FIELD GEOLOGY OF THE RIIVES CLAIMS, UNITS 4213104 AND 4213105, WERNER LAKE BELT, KENORA MINING DIVISION, NORTHWEST ONTARIO

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ABSTRACT

This report describes reconnaissance prospecting and geological characterisation undertaken on the 8-unit (≈128-ha) claim block composed of claims 4213104 and 4213105, in the Werner Lake belt, within the English River subprovince of the Archean Superior craton. A brief synopsis of the regional geology is provided, and recommendations made for further work.

A three-day field reconnaissance was conducted in the Reynar- Almo- Werner-Gordon lakes corridor, in order to examine the local geology and the "lie of the land", including but not limited to known mineral showings and old mining sites, claim lines old and new, and historical drill targets. The three-day field visit, based out of Lac du Bonnet, Manitoba, was carried out on 26-28 October, 2007 in the company of Mr. Zen Pozniak. Visits were also paid to the Ministry of Northern Development and Mines, Kenora (district geologist Craig Ravnaas) and to prospector Joseph Riives of Dryden. The trip took a total of seven days, with two subsequent days applied to report preparation: a portion of this work, applicable to the Riives claims, is presented herein.

Topographic relief on the claims is moderate, with broadly east-west granitoid ridges separating east-west lakes, including Daly Lake, lying between the larger Reynar Lake (to the west) and Almo Lake (to the east). The topographic grain appears to follow the foliation in the bedrock, and the inferred trace of regional faults and splays, the existence of which may be deduced from available maps and satellite imagery. The local granodiorite contains pegmatitic segregations, which locally contain coarse magnetite, as well as schlieren of amphibolites and schist, attributable to the paragneiss suite in the area. These metasediments are displayed better to both west and east in the belt, on the shores of Reynar, Werner and Gordon lakes. They appear to be of amphibolite facies, and often contain abundant mm- to cm-scale garnets.

The area is well-documented, and even a cursory field examination reveals much evidence of exploration, including drilling, in the past sixty years. Local Ni-Cu-PGE mineralization, as at the adjacent Norpax site and the former Gordon Lake mine, located 8 km to the east, is associated with small masses of peridotite and related rocks which show evident structural control on the regional faults and splays. The east – west trending zone of negative topgraphic expression extends right across the Riives claims and may reflect the existence of more peridotitic rocks. The mineral potential all along the belt has not been explored in a comprehensive manner. High grades have been reported in previous studies in this belt, and an incremental exploration program involving field geology, geophysics and (if warranted) drilling could well yield encouraging results across the Riives claims.

Conversion Table N.B. Most factors are approximate

Unit	*Times*	*Equals*
Length		
1 inch	25.4	mm
1 foot	0.3048	m
1 mile (statute)	1.6093	km
Area		
1 square mile	2.59	km^2
1 acre	0.4047	ha
Mass		
1 ounce (advp)	28.3495	g
1 ounce (troy)	31.1035	g
1 ton (short)	907.18	kg
1 ton (long)	1016.05	kg
Concentration		
1 troy oz/short ton	34.2857	g/t (ppm)
Volume		
1 Imperial gallon	4.54596	l
1 U.S. gallon	3.78541	l

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Ontario Prospector A51707, client # 209289

WILSON,GC (2008) Field geology of the Riives Claims, units 4213104 and 4213105, Werner Lake belt, Kenora mining division, northwest Ontario. Turnstone Geological Services Ltd, Report 2008-12F, for Gamah International Limited, Toronto, Ontario, vi+16 pp.

Frontispiece

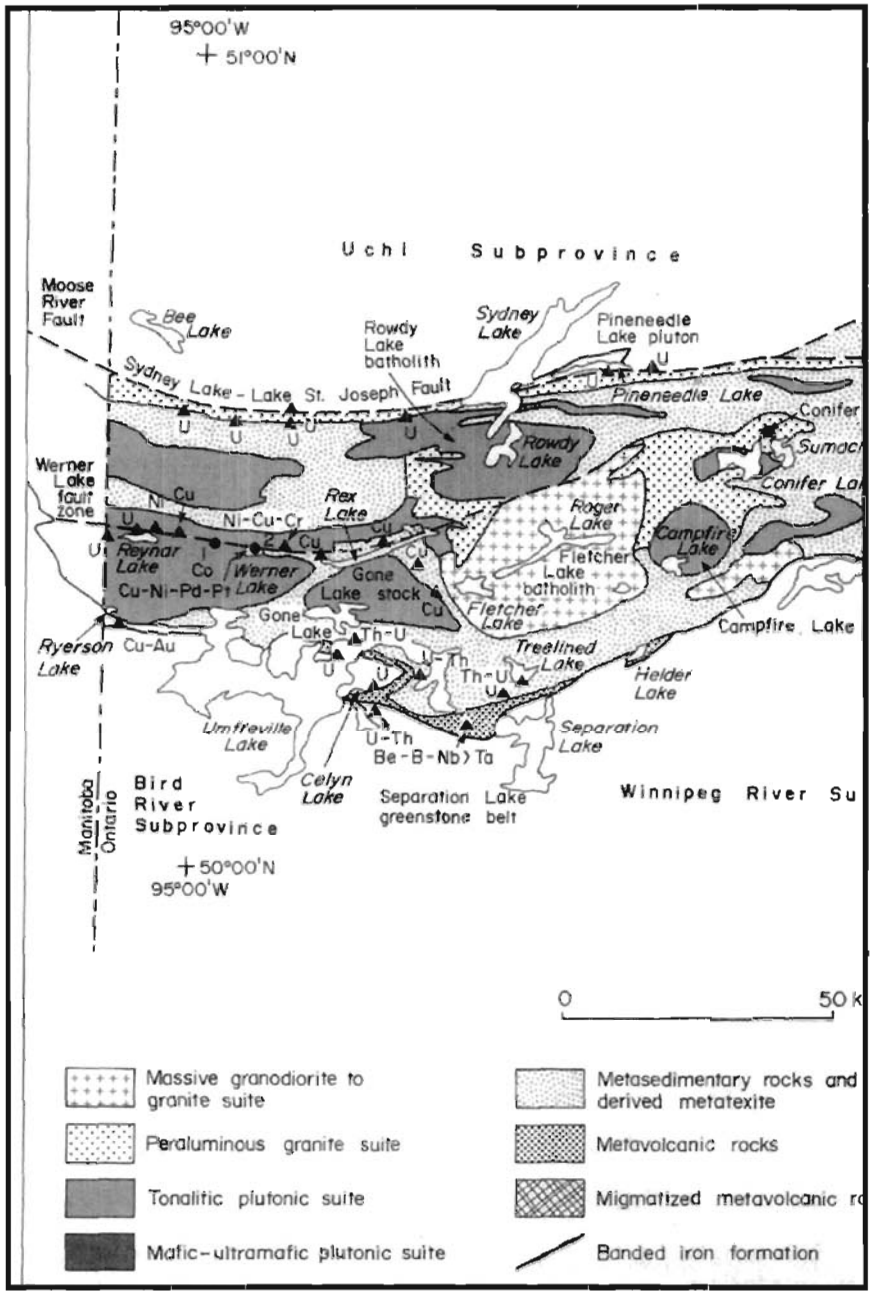
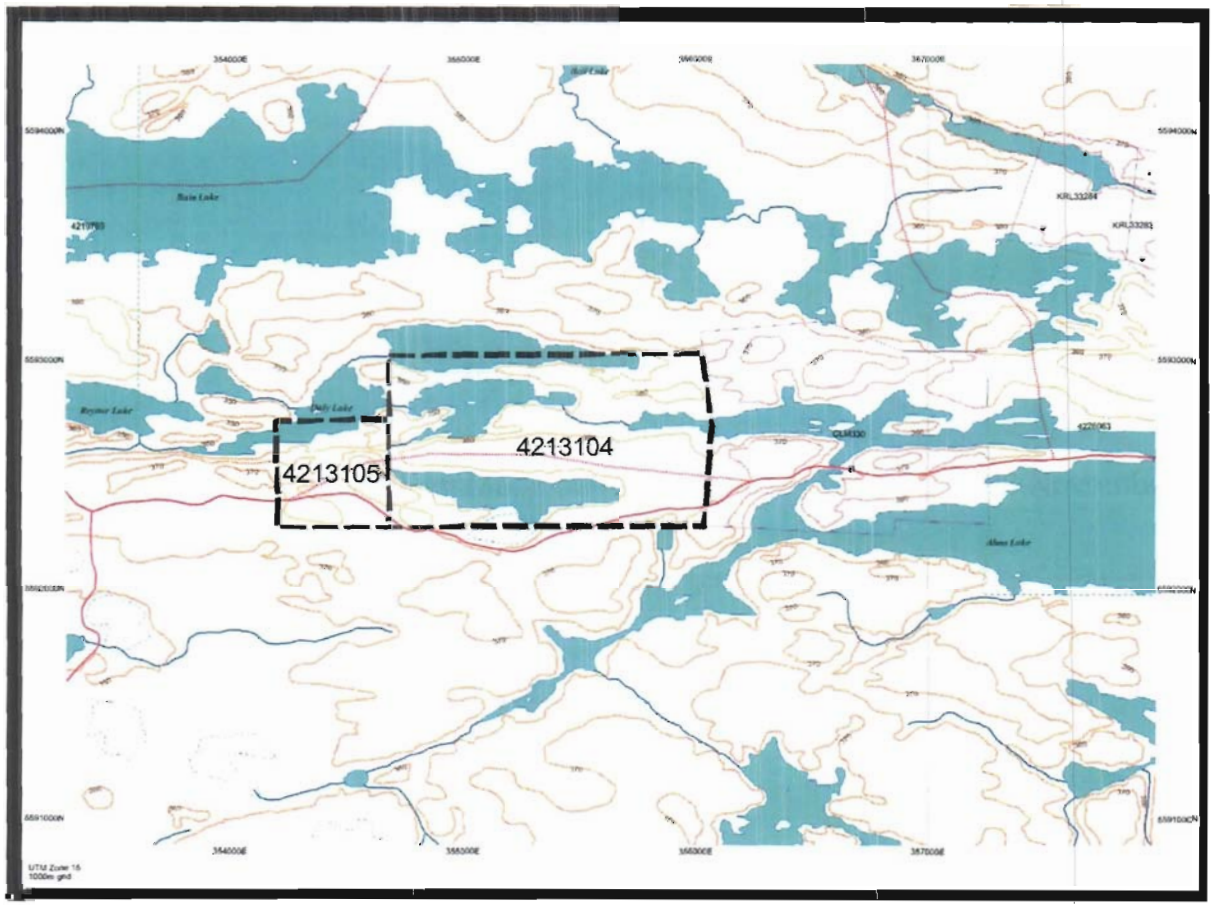


Figure 1. Location map. Geological location map of the western part of the English River subprovince in northwestern Ontario (from Breaks, 1991, p.242).

Figure 2. Claim Map.

Detail, printed from MNDM Claim Maps on-line database at 1100 hrs, 08 November 2008.



Location and Access

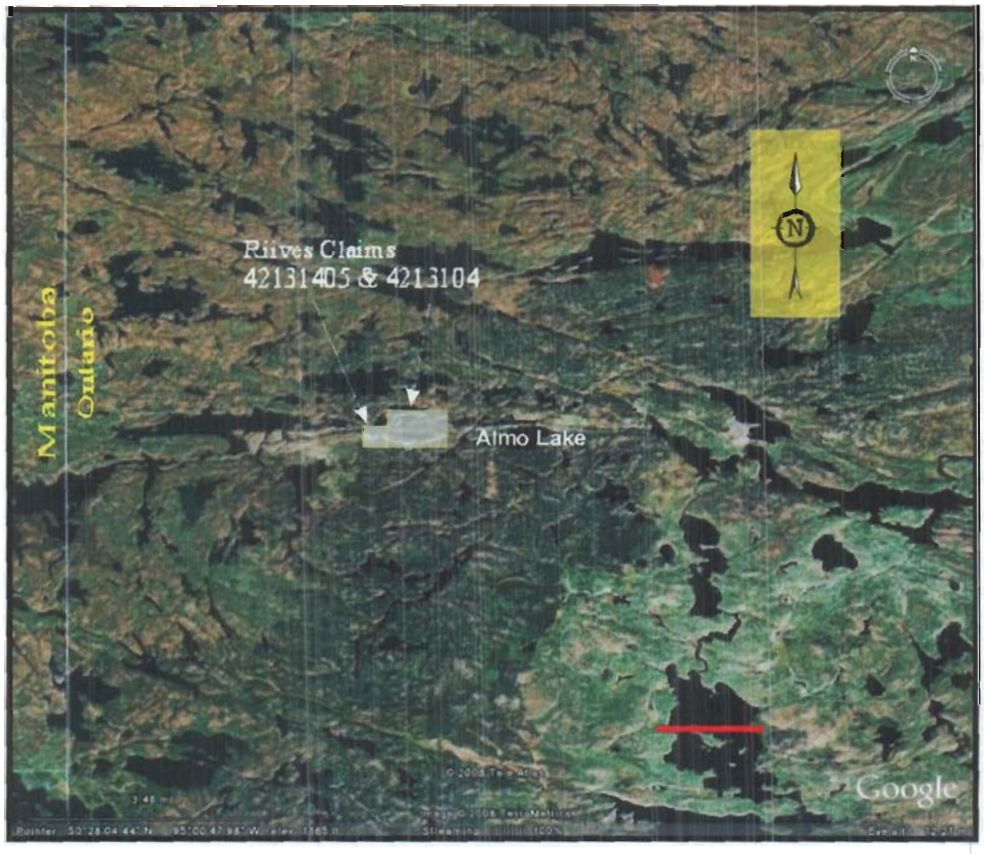
Claims 4213104 and 4213105 consist of eight 400x400-m (16 ha) units, located along the east-west Werner-Gordon-Rex lakes access road in northwest Ontario, east of Lac du Bonnet, Manitoba (Figs. 1-2). The claim area is roughly 90 km in straight-line distance to the N.N.W of the north shore of Lake of the Woods at Kenora, and 110 km southwest of Red Lake, in **NTS quadrangle 52L/6** (EMR Canada, 1995). The centre of the claim block lies at approximately **95°02.5'W, 50°28.0'N** (Figs. 3-4). It is uninhabited and apparently free of buildings or other infrastructure, with the exception of the access road which crosses southern parts of each claim, and some bush roads (good in places, boggy elsewhere). This area is readily accessible on regional highways and gravel roads from Lac du Bonnet, a small town about 1 hour's drive northeast of the city of Winnipeg. There is a restricted travel order on the Werner Lake Road, east from the Manitoba border. There is no direct connection from the Werner Lake Road to other roads in Ontario. The requisite "mining-only" permit can be obtained from the MNR in Kenora (807-468-2501). A local road log follows:

Km	*Road Log Details*
0	From downtown Lac du Bonnet go N on Hwy. 11, turn right on Hwy 314 over the Winnipeg River, go left at Pointe du Bois (Hwy. 313) turn, and right on Hwy 315 which goes E to the border.
35	Tall Timber Lodge
49	Tanco mine turn to Bernic Lake (go straight into Nopiming provincial park, and then turn right on Hwy 315)
71	Bird Lake / Nopiming Lodge
72	Phone cell availability in this area, 2007
74	Tilabi Falls campground
83	**Manitoba-Ontario border at Davidson Lake (MNR sign).** In winter, east of the last cottage sites in Manitoba, snowplough service may well be required for other than snowmobile access.
84	Beaver-dammed water flow across road
87	Double culvert under road, S side of Reynar Lake
91	**Approximate south-centre of the Riives claims**
93	Norpax site access, W causeway over Almo Lake
95	E causeway over Almo Lake
95	Gated track to N: Canmine's Werner Lake West project building
97	Red gate 1
97	Werner Lake mine adit on left (N) side
99	Red gate 2
100	Gordon Lake mine site, boat launch and "lodge"

The two claims were staked in 2006 and registered to prospector Ivar Joseph Riives. Details are given below, as taken from the MNDM Claims database, 08 November 2008. Note that, at time of writing, the two claims have been transferred to Mr Riives daughter, Ms. Diana Madussi. The claims are in the **Reynar Lake area**, **MNDM G-plan area 2636**.

Claim	*Units*	*Date registered*	*Due date*	*Work requirement*
4213104	7	15 NOV 2006	15 NOV 2008	$2,800
4213105	1	22 NOV 2006	22 NOV 2008	$400

Figure 3. A "Google Earth" image of the project area, downloaded on 08 November 2008. The centre of the Riives claims is indicated, and the Manitoba border shown to the west. The red scale bar ~2 km.



Local Geology

The Werner-Rex lakes area forms part of the English River subprovince of the Superior craton. The area is part of the Archean English River subprovince, an 800x50 km linear belt in the northwestern Superior province (Breaks, 1991). Gabbro, diorite and ultramafic rocks comprise <1% of the English River subprovince. The English River belt, like the Quetico belt further east, and much of the distant Grenville province straddling the Ontario-Quebec border, is dominated by metasedimentary rocks and granitoid plutons. In terms of economic geology, all three subprovinces are further linked by a common "curse", in that they are commonly considered unfavourable for the development and preservation of mineral deposits large enough to warrant development in the late 20th and early 21st centuries. At least a partial rebuttal of this thesis is possible for all three belts, but is beyond the scope of this brief report. Note however that the Werner-Rex lakes belt displays an unusual concentration of Ni-Cu-PGE, Cu-Co-(Au) and Cu mineralizations, and that it holds promise as an exception to the above-named "rule".

The geology of the belt is reviewed in detail by a number of workers, notably Carlson (1958), Rose (1958), and Parker (1998). Evidence of 60-plus years of mineral exploration is widespread in the field: from abandoned drill core and old claim posts to the surface features of the Werner Lake and Gordon Lake mines. The Ni-Cu-PGE ores of the Gordon Lake mine have been examined in detail by Rose (1958), Scoates (1963, 1972) and others. Detailed mineralogical work has been conducted on some of the mineral assemblages, such as platinum-group minerals (Rucklidge, 1968, 1969) and the cobalt-rich suite of the Werner Lake mine (Pan and Therens, 2000).

The claims are located between Reynar Lake in the west and Almo Lake in the east. Carlson (1958, see Fig. 5) and the compilation map of Breaks (1991, see Fig. 1) display a suite of metasediments and derived metatexite (migmatite) intruded by tonalitic plutons.

Carlson (1958) recounts that the most important geological feature of the Norpax property and adjacent ground, including the Riives claims, is an east-west fault zone that passes through the northern part of Almo Lake. Exposures of peridotite and related rock are reported along this fault on the Norpax property. A N.E.-S.W. cross fault intersects the main east-west structure near the Norpax shaft, and may have been an important geological control. Mineralization in the main structure was "closely associated with a fault gouge zone". The disseminated to massive sulphides include pyrrhotite, pentlandite, violarite, chalcopyrite and pyrite.

Figure 4. A "Google Earth" close-up of the project area, downloaded on 08 November 2008. The centre of the Riives claims is indicated. The red scale bar ~1.5 km.

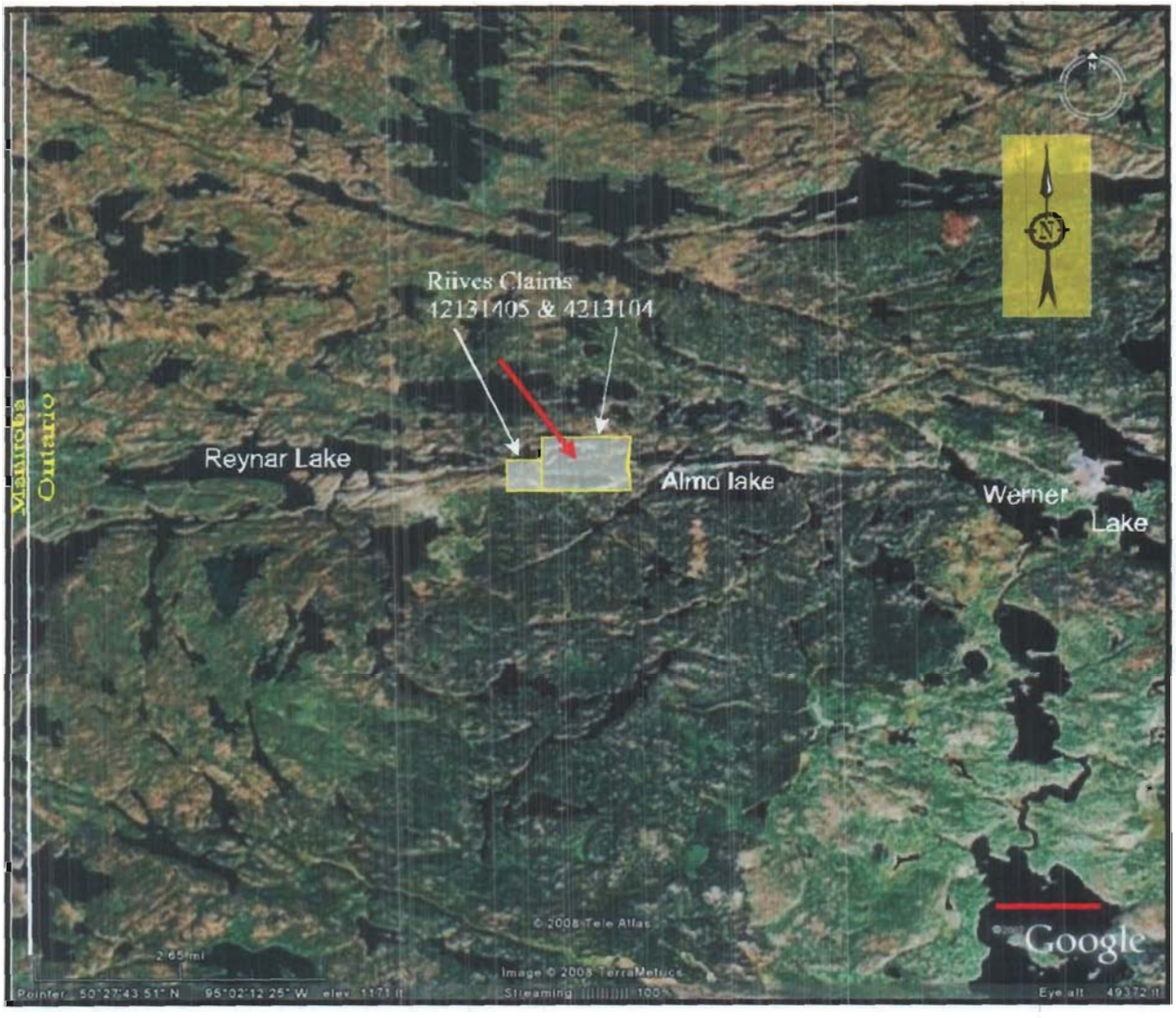
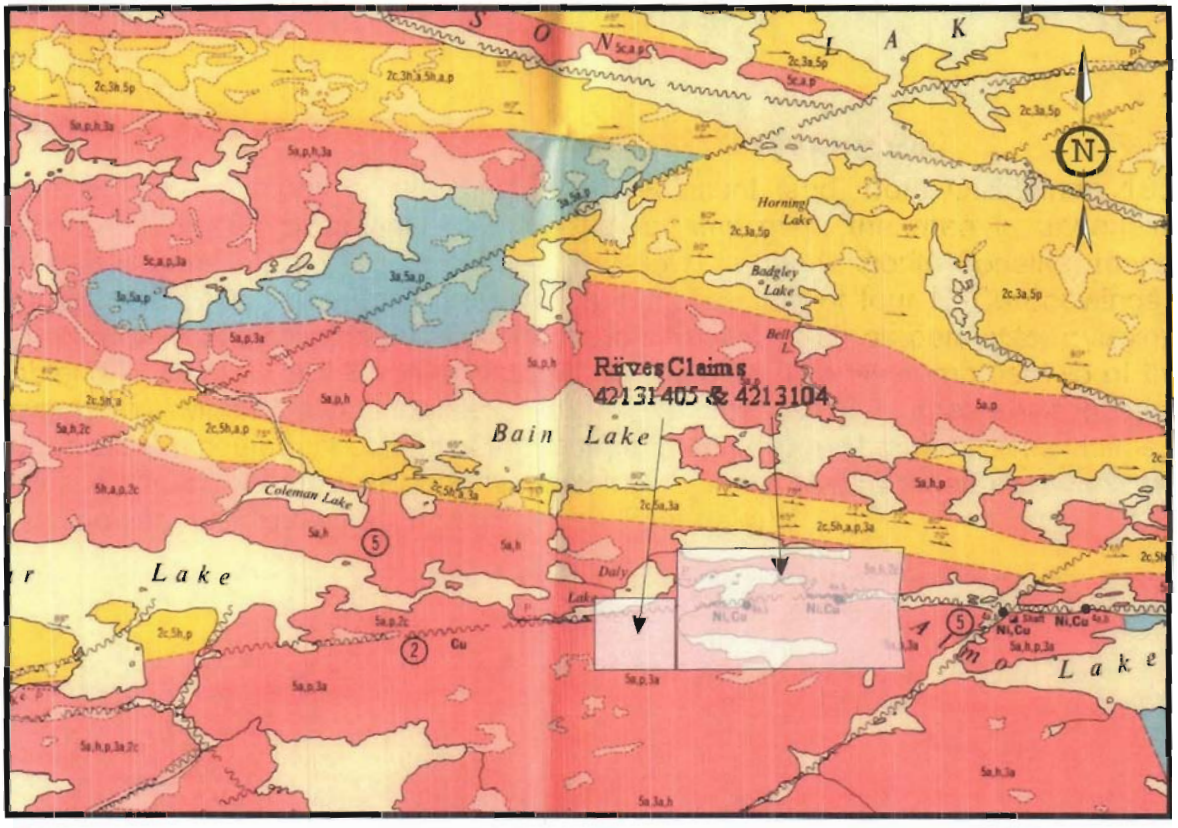


Figure 5. The geology of the claims and adjacent land, from ODM map 1957-2 (Carlson, 1958). To summarize the legend for this map, the area is underlain by paragneisses and other metasediments (2, yellow), a quartz diorite (tonalite) mass (3, blue) and a granite-granodiorite group (5, pink). The line of four Ni-Cu showings are associated with sub-cropping mafic-ultramafic intrusive, such as peridotite, pyroxenite, hornblendite, biotite-hornblende schist and amphibolite. The westernmost two of these showings plot within the boundaries of the Riives claims. The Norpax shaft location is shown near the southeast corner of the map, immediately east of the Riives claims at a junction of fault zones on the northwest arm of Almo Lake (a small east-west water body, also variously known as Tigar, Tigre or Tiger Lake).



History of Work on Claims

The Riives ground was surely traversed by numerous explorers during the discovery of the Norpax deposit, immediately east of the modern claims. Carlson (1958) describes the work of Kenora Prospectors and Miners Limited, a subsidiary of Ventures Limited. In 1928, this company acquired the 1920 cobalt discovery at the northwest end of Werner Lake, and conducted advanced exploration there. Carlson's mapping indicates two Ni-Cu

showings on an east-west fault zone that extends west from the area of the Werner Lake deposit, past the Norpax deposit and other showings, and along and near the south shores of Daly and Reynar lakes and apparently within the boundaries of the Riives claims. The main work on the immediate area was conducted by Norpax Oils and Mines Limited (Carlson, 1958, pp.25-27). The Norpax ground was first staked in 1953, when C. Alcock found 3 nickel showings on the shores of Almo Lake (Wakeford, 2002) That property was then optioned by Selco Exploration Company Limited, who undertook magnetometer surveys and diamond drilling in the winter of 1953-1954, Norpax acquired the property in 1954, and during that decade undertook drilling and underground exploration and development. Carlson (*ibid.,* p.27) notes that (on the Riives claims) "two other mineralized zones along the fault to the west have been drilled with inconclusive results". Activity in the next half-century focused on the major known deposits, the Werner Lake Co-(Cu-Au) and Gordon Lake Ni-(Cu-PGE) mines. Atikwa Minerals Limited undertook geophysical work and drilling at Norpax in 2001-2002, drilling on the frozen surface of Almo Lake. Since the date of staking in 2006, the claims have seen brief visits by owner Joseph Riives (documented in a separate report by Mr Riives), by personnel of Gamah International Limited, and by the writer. Limited infill staking in 2007 was related to interest in the belt, financed by Commerce Capital Inc.

As noted by the Kenora office of MNDM in July 2008, "Puget Ventures Inc. announced that it has entered into an arms-length and binding Letter of Intent with 1592129 Ontario Inc., Commerce Capital Inc. and other shareholders of 1592129 to acquire the Werner Lake Mineral Belt Properties (*which*) consist of approximately 1,700 hectares including 79 mining claims and 69 Licenses of Occupation. There are six historical mineralized zones with formally reported mineral resources on the property: Norpax Cu-Ni-PGE deposit, West Cobalt deposit, the Werner Lake Minesite Cobalt deposit, the Eastern Shallows Cobalt deposit, the Big Zone deposit and the Gordon Lake Ni-Cu Deposit. This will be collectively known as the Werner Lake Minerals Belt properties (*press release*, Puget Ventures Inc., July 8, 2008, www.pugetventures.com)". Subsequent personal communication (G. Harper, 2008) indicates that the agreement with Puget Ventures Inc may no longer be in effect.

Prospecting and Geology, October 2007

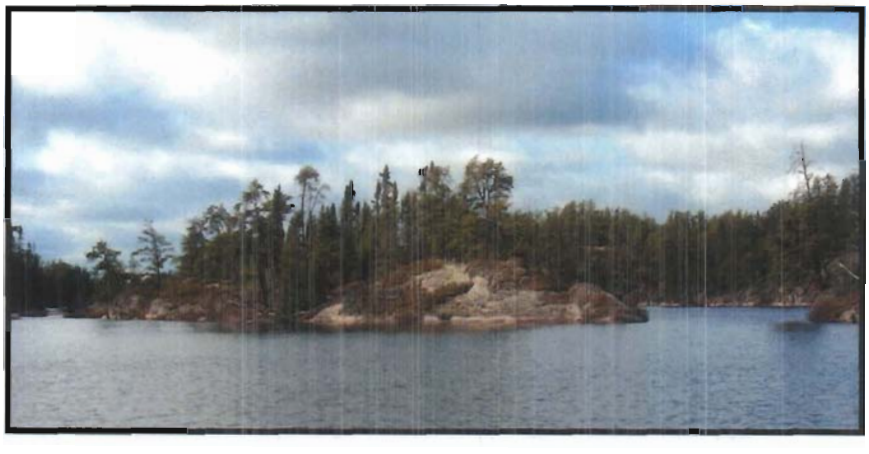
On Friday-Sunday, 26-28 October 2007, a "traverse" was made of the road-accessible western part of the region, including the Riives claims, by truck, canoe and foot. From west to east, brief field visits were paid to: 1) the east shore of Reynar Lake; 2) the Bellekeno showing; 3) the new Riives claims; 4) the Norpax property; 5) a roadside ore dump; 6) Juan drill project core dump; 7) Werner Lake Cu-Co mine site; 8) Gordon Lake Cu-Ni mine site, rehabilitated in 1994; and 9) the Eastern Shallows area, east of Gordon Lake. While this report concerns the Riives claims, it is worth noting that the belt

of sites listed above occurs tightly clustered within a few hundred metres of the west-east Werner Lake access road, in a linear zone 14 km west-east by just 700 m north-south. The writer was not successful in locating either of the copper nickel "showings" identified in Figure 5. Literature research is needed to determine if they are evident as outcrops or as diamond drill hole discoveries.

Bedrock Geology

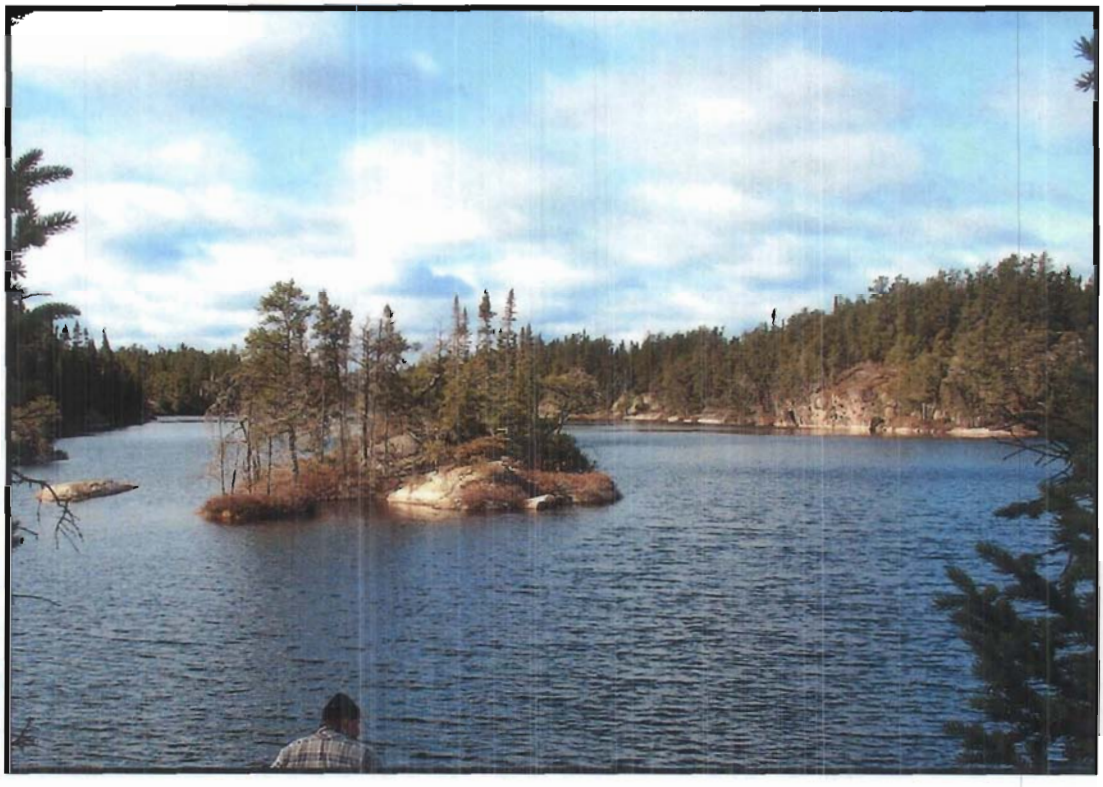
An east-west foliation and upper amphibolite to lower granulite facies regional metamorphism, with attendant migmatization and local small-scale isoclinal folding, are readily apparent in roadside and lakeshore outcrops. In general, exposure is excellent, the glacial overburden minimal (apparently 0-50 cm thick). The best-exposed rocks are the hardest and most chemically resistant lithologies, such as granitoids seen in low, rounded east-west ridges and forming steep cliffs metres to tens of metres in height. Biotite- feldspar- garnet gneisses, often broadly reminiscent of the granulite-facies "khondalites" of southern India, are also well-exposed. Garnetiferous metagabbro and pale eucogabbro are found in the Cu-Co-mineralized Eastern Shallows zone on the east shore of Gordon Lake, east of the Cu-Ni mine site. In contrast, the peridotites and related ultramafic rocks associated with the Cu-Ni-PGE mineralization, as at Norpax and Gordon Lake, were not encountered. They do apparently form small outcrops (Rose, 1958; Parker, 1998), and are surprisingly hard, as indicated by loose mine waste on the Gordon Lake and Norpax sites. The known deposits boast some very high grades of Cu-Co and Ni-Cu-PGE but are relatively small. In spite of this apparent hardness the rock units (and maybe encompassing structures) are negatively weathering and occur under a generally easterly trending line of gullies and lakes extending for many kilometres, both across and beyond to the east and west of the Riives claims.

Figure 6. Tiger Lake, the northwest arm of Almo Lake, seen looking west into the Riives claim group (the foreground lies on the Norpax property).



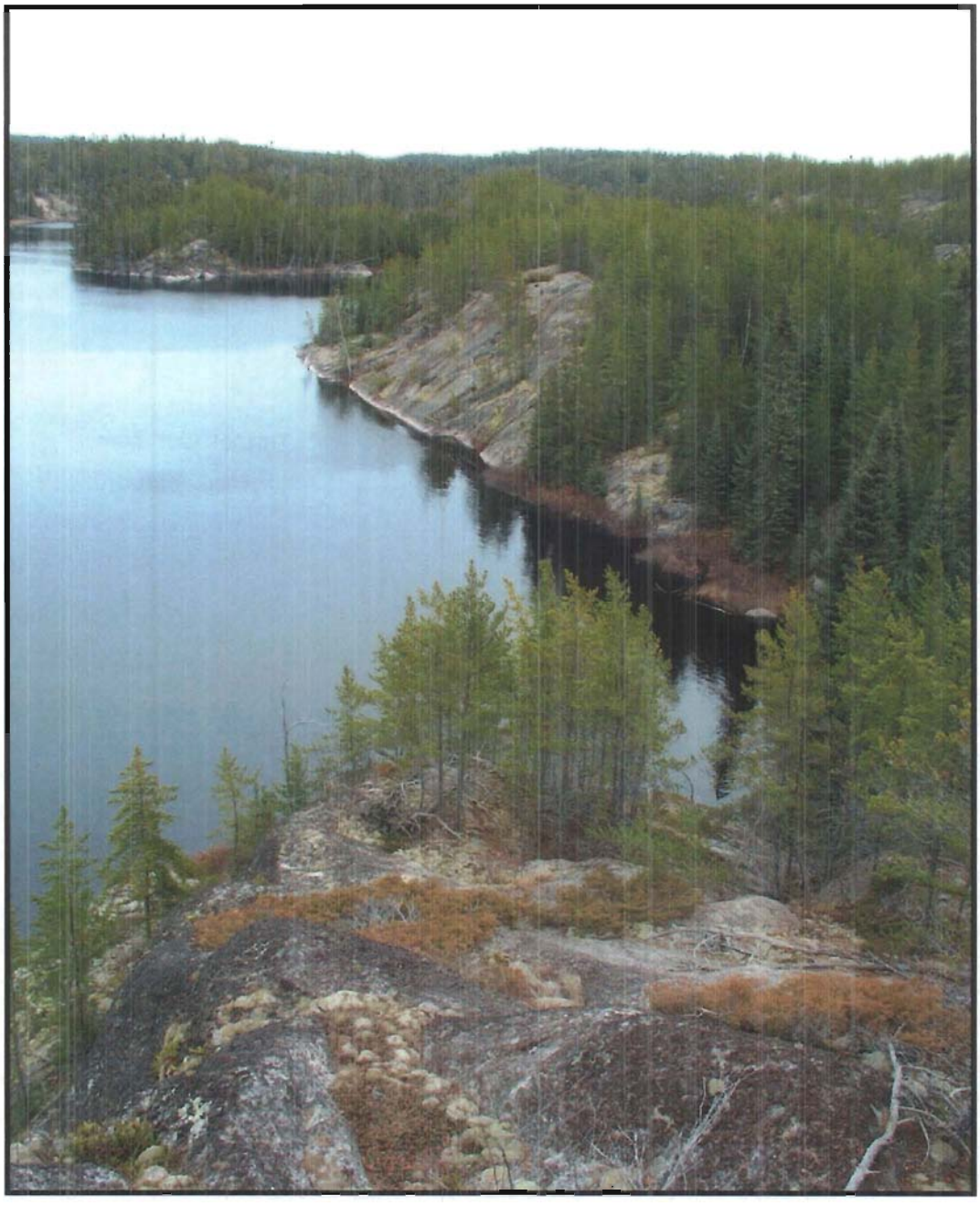
The east end of the claims can be accessed from Tiger Lake (Figs. 6-7). The adjoining land to the east is part of the Norpax property, The local bedrock includes pink granite with screens of schistose metasediment. Inclusions in the granite dip steeply to the north. The north shore of Tiger Lake preserves historical traces of the 1950s exploration cycle: metal stakes, drill collars, rusty cans all overgrown. The north shore, near the Riives-Norpax boundary, is composed of medium- to coarse-grained pale salmon, grey and white granite with pegmatitic patches. The rock is composed of quartz, two feldspars and biotite mica, plus (?) blue-grey cordierite and trace garnet.

Figure 7. Westward view from the centre of Tiger Lake, into the eastern Riives claim. This view is from the vicinity of the Norpax deposit and demonstrates the negative topographic lake feature which hides the whole deposit and its host peridotites.



The west side of the Riives claims, accessed south of the eastern reach of Reynar Lake (Fig. 8) displays granite with thick biotite foliae, quartz-rich pegmatite, and biotite leucogranodiorite with minor pegmatitic patches and coarse salmon-coloured perthitic alkali feldspar. The topography is dominated by low, locally steep-sided granitoid ridges which strike ≈N84°E, essentially parallel to the local bedrock foliation.

Figure 8. View eastwards past the east end of Reynar Lake, with the western Riives claims in the background, illustrating the relatively subdued yet locally-rugged topography of the belt, with its intense east-west structural fabric.



The core of the Riives claims is underlain by biotite granodiorite to leucogranodiorite, with local pegmatitic segregations. The intrusive is foliated, the fabric striking ≈N77°E. This granitoid may host amphibolitic schlieren and cm-scale, foliation-parallel veinlets of K-feldspar pegmatite containing coarse magnetite porphyroblasts (Figs. 9a,b). If the Fe oxide is abundant then this observation is relevant to interpretation of magnetic surveys, since magnetic granitoids will serve to depress the anomalies otherwise to be expected from potential economic target units, such as serpentinized peridotites.

Figure 9a,b. Schlieren of amphibolite (top) and a magnetite-rich pegmatite with cm-sized oxide porphyroblasts in biotite granodiorite on the Riives claim group.

Quaternary Geology and Topography

The overburden in the area appears in general to be shallow, 1 metre or less. The topography is generally modest, yet often with steep slopes, some probably fault-controlled, on and near lake shores. Horizontal unloading joints occur on the granite ledges on the north shore of Tiger Lake, by the Riives-Norpax boundary. The topography generally follows the regional foliation, running slightly north of east (Fig. 10). The exception to the generally shallow overburden is the easterly linear identified by gullies and lakes which host the peridotite bodies or horizon and associated nickel copper mineralisation. A similar drop-off in topography as is shown in Figure 10 occurs at the Norpax deposit with a 10-m cliff followed by water and organic sediments in the lake bottom above the bedrock peridotite.

Figure 10. View west from top of an east-west granitoid ridge, the land dropping steeply into a gully to the north. Scenery typical for the Riives claim group.

Conclusions and Recommendations

The limited reconnaissance summarized herein does not allow for any grand synthesis, but the fieldwork proved sufficient to demonstrate the following:

1. Good **access** to the claims, on the 17-km portion of the belt extending from the Manitoba border east to Gordon Lake. The road would need some combination of grader / snow-plough / sanding-truck attention in full winter conditions, particularly if a drill program were being conducted. Enquiries at Lac du Bonnet would soon furnish the names of the nearest reliable contractors.
2. A considerable number of **drill-hole collars** from past drill programs were located by the crew and surveyed by GPS. In some cases the metal casings remain in the holes, but in older holes (more than 10 years old) this is rare, and rotted wooden cribbing and/or core boxes, often with a few scattered pieces of smaller-gauge (<40 mm) drillcore, indicate the proximity of an old drill hole. Additional clues reside in overgrown tractor / skidder trails, and rusted 50-year-old cans of drilling lubricants. Searching for, locating and positioning such drill holes should be undertaken in conjunction with historic-records research to identify the locations of the mapped mineralised occurrences.
3. A number of **claim posts** were flagged in the area, from at least 3 or 4 generations of past staking, indicative of the recurrent, persistent nature of prospecting and mineral exploration along the axis of the belt, the regional structure known as the Werner-Rex lakes fault.
4. It is confirmed that the **ultramafic rocks** which occur as pods and lenses hosting Ni-Cu-PGE mineralization are generally recessive on the outcrop scale, even though loose samples in mine waste are indeed rather hard. Thus the peridotite suite was not recognized in outcrop, even in the adjacent Norpax site on Almo Lake.
5. Some of the loose drill core found beside the access road, its exact origins long since lost, were collected as indicators of the advanced development of migmatitic fabrics and other textures reflecting the strong regional deformation and eastward advance in regional metamorphic grade (Parker, 1998).
6. If such a small excursion, into both the field and local geological iterature, merits any significant conclusion, it is that such **secondary structures** as are not currently staked should be considered as a possible grass-roots exploration target. The sulphide ores are often strongly sheared (Taylor, 1950). Given that the locally sulphidic, Ni-Cu-PGE-rich rocks of the peridotite suite at Gordon Lake occur as small (<200 m) thin lenses, possibly fragments of a disrupted layered ultramafic sill, they will be hard to locate. Outcrops may exist, but will take more detailed prospecting, and such work has doubtless been conducted at intervals since 1942 (the Gordon Lake discovery) with little evident success.

7. The ultramafic suite should be quite strongly magnetic, with primary and/or secondary magnetite. The electromagnetic signature may be varied, given reported variable sulphide tenor and distribution (dispersed grains versus local semi-massive sulphide, which offers more in the way of a continuous conductor). A definitive attempt should be made to locate old showings and new peridotite occurrences, in outcrop and/or immediate subcrop. This could be combined with 1:5,000 mapping on the small claim block, and limited stripping of any pertinent outcrop. Survey of a representative range of outcrops with a magnetic susceptibility meter would provide an indication of the efficacy of follow-up geophysics. If warranted, a close-spaced (ideally with 50 to 100-m flight-line separation) airborne magnetic survey, flown perpendicular to the most promising structures, would be an ideal test for the near-surface occurrence of ultramafic targets. Any such expense would be undertaken only after due consideration of the Atikwa project on the Norpax property. If cost constraints prevent an airborne survey then ground magnetics across the strike trend during winter would allow continuous profiles across the structures.

Acknowledgements

The field visits proceeded smoothly and productively with the skilled assistance and good company of Zen Pozniak of Gamah International Limited. Dr Gerald Harper of Gamah directed the program and undertook a review of the regional mineral potential. Craig Ravnaas (MNDM) and staff provided enthusiastic help in viewing the copious assessment files and other records stored at the Ministry offices in Kenora. Joseph Riives of Dryden was kind enough to share with us some additional maps of the area. Chuck Anderson of Thunder Bay provided the canoe, a valuable tool on 2 of the 3 days in the field.

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Statement of Expenditures

The total elapsed time for the trip was 7 days for Dr. Wilson of which two days is the time spent on Riives claims. Dr Wilson also spent two days after the field trip preparing a report and therefore his time is allocated as to 2/7ths to the Riives claims work. Mr Pozniak spent the same time on the Riives claims as Dr Wilson but additionally drove for mobilization to and from Toronto.for a total of 11 days. His allocation is also based on 2/7ths.

Dr Wilson	Applicable field work Oct – Nov 2007	$1,362.86
Dr Wilson	Report preparation Nov 2008	992.25
Z Pozniak	Applicable field work Oct – Nov 2007	864.00
Accommodation, meals, canoe rental pro-rated at 2/7ths		633.85
Mileage expense – round trip of 5,044kms x 2/7ths @ $0.40/km		576.45
Total		4,429.41

CERTIFICATE AND CONSENT
To Accompany the Prospecting and Geology Report on the Field Geology of the Riives Claims, Werner Lake belt, Kenora Mining Division, Northwestern Ontario

I, Graham C. Wilson, residing in Campbellford, Ontario, do hereby certify that:

1) I am a self-employed consulting geologist with an office at 47 Pellissier Street South, Campbellford, Ontario, Canada;

2) I am a graduate of the University of Oxford with a B.A.(Hons.) degree (Dept. of Geology and Mineralogy, 1976). I obtained a PhD from the University of Cambridge (Dept. of Mineralogy and Petrology) in 1981. I have practised my profession continuously since 1981;

3) I am a fellow of the Geological Association of Canada (1986), the Geological Society of India (1996), and the Association of Applied Geochemists (1998), and a Professional Geoscientist registered with the Association of Professional Geoscientists of the Province of Ontario (No. 0623);

4) I have prepared this report as objectively as possible. I have no financial interest in the Riives claims described herein, nor in any other mineral property in the Werner Lake belt;

5) I am not aware of any material fact or material change with respect to the subject matter of the technical report, which is not reflected in the technical report, the omission to disclose which makes the technical report misleading;

6) I, as the qualified person, offer this as a scientific opinion on the subject matter (see 4 and 5, above, and Sections 1.4 and 5.3 of National Instrument 43-101);

7) I have authored all the sections of this report;

8) I have personally conducted necessary research for this project, including the field visit;

9) I have read National Instrument 43-101 and Form 43-101F1 and the technical report has been prepared in compliance with this Instrument, 43-101;

10) This report, number **2008-12F**, is based on my work, and on material from the files of my research company, Turnstone Geological Services Limited;

11) I hereby consent to use of this report for submission to any provincial regulatory authority.

Campbellford, Ontario, Canada
08 November 2008

Graham C. Wilson, PhD, P.Geo.

G.C. Wilson

≡≡≡ NOTES ≡≡≡

About the author: *Geologist and mineralogist Graham Wilson holds a B.A. (Hons.) from the Dept. of Geology and Mineralogy, University of Oxford, and a Ph.D. from the Dept. of Mineralogy and Petrology, University of Cambridge. He is a practising professional geoscientist in Ontario (P.Geo, APGO member 0623, 2002) and a fellow of the Geological Association of Canada (1986), the Geological Society of India (1996), and the Association of Applied (Exploration) Geochemists (1998). Member of the Association of Geoscientists for International Development, Meteoritical Society, Mineralogical Association of Canada, Prospectors and Developers Association of Canada, and Society of Economic Geologists. He was for many years a Research Associate of the IsoTrace Laboratory of the University of Toronto. Secretary of the Meteoritics and Impacts Advisory Committee to the Canadian Space Agency (2002-2006). He has developed his own Earth-science databases since 1983, and continues this work via his wholly-owned, federally-incorporated company, Turnstone Geological Services Ltd. (incorp. 1985). Author or co-author of some 700 reports, papers and abstracts, including over 440 reports in the Turnstone series, and almost 40 articles in refereed journals.*

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Table 1. GPS WAYPOINT DATA, NORTHWEST ONTARIO --- RIIVES CLAIMS
For Gamah International Limited. Field days: 26-28 October 2007
Area on 1:50k NTS sheet 52L/6-NW (Ryerson Lake), MNDM G-plan area G-2636
Declination: grid N circa 4°W of magnetic N (2007) - values here = mag N azimuth plus 4°
To convert NAD83 to NAD27 in this area, as used on the NTS sheet, add 13 m to E, subtract 221 m from N
Graham C. Wilson, ver. 08 November 2008, Report 2008-12, select geographic data

		UTM values in NAD83 datum								Structures / bedding orientations			
Sample	*Note / outcrop*	*Easting*	*Northing*	*Elevation (m asl)*	*Date*	*Locality*	*FNB #, page*	Layer	*Defined Map unit*	*Dip*	*Towards*	*Strike*	*Feature*
		356220	5592469		28-Oct-2007	Trail to NW leads back towards "D" showing.	p.56	Roads					
		355696	5592608		28-Oct-2007	Outcrop on bush road. Foliated (N82°E) mgr biotite granodiorite with schlieren of amphibolite and streaks plus nests of pale salmon K-feldspar granite pegmatite with abundant clots of magnetite up to 1 cm in diameter. **See Fig. 9.**	p.56	Outcrop	Gd			82	Foliation
		355550	5592623		28-Oct-2007	Metal casing in crib just S of trail. Hole appears to dip 44° due N. Part of the N-oriented 2002 drill program conducted by Atikwa Minerals (?).	p.57	DDH					
RII-1		355490	5592652		28-Oct-2007	Core sample from area with scattered core boxes and discarded core. Local rock types in core include strongly foliated amphibolite, pale massive granodiorite with minor scattered magnetite grains, and foliated, chloritic, mylonitized (?) fault gouge. Site with empty core boxes and a little core (1.375", 35 mm, AQ gauge).	p.57	DDH					
		355437	5592657		28-Oct-2007	Drill hole, no casing, in granite, dip ≈45°N, some core boxes nearby.	p.58	DDH	G				
		355387	5592666		28-Oct-2007	Drill hole, metal casing, dip 45°N.	p.58	DDH					
		355387	5592666		28-Oct-2007	Ground here is an E-W ridge, ledge dropping off to N into a double gully feature, aligned E-W in regional grain.	p.59	Topo					
		355323	5592661		28-Oct-2007	Ridge relief is 15-20 m. **See Fig. 10.**	p.59	Topo					
		355323	5592661		28-Oct-2007	Foliated fgr-mgr biotite leucogranodiorite.	p.59	Outcrop	Gd				
		355538	5592653		28-Oct-2007	Drill hole, metal casing, dip 45°N (within a few degrees of N). Probably 1-2 more holes nearby.	p.60	DDH					
		355538	5592653		28-Oct-2007	S side of ridge of strongly foliated mgr biotite granodiorite, minor K-feld porphyroblasts, some K-feld-rich granite pegmatite.	p.60	Outcrop	Gd			73	Foliation
		355686	5592668		28-Oct-2007	Metal casing, dip 45° to N346°E.	p.61	DDH					

RII-2	355683	5592604	28-Oct-2007	**See Figure 9.** A mgr granodiorite (qz, plag, bi) traversed by streaks of granitic pegmatite with coarse equant magnetite grains 4-25 mm in max dimension. Several such foliation-parallel layers or lenses of the highly magnetic pegmatite are seen in local outcrop. In situ.	p.61	Outcrop	Gd		76	Foliation

Table 2. GPS WAYPOINT DATA, NORTHWEST ONTARIO — WERNER LAKE BELT RECONNAISSANCE
For Gamah International Limited. Field days: 26-28 October 2007
Area on 1:50k NTS sheet 52L/7-NW (Umfreville Lake), MNDM G-plan area G-2654
Assorted standard mining claims and pre-existing, irregularly-shaped patent claims
To convert NAD83 to NAD27 in this area, as used on the NTS sheet, add 13 m to E, subtract 221 m from N
Graham C. Wilson, ver. 07 November 2007, Report 2007-06, select geographic data

Sample	Note / outcrop	UTM values in NAD83 datum Easting	Northing	Elevation (m asl)	Date	Locality	FNB #, page	Layer
						Witness post near E shore of Reynar Lake. 140 m W to post 2-1244118.		
		351349	5592246		28-Oct-2007		p.48	Claims
		357260	5592629		27-Oct-2007	4-1144603, 3-1144502 post (old). The site of sample NORP-8. Also, on ground, a much older post, number 4-474954.	pp.40-41	Claims
		357258	5592641		27-Oct-2007	Immediately to N, downslope by shore. a nest of claim posts of different vintages. (1) 4-895844 and 3-895840, (2) line post 400 m N of post 3-1208148 and (3) a 4x4" timber marked line post 400 m S of post 4-1209602.	p.41	Claims
		358923	5592415		26-Oct-2007	3-4226064 post,and also witness post 400 m south to 2-4226063 post, staked by C. Anderson, 08 SEP 2007.	p.10	Claims
		356601	5592523		27-Oct-2007	Culvert under W causeway on Almo Lake, near the Norpax mine site.	p.27	Road
		359994	5592433		26-Oct-2007	Western red gate (1/2), note also the metal-capped drill-hole casing beside it on N side.	pp.11,65	Road
		362219	5592200		26-Oct-2007	Eastern red gate (2/2)	p.11	Road
		362970	5592258		26-Oct-2007	Boat ramp faces east into Gordon Lake, east side of mine site.	p.14	Road
		357424	5592530		27-Oct-2007	Deposit of core rocks and abandoned drill core by lake shore.	p.43	Core
		356739	5592567		27-Oct-2007	W side of Norpax shaft	p.27	Mine
		358827	5592569		28-Oct-2007	Canmine Werner Lake West cobalt project - storage shed, W door.	p.64	Buildings
		358880	5592569		28-Oct-2007	Canmine Werner Lake West cobalt project - storage shed, E door.	p.64	Buildings
		360113	5592586		28-Oct-2007	Werner Lake mine, W side of flooded shaft, W entrance to main vertical W-E-trending stope along regional strike, accessed from S side by adit at 90 degrees, intersecting at the shaft.	p.65	Mine
						Also available: more locations with geological details, drill-hole collars, etc.		

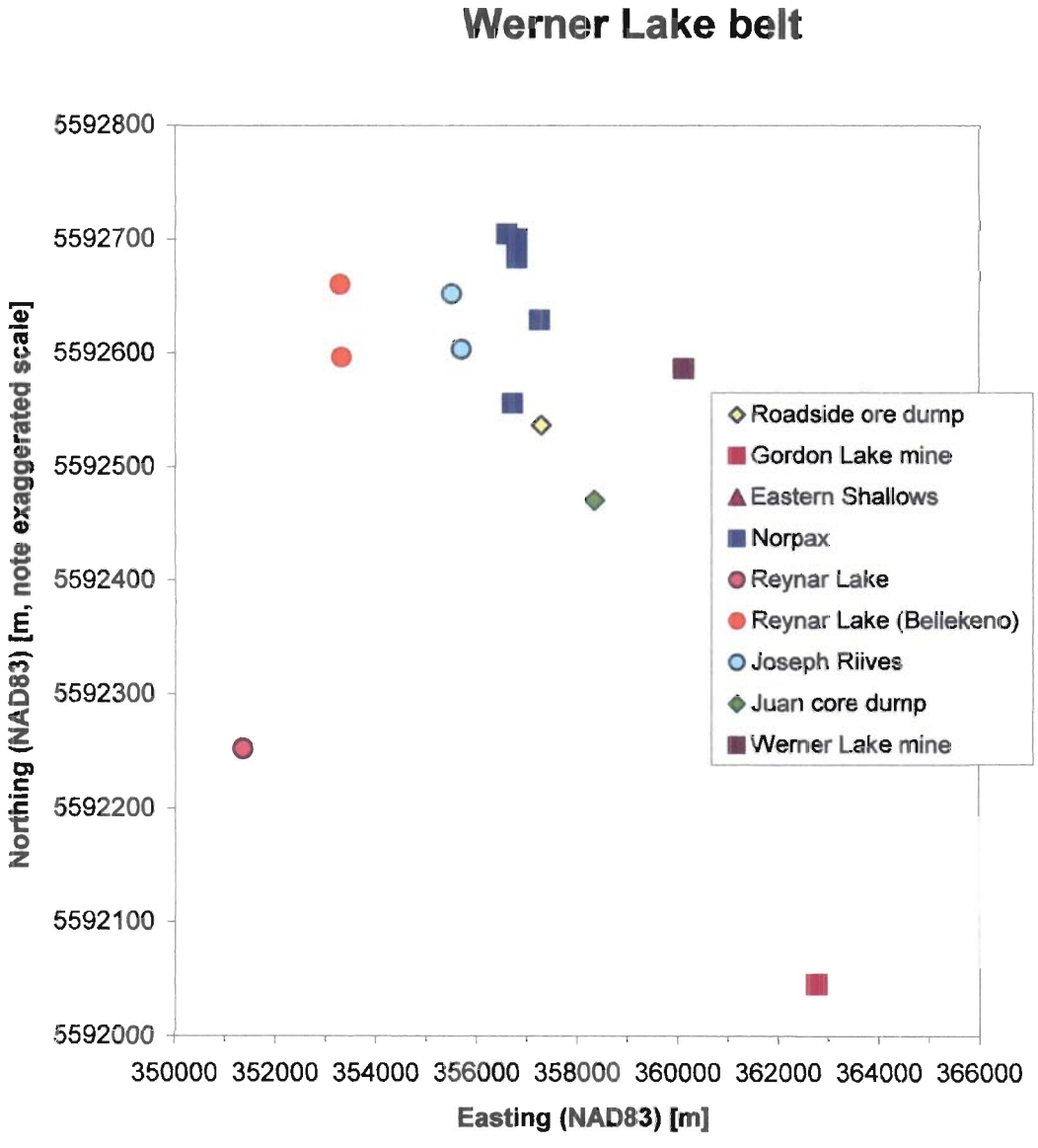
Werner Lake belt
5592800
5592700
5592600
5592500
5592400
5592300
5592200
5592100
5592000
Northing (NAD83) [m, note exaggerated scale]
350000
352000
354000
356000
358000
360000
362000
364000
366000
Easting (NAD83) [m]
Roadside ore dump
Gordon Lake mine
Eastern Shallows
Norpax
Reynar Lake
Reynar Lake (Bellekeno)
Joseph Riives
Juan core dump
Werner Lake mine

Table 3. Field Reconnaissance of Werner Lake belt, N.W. Ontario: GCW grab samples, n=21, 26-28 Oct 2007

Sample Number	UTM location NAD83 Easting	Northing	Elevation m asl	Date Sampled	Field Rock-type Map units, if applicable	Hand specimen description	Location Description	Sulphide Amount	Sample Types	Reference (report, field book etc)	Age (inferred)	Sample GCW	2nd name Field/lab
GORD-1	362780	5592045		26-Oct-2007	AMPHIBOLITE	The local bedrock is highly foliated, including amphibolite (a highly deformed and disrupted mafic dyke?) and leucogranodiorite with local quartz segregations. Loose material on site, of poorly constrained origin, includes massive amphibolite. 1-B: similar, more friable amphibolite, also with rusty surfaces, appear as construction material of the barrier and boat launch on the west shore of Gordon Lake, circa 362970E, 5592258N.	**Gordon Lake mine site.** The old nickel mine has been extensively rehabilitated, while preserving some outcrop within an area of rusty mine waste.		HS	FNB, p.12	Archean	2755	
GORD-2	357293	5592537		27-Oct-2007	SULPHIDIC PERIDOTITE and GABBRO	Random sulphidic samples from loose, dumped ore. A (?) serpentinized hornblende peridotite with abundant fgr sulphide (pyr and chalc) and a paler green gabbro with clots of pyr and of chalc. **MAY BE IMPORTED (see locality note).**	**Gordon Lake access road.** Loose material, apparently a truckload dumped on south side of road. Loose rusty material, quite unlike Werner Lake ore. COULD be from Gordon Lake, but quite probably imported ore from the nearby **Bird River sill (Maskwa mine) in Manitoba**, ore which Falconbridge trucked to the Gordon Lake mill for processing.	1-10%		FNB, p.42	Archean	2767	ASSAY
ES-1	363942	5592259		26-Oct-2007	GARNETIFEROUS GRANITE	A fgr granite with qz, 2 feld and abundant gar. gs 1-3 mm. In situ, 2 m south of garnet-rich metagabbro margin. The granite contains lenticles of coarser pegmatitic material of similar mineralogy.	**The Eastern Shallows zone** on the east side of Gordon Lake. Good flat outcrop by the shore, with a metagabbro sheet some 3 m thick, in contact with a granitoid to the south, the granitoid containing fgr garnet and pods of calc-silicate rock.		HS	FNB, p.20	Archean	2756	
ES-2	364237	5592255		26-Oct-2007	SULPHIDIC MELAGABBRO	A compact, fgr dark melagabbro to hornblendite, with clots of tawny chalcopyrite. In situ. Some of the rock is relatively gneissose, garnetiferous and friable (possibly a metasediment in proximity to the metagabbroic band).	**The Eastern Shallows zone on the east side of Gordon Lake.** Samples from the top of a low east-west ridge, immediately south of an east-west linear swampy zone, the site of an old drill program which targeted the rock beneath the ridge.	2%	HS	FNB, p.23	Archean	2757	ASSAY
ES-3	364237	5592255		26-Oct-2007	BIOTITE QUARTZITE	A fgr, pale grey, (?) biotite quartzite. In situ, from the base of the north face of the low ridge, within 3 m of ES-2.	**The Eastern Shallows zone** on the east side of Gordon Lake.		HS	FNB, p.23	Archean	2758	
NORP-1	356727	5592556		27-Oct-2007	SULPHIDIC MAFIC BRECCIA ORE	Dense, dark ore with rusted surface, the interior a fine breccia with mm-scale angular clasts (quartz, pyroxene, etc) in a groundmass with abundant fgr sulphides (locally dominated by chalc, plus py and pent?). The remobilized sulphide ore demonstrating so-called "durchbewegung" texture.	**Norpax property**. Four samples assembled in quick foray within 20 m to SW and W of the fenced-off, caved shaft. Loose.	15%	HS	FNB, p.27	Archean	2759	ASSAY
NORP-2	356727	5592556		27-Oct-2007	SULPHIDE-VEINED GRANITE	A salmon-coloured granitic pegmatite, dominated by salmon-coloured K-feldspar, with abundant veinlets / grain-boundary fillings of coarse tawny chalcopyrite. Plus minor quartz and biotite.	**Norpax property**. As above.	7%	HS	FNB, p.27	Archean	2760	ASSAY
NORP-3	356727	5592556		27-Oct-2007	Cu-VEINED AMPHIBOLITE	A dense amphibolite (probably a mafic supracrustal rock?) cut by a thin quartz- chalcopyrite veinlet.	**Norpax property**. As above.		HS	FNB, p.27	Archean	2761	
NORP-4	356727	5592556		27-Oct-2007	AMPHIBOLITE	A rusty-weathering, dark green ultramafic rock. A somewhat coarser amphibolite than NORP-3, possibly an altered ultramafic rock.	**Norpax property**. As above.		HS	FNB, p.27	Archean	2762	
NORP-5	356613	5592704		27-Oct-2007	FELSIC BIOTITE GNEISS	The N-most of 3 dm-scale dark bands in coarse granite host rock, striking N104E (using the right-hand rule, strike N284, dip 55 degrees to the N). A tough foliated granular rock, apparently composed largely of feld, amph, bi and qz.	**Norpax property**. Sample in situ on an island in the northwest part of Almo Lake (known as Tiger, Tigar or Tigre Lake). The whole island is composed of foliated metasedimentary (migmatite) and granitic components.		HS	FNB, p.29	Archean	2763	
NORP-6	356814	5592700		27-Oct-2007	BIOTITE GRANITE	A fgr red granitoid, in situ, with minor bi-chl segregations. A mgr dark granodiorite to granite, often with abundant K-feld.	**Norpax property**. In situ on a peninsular east of the island of sample NORP-5, north of the Norpax mine site itself, which is rimmed by rounded cliffs to N and W.		HS	FNB, p.35	Archean	2764	
NORP-7	356811	5592683		27-Oct-2007	GRANITE and AMPHIBOLITE	The core includes a strongly foliated, mgr and relatively feldspathic amphibolite (colour index 45%). Also pink leucogranite with minor scattered red garnets and minor foliae outlined by content of bi / amph.	**Norpax property**. Close to granite NORP-6, near the southwest point of the peninsula, with a view over to the nearby Norpax mine. Old drill crib and core boxes with scattered core (1.375" / 35 mm AQ gauge).		DDH	FNB, p.36	Archean	2765	
NORP-8	357260	5592629		27-Oct-2007	AMPHIBOLITE and BIOTITE GRANITE	A strongly foliated rock displaying a sharp lithological contact rotated within the regional E-W foliation direction. The sample, in situ, consists of a dark amphibolite and adjacent, coarser- grained, highly foliated biotite granite.	**Norpax property**. In situ sample in area of numerous old claim posts, on south side of lake.The sample site is about 10 or 12 m S of the shore, and several m above the water on a steep slope.		HS	FNB, p.40	Archean	2766	

RL-1	351360	5592252	28-Oct-2007	GAR-BI GNEISS	A vcgr garnet biotite gneiss with rounded red almandine -rich garnets to 5 cm dia, plus lesser clear quartz, in a finer-grained, dark micaceous matrix. Steep foliation trends N110E, picked out by white feldspathic layers. The coarse garnets are concentrated in scattered, rounded pods each 30-50 cm in max dimension. In situ. **NOTE** - magnetic declination is 4 degrees E, and the quoted estimates of strike include the 4 degrees, that is, they are relative to local grid north.	Just above east shore of a bay in **Reynar Lake**, a rounded knoll of gneiss. No more than 10 m N and 10 m E of a claim post, number 2-1244118 witness post (claim corner is 140 m to W, under lake). A small amount of core (1.25", 32 mm, fractionally larger than ATW gauge) is scattered nearby (garnet gneiss, granodiorite, amphibolite).		HS, DDH	FNB, p.48	Archean	2768	
RL-2	353291	5592660	28-Oct-2007	GRANODIORITE and AMPHIBOLITE	The core displays intensely foliated intercalations of fgr amphibolite and a coarser, pale hornblende granodiorite. The latter encloses thick anastomosing foliae of hb (prograde metamorphism of bi?). The outcrop here is a mgr biotite leucogranodiorite containing minor pegmatoidal patches with coarse salmon-coloured K-feldspar.	Eastern Reynar Lake area, vicinity of the **Bellekeno showing**. Rotted core box and spilled core on rim of an east-west rock ridge, looking south into a steep gully. Circa 230 m north of the main access road. More 1.25" (32 mm) core.		DDH	FNB, p.53	Archean	2769	
RL-3	353323	5592597	28-Oct-2007	BI SCHIST and GRANODIORITE	Strongly foliated intercalations of a fgr biotite schist with a pale pinkish mgr hornblende granodiorite, in situ.	Reynar Lake / Bellekeno area. North side of the deep gully, at the foot of the rock wall to the north.		HS	FNB, p.55	Archean	2770	
RII-1	355490	5592652	28-Oct-2007	AMPHIBOLITE, GRANODIORITE, FAULT GOUGE.	Core sample from area with scattered core boxes and discarded core. Local rock types in core include strongly foliated amphibolite, pale massive granodiorite with minor scattered magnetite grains, and foliated, chloritic, mylonitized (?) fault gouge.	**Joseph Riives claims** (held by I.J. Riives of Dryden, ON). Site with empty core boxes and a little core (1.375", 35 mm, AQ gauge).		DDH	FNB, p.57	Archean	2771	
RII-2	355683	5592604	28-Oct-2007	GRANODIORITE and MAGNETITE-RICH PEGMATITE	A mgr granodiorite (qz, plag, bi) traversed by streaks of granitic pegmatite with coarse equant magnetite grains 4-25 mm in max dimension. Several such foliation-parallel layers or lenses of the highly magnetic pegmatite are seen in local outcrop. In situ.	Joseph Riives claims. Good, partially stripped outcrop.		HS	FNB, p.61	Archean	2772	
Juan-1	358355	5592471	28-Oct-2007	LEUCOGRANITE	Core sample. Strongly foliated biotite leucogranite with biotite flakes and actinolitic shears. Note the strong biotite foliation in this granitoid rock. Loose on ground, so a "spoiled" core sample, near boxes of hole Juan 86.	**Major core repository south of road, north shore of lake, Juan drill program.** Site with many metal-labelled core boxes (circa 75-80% intact, 20% scattered) and a little core (1.375", 35 mm, AQ gauge). Some of the core, e.g., in hole Juan 85, box 14, shows strong Cu-Co mineralization.		DDH	FNB, pp.62-63	Archean	2773	
W-1	360113	5592586	28-Oct-2007	COARSE SULPHIDIC HORNBLENDITE	Loose ore with erythrite (lilac cobalt bloom) and traces of a green Cu salt (malachite?). A dense rock, vcgr hornblendite pegmatoid. Very rusty, with blebs of tawny chalcopyrite, and lesser shiny pyrite and cobaltite, interstitial to the coarse amphibole prisms.	**Werner Lake cobalt mine**. Loose material on old mine site, where a drift and side adit converge upon a flooded shaft.	3%	HS	FNB, p.65	Archean	2774	ASSAY
	360113	5592586	28-Oct-2007	FINE-GRAINED SULPHIDIC HORNBLENDITE	Loose ore with cobaltite. Another dense rock with evident mineralization, but fgr, cf. the pegmatoidal W-1. The ore minerals occur both disseminated (chalc, cob) and fracture-hosted (py). **2-B:** the local waste rock includes a mgr garnet-quartz rock, banded and apparently barren of ore minerals, with perhaps 50% pink garnet, of presumed almandine- spessartine -rich composition.	Werner Lake cobalt mine. Loose material on old mine site, where a drift and side adit converge upon a flooded shaft.	3%	HS	FNB, p.65	Archean	2775	ASSAY