REPORT ON
A DIAMOND DRILL PROGRAM
ON THE
TOOMS TOWNSHIP NICKEL PROPERTY
OF
INTERNATIONAL KIRKLAND MINERALS INC.

February, 1999
Toronto, Ontario, Canada

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MPH Reference: C-1838

MPH Consulting Limited

TOOMS TOWNSHIP PROPERTY, CANADA

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EXECUTIVE SUMMARY

The Tooms Township property of International Kirkland Minerals Inc. ("IKM") is located in the southwest extremity of the Swayze Greenstone Belt in northeastern Ontario, the Swayze in turn representing the westerly continuation of the main Abitibi Greenstone Belt. The property comprises 37 claims (98 claim units - 3920 acres) and is currently in good standing with the first claims coming due in May, 1999. The property is readily accessible by timber roads from the Sultan-Chapleau highway.

The property contains two mineralized systems in the central portion of the property namely the former Sylvanite Creek gold prospect worked by Quinterra Resources and INCO in the 1980's and, to the south, a nickel (± copper, cobalt) prospect drilled most recently (1993) by Kennecott Canada. The present program was directed towards the latter and involved the completion of 792 m of BQ core drilling in 3 holes in the period February 1-14, 1999, including mobilization and demobilization. The target model was high grade (3-5% Ni) ultramafic-associated nickel deposits of the type currently being mined in the Kambalda District of Western Australia and represented in the Abitibi Belt of northeastern Ontario by the Langmuir deposits southeast of Timmins. The specific drill target was an area containing numerous low grade (generally <1%) nickel intersections in spatial association with ultramafic rocks based on previous drilling by Granges and Kennecott. Of particular interest was a value of 2.5% Ni over 1.6 m in previous Kennecott hole 5 at a vertical depth of 180m. Kennecott hole 5 was by far the deepest hole drilled to date in this area suggesting that the best potential may be to depth. The main focus of the present program was to probe the area beneath and to the south of the above Kennecott intersection.

A number of weakly mineralized zones (to 15% pyrite, pyrrhotite) was intersected in sedimentary and volcanic units peripheral to altered ultramafic units. The best nickel value encountered was 1% Ni over 0.92 m from 53.0 to 53.92 m in hole 2. No values of potential economic interest were recorded in copper, cobalt, platinum, palladium or gold. It is hypothesized based on all results to date that there was no co-magmatic nickel sulphide phases partitioned from the local ultramafic rocks; rather, the sporadic nickel concentrations in the surrounding sediments and volcanics appear to be related to the re-mobilization and re-

distribution of nickel out of the silicate phase in primary ultramafics during the extensive alteration and deformation of these rocks.

No further drilling is recommended at this time.

1.0 INTRODUCTION

1.1. General

MPH Consulting Limited was contracted by International Kirkland Minerals Inc. ("IKM") to design and manage a diamond drilling program to further investigate a nickel-bearing area on a property in Tooms Township in the Swayze area of northeastern Ontario ("the Property"). This appointment was in light of MPH's extensive experience regarding this particular property and in the south Swayze in general. This undertaking was to be contingent on the completion of an initial public financing by IKM. This financing was successfully completed in early February allowing the program to move forward.

1.2. Units and Currency

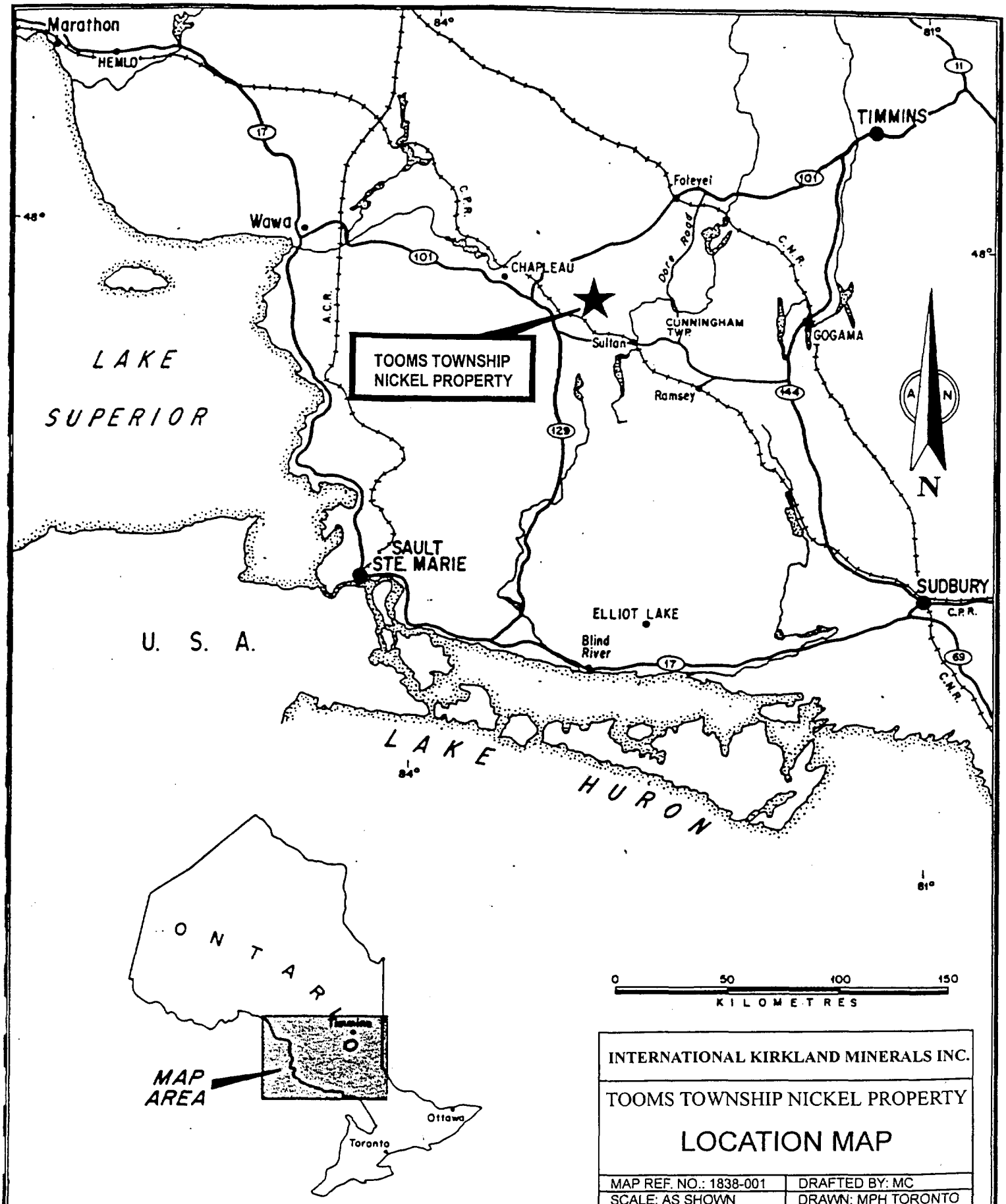
All units are metric unless otherwise stated. Historical assays are reported in units as originally published. All dollar figures, unless otherwise stated, are in Canadian dollars.

1.3. Location

The Property is located in northeastern Ontario and is centered at latitude 47°43', longitude 82°54' in the central portion of Tooms Township (NTS 41 0/10).

1.4. Access

The Property is approximately centered between Timmins, Sudbury and Sault Ste. Marie per Figure 1. Timmins is approximately 140 km northeast (240 km via road) and Chapleau 45 km (60 km via road) to the northwest. Timmins is the main local center of goods and services. A good quality logging road, the "Tooms Road", extends into and passes through the Property from the Sultan-Chapleau Highway 667. The former logging/sawmill settlement of Kormak lies some 10 km north of the highway on the Tooms Road at the Canadian Pacific Railway main line. The Property is a further 15 km to the north.



INTERNATIONAL KIRKLAND MINERALS INC.

TOOMS TOWNSHIP NICKEL PROPERTY

LOCATION MAP

MAP REF. NO.: 1838-001	DRAFTED BY: MC
SCALE: AS SHOWN	DRAWN: MPH TORONTO
FIGURE: 1	DATE: MAR 1999

MPH CONSULTING LIMITED — *International Exploration & Mining Consultants*

1.5. Topography

The Property is located in a large area of sandy to gravelly glaciofluvial outwash and till, characterized by predominantly gently rolling, often pitted drift-covered terrain. There are a number of prominent northerly to northwesterly-trending eskers to the east of Upper Sylvanite Lake, in the central portion of the Property.

The north-central portions of the Property have seen extensive recent logging operations of the poplar cover. Spruce and jackpine cover is more typical of the eastern and western portions of the Property; that in the extreme west has been logged and re-forested.

Climate is typically continental, with generally short summers and long, cold winters. Snow accumulations of approximately 2.5 meters are a common average. Freeze-up generally occurs around the beginning of November and break-up in late April.

1.6. Property and Legal

The Tooms Township property is located within the Porcupine Mining Division of Ontario and consists of 98 contiguous unpatented mining claim units totaling approximately 3900 acres numbered 1151590, 1154700, 1154863 to 1154866 inclusive, 1154941 to 1154950 inclusive, 1155570 to 1155580 inclusive, 1155593, 1158171 and 1189130 to 1189137 inclusive. All claims of the Property are in good standing with the first claims coming due in May, 1999. Appendix 1 presents a complete list of claim numbers, due dates and a copy of a portion of the Tooms Township claim map

The Property is the subject of an option agreement with Mrs. Elizabeth J. Kirkwood of Toronto whereby IKM can earn a 100% interest in the Property, subject to a 2% Net Smelter Royalty, by paying Mrs. Kirkwood a total of $15,000, issuing to her a total of 150,000 common shares of IKM and carrying out a total of $225,000 in exploration expenditures on or before December 31, 1999.

1.7. Operations

The drilling was subcontracted to Sparta Drilling of Connaught, Ontario. A Longyear "38" unitized wireline drill recovering BQ core was utilized. The drill was supported by a D-7 equivalent International Harvester bulldozer. The dozer was also used to plow open and maintain the entire 25 km access road from the main highway. Drill crews were based at "Marty's Bear Den", a tourist lodge located on the Sultan-Chapleau highway to the east of the Tooms Road junction. The core was logged, split and is being stored at 23 Helmer Ave in South Porcupine. Analytical work was carried out by Swastika Laboratories in Swastika, Ontario utilizing standard atomic absorption techniques with two check assays on the one higher grade sample (#20905 – 1% Ni).

2.0 GEOLOGY

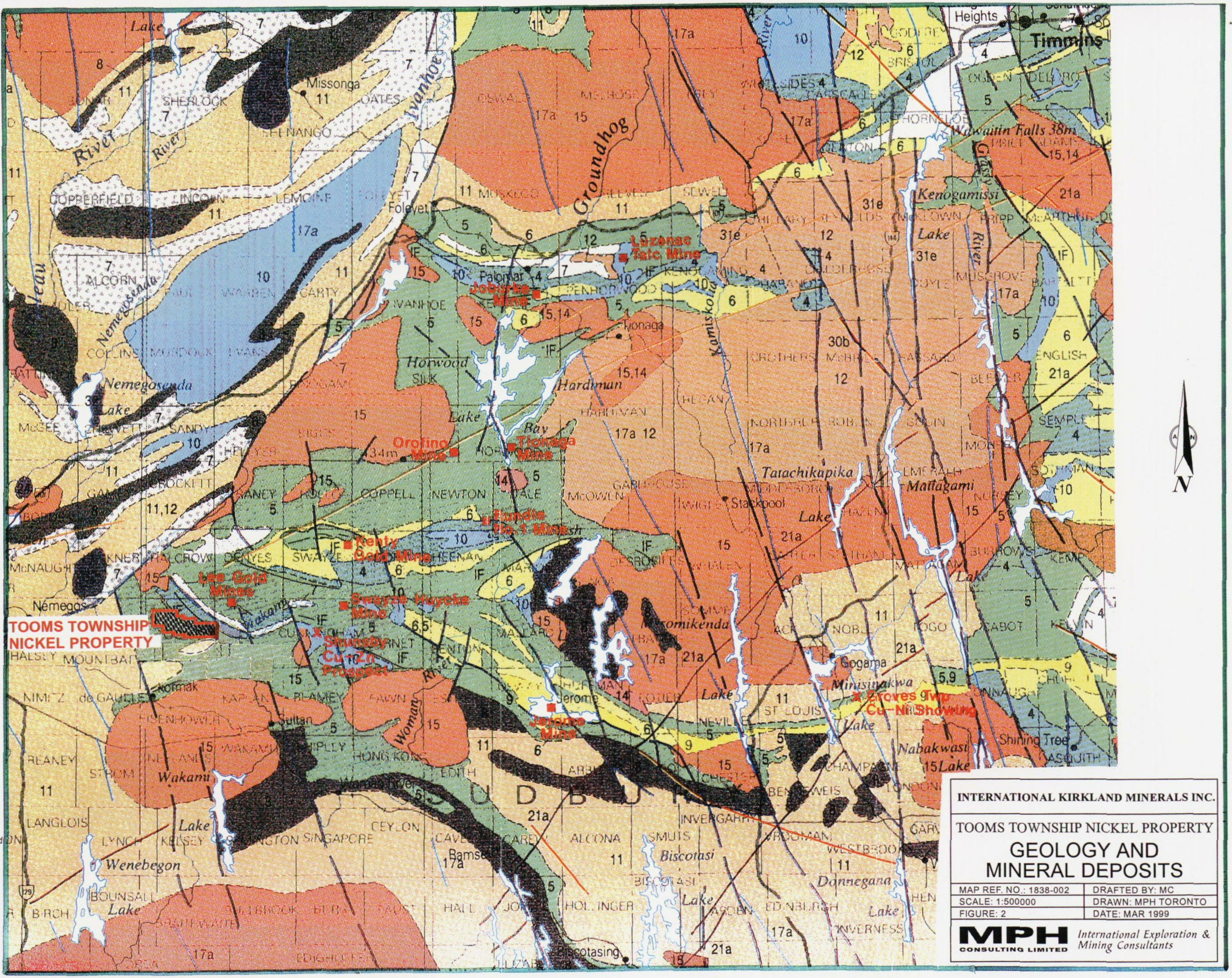
2.1. Regional Geology

The Tooms property lies within the southwest portion of the Swayze greenstone belt. The Swayze is considered to be the southwest extension of the Abitibi belt which hosts the Timmins, Kirkland Lake, Noranda-Val d'Or, Mattagami and Chibougamau mining camps. North to northwest-striking faults and granodiorite/monzonite batholiths partially disconnect the Swayze from the main Abitibi Belt.

The Swayze can be thought of as an arcuate volcano-sedimentary belt, convex to the west, extending from Sewell Township in the northeast, through Swayze Township in the central region, to Groves Township in the southeast (Figure 2). The volcanics consist primarily of mafic rocks which floor some substantial intermediate-felsic eruptive centers. Clastic and chemical sedimentary rocks, including major banded iron formations, are intercalated with the volcanics. Younger, probably Temiskaming-equivalent, clastic sediments unconformably overlie the older rocks. A variety of synvolcanic to post-volcanic intrusions have invaded the supracrustal rock. The Swayze belt is truncated to the west by the fault-bounded, north-northeast trending Kapuskasing Structural Zone, which contains high grade metamorphic rocks and associated carbonatite intrusive complexes.

A number of major regional east-west alteration/deformation zones are present in particularly the north and south Swayze. These regional deformations represent extensions of, or analogies to, some of the major "Breaks" of the central Abitibi Belt.

The Swayze is one Ontario's historic gold areas and has seen prospecting activities for a variety of metals. Although there have been no large precious or base metal producers in the area, the Swayze has a rich mineral endowment typical of the Abitibi Orogenic Belt. Deposits and/or occurrences of gold, silver, copper, zinc, lead, nickel, iron, molybdenum, asbestos, talc, silica, barite and marl are known in the area. Carbonatite-associated rare



PROTEROZOIC

MESOPROTEROZOIC (0.9 to 1.6 Ga)

UPPER KEWEENAWAN SUPERGROUP

INTRUSIVE ROCKS

32 — **Carbonatite–alkalic intrusive suite (1.0 to 1.2 Ga):** carbonatite, nepheline syenite, alkalic syenite, ijolite, fenite; associated mafic and ultramafic rocks

30 — **Mafic intrusive rocks**[i]
- 30a *Mackenzie swarm (1267 Ma):* diabase dikes
- 30b *Sudbury swarm (1238 Ma):* diabase dikes

PALEOPROTEROZOIC (1.6 to 2.5 Ga)

21 — **Mafic and related intrusive rocks**[i]
- 21a *Preissac swarm:* diabase dikes
- 21b *Marathon swarm:* diabase dikes
- 21c *Kenora–Fort Frances swarm:* diabase dikes
- 21d *Nipissing sills (2219 Ma):* diabase sills, dikes and related granophyre
- 21e Mafic dikes and plutons of uncertain age

INTRUSIVE ROCKS

17 — **Mafic and ultramafic intrusive rocks**
- 17a *Matachewan and Hearst swarms (2454 Ma)*[i]: diabase dikes
- 17b Gabbro, anorthosite

SUPERIOR PROVINCE

ARCHEAN

NEO- TO MESOARCHEAN (2.5 to 3.4 Ga)[egop]

INTRUSIVE ROCKS

15 — **Massive granodiorite to granite:** massive to foliated granodiorite to granite
- 15a Potassium feldspar megacrystic units

14 — **Diorite–monzonite–granodiorite suite:** diorite, tonalite, monzonite, granodiorite, syenite and hypabyssal equivalents (saturated to oversaturated suite)

12 — **Foliated tonalite suite:** tonalite to granodiorite—foliated to massive

11 — **Gneissic tonalite suite:** tonalite to granodiorite—foliated to gneissic—with minor supracrustal inclusions

Mafic and ultramafic rocks[q]: gabbro, anorthosite, *ultramafic rocks*

NEO-ARCHEAN (2.5 to 2.9 Ga)

SUPRACRUSTAL ROCKS

Coarse clastic metasedimentary rocks[r]: mainly coarse clastic metasedimentary rocks, with minor, mainly alkalic, mafic to felsic metavolcanic flows, tuffs and breccias

NEO- TO MESOARCHEAN (2.5 to 3.4 Ga)

SUPRACRUSTAL ROCKS

8 — **Migmatized supracrustal rocks**[eg]: metavolcanic rocks, minor metasedimentary rocks, mafic gneisses of uncertain protolith, granitic gneisses

7 — ***Metasedimentary rocks***[eg]: wacke, arkose, argillite, slate, marble, chert, iron formation, minor metavolcanic rocks
- 7a Paragneisses and migmatites[s]
- 7b Conglomerate and arenite

6 — **Felsic to intermediate metavolcanic rocks**[gt]: rhyolitic, rhyodacitic, dacitic and andesitic flows, tuffs and breccias, chert, iron formation, minor metasedimentary and intrusive rocks; related migmatites

5 — **Mafic to intermediate metavolcanic rocks**[gt]: basaltic and andesitic flows, tuffs and breccias, chert, iron formation, minor metasedimentary and intrusive rocks, related migmatites
- 5a Andesitic flows, tuffs and breccias with minor rhyolites[u]

4 — **Mafic to ultramafic metavolcanic rocks**[gt]: mafic metavolcanic rocks with minor komatiite, minor metasedimentary and pyroclastic rocks

earths and industrial minerals are present west of the Swayze associated with the Kapuskasing High.

There are more than 100 deposits, prospects, showings and occurrences of gold. Some years ago, the Rundle gold deposit to the east in Newton Township was the focus of advanced exploration and evaluation. The Shunsby Cu-Zn-Pb prospect in nearby Cunningham Township is the most advanced base metal project in the area. Work on a Cu-Ni deposit in Groves Township in southeast Swayze between 1953 and 1975 resulted in the delineation of a resource of some 500,000 tons grading 1.5-2% combined Cu-Ni from a small gabbro plug (Blue Falcon Mines Ltd). Fort Knox Gold Resources in association with INCO in the early 1990's explored a low grade copper-nickel deposit in mafic/ultramafic rock in the Shiningtree area to the east in rocks that appear grossly correlative with those underlying the present property.

Luzenac Incorporated operates a talc mine in Penhorwood Township in the northeast Swayze, with the ore derived from a talc-magnesite altered komatiite which was formerly mined for asbestos by Johns Manville between 1951 and 1967.

Silica production has been intermittent in recent years from the Penhorwood deposits of Roseval Silica.

2.2. Property Geology and Mineralization

The geology of the Property based on all of the drilling, outcrop stripping, mapping and geophysical interpretation to date, is presented on Map 1 in McKay (1997). The reader is also referred to the above document for a more extensive discussion of local geology.

Bedrock lithologies are best exposed in the central portion of the property, on and to the south/southeast of the original Quinterra claims.

A sequence of predominantly mafic volcanics dominates the south portion of this area. Some of these have a high magnetic expression and are probably iron tholeiites. These

are in contact to the north with the Ni-associated ultramafic unit which is again expressed primarily by a series of intense magnetic highs. A gabbroic member indicated to separate the above units may be partly extrusive.

An extremely complex zone, both from a lithologic and structural standpoint, underlies the north portion of the central claims based on the extensive previous drilling and outcrop stripping which has been carried out here during the Quinterra gold exploration programs.

The main lithologies in this area are komatiitic flows, pillowed to massive mafic volcanic flows, mafic tuffs and lean iron formation. The volcanic rocks comprise a sequence of carbonatized ultramafic flows and tuffs in contact northward with sheared mafic tuffs and flows. Within this sequence are thin (up to 30 m) intercalations of exhalites, lean sulphide and oxide iron formations which are reported to thicken and become dominant to the northwest. Extensive carbonatization, silicification and sericitization have transformed a major portion of the volcanic pile into rocks termed "green and grey carbonates" by Quinterra geologists.

Intermediate to mafic intrusives have been located throughout the property and appear to be two types: late cross-cutting intrusives, and gabbroic differentiates of the peridotitic intrusives which form a portion of the ultramafic sequence.

Structurally, probably the most obvious late fault structure is a northerly-trending zone marked by the line of eskers east of Upper Sylvanite Lake encompassing the present Granges/Kennecott nickel area of interest. This fault or fault zone has greatly disrupted stratigraphy in this area.

The dominant trend of stratigraphy and schistosity in the eastern part of the property is east-west becoming more west-northwesterly in the western property area. The point of flexure between these two trends is in the area of Upper Sylvanite Lake. The transition between the above two trends is relatively gentle and this pattern overall appears to be

related to late, gentle regional warping about a NNE-SSW axis. Dips overall are steep in both northerly and southerly directions.

Virtually all of the lithologies in the property are schistose, some of the later, more massive gabbroic units being the most notable exception. Schistosity appears to parallel stratigraphy wherever the determination can be made as in the area of the Tooms Nickel Syndicate showing where the ultramafics and pyroclastics/sediments have a pronounced E-W shear fabric.

In terms of nickel mineralization, extensive stripping work carried out in 1992 in conjunction with previous drill results allowed a relatively clear understanding of the nature of the mineralization in the old Tooms Syndicate occurrence area as expressed by Bate (1992) and the following comments are taken largely verbatim from this author. This discussion is of significance in that the present drill area is located directly along strike to the west in an overburden-covered area.

The mineralization at the main historical Tooms Nickel Syndicate showing indicates the main mineralized horizon to consist of 1% to perhaps 15% locally of pyrrhotite, pyrite and minor chalcopyrite within a thick, steeply south dipping interflow unit comprising mafic lapilli tuffs with prominent chlorite lapilli, mafic tuff-breccia, intermediate to mafic ash and crystal tuffs and units of delicately interlaminated cherty exhalative material and mafic ash tuff. Whitish cherty exhalite forms individual beds to 15 cm in the westernmost trench. The overall pyroclastic/sedimentary sequence may be up to 40 m in thickness with actual sulfide mineralization over 4-10 m. The mineralized zone in particular may be strongly sheared and brecciated parallel to bedding with the sulphides occurring as foliation-parallel stringers disseminations, smears and coatings.

Limited petrographic work indicated that pentlandite is the main nickel mineral, this occurring as exsolution-like lamellae in pyrrhotite and possibly as discrete grains with pyrite and pyrrhotite.

The central trench at the Tooms Syndicate showing also exposed a second style of mineralization namely minor but persistent malachite staining in a coarse volcanic fragmental unit which in turn is in contact with the main ultramafic body to the north. This unit varied in composition from quite mafic to possibly ultramafic on the south and north ends with a relatively siliceous central portion.

The ultramafic rocks comprise a strongly sheared green serpentinous rock in the east trench and a rusty, strongly sheared carbonate rock in the central trench. Neither would appear to contain any sulphide mineralization of note.

Trench sampling in 1992 consisted of large, systematic chip samples along trench walls across the mineralized zones at 1.5 m intervals. The highest copper value reported was 0.66% at the south end of the easternmost trench. This is consistent with the field identification of the largest amount of chalcopyrite in dark, strongly sheared mafic pyroclastics at this location. The highest nickel value of 0.79% was recorded at the north end of this same trench in an area of increased pyrrhotite content towards the ultramafic body.

3.0 PREVIOUS WORK

The first recorded work on the Property was in 1959 when the Anaconda Company (Canada) Limited conducted an electromagnetic survey over nine claims between Upper Sylvanite Lake and the Kinogama River. Three diamond drill holes totaling 831 feet were drilled during 1960 to test EM conductors. These diamond drill holes intersected primarily schistose metavolcanics. Drill hole B-1 intersected several mineralized (po, py $\pm$ cp) argillite horizons. Assay results are not available for any of the holes completed during this campaign.

Gold discoveries in nearby Halcrow and Swayze townships in 1931 spurred a prospecting rush that resulted in the Lee Lake gold discovery in 1933 in Greenlaw Township, just to the northeast of the Property. Numerous very old trenches located along the north property boundary in eastern Tooms Township would appear to be from this time period. This activity was probably targeted on gold as the exposed volcanic rocks are intensely sheared, silicified, carbonatized and pyritized. The Sylvanite Creek or Quinterra portion of the Property was subjected to several major exploration campaigns for gold between 1983 and 1988 with indeterminate results.

Of more interest to the present exercise, nickel ($\pm$ copper) mineralization was discovered in the mid-1960's by the Tooms Nickel Syndicate in the east portion of the Property. Previous work consisted of surface trenching, sampling and drilling.

Values in trenches from the eastern 60 meter strike length of the showing were reported as follows:

Table 1: Trench Assay Results: Tooms Nickel Syndicate

Trench #	Length (m)	% Cu	%Ni
1	5.49	0.47	-
2	4.88	0.674	-
	1.49	-	0.85
3	2.13	-	0.85

Assay results from 4 shallow X-ray diamond drill holes beneath trenches 2 and 3 returned the following values:

Table 2: Drill Core Assay Results Trenches 2 & 3: Tooms Nickel Syndicate

DDH #	Length (m)	% Cu	% Ni
1	10.36	0.516	-
2	1.95	-	1.22

Two additional X-ray holes drilled approximately 60 m west of holes 1 and 2 (just east of Trench 1) returned the following assay results:

Table 3: Drill Core Assay Results Trench 1: Tooms Nickel Syndicate

DDH #	Length (m)	% Cu	% Ni
3	3.05	-	0.368
4	7.62	-	0.479

During 1967 the Tooms Nickel Syndicate completed a second diamond drill campaign of nine holes. Seven of these holes were targeted specifically in the area of their previous trenching and X-ray drilling. The assay results were as follows:

Table 4: Drill Core Assay Results - 1967: Tooms Nickel Syndicate

Hole #	Location	Length (m)	% Cu	% Ni	% Zn
TNS-1	120m SE of Trench 3	0.31	0.09	0.03	0.38
TNS-2	120 m E of Trench 3	1.52	-	0.29	-
TNS-3	150m S of Trench 1	0.31	0.04	0.02	-
TNS-4	50 m SW of Trench 1	3.08	0.08	0.413	-
	Including	*1.55*	*0.09*	*0.54*	-
TNS-5	1000 m SW of Trench 1	0.91	0.45	0.45	-
		1.34	0.05	0.05	0.79

Hole #	Location	Length (m)	% Cu	% Ni	% Zn
		1.31	0.14	0.14	-
TNS-6	500 m NE of Trench 3	1.52	-	0.24	-
TNS-7	30 m E of Trench 3	2.65	0.50	tr	-
		1.52	0.43	0.01	-
		3.10	0.09	0.54	-
TNS-8	60m E of Trench 3	3.57	0.45	tr	-
		5.49	0.08	0.36	-
	Includes	*1.52*	*0.11*	*0.85*	-
		0.31	0.10	0.62	-
TNS-9	60 m S of TNS-8	0.85	0.06	0.06	0.70
		0.64	0.04	0.01	0.38
		2.59	0.09	0.16	

This work indicated a mineralized zone extending for approximately 250 meters between present grid lines 29+00E to 31+50E at about 0+75N.

During the summer of 1972, Canex Aerial Exploration Ltd completed geological mapping, magnetometer and EM-16 surveys over a 19 mile grid covering sixteen claims in the immediate vicinity of the Tooms Nickel Syndicate showing. This work outlined several VLF-EM conductors with coincident magnetic responses. The Canex report concluded that the property (and general area) has excellent potential for nickel and copper deposits. No additional work was carried out by this company.

During the late 1970's, Granges Exploration AB, drilled a total of 30 holes on and around the present Tooms property as follow-up to regional airborne geophysical surveys. Several diamond drill holes completed on EM conductive zones approximately 1200 m west of, and on general strike with, the Tooms Nickel Syndicate showing returned assay results as follows:

Table 5: Drill Core Assay Results: Granges Exploration

Hole #	Length (m)	% Cu	% Ni	% Co
SW-62	4.82	0.01	0.50	0.02
includes	*1.49*	*0.02*	*0.91*	*0.03*
	3.29	0.04	0.36	0.02
	2.80	0.04	0.53	0.03
includes	*0.88*	*0.08*	*1.02*	*0.04*
SW-63	4.15	0.06	0.26	0.01
	9.14	0.15	0.21	0.05
	3.66	0.02	0.44	-

Several other holes in the immediate vicinity, i.e. SW-48, SW-66 and SW-86, reported various concentrations of pyrrhotite-pyrite with anomalous nickel assays (up to 0.2%). Host lithologies are reported to be intermediate to felsic tuffs and fragmentals and mafic tuffs adjoining serpentinite, i.e. a setting which is analogous to that in the area of the Tooms Nickel Syndicate showing.

Two additional Granges holes drilled approximately 250 meters south of the above group of holes, on another conductor, returned 0.56% Ni over 3.01 m (hole SW-3) and 0.55% Ni plus 0.18% Cu over 0.92 m (hole SW-102). The latter intersection is contained within 23 meters of sulphide mineralization.

A number of other holes in this general area west of Sylvanite Creek reported tuffs and/or ultramafics, with variable amounts of pyrrhotite.

During 1991-92, MPH Consulting Limited completed a major exploration program (linecutting, geophysical surveys ((HLEM magnetics)), geological surveys, stripping and trenching) on behalf of Kennecott Canada Inc. who had an option on the property at that time. Kennecott's interest in the property was for its nickel potential with the gold being of little or no interest.

The drilling comprised an 8 hole, 1564.4 m program in early 1993 focussed on "the discovery of a high grade volcanic peridotite-type nickel sulphide deposit similar to the Langmuir deposit in the Timmins, Ontario area and the Kambalda group of mines in Western Australia" (Rosatelli, 1993).

The Kennecott holes, prefixed TN, and results are summarized as follows:

Table 6: Drill Core Results: Kennecott Canada

Drill Hole	Interval (m)	Width (m)	% Ni	% Cu
TN-93-01	91.0 - 92.1	1.1	-	0.19
	96.3 - 100.0	3.7	-	0.16
	104.0 - 109.1	5.0	0.18	-
TN-93-02	No significant assays.			
TN-93-03	103.3 - 112.3	9.0	-	0.23
	119.3 - 123.7	4.4	0.25	-
TN-93-04	148.5 - 149.9	1.4	-	0.24
	151.6 - 153.0	1.4	-	0.24
	153.3 - 155.9	2.6	-	0.36
	158.3 - 169.2	11.0	-	0.19
*TN-93-05	100.7 - 103.1	2.4	0.75	-
	104.6 - 107.9	3.3	0.25	-
	113.6 - 119.1	5.5	0.28	-
	170.3 - 172.6	2.3	0.14	0.10
	188.1 - 191.4	3.3	0.23	-
	197.6 - 198.6	1.0	-	0.11
	201.8 - 203.0	1.2	-	0.12
	267.7 - 275.0	7.3	0.63	-
	**** including**	**1.6**	**1.60**	-
*TN-93-06	138.6 - 139.3	0.7	-	0.17
TN-93-07B	No significant assays.			
TN-93-08	No significant assays.			

*IKM Drill Area
** This section was re-assayed in 1997 by MPH and the value (checked) was 2.5% Ni.

Kennecott hole 5, which returned the best Ni intersection to date, (0.83 % Ni over 7.3 m at vertical depth of ~180 m), was also by far the deepest hole to date on the property. The approach recommended to IKM was:

a) To concentrate on this particular area to the extent that reasonable potential in the Tooms Syndicate showing area has been largely eliminated.
b) Test the area to depth beneath and to the south of Kennecott hole 5 in two deep holes (300-350 m) with one shallower test of a previous HLEM/magnetic anomaly immediately to the west.

The Kambalda model as invoked by Kennecott was concluded to be entirely appropriate given the geological setting involved.

4.0 DRILL RESULTS

All three holes intersected variably altered ultramafic rocks in contact with various volcanic/sedimentary units. The latter includes various siliceous chemical sedimentary units directly analagous to the setting at the surface showing 1200 m to the east. Sulphide mineralization is manifested as minor (1-15%) amounts of pyrite and pyrrhotite as patches, veinlets, and disseminations, the latter often along choritic foliation planes in sediments. The hoped-for more massive sulphide concentrations were not encountered.

The drilling is summarized as follows (Figure 3):

Hole	Location	Azimuth	Length
T-99-1	17+50E, 2+00N	grid S	350 m
T-99-2	17+50E, 0+00	grid S	290 m
T-99-3	16+50E, 1+65N	grid S	152 m

Logs and assay certificates are presented in Appendix 2 with drill sections in a map pocket at rear.

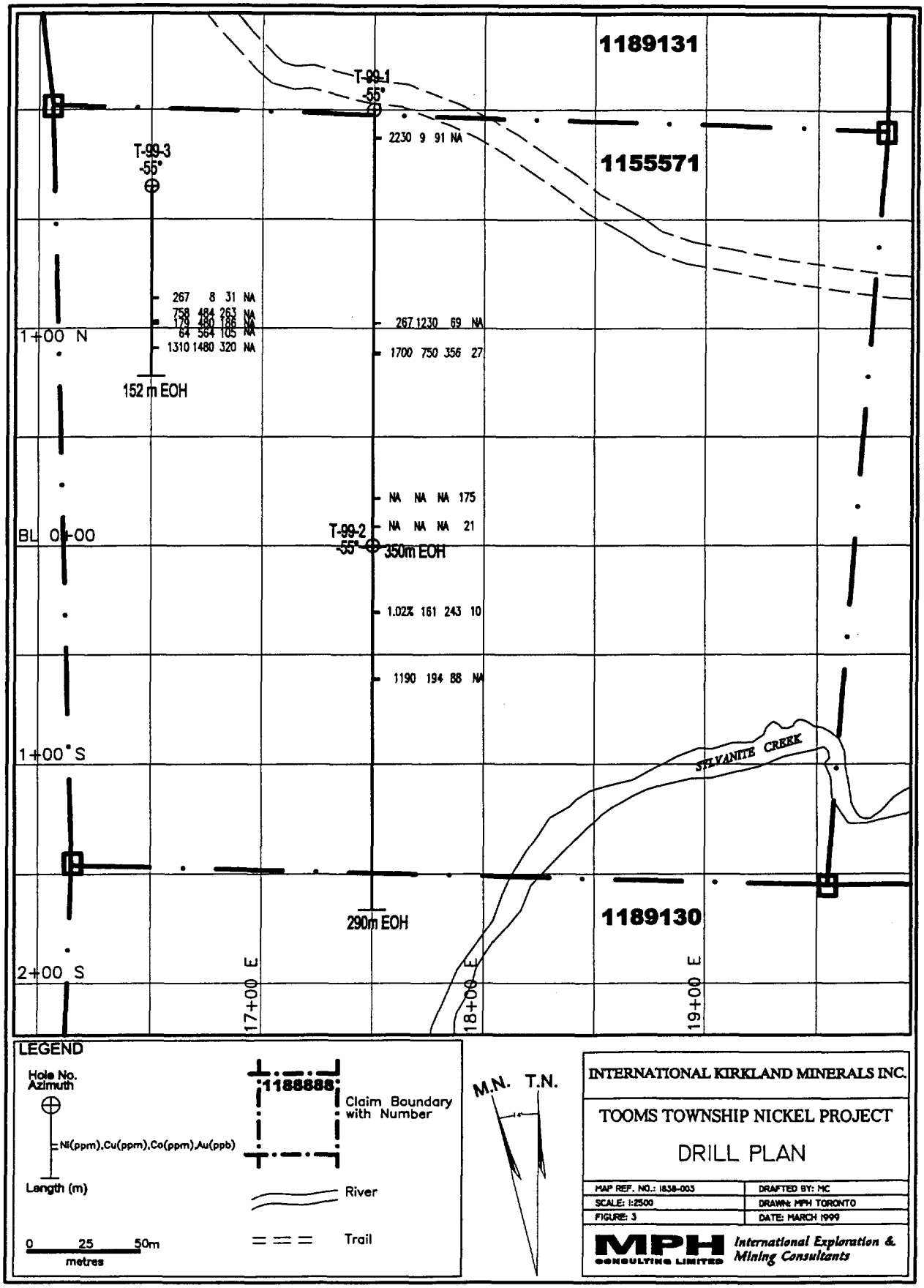
The holes are discussed in more detail as follows:

Hole 1

This was drilled directly under Kennecott hole 5 and intersected considerable serpentinite and talc-chlorite-carbonate material, the latter representing a highly altered ultramafic, enveloping and in contact with intermediate to mafic volcanics and tuffs. The volcanic tuffaceous section from 170.35 – 200.7 m contains weakly sulphidic (locally to 15% py, po) cherty sedimentary material towards the bottom of the section. A 1.55 m sample from 194 – 195.55 of the best of this material returned 1700 ppm Ni (sample 20902).

Hole 2

This completed a N-S cross section of the target area of interest along line 17+50E. Siliceous and tuffaceous sedimentary units and intermediate to mafic volcanics predominated in this hole


1189131
1155571
1189130
T-99-1
-55°
T-99-3
-55°
T-99-2
-55°
2230 9 91 NA
267 8 31 NA
758 484 263 NA
178 480 186 NA
64 564 105 NA
1310 1480 320 NA
152 m EOH
267 1230 69 NA
1700 750 356 27
NA NA NA 175
NA NA NA 21
350m EOH
1.02% 161 243 10
1190 194 88 NA
290m EOH
1+00 N
BL 0+00
1+00 S
2+00 S
17+00 E
18+00 E
19+00 E
SYLVANITE CREEK
LEGEND
Hole No.
Azimuth
Ni(ppm),Cu(ppm),Co(ppm),Au(ppb)
Length (m)
1188888
Claim Boundary with Number
River
Trail
0 25 50m
metres
M.N. T.N.
INTERNATIONAL KIRKLAND MINERALS INC.
TOOMS TOWNSHIP NICKEL PROJECT
DRILL PLAN
MAP REF. NO.: 1838-003
DRAFTED BY: MC
SCALE: 1:2500
DRAWN: MPH TORONTO
FIGURE: 3
DATE: MARCH 1999
MPH CONSULTING LIMITED
International Exploration & Mining Consultants

with an altered ultramafic unit from 106-169.7 m. There were no significant sulphide contents in any of the units; a 0.92 m weakly mineralized interval (to 10% py, po) from 53.0 to 53.92 m returned the best value of the program namely 1% Ni.

Hole 3

This was targeted on a HLEM/magnetic anomaly that did not appear to have been definitively tested by a previous Granges drill hole. This hole contained the best sulphide concentrations of the program comprising 1 to 15% py, po in a siliceous sedimentary unit from 101.7 - 116 m with the highest concentration in the section from 107.5 – 110.5 m. Again, a highly altered talc-chloritic-carbonate unit representing an altered ultramafic, probably correlative with one of the units in hole 1, was intersected in the hole from 27 – 101.7 m. There were no assay values of potential economic interest.

5.0 DISCUSSION

Sample 20907 (2230 ppm Ni) represents relatively less altered massive, magnetite-bearing serpentinite with coarse olivine crystals from near the top of hole 1; sample 20911 (267 ppm Ni) is of a like length (1 m) of talc-chlorite-carbonate (± magnetite) rock representing a very highly altered ultramafic unit. Although admittedly a small sample population, the inference could be drawn that a very large percentage of the contained nickel in the local ultramafics, virtually 90% in this case, has been freed up during alteration and deformation. The further inference is that this material has been re-mobilized into favorable structural/chemical traps in the surrounding volcanic and sedimentary rocks. The nickel in the serpentinite is clearly in the silicate phase as there is 0% sulphides; this further suggests that there has been no significant partitioning of a co-magmatic nickel-rich sulphide melt.

It is also apparent that there has been a great deal of fault dislocation in the present drill area as attempts to correlate rock units and mineralized zones between the drill holes of the various campaigns proved fruitless.

Both of the above are not particularly encouraging in terms of the discovery of an economic nickel sulphide deposit.

The length of intersection (7.3 m) in Kennecott hole 5 can also be seen to be overstated as the hole was drilled oblique to strike to test a structural (fold nose) theory that the author would now discount based on the present drilling.

6.0 CONCLUSIONS

The present drilling program has not yielded any results of potential economic significance in the context of a Kambalda-type high grade (3.5% Ni) model.

Based on these results in addition to these of previous workers, it is concluded that no further drilling is warranted on this target.

Respectfully Submitted,

W.E. Brereton, P.Eng.

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2.19473

APPENDIX 1

CLAIMS DATA

Claim Number (P)	Recording Date	Current Expiry Date	Work Required	Work Applied	Total Reserve
1151590	July 16/90	July 16/99	$400	$2,800	$ 0
1154700	July 16/90	July 16/99	400	2,800	0
1154863	May 24/90	May 24/99	400	3,200	58
1154864	May 24/90	May 24/99	400	3,200	58
1154865	May 24/90	May 24/99	400	3,200	58
1154866	May 24/90	May 24/99	400	3,200	66
1154941	May 24/90	May 24/99	400	3,200	58
1154942	May 24/90	May 24/99	400	3,200	58
1154943	May 24/90	May 24/99	400	3,200	58
1154944	May 24/90	May 24/99	400	3,200	58
1154945	May 24/90	May 24/99	400	3,200	58
1154946	May 24/90	May 24/99	400	3,200	58
1154947	May 24/90	May 24/99	400	3,200	58
1154948	May 24/90	May 24/99	400	3,200	58
1154949	May 24/90	May 24/99	400	3,200	58
1154950	May 24/90	May 24/99	400	3,200	58
1155570	July 16/90	July 16/99	172	3028	257
1155571	July 16/90	July 16/00	400	3,200	16737
1155572	July 16/90	July 16/00	400	3,200	257
1155573	July 16/90	July 16/99	400	2,800	0
1155574	July 16/90	July 16/99	400	2,800	16758
1155575	July 16/90	July 16/99	400	2,800	0
1155576	July 16/90	July 16/99	400	2,800	0
1155577	July 16/90	July 16/99	400	2,800	0
1155578	July 16/90	July 16/99	400	2,800	0
1155579	July 16/90	July 16/99	400	2,800	0
1155580	July 16/90	July 16/99	400	2,800	0
1155593	July 16/90	July 16/99	400	2,800	6027
1158171	July 16/90	July 16/99	400	2,800	0
1189130	Dec 11/91	Dec 11/99	800	5,600	648
1189131	Dec 11/91	Dec 11/99	400	2,800	835
1189132	Dec 11/91	Dec 11/99	4,800	28,800	0
1189133	Dec 11/91	Dec 11/99	3,600	21,600	0
1189134	Dec 11/91	Dec 11/99	4,800	28,800	0
1189135	Dec 11/91	Dec 11/99	4,800	28,800	0
1189136	Dec 11/91	Dec 11/99	2,400	14,400	0
1189137	Dec 11/91	Dec 11/98	$6,000	$36,000	$ 0

Halcrow Twp. M.906

TOOMS TOWNSHIP PROPERTY

1189287
16 UNITS
1189289
16 UNITS
1198200
(15 UNITS)
1198199
(15 UNITS)
P1198208
(6 UNITS)
P1189136
(6 UNITS)
1189137
(15 UNITS)
P1189134
(2 UNITS)
P1189133
(9 UNITS)
1189135
(12 UNITS)
1189131
P1189132
(12 UNITS)
1189130
(2 UNITS)
1181996
8 UNITS
1203407
1203406
1203404
1203414
Greenlaw Twp. - M.895
Upper Sylvanite Lake
Creek
5M.
4M.
3M.
2M.
1M.

THE TOWNSHIP
OF

TOOMS

DISTRICT OF
SUDBURY

PORCUPINE
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C.

TOOMS TOWNSHIP PROPERTY
CLAIM MAP
TOOMS TOWNSHIP

APPENDIX 2

LOGS AND ANALYTICAL RESULTS

MPH
CONSULTING LIMITED

DRILL HOLE RECORD

HOLE NO.: T-99-2

CLIENT: International Kirkland Minerals Inc.
PROPERTY: Tooms Township Property
CLAIM NO.: P1155571
COLLAR COORDINATE: 17+50E, 0+00N
COLLAR ELEVATION:
COLLAR AZIMUTH: 180°
COLLAR DIP: -55 °
LENGTH: 290 m

REMARKS: Complete N-S section thru Ni-anomalous area

COMMENCED: 2/9/99
COMPLETED: 2/12/99
DRILLED BY: Sparta Drilling
CORE SIZE BQ
CASING LEFT IN HOLE: 0
LOGGED BY: W.E. Brereton
CORE LOCATION: 23 Helmer Ave. South Porcupine, Ont.

DOWN HOLE SURVEY INFORMATION

METHOD: ACID TEST

DISTANCE	AZIMUTH	DIP
0	180	-55
100	180	-55
200	180	-55
290	180	-55

FROM (m)	TO (m)	LITHOLOGY
0	6	**Overburden**
6	8.8	**Intermediate Volcanics** Hard, mottled greenish colour, silicified, brecciated and veined with quartz and from 7.9-8.6m with dark lamprophyric material. Non-magnetic. No visible sulphides. Generally non-foliated.

SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	Cu (ppm)	Ni (ppm)	Co (ppm)	Pt (ppb)	Pd (ppb)	Au (ppb)

NA = Not Analyzed

FROM (m)	TO (m)	LITHOLOGY
8.8	56	**Siliceous Sediments** Whitish with prominent greenish chlorite (± biotite) clots and laminae, very hard, locally well banded. More greenish to greyish towards bottom of section. Local, minor (<1%) pyrite. Late lamprophyric material with prominent black phenocrysts at 14m. 53.00-53.92m: Darker, well foliated, biotitic, some quartz, with locally to 10% pyrrhotite along foliation planes (biotitic, very difficult to split). Bedding at 60° to c.a. at 20m, at 70° at 49m.
56	106	**Intermediate Volcanics** Hard, mottled greenish, silicified rock as above. 96.7-98.8m: Dark grey quartz-feldspar porphyry

SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	Cu (ppm)	Ni	Co (ppm)	Pt (ppb)	Pd (ppb)	Au (ppb)
20905	53.0	53.92	0.92	161	*1%	243	17	38	10

** average of two check assays*

NA = Not Analyzed

FROM (m)	TO (m)	LITHOLOGY
106	169.7	**Talc-Chlorite-Carbonate Rock** Soft, variably magnetic, generally massive, greyish, fine to medium grained rock, locally well banded and in part tuffaceous (?). 106-107.3m: Quartz-chlorite (black) rich contact zone, minor coarse blebs pyrite and locally to 5 % fine pyrrhotite, magnetic. Overall <1% disseminated sulphides including locally coarse pyrite blebs, tuffaceous bedding at 90° to c.a. at 111m. 131-134.6m: Feldspar porphyry dike. Black chlorite-quartz zone 8cm wide at lower contact. 146.7-149.7m: Felsic/feldspar prophyry dike, magnetic, 1-3% pyrite, buff colour. 160-169.7m: Whitish, more crystaline, chloritic laminae. Foliation at 75° to c.a. at 167m.
169.7	181	**Tuffaceous Sediments** Generally fine grained, thinly banded, variably folded and contorted. Locally trace sulphides. A few cherty laminae.

SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	Cu (ppm)	Ni (ppm)	Co (ppm)	Pt (ppb)	Pd (ppb)	Au (ppb)
20906	105.94	107.3	1.36	194	1190	88	NA	NA	NA

NA = Not Analyzed

FROM (m)	TO (m)	LITHOLOGY	SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	Cu (ppm)	Ni (ppm)	Co (ppm)	Pt (ppb)	Pd (ppb)	Au (ppb)
181	290	**Mafic Volcanics and Tuffs** Light-medium greenish, chloritic, fine grained with areas of coarser chloritic clots. Local quartz veinlets, generally to 10cm or less. Generally moderately to well foliated, nil to local trace suphides, non magnetic. Tuffaceous sections eg. 237-241m are fine-grained, chloritic/biotitic and thinly banded with banding variably folded and contorted. Lower part of sections is predominantly tuffaceous. Foliation/banding at 70° to c.a. at 228m; at 75° to c.a. at 241m; at 65° to c.a. at 255m; at 60° to c.a. at 284m. 276.2-281.7m: Feldspar porphyry dike. 290m: End of Hole										

MPH
CONSULTING LIMITED

DRILL HOLE RECORD

HOLE NO.: T-99-1

CLIENT: International Kirkland Minerals Inc.
PROPERTY: Tooms Township Property
CLAIM NO.: P1155571
COLLAR COORDINATE: 17+50E, 2+00N
COLLAR ELEVATION:
COLLAR AZIMUTH: 180°
COLLAR DIP: -55 °
LENGTH: 350 m

REMARKS: Undercut Kennecott Hole TN-92-5

COMMENCED: 2/4/99
COMPLETED: 2/9/99
DRILLED BY: Sparta Drilling
CORE SIZE BQ
CASING LEFT IN HOLE: 0
LOGGED BY: W.E. Brereton
CORE LOCATION: 23 Helmer Ave. South Porcupine, Ont.

DOWN HOLE SURVEY INFORMATION

METHOD: ACID TEST

DISTANCE	AZIMUTH	DIP
0	180	-55
150	180	-55
250	180	-55
350	180	-55

FROM (m)	TO (m)	LITHOLOGY	SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	Cu (ppm)	Ni (ppm)	Co (ppm)	Pt (ppb)	Pd (ppb)	Au (ppb)
0	15.2	**Overburden**										
15.2	24.8	**Serpentinite** Green-black coloured, strongly magnetic. Abundant talc-filled fractures to 1.5cm. No visible sulphides; massive (non-foliated) rock; abundant olivine.	20907	22.0	23.0	1	9	2230	91	NA	NA	NA
24.8	109.2	**Diabase** Massive, medium grained, distinctly ophitic textured rock. Prominent chilled margin at upper and lower contacts. Moderately magnetic. This is same unit as in Kennecott hole 5 to east.										

NA = Not Analyzed

FROM (m)	TO (m)	LITHOLOGY
109.2	118	**Serpentinite** As 15.2-24.8m near diabase contact becomining finer grained and light greenish 111-116m with magnetite veinlets then darker green, less magnetic over balance of section. Gradational contact with next unit.
118	170.35	**Talc-Chlorite-Carbonate Rock** Generally massive to weakly foliated, soft, light coloured, variably magnetic. Carbonate is fizz-type, carbonate crystals give rock crystaline appearance. Lower contact gradational. This is an altered ultramafic unit
170.35	200.7	**Intermediate-Mafic Volcanics & Tuffs** Fine-grained, greenish, relatively hard. 173-179m: well foliated at 45°-50° to c.a. Increasing cherty sediments towards bottom of section, particularily 198-199.5m. Chert bedding at 70°-80° to c.a. Chert beds variably brecciated. Very local patches, disseminations, stringers and blebs of pyrite, pyrrhotite in addition to following more concentrated mineralized zones. MINERALIZED ZONES 170.35-170.58m: Local chlorite (±biotite) zone at talc-carbonate contact with ~5% disseminated pyrite including some coarser blebs and crystals. 194-198m: Sparsely mineralized, to 15% locally; pyrite, pyrrhotite as disseminations, as bands along foliation planes and in late cross-cutting veinlets (±calcite). Zone locally quite chloritic.

SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	Cu (ppm)	Ni (ppm)	Co (ppm)	Pt (ppb)	Pd (ppb)	Au (ppb)
20901	170.35	170.58	0.23	1230	267	69	NA	NA	NA
20902	194.0	195.55	1.55	750	1700	356	<5	9	27

NA = Not Analyzed

FROM (m)	TO (m)	LITHOLOGY
200.7	233.5	**Talc-Chlorite-Carbonate Rock** Essentially as 118-170.35m, however more strongly foliated. Foliation at 75° to c.a. at 216m. 212-213.3m: Lamprophyre (?) dike. Black, magnetic with abundant white feldspar phenocrysts, chilled margins; strongly magnetic. Foliation at 75° to c.a. at 217m, 70° at 233m.
235.5	255	**Intermediate Volcanics** Relatively hard (silicified?), mottled greenish-grey, fine grained. Generally poorly foliated. Local trace pyrite, pyrrhotite also coarser pyrite blebs over 2cm in chloritic zone at upper contact.
255	350	**Mafic Volcanics and Tuffs** Light green, chloritic, locally well foliated. Foliation at 80° to c.a. at 262m. 263.5-265.6m, 267.2-269m, 271.8-273m and 305.5-306.8m: Feldspar porphyry dikes, minor pyrite. Veins and stringers of barren white quartz, generally from less than 1 to 15-20cm, throughout section. Local buff-coloured zones of silicification and sericitization. Foliation at 283m at 50° to c.a.; at 293m at 80° to c.a.; at 307m at 50° to c.a. 309.2-311.7m: Zone of shearing, silicification and sericitization; minor fine pyrite at 310.5-311m. 333.47-333.81m: Quartz vein. Pronounced bleaching for several cm's at lower contact. Foliation at 325m at 65° to c.a.; at 342m at 40° to c.a.; at 350m at 55°. 350m - End of Hole

SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	Cu (ppm)	Ni (ppm)	Co (ppm)	Pt (ppb)	Pd (ppb)	Au (ppb)
20903	310.5	311.0	0.5	NA	NA	NA	NA	NA	175
20904	333.47	333.81	0.34	NA	NA	NA	NA	NA	21

NA = Not Analyzed

MPH
CONSULTING LIMITED

DRILL HOLE RECORD

HOLE NO.: T-99-3

CLIENT: International Kirkland Minerals Inc.
PROPERTY: Tooms Township Property
CLAIM NO.: P1155571
COLLAR COORDINATE: 16+50E, 1+65N
COLLAR ELEVATION:
COLLAR AZIMUTH: 180°
COLLAR DIP: -55°
LENGTH: 152m

REMARKS: Test Magnetic/HLEM anomaly

COMMENCED: 2/12/99
COMPLETED: 2/14/99
DRILLED BY: Sparta Drilling
CORE SIZE BQ
CASING LEFT IN HOLE: 0
LOGGED BY: W.E. Brereton
CORE LOCATION: 23 Helmer Ave. South Porcupine, Ont.

DOWN HOLE SURVEY INFORMATION
METHOD: ACID TEST

DISTANCE	AZIMUTH	DIP
0	180	-55
75	180	-55
150	180	-55

FROM (m)	TO (m)	LITHOLOGY	SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	Cu (ppm)	Ni (ppm)	Co (ppm)	Pt (ppb)	Pd (ppb)	Au (ppb)
0	27	**Overburden**										
27	101.7	**Talc-Chlorite-Carbonate Rock** Light colored, variably magnetic. Massive crystalline appearence to well foliated to extremely schistose and crumbly as 27-30m; no appreciable sulphides. 49.5-50.7m: Chlorite dike, very soft 55.2-55.8m, 69.5-70.4m: Feldspar porphyry dikes, 1% disseminated pyrite. Foliation at 65° to c.a. at 71m	20911	89.0	90.0	1	8	267	31	NA	NA	NA

NA = Not Analyzed

FROM (m)	TO (m)	LITHOLOGY	SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	Cu (ppm)	Ni (ppm)	Co (ppm)	Pt (ppb)	Pd (ppb)	Au (ppb)
101.7	116	**Siliceous Sediments** Greenish to greyish, thinly banded, variably chloritic and biotitic, some coarse tuffaceous bands. Variably suphidic with 1-10% pyrite, pyrrhotite as disseminations and along foliation/bedding planes. Some quartz with sulphides. This zone coincides with weak HLEM anomaly. Banding/foliation at 70° to c.a. at 107m; at 70° to c.a. at 113m.	20908	107.59	108.5	0.91	484	758	263	NA	NA	NA
			20909	108.5	109.5	1	480	179	186	NA	NA	NA
			20910	109.5	110.5	1	564	64	105	NA	NA	NA
116	126	**Mafic Volcanics/Tuff** Fine grained, green, chloritic, weakly foliated, gradational contact with following unit.										
126	146	**Siliceous Sediments/Tuffs** Well foliated, variably chloritic and biotitic, barren quartz veinlets to 20cm. Upper contact area relatively chloritic and mineralized with 1-10° pyrite, pyrrotite as patches, disseminations and along foliation planes from 126-131m. Becomes biotitic towards base of section. Foliation at 65° to c.a. at 130m; at 70° to c.a. at 139m; at 75° to c.a. at 146m.	20912	129.2	130.0	0.8	1480	1310	321	NA	NA	NA
146	152	**Mafic Tuffs** Hard, silicified, banded, chloritic, gradational contact with above unit. Foliation at 85° to ca. at 149m. 152m End of Hole.										

NA = Not Analyzed

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

9W-0352-RG1

Company: **MPH CONSULTING LTD**

Date: FEB-24-99

Project:

Attn: W. Brereton

We hereby certify the following Geochemical Analysis of 12 Core samples submitted FEB-16-99 by .

Sample Number	Au PPB	Au Check PPB	Co PPM	Cu PPM	Ni PPM	Ni %	Pt PPB	Pd PPB
20901	-	-	69	1230	267	-	-	-
20902	27	21	356	750	1700	-	<5	9
20903	175	221	-	-	-	-	-	-
20904	21	-	-	-	-	-	-	-
20905	10	-	243	161	>10000	1.02	17	38
20906	-	-	88	194	1190	-	-	-
20907	-	-	91	9	2230	-	-	-
20908	-	-	263	484	758	-	-	-
20909	-	-	186	480	179	-	-	-
20910	-	-	105	564	64	-	-	-
20911	-	-	31	8	267	-	-	-
20912	-	-	320	1480	1310	-	-	-
20905 Ck						0.96		

One assay ton portion used for precious metals.

Certified by G. Thomas

1 Cameron Ave., P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705)642-3244 Fax (705)642-3300

Ontario Ministry of Northern Developpmen 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)
W9960.0024
Assessment Files Research Imaging

41O10NW2004 2.19473 TOOMS 900

subsections 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, assesment work and correspond with the mining land holder. Questions about this Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury,

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	Client Number
Ms. Elizabeth J. Kirkwood	152556
Address P.O. Box 369, Suite 745, 1 First Canadian Place	Telephone Number (416) 364 6928
Toronto, On., M5X 1E2	Fax Number (416) 364 0618
Name	Client Number
Address	Telephone Number
	Fax Number

2.19473

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	Office Use
Diamond Drilling	Commodity
	Total $ Value of Work Claimed $62,327
Dates Work Performed From Day 26 Month 01 Year 99 To Day 23 Month 04 Year 99	NTS Reference
Global Positioning System Data (if available) Township/Area Tooms Township	Mining Division Porcupine
M or G-Plan Number	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.

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

Name	Telephone Number
MPH Consulting Ltd., W.E. Brereton	(416) 365 0930
Address 150 York St., Suite 1800, Toronto, Ont. M5H 3S5	Fax Number (416) 365 1830
Name	Telephone Number
Address	Fax Number
Name	Telephone Number
Address	Fax Number

RECEIVED
MAY 20 1999
10:46am
GEOSCIENCE ASSESSMENT OFFICE

4. Certification by Recorded Holder or Agent

I, MICHELE COTE—MPH CONSULTING LTD, do hereby certify that I have personal knowledge of the facts set forth in
(Print Name)
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 Michel Cote		Date May 19 1999
Agent's Address SUITE 1800, 150 YORK ST M5H 3S5	Telephone Number 416 365 0930	Fax Number 416 365 1830

0241 (03/97)

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.

W9960.00241

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
1	1189130	2	$1247	$800	$0	$447
2	1155571	1	$61079.76	$400	$0	$60679.76
			2.19473			
Column Totals			$ 62326.76	$ 1200	$ 0	$ 61126.76

I, MICHELE COTE - MPH CONSULTING LTD, do hereby certify that the above work credits are eligible under
(Print Full Name)
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
Michel Cote - MPH CONSULTING LTD.	May 19 / 1999

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

RECEIVED
MAY 20 1999
GEOSCIENCE ASSESSMENT OFFICE

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

0241 (03/97)

Ontario Ministry of Northern Development and Mines

Statement of Costs for Assessment Credit

Transaction Number (office use)
W9960. 00241

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, this 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 a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd 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
Consulting	2 days	$ 850	$ 1700
Project Geologist	20 days	$ 500	$ 10000
Drafting & Secretarial	44 hrs	$53.14	$ 2338
Drilling	792 m	$56.43	$ 44696.45
Analyses	13 samples	$13.23	$ 172
Associated Costs (e.g. supplies, mobilization and demobilization).			
MOB/DEMOB		$390	$ 780
Supplies			$ 23.20
Communication/Courier			$ 121.09
Transportation Costs			
Rental Truck			$ 988.96
Fuel			$ 98.36
Food and Lodging Costs			
Accomodation			$ 1408.70
		Total Value of Assessment Work	$ 62326.76

2.19473

RECEIVED
MAY 20 [illegible]
GEOSCIENCE ASSESSMENT OFFICE

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	x 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, MICHELE COTE (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 MPH CONSULTING LTD (recorded holder, agent, or state company position with signing authority) I am authorized to make this certification.

Signature	Date
Michel Cote	May 19 '99

0212 (03/97)

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: (877) 670-1555

Visit our website at:
www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm

June 1, 1999

ELIZABETH JEAN KIRKWOOD
21 NESBITT DRIVE
TORONTO, Ontario
M4W-2G2

Dear Sir or Madam:

Submission Number: 2.19473

Subject: Transaction Number(s):		**Status**
	W9960.00241	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. Allowable changes to your credit distribution can be made by contacting the Geoscience Assessment Office within this 45 Day period, otherwise assessment credit will be cut back and distributed as outlined in Section #6 of the Declaration of Assessment work form.

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 Lucille Jerome by e-mail at lucille.jerome@ndm.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,

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

Correspondence ID: 13832
Copy for: Assessment Library

Work Report Assessment Results

Submission Number: 2.19473

Date Correspondence Sent: June 01, 1999 **Assessor:** Lucille Jerome

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9960.00241	1189130	TOOMS	Deemed Approval	June 01, 1999

Section:
16 Drilling PDRILL

Correspondence to:

Resident Geologist
South Porcupine, ON

Assessment Files Library
Sudbury, ON

Recorded Holder(s) and/or Agent(s):

Michele Cote
TORONTO, ONTARIO, CANADA

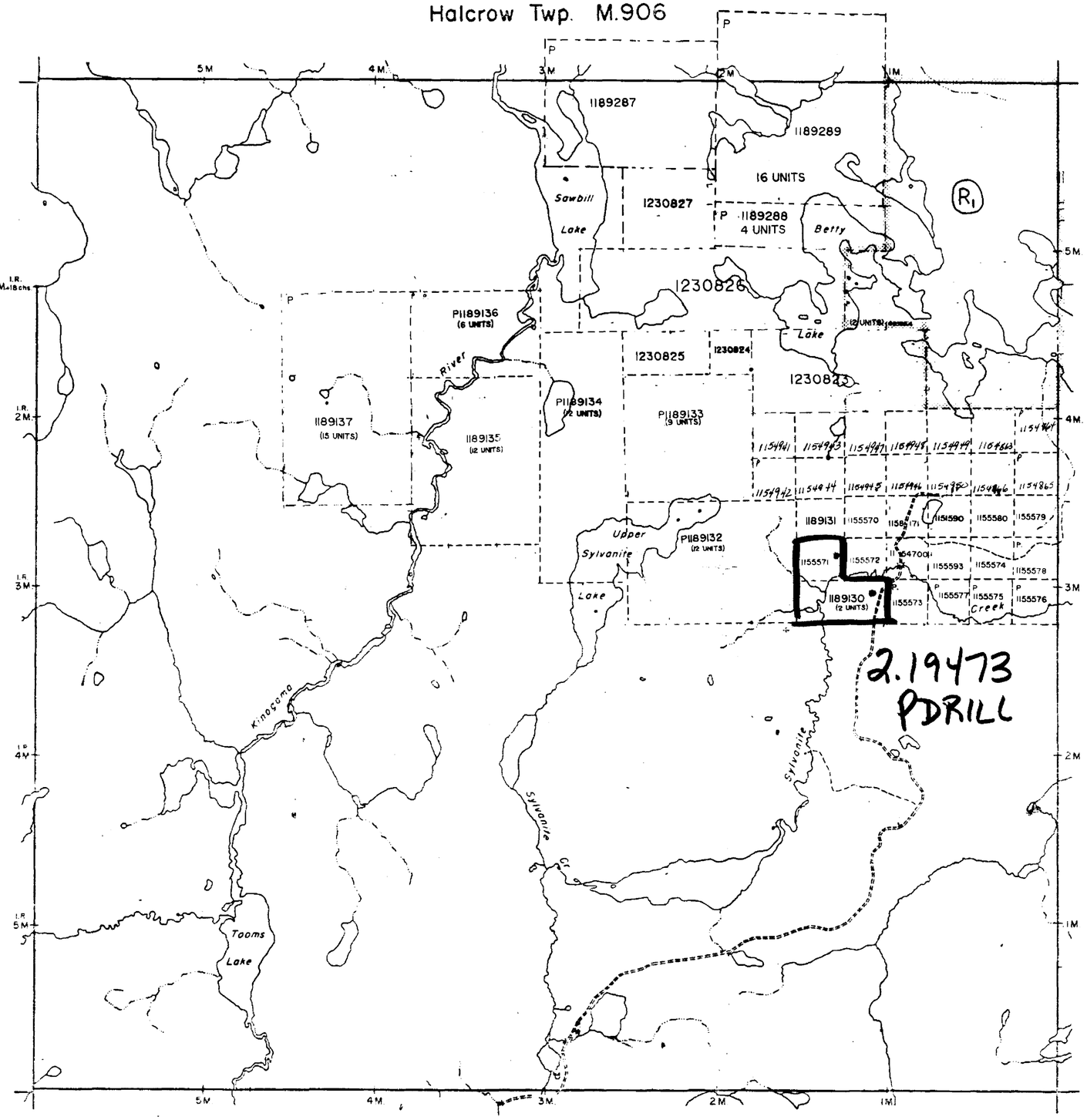
ELIZABETH JEAN KIRKWOOD
TORONTO, Ontario

Correspondence ID: 13832

Halcrow Twp. M.906

Mountbatten Twp. - M.875
INDIAN RESERVE No.76 A

Greenlaw Twp. - M.895



2.19473
PDRILL

Eisenhower Twp. M.781

THE TOWNSHIP
OF

TOOMS

DISTRICT OF
SUDBURY

PORCUPINE
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C.

NOTES

400' Surface Rights Reservation around all lakes and rivers

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED.

W-P-G/98 NER 26/01/98 M+S 195150

JUN 03 1998

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.

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.

ACTIVATED APRIL 3/1990 BB

PLAN NO. G-1223

DEPARTMENT OF MINES

— ONTARIO —

150+00 S

50+00 S

50+00 N

150+00 N

T-99-2

Overburden

Intermediate Volcanics

Siliceous Sediments

1.02 % 161 243 10

Intermediate Volcanics

1190 194 88 NA

Talc-Chlorite-Carbonate Rock

Tuffaceous Sediments

Mafic Volcanics and Tuffs

290.00m EOH

T-99-1

Overburden

Serpentinite

2230 9 91 NA

Diabase

Serpentinite

Talc-Chlorite-Carbonate Rock

Intermediate-Mafic Volcanics & Tuffs

267 1230 69 NA

Talc-Chlorite-Carbonate Rock

1700 750 356 27

Intermediate Volcanics

Mafic Volcanics and Tuffs

NA NA NA 175

NA NA NA 21

350.00m EOH

-50m

-100m

-150m

-200m

-250m

-300

LEGEND

Hole Number

Lithology

Ni (ppm), Cu (ppm), Co (ppm), Au (ppb)

Length (m)

0 25 50m
metres

INTERNATIONAL KIRKLAND MINERALS INC.

TOOMS TOWNSHIP PROPERTY

SECTION 17+50 EAST
DDH T-99-1, T-99-2

MAP REF. NO.:	DRAFTED BY: MC
SCALE: 1:1000	DRAWN: MPH TORONTO
MAP: 1	DATE: MARCH 1999

MPH CONSULTING LIMITED — International Exploration & Mining Consultants

50+00 N

150+00 N T-99-3

-50m

-100m

-150m

-200m

-250m

Overburden

Talc-Chlorite-Carbonate Rock

Siliceous Sediments

Mafic Volcanics/Tuff

Siliceous Sediments/Tuffs

Mafic Tuffs

267 8 31 NA

758 179 64 484 480 564 263 NA 186 NA 105 NA

1310 1480 320 NA

152m EOH

LEGEND

Hole Number

Lithology

Ni (ppm), Cu (ppm), Co (ppm), Au (ppb)

Length (m)

0 25 50m

metres

INTERNATIONAL KIRKLAND MINERALS INC.

TOOMS TOWNSHIP PROPERTY

SECTION 16+50 EAST
DDH T-99-3

MAP REF. NO.:	DRAFTED BY: MC
SCALE: 1:1000	DRAWN: MPH TORONTO
MAP: 2	DATE: MARCH 1999

MPH CONSULTING LIMITED *International Exploration & Mining Consultants*