# PROSPECTORS ALLIANCE CORP.

# Report on Geological Mapping, Trenching and Sampling

# on the

# Deep Pit Prospect in Whitesides Township in the

# West Timmins Area 1997.

Compiled by

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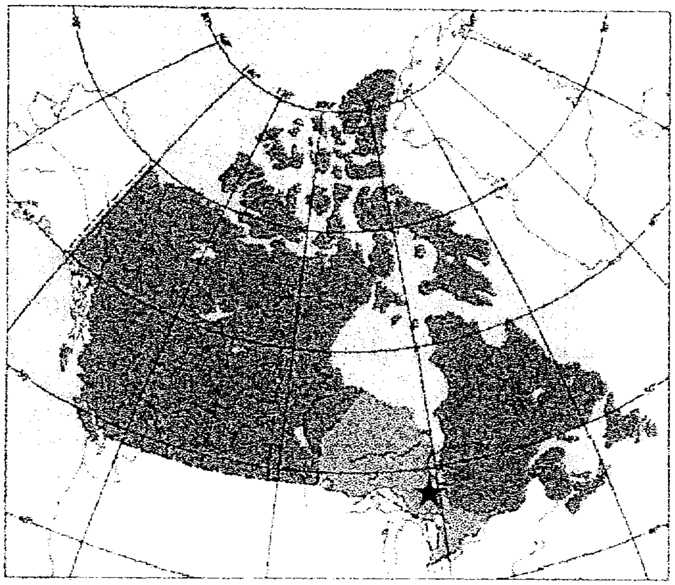
Peter J. Vamos P. Eng.
Dec. 1997

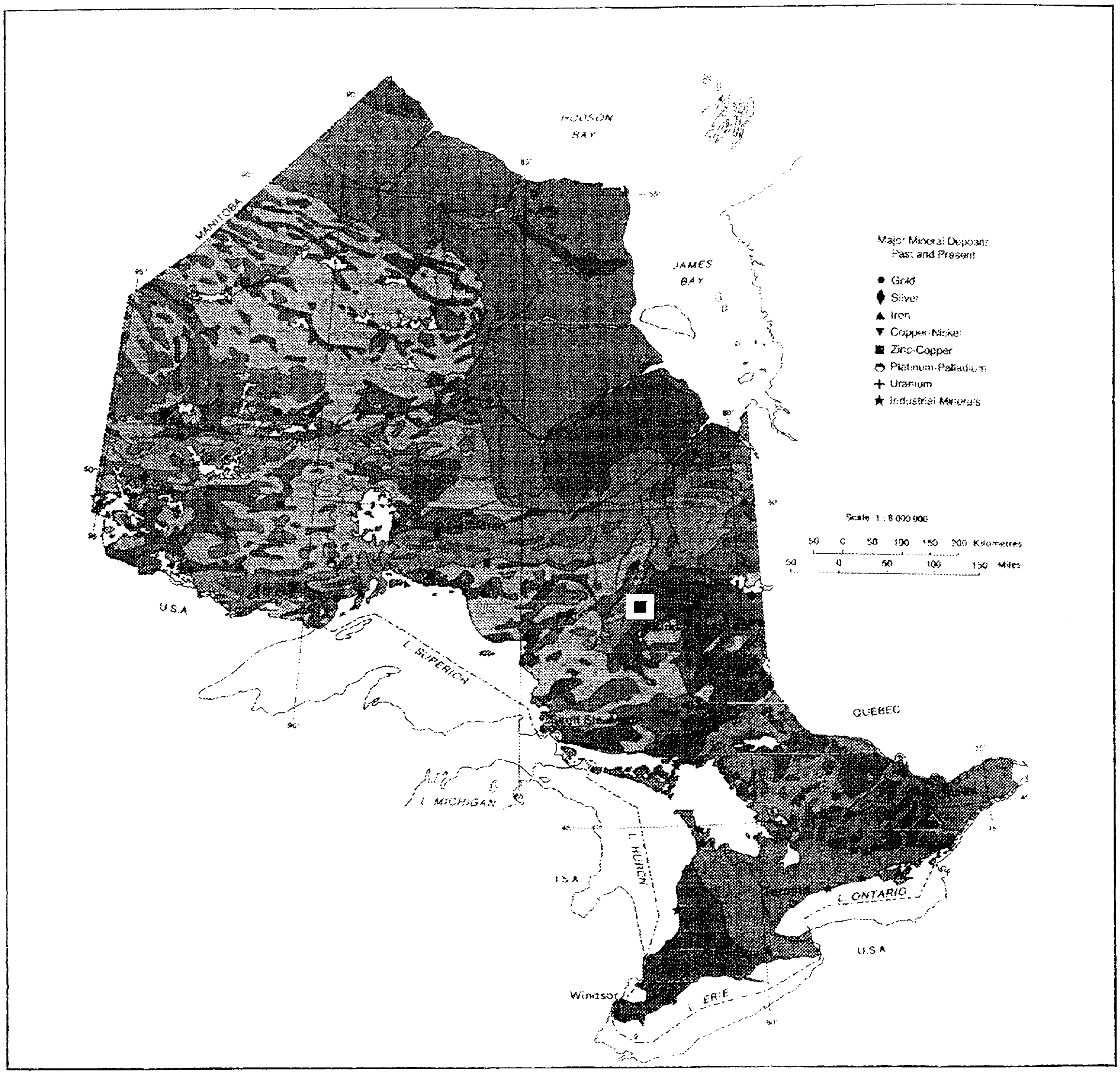
# INDEX

## APPENDICES



**PROSPECTORS ALLIANCE CORP.**
**REGIONAL MAP, CANADA**
**FALCONBRIDGE OPTION - DEEP PIT**
Whitesides Twp., District of Cochrane, Ont.
Porcupine Mining District
NTS 42 A/5

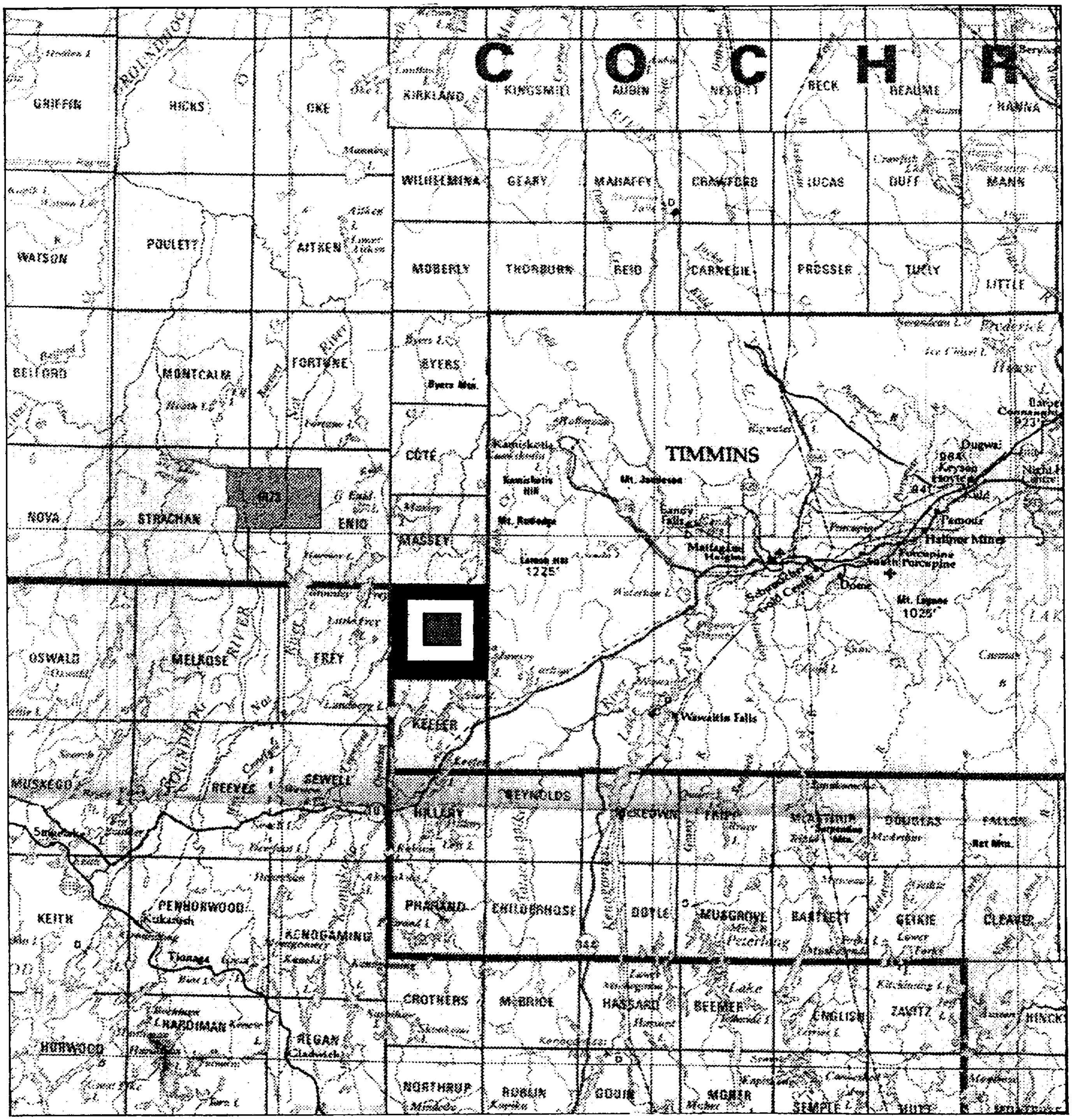
**Figure 1**



# PROSPECTORS ALLIANCE CORP.
# REGIONAL MAP, ONTARIO
## FALCONBRIDGE OPTION - DEEP PIT

Whitesides Twp., District of Cochrane, Ont.
Porcupine Mining District
NTS 42 A/5
Scale 1:8.000.000

**Figure 2**



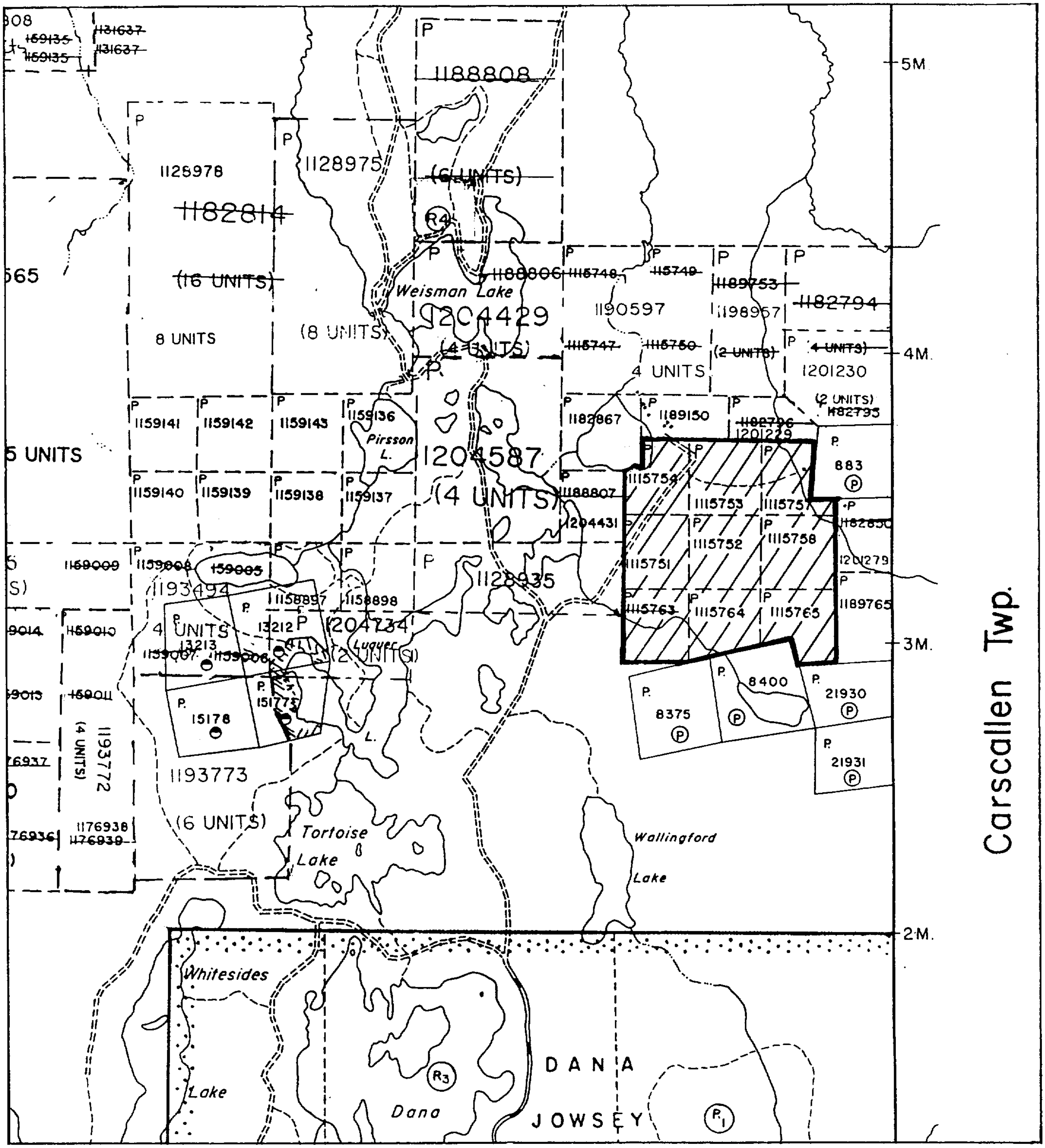
2.18163

## PROSPECTORS ALLIANCE CORP.

## TOWNSHIP LOCATION MAP

### FALCONBRIDGE OPTION - DEEP PIT

Whitesides Twp., District of Cochrane, Ont.
Porcupine Mining District
NTS 42 A/5
Scale 1:450.000



# PROSPECTORS ALLIANCE CORP.
# CLAIM LOCATION MAP
## FALCONBRIDGE OPTION - DEEP PIT

Whitesides Twp., District of Cochrane, Ont.
Porcupine Mining District
NTS 42 A/5
Scale 1 inch = 1/2 mile

Figure 4

## SUMMARY

Prospectors Alliance Corp. initiated an exploration program in the West Timmins area in 1996 after the acquisition of a property consisting of several hundreds of units. The prospect reported on represents a portion of this property. Falconbridge Exploration prior to be optioned by Prospectors worked the claims. The geological mapping stripping and sampling completed by Prospectors in 1997 represents a follow up on soil sampling done in 1996 and an Induced Potential survey completed during the spring of 1997. Both, soil sampling and the IP survey resulted in coincidental anomalous conditions requiring further follow up. The mapping and the sampling indicated the presence of a much more substantial felsic volcanism as was shown by geological mapping completed by earlier exploration programs. It also resulted in siting minor copper mineralization in new locations.

The program was successful in part explaining the IP anomalies but did not provide any explanation for the highly anomalous gold values found in soils. A diamond drilling program was conducted immediately and it has confirmed a wide distribution of anomalous copper values as well as the presence of several felsic volcanic rocks.

Recommendations are made to continue to explore this option by soil sampling the remaining and yet unexplored weak geophysical signatures similar to the ones found to be coincident with anomalous gold values and adding Cu to be tested for.

The estimated costs for this work is at $ 13,500.

## INTRODUCTION

Prospectors Alliance Corp. (95 Wellington Street West, Toronto) acquired the claims where the reported work took place as an option from Falconbridge Exploration. The work performed is a part of a continuing program initiated in 1996 to evaluate several mineral prospects in Whitesides and Carscallen and Bristol Townships, in the Timmins West area. Prospectors Alliance Corporation conducted mapping and stripping on a portion of the grid originally cut for Falconbridge Limited in1994. The field work was completed during the period Aug.29- Oct. 2, 1997, it was followed by diamond drilling, the results of which will be reported separately. Stripping of the overburden was first attempted with a regular back hoe. Since the depth of the overburden prohibited success, a larger excavator was acquired which was sufficient to remove the mainly sand and boulder overburden. Geologists Julius Bigauskas and John Goodwin conducted mapping and sampling. This report details the results and geological interpretation of geological mapping of the grid area from lines 18E to 25E and 1000N to 2000N.

## LOCATION AND ACCESS

The 1997 Whitesides Project map area is located in eastern half of Whitesides Township. The project area is approximately 11 km north of the junction of Highway 101 and the gravel, Dana-Jowsey Provincial Park access road. The junction is located some 9.4 km west of the junction of Highway 101/Highway 144, and about 30 km west of Timmins, Ontario. Timmins, a major gold and base metal mining centre is accessible by road and rail as well as by the regular, scheduled airlines.

The project area is within the 42A/05 NTS quadrat, near longitude 81 degrees 44 min W, and 48 degrees 25 minutes north and approximately centered on UTM 445500 5362500N (Sheet 20 17 4400 53600, Ontario Base Map 1:20,000).

## PROPERTY DESCRIPTION

The area of mapping is part of a larger, contiguous block of claims held by Falconbridge Limited. The Falconbrige option is located in both Whitesides and Carscallen Townships. The total number of claims is 18 (26 units) in Whitesides and 14 claims (48 units), a table of the claims is appended in Schedule A, while a list of the claims covered by the current activity is given below:

| | | | | | |
|---|---|---|---|---|---|
| P | 1115751 | 1 unit | P | 1115757 | 1 unit |
| P | 1115752 | 1 | P | 1115758 | 1 |
| P | 1115753 | 1 | P | 1115765 | 1 |
| P | 1115754 | 1 | | | |

## PREVIOUS WORK

A summary of significant previous work in or around the project area follows:

1927- Discovery of chalcopyrite and nickeliferous pyrrhotite in northwestern Whitesides Township, west of map area
1928- Kamiskotia Minerals Syndicate drills, trenches and terminates projects on sulphide lenses in and near north-south-striking shear zones in gabbro; west of map area; low grades encountered
1955- Re-evaluation of nickel-copper potential at metavolcanic-gabbro contact, Bean Lake area by Broulan Reef Mines Limited and Rowan Consolidated Mines Limited; west of map area; low grades encountered
1960- Mapping and drilling by Hollinger Consolidated Gold Mines Limited in serpentinized peridotite in northeastern Whitesides Twp., north of map area; sampling for copper, nickel, gold Patent 883 (Clouthier Claim east of P1115757); Cu to 100 ppm, Ni to 250 ppm, Au to 0.04 opt near trenches and shaft northeast corner; W.H.H. MNDM File T-181
1961- HEM survey, Pirrson Lake-Camp Six Lake area on pyritic, pyrrhotitic iron formation, Paymaster Consolidated Mines Ltd.; W. Rainboth, MNDM File T-598
1964- Bateman Bay Mining Company. VLF-EM, HEM and magnetometer surveys, and geological mapping northern portions of map area; andesite, rhyolite and gabbroic-pyroxenite dyke host rocks; narrow iron formation observed; quartz-graphite-pyrite-pyrrhotite-chalcopyrite-malachite veins encountered; no assays available from files; Pudifin, 1964; MNDM File T-783

1965- New Kelore Mines Limited. Six-hole drilling program northwest shore area of Camp Six Lake; pyrrhotite, pyrite, chalcopyrite to 75% in rhyolitic, basic and likely intermediate volcanics; no assays; Benner, 1965; MNDM File T-904

1967- Kennco Explorations maps, survey (IP) and trenches occurrences chalcopyrite and nickeliferous pyrrhotite in gabbroic rocks; low grades encountered near Pirrson Lake, west of map area

1968- Claw Lake Molybdenum Mines Limited re-examines copper-nickel potential at a metavolcanic-gabbro contact near Pirrson Lake, west of project area, west of map area

1986- Ivan J. Dea. Stripping, trenching 1115753, 1115752, 1115758; nickel, copper, gold targets; no assays (presently 2" moss-lichen -covered zones, including present 20E1840N Zone); Dea, 1986

1987- Government airborne EM and magnetic surveys, Whitesides Township identifies conductive trend in map area and south of Bean Lake

1988- Government airborne EM survey identifies conductors in map area 1989- Ivan J. Dea. Stripping P 1115764 (southwesterly outcrops) no assays on reported Cu, Au showing; stripping north of Camp Six Lake, Cu-Ni- Au, no assays; stripping 1115757 (southeast, no bedrock indicated); stripping, P1115753 quartz-chalcopyrite zone, no assays; Dea, 1991

1991- Arlene Dea. Magnetic and VLF-EM reconnaisance, prospecting; 1115752, 115758, 1115764, 111575765; limited mineralization in felsic volcanics; Lalonde, 1991 MNDM File T-3072.

1991- Arlene Dea. VLF-EM, Ground magnetometer surveys. Weak VLF anomaly (H) detected (gabbro-volcanic contact area); VLF Anomaly "A" first identified on 1115752; Mackenzie, 1991; MNDM File T-3072

1991- Arlene Dea. Prospecting Report (Claim 1212903). Compilation Map 1:13000; Lalonde, 1991, MNDM File T-3072

1991- Arlene Dea. Stripping, sampling P1115754, P1115751. Assays, whole rock assays; best results from various grabs Cu 48 ppm, Zn 115 ppm, Ag 0.3 ppm; Lalonde, 1992; MNDM File T-3072.

1992- Arlene Dea. Drill hole north of Camp Six (Cathy) Lake; drill hole BW-1/92- meta-andesite-hosted chalcopyrite and iron formation on P1115752 and in map area; maximum 522 ppm Cu, 24 ppb Au, 0.6 ppm Ag over 2.7 feet; quartz-calcite-pyrrhotite veins; up to 30-40% pyrrhotite over 2.7 feet; hole stopped in 10 m of iron formation Lalonde, Mackenzie (1992); MNDM File T-3072

1993- Reconnaissance geology, humus, soil and rock sampling, Noranda Exploration Company Ltd.; best values Ni 165 ppm, Cu 85 ppm, Zn 150 ppm in various rock samples; map of basalt, andesite, dacite, rhyolite sequence with chloritic alteration; Barrie, 1993; MNDM File T-3072.

1994- Mapping, stripping, magnetic, HLEM program, Falconbridge Limited on 110 km grid, Whitesides and Carscallen Twp.; Dea and Barnes Options; Collison, 1994 and 1995, Grant, 1994; MNDM File T-3644 and internal company report Low grade Cu-Zn showing in iron formation (and andesite, mafic volcanics) west shore area of Camp Six Lake (re-)identification of Conductor A with HLEM-indicated depth of 20 to 60 metres, with vertical to southward dip, with elevated magnetic intensity profile highest copper, 0.15%, zinc 0.45% in pyrrhotitic iron formation, Camp Six Lake west shore (stripped) area; low nickel values but up to 0.1% indicated northeast of map area (29+00E 24+54 N)

1995- Whitesides Syndicate. Diamond drilling, P1204587, 1 hole; host rocks northwards are mafic volcanics, dacite, feldspar porphyry, rhyolite (quartz-eye), chert, diabase, granitic dyke; carbonatized, garnetiferous, locally hematized; quartz-carbonate veining; chlorite and tourmaline stringers; locally with 40-50% pyrrhotite + magnetite, minor chalcopyrite and sphalerite; no assays in file; MacKenzie, 1995; MNDM File T-3736. generally on strike with P1115752 in map area, but west of Camp Six Lake

1996- Prospectors Alliance Corp.; mapping and sampling generally north of 20-25N, Weisman Lake to 27E; iron formation sampling from Camp Six Lake to eastern Carscallen Twp. occurrences; soil sampling including current map area

## TOPOGRAPHY, DRAINAGE, OVERBURDEN AND VEGETATION

The project area lies on a broad northwesterly ridge with some locally steep slopes toward the northeast. Elevation ranges from just under 320 m to 351 m in contours, which follow marshy drainage from Carscallen Lake (southeast). Camp Six Lake (Cathy Lake) is located at an elevation of 322 m and within one kilometer of the map area. Other sources of water appear to be intermittent (valley brooks) or dissipating (bedrock fractures at 21E 16N zone) owing to the sandy nature of overburden and the general elevation.

Overburden in the Whitesides Township area is grouped into undifferentiated till (sand to silty sand); glaciolacustrine sand, gravelly sand and gravel; and local, narrow (NS) glaciofluvial outwash deposits of gravel and sand/or ice-contact deposits (Barnett, P.J., Henry, A.P. and Babuin, D., 1991). Outcrop is best exposed near the steeper slopes from 16N to 19N. Some test pits hit bedrock at 18 feet the limit of the excavator used for stripping.

Vegetation consists of jackpine and spruce at the north end of the map area. Southward and up-slope, mixed stands of birch, poplar, balsam become prevalent. An area of spruce, birch, alder and cedar (largely peat-covered) surrounds a grassy bog area toward the south and west.

## REGIONAL GEOLOGY

The Whitesides Project is broadly located within the western portion of the 2.75 - 2.67 billion year old granite-greenstone Abitibi Subprovince and at the southern edge of the Archean-era, Superior craton. A portion of the subprovince known as the Carscallen assemblage (Jackson and Fyon, 1991) underlies the general area of the property. This 2.7 billion year old assemblage is bounded by the NNW-striking Mattagami fault to the east; by tonalite granodiorite to the west; by the Kamiskotia assemblage to the north; and finally, by the Hoyle assemblage and the Porcupine-Destor deformation zone to the south. The assemblage features massive and pillowed basalts (tholeiitic and calc-alkaline affinities); and lesser rhyolite and oxide facies iron formation. Much of the assemblage lies within the Porcupine Destor deformation zone.

The most comprehensive overview of the regional geology of the Timmins area was published in 1982 (D.R. Pyke). The region is stratigraphically divided by Pyke into two broad groups- the Lower and Upper Supergroups. Lower, peridotitic komatiites; magnesium rich tholeiitic basalts; and an overlying, iron-rich tholeiitic sequence distinguish the Upper Supergroup. The Kenogamissi Lake Batholith, to the south of the property area, terminates a thinning Upper Supergroup (synclinorium) sequence. The Lower Supergroup is generally a pyroclastic, felsic\calc-alkaline sequence commonly observed to contain an abundance of iron formation (virtually absent from the Upper Supergroup) near the top of the sequence. In the Kamiskotia area (mainly north of the property), the presence of gabbroic complexes (such as the Kamiskotia gabbro and gabbroic sills generally) in the Lower Supergroup contrasts with the Upper Supergroup where these are not known.

Pyke in the Lower Supergroup has tentatively included the Kamiskotia area. Barrie (1992) divides the Kamiskotia area into the Kamiskotia Gabbroic Complex (KGC), Kamiskotia Volcanic Complex (KVC) and the (southerly) lower volcanic suite (LVS). The KGC occupies 170 square kilometres of northeastern Carscallen, northern Whitesides, eastern and central Massey, northeastern Enid, central Cote, southern Robb, western and northern Turnbull, and western Godfrey Townships. The Lower Zone (LZ) of the KGC is distinguished by the sporadic presence of olivine as a cumulus phase. Thus it includes peridotite, troctolite, olivine gabbro, magnesian gabbro norite, and gabbroic anorthosite.

The KVC occupies 210 square kilometres in Carscallen, Bristol, eastern Turnbull, western Godfrey, southwestern Jamieson, southern Robb and central Cote townships. Two units predominate in the KVC- felsic pyroclastic rocks and massive/pillowed/pillow breccia/hyaloclastite mafic rocks. The LVS is distributed in central Whitesides, southern Carscallen and southern Bristol Townships. This includes mainly (80%) massive and pillowed mafic rocks, but also includes volcanic rocks of intermediate and felsic composition. Barrie notes that metamorphism ranges from lower greenschist to middle amphibolite facies (hornblende-actinolite-plagioclase). Granitoids (C,D) west and south of the project area generally range from trondhjemite-tonalite to granodiorite-granite.

The occurrence of iron formation has been variously characterized. In the Timmins area Pyke reports that the chert portion of the banded iron formation is invariably greater than the magnetite portion- the latter forms 1-2 cm bands on average. Hawley reports hematitic bands from a few inches to 70 feet thick in Ogden Township. In Carscallen Twp. the notable occurrence of iron formation is reported at the Hurst-Beanland claims (Prospectors Alliance Corp. Kerr Island/Wiregold Project). Veined or disseminated pyrite accompanies this occurrence. Locally, drag-folding or brecciation may also be present. Barrie observed the general occurrence of iron formation (up to 25% pyrite and 25% magnetite) in layers up to 20 cm thick from southern Carscallen Township to western Whitesides Township.

In detailed mapping of the Kamiskotia-Whitesides area, the oldest rocks are described by Wolfe (1969) as tightly-folded Archean basalt and andesite (massive and pillowed) flows; mafic and felsic pyroclastics (which include agglomerates); rhyolite and dacite flows; tuffs and welded tuffs. An anticlinal fold in east-central Whitesides Township has been inferred by Wolfe based on Leahy's (1968) felsic metavolcanic strike and dip data. The origin of a peculiarly coarse (basalt) feldspar porphyry (Unit 3, Turnbull Township) is attributed to hybrid reaction between gabbro-norite or granitic intrusions and older metavolcanics, although Wolfe tentatively grouped this rock with the metavolcanics. Gabbroic intrusives include leucocratic metagabbro (epidote-tremolite-calcite-quartz and chlorite-quartz metasomatized in northeast Whitesides Township) as well as (albite-epidote-actinolite-chlorite assemblage-) gabbro, norite and anorthositic norite. As a result of alteration, differentiation of volcanic and gabbroic rocks by magnetic intensity is not easy. Finally, diabase and porphyritic diabase cut older units with a persistent (5-10 mile) N10W-N20W strike.

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Collison (1994) was unable to confirm larger scale folding in the project area, but did confirm folds of a scale of tens of metres to the east and a persistent foliation at 110-120 degrees with a steep southerly dip. Foliation is noted to be sub-parallel to bedding.

A summary of regional lithology is provided in Table 1.

### TABLE 2- REGIONAL LITHOLOGICAL UNITS

(based on D.R. Pyke, 1982)

**PHANEROZOIC**
CENOZOIC
QUATERNARY
PLEISTOCENE AND RECENT
Clay, sand, gravel, till

**PRECAMBRIAN**
LATE PRECAMBRIAN
MAFIC INTRUSIVE ROCKS

12 Olivine diabase

----intrusive contact----

MIDDLE PRECAMBRIAN
MAFIC INTRUSIVE ROCKS

11 Quartz diabase

----intrusive contact----

HURONIAN SUPERGROUP-COBALT GROUP-GOWGANDA FORMATION

10 Unsubdivided Sedimentary Rocks

EARLY PRECAMBRIAN (ARCHEAN)
MAFIC INTRUSIVE ROCKS

9 Diabase

----intrusive contact----

FELSIC INTRUSIVE ROCKS

8 Unsubdivided

----intrusive contact----

METAMORPHOSED MAFIC INTRUSIVE ROCKS

7 Unsubdivided

----intrusive and gradational contact----

### METAMORPHOSED ULTRAMAFIC INTRUSIVE ROCKS

6 Unsubdivided

----intrusive contact----

### METAVOLCANICS AND METASEDIMENTS

### METASEDIMENTS

5 unsubdivided sediments

### CHEMICAL METASEDIMENTS

IF Iron formation, unsubdivided
  CIF- Cherty iron formation (<5% sulphide; <20% magnetite)
  MIF- Magnetite iron formation (<5% sulphide; >= 20% magnetite)
  SIF- Sulphide iron formation (<20% magnetite; >= 5% sulphide)

### FELSIC METAVOLCANICS (CALC-ALKALIC)

4 Unsubdivided
  4a Massive flows
  4b Tuff, lapilli tuff
  4c Porphyritic
  4d Breccia

### INTERMEDIATE METAVOLCANICS (CALC-ALKALIC)

3 Unsubdivided
  3a Massive flows
  3b Pillowed flows
  3c Amygdaloidal flows
  3d Tuff, lapilli tuff
  3e Breccia
  3f Porphyritic
  3g Agglomerate

### MAFIC METAVOLCANICS (THOLEIITIC)

2 Unsubdivided
  2a Massive flows
  2b Pillowed flows
  2c Amygdaloidal flows
  2d Variolitic flows

2e Tuff, lapilli tuff
2f Breccia
2g Agglomerate
2k Pillow breccia
2p Porphyritic

ULTRAMAFIC METAVOLCANICS (KOMATIITIC)

1 Unsubdivided

## ECONOMIC GEOLOGY

According to Pyke (1982), Timmins area mineralization can be correlated with broader regional structure. Copper-zinc mineralization (Kidd Creek, and Kamiskotia deposits) can be correlated with felsic calc-alkalic volcanic rocks at, or within a few hundred metres of the top of the Lower Supergroup. Notably, southerly iron formation is correlated with Cu-Zn deposits across the Destor-Porcupine Fault. Nickel deposits are found at the base of the Upper Supergroup and in peridotitic komatiites. Asbestos deposits are associated with dunitic intrusions within the Lower Supergroup while magnesite and talc-magnesite deposits are confined to carbonatized dunitic intrusions.

Gold deposits in the Timmins area are related to carbonatized parts of the komatiitic suite which form the lowermost group or formation (?) of the Upper Supergroup or at least near the contact of the two Supergroups. Additionally, auriferous deposits are within 6 km and are north of the Destor-Porcupine Fault zone. The presence of quartz-feldspar porphyry is believed to be a positive indicator on a local scale, as are carbonatized, sericitized and chloritized rocks. Fyon (1990) characterizes a number of features of the Porcupine gold camp which may localize gold concentrations. As for Pyke, the presence of a long, crudely linear break- the Destor Porcupine fault is one criterion. Splays off this structure are believed to be of more interest than the main break itself. Fyon also notes the significance of felsic intrusions in relation to deposits. A complex or progressive vein and alteration pattern is seen as favourable. Zones of anisotropy and structural weakness are seen as broadly positive. Banded iron formation is considered by Macdonald (1984) to exert strong structural and chemical controls upon gold mineralization. In particular, controls related to brittle deformation, carbonatization, silicification and sulphidation are highlighted.

In the Kamiskotia area, moderate potential for mesothermal gold deposits is believed to exist (Barrie, 1992) in relation to splays of the Destor- Porcupine Fault Zone. Barrie also considers the potential of volcanogenic Cu-Zn deposits in this area to be higher. Four significant deposits are known (Kam-Kotia, Jameland, Canadian Jamieson, Genex).

A summary review of Fyon, Binney, Brisbin and Green (1990) and Franklin (1996) indicates a checklist of concordant/semi-concordant Cu-Zn-Pb massive sulphide deposit characteristics:

o

a) bi-modal (felsic-mafic) volcanism;

b) general (camp-scale) presence of rhyolite (not necessarily as host rock including high-silica and silicified rhyolite, felsic pyroclastics); or the presence of sedimentary rocks;

c) central zone

-sodium and calcium-depletion/magnesium enrichment;
-chloritization (iron to magnesium-rich chlorite outwards;
-chloritoid, talc alteration)/sericitization;
-epidote, actinolite assemblages (sub-amphibolite and higher grades);
-aluminous mineral assemblages;
-carbonatization (ferroan carbonate);

d) local (lower zone) silicification;

e) potassic enrichment envelopes;

f) presence of (trondhjemitic-mafic-ultramafic) subvolcanic intrusions;

g) impermeable caps- eg. capping graphitic shale, ash flows; hanging wall iron formation;

h) laterally extensive, semi-conformable zones of quartz-epidote-actinolite tremolite-albite-carbonate- possibly related to synvolcanic faults.

Wolfe (1970) interpreted the bedrock distribution of copper (nickel, cobalt and sulphur) to be strongly associated with mafic and (or) ultramafic intrusions. Magmatic Ni-Cu occurrences in northwest Carscallen and west Whitesides Township are have poor (sub-percent) grades of nickel and copper despite some highly sulphidic mineralization. Most notable are the occurrences near gabbro-metavolcanic contacts (Bean Lake and Pirsson Lake, central Whitesides Twp.) and in serpentinized peridotite (northeast Whitesides Township).

World-class deposits of Ni-Cu sulphides (and associated Co, Pt mineralization)- which include the (Mid-Proterozoic) Voisey's Bay discovery zone - are diverse in style and setting. Most are related to layered (or differentiated) intrusive sequences with ultramafic to mafic composition. Olivine-bearing cumulates appear to be of particular significance at Voisey's Bay. Some deposits are situated in or near major structural sutures, for example, at geological province boundaries. Smaller-scale transgressive structures (eg. dykes, offsets, and faults) are associated with mineralization. More silicic rocks (eg. gneisses, granitoids, and sediments) may be found at the margins of some mineralized intrusives, as inclusions, or as phase separations. Ordinarily, principal cumulate phases lack hydrous or accessory carbonate mineralogy- although some exceptions exist in portions of some mineralized intrusions.

Most recent activities in the broader vicinity of Whitesides Township are centered around Band-Ore Resources (1996) discovery zone. The Golden River Zone in Thornloe Township has been extensively drilled (over 300 holes) with mineralization which ranges from 1-53 g/t in short intersections over a drill indicated strike length of 5.2 km. Further work by Holmer Gold Mines on extensions of the original (1911) McAuley-Brydge showing in adjacent Bristol Township has recently (Northern Miner September 29, 1997, p 12) cut 19.5 m of 6.2 g/t gold in ultramafic rocks below sericitized (footwall zone) volcanics. Freewest Resources recently tested IP targets east of the Holmer Gold Mine property with a five hole, 1000 m drill program (Northern Miner, Sept. 15, 1997, p.20). Pelangio Larder Mines also pursued a similar program in Bristol Township.

East of Timmins, Cross Lake Minerals is currently drilling a mineralized, 600 m (IP) anomaly. The zone is hosted by cherty rhyolite that overlies sericitic and chloritic schist containing cherty bands as well as disseminated sphalerite, chalcopyrite, and locally, galena. Most recently, hole 17 cut 12.5 m of 1.77% copper, 0.41% zinc and 18.15 g/t silver
(Northern Miner Nov.3, 1997, p.3; Oct. 27, 1997, p.1)

## DESCRIPTION OF THE WORK PERFORMED BY PAL CORP.

Prospectors Alliance commenced its exploration program in the summer of 1997. The vendor of these claims Falconbridge Exploration conducted both geological mapping and geophysical surveys, such as magnetics and a horizontal loop EM survey. Prospectors commenced the program by a geochemical assessment of several iron formations as the option agreement specified. Later conducted a reconnaissance geochemical survey sampling soils for gold over suspected shear zones. Both events were completed the results were submitted for assessment credits.

The geochemical anomalies received special attention starting by a fill in geochemical survey and an Induced Potential survey, detailed geological mapping, stripping and trenching as well as sectional diamond drilling. The present report deals with the mapping, stripping, trenching and sampling. A total of an approximate of 8 km of lines covering the area of geophysical and soil anomalies were mapped covering the anomalous areas and six anomalous locations were stripped and examined. The stripped areas were sampled as well.

Further work was based on the following criteria anomalous gold or base metal values, or areas with favourable geology.

## PROPERTY GEOLOGY

A summary of lithologies significant to the map area is presented in Table 3.

Most generally the map area is underlain by mafic flow and agglomerate units which are succeeded by rhyolite/cherty iron formation, intermediate flows/ agglomerate and dacite flows. A gabbroic intrusive at the northern edge of the map area also appears to underlie this stratigraphy.

## TABLE 3
## LOCAL LITHOLOGY
modified from D.R. Pyke, 1982)

PHANEROZOIC
  CENOZOIC
    QUATERNARY
      PLEISTOCENE AND RECENT
        -undifferentiated till (sand to silty sand)
        -glaciolacustrine sand, gravelly sand and gravel
        -local, narrow (NS) glaciofluvial outwash deposits of gravel and sand/or ice-contact deposits

PRECAMBRIAN
  LATE PRECAMBRIAN
      MAFIC INTRUSIVE ROCKS

12 Olivine diabase

----intrusive contact----

  MIDDLE PRECAMBRIAN
      MAFIC INTRUSIVE ROCKS

11 Quartz diabase

----intrusive contact----

      HURONIAN SUPERGROUP-COBALT GROUP-GOWGANDA FORMATION

10 Unsubdivided Sedimentary Rocks

  EARLY PRECAMBRIAN (ARCHEAN)
      MAFIC INTRUSIVE ROCKS

9 Diabase

----intrusive contact----

      FELSIC INTRUSIVE ROCKS

8 Unsubdivided

----intrusive contact----

      METAMORPHOSED MAFIC INTRUSIVE ROCKS

7 Unsubdivided

7a Gabbro

----intrusive and gradational contact----

METAMORPHOSED ULTRAMAFIC INTRUSIVE ROCKS

6 Unsubdivided

----intrusive contact----

METAVOLCANICS AND METASEDIMENTS
METASEDIMENTS

5 Unsubdivided sediments

CHEMICAL METASEDIMENTS

IF Iron formation, unsubdivided
  CIF- Cherty iron formation (<5% sulphide; <20% magnetite)

FELSIC METAVOLCANICS (CALC-ALKALIC)

4 Unsubdivided- Dacite, Rhyolite
  4a Massive flows
  4c Porphyritic
  4d Breccia

INTERMEDIATE METAVOLCANICS (CALC-ALKALIC TO THOLEIITIC)

3 Unsubdivided- Andesite, Basaltic Andesite
  3a Massive flows
  3b Pillowed flows
  3d Tuff, lapilli tuff
  3f Porphyritic
  3g Agglomerate

MAFIC METAVOLCANICS (THOLEIITIC)

2 Unsubdivided- Basalt
  2a Massive flows
  2b Pillowed flows
  2c Amygdaloidal flows
  2g Agglomerate
  2p Porphyritic

ULTRAMAFIC METAVOLCANICS (KOMATIITIC)

1 Unsubdivided

## Mafic Agglomerate and Pillowed Flow Units

The lowest stratigraphic unit exposed is a dark, grey- green mafic agglomerate. A single exposure of this unit featured cherty and pyritic (1-2%) bomb margins. Above the mafic agglomerate lies a poorly exposed but fortunately, relatively thick mafic pillowed flow. Amygdular structure and porphyritic textures may also be observed, but not consistently so. Where well exposed, pillows of 0.5 m and larger are notable, and where not well-exposed, larger curved cleavages provide an indication of these structures. These are characteristically larger than the smaller bomb structures in the agglomerate unit.

A greenish-grey, salt-and-pepper-textured (owing to increased feldspar) andesitic pillowed flow unit lies above the mafic units. Although poorly exposed, the same unit can be traced from 18E to 24E. Curved pillow structures are evident from exposures, but mineralized structures are generally not. This unit was exposed by trenching at 22E just north of the 15N tie line. The exposure is relatively featureless. Apparent resistivity of this unit tends to be elevated while associated chargeability is only slightly elevated (if at all anomalous). A single soil geochemistry anomaly of 150 ppb gold is indicated on 22E, but this is south of a significant lithological contact. Nevertheless, a first (moving northward and stratigraphically upward) indication of alteration- amphibolitization- is present in this unit. Some pyritic mineralization (1%) was observed near 18E and 15N. According to Collison's (1994) whole rock analyses, this unit has significantly higher silica (57%-64%) content (and wider range) than the lower, mafic units (48-49%). This unit was not broken out by Collison (1994).

## Massive Rhyolite and Cherty Iron Formation

A change to massive rhyolite with thin, cherty iron formation horizons, marks the beginning of several anomalous geophysical features associated with the map area. Most pervasive is the chloritic alteration of rhyolite. Unaltered rhyolite (pinkish-brownish-black) is predominantly replaced by successively more chloritized features- chloritic veinlets; moderately chloritized matrix; strongly chloritized fracture surfaces; and pervasively chloritized rock. The chloritized unit is typically dark grey-brown (-greenish), fine-grained and very hard to scratchable (by hammer, knife) depending on the degree of alteration. Whole rock assays from previous work (Lalonde, 1992) show this unit with silica content of 60-77%. Where the unit is massive sulphide mineralization is not significant. With the development of chlorite, the presence of shear foliation is not surprising, nor is its nearly conformable strike within this unit. On the other hand, the dip tends to cut lithology with a moderate (73-75 degree) southerly slope.

Shearing in the rhyolite unit is the most persistent for map area units. In part this may also be related to the presence of thin cherty iron formation bands within the rhyolite. Sheared, cherty lenses may be present where an obvious cherty layer is not, but recognizeable chert horizons of 0.5 m or less thickness were exposed in trenching from 21E to 23E. Where less deformed, the cherty iron formation is sugary white-grey with 2 mm to 6 cm. magnetite banding which can be confirmed as magnetic at the hand sample-scale. Small amounts of pyrrhotite or pyrite appear to be a replacement of some of this banding given a close association of these. Most notable were the association of shearing; quartz-chlorite-graphite-calcite; pyrrhotite, pyrite and some chalcopyrite in the vicinity of these horizons.

A close association of the above mentioned features with elevated magnetic intensity, with (most consistently) increased IP chargeability, and with horizontal loop EM anomalies (as per Grant, 1994 survey) is significant. Drilling of this WNW-trending rhyolite/cherty by Dea in 1992 appears to have cut this (flattening?) unit at depth. Small-scale folding of the rhyolite-chert unit was observed at 22E 15+75N, but evidence for the larger-scale fold depicted by Wolfe (1969) is equivocal as Collison (1994) has found.

### Intermediate, Massive Flow

Overlying the rhyolite and cherty iron formation combination is a salt-and-pepper textured (higher feldspar content; locally distinctly porphyritic) greyish-green andesite flow. While secondary structures are not apparent from the limited exposures of this unit, Mackenzie (1992) indicates the presence of calcite stringers throughout a drill section along with local distributions of chalcopyrite and sphalerite. Silica content (Collison, 1994) is generally in the 57-60% range, although less siliceous compositions are indicated at lower and upper horizons. Some geophysical anomalies are present in the location of this unit, but these appear to reflect more than one tendency. Perhaps this would include attenuation by the underlying rhyolite discussed above.

### Intermediate Lapilli Tuff

A traceable, although not entirely continuous, intermediate lapilli tuff unit lies above the massive, intermediate flow. From its distinctive pinkish lapilli (some larger or bomb clasts may be present), relatively consistent indications of strike (WNW) can be obtained. The matrix is greenish and chloritic. Pyrite associated with one quartz veinlet was observed, but otherwise mineralization is not distinctive. Geophysically, this unit does not appear to be distinctive either. Silica content (Collison, 1994 data) appears to be elevated (52%, 53%) in relation to the lowest units, although it is not known if samples were representative.

### Intermediate Agglomerate

A swelling and pinching, but still WNW-distribution of intermediate agglomerate accompanies the discontinuous lapilli unit. This may be result of an airfall accumulation of bomb and lapilli units and erosion of volcanic paleo-topography. The agglomerate is (darker) grey-green, usually fine-grained (fine feldspar can be locally observed), chloritic and with bombs generally 0.3 m on the long axis. Some may range up to 0.6 m long. Bomb margins are not always distinct but may locally be infilled with chert, pyrite (eg.1%) or chlorite. Where deformation increases, this unit may display a blocky structure in the vicinity of foliated rock. Silica appears to be quite variable in this unit (43%-55%), a feature which may be expected for a pyroclastic.

Several soil anomalies appear to be associated with the trend of this unit. More specifically these anomalies can be correlated with localized shearing or quartz veining in bedrock. Higher IP (-2) chargeability also appears to accompany the unit. Apparent resisitivity can be variably anomalous (greater or lesser values). Exposed quartz veins (21E17N Trench, slightly pyritic; and 23E1560N pit, limonitic) do not show any clear geophysical signature, but an elevated soil anomaly (gold, 265 ppb) can be found in the vicinity of the easterly vein.

### Intermediate (Andesite) Porphyry (3f)

Two (or possibly more) beds of intermediate (andesite) porphyry overlie the intermediate pyroclastic units- one lower thin unit and an upper, northerly, thick unit. These units have very distinctive white, cream or locally pinkish (albite) feldspar phenocrysts up to 1.1 cm in size in a darker (greenish-grey) chloritic or actinolitic matrix. Slightly pyritic, quartz veinlets may be found in this unit. Usually the unit is massive in structure and unmineralized. This appears to be consistent with relatively subdued geophysical responses of this unit.

The lower, intermediate porphyry unit appears to be traceable across the map area, despite narrow exposure across strike. This unit may have been identified by other workers as a gabbro or as a distinctive basalt porphyry (with intermediate designation). Its generally conformable distribution and slightly more siliceous content (55-57% Collison, 1994 data) appear to support its classification as an intermediate volcanic. A repetitive stratigraphic occurrence from an incidental exposure at the 23E1520 Trench to the interpreted, thickest northerly horizon may also support an extrusive rather than a hybrid or intrusive unit. On the other hand, smaller occurrences of porphyry appear to cut prevailing stratigraphy. These may be feeders with accompanying intrusive characteristics.

### Dacite Porphyry

Two horizons of dacite porphyry complete the volcanic sequence in the map area. Both feature fine, white to pinkish potassic phenocrysts set in an altered (sausseritized feldpar, chloritized amphibole, light-coloured), grey-green or brownish-grey matrix. Where not strongly altered, the unit may have a lighter salt-and-pepper appearance. The unit may be locally rhyolitic, as sericitic or very siliceous portions indicate. A dacitic breccia (rhyolite pyroclast, 0.4 m with lapilli tuff) was observed at 25E near 17+60N. This outcrop has high silica content (61%, Collison, 1994 data). Other occurrences are apparently among the most siliceous (61-64%) of the units- although they are not definitively rhyolitic. Chloritization is locally indicated by chloritic veinlets or a fully chloritized matrix. This is especially true in the mixed contact zone with the gabbro intrusive. Elsewhere, light shearing, sausseritization, pyritization and quartz veining show some evidence of the influence of a gabbroic intrusive to the north.

Geophysical attenuation in the form of elevated IP chargeability, increased apparent resistivity appears to be associated with this unit.

### Gabbro

A medium-grained, feldspathic (locally pinkish, potassic) gabbro intrusive with chloritized (veinlets, amphiboles) dacite xenoliths is present in the vicinity of 21N and 21E. Most notable are the associations of quartz in veinlets and segregations, the (potassic) xenoliths; and the small but definitive occurrences of chalcopyrite.

### Diabase

A northwesterly-trending diabase dyke is exposed in the southwest portion of the map area. A small exposure of diabase was also located in the vicinity of 23E and 14N- a feature which correlates with previously known, elevated magnetic data (Grant 1994 data).

### Structures and Alteration

Deformation within the rhyolite/cherty iron formation horizon and shearing associated with a larger (0.4m) quartz vein at the 21E17N Trench are the most significant structural features. Foliation has a southward, cross-cutting dip. Some contacts may be also being susceptible to quartz veining and slight shearing. Most contacts show good adhesion. Chloritic alteration is most intense in the rhyolite/cherty iron formation trend, but felsic rock elsewhere shows some susceptibility to alteration. In dacite porphyry units, indistinct plagioclase accompanies the presence of chloritic alteration and veining. Calcite veinlets are a feature of andesite in the only known drill hole.

Quartz veins may contain chlorite-calcite-graphite as for the well chloritized zone at 21E16N, but most veins are white to slightly smoky/ vitreous with few, if any, inclusions. Sericitic margins and potassic feldspar crystals are rare which suggests a subdued influence from any granitoid intrusives in the area. Fuchsite was not observed. Chloritized veinlets and related amphibolitization appear to suggest the predominant alteration influence to be the gabbroic intrusive to the north. Indeed the (mirror-image) presence of quartz segregations and chloritic-veined dacite xenoliths in feldspathized (potassic) gabbro strongly suggests the source for vein silica-chlorite (and any potassic mineral content) to be the gabbro/potassic, siliceous country rock reaction.

## DETAIL GEOLOGY OF THE TRENCHED AREAS

Stripping by Prospectors Alliance exposed a number of mineralized structures (Figure 5). Other zones that lack significant alteration or structure are also briefly described below. Key workings are described from southerly trends to northerly trends and from east to west. These are the Chloritized Rhyolite/CIF Trend, the Agglomerate Trend and the Andesite/Dacite Contact Trend.

### A) Chloritized Rhyolite/Cherty Iron Formation Trend

*21E16N Trench*

The major features of this key zone are the chloritization of rhyolite; the presence of two cherty iron formation horizons (0.6m and 0.3m); strong shearing over 1.7 m; a 0.6 m quartz-chlorite-calcite-graphite vein and associated pyrite, pyrrhotite, chalcopyrite.

Rhyolite is dark brownish-grey with greenish or buff portions. The fine-grain and hardness of this rock is most evident during sampling. For the most part this rock is massive, with no obvious sulphides, but strong shearing over 1.7 m and a 0.6 m vein adjacent to the larger cherty iron formation layer is present. The cherty iron formation layers are sheared themselves. Some magnetite remains (2 mm, 6 cm bands maximal). Some sulphide replacement is evident in relation to shearing. Gold values are uniformly low in all samples (11 ppb or less). Chalcopyrite is locally visible in massive rock, but is more commonly associated with partings, shearing, veining or silica replacement. The highest value of 647 ppm (0.06%) was extracted from the lower cherty iron formation between the quartz-chlorite-calcite-graphite vein and 1.7 m of strongly sheared, chloritized rhyolite.

Increased IP chargeability (IP-1), lower apparent resistivity and previously known HLEM anomaly are associated with this occurrence (and its probable downward, northward dip extension).

### *22E1580N Zone*

Small-scale folding is present at this stripped (and previously stripped) zone. Exposed were a chloritic, massive andesite; a siliceous rhyolite and small exposures of cherty/rusty iron formation. Elevated IP chargeability and reduced apparent resistivity is associated with this zone (IP-1). On the other, hand previous magnetic data (Grant 1994) suggest that cherty iron formation may not be fully sulphidized, a feature also observed at limited surface exposures.

### *23E1520 Trench*

The upper unit at this zone features an andesite flow contact. This andesite is part of a massive flow unit but more distinctly porphyritic than generally observed. The overlying unit is in contact with an underlying chloritized rhyolite. This unit weathers brownish-greenish, is variably hard and siliceous or softer, depending on the degree of alteration. At the north end, chloritic veinlets in irregular patterns are present. Toward the south, cherty lenses suggest the presence of a sheared, limonitic, cherty iron formation. Only small amounts of pyrite were observed in this exposure. This is consistent with the combination of higher magnetic intensity (from Grant, 1994 data) and subdued IP response. Higher chargeability (IP-1)/reduced apparent resistivity north of the zone may reflect down- dip characteristics of the unit.

## **B) Agglomerate Trend**

### *21E17N Trench*

A 0.4-1.3 m terminated, quartz vein is featured in this trench. The wall rock is blocky to strongly sheared, altered, limonitic and is therefore difficult to characterize. The unit is within the area of lower horizon, intermediate agglomerate. Large, coarse grains (to 3 cm) and aggregates of pyrite are locally distributed in the quartz vein. The vein itself is variably white to smoky/vitreous. It is generally free of visible inclusions, but limonitic partings are observed. Where chlorite is found (near the east termination), it is associated with vugs. Given these features, a possible vertical shoot extension is interpreted to underlie the bulbuous termination. Chalcopyrite was not observed in this vein. Gold values are uniformly low (14 ppb or less). This occurrence has no distinctive geophysical anomaly associated with it.

### *22E1770N Zone*

The lower unit exposed by stripping is a greenish-grey, intermediate agglomerate with elliptical bombs to 0.3m long. Weakly porphyritic textures, felsic bombs, and larger-scale pillow structures were observed. These features are not typical elsewhere. Andesite porphyry with its distinctive white albite phenocrysts (to 1 cm) is chilled against an irregular agglomerate (bomb) contact. No significant mineralization or structures was observed at this locale.

*23E1720N Stripped Zone*

The stratigraphically highest unit at this sloping, stripped zone is a chloritized (massively and with chloritic veinlets) dacite flow with fine feldspar phenocrysts. Topographically higher, but stratigraphically lower is a narrow exposure of andesite porphyry. Albite phenocrysts of 0.8 cm. maximum size are visible in a chloritic matrix. Southward and up-slope is a mixed zone of andesite agglomerate (porphyritic bombs), rhyolitic bands, and intermediate lapilli tuff. This mixed zone assumes a dominantly agglomeratic structure uphill. Andesitic agglomerate features chloritic margins on bombs (eg. 0.6m long x 0.1 m wide). Signficant mineralization nor deformation was not observed.

### C) Andesite\Dacite Contact Trend

*20E1840N ZONE*

Quartz veins associated with lighter chloritization, amphibolitization and shearing at or near lithological contacts are featured at this zone. Stripping of mossy cover (grown since Dea 1986, 1989 exposure) was done by hand. Andesite porphyry has cream-coloured albite phenocrysts to 1.1 cm and chloritized hornblende in a greenish-grey, chloritic matrix. Chloritic veinlets and actinolite porphyroblasts were both observed in this unit. Dacite porphyry is a lighter coloured greenish-grey rock, with locally sericitic, yellowish (rhyolitic) portions. Distinguishing, small, white to pinkish potassic feldspar phenocrysts are present. The unit generally features chloritic seams, although more intense chloritization is locally present.

Mineralization is mainly confined to quartz-pyrite-chalcopyrite-malachite veins. Gold values up to 29 ppb and copper values up to 3333 ppm (0.3%) were obtained in grab samples. More representative channel samples showed values to 17 ppb gold and 755 ppm (0.08%) copper.

## MINERALIZATION SUMMARY

The distribution and character of mineralization in the map area can be broadly qualified in terms of local trends and associations. Thus, pyritic or pyrrhotite mineralization is most commonly associated with quartz veins or shear structures. Yet quartz veins or shear structures do not necessarily contain sulphides. This is evident down to the scale of channel sampling. The Agglomerate Trend is notable for limited shearing and quartz veining especially in a lower (less siliceous?) horizon. The Andesite\Dacite Contact Trend shows some permeability and mineralization in the vicinity of lithological contacts. Of the three trends, the Rhyolite\CIF Trend shows the most definitive associations of structure, alteration and geophysical anomalies.

Distribution of sulphide as massive concentrations is present but not typical. Grab sample 682852 featured 20% pyrrhotite and 2% chalcopyrite. Drill-indicated pyrrhotite up to 30-40%

over a short (<1m )interval is indicative of sulphide development at depth. Vein- or shear-related development of coarse pyrite, pyrrhotite, malachite, limonitic partings (in combination) is more characteristic for the map area and vicinity. The presence of graphite is not widespread, but does occur in quartz vein. This is also where a significant HLEM conductor and known sulphidic, cherty iron formation occurs.

Concentration of gold is uniformly low (29 ppb or less) in all samples. On the other hand, slightly elevated values of copper (to 0.3%) are narrowly indicated in grab samples. Lesser values were obtained in more representative channel samples (to 0.08% Cu over 0.5 m in quartz vein). These values are roughly consistent with the low values obtained at depth in previous drilling (0.05% Cu and 24 ppm Au over 2.7 feet). The gabbroic sample shows low but indicative tenor (Cu 0.01%, Au <5 ppb). Sub-percentage values of copper (and nickel) have been previously identified near gabbro-metavolcanic contact zones in Whitesides Township.

Other more general trends related to mineral potential are outlined below.

## INTERPRETATION

The geology of the map area appears to be consistent with Pyke's Lower Supergroup (\Deloro Group)- notably for the occurrence of felsic and intermediate (calc-alkaline) units which include pyroclastic units. Other key indications are the presence of iron formation and gabbroic intrusions. Jackson and Fyon (1991) have classified volcanic rocks as part of the Carscallen assemblage (which also includes tholeiitic and calc-alkalic, massive and pillowed basalts). The presence of rhyolite and lesser iron formation are again indicative as is a general proximity to the Porcupine Destor deformation zone. Barrie's (1992) localized sorting of the map area units to the Lower volcanic suite (in proximity to the Kamiskotia Gabbroic Complex) should be indicative of a largely massive and pillowed mafic sequence as should be volcanic rocks of intermediate and felsic composition. Finally, Wolfe (1969, 1970) describes a full range of mafic to felsic volcanics and intrusives without ascribing any regional associations.

Various classifications of these lithologies have also included correlations, tentative, summary or otherwise, with broader mineralization potential. Thus, for Pyke copper-zinc mineralization can be expected within a few hundred metres of the top of the Lower Supergroup, while nickel deposits can be expected at the base of the Upper Supergroup. Barrie (1992) considers the potential for volcanogenic Cu-Zn deposits to be higher; for mesothermal gold deposits, moderate; and for magmatic Ni-Cu deposits, low. Jackson and Fyon (1991, p 410) summarily discount potential for volcanogenic massive sulphide deposits, komatiitic Ni-Cu-PGM deposits and gold in the Carscallen Assemblage.

Proximity of area lithologies to the Destor-Porcupine Fault Zone is most specifically indicated by Barrie (splay of DPFZ through Lower volcanic suite in southern Carscallen and Whitesides townships), and more generally by Jackson and Fyon for the Carscallen Assemblage (bounded to the south and much of it included in the DPFZ). Thus the map area is arguably north of, and within the 6 km limit suggested by Pyke.

a) Gold potential

Work conducted over the detailed map or the sampling of the stripped locations have resulted in anomalous gold values being confirmed, previously unknown mineralized quartz veins were located as well. The samples taken from these veins were also anomalous in gold but neither has provided us with a satisfactory explanation for the repeated occurences of highly anomalous gold samples obtained from soil samples.

The continued search for the source of this gold is still a major concern.

b) Concordant/semi-concordant Cu-Zn-Pb massive sulphide potential

Bimodal (felsic-mafic) volcanism is indicated, as is the general presence of rhyolite and iron formation. Chloritization within rhyolite is compelling especially with respect to the persistent presence of anomalous copper values. A gabbroic intrusive was identified in the map area. This has likely led to the observed and generally positive chloritization and amphibolitization of the volcanics. Sausseritization of feldspars may be positive if such indicates sodium and calcium depletion. A potentially impermeable, iron formation is present at surface and at depth. Unfortunately past drilling did not cut the footwall of this unit. Potentially impermeable, graphitic material is insignificant at surface.

Other expected, key features were missing or not well-represented. Carbonatization is very limited. Silicification is not significant (quartz veins), nor are potassic enrichments from field evidence. Lateral extension is indicated by geophysical anomalies (IP chargeability, magnetic intensity and HLEM), but a major synvolcanic fault is not evident (only 1.7 m of 60% strong shearing over 21E16N Zone). Potential for massive sulphide appears to be somewhat constrained by these latter criteria, at least to a depth tested by previous geophysical surveys and past diamond drilling (100 m vertical).

c) Magmatic Ni-Cu and related potential.

Wolfe (1970) has interpreted the distribution of copper and nickel to be strongly associated with mafic (or ultramafic intrusions). A mafic intrusion has been identified in the map area. Magnesian intrusives have been identified in northeastern and western Whitesides Township. The presence of chloritized and (generally) silicic rocks (rhyolite and cherty iron formation) is notable with respect to visible chalcopyrite. At the same time, it is important to highlight that quartz-rich segregations, potassic alteration and visible chalcopyrite were associated in gabbro. Barrie has interpreted the presence of (generally silicic) cherty iron formation and (siliceous) volcanics to be significant at the contact with the magnesian Lower Zone of the Kamiskotia intrusive- where (low) concentrations of nickel and copper are known to occur.

Evidence for development of dyke-like, planar-, fault-controlled and magnesian intrusive distribution is present in the vicinity of the map area. At the northeastern corner of Whitesides Township, an outcrop of altered peridotite with schistose (N-S, Wolfe 1969) margins was observed by Barrie (but interpreted by Barrie to be conformable). In western Whitesides Township, the peculiar glomeroporphyritic "horizon" ("tennis ball marker horizon" with plagioclase aggregation) at the Lower volcanic suite/Lower (magnesian, gabbro-norite cumulate) Zone has been highlighted by Barrie. Again, both features can be correlated with concentrations of nickel and copper- albeit low concentrations.

Given the key features outlined; given the location of the map area at the volcanic-gabbroic intrusive contact; and given known mineralization patterns for Whitesides Township- copper mineralization appears to be most consistently (if indirectly) related, to magmatic Ni-Cu processes. Drilling in Whitesides Township has intersected pyrrhotite-rich horizons with low nickel and gold concentrations in mixed volcanic/intrusive zones- a strong probability for the area of the present program even if a mineralized contact\magmatic zone could be intersected at depth.

d) Hydrothermal (Opemisca vein type) copper mineralization, criteria for such type of a deposit are present in the Whitesides/Carscallen Township area, a large volume of basic intrusive capable to in situ differentiation and brittle volcanics to act as host rocks. The high frequency and distribution of anomalous copper values indicate the presence of the metal in significant volume. The potential for such an occurrence increases as depth, since all present and past exploration efforts tested only to a shallow depth.

d) General Mineralization Potential and Geophysical Results

Mapping, stripping, previous drilling in the map area has already been interpreted to limit significant mineralization potential below 100m depth in the more prospective rhyolite/cherty iron formation trend. On the other hand, conductors have been interpreted by Grant (1994) to have shallow (15m) depths from 24E to 25E; a 18-61 m depth from 20E to 23E; and a deeper extension (57 m) at 19E. Chargeability and resistivity profiles (IP-1) present pole-dipole factors of n=1 to n=3 over the 20E-23E interval (a=25 m). In relation to other conductors in Whitesides Township, some parameters are generally lower than the established mineralized (low Ni-Cu) trend south of Bean Lake (BLT). Airborne EM anomalies (B,D on 450S and 460N flight lines) show the conductors to be

a) among those with the longest decay intervals (but generally less than BLT);
b) with apparent conductance at the lower end of the range of the Bean Lake trend;
c) and with Ch. 3 amplitudes below BLT (OGS 1991).

## CONCLUSIONS

Concentration of gold is uniformly low (21 ppb or less) in all samples obtained in the stripping/sampling program while much higher values were obtained from soil samples taken. Anomalous values of copper (to 0.3%) were found in grab samples in several locations. Channel samples in the same locations with lesser values indicated anomalous conditions over 0.5m. These results are generally consistent with the low values obtained at depth in previous drilling (0.05% Cu and 24 ppm Au over 2.7 feet) in the most prospective Rhyolite\Cherty Iron Formation Trend and are consistent with the experience of previous operators.

Published geoscientific reports are equivocal on potential for the area of the surveyed claims. Most work commitments have focused on Ni-Cu potential associated with the mafic intrusive-metavolcanic contact zone- a small portion of which has now been characterized by the current program. None of the previous operators aimed at locating vein type deposits extending to depth since all the early work focused on gold alone and the later explorers were basically looking for VMS deposits.

Some features associated with concordant/semi-concordant Cu-Zn-Pb massive sulphide deposits were observed at surface or are indicated to 100 m (vertical) depth by past drilling.

It is important to note as well that past drilling did not test the footwall below a potential iron formation "cap"- a feature which should be tested if the experience of Cross Lake Minerals in the Timmins East area is at all significant for copper and zinc. For nickel and copper, on the other hand, drilling in mixed volcanic/intrusive zones in Whitesides Township (Bean Lake) has only intersected low nickel and low copper concentrations (even in massive pyrrhotite horizons).

## RECOMMENDATIONS

Since a sectional diamond drilling program consisting of three drill holes was completed before this report was compiled recommendations given below will be restricted to a follow up on the gold potential only.

The 1997 fall program was successful in providing a clearer picture regarding the lithology of the map area but failed to locate the source for the widespread and significant gold enrichment located by geochemical sampling. Since these areas of gold enrichment are linear features and correlate with some weak geophysical responses on the Falconbridge HLEM survey completed in 1994, it is recommended to do soil sampling over similar linear (3 or 4) HLEM responses which were not sampled yet. Sampling along these weak geophysical responses may provide us with a qualitative, or even quantitative pattern to continue searching for the source. It is recommended that the analytical work be extended to include Cu as well, to complement the efforts for base metal exploration. The topic of exploring for vein type copper deposits will be delt with in greater detail in the forthcoming report on the results of diamond drilling.

## COST ESTIMATE

| | | |
|---|---|---|
| Sampling | $ | 4,000.00 |
| Analytical work | | 5,000.00 |
| Maps & Report | | 2,500.00 |
| Contingencies 15% | | 1,725.00 |
| Total | **$** | **13,225.00** |

Respectfully submitted

Peter J. Vamos P. Eng.

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# APPENDICES

## APPENDIX 1- SAMPLE DESCRIPTIONS

Grab Samples

| Number | Type | Location |
|---|---|---|
| 682601 | Grab | 22+00E 18+81N Quartz vein, 1.5 cm. in dacite porphyry flow; dacite is greenish-brown on fresh surface with cream coloured feldspar phenocrysts |
| 682602 | Grab | 18+75E 11+85N Mafic (amygdular, porphyritic) pillow contact near mafic agglomerate contact |
| 682603 | Grab | 18+50E 17+95N Mafic agglomerate; dark grey-green, chloritic with cherty pyritic (1-2%) bomb margin |
| 682604 | Grab | 18+38E 17+99N Cherty, pyritic 1%, bomb margin in intermediate agglomerate unit |
| 682605 | Grab | 19+00E 18+20N 1 cm quartz vein, trace pyrite in andesite (dacite) lapilli tuff; matrix chloritic, greenish; lapilli pinkish |
| 682606 | Grab | 20+99E 15+77N see 682822 |
| 682607 | Grab | 20+99E 15+77N see 682822 |
| 682608 | Grab | 20+99E 16+98N Strongly foliated (chloritic-sericitic) agglomerate hanging wall; no obvious pyrite; |
| 682609 | Grab | 20+99E 16+98N Quartz vein, white to slightly smoky; inclusion and pyrite-free; see also 682834 |
| 682610 | Grab | 20+99E 16+99N Chloritic(-sericitic), grey-green, intermediate agglomerate footwall; blocky structure; no visible pyrite; see also 682835 |
| 682801 | Grab | 20+99E 15+76N Chloritized rhyolite-(cherty iron formation) contact, sheared |
| 682802 | Grab | 20+99E 15+77N Cherty iron formation band; minor magnetite and pyrrhotite (1%) on shear plane; see also 682622 |
| 682803 | Grab | 20+99E 15+78N Chloritized rhyolite; see 682823 |
| 682804 | Grab | 20+98E 16+98N Quartz vein, brownish-white; irregular patches of pyrite (to 2 cm., 1%) |
| 682805 | Grab | 21+00E 16+99N Quartz vein, blue-grey; trace pyrite |
| 682806 | Grab | 20+99E 16+98N see 682834 |
| 682807 | Grab | 20+99E 16+98N see 682834 |
| 682808 | Grab | 20+92E 20+80N Gabbro, medium-grained, with quartz veinlet and several chalcopyrite specks (<1%); in mixed gabbro/dacite contact zone |
| 682809 | Grab | 20+00E 18+38N Quartz vein; potassic feldspar; malachite |

|  |  |  |  |
|---|---|---|---|
|  |  |  | stained; chalcopyrite 2%, tr. pyrite |
| 682810 | Grab | 20+00E 18+38N | Footwall dacite; 2% finely disseminated pyrite; lightly sheared |
| 682811 | Grab | 19+99E 18+32N | see 682842 |
| 682812 | Grab | 21+00E 15+76N | see 682820 |
| 682852 | Grab | 20+88E 17+47N | Rusty, graphitic shear in andesite agglomerate unit; 20% pyrrhotite; 2% chalcopyrite; bombs irregularly veined; trench sample |

Channel Samples

21E16N Trench

| Sample | From-To (m) | Width (m) | Description |
|---|---|---|---|
| CH682813 | (21+00.0E 15+69.8N to 21+00.0E 15+79.0N) |  |  |
| 682813 | 1569.8-1571.0 | 1.2 | Rhyolite, chloritized; dark grey-brown-green variable, finely crystalline; hard |
| 682814 | 1571.0-1572.0 | 1.0 | Rhyolite, chloritized; brownish-grey; massive structure; no obvious sulphides |
| 682815 | 1572.0-1572.7 | 0.7 | Rhyolite, chloritized; dark brown; hard; massive structure; no obvious sulphides |
| 682816 | 1572.7-1573.3 | 0.6 | Quartz-chlorite-calcite-graphite seam with <1% chalcopyrite on fractures, partings |
| 682817 | 1573.3-1573.8 | 0.5 | Cherty iron formation; greyish with sugary structure; 2 mm magnetite banding |
| 682818 | 1573.8-1574.5 | 0.7 | Rhyolite, chloritized; dark brown, very hard; 60% sheared, weathered sections; <1% pyrite |
| 682819 | 1574.5-1575.5 | 1.0 | Rhyolite, chloritized; 60% sheared with narrow, quartz-chlorite lenses; 1% pyrrhotite |
| 682820 | 1575.5-1576.5 | 1.0 | Rhyolite, chloritized; dark brown-buff coloured with 0.2 m more siliceous section; <1% chalcopyrite, pyrite overall; grab 682812 with 3% pyrite, calcite to 1 cm. |
| 682821 | 1576.5-1577.2 | 0.7 | Rhyolite, chloritized; dark brownish-grey; massive structure; tr. chalcopyrite |
| 682822 | 1577.2-1577.5 | 0.3 | Cherty iron formation; magnetite banding to 6 cm.; sugary; white-grey-rusty variable; grab sample 682802 with 1% pyrrhotite in shear plane; grab sample 682606 with 2% chalcopyrite; sample 682607 tuffaceous (?) |
| 682823 | 1577.5-1578.0 | 0.5 | Rhyolite, chloritized; dark grey-brown; |

| | | | |
|---|---|---|---|
| | | | fine-grained; very hard; no obvious pyrite; grab 682803 slightly sheared to blocky |
| 682824 | 1578.0-1579.0 | 1.0 | Rhyolite, chloritized; dark grey-brown; fine-grained; no visible sulphides |

21E17N Trench

| Sample | From-To (m) | Width (m) | Description |
|---|---|---|---|
| CH682825 | (20+84.3E 16+90.3N to 20+83.6E 16+91.7N) | | |
| 682825 | 0.0-0.5 | 0.5 | Hanging wall (intermediate agglomerate); badly sheared; limonitic |
| 682826 | 0.5-1.1 | 0.5 | Quartz vein; white-grey-vitreous, variable; inclusion-free; <1% euhedral pyrite, coarse |
| 682827 | 1.1-1.5 | 0.4 | Footwall (intermediate agglomerate); badly weathered; limonitic |
| CH682828 | (20+88.5E 16+92.1N to 20+88.1E 16+92.7N) | | |
| 682828 | 0.0-0.4 | 0.4 | Hanging wall (intermediate agglomerate); badly weathered; limonitic |
| 682829 | 0.4-0.8 | 0.4 | Quartz vein; white-vitreous; inclusion-free |
| CH682830 | (20+90.7E 16+93.6N to 20+90.5E 16+94.0N, 1 only) | | |
| 682830 | 0.0-0.4 | 0.4 | Quartz vein; white with a few limonitic partings |
| CH682831 | (20+94.6E 16+95.9N to 20+94.4E 16+96.2N, 1 only) | | |
| 682831 | 0.0-0.4 | 0.4 | Quartz vein; white-smoky in patches; no obvious pyrite |
| CH682832 | (20+97.5E 16+97.2N to 20+97.1E 16+97.8N) | | |
| 682832 | 0.0-0.4 | 0.4 | Hanging wall (intermediate agglomerate); crumbly to sheared structure |
| 682833 | 0.4-0.75 | 0.35 | Quartz vein; white to slightly smoky, vitreous |
| CH682834 | (20+99.1E 16+98.1N to 20+98.9E 16+98.6N) | | |

| | | | |
|---|---|---|---|
| 682834 | 0.0-0.35 | 0.35 | Quartz vein; smoky vitreous to white; limonitic partings; variably pyritic<br>non-pyritic grab samples<br>682609- non-pyritic<br>682806- 5% pyrite, 3 cm.<br>682807- patchy pyrite to 3 cm., 2-3% |
| 682835 | 0.35-0.55 | 0.20 | Footwall (intermediate agglomerate); grey-green, chloritic; blocky to friable no visible pyrite |

CH82836 (21+02.5E 16+98.6N to 21+02.5E 17+00.2N)

| | | | |
|---|---|---|---|
| 682836 | 0.0-0.3 | 0.3 | Hanging wall chloritic rock (intermediate agglomerate; blocky structure; no visible pyrite |
| 682837 | 0.3-1.0 | 0.7 | Quartz vein; white to vitreous with discontinuous chloritic partings and inclusions (<5%) |
| 682838 | 1.0-1.6 | 0.6 | Quartz vein; white to vitreous; slightly limonitic on partings; minor chloritic inclusions and vugs; slightly broken in general foliation direction |

CH682839 (21+03.0E 16+99.6N to 21+03.0E 17+04.4N, 1 only)

| | | | |
|---|---|---|---|
| 682839 | 0.0-0.8 | 0.8 | Wall rock termination (intermediate agglomerate) of quartz vein; chloritic, blocky to moderately sheared, weathered |

20E1840N ZONE

| Sample | From-To (m) | Width (m) | Description |
|---|---|---|---|
| CH682840 | | | (19+98E 18+32N to 19+98E 18+31.1N) |
| 682840 | 0.0-0.5 | 0.5 | Andesite porphyry with cream-coloured albite phenocrysts to 1.1 cm in greenish-grey chloritic matrix; pyritic veinlet 3mm |
| 682841 | 0.5-0.9 | 0.4 | Andesite porphyry with dark green chloritic matrix and white-coloured albite phenocrysts; quartz vein in first 0.14 m with 2% coarse, euhedral, 1 cm pyrite; quartz is vitreous to rusty |

CH682842 (19+99.2E 18+32.3N to 19+99.3E 18+30.7N)

| | | | |
|---|---|---|---|
| 682842 | 0.0-1.1 | 1.1 | Andesite porphyry with pinkish-cream feldspar and altered hornblende phenocrysts; in greenish-grey matrix; includes 3 cm. quartz vein; 682811 contains 5% pyrite 1 cm. size |
| 682843 | 1.1-1.6 | 0.5 | Andesite porphyry; altered; chloritic veinlets; quartz vein, 3 cm. with pyritic, sericitic margins; pyrite <1% overall |

CH682844 (20+03.5E 18+38.0N to 20+04.4E 18+36.7N)

| | | | |
|---|---|---|---|
| 682844 | 0.0-0.5 | 0.5 | Dacite porphyry; lightly sheared; lightly chloritized with pinkish to whitish potassic feldspar phenocrysts; includes 2 quartz veins 6 cm. and 10 cm. with pyritic margins; pyrite <1% overall |
| 682845 | 0.5-1.5 | 1.0 | Dacite porphyry; greenish to yellowish grey; sericitic locally with slightly chloritic bands; light foliation; 1% fine pyrite |

CH682846 (20+10.8E 18+33.5N to 20+10.4E 18+31.2N)

| | | | |
|---|---|---|---|
| 682846 | 0.0-1.2 | 1.2 | Andesite porphyry; greenish-grey; cream-coloured albite phenocrysts; actinolite porphyroblasts to 1 cm. |
| 682847 | 1.2-1.7 | 0.5 | Quartz vein; white; trace chalcopyrite with malachite staining; includes 3 cm. mineralized (chalcopyrite) wall rock |
| 682848 | 1.7-2.4 | 0.7 | Andesite porphyry, altered; greenish-greyish; pyritic seams, pyrite 1%; includes 8 cm. quartz vein, hematitic with coarse pyrite |

CH682849 (20+14.7 18+39.0N 20+14.7E 18+36.5N

| | | | |
|---|---|---|---|
| 682849 | 0.0-0.5 | 0.5 | Dacite porphyry with 16 cm. quartz vein; vein has wall rock inclusions, 1% chalcopyrite, chloritic inclusions and seams |
| 682850 | 0.5-1.5 | 1.0 | Dacite, chloritized with greenish seams; no visible pyrite |
| 682851 | 1.5-2.5 | 1.0 | Dacite porphyry, chloritized; pinkish to greenish matrix; interval includes 11 cm. quartz vein with limonitic partings and trace chalcopyrite |

## APPENDIX 2 ASSAYS

T97-57606.0, T97-57615.0, T97-5716.0, T97-5726.0, T97-57627.0, T97-57665.0
T97-57688.0, T97-57706.0, T97-57689.0, T97-57694.0, T97-57707.0, T97-57719.0
T97-57729.0

## APPENDIX 3- SAMPLE-ZONE-CLAIM CATALOGUE

| SERIES | ZONE | CLAIM NO. |
|---|---|---|
| 682601 | - | 1115754 |
| 682602 | - | 1212903 |
| 682603 | DEA ('86,'89) | 1115754 |
| 682604 | DEA ('86,'89) | 1115754 |
| 682605 | DEA ('86,'89) | 1115753 |
| 682606-682607 | 21E16N | 1115752 |
| 682608-682610 | 21E17N | 1115752 |
| | | |
| 682801-682803 | 21E16N | 1115752 |
| 682804-682807 | 21E17N | 1115752 |
| 682808 | - | 1115753 |
| 682809-682811 | 20E1840N | 1115753 |
| 682812 | 21E16N | 1115752 |
| 682813-682824 | 21E16N | 1115752 |
| 682825-682839 | 21E17N | 1115752 |
| 682840-682851 | 20E1840N | 1115753 |
| 682852 | - | 1115752 |

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CLIENT: PROSPECTORS ALLIANCE CORP.
REPORT: T97-57606.0 ( COMPLETE )

PROJECT: NONE
DATE PRINTED: 11-SEP-97 PAGE 1

| SAMPLE | ELEMENT | Au30 | AuGrav |
|---|---|---|---|
| NUMBER | UNITS | PPB | G/T |
| 682601 | | <5 | |
| 682602 | | <5 | |
| 682603 | | <5 | |
| 682604 | | <5 | |
| 682605 | | <5 | |
| 682652 | | 789 | 0.51 |
| 682653 | | 2584 | 2.95 |
| 682654 | | <5 | |
| 682655 | | <5 | |
| 682656 | | <5 | |
| 682657 | | <5 | |

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CLIENT: PROSPECTORS ALLIANCE CORP.
REPORT: T97-57615.0 ( COMPLETE )

PROJECT: NONE
DATE PRINTED: 11-SEP-97

| SAMPLE | ELEMENT | Au30 | Cu |
|---|---|---|---|
| NUMBER | UNITS | PPB | PPM |
| 682606 | | <5 | 709 |
| 682607 | | <5 | 82 |

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CLIENT: PROSPECTORS ALLIANCE CORP.
REPORT: T97-57626.0 ( COMPLETE )

PROJECT: NONE
DATE PRINTED: 13-SEP-97

| SAMPLE NUMBER | ELEMENT UNITS | Au30 PPB |
|---|---|---|
| 682608 | | <5 |
| 682609 | | <5 |
| 682610 | | <5 |
| 682801 | | <5 |
| 682803 | | <5 |

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Chimitec

CLIENT: PROSPECTORS ALLIANCE CORP.
REPORT: T97-57616.0 ( COMPLETE )

PROJECT: NONE
DATE PRINTED: 11-SEP-97 PAGE 1

| SAMPLE | ELEMENT | Au30 |
|---|---|---|
| NUMBER | UNITS | PPB |
| 682600 | | 10 |
| 682608 | | 7 |
| 682609/610 | | <5 |

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CLIENT: PROSPECTORS ALLIANCE CORP.
REPORT: T97-57627.0 ( COMPLETE )

PROJECT: NONE
DATE PRINTED: 15-SEP-97 PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | Au30 PPB | Cu PPM |
|---|---|---|---|
| 682802 | | <5 | 112 |

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CLIENT: PROSPECTORS ALLIANCE CORP.
REPORT: T97-57665.0 ( COMPLETE )

PROJECT: NONE
DATE PRINTED: 23-SEP-97 PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | Au30 PPB |
|---|---|---|
| 682804 | | <5 |
| 682805 | | <5 |
| 682806 | | 14 |
| 682807 | | <5 |

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**Chimitec**

CLIENT: PROSPECTORS ALLIANCE CORP.
REPORT: T97-57688.0 ( COMPLETE )

PROJECT: NONE
DATE PRINTED: 27-SEP-97 PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | Au30 PPB | Cu PPM |
|---|---|---|---|
| 682808 | | <5 | 168 |
| 682809 | | 21 | 3333 |
| 682810 | | 20 | 890 |

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# Certificat D'Analyse
# Assay Lab Report

CLIENT: PROSPECTORS ALLIANCE CORP.
REPORT: T97-57689.0 ( COMPLETE )

PROJECT: NONE
DATE PRINTED: 26-SEP-97 PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | Au30 PPB |
|---|---|---|
| 682811 | | 6 |

ITS - Chimitec - Bondar Clegg
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CLIENT: PROSPECTORS ALLIANCE CORP.
REPORT: 297-57694.0 ( COMPLETE )

PROJECT: NONE
DATE PRINTED: 27-SEP-97 PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | AU30 PPB | CU PPM |
|---|---|---|---|
| 662812 | | <5 | 336 |

WHITESIDES /FALCO

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Chimitec

CLIENT: PROSPECTORS ALLIANCE CORP.
REPORT: T97-57706.0 ( COMPLETE )

PROJECT: NONE
DATE PRINTED: 1-OCT-97 PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | Au30 PPB | Cu PPM |
|---|---|---|---|
| 682813 | | 7 | 60 |
| 682814 | | <5 | 84 |
| 682815 | | 8 | 83 |
| 682816 | | 11 | 290 |
| 682817 | | 9 | 647 |
| 682818 | | <5 | 104 |
| 682819 | | 7 | 245 |
| 682820 | | <5 | 87 |
| 682821 | | <5 | 94 |
| 682822 | | 14 | 607 |
| 682823 | | <5 | 100 |
| 682824 | | <5 | 39 |

# Assay Lab Report

CLIENT: PROSPECTORS ALLIANCE CORP.
REPORT: T97-57707.0 ( COMPLETE )

PROJECT: NONE
DATE PRINTED: 1-OCT-97 PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | Au30 PPB |
|---|---|---|
| 682825 | | <5 |
| 682826 | | <5 |
| 682827 | | 7 |
| 682828 | | <5 |
| 682829 | | <5 |
| 682830 | | <5 |
| 682831 | | <5 |
| 682832 | | <5 |
| 682833 | | 8 |
| 682834 | | <5 |
| 682835 | | 8 |
| 682836 | | <5 |
| 682837 | | <5 |
| 682838 | | <5 |
| 682839 | | <5 |

Chimitec Bondar Clegg **Assay Lab Report**

CLIENT: PROSPECTORS ALLIANCE CORP.
REPORT: T97-57719.0 ( COMPLETE )

PROJECT: PROJ.K. ISLAND
DATE PRINTED: 3-OCT-97 PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | Au30 PPB | Cu PPM |
|---|---|---|---|
| 682840 | | 17 | 302 |
| 682841 | | <5 | 75 |
| 682842 | | <5 | 118 |
| 682843 | | <5 | 30 |
| 682844 | | 10 | 611 |
| 682845 | | 6 | 228 |
| 682846 | | <5 | 53 |
| 682847 | | 17 | 755 |
| 682848 | | 8 | 563 |
| 682849 | | 6 | 537 |
| 682850 | | <5 | 35 |
| 682851 | | <5 | 127 |

ITS - Chimitec - Bondar Clegg
1322-B rue Harricana, Val d'Or, Québec, J9P 3X6
Tél: (819) 825-0178, Fax: (819) 825-0256

ITS Intertek Testing Services
Chimitec Bondar Clegg

# Certificat D'Analyse
# Assay Lab Report

CLIENT: PROSPECTORS ALLIANCE CORP.
REPORT: 197-57729.0 ( COMPLETE )

PROJECT: NONE
DATE PRINTED: 7-OCT-97 PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | Au30 PPB | Cu PPM |
|---|---|---|---|
| 682852 | | 29 | 777 |

ITS - Chimitec - Bondar Clegg
1322-B rue Harricana, Val d'Or, Québec, J9P 3X6
Tel: (819) 825-0178, Fax: (819) 825-0256

Ontario Ministry of Northern Development and Mines

# Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

| Transaction Number (office use) |
|---|
| W9860.00123 |
| Assessment Files Research Imaging |

42A05NE2003 2.18163 WHITESIDES 900

of subsections 65(2) and 66(3) of the Mining Act. Under section 8 of the review the assessment work and correspond with the mining land holder. Recorder, Ministry of Northern Development and Mines, 6th Floor,

**Instructions:**
- For work performed on Crown Lands before **recording** a claim, use form 0240.
- Please type or print in ink.

## 1. Recorded holder(s) (Attach a list if necessary)

| | | | |
|---|---|---|---|
| Name | Falconbridge Ltd | Client Number | 130679 |
| Address | P.O. Box 1140, 571 Moneta Av. | Telephone Number | (705) 267-1188 |
| | Timmins Ontario | Fax Number | (705) 264-6080 |
| Name | | Client Number | |
| Address | | Telephone Number | |
| | | Fax Number | |

## 2. Type of work performed: Check ( ✓ ) and report on only ONE of the following groups for this declaration.

☒ Geotechnical: prospecting, surveys, assays and work under section 18 (regs)

☑ Physical: drilling, stripping, trenching and associated assays

☐ Rehabilitation

Work Type Geological mapping
Stripping: trenching, sampling, mapping
trenches, assaying, report preparation,
data preparation, digitizing Auto cad map prep

Dates Work Performed From 15 Day 07 Month 1997 Year To 20 Day 09 Month 97 Year

Global Positioning System Data (if available)

Township/Area Whitesides

M or G-Plan Number

| Office Use | |
|---|---|
| Commodity | |
| Total $ Value of Work Claimed | 27,790 |
| NTS Reference | |
| Mining Division | Porcupine |
| Resident Geologist District | Timmins |

Please remember to:
- obtain a work permit from the Ministry of Natural Resources as required;
- provide proper notice to surface rights holders before starting work;
- complete and attach a Statement of Costs, form 0212;
- provide a map showing contiguous mining lands that are linked for assigning work;
- include two copies of your technical report.

RECEIVED
FEB 17 1998
8:00
GEOSCIENCE ASSESSMENT OFFICE

## 3. Person or companies who prepared the technical report (Attach a list if necessary)

| | | | |
|---|---|---|---|
| Name | Peter J. Vamos | Telephone Number | (905) 689-6270 |
| Address | 19 Berry Hill Avenue Waterdown Ont | Fax Number | 690-2175 |
| Name | JVX Limited | Telephone Number | (905) 731-0972 |
| Address | 60 Wilmot Street West Unit 22 Richmond Hi | Fax Number | 731-9312 |
| Name | | Telephone Number | |
| Address | | Fax Number | |

RECEIVED
FEB 17 1998
GEOSCIENCE ASSESSMENT OFFICE

## 4. Certification by Recorded Holder or Agent

I, Peter J Vamos (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

| | | |
|---|---|---|
| Signature of Recorded Holder or Agent | | Date Feb 9 98 |
| Agent's Address 19 Berry Hill Waterdown Ont | Telephone Number (905) 689-6270 | Fax Number (905) 690-2175 |

Deemed May 18/98

0241 (02/96)

**5. Work to be recorded and distributed.** Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

| **Mining Claim Number.** Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map. | | **Number of Claim Units.** For other mining land, list hectares. | **Value of work performed on this claim or other mining land.** | **Value of work applied to this claim.** | **Value of work assigned to other mining claims.** | **Bank.** Value of work to be distributed at a future date. |
|---|---|---|---|---|---|---|
| eg | TB 7827 | 16 ha | $26, 825 | N/A | $24,000 | $2,825 |
| eg | 1234567 | 12 | 0 | $24,000 | 0 | 0 |
| eg | 1234568 | 2 | $ 8, 892 | $ 4,000 | 0 | $4,892 |
| 1 | 1115751 | 1 | 3,970 | | | 3,510 ✓ |
| 2 | 1115752 | 1 | 3,970 | | | 3,170 ✓ |
| 3 | 1115755 | 1 | 3,970 | | | 3,570 ✓ |
| 4 | 1115754 | 1 | 3,970 | | | 3,570 ✓ |
| 5 | 1115757 | 1 | 3,970 | | | 3,570 ✓ |
| 6 | 1115758 | 1 | 3,970 | | | 3,970 ✓ |
| 7 | 1115765 | 1 | 3,970 | | | 3970 ✓ |
| 8 | 1189150 | 1 | | 400 ✓ | | |
| 9 | 1198957 | 2 | | 800 ✓ | | |
| 10 | 1189765 | 1 | | 400 ✓ | | |
| 11 | 1201279 | 1 | | 400 ✓ | | |
| 12 | 1204431 | 1 | | 400 ✓ | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| | | **Column Totals** | 27,790 | 2400 | | 25,390 |

I, Peter J. Vamos (Print Full Name), do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

| Signature of Recorded Holder or Agent Authorized in Writing | Date |
|---|---|
| | |

**6. Instructions for cutting back credits that are not approved.**

Some of the credits claimed in this declaration may be cut back. Please check ( ✓ ) in the boxes below to show how you wish to prioritize the deletion of credits:

- ☐ 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- ☐ 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- ☐ 3. Credits are to be cut back equally over all claims listed in this declaration; or
- ☐ 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

**For Office Use Only**

| Received Stamp | Deemed Approved Date | Date Notification Sent |
|---|---|---|
| | Date Approved | Total Value of Credit Approved |
| | Approved for Recording by Mining Recorder (Signature) | |

0241 (02/96)

Ontario

Ministry of Northern Development and Mines

# Statement of Costs for Assessment Credit

Transaction Number (office use)

W9860.00123.

Personal information collected on this form is obtained under the authority of subsection 6(1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

| Work Type | Units of Work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc. | Cost Per Unit of work | Total Cost |
|---|---|---|---|
| Detailed Geol. & Trench mapping | 8km. line 5 stripped areas 4 trenches | $ 250.00/pd | 10,973.68 |
| Trenching-stripping washing sampling | 4 trenches | av. 1954.07 | 7,816.26 |
| Assays | | | 500.00 |
| Supervision | 5 11½ days | $ 300.00 | 3450.00 |
| Map preparation est | | | 2,500.00 |
| Report est. | | | 1,500.00 |
| | | | |
| **Associated Costs (e.g. supplies, mobilization and demobilization).** | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| **Transportation Costs** | | | |
| Travel & lodging | | | 1,049.87 |
| | | | |
| **Food and Lodging Costs** | | | |
| | | | |
| | | | |
| | | **Total Value of Assessment Work** | 27,790 |

**Calculations of Filing Discounts:**

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK × 0.50 = Total $ value of worked claimed.

**Note:**

- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

**Certification verifying costs:**

I, Peter J. Vamos (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as agent (recorded holder, agent, or state company position with signing authority) I am authorized to make this certification.

| Signature | Date |
|---|---|
| Peter J. V | Feb 9/98 |

**Ministry of
Northern Development
and Mines**

**Ministère du
Développement du Nord
et des Mines**

Ontario

Geoscience Assessment Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (888) 415-9846
Fax: (705) 670-5881

May 12, 1998

FALCONBRIDGE LIMITED
SUITE 1200, 95 WELLINGTON STREET WEST
TORONTO, ONTARIO
M5J-2V4

Dear Sir or Madam:

**Submission Number:** 2.18163

| | | **Status** |
|---|---|---|
| **Subject: Transaction Number(s):** | W9860.00123 | Deemed Approval |

---

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice.

Please note any revisions must be submitted in DUPLICATE to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Steve Beneteau by e-mail at benetest@epo.gov.on.ca or by telephone at (705) 670-5855.

Yours sincerely,

ORIGINAL SIGNED BY
Blair Kite
Supervisor, Geoscience Assessment Office
Mining Lands Section

Correspondence ID: 12244
Copy for: Assessment Library

# Work Report Assessment Results

**Submission Number:** 2.18163

**Date Correspondence Sent:** May 12, 1998 **Assessor:** Steve Beneteau

| Transaction Number | First Claim Number | Township(s) / Area(s) | Status | Approval Date |
|---|---|---|---|---|
| W9860.00123 | 1115751 | WHITESIDES | Deemed Approval | April 29, 1998 |

**Section:**
12 Geological GEOL
10 Physical PSTRIP
10 Physical PTRNCH

Assessment work credit has been approved as outlined on the attached Distribution of Assessment Work Credit sheet. Assessment credit has been distributed to better reflect the location of the work.

**Correspondence to:**
Resident Geologist
South Porcupine, ON

Assessment Files Library
Sudbury, ON

**Recorded Holder(s) and/or Agent(s):**
Peter J. Vamos
WATERDOWN, ON

FALCONBRIDGE LIMITED
TORONTO, ONTARIO

# Distribution of Assessment Work Credit

**The following credit distribution reflects the value of assessment work performed on the mining land(s).**

**Date:** May 12, 1998

**Submission Number:** 2.18163

---

**Transaction Number:** W9860.00123

| Claim Number | Value Of Work Performed |
|---|---|
| 1115754 | 1,390.00 |
| 1115753 | 6,948.00 |
| 1115757 | 1,390.00 |
| 1115751 | 1,390.00 |
| 1115752 | 13,892.00 |
| 1115758 | 1,390.00 |
| 1115765 | 1,390.00 |
| **Total: $** | 27,790.00 |

## REFERENCES

### AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY

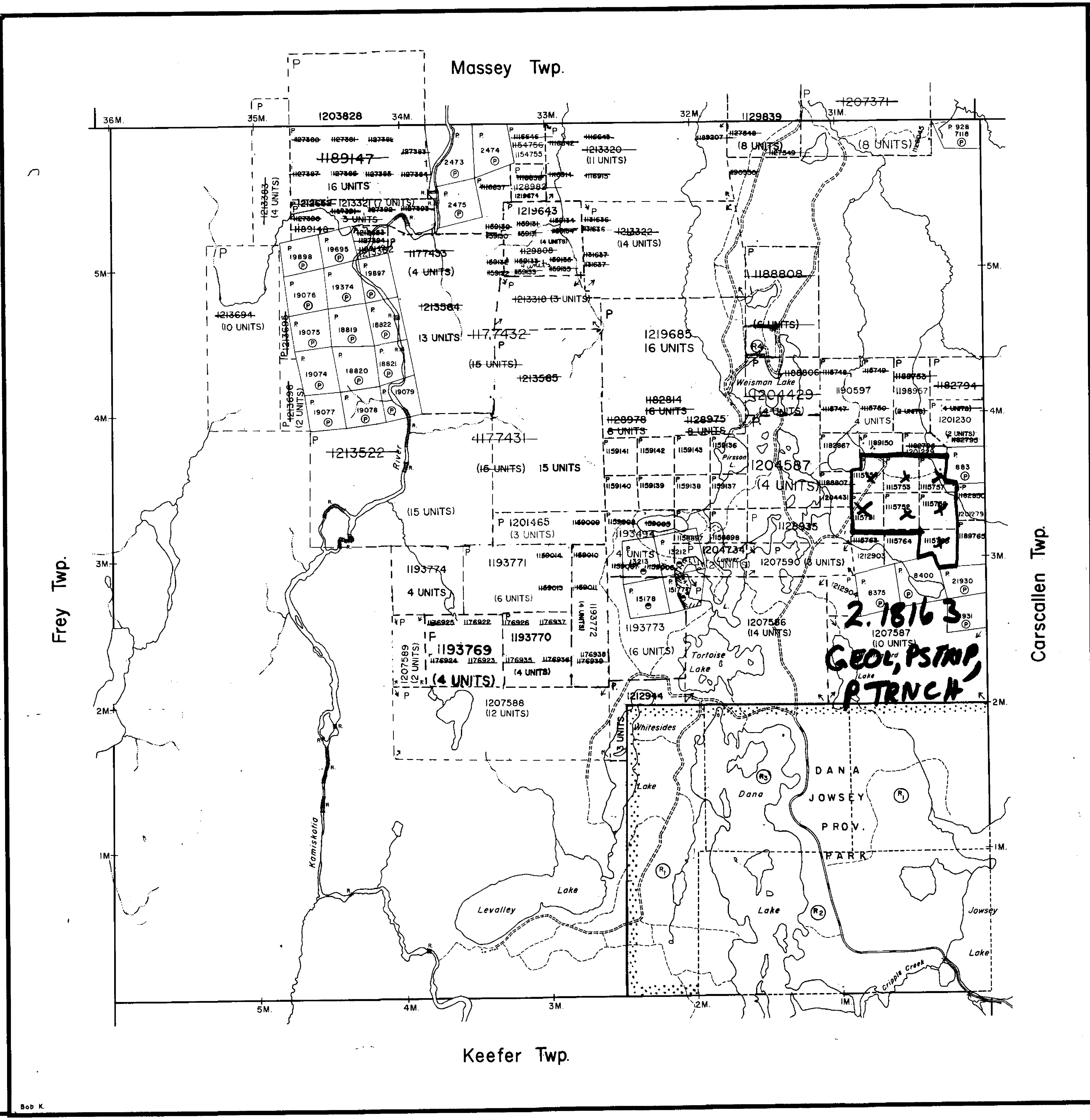
S.R.O. – SURFACE RIGHTS ONLY

M.+ S. – MINING AND SURFACE RIGHTS

| Description | Order No. | Date | Disposition | File |
|---|---|---|---|---|
| Ⓡ1 DANA AND JOWSEY LAKES PARK RES. | | | S.R.O. | 171506 |
| SEC. 36/80 | W.66/83 | | M.R.O. | |
| Ⓡ2 SEC. 43/70 | | FEB. 3/66 | M. & S.R. | 171506 |
| Ⓡ3 SEC. 43/70 | | 28/1/71 | M. & S.R. | 171506 |

Ⓡ4 MINING AND SURFACE RIGHTS WITHDRAWN FROM PROSPECTING, STAKING OUT, SALE OR LEASE UNDER SECTION 35 OF THE MINING ACT R.S.O. 1990 ORDER NO. W-P 49/94 IIER DATED 94-MAY-02

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON



2.18163

GEOL, PSTRIP, P TRNCH

## LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES ⚒
- TRAVERSE MONUMENT ⌖

## DISPOSITION OF CROWN LANDS

| TYPE OF DOCUMENT | SYMBOL |
|---|---|
| PATENT, SURFACE & MINING RIGHTS | Ⓟ or ● |
| " , SURFACE RIGHTS ONLY | ◓ |
| " , MINING RIGHTS ONLY | ◒ |
| LEASE, SURFACE & MINING RIGHTS | ■ |
| " , SURFACE RIGHTS ONLY | ⬒ |
| " MINING RIGHTS ONLY | ⬓ |
| LICENCE OF OCCUPATION | ▼ |
| ORDER-IN-COUNCIL | OC |
| RESERVATION | Ⓡ |
| CANCELLED | ⊗ |
| SAND & GRAVEL | ⊙ |

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC 1.

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000

METRES 0 200 1000 (1 KM) 2000 (2 KM)

TOWNSHIP

# WHITESIDES

M.N.R. ADMINISTRATIVE DISTRICT

TIMMINS

MINING DIVISION

PORCUPINE

LAND TITLES / REGISTRY DIVISION

COCHRANE

DATE OF ISSUE
MAY 5 1998
PROVINCIAL RECORDING OFFICE - SUDBURY

Ontario Ministry of Natural Resources Land Management Branch

Date FEBRUARY 1985

ACTIVATED JUNE 30, 1992
BY D.C.

Number G-3230

42A05NE2003 2.18163 WHITESIDES 200

# PROSPECTORS ALLIANCE CORPORATION
## FALCONBRIDGE OPTION - DEEP PIT
## Whitesides Twp., Ontario
## GEOLOGY MAP

## SYMBOLS

| | |
|---|---|
| | Grid tie line |
| | Traverse line, station |
| | Known claim line and post |
| | Assumed claim line and post |
| | Marsh, lowland |
| | Brook, intermitten brook |
| | Bush road, trail |
| | Bench, face |
| | Slope, steep slope |
| | Beaver dam |
| | Tench, trench overgrown |
| | Lineation, foliation |
| | Bedding, jointing |
| | Geological contact |
| | Outcrop, subcrop |
| | Diamond Drill Hole |
| PAL 97 | Current works, stripping trenching |
| # | Pit |
| | Pillow face direction |

## LEGEND

MIDDLE PRECAMBRIAN

Mafic Intrusive Rocks

☐ Quartz diabase

EARLY PRECAMBRIAN

Metamorphosed Mafic Intrusive Rocks

☐ Unsubdivided
7a Gabbro

Chemical Metasediments

☐ CIF – Cherty Iron Formation
(<5% sulphide, <20% magnetite)

Felsic Metavolcanics (Calc-alcalic)

☐ Unsubdivided
4a, Massive flows
4c, Porohyritic
4d, Breccia

Intermediate Volcanics
(Calc-alkalic to Tholeiitic)

☐ Unsubdivided
3a, Massive flows
3b, Pillowed flows
3d, Tuff, lapilli tuff
3f, Porphyritic
3g, Agglomerate

Mafic Metavolcanics (Tholeiitic)

☐ Unsubdivided
2a, Massive flows
2b, Pillowed flows
2c, Amygdaloidal flows
2g, Agglomerate
2p, Porphyritic

## ABBREVIATIONS

| | |
|---|---|
| And | Andesite |
| Dac | Dacite |
| Rhy | Rhyolite |
| CIF | Cherty Iron Formation <20% magnetite, <5% sulphide |
| Gab | Gabbro |
| Unit Alt | Alteration |
| Amph | Amphibolitized |
| Chl | Chlorite, chloritic |
| Fsp | Feldspar |
| Qtz | Quartz |
| Sph | Sphalerite |
| X, y | Vein minerals |

## VEGETATION, COVER

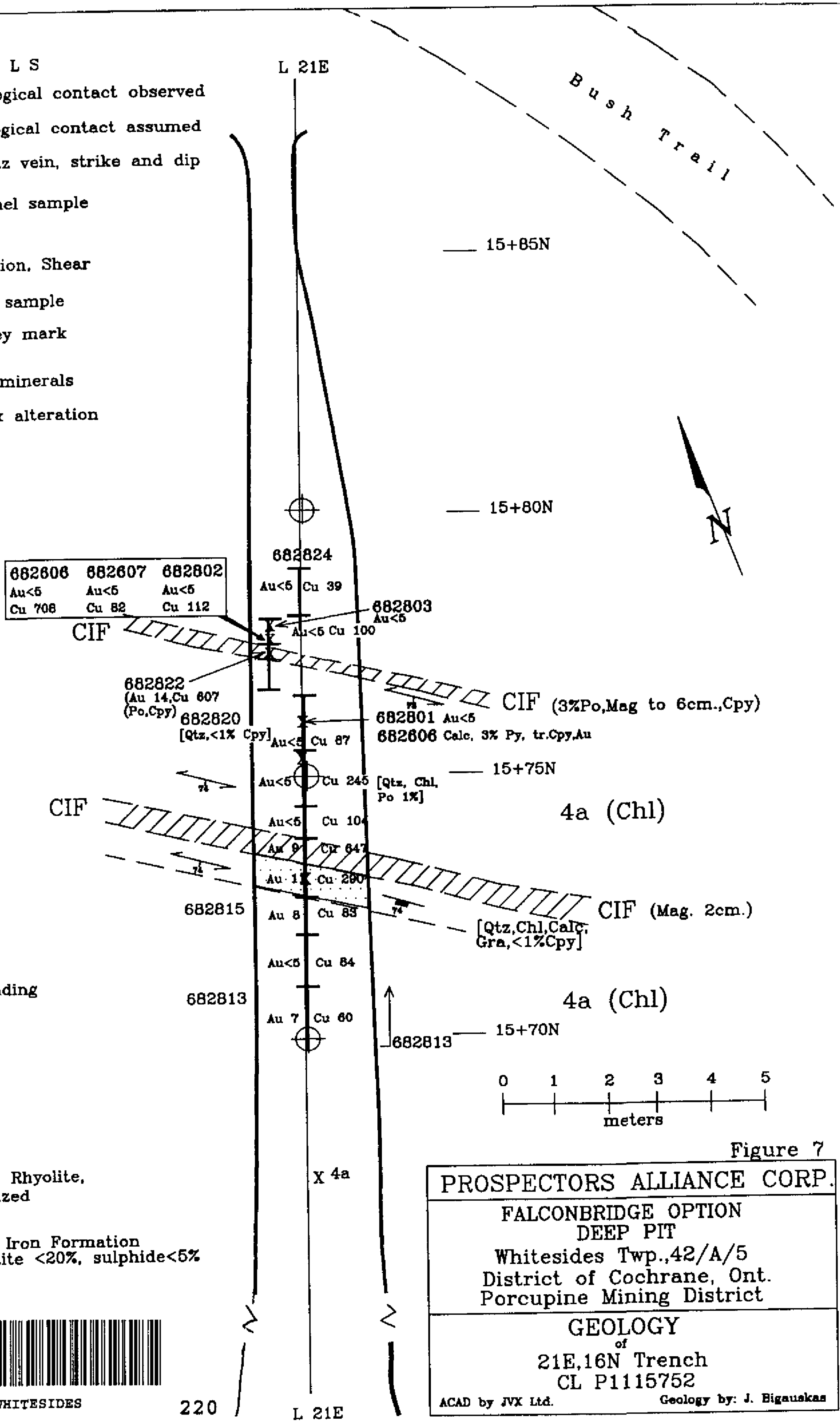
| | |
|---|---|
| Ald | Alder |
| Bal | Balsam |
| Bir | Birch |
| Ced | Cedar |
| Jkp | Jackpine |
| Pop | Poplar |
| Lit | Litter |

Figure 5

ACAD by JVX Ltd.

## SYMBOLS

Geological contact observed
Geological contact assumed
Quartz vein, strike and dip
CH* Channel sample
Face
Foliation, Shear
X Grab sample
Survey mark
[Qtz] Vein minerals
(Chl) Matrix alteration



ABBREVIATIONS

| | |
|---|---|
| Chl | Chlorite |
| Cpy | Chalcopyrite |
| Calc. | Calcite |
| Gra | Graphite |
| Mag | Magnetite, Banding |
| Py | Pyrite |

## LEGEND

| | |
|---|---|
| 4c(Chl) | Massive Rhyolite, Chloritized |
| CIF | Cherty Iron Formation Magnetite <20%, sulphide<5% |

Figure 7

PROSPECTORS ALLIANCE CORP.

FALCONBRIDGE OPTION
DEEP PIT
Whitesides Twp.,42/A/5
District of Cochrane, Ont.
Porcupine Mining District

GEOLOGY
of
21E,16N Trench
CL P1115752

ACAD by JVX Ltd. Geology by: J. Bigauskas

## SYMBOLS

▨ · · · · Qurtz vein

CH* · · · · Channel sample

⊕ · · · · Survey mark

X · · · · Grab sample

· · · · Vein strike, dip

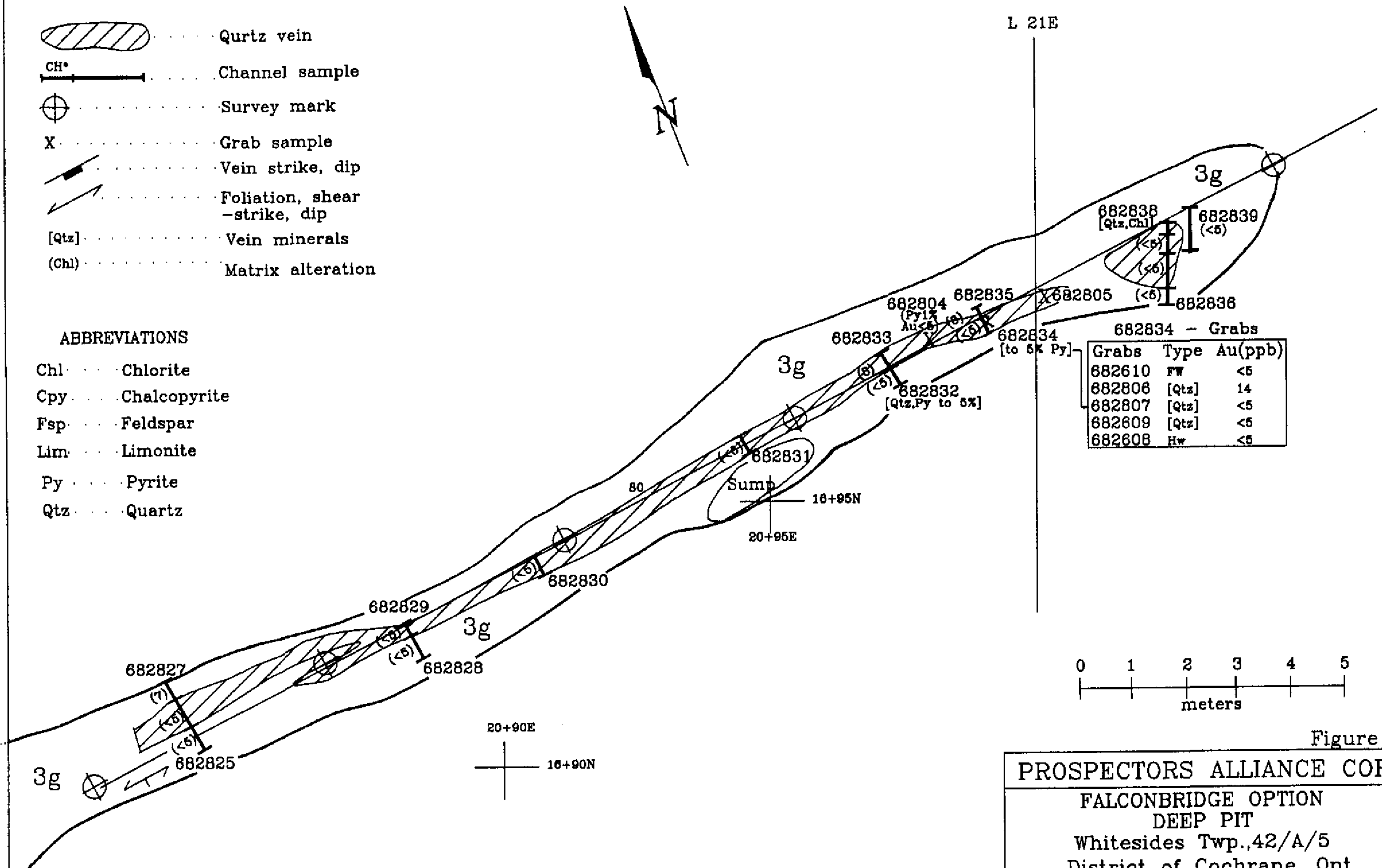
· · · · Foliation, shear −strike, dip

[Qtz] · · · · Vein minerals

(Chl) · · · · Matrix alteration

## ABBREVIATIONS

| | |
|---|---|
| Chl | Chlorite |
| Cpy | Chalcopyrite |
| Fsp | Feldspar |
| Lim | Limonite |
| Py | Pyrite |
| Qtz | Quartz |



682834 − Grabs

| Grabs | Type | Au(ppb) |
|---|---|---|
| 682610 | FW | <5 |
| 682806 | [Qtz] | 14 |
| 682807 | [Qtz] | <5 |
| 682609 | [Qtz] | <5 |
| 682608 | Hw | <5 |

## LEGEND

3g · · · Andesitic agglomerate

42A05NE2003 2.18163 WHITESIDES

230

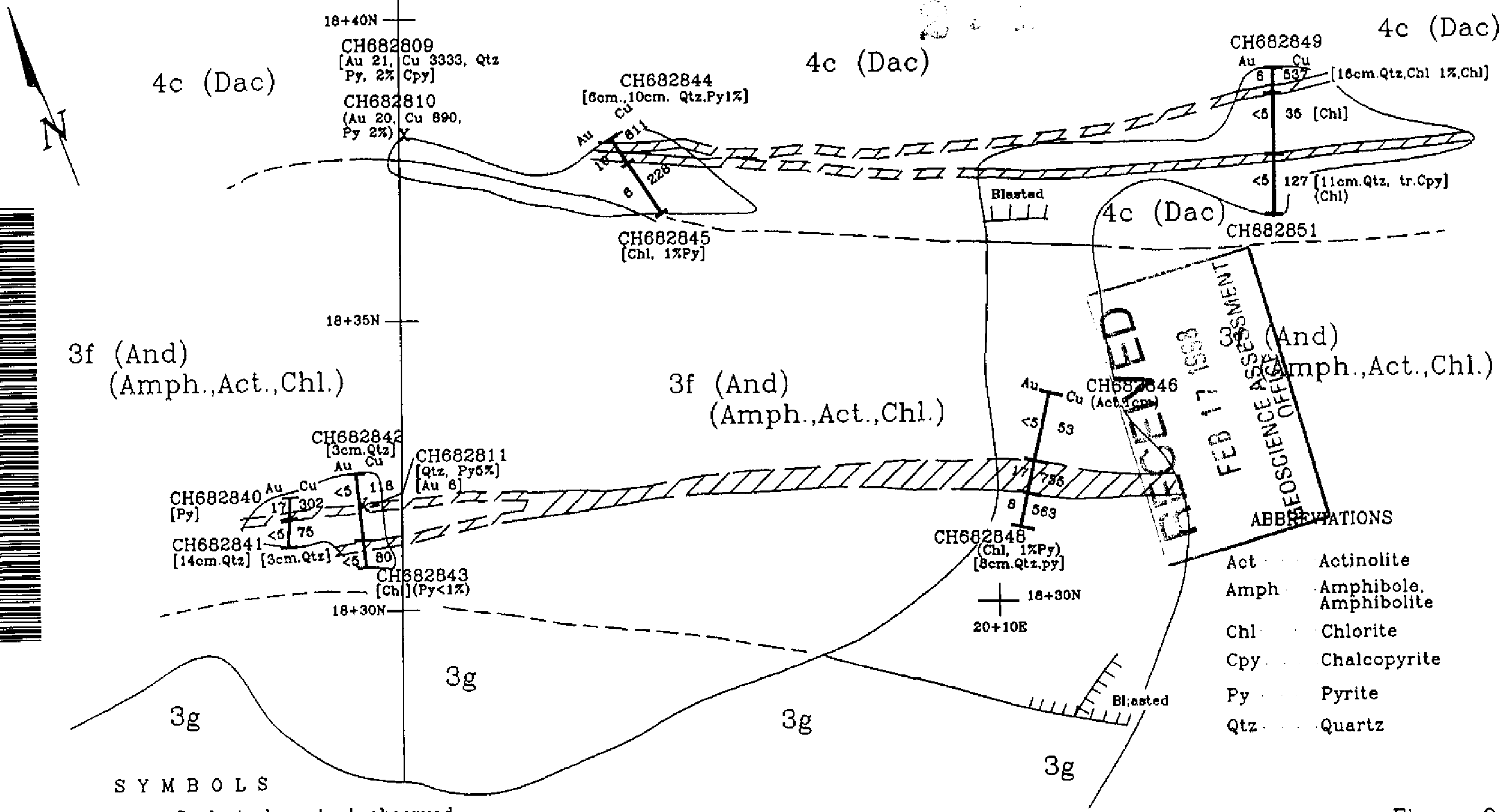
Figure 8

PROSPECTORS ALLIANCE CORP.

FALCONBRIDGE OPTION
DEEP PIT
Whitesides Twp.,42/A/5
District of Cochrane, Ont.
Porcupine Mining District

GEOLOGY
of
21E,17N Trench
CL P1115752

ACAD by JVX Ltd. Geology by: J. Bigauskas



ABBREVIATIONS

| | |
|---|---|
| Act | Actinolite |
| Amph | Amphibole, Amphibolite |
| Chl | Chlorite |
| Cpy | Chalcopyrite |
| Py | Pyrite |
| Qtz | Quartz |

SYMBOLS

| | |
|---|---|
| ——— | Geological contact observed |
| — — — | Geological contact assumed |
| ▱▱▱ | Vein |
| CH* ——•—— | Channel sample |
| ┴┴┴┴┴┴ | Face |
| X | Grab sample |
| [Qtz] | Vein minerals |
| (Chl) | Matrix alteration |

LEGEND

| | |
|---|---|
| 4c(Dac) | Dacite, Porphyry |
| 3f (And) (Act) | Andesite, Porphyry Actinolitic |

0 1 2 3 4 5
meters

Figure 9

PROSPECTORS ALLIANCE CORP.

FALCONBRIDGE OPTION
DEEP PIT
Whitesides Twp.,42/A/5
District of Cochrane, Ont.
Porcupine Mining District

GEOLOGY
of
20E,1840N Zone
CL P1115753

ACAD by JVX Ltd.
Geology by: J. Bigauskas