manager

Negative values indicate less than the detection limit

Page 1 of 1  
 8/22/02

Quality Analysis...



Innovative Technologies

Invoice No.: 25278  
Work Order: 25458  
Invoice Date: 06-SEP-02  
Date Submitted: 12-AUG-02  
Your Reference: COPPER CORP  
Account Number: 3561

AMERIGO RESOURCES LTD.  
326 RUSHOLME RD.  
TORONTO, ONTARIO  
M6H 2Z5  
ATTN: ROGER MOSS

CERTIFICATE OF ANALYSIS  
-----

13 ROCK(S) (PREP.REV3.2) were submitted for analysis.

The following analytical packages were requested. Please see our current fee schedule for elements and detection limits.

REPORT 25278 CODE 1H - INAA(INAAGEO.REV1)  
REPORT 25278 B CODE 1H - TOTAL DIGESTION ICP(TOTAL.REV2)  
REPORT 25278 C CODE 4-EXPL - INAA(INAAGEO.REV1)  
REPORT 25278 D CODE 4E-EXPL - MAJOR ELEMENTS FUSION ICP(WRA.REV2)  
REPORT 25278 E CODE 4E-EXPL - TOTAL DIGESTION ICP(TOTAL,REV2)  
  
REPORT 25278 RPT.XLS CODE 6 - HYDROGEOCHEMISTRY ICP/MS(HYDRGEO.REV3)

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CERTIFIED BY :

  
/s/ DR E. HOFFMAN / GENERAL MANAGER

ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd. Work Order: 25458 Report: 25278

| Sample ID                 | Au     | Ag  | As       | Ba      | Br      | Ca      | Co   | Cr     | Cs        | Fe    | Hf  | Hg  | Ir  | Mn  | Nb        | Ni  | Rb    | Sb       | Se       | Sr | Ta    | Th   | U    | W   | Zn   | La     | Ce       | Nd   |      |
|---------------------------|--------|-----|----------|---------|---------|---------|------|--------|-----------|-------|-----|-----|-----|-----|-----------|-----|-------|----------|----------|----|-------|------|------|-----|------|--------|----------|------|------|
|                           | ppb    | ppm | ppm      | ppm     | ppm     | %       | ppm  | ppm    | ppm       | %     | ppm | ppm | ppb | ppm | %         | ppm | ppm   | ppm      | ppm      | %  | ppm   | ppm  | ppm  | ppm | ppm  | ppm    | ppm      | ppm  |      |
| DE02-03                   | 5      | 8   | 4.9      | -50     | 1       | -1      | 47   | 40     | -1        | 3.63  | 3   | -1  | -5  | -1  | 4.39      | -31 | -15   | -0.1     | 6.2      | -3 | -0.02 | 12.5 | 2.8  | 1   | -50  | 43.3   | 87       | 29   |      |
| DE02-04                   | -2     | -5  | 28       | -50     | 2.3     | -1      | 39   | 14     | -1        | 35.2  | -3  | -1  | -5  | -1  | 0.04      | -24 | -15   | -0.1     | 7.1      | -3 | -0.01 | -0.2 | -0.5 | 47  | -50  | 0.8    | -3       | -5   |      |
| DE02-05                   | 6      | 5   | 18.1     | -50     | 3.3     | -1      | 15   | 13     | -1        | 0.62  | -1  | -1  | -5  | -1  | 0.05      | -20 | -15   | 0.4      | 0.3      | -3 | -0.01 | -0.2 | -0.5 | -1  | -50  | 0.7    | -3       | -5   |      |
| MM02-T2                   | 27     | -5  | 9.3      | 13000   | -0.5    | 9       | 31   | 77     | 10        | 6.85  | 3   | -1  | -5  | -1  | 0.19      | 51  | 66    | 2.5      | 23       | -2 | -0.01 | 1.5  | 2    | -1  | 166  | 17.9   | 41       | 17   |      |
| MM02-T3                   | 22     | -5  | 13.5     | 20000   | -0.5    | 10      | 32   | 92     | 14        | 7.44  | 4   | -1  | -5  | -1  | 0.16      | 55  | 100   | 3        | 24.8     | -3 | -0.01 | 1.9  | -0.5 | 4   | 174  | 19.5   | 48       | 19   |      |
| MM02-T5                   | 20     | -5  | 12.8     | 26000   | -0.5    | 10      | 34   | 88     | 12        | 7.72  | 4   | -1  | -5  | -1  | 0.17      | 56  | 62    | 3        | 24.2     | -3 | -0.01 | 2.2  | 1.8  | 2   | 168  | 20.3   | 48       | 19   |      |
| MM02-C1                   | 3330   | 352 | 36.2     | 9       | -0.5    | -1      | 7    | 12     | 1         | 10.4  | -1  | 6   | -5  | -1  | 0.02      | -20 | -15   | 7.9      | 4.5      | 38 | -0.02 | -0.2 | -0.5 | -1  | 180  | 3.1    | 6        | -5   |      |
| MM02-C2                   | 2320   | 251 | 35.5     | 250     | -0.5    | 1       | 18   | 22     | 2         | 0.92  | -1  | 7   | -5  | -1  | 0.01      | -20 | -15   | 8.7      | 4.6      | 47 | -0.02 | -0.2 | -0.5 | -1  | 200  | 5.9    | 10       | -5   |      |
| MM02-C3                   | 2310   | 254 | 38.1     | 70      | -0.5    | 1       | 19   | 17     | 3         | 10.6  | -1  | 3   | -5  | -1  | 0.02      | -20 | -15   | 8.3      | 4.8      | 45 | -0.02 | -0.2 | -0.5 | -1  | 280  | 6.3    | 12       | -5   |      |
| MM02-C4                   | 2550   | 285 | 44.1     | 230     | -0.5    | 1       | 19   | 18     | 1         | 10.5  | -1  | 6   | -5  | -1  | 0.1       | -20 | -15   | 11.4     | 5.9      | 46 | -0.02 | -0.2 | -0.5 | -1  | 178  | 6.6    | 12       | -5   |      |
| MM02-C5                   | 3000   | 252 | 35.7     | 270     | -0.5    | 1       | 27   | 32     | 2         | 11.3  | -1  | -1  | -5  | 9   | 0.02      | -22 | -15   | 8.8      | 5.7      | 44 | -0.02 | -0.2 | -0.5 | 4   | 150  | 7.8    | 12       | -5   |      |
| DMMAAS-15-1774            | 534    | -5  | 2870     | 460     | 3       | 8       | 74   | 146    | 3         | 8.43  | 2   | -1  | -5  | -2  | 0.8       | -30 | 39    | 10.0     | 13.2     | -3 | -0.03 | 1.2  | -0.5 | 16  | 285  | 13     | 24       | 10   |      |
| Accepted Value-DMMAAS-15B | 710±78 |     | 2900±190 | 450±120 | 3.1±0.2 | 0.9±1.9 | 76±5 | 151±15 | 6.28±0.65 | 2±0.8 |     |     |     |     | 0.79±0.11 |     | 41±15 | 10.9±1.9 | 19.4±1.4 |    |       |      |      |     | 17±3 | 290±85 | 13.2±1.2 | 25±4 | 10±4 |



| Sample ID                | Sm<br>ppm | Eu<br>ppm | Tb<br>ppm | Yb<br>ppm | Lu<br>ppm | Mass<br>g |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| DMO2-U3                  | 4.8       | 1         | -1.5      | 0.3       | -0.05     | 23.79     |
| DEO2-U4                  | 0.1       | -0.2      | -0.5      | -0.2      | -1.65     | 37.21     |
| DEO2-U5                  | -0.1      | -0.2      | 0.5       | -0.2      | -0.95     | 30.95     |
| MNO2-T2                  | 4.9       | 1.5       | 0.9       | 2.9       | 0.44      | 27.9      |
| MNO2-T3                  | 5.1       | 1.8       | -0.5      | 3         | 0.45      | 26.06     |
| MNO2-T5                  | 5.5       | 1.9       | 0.8       | 0.3       | 0.5       | 24.33     |
| MNO2-F1                  | 0.0       | 0.2       | -0.5      | 0.2       | -0.95     | 43.58     |
| MNO2-F2                  | 1         | 0.5       | -0.5      | 0.5       | 0.07      | 42.26     |
| MNO2-F3                  | 1.1       | 0.5       | -0.5      | 0.4       | 0.06      | 35.53     |
| MNO2-G4                  | 1.3       | 0.2       | -0.5      | 0.3       | -0.05     | 40.17     |
| MNO2-G5                  | 4.1       | 1.2       | -0.5      | 3.8       | 0.56      | 25.2      |
| DMMAS-15-1774            |           |           |           |           |           |           |
| Accepted Value-DMMAS-15B | 4.240.31  | 1.350.24  |           | 3.940.5   | 0.5840.89 |           |

Activation Laboratories Ltd. Work Order No. 25458 Report No. 252788

| SAMPLE     | Near Total Digestion Analysis: Code 1H |       |       |      |      |     |     |     |       |      |      |       |       |       | S      |     |       |     |     |        |
|------------|--|-------|-------|------|------|-----|-----|-----|-------|------|------|-------|-------|-------|--------|-----|-------|-----|-----|--------|
|            | Ag                                     | Cd    | Cu    | Mn   | Mo   | Ni  | Pb  | Zn  | Al    | Be   | Bi   | Ca    | K     | Mg    |        | P   | Sr    | Ti  | V   | Y      |
|            | ppm                                    | ppm   | ppm   | ppm  | ppm  | ppm | ppm | ppm | %     | ppm  | ppm  | %     | %     | %     | %      | ppm | %     | ppm | ppm | %      |
| DE02-03    | -0.3                                   | -0.3  | 28    | 205  | 1    | 23  | 24  | 23  | 5.39  | 1    | 2    | 0.19  | 0.07  | 1.55  | 0.050  | 58  | 0.13  | 42  | 7   | 0.180  |
| DE02-04    | -0.3                                   | -0.3  | 168   | 30   | -1   | 4   | 7   | 3   | 0.11  | -1   | -2   | 0.03  | 0.01  | -0.01 | -0.001 | 5   | 0.02  | 138 | -1  | 0.427  |
| DE02-05    | -0.3                                   | -0.3  | 391   | 43   | -1   | 3   | 31  | 26  | 0.06  | -1   | -2   | 0.02  | 0.02  | 0.01  | -0.001 | 8   | -0.01 | 2   | -1  | 0.065  |
| MM02-T2    | 3.9                                    | 0.3   | 541   | 1434 | -1   | 48  | 18  | 121 | 2.75  | 1    | -2   | 9.01  | 1.34  | 0.80  | 0.080  | 52  | 0.90  | 165 | 28  | 0.040  |
| MM02-T3    | 2.3                                    | 0.5   | 686   | 1416 | -1   | 56  | 24  | 121 | 2.94  | 2    | -2   | 9.48  | 1.67  | 0.69  | 0.096  | 63  | 1.03  | 203 | 28  | 0.056  |
| MM02-T5    | 2.4                                    | 0.6   | 693   | 1458 | -1   | 55  | 22  | 121 | 2.82  | 2    | -2   | 9.56  | 1.72  | 0.68  | 0.094  | 66  | 1.00  | 195 | 28  | 0.067  |
| MM02-C1    | 3.1                                    | -0.3  | 696   | 1512 | -1   | 57  | 23  | 125 | 2.66  | 2    | -2   | 9.44  | 1.50  | 0.72  | 0.094  | 72  | 1.00  | 150 | 29  | 0.066  |
| MM02-C2    | 345                                    | 3.2   | 99999 | 223  | -1   | 14  | 60  | 200 | 0.53  | -1   | 276  | 0.62  | 0.22  | 0.12  | -0.001 | 11  | 0.26  | 170 | 6   | 12.319 |
| MM02-C3    | 228                                    | 2.6   | 99999 | 269  | 4    | 25  | 63  | 201 | 0.68  | -1   | 307  | 1.30  | 0.25  | 0.12  | 0.012  | 13  | 0.37  | 166 | 8   | 10.983 |
| MM02-C4    | 254                                    | 4.3   | 99999 | 268  | 8    | 31  | 156 | 306 | 0.73  | -1   | 380  | 1.31  | 0.27  | 0.12  | 0.015  | 13  | 0.39  | 185 | 9   | 11.638 |
| MM02-C5    | 246                                    | 4.6   | 99999 | 317  | 3    | 23  | 85  | 173 | 0.81  | -1   | 332  | 1.26  | 0.28  | 0.21  | 0.012  | 19  | 0.40  | 193 | 8   | 11.031 |
| MM02-C5    | 233                                    | 3.1   | 99999 | 325  | 5    | 31  | 34  | 149 | 0.86  | -1   | 275  | 1.37  | 0.31  | 0.15  | 0.024  | 15  | 0.47  | 208 | 10  | 10.166 |
| AL-1       | 0.03                                   | -0.3  | 3     | 31   | 0.1  | 2   | 4.5 | 8   | 9.841 | 2.7  | 0.03 | 0.274 | 0.116 | 0.021 | 0.016  | 80  | 0.007 | 2   | 5.8 | 0.0085 |
| AL-1       | -0.3                                   | -0.3  | 8     | 13   | 2    | -1  | 12  | 6   | 7.50  | 3    | -2   | 0.26  | 0.11  | -0.01 | 0.006  | 67  | -0.01 | -2  | 2   | 0.001  |
| SDC-1 cert | 0.041                                  | 0.08  | 30    | 883  | 0.25 | 38  | 25  | 103 | 8.338 | 3.0  | 0.26 | 1.001 | 2.722 | 1.019 | 0.069  | 183 | 0.606 | 102 | 40  | 0.065  |
| SDC-1      | -0.3                                   | -0.3  | 41    | 976  | 3    | 34  | 33  | 98  | 11.39 | 4    | -2   | 1.24  | 2.98  | 1.22  | 0.057  | 203 | 0.82  | 101 | 74  | 0.074  |
| DNC-1 cert | 0.027                                  | 0.182 | 96    | 1154 | 0.7  | 247 | 6.3 | 66  | 9.887 | 1    | 0.02 | 8.055 | 0.19  | 6.06  | 0.037  | 145 | 0.287 | 148 | 18  | 0.039  |
| DNC-1      | -0.3                                   | -0.3  | 99    | 1084 | -1   | 260 | 10  | 57  | 7.36  | -1   | -2   | 8.30  | 0.15  | 5.42  | 0.022  | 195 | 0.34  | 139 | 20  | 0.059  |
| SC0-1 cert | 0.134                                  | 0.14  | 28.7  | 410  | 1.37 | 27  | 31  | 103 | 7.24  | 1.84 | 0.37 | 1.87  | 2.30  | 1.64  | 0.090  | 174 | 0.38  | 131 | 26  | 0.063  |
| SC0-1      | -0.3                                   | -0.3  | 32    | 362  | 2    | 26  | 34  | 97  | 5.05  | 2    | -2   | 1.76  | 2.07  | 1.41  | 0.067  | 148 | 0.42  | 127 | 21  | 0.060  |
| GXR-6 cert | 1.3                                    | 0.3   | 66    | 1008 | 2.4  | 27  | 101 | 118 | 17.68 | 1.4  | 0.29 | 0.179 | 1.87  | 0.61  | 0.035  | 35  | 0.498 | 186 | 14  | 0.016  |
| GXR-6      | -0.3                                   | 0.3   | 68    | 1099 | 3    | 21  | 101 | 126 | 13.85 | 2    | 8    | 0.24  | 1.88  | 0.71  | 0.055  | 50  | 0.55  | 184 | 24  | 0.011  |
| GXR-2 cert | 17                                     | 4.1   | 76    | 1008 | 0.21 | 21  | 690 | 580 | 18.46 | 1.7  | 0.69 | 0.829 | 1.37  | 0.85  | 0.105  | 160 | 0.3   | 82  | 17  | 0.017  |
| GXR-2      | 17.2                                   | 3.4   | 85    | 985  | 2    | 19  | 668 | 540 | 18.0  | 2    | 4    | 0.83  | 1.34  | 0.68  | 0.095  | 129 | 0.39  | 97  | 10  | 0.017  |
| GXR-1 cert | 31                                     | 3.3   | 1110  | 853  | 18   | 41  | 730 | 760 | 3.52  | 1.22 | 1380 | 0.958 | 0.05  | 0.22  | 0.065  | 275 | 0.036 | 80  | 32  | 0.297  |
| GXR-1      | 29.8                                   | 1.3   | 1174  | 984  | 15   | 43  | 737 | 757 | 1.86  | 2    | 2901 | 0.96  | 0.05  | 0.19  | 0.055  | 322 | 0.03  | 88  | 46  | 0.273  |
| GXR-4 cert | 4                                      | 0.86  | 6520  | 155  | 310  | 42  | 52  | 73  | 7.20  | 1.9  | 19   | 1.01  | 4.01  | 1.66  | 0.120  | 221 | 0.29  | 87  | 14  | 1.770  |
| GXR-4      | 3.3                                    | -0.3  | 6107  | 169  | 388  | 42  | 50  | 73  | 5.88  | 3    | 32   | 1.14  | 4.29  | 1.76  | 0.120  | 246 | 0.35  | 93  | 20  | 1.926  |

Note: Certificate data underlined are recommended values; other values are proposed except those preceded by a "C" which are information values.  
 Barite, galinite, chromite, cassiterite, zircon, sphene, magnetite, and sulphates may not be totally dissolved.  
 Aluminium and Yttrium may only be partially extracted.  
 Sulphur associated with barite will not be extracted. Rutile, ilmenite and monazite may not be fully extracted.

Clients are advised to allow assays for Ag > 100 ppm and Pb > 500 ppm due to potential solubility reduction.  
 Values for Cu, Ni, Zn, Mo greater than 1% should be assayed if accuracy better than +/- 10-15% is required.  
 Values above 5% are for informational purposes only and should not be relied upon for promotional or other  
 reserve calculations. Assays are recommended for this purpose.  
 Sulphur will precipitate in samples containing massive sulfides.

Negative values indicate less than the reporting limit.  
 99999 indicates greater than 10%

*John W. ...*  
 John W. ...  
 B.Sc., C.Chem.  
 RFP Technical Manager

**Actlabs Hydrogeochemistry Lab # 25168**  
 Trace Element Values Are in Parts Per Billion Negative Values Equal Not Detected at That Level Limit.  
 Values less than 100000 are greater than working range of instrument  
**Sample ID:** MME2-TSW  
**Company:** Amerigo Resources  
**Contact:** R. Moss

|                            | Li   | Be    | Na     | Mg    | Al | Si    | K   | Ca    | Sc | Ti   | V     | Cr   | Mn    | Fe   | Co     | Ni   | Cu   | Zn   | Ga    | Ge    | As    | Se    | Br | Rb     |
|----------------------------|------|-------|--------|-------|----|-------|-----|-------|----|------|-------|------|-------|------|--------|------|------|------|-------|-------|-------|-------|----|--------|
| Blank                      | -1   | -0.1  | -5     | -1    | -2 | -50   | -10 | -50   | -1 | -0.1 | -0.05 | -0.5 | -0.1  | -5   | -0.005 | -0.3 | -0.2 | -0.5 | -0.01 | -0.01 | -0.03 | -0.2  | -3 | -0.005 |
| SLRS-4 Control Material    | -1   | -0.1  | 2,360  | 1,610 | 52 | 1,620 | 644 | 6,190 | -1 | 1.6  | 0.30  | -0.5 | 3.1   | 100  | -0.005 | 0.8  | 1.5  | 1.0  | -0.01 | -0.01 | 0.63  | -0.2  | 42 | 1.53   |
| NIST 1940 Control Material | 53   | 35.4  | 29,900 | 5,840 | 50 | 4,770 | 979 | 6,400 | 1  | 1.4  | 13.0  | 38.3 | 126   | 33   | 19.2   | 24.6 | 84.7 | 50.5 | -0.01 | 0.10  | 24.7  | 19.2  | 9  | 2.01   |
| <b>Expected Values</b>     | 50.7 | 34.94 | 29359  | 5819  | 52 | 4730  | 984 | 7045  | -  | -    | 0.32  | 0.33 | 3.37  | 103  | 0.033  | 0.67 | 1.81 | 0.93 | -     | -     | 0.68  | -     | -  | -      |
| SLRS-4 Control Material    |      |       |        |       |    |       |     |       |    |      | 12.99 | 38.6 | 121.5 | 34.3 | 20.28  | 27.4 | 85.2 | 53.2 | -     | -     | 26.67 | 21.96 | -  | 2      |
| NIST 1940 Control Material |      |       |        |       |    |       |     |       |    |      |       |      |       |      |        |      |      |      |       |       |       |       |    |        |

Certified By:



D. D'Anna, Dipl. T.  
ICF-MS Technical Manager, Activation Laboratories Ltd.

Date Received: 12-Aug-02

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Unless otherwise indicated, samples will be disposed of 90 days from the date of this report.

Date Reported: 22-Aug-02

**Actlabs Hydrochemistry Job # 25458 Report**  
 Trace Element Values Are in Parts Per Billion, Negative Vol  
 Values are greater than working range of Instrume  
**Sample ID:** MM02-TSW

|                                   | Sr           | Y        | Zr       | Nb       | Mo           | Ru       | Pd       | Ag          | Cd           | In       | Sn       | Sb           | Te       | I        | Cs       | Ba          | La       | Ce       | Pr       | Nd       | Sm       | Eu       | Gd       |
|-----------------------------------|--------------|----------|----------|----------|--------------|----------|----------|-------------|--------------|----------|----------|--------------|----------|----------|----------|-------------|----------|----------|----------|----------|----------|----------|----------|
| Blank                             | -0.04        | -0.003   | -0.01    | -0.005   | -0.1         | -0.01    | -0.01    | -0.2        | -0.01        | -0.001   | -0.1     | -0.01        | -0.01    | -1       | 0.112    | 700         | 0.017    | 0.011    | 0.003    | 0.010    | 0.004    | 0.199    | 0.005    |
| SLRS-4 Control Material           | 24.6         | 0.117    | 0.10     | -0.005   | 0.2          | -0.01    | -0.01    | -0.2        | 0.01         | -0.001   | -0.1     | 0.26         | -0.01    | 1        | 0.007    | 12.0        | 0.249    | 0.306    | 0.059    | 0.226    | 0.072    | -0.001   | -0.002   |
| NIST 1640 Control Material        | 122          | 0.167    | 0.17     | -0.005   | -66.7        | -0.01    | -0.01    | 7.2         | 22.4         | -0.001   | 2.4      | 13.9         | -0.01    | -1       | 0.109    | 146         | 0.291    | 0.311    | 0.065    | 0.338    | 0.067    | 0.068    | 0.079    |
| <b>Expected Values</b>            | <b>26.3</b>  | <b>-</b> | <b>-</b> | <b>-</b> | <b>0.21</b>  | <b>-</b> | <b>-</b> | <b>7.62</b> | <b>0.012</b> | <b>-</b> | <b>-</b> | <b>0.23</b>  | <b>-</b> | <b>-</b> | <b>-</b> | <b>12.2</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> |
| <b>SLRS-4 Control Material</b>    | <b>124.2</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>46.75</b> | <b>-</b> | <b>-</b> | <b>7.62</b> | <b>22.79</b> | <b>-</b> | <b>-</b> | <b>13.79</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>148</b>  | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> |
| <b>NIST 1640 Control Material</b> | <b>-</b>     | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b>     | <b>-</b> | <b>-</b> | <b>-</b>    | <b>-</b>     | <b>-</b> | <b>-</b> | <b>-</b>     | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b>    | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> |

Actlabs Hydrochemistry Job #: 25458 Report  
 Trace Element Values Are in Parts Per Billion Negative Val  
 Values < 99999 are greater than working range of Instrum  
 Sample ID: MM02-TSW

|                            | Tb     | Dy     | Ho     | Er     | Tm     | Yb     | Lu     | Hf     | Ta     | W     | Re     | Os     | Pt    | Au     | Hg   | Tl     | Pb    | Bi    | Th     | U      |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|-------|--------|------|--------|-------|-------|--------|--------|
| Blank                      | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.002 | -0.001 | -0.02 | 0.001  | -0.002 | -0.01 | -0.002 | -0.2 | -0.005 | -0.1  | -0.01 | -0.001 | 0.007  |
| SLRS-4 Control Material    | 0.005  | 0.016  | 0.003  | 0.011  | -0.001 | -0.001 | -0.001 | -0.002 | -0.001 | -0.02 | -0.001 | -0.002 | -0.01 | -0.002 | -0.2 | -0.005 | -0.1  | -0.01 | -0.001 | -0.001 |
| NIST 1640 Control Material | 0.008  | 0.023  | 0.004  | 0.014  | 0.001  | 0.013  | 0.001  | 0.003  | -0.001 | -0.02 | 0.003  | -0.002 | -0.01 | -0.002 | -0.2 | -0.005 | 25.7  | -0.01 | 0.021  | 0.700  |
| Expected Values            |        |        |        |        |        |        |        |        |        |       |        |        |       |        |      |        |       |       |        |        |
| SLRS-4 Control Material    |        |        |        |        |        |        |        |        |        |       |        |        |       |        |      |        |       |       |        |        |
| NIST 1640 Control Material |        |        |        |        |        |        |        |        |        |       |        |        |       |        |      |        | 0.086 |       |        | 0.05   |
|                            |        |        |        |        |        |        |        |        |        |       |        |        |       |        |      |        | 27.89 |       |        |        |