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Report on 1997 – 1998 Exploration Program

Flint Lake Property

Sioux Narrows, ON

Dogpaw Lake Area G-2613

Kenora Mining Division, Ontario

NTS 52 F/5 SW

Latitude 49°20' N Longitude 93°50' W

Magnetic Declination in 1998: 2°9' East

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Avalon Ventures Ltd.

28 February 1999

EXECUTIVE SUMMARY

In December 1996, Avalon Ventures Ltd. acquired the option to earn a 100% interest in the Flint Lake property. The property, comprised of three claims totalling 10 units, is located 70 kilometres southeast of Kenora in northwestern Ontario. The primary exploration target is structurally controlled mesothermal gold mineralization.

The Flint Lake property is located near the junction of two major regional structures, the Pipestone-Cameron Deformation Zone (PCDZ) and the Wabigoon Fault System. Numerous gold deposits and occurrences are spatially associated with both structures. The regional PCDZ, which passes through the Flint Lake property, trends northwest-southeast, and is characterized by a major zone of shearing with strongly schistose rocks that are extensively carbonatized and quartz veined. Gold deposits located along the PCDZ include the Nuinsco Cameron Lake deposit (2.8 million tonnes grading 6.2 grams per tonne) eight kilometres to the southeast and the Royal Oak Shoal Lake deposit (2 million tonnes grading 12 grams per tonne) to the northwest near the Manitoba-Ontario border.

Recent gold exploration in the immediate area of the Flint Lake property has produced some significant results. Preliminary drill results from the Avalon Dubenski property immediately adjacent to the west, announced in a company news release in March 1997, included 32.67 grams per tonne over 10.15 metres. The mineralization is described as disseminated free gold occurring in a sericite-carbonate schist. Also in March 1997, Houston Lake Mines Ltd. announced preliminary drilling results on the Canadian Arrow Property, contiguous to the west of the Dubenski property, which included 8.0 metres grading 36.44 grams per tonne.

Avalon initiated a first phase exploration program in April 1997 which consisted of linecutting and a ground magnetometer survey. This was followed up in July and August with reconnaissance and grid mapping, rock sampling and a soil geochemical survey. Further work consisted of an induced polarization survey, completed in March 1998, which covered the Meahan occurrence. Results from the multiphase program are encouraging and have delineated potential extensions to the Meahan occurrence in addition to new targets for gold mineralization. Based on these results, further exploration consisting of prospecting, detailed mapping, rock sampling, and diamond drilling is warranted.

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1.0 INTRODUCTION

Avalon Ventures Ltd. optioned the Flint Lake property in December 1996 on the basis of significant gold mineralization in historic trenches, proximity to a major regional structure, the Pipestone-Cameron Deformation Zone (PCDZ), and the relatively unexplored nature of the property.

Avalon's exploration program on the Flint Lake property began in April 1997 with linecutting and ground magnetometer survey. In July and August 1997, a comprehensive exploration program, which included geological mapping, rock sampling and an MMI soil geochemical survey, was carried out during a larger program that covered six contiguous properties being operated by Avalon at the time. In March 1998, an induced polarization survey was carried out over a portion of the Flint Lake property. The purpose of this report is to document the results of the exploration program and to make recommendations for further work.

2.0 LOCATION, ACCESS AND TOPOGRAPHY

The Flint Lake property is located in the Kenora Mining Division of Northwestern Ontario, approximately 70 kilometres south-southeast of the town of Kenora (Figure 1). The town of Sioux Narrows, located on Highway 71 and on the east shore of Lake of the Woods, is 15 kilometres northwest of the property. The NTS map sheet reference for the area is 52 F/5 SW and the geographical coordinate is Latitude 49°20' N Longitude 93°50' W.

The Flint Lake claims are located along the east shore of Flint Lake. Access to the property is gained by travelling east along the Cameron Lake Road that initiates off Highway 71 approximately 10 kilometres south of Sioux Narrows. Travel on the Cameron Lake road requires a special permit issued by the Ministry of Natural Resources in Kenora and is subject to the approval of Nuinsco Resources Ltd. At approximately mileage 13.0 (mileage marked on side of road) a bush road diverges north from the main road and extends to the southeast corner of the property. Flint Lake can also be accessed via the Cedartree River at mileage 10.0, or by a short portage immediately east of Cameron Creek near mileage 12.5 on the Cameron Lake road. Wilderness outfitters on Caviar Lake maintain hunting and fishing facilities on Caviar Lake, Flint Lake, Cedartree Lake and Stephen Lake and provide access via boat from Sioux Narrows.

The terrain of the Flint Lake property area is typical of the Canadian Shield, scoured by glacial activity to produce a region of relatively low relief with numerous lakes, rivers and low-lying areas which outline faults and rocks less resistant to weathering.

The majority of the area, predominantly underlain by mafic metavolcanics, is low and undulating with a topographic relief that does not usually exceed 15 metres. It is also characterized by few bedrock exposures. The rest of the map area is underlain by mafic to ultramafic sills, intermediate to felsic metavolcanics, and felsic intrusions, and is characterized

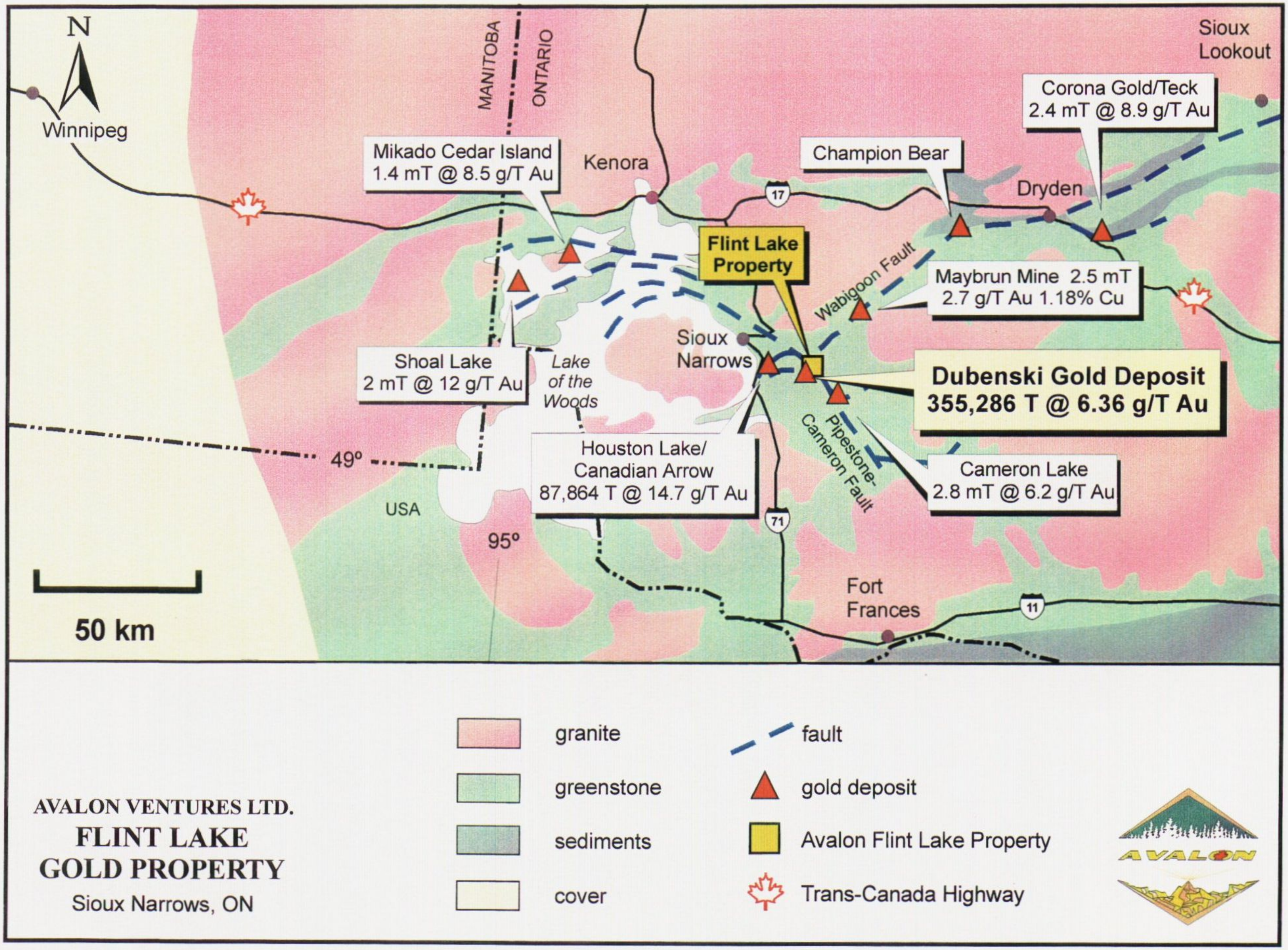

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Figure 1: General Location Map

by good bedrock exposure, with hills that are elongated parallel to the trend of the rock units, and relief that varies from 15 to 125 metres.

The region is well covered with spruce, pine, alder, and birch trees. There is ample water from rivers and lakes around the property to support exploration and development work. Exploration can be carried out on a year-round basis. The property is snow-free from May to October, allowing for a six month summer exploration season. Diamond drilling and ground geophysics can be carried out on a year-round basis but may be more convenient in the winter when the ground and lakes are frozen.

3.0 LAND POSITION

The Flint Lake property consists of three unpatented mining claims, which comprise 10 claim units for a land area totalling 400 acres (Figure 2). The claims are located in the north central portion of claim sheet G-2613, Dogpaw Lake Area. NTS reference for the property is 52 F/5 SW, with the property being centred on Latitude 49°20' N Longitude 93°50' W.

The claims are held under an option agreement with recorded holder Tim Twomey of Balmertown, Ontario. Pertinent claim information is listed in Table 1.

The claims are held under a three year option agreement during which time Avalon must make a total of $84,000 in cash payments and incur a minimum of $150,000 in exploration expenditures on the property to keep the option in good standing. Upon completion of these commitments, Avalon will have earned a 100% undivided interest in the property, subject to a 2.5% Net Smelter Returns (NSR) royalty retained by the vendor.

Table 1: Flint Lake Property Claims List

Claim	Units	Recorded Holder	Recorded	Assessment Due
K 1178246	2	Tim Twomey	18 Oct 1995	18 Oct 1999
K 1178247	4	Tim Twomey	18 Oct 1995	18 Oct 2000
K 1184549	4	Tim Twomey	16 Aug 1996	16 Aug 2001
	10			

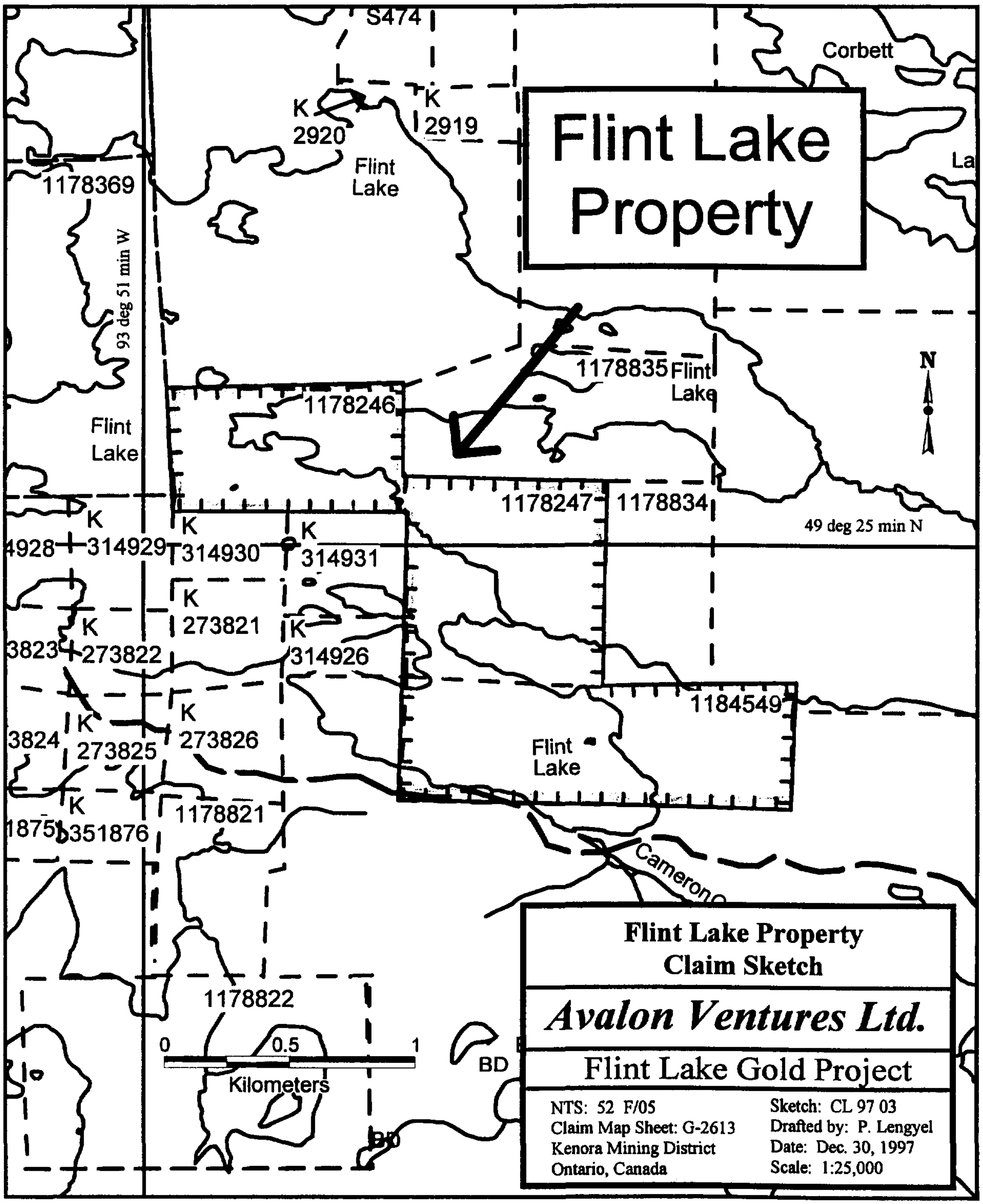

Figure 2: Claim Map

4.0 PREVIOUS EXPLORATION

A review of assessment files for the area indicates that there has been little systematic exploration in the area of the Flint Lake property. Prospecting in the region was followed up with exploratory shaft development on significant gold occurrences such as the Gold Panner Mine, Flint Lake Prospect, and Dubenski Gold Deposit, followed by shallow exploratory drilling along the main mineralized trend on the Dubenski property, and limited shallow drilling on select occurrences elsewhere. The Flint Lake property is host to the historic Meahan occurrence. A brief summary of the work covering the Flint Lake property is as follows:

Government Mapping

Lawson briefly explored the Cedartree-Flint Lake part of the Rainy River region in the early 1880s for the Geological Survey of Canada. W. McInnes (1902) also worked in the area for the Geological Survey of Canada. No further government work was reported from the region until 1933 when E.M. Burwash produced a report for the Ontario Department of Mines (Burwash, 1933), with maps at a scale of 1 inch to 1 mile. This work was used extensively by prospectors and mining companies in the area until the mid 1970s.

J.C. Davies and J.A. Morin conducted a regional mapping survey of the Cedartree Lake area for the Ontario Division of Mines in 1976.

In 1980, the Ontario Geological Survey completed a compilation over the Dogpaw Lake area, reported by Rivett and MacTavish as Preliminary Map P2061.

Energy Mines and Resources Canada and the Ontario Ministry of Northern Development and Mines conducted an airborne magnetometer and electromagnetic survey over the Dogpaw-Cameron Lake area in 1987.

S. Buck conducted a structural and metallogenetic study of the Pipestone-Cameron Deformation Zone in the Flint and Cameron Lakes area for the Ontario Geological Survey in 1988.

Exploration on the Flint Lake Property and Meahan Occurrence

The earliest exploration work reported for the Flint Lake property is from the Meahan occurrence which is located at the eastern end of current claim K 1184549. The occurrence was reported by Davies and Morin (1976) as being originally discovered by J.B. Meahan, and subsequently reported by R. Thomson in 1944. The showing consists of a series of trenches that expose several pyrite-bearing shear zones and/or narrow (<0.5 m) quartz veins along a general east-west trend within a mafic-ultramafic intrusion. Gold values ranging up to 2 ounces per ton were reported from one narrow (20 cm) pyrite bearing quartz vein. No diamond drilling has been reported for the Meahan occurrence.

Gateway Uranium Mines drilled two short holes in 1961 on the north shore of the peninsula on current claim K 1178246. Sheared mafic volcanics with minor pyrite were noted in the logs but no assays were reported.

Pango Gold Mines Ltd. completed geological mapping, magnetometer and VLF surveys in 1973 and two diamond drill holes in the southeast bay of Flint Lake in 1975. The holes intersected sheared and altered tuff that contained anomalous values of up to 0.01 ounces per ton Au over 3.0 feet. These holes are assumed to have intersected the eastern extension of the structure hosting the Dubenski deposit.

Several of the Sherritt Gordon diamond drill holes that were completed during the 1980s drilling campaign on the Dubenski gold deposit (adjacent property to the west) were drilled on the east shore of Flint Lake, due west of the main Meahan showing. A drill fence, consisting of three diamond drill holes (FL81-1, 2 and 3) were re-drilled in a second drilling campaign in 1987 by hole FL86-02. No assays were reported from these holes. The re-drilling of the holes and the absense of assays suggests that the holes intersected anomalous gold values.

G. Martin conducted additional stripping and trenching around the historic Meahan trenches in the late 1980s. No assays were reported.

Sampling in 1996 and 1997 by the current property vendor, Tim Twomey confirmed the historical high grade gold values from the Meahan trenches and added two coincident humus anomalies that suggest the mineralization continues along strike to the northwest.

5.0 REGIONAL GEOLOGY

The Flint Lake property occurs within the Kakagi-Rowan Lakes greenstone belt, located on the western end of the Wabigoon Subprovince within the Archean Superior Province of the Canadian Shield. The Wabigoon Subprovince is a granite-greenstone terrain separating the gneissic terranes of the Quetico Subprovince to the south and the Winnipeg River Subprovince to the north (Figure 3).

The stratigraphy of the Kakagi-Rowan Lakes greenstone belt consists of a lower and upper volcanic sequence. The lower sequence, the Rowan Group, is comprised of submarine, ultramafic to mafic, komatiitic-tholeiitic volcanic flows and minor interflow sediments (2775-2745 Ma?). The upper sequence, the Kakagi Lake Group, is comprised of an intermediate to felsic tholeiitic to calc-alkaline volcaniclastic sequence (2711 Ma). The upper volcaniclastic sequence has been intruded by the Kakagi sills, a series of syn- to post-volcanic ultramafic to mafic sills and dykes. Current work suggests there may be extrusive equivalents within the belt.

Geochemical results to date indicate that the majority of the lithologies present in the belt were deposited in a simple, submarine volcanic arc environment (Blackburn, 1991, ref. Gill

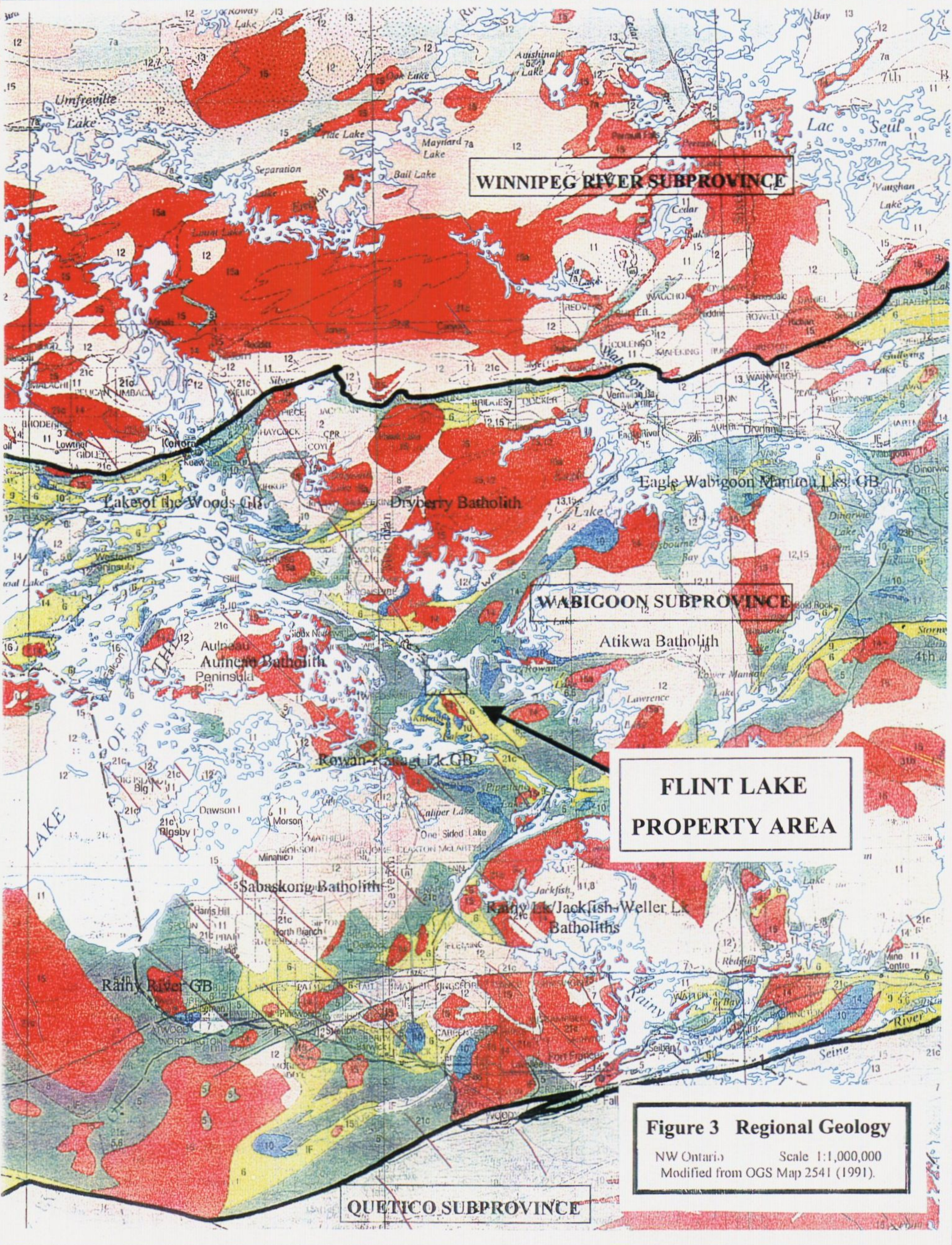

Figure 3 Regional Geology

NW Ontario Scale 1:1,000,000

Modified from OGS Map 2541 (1991).

1979, p. 310). Recent work suggests that portions of the belt may have formed on earlier continental crustal material (Blackburn, 1991, p. 371). Similar settings have been observed in Proterozoic volcanic belts in the Flin Flon-Snow Lake area of Canada (Syme, et. al, 1996), the Cambrian-Ordovician volcanic terranes within the Appalachian region of the eastern United States (Hatcher, 1989), and the Western Cordilleran (Burchfiel, et. al., 1992).

The upper Kakagi Lake Group sequence of tholeiitic, ultramafic to mafic sills intruding a volcaniclastic assemblage deposited above a submarine volcanic arc is similar to the White Lake ferrogabbro sills, the Two Portage Lake ferrobasalt and Two Portage Lake rhyolite crystal tuff, in the Flin Flon-Snow Lake volcanic belt (Bailes and Syme, 1989, pp. 37). The position of the bimodal assemblage high in the stratigraphy and the geochemical affinity are interpreted to represent a relatively late, arc rifting environment. The arc rifting develops above an existing, stable arc platform and involves complex structural deformation and renewed magma intrusion and extrusion in the form of silicic (often volcaniclastic) and mafic lava from a zoned, fractionated magma chamber. The arc/arc-rift setting suggest the volcanic belt has had a long-lived, structurally complex, geological history. A volcanic belt with a complex history should be more suitable for subsequent mesothermal gold deposition than a simple arc-derived belt.

The belt has been subjected to at least three main deformation events. D1 includes syndepositional, localized folding that was produced during arc development due to sediment loading and to diapiric emplacement of synvolcanic intrusions. D2 formed a series of recumbent east-west trending folds and thrust faults, potentially during arc consolidation or pre- to early accretion. A final deformation event, D3, occurred during the accretion of the volcanic arc with the older Archean proto-continent to the northwest. The D3 event resulted in a gross northeast alignment of stratigraphy that contains numerous northeast, east-west, and northwest oriented deformation zones.

The rocks in the property area have been deformed by the Pipestone-Cameron Deformation Zone (PCDZ), a northwest trending brittle-ductile to ductile shear zone. The PCDZ crosscuts the east-west to northeast trending foliation and bedding. Offset stratigraphy along this PCDZ indicates that the deformation zone has produced at least three kilometres of apparent horizontal displacement and an undefined but significant vertical displacement, resulting in a reverse sense of motion, north block up.

The rocks immediately south of the PCDZ in the project area have been synclinally folded along an east-west axis. The folded stratigraphy is offset by the PCDZ, indicating that it predates the PCDZ. However, it is unresolved at present whether the east-west oriented folding is related to the predominantly east-west fabric produced during D2, or whether it was produced by the north-directed stress early in the D3 event.

The metamorphic grade within the Kakagi-Rowan Lakes greenstone belt is typically lower greenschist to middle greenschist facies, but it can increase to middle amphibolite facies towards the contact of the belt with the various bounding plutons.

6.0 PROPERTY GEOLOGY

Reconnaissance geological mapping on the Flint Lake property was carried out during a comprehensive exploration program on this and other contiguous properties being explored by Avalon Ventures Ltd. at the time. In addition, specific areas of the property were prospected and systematic grid mapping was conducted over the land portion of the southernmost claim of the property. The results of the mapping program are shown schematically in Figure 4 and plotted at a scale of 1:5000 on Map 3.

6.1 Stratigraphy

Avalon's mapping program and regional compilation shows the northeastern portion of the Flint Lake property to be underlain by massive to pillowed mafic volcanic flows of the Rowan Lake Group. The southwestern two-thirds of the property is underlain by intermediate to felsic volcaniclastic flows and mafic dykes of the Kakagi Lake Group. The two groups have been structurally juxtaposed along the Pipestone-Cameron Deformation Zone (PCDZ), a one kilometre wide zone of deformation which runs through the Flint Lake property, trending northwest-southeast. As discussed in Section 5.0, movement along the PCDZ has been a combination of dextral and vertical displacement, resulting in relative uplift and preferential erosion along the north side of the PCDZ, exposing stratigraphically lower lithologies within the Rowan Lake Group.

Rowan Lake Group

The Rowan Lake Group in the property area is comprised of massive to pillowed subaqueous, mafic volcanic flows. The pillowed varieties contain pillows ranging in diameter from 0.5 to 1.2 metres, with selvages typically <2 cm thick. Pillow textures on an outcrop on an adjacent property to the north indicate stratigraphic tops are to the south at that location. The Rowan Lake Group covers approximately 15% of the Flint Lake property.

Kakagi Lake Group

The Kakagi Lake Group is comprised of coarse to fine grained, intermediate to felsic volcaniclastic and minor rhyodacitic flows that have been intruded by a series of bedding-parallel ultramafic to mafic sills. The rhyodacitic flows are aerially and volumetrically minor components of the volcanic sequence.

Intermediate to Felsic Volcaniclastic Units

Rhyodacitic lapilli tuff, ash tuff and tuff breccia were mapped along the east shoreline of Flint Lake in the northern half of the Flint Lake property. The units are moderately to strongly foliated, roughly parallel to the trend of the PCDZ, and are variably altered with ankerite and chlorite. Sheared feldspar crystal tuff was noted near the southern boundary of the property along the shoreline of the southeast bay of Flint Lake. Strong sericitization occurs along this shoreline and grades northward in several outcrops into a strong ankerite-

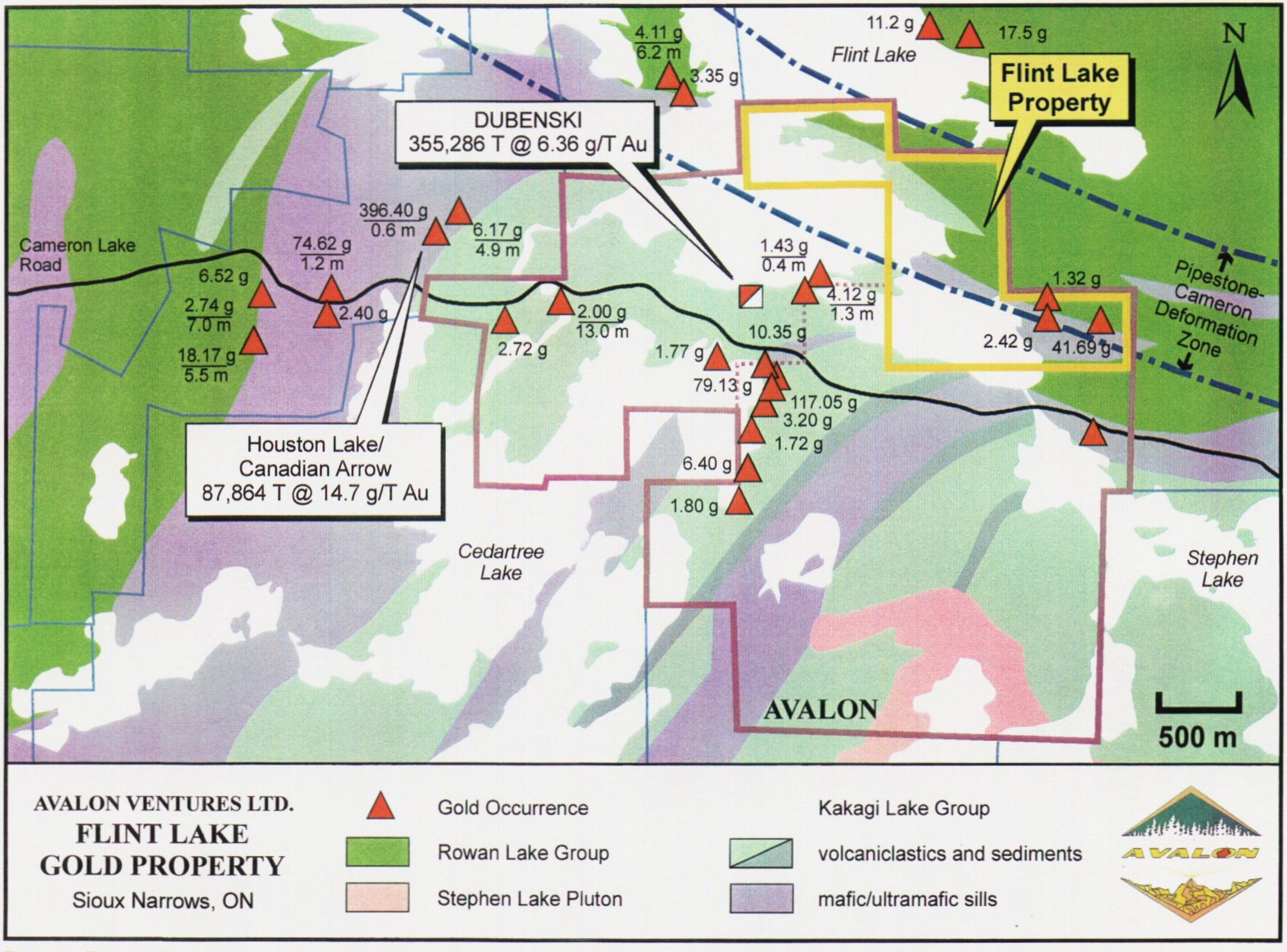

Figure 4: Property Geology

sericite schist that is exposed on several outcrops within the bay. Drilling beneath the bay along strike approximately 900 metres to the northwest by Pango Gold Mines Ltd. (1973) and Sherritt Gordon Ltd. (1981-1987) intersected numerous zones of highly sheared tuff with significant sericite alteration, local quartz veins and local disseminated pyrite, pyrrhotite and chalcopyrite.

Kakagi Lake Sills

The volcaniclastic sequences and massive flows are intruded by mafic to ultramafic sills of the Kakagi Lake Group. The sills include gabbro, pyroxenite and serpentinite compositions, although gabbro appears to be the dominant lithology in the region. On the Flint Lake property, one sill extends from several islands just outside the property boundary west of the centre claim, across the southern portion of that claim and through the centre of the southernmost claim through the Meahan occurrence. This sill contains the most diverse compositions, including gabbro, pyroxenite and serpentinite.

Another sill identified by prior mapping (Davies and Morin, 1976) occurs along the south shore of the southeast bay of Flint Lake (southwest corner of the southernmost claim), immediately west and southeast of Cameron Creek. The sill extends northeast to the shore of Flint Lake where it is crosscut and offset by the PCDZ. An offset of at least 800 metres is indicated by the displacement of the sill along a failure plane that coincides with Cameron Creek.

Rhyodacite Flows

One large outcrop of massive rhyodacite flow was observed on the Flint Lake property near L 4500 E/1600 N. The aphanitic flow weathers to a light grey to white and is medium green on fresh surface. No porphyritic component was observed and primary textures are absent, possibly due to overprinted alteration and shearing from the PCDZ.

Stephen Lake Intrusive Suite

The largest intrusion that was emplaced in the area occurs one kilometre south of the Flint Lake property, north and southwest of Little Stephen Lake. This intrusive body, called the Stephen Lake Pluton, is felsic to intermediate in composition. A quartz-feldspar porphyry dyke, assumed to be related to the Stephen Lake Pluton, outcrops at the western edge of the peninsula on the northernmost claim of the Flint Lake property. This dyke is approximately 150 metres wide, is moderately foliated to locally sheared and shows sericite and ankerite alteration.

Kenora-Fort Frances Dyke Swarm

Two occurrences of diabase dyke on the peninsula in the northernmost claim of the Flint Lake property are interpreted to be a single dyke emplaced as part of the Archean aged Kenora-Fort Frances dyke swarm that occurs through the region.

6.2 Alteration

Several zones of extensive hydrothermal alteration were delineated during the field program. All the high strain zones contain weak to strong structurally controlled carbonate ± sericite ± chlorite alteration within schistose to phyllitic rocks. Quartz and ankerite veins are also common within areas that are strongly altered.

All rock types within the property area, with the exception of the late Archean diabase dykes, exhibit some degree of structurally controlled hydrothermal alteration. The tuffaceous sequences typically alter to sericite ± carbonate ± chlorite schist, except where adjacent to mafic-ultramafic sills, where there is significantly more pervasive chlorite alteration. The mafic-ultramafic sills typically alter to chlorite ± carbonate schist. The mafic volcanic flows of the Rowan Lake Group typically alter to chlorite ± carbonate ± sericite schist.

There is a distinct carbonate zonation to the alteration assemblages. Most structures contain a peripheral "halo" of calcite-carbonate alteration. The carbonate alteration occurs as <2 cm thick veins in conjugate sets within moderate to strongly fractured host rock (outer brittle fabric associated with brittle-ductile environments). The calcite veins grade inwards toward the core of the alteration into pervasive calcite alteration, then pervasive ankerite alteration, generally accompanied by an increase from weak to strong pervasive sericitization and/or chloritization. Ankerite alteration, in the core of the alteration assemblages, occurs as pervasive replacement, as stringer veins typically <2 cm thick, and as rhombohedral porphyroblasts.

The mapped exposures within the PCDZ on the east shore of Flint Lake contain significant ankerite ± sericite alteration across widths ranging from 200 to 400 metres. Within this structure, there are zones of disseminated pyrite (<1%) and quartz ± ankerite veins. The widespread alteration accompanying the PCDZ-related structures indicates that this area of the volcanic belt has been subjected to complex structural deformation over an extended period of time. Multiple generation vein sets and pre-deformation alteration indicates that the structures have been subjected to multiple pulses of hydrothermal fluid. The structural complexity and hydrothermal history suggest that the Flint Lake area may have been situated above a well-developed long-lived, potentially large crustal hydrothermal reservoir. A large crustal reservoir capable of producing extensive alteration should be capable of producing large, economic gold deposits.

6.3 Structure

The 1997 field program focused on defining the structural elements of the Flint Lake area to guide subsequent exploration programs. The rocks in the property area have been exposed to at least three regional deformation events. The latest and most prevalent deformation event, D3, resulted in the development of a variety of structures, including isoclinal folding and steeply dipping deformation zones which appear to have overprinted earlier D1 and D2 fabric.

The D3 event is tentatively subdivided into an early and a late phase. The early phase resulted in the formation of northeast oriented isoclinal folds within the Rowan Group and the Kakagi Lake Group rocks. Foliation parallel deformation zones, including the Wabigoon Fault (WF) were formed at this time. As described in Section 5.0, the northeast trending, early D3 structures typically exhibit sinistral displacement.

The late phase, which is probably continuous with the early phase, resulted in the propagation of the regionally extensive Pipestone-Cameron Deformation Zone (PCDZ) across early phase folded stratigraphy, in a northwest direction. PCDZ-parallel anticlinal folds were formed in Rowan Group volcanic stratigraphy immediately north of, and against the PCDZ (Buck, 1988). Regional mapping has shown that northwest trending structures in the Wabigoon Subprovince typically exhibit dextral displacement.

Structural hosts to mesothermal gold mineralization in the Flint Lake area are either early D3, northeast trending, foliation parallel shear zones, or late D3 northwest trending structures subparallel to or within the PCDZ. The hydrothermal mineralizing fluids that produced the gold occurrences are thought to have been active from the development of the earliest, northeast trending foliation parallel structures to the termination of movement along the PCDZ.

The PCDZ is a reverse fault with a significant strike-slip component. Reverse fault settings are considered favourable structures for mesothermal gold deposition. According to Sibson and Poulson (1988), reverse fault activation requires supralithostatic fluid pressure from hydrothermal fluids in crustal reservoirs to overcome friction in a compressive stress environment. The hydrothermal fluids are self-sealing due to precipitation during pressure release and the sealing effect causes repeated fluid pressure build-up and repeated failure.

Horizontal displacement on the PCDZ is in the order of 3000 metres in the Dogpaw Lake area. Vertical displacement is unknown, however, the corresponding block of upper Dogpaw Lake Group volcaniclastic and intrusive units is completely absent on the north block, suggesting vertical displacement in the same range. Reverse motion typically occurs with typical vertical slip increments of about one metre. If the PCDZ has undergone up to 3000 metres of displacement, the PCDZ may have been subjected to at least 3000 separate pulse of hydrothermal fluid and mineral precipitates, including gold.

Consequently, the PCDZ structure and any subparallel, second order PCDZ-parallel structures should all have excellent potential in the Flint Lake area to host a mesothermal gold deposit. Any early D3, pre-PCDZ structures are also considered to have excellent potential due to the possibility of reactivation during the propagation of the PCDZ through the belt and the associated vertical permeability generated within this late stress regime.

Early Phase D3 Structures

The majority of the fabric within the Flint Lake area was produced by late phase D3 structures. There is little evidence of early, northeast trending structures within the area. Magnetic data from the current program suggests the presence of east-west to northeast trending magnetic features that might represent early, northeast trending foliation, or foliation-parallel structural features that have not been completely overprinted by PCDZ fabric.

Late Phase D3 Structures

The late D3 event is the propagation of the PCDZ along the northwest axis of the greenstone belt and the formation of subparallel structures and associated second order structures that formed within the transpressive structural setting. In the Flint Lake area, the majority of the rocks have been overprinted with PCDZ-related fabric, grading from low strain weak foliation to high strain schistose to phyllitic foliation, the latter often coincident with strong hydrothermal alteration.

Regional mapping indicates that the PCDZ has undergone mainly dextral displacement with the north block uplifted above the south block in a reverse sense of motion. The shear zones within the PCDZ are characterized by moderate to well-developed C and S fabric observed in stretched pillows (>5:1 stretching), chlorite carbonate schist fabric in the Rowan Lake mafic volcanics, stretched fragments that grade into sericite-chlorite-carbonate schist in the Kakagi Lake Group volcaniclastics, and stretched/rotated pyroxenes and amphiboles that are gradational into chlorite-carbonate schist in the Kakagi Lake mafic to ultramafic sills. The CS fabric orientations consistently indicate a sense of dextral displacement along the PCDZ. Deformation along the PCDZ coincides with the earliest mapped locations of the PCDZ and is assumed to have accommodated a considerable amount of the strain resulting in a significant offset of stratigraphy along strike (> 3000 metres of offset gabbro dyke) and an unknown, but presumed to be appreciable, vertical offset.

Magnetic data from the current program offers additional supporting evidence that the PCDZ has experienced dextral displacement internally, in the form of simple shear displacement of up to 1000 metres. The same data shows a comparable sense of displacement along the north and south margin of the PCDZ, in the form of brittle fault failure with displacement of at least 3000 metres on the south margin and an unknown, but presumed to be larger, displacement on the north margin.

Regional geological features suggest that the PCDZ may have developed due to the relative movement of plutons within the Wabigoon Subprovince during D3 (Figure 3). The Dryberry and Atikwa batholiths northeast of the PCDZ would have been compressed against the northern boundary of the subprovince within a northwest directed compressional environment. If the northwest directed stress continued after the collision of those batholiths, the Rainy Lake, Sabaskong and Aulneau batholiths to the southwest would still be "in motion". With one batholith complex anchored against the north boundary of the subprovince, and continued stress compressing the southern batholithic complexes, the strain would have to be taken up by displacement along the plane of weakness between the two complexes within the greenstone belt, resulting in the formation of the PCDZ.

7.0 CURRENT PROGRAM METHODOLOGY AND RESULTS

Avalon's initial exploration program on the Flint Lake property consisted of several components including linecutting, a ground magnetometer survey, geological mapping, rock sampling, a soil geochemical survey and a limited induced polarization geophysical survey. These components are described briefly in the following sections and the results are discussed together in Section 8.0.

7.1 Linecutting and Magnetometer Survey

The initial phase of exploration consisted of linecutting and a ground magnetometer survey and was conducted from April 1 to May 15, 1997. The linecutting and magnetometer survey were part of a larger survey carried out by Vytyl Exploration Services of Thunder Bay, Ontario on behalf of Avalon Ventures Ltd. over several Avalon projects in the area. A total of 25 kilometres of grid was constructed over the land and ice portions of the property, to complete a grid with 100 metre spaced lines and with stations picketed at 25 meter intervals.

The ground magnetometer survey was carried out over the entire grid except in one small area where poor ice conditions prevented safe survey conditions. Readings were taken at 12.5 metre intervals along each line. This survey was performed by Vytyl Exploration Services of Thunder Bay, Ontario using a GSM-19. The instrument specifications can be found in Appendix 1. Readings were corrected for diurnal variation, plotted at a scale of 1:5000 (Map 1) and contoured using Geosoft software (Map 2).

The magnetometer survey data varies from low to moderate relief in the northwestern portion of the property to moderate to strong relief in the southeastern claim block. The southeastern claim is characterized by a series of east west trending, disjointed magnetic highs up to several thousand nT, caused by the presence of a magnetite bearing, gabbro intrusive. The disjointed nature of the magnetic high differs from the geological mapping interpretation, and suggests the body has been structurally dismembered. The magnetic low immediately north, and also trending west northwest, is caused by the presence of intensely sheared rocks of the PCDZ (magnetite destructive).

The remainder of the property magnetics is interpreted to reflect volcanic assemblages except for the sporadic highs of up to several hundred to 2000 nT, which again probably represent magnetite bearing mafic intrusive rocks.

7.2 Geological Mapping and Rock Sampling

The second phase of exploration consisted of geological mapping, which was conducted during July and August 1997 as part of a larger exploration program on several properties being explored by Avalon at the time. A field crew of two geologists and two geological assistants were mobilized to the property area on 21 July 1997 and demobilized 21 August 1997. The mapping program consisted of reconnaissance and lakeshore mapping over two-thirds of the property area, systematic mapping along the grid lines cut on the land portion of claim K 1184549 and prospecting along the flanks of a prominent topographic lineament adjacent to the Meahan occurrence. A total of approximately six days were spent mapping the Flint Lake property, including time spent to evaluate the Meahan occurrence. The results of this program are discussed in greater detail in Section 6.0 and Section 8.0. Rock outcrop locations, alteration and structural features noted are presented on Map 3.

In conjunction with geological mapping and prospecting, rock samples were collected from outcrops along the grid and at other locations, particularly at the trenches of the Meahan occurrence to verify historically reported results. Anomalous results are discussed in Section 8.0. A total of 52 samples were collected and shipped for preparation to Chemex Labs in Thunder Bay, Ontario. From there, they were sent to Chemex Labs in Mississauga, Ontario for analysis. The samples were analyzed for gold by fire assay/atomic absorption with a gravimetric finish. The sample locations and values are plotted at a scale of 1:5000 on Map 4. Sample description sheets and assay certificates are included in Appendix 2.

7.3 Soil Geochemical Survey

A systematic soil geochemical survey was conducted over the majority of the grid on claim K 1184549. Approximately three days were spent on the Flint Lake property collecting a total of 40 samples for mobile metal ion (MMI) analysis at XRAL Laboratories in Toronto, Ontario. The sampling program was designed to test the Meahan occurrence and any potential strike extensions to the west. The MMI package used was the gold exploration suite which analyzes for gold, cobalt, nickel, palladium and silver. MMI technology methodology, calculated response ratio data and the assay certificates are presented in Appendix 3.

MMI results to date indicate that a response ratio over 5 is considered significant. The higher the number of samples that are combined in the background calculation, the more accurate the correction. Therefore, the background calculated for the Flint Lake property is the same as was used for the entire survey area (427 samples from all the properties explored by Avalon at the time). All gold values obtained from the MMI soil sample survey on the Flint Lake property have been statistically manipulated as described above and plotted at a scale of 1:5000 (Map 5). Three samples taken from the Flint Lake property contained anomalous response ratios of 5 or above. The highest number obtained (RR=42) was from a sample taken adjacent to the Meahan trenches. Two other anomalous results were obtained, one located 200 metres along strike to the west from the Meahan (RR 5), and a second approximately 175 south of the Meahan occurrence, with an response ratio of 11.

7.4 Induced Polarization Survey

In March 1998, an induced polarization (IP) chargeability and resistivity survey was conducted on three lines (L 4400 E, L 4600 E and L 4800 E) on claim K 1184549. The survey was subcontracted to Val d 'Or Sagax of Val-d 'Or, Quebec and formed part of a larger survey being conducted on three adjacent properties being explored by Avalon. The logistics and survey instrument specifications are included in a separate report by Val D'Or Sagax (Potvin, 1998).

Briefly, the survey delineated one low to high chargeability anomaly (IP-8), and two isolated anomalies. IP(8) is partially associated with a resistivity high, most likely the gabbro intrusive as mapped, and correlates with the Meahan occurrence. The chargeability indicates the presence of an appreciable amount of disseminated sulfides, particularly on line 48+00, and decreasing in intensity to the west.

Survey results also indicate the presence of relatively deep overburden cover in the north part of the surveyed area where the PCDZ is interpreted.

8.0 DISCUSSION OF RESULTS

Exploration completed by Avalon on the Flint Lake property in 1997 and 1998, consisted of establishing a 100 metre spaced cut line grid across the entire property, completion of a ground magnetometer survey, reconnaissance and grid mapping, prospecting, a soil MMI geochemical survey and a limited induced polarization survey.

The ground magnetometer survey assisted in the delineation of a sheared mafic-ultramafic intrusion along the property's eastern boundary beneath a prominent topographic lineament and swamp. Geological mapping further delineated the main high strain deformation zone of the Pipestone-Cameron Deformation Zone (PCDZ) through this lineament extending southeast out of the property and northwest through a prominent east-west peninsula and out of the property.

The rocks along the PCDZ include a strongly sheared sequence of tuff breccia, volcanic conglomerate and lapilli tuff along the main peninsula in the northwest. These volcaniclastics represent the downthrown/south block, offset from variably sheared, massive to pillowed mafic volcanic flows to the north. The Meahan occurrence consists of a series of trenches that expose several pyrite-bearing shear zones and/or narrow (<0.5 m) quartz veins along a general east-west trend within a mafic-ultramafic intrusion.

A second major structure, generally referred to as the Dubenski Shear Zone (DSZ), is interpreted to extend northwest from the bay in the southeast corner of Flint Lake into the lake, rotating from a northwest orientation to an east-west orientation further west out of the property. Recent mapping on the adjacent properties gives clear evidence the previously inferred Dubenski shear zone is in fact a late cleavage event that post dates gold mineralization. Based on these observations, the Dubenski shear zone will herein be referred to as the Dubenski alteration zone (DAZ).

Examination of the Meahan occurrence indicates that it is one of several second and third order east-west (rotational?) structures that have formed in response to first order shearing along the PCDZ, and/or in response to reactivation of both the PCDZ and the DAZ. Ground magnetic data supports this observation in that the mafic intrusive hosting the Meahan has been structurally dismembered, defined by a series of northeast trending lows. The Meahan occurs within one of the strongest lows.

Samples taken during the mapping and prospecting phase along the PCDZ obtained anomalous values in excess of 1.0 g/T Au along the south edge of the swamp, along the contact between the mafic-ultramafic intrusion hosting the Meahan Showing and the sheared volcaniclastic rocks immediately north of the intrusion. Anomalous values include 1,320 ppb Au and 2,420 ppb Au from grab samples of sheared mafic to intermediate rocks containing disseminated to stringer pyrite approximately 100 and 300 meters west northwest of the Meahan occurrence. At the Meahan occurrence, rock sampling during this program returned anomalous values of 1,050 ppb and 4,090 ppb Au. Historically reported high grade values were confirmed by one sample from the current program which returned a value of 41,690 ppb Au.

The MMI soil survey outlined three anomalous areas. One anomalous area (RR=42) is directly coincident with highly anomalous gold values in rock samples from the Meahan trenches, while another with a RR=5 occurs 200 metres along strike to the west. A third sample with RR=11 represents a new target 175 metres to the south of the Meahan occurrence, and is at the gabbro/volcanic contact. The anomalous MMI soil results are supported by previous humus sampling work by Twomey. Several anomalous values in humus, ranging from 50 to 200 ppb Au, are subparallel to the anomalous trend from rock sampling along the southern edge of the PCDZ. Subsequent humus samples taken by Twomey and analyzed by Avalon slightly widened the main humus trend by adding an additional anomalous value of 140 ppb Au. Additionally, the presence of another anomaly was indicated along the south boundary of the property (10, 20, and 60 ppb Au), and potentially an extension of the Meahan anomaly on the north side of the swamp (25 ppb Au). Although the suggested anomalies contain mainly low values, the main humus anomaly contains values ranging from 25 to 200 ppb Au along a 300 meter trend. The trend is subparallel to and coincident within 100 meters of the anomalous values obtained from rock samples along the edge of a swamp immediately north and west of the Meahan occurrence.

The IP survey, which covers the Meahan occurrence and potential extensions to the west, delineated a weak to strong chargeability trend, which is coincident with the occurrence and is associated with a strong resistivity anomaly. The trend occurs across 400 metres, strikes northwest, and was picked up on all three lines surveyed. This trend is roughly coincident with anomalous rock, soil and humus results and therefore defines a priority target for follow-up work.

Though potentially not exposed on the Flint Lake property, mapping and prospecting of the DAZ on the Dubenski property, contiguous to the west of the Flint Lake property, delineated strong cleavage and stratigraphically controlled zoned hydrothermal alteration. The periphery of the DAZ contains conjugate fracture controlled calcite veins that grade into pervasive Ca-carbonatization towards the structure. The north edge of the DAZ also contains weak to moderate pervasive chloritization, presumably due to the local influence of the adjacent mafic-ultramafic intrusions on the hydrothermal fluid composition. The core of the alteration zone is defined by a gradation from Ca-carbonatization to Fe/Mg-carbonatization (ankerite) and local disseminated to fracture controlled pyrite. The Fe/Mg-carbonatization includes both pervasive and vein controlled emplacement.

Research completed by T. Twomey and conveyed to Avalon indicates that there is significant alteration beneath the southeast bay of Flint Lake, delineated primarily by Sherritt Gordon drilling in 1981 and 1987. The results reported by Sherritt Gordon had insignificant results, according to the assays included in the logs, with the exception of the later drilling, for which assays were not reported.

Samples taken from the limited outcrop exposure of the possible extension of the DSZ on the Flint Lake property were inconclusive. One shoreline sample obtained a value of 315 ppb Au from a sheared lapilli tuff with strong pervasive calcite and chlorite alteration, suggesting that the structure may contain gold beneath the lake.

9.0 CONCLUSIONS AND RECOMMENDATIONS

Exploration work on the Flint Lake property has been successful in prioritizing existing targets and defining new targets for future exploration programs. The work completed in the immediate vicinity of the Meahan showing is encouraging. The coincident IP chargeability anomalies and anomalous values obtained from rock, humus and soil samples west-northwest of the Meahan occurrence along the edge of a large swamp that covers the PCDZ suggest the presence of gold mineralization along the edge of, or beneath overburden cover to the north. Mapping of the PCDZ along strike to the northwest also delineated a trend of significant alteration and mineralization 1200 metres long and up to 200 meters wide.

It is recommended that the anomalous prospecting results obtained along the edge of the swamp be followed up with detailed mapping and sampling to better define the mineralization source. Follow up mapping and prospecting should also be completed along the alteration zone delineated along the PCDZ in the northwest claim.

Diamond drilling of a minimum of two holes and 400 metres is recommended to test the Meahan occurrence at depth and the new target area delineated 175 metres south of the Meahan. The offsets in magnetic data used to interpret the mafic-ultramafic intrusion beneath the swamp coincide with deformation and alteration observed to the northwest. Diamond drilling should also include at least one fence of drill holes across the strike of the PCDZ to the north of the Meahan occurrence, and based on positive results, a second fence of holes along strike to the west north west.

Recognition on the Dubenski property, that gold mineralization is most likely stratigraphically controlled, and overprinted by a late structural event has major implications for the area, and in particular the extension of this zone to the east, onto the Flint Lake Property. This zone may host gold mineralization beneath the southeast Bay of Flint Lake. Strong alteration observed on the peninsula to the west was also observed along the southeast and east shoreline of the same bay, indicating that the hydrothermal alteration may be consistent beneath the lake. It is recommended that reconnaissance drilling be completed east of the mouth of the peninsula to test for strike-extension mineralization along the Dubenski Alteration Zone and to the east to test the 1981 and 1987 drill holes that were completed by Sherritt Gordon.

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Statement of Expenditures

Work Type	Units of Work	Cost per Unit of Work	Total Cost
Linecutting	25 km	$ 290/km	$ 7,250
Ground Magnetometer Survey	25 km	$ 80/km	$ 2,000
IP Survey	1.5 km	$ 1500/km	$ 2,250
Geological Mapping – Geologist and Assistant	6 days	$ 550/day	$ 3,300
Geochemical Sampling – Geological Assistant	3 days	$ 200/day	$ 600
Rock Sample Analyses	52 analyses	$ 15/sample	$ 780
Soil Sample Analyses	40 samples	$ 25/sample	$ 1,000
Supervision, Report and Drafting	20 days	$ 350/day	$ 7,000
Associated Costs			
Supplies and small equipment rental (e.g., sampling materials, stationery, fuel, report reproduction)			$ 870
Truck and boat rental			$ 750
Food and Lodging Costs			$ 450
Mobilization and Demobilization			$ 550
		Total Value of Assessment Work	**$ 26,800**

STATEMENT OF QUALIFICATIONS

I, Ian J. Campbell of 64 Summit Avenue, Thunder Bay, do hereby certify that:

I am a graduate of Lakehead University in Thunder Bay and hold a Bachelor of Science Degree in Geology 1982.

I am currently serving in the position of Vice President-Exploration of Avalon Ventures Ltd., 851 Field Street, Thunder Bay, Ontario P7B 6B6. I hold both direct and indirect interest in the securities of Avalon Ventures Ltd.

I am presently employed on a full time basis with Campbell & Associates Geological Services Inc. of 64 Summit Avenue, Thunder Bay, Ontario P7B 3N9.

I have been employed as an exploration geologist on a full time basis since 1982, and prior to that as a geological field assistant for four field seasons.

I am a Fellow of the Geological Association of Canada (1985) and a member in good standing with the PDAC and the CIM.

Dated in Thunder Bay, Ontario this 28th day of February, 1999.

Ian J. Campbell, FGAC

STATEMENT OF QUALIFICATIONS

I, Karen J. Rees of 269 Valley Street, Thunder Bay, Ontario, do hereby certify that:

> I am a graduate of the University of Saskatchewan and hold an Honours Bachelor of Science (Geology) Degree, 1984.
>
> I am presently employed as General Manager of Avalon Ventures Ltd. of 851 Field Street, Thunder Bay, Ontario P7B 6B6.
>
> I have been employed as an exploration geologist by three mining companies over the last twelve years.

Dated in Thunder Bay, Ontario this 28th day of February, 1999.

Karen J Rees

Karen J. Rees, B.Sc.
General Manager
Avalon Ventures Ltd.

Appendix 1

Magnetometer Instrument Specifications

Instrument Description and Specifications

Magnetometer/Gradiometer GSM-19

Resolution:	0.01 nT (gamma), magnetic field and gradient.
Accuracy:	0.2 nT over operating range.
Range:	20,000 to 120,000 nT, automatic tuning requiring initial set-up.
Gradient Tolerance:	Over 10,000 nT/m.
Operating Interval:	3 seconds minimum, faster optional. Readings initiated from keyboard, external trigger, or carriage return via RS-232-C.
Input/Output:	6 pin weatherproof connector, RS-232C, and (optional) analog output.
Power Requirements:	12V, 200mA peak (during polarization), 30 mA standby. 300mA peak in gradiometer mode.
Power Source:	Internal 12 V, 1.9 Ah sealed lead-acid battery standard, others optional. An External 12V power source can also be used.
Battery Charger:	Input: 110/220 VAC, 50/60 Hz and/or 12 VDC (optional). Output: 12V dual level charging.
Operating Ranges:	Temperature: -40°C to +60°C. Battery Voltage: 10.0V minimum to 15V maximum. Humidity: up to 90% relative, non condensing.
Storage Temperature:	-50°C to +65°C
Dimensions:	Console: 223 x 69 x 240 mm. Sensor Staff: 4 x 450 mm sections. Sensor: 170 x 71 mm dia. Weight: Console 2.1 kg, Staff 0.9 kg, Sensors 1.1 kg each.

Physical Overview

The parts of the GSM-19 magnetometer/gradiometer are as follows:

- The sensor is a dual coil type designed to reduce noise and improve gradient tolerance. The coils are electrostatically shielded and contain a proton rich liquid in a pyrex bottle, which also acts as an RF resonator.
- The sensor is coaxial, typically RG-58/U, up to 100 m long.
- The staff is made of strong aluminum tubing sections (plastic staff optional). This construction allows for a selection of sensor elevations above ground during surveys. For best precision the full staff length should be used. Recommended sensor separation in gradiometer mode is one staff section (56 cm from sensor axis to sensor axis), although two or more sections are sometimes used for maximum sensitivity.
- The console contains all the electronic circuitry. It has a 16 key keyboard, a 4 x 20 character alphanumeric display, and sensor and power/input/output connectors. The keyboard also serves as an ON-OFF switch.
- The power/input/output connector also serves as RS232C input/output and optionally as analog output and/or contact closure triggering input.
- The keyboard, front panel, and connectors are sealed i.e. the instrument can operate under rainy conditions.
- The charger has 2 levels of charging, full and trickle, switching automatically from one to another, input is normally 110V 50/60 Hz. Optionally, 12 VDC input can be provided.
- The all-metal housing of the console guarantees excellent EMI protection.

Software Version 4.0

There are several major versions of software for the GSM-19. As of August 92, GEM Systems added a major software upgrade to its GSM-19 family, enhancing its capabilities. This new generation of software (version 4.0) has the following advantages:

1. Diurnal correction (reduction) with interpolation can be used in conjunction with other GSM-19 models with software version 4.0. This allows the base mag to run with longer cycle time. Previous software could do interpolation only with fast GSM-19 types.
2. Memory filing system. Now 50 files can be stored in a directory, and mode of operation can be changed without erasing memory. With the software previous to version 4.0, only 1 file could be retained in memory, and this would be lost when modes of operation were switched.
3. Line and station numbers have been enlarged. Lines can now be 5 digits as opposed to 4 digits in previous software. Station numbers are now 7 digits as opposed to 6 in the previous software.
4. Transmission time has been significantly shortened.

Appendix 2

Rock Sample Descriptions

and Assay Certificates

Flint Lake Property Rock Sample Descriptions

Sample	Easting	Northing	Au (ppb)	Description
239167	4750	1700	41690	Meahan showing, main trench, 20 cm qtz vein, 5% disseminated py, tr cpy, vg?
239168	4800	1720	1050	Meahan showing, east trench, gabbro, moderately sheared, 2% py
239179	4130	1690	<5	mafic volcanic or sheared gabbro, 10 cm qtz-ank vein, 1% py
239180	4130	1690	220	mafic volcanic or sheared gabbro, 10 cm qtz-ank vein, 1% py
239181	4075	1750	<5	gabbro, calcite, tr py
239182	4110	1840	<5	serpentinite, amphibolite, pyroxenite, tr cpy
239183	3645	2035	<5	gabbro (sheared serpentinite/pyroxenite), tr py
239202	4350	1485	125	sericite-ankerite schist - Dubenski shear extension?
239203	4360	1490	50	sericite-ankerite schist - Dubenski shear extension?
239204	2580	2965	15	qtz stockwork in sheared tuff breccia, red qtz veins, strong chloritization
239205	2535	3020	<5	feldspar porphyry, strongly sheared, sericitized, tr py
239206	2535	3020	<5	feldspar porphyry, strongly sheared, sericitized, tr py
239207	2535	3020	<5	feldspar porphyry, strongly sheared, sericitized, .5 m zone of pervasive ank, tr py
239208	2550	3015	<5	chlorite-sericite-ankerite schist, tr py
239209	2550	3015	<5	chlorite-sericite-ankerite schist, tr py
239210	2740	3135	<5	chlorite-ankerite schist, tr py
239211	3150	3100	<5	qtz-ank vein in sericitized, chloritized sheared mafic volcanic, tr py
610762	4000	2225	<5	silicified ash tuff, tr py
610766	4250	1950	<5	silicified, sericitized ash tuff, strongly foliated, tr py
610767	4300	1895	2420	strongly silicified, weak carbonate, 5-10% py
610768	4400	1905	45	fine grained ash tuff, sheared, tr py
610769	4560	1890	490	sheared, silicified, 5-10% py
610771	3520	2200	50	gabbro, tr py
610772	3580	2200	<5	gabbro, iron stain, tr py
610773	3620	2200	<5	shear zone, ankerite, quartz, calcite, tr py
610774	3700	2100	<5	shear, sericitized
610808	4300	1950	1320	fine grained ash tuff, sheared, sericite, calcite, ankerite, 5-10% py, cpy
610810	3895	1935	10	fine grained ash tuff, stongly sheared, sericite, calcite, silicified, tr py
610811	3750	2002	110	fine grained ash tuff, ankerite, calcite, silicifiec, 1% py
610812	3500	2150	<5	sheared fine grained gabbro, ankerite, calcite, 1% py
610813	4110	1800	<5	sheared gabbro, strong calcite, tr py
610814	4080	1775	315	sheared fine grained gabbro, ankerite, calcite, tr py
610815	4055	1910	40	moderately sheared ash tuff, calcite, tr py
610896	4796	1604	<5	rhyodacite, tr py

Sample	Easting	Northing	Au (ppb)	Description
610897	4800	1737	10	serpentinite, local float from old trench, chlorite, serp, calcite, 2-5% py
610898	4720	1785	25	brecciated intermediate feldspar crystal tuff, silicified, 2% py
610899	4700	1875	<5	coarse grained intermediate ash tuff, strongly foliated, sericite, calcite
610900	4700	1790	90	serpentinite, chlorite, serp, 15% py
610928	4116	1820	<5	subangular boulder on shore, ankerite, tr py, tr malachite
610951	4596	1715	150	serpentinite?, moderatley magnetic, serp, chl, hematite, 2% py
610952	4580	1805	<5	fine grained gabbro, moderately magnetic with milky white quartz vein
610953	4603	1865	<5	silicified zone at west end of trench, hematite, 1-2% py
610954	4604	1865	<5	silicified zone at west end of trench, hematite, 3-5% py
610955	4500	1915	<5	sheared foliated basalt, chlorite, calcite, tr py
610956	4608	1553	65	rhyodacite, near contact with mafic dyke, ankerite, calcite, 1% py
610957	4200	1940	<5	coarse grained intermediate ash tuff, sericite, calcite, 1% py
610958	4204	1705	55	serpentinite with coarse grained quartz vein, up to 20 cm wide, tr cpy, py, mal
610960	4200	1700	<5	intermediate tuff, foliated, sericite, calcite, tr py
610961	4775	1760	300	strongly magnetic mafic/ultramafic, chlorite, calcite, 1% py
610962	4775	1718	4090	fine grained, strongly magnetic mafic/ultramafic, gossanous, chlorite, 20% py
610963	4740	1720	50	magnetic mafic/ultramafic, foliated, chlorite, serp, 2-5% py
610967	4430	1525	<5	intermediate tuff, rusty weathering, no sulphides

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
5175 Timberlea Blvd., Mississauga
Ontario, Canada L4W 2S3
PHONE: 905-624-2806 FAX: 905-624-6163

To: AVALON VENTURES LTD.

777 RED RIVER RD.
THUNDER BAY, ON
P7B 1J9

Project : 519,522,523,526
Comments: ATTN: IAN CAMPBELL CC: DON BUBAR

Page Number :2
Total Pages :2
Certificate Date: 05-SEP-97
Invoice No. : I9739420
P.O. Number :
Account :OPJ

CERTIFICATE OF ANALYSIS A9739420

SAMPLE	PREP CODE		Au ppb FA+AA	Au FA g/t								
610942	205	226	2720	-----								
610943	205	226	350	-----								
610944	205	226	10	-----								
610945	205	226	185	-----								
610946	205	226	95	-----								
610947	205	226	< 5	-----								
610959	205	226	< 5	-----								
610960	205	226	< 5	-----								
610961	205	226	300	-----								
610962	205	226	4090	-----								
610963	205	226	50	-----								
610964	205	294	< 5	-----								
610965	205	226	< 5	-----								
610966	205	226	< 5	-----								
610967	205	226	< 5	-----								
610968	205	226	< 5	-----								
610969	205	226	< 5	-----								
610970	205	226	320	-----								
610971	205	226	15	-----								
610972	205	226	< 5	-----								
610973	205	226	< 5	-----								

CERTIFICATION:

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Comments: ATTN: IAN CAMPBELL CC: DON BUBAR

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Certificate Date: 05-SEP-97
Invoice No. : I9739420
P.O. Number :
Account :OPJ

CERTIFICATE OF ANALYSIS A9739420

SAMPLE	PREP CODE		Au ppb FA+AA	Au FA g/t
239197	205	226	285	-----
239198	205	226	< 5	-----
239199	205	226	< 5	-----
239200	205	226	>10000	11.28
239201	205	226	6780	-----
239202	205	226	125	-----
239203	205	226	50	-----
239204	205	226	15	-----
239205	205	226	< 5	-----
239206	205	226	< 5	-----
239207	205	226	< 5	-----
239208	205	226	< 5	-----
239209	205	226	< 5	-----
239210	205	226	< 5	-----
239211	205	226	< 5	-----
239212	205	226	< 5	-----
239213	205	226	< 5	-----
239214	205	226	< 5	-----
239215	205	226	< 5	-----
239216	205	226	< 5	-----
239217	205	226	< 5	-----
239218	205	226	< 5	-----
239219	205	226	< 5	-----
239220	205	226	< 5	-----
239221	205	294	785	-----
239222	205	226	710	-----
239223	205	226	225	-----
239224	205	226	< 5	-----
239225	205	226	< 5	-----
610931	205	226	< 5	-----
610932	205	226	< 5	-----
610933	205	226	< 5	-----
610934	205	226	< 5	-----
610935	205	226	< 5	-----
610936	205	226	165	-----
610937	205	226	< 5	-----
610938	205	226	75	-----
610939	205	226	< 5	-----
610940	205	226	< 5	-----
610941	205	226	50	-----

CERTIFICATION:

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
5175 Timberlea Blvd., Mississauga
Ontario, Canada L4W 2S3
PHONE: 905-624-2806 FAX: 905-624-6163

To: AVALON VENTURES LTD.

777 RED RIVER RD.
THUNDER BAY, ON
P7B 1J9

Project : 522,526,519
Comments: ATTN: IAN CAMPBELL CC: DON BUBAR

Page Number :3
Total Pages :3
Certificate Date: 26-AUG-97
Invoice No. : I9738256
P.O. Number :
Account :OPJ

CERTIFICATE OF ANALYSIS A9738256

SAMPLE	PREP CODE		Au ppb FA+AA
610908	205	226	< 5
610909	205	226	< 5
610910	205	226	155
610911	205	226	310
610912	205	226	< 5
610913	205	226	< 5
610914	205	226	< 5
610915	205	226	< 5
610916	205	226	< 5
610917	205	226	2740
610918	205	226	< 5
610919	205	226	110
610920	205	226	< 5
610921	205	226	< 5
610922	205	226	< 5
610923	205	226	< 5
610924	205	226	< 5
610925	205	226	35
610926	205	226	465
610927	205	226	< 5
610928	205	226	< 5
610929	205	226	< 5
610930	205	226	< 5
610951	205	226	150
610952	205	226	< 5
610953	205	226	< 5
610954	205	226	< 5
610955	205	226	< 5
610956	205	226	65
610957	205	226	< 5
610958	205	226	55

CERTIFICATION:

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Ontario, Canada L4W 2S3
PHONE: 905-624-2806 FAX: 905-624-6163

To: AVALON VENTURES LTD.

777 RED RIVER RD.
THUNDER BAY, ON
P7B 1J9

Project : 522,526,519
Comments: ATTN: IAN CAMPBELL CC: DON BUBAR

Page Number :2
Total Pages :3
Certificate Date: 26-AUG-97
Invoice No. : I9738256
P.O. Number :
Account :OPJ

CERTIFICATE OF ANALYSIS A9738256

SAMPLE	PREP CODE		Au ppb FA+AA
610830	205	226	< 5
610831	205	226	< 5
610832	205	226	< 5
610833	205	226	< 5
610834	205	226	< 5
610835	205	226	30
610836	205	226	< 5
610837	205	226	< 5
610838	205	226	< 5
610839	205	226	25
610840	205	226	< 5
610841	205	226	< 5
610842	205	226	< 5
610843	205	226	< 5
610844	205	226	< 5
610845	205	226	< 5
610846	205	226	< 5
610847	205	226	< 5
610848	205	226	< 5
610849	205	226	< 5
610850	205	226	< 5
610889	205	226	< 5
610890	205	226	< 5
610891	205	226	< 5
610892	205	226	< 5
610893	205	226	< 5
610894	205	226	< 5
610895	205	226	< 5
610896	205	226	< 5
610897	205	226	10
610898	205	226	25
610899	205	226	< 5
610900	205	226	90
610901	205	226	45
610902	205	226	10
610903	205	226	5
610904	205	226	< 5
610905	205	226	15
610906	205	226	< 5
610907	205	226	< 5

CERTIFICATION:

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To: AVALON VENTURES LTD.

777 RED RIVER RD.
THUNDER BAY, ON
P7B 1J9

Project : 522,526,519
Comments: ATTN: IAN CAMPBELL CC: DON BUBAR

Page Number : 1
Total Pages : 3
Certificate Date: 26-AUG-97
Invoice No. : 19738256
P.O. Number :
Account : OPJ

CERTIFICATE OF ANALYSIS A9738256

SAMPLE	PREP CODE		Au ppb FA+AA									
239169	205	226	< 5									
239170	205	226	135									
239171	205	226	< 5									
239172	205	226	< 5									
239173	205	226	< 5									
239174	205	226	< 5									
239175	205	226	< 5									
239176	205	226	< 5									
239177	205	226	< 5									
239178	205	226	< 5									
239179	205	226	< 5									
239180	205	226	220									
239181	205	226	< 5									
239182	205	226	< 5									
239183	205	226	< 5									
239184	205	226	< 5									
239185	205	226	< 5									
239186	205	226	< 5									
239187	205	226	< 5									
239188	205	226	< 5									
239189	205	226	< 5									
239190	205	226	45									
239191	205	226	< 5									
239192	205	226	1430									
239193	205	226	5270									
239194	205	226	3400									
239195	205	226	2910									
239196	205	226	65									
610794	205	226	< 5									
610795	205	226	105									
610796	205	226	< 5									
610797	205	226	< 5									
610798	205	226	80									
610799	205	226	440									
610800	205	226	60									
610825	205	226	< 5									
610826	205	226	< 5									
610827	205	226	< 5									
610828	205	226	< 5									
610829	205	226	< 5									

CERTIFICATION:

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To: AVALON VENTURES LTD.

777 RED RIVER RD.
THUNDER BAY, ON
P7B 1J9

Project : 519
Comments: ATTN: IAN CAMPBELL CC: DON BUBAR, FAX: PAT LENGYEL

Page Number : 1
Total Pages : 1
Certificate Date: 27-AUG-97
Invoice No. : I9738176
P.O. Number :
Account : OPJ

CERTIFICATE OF ANALYSIS A9738176

SAMPLE	PREP CODE		Au ppb FA+AA	Au FA g/t
M610864	205	226	60	-----
M610883	205	226	10	-----
M610884	205	226	< 5	-----
M610885	205	226	< 5	-----
M610886	205	226	< 5	-----
M610887	205	226	< 5	-----
M610888	205	226	< 5	-----
N239167	205	226	>10000	41.69
N239168	205	226	1050	-----

CERTIFICATION:

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Project : 519
Comments: ATTN: IAN CAMPBELL CC: DON BUBAR FAX: PAT LENGYEL

Page Number :2
Total Pages :3
Certificate Date: 19-AUG-97
Invoice No. : I9737290
P.O. Number :
Account :OPJ

CERTIFICATE OF ANALYSIS A9737290

SAMPLE	PREP CODE		Au ppb FA+AA									
N239141	205	294	215									
N239142	205	226	425									
N239143	205	226	775									
N239144	205	294	225									
N239145	205	294	960									
N239146	205	294	325									
N239147	205	294	275									
N239148	205	294	370									
N239149	205	294	1220									
N239150	205	226	2790									
N239151	205	226	3470									
N239152	205	226	320									
N239153	205	226	145									
N239154	205	226	515									
N239155	205	226	445									
N239156	205	294	100									
N239157	205	294	3450									
N239158	205	294	2580									
N239159	205	294	1410									
N239160	205	294	4850									
N239161	205	294	330									
N239162	205	294	245									
N239163	205	294	365									
N239164	205	226	325									
N239165	205	226	645									
N239166	205	226	3270									
M610771	205	226	50									
M610772	205	226	< 5									
M610773	205	226	< 5									
M610774	205	226	< 5									
M610775	205	226	< 5									
M610776	205	226	40									
M610810	205	226	10									
M610811	205	226	110									
M610812	205	226	< 5									
M610813	205	226	< 5									
M610814	205	226	315									
M610815	205	226	40									
M610851	205	226	10									
M610852	205	226	340									

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THUNDER BAY, ON
P7B 1J9

Project : 522
Comments: ATTN: IAN CAMPBELL CC: DON BUBAR FAX: PAT LENGYEL

Page Number : 1
Total Pages : 1
Certificate Date: 19-AUG-97
Invoice No. : I9737276
P.O. Number :
Account : OPJ

CERTIFICATE OF ANALYSIS A9737276

SAMPLE	PREP CODE		Au ppb FA+AA									
M610751	205	226	< 5									
M610752	205	226	< 5									
M610753	205	226	< 5									
M610754	205	226	25									
M610755	205	226	< 5									
M610756	205	226	< 5									
M610757	205	226	95									
M610758	205	226	< 5									
M610759	205	226	< 5									
M610760	205	226	< 5									
M610761	205	226	< 5									
M610762	205	226	< 5									
M610763	205	226	< 5									
M610764	205	226	< 5									
M610765	205	226	30									
M610766	205	226	< 5									
M610767	205	226	2420									
M610768	205	226	45									
M610769	205	226	490									
M610770	205	226	10									
M610801	205	226	< 5									
M610802	205	226	< 5									
M610803	205	226	< 5									
M610804	205	226	< 5									
M610805	205	226	< 5									
M610806	205	226	< 5									
M610807	205	226	< 5									
M610808	205	226	1320									
M610809	205	226	< 5									

CERTIFICATION: Adriana Alexandre

Appendix 3

MMI Methodology, Response Ratio Data And Assay Certificates – Soil Samples

Background – MMI Technology

MMI technology differs from traditional soil geochemistry as it uses a proprietary selective leach process designed to scavenge mobile metal ions from the surface of substrate particles. Traditional soil geochemistry methods analyze samples using a complete digest, attempting to detect traces of residual mineralization, or a remobilized and precipitated extension of it. MMI technology, by scavenging only mobile metal ion particles from the surface of substrate particles, leaves behind the actual soil particles.

Mobile metal ion particles mobilize from bedrock mineralization sources, via groundwater, and adhere to the surface of particles forming in the soil, rather than precipitate out as oxide minerals. The relatively low concentrations of mobile metal ions present in the soil combined with the mechanism of metal ion transfer, and the mechanism of adhesion on clay particle surfaces precludes the detection of extensive dispersal trains. Consequently, MMI soil anomalies either occur immediately above a deposit, where the ions have exploited fracture permeability from the source at depth to the surface, or, in the case of inclined strata, they may also occur on the up-dip exposure of that strata, having exploited stratigraphic permeability as well as structural permeability.

MMI technology results to date indicate that it is capable of detecting mineralization from sources as deep as 700 metres below surface, theoretically beyond the detection range of surface sampling, conventional surface geophysics, and well beyond the typical shallow exploratory drilling depths.

Data Manipulation

Typical soil profiles undergo regular mechanical erosion, volume reduction by conversion from bedrock to soil, and chemical weathering. All three processes have a tendency to disseminate mineralization away from the original bedrock source, although typically these dispersed zones are volumetrically smaller than the original source. Conventional sampling, using partial or complete digestion analysis, obtains values from these dispersed zones that can range as high as ore grade, bedrock mineralization. Additionally, these dispersed zones can also produce soil sample anomalies and stream sediment anomalies in the same range as those that would be detected adjacent to a bedrock sourced anomaly.

The limited spatial distribution of mobile metal ions precludes the dispersion any considerable distance from source. In addition, significant accumulations of mineralization are required to generate measureable MMI anomalies. Consequently, the MMI soil data tends to have a very low signal-to-noise ratio.

Response ratios (RR), used as a practical means of eliminating background noise, define anomalies from a standard MMI soil analysis database. Subsequent interpretation relies on the values representing the relative difference between background noise and real anomalies, rather than interpreting absolute values as is typically done in conventional geochemical surveys. To calculate the response ratio, the average value of the lowest quartile is divided into the database and all results are rounded to a value greater or equal to 1.

Flint Lake Property Soil MMI Response Ratio Data

SAMPLE ID	Au	avg25%tl	au/corr (RR)
48+05E 17+18N	0.28	0.125	2.24
48+01E 16+00N	1.4	0.125	11.2
48+00E 19+01N	0.125	0.125	1
48+00E 18+50N	0.125	0.125	1
48+00E 18+00N	0.125	0.125	1
48+00E 17+60N	5.23	0.125	41.84
48+00E 16+35N	0.56	0.125	4.48
48+00E 15+01N	0.31	0.125	2.48
47+00E 18+75N	0.125	0.125	1
47+00E 18+25N	0.125	0.125	1
47+00E 17+29N	0.125	0.125	1
47+00E 16+75N	0.125	0.125	1
47+00E 16+25N	0.125	0.125	1
47+00E 15+75N	0.55	0.125	4.4
47+00E 15+50N	0.125	0.125	1
47+00E 15+25N	0.125	0.125	1
46+00E 18+37N	0.125	0.125	1
46+00E 17+55N	0.62	0.125	4.96
46+00E 17+00N	0.125	0.125	1
45+70E 18+00N	0.125	0.125	1
45+00E 18+25N	0.32	0.125	2.56
45+00E 17+71N	0.44	0.125	3.52
45+00E 17+22N	0.125	0.125	1
45+00E 16+60N	0.125	0.125	1
44+10E 17+50N	0.37	0.125	2.96
44+00E 19+25N	0.125	0.125	1
44+00E 18+50N	0.125	0.125	1
44+00E 17+00N	0.125	0.125	1
43+90E 18+00N	0.125	0.125	1
43+90E 16+50N	0.125	0.125	1
43+00E 17+76N	0.125	0.125	1
43+00E 17+25N	0.125	0.125	1
43+00E 16+75N	0.125	0.125	1
43+00E 16+40N	0.125	0.125	1
43+00E 15+75N	0.3	0.125	2.4
43+00E 15+25N	0.125	0.125	1
42+00E 19+50N	0.125	0.125	1
42+00E 17+50N	0.125	0.125	1
42+00E 17+00N	0.125	0.125	1
41+00E 19+25N	0.125	0.125	1

Work Order: 017778 **Date:** 13/01/98 **FINAL**

Element.	**Au**	**Co**	**Ni**	**Pd**	**Ag**
Method.	**MMI-B**	**MMI-B**	**MMI-B**	**MMI-B**	**MMI-B**
Det.Lim.	**0.25**	**1**	**5**	**0.25**	**0.25**
Units.	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**
41+00E 19+25N	<0.25	18	452	<0.25	9.47

Work Order: 017778 **Date:** 13/01/98 **FINAL**

Element.	Au	Co	Ni	Pd	Ag
Method.	MMI-B	MMI-B	MMI-B	MMI-B	MMI-B
Det.Lim.	0.25	1	5	0.25	0.25
Units.	ppb	ppb	ppb	ppb	ppb
41+00E 19+75N	<0.25	6	498	0.31	9.06
42+00E 17+00N	<0.25	20	150	0.31	14.2
42+00E 17+50N	<0.25	2	76	<0.25	6.67
42+00E 19+50N	<0.25	3	98	<0.25	7.71
42+00E BL 20+00N	0.36	2	521	<0.25	11.8
43+00E 15+25N	<0.25	2	337	<0.25	0.76
43+00E 15+75N	0.30	3	539	<0.25	20.3
43+00E 16+40N	<0.25	1	139	<0.25	2.67
43+00E 16+75N	<0.25	<1	40	<0.25	13.5
43+00E 17+25N	<0.25	2	60	<0.25	0.62
43+00E 17+76N	<0.25	42	74	<0.25	7.75
43+00E 19+75N	<0.25	2	266	<0.25	24.3
43+00E 23+00N	<0.25	13	158	<0.25	14.5
43+00E 23+50N	<0.25	2	102	<0.25	3.76
43+00E 24+00N	<0.25	3	102	<0.25	7.44
43+00E 24+50N	<0.25	29	174	0.39	22.7
43+90E 16+50N	<0.25	<1	27	<0.25	1.19
44+00E 17+00N	<0.25	1	89	<0.25	0.70
44+10E 17+50N	0.37	1	148	<0.25	1.62
43+90E 18+00N	<0.25	21	50	<0.25	0.71
44+00E 18+50N	<0.25	4	130	<0.25	40.4
44+00E 19+25N	<0.25	2	93	<0.25	0.99
44+00E 23+00E	<0.25	1	84	<0.25	0.26
44+00E 23+30N	<0.25	5	322	<0.25	7.59
44+00E 24+00N	<0.25	2	1211	<0.25	9.93
45+00E 16+60N	<0.25	<1	33	<0.25	0.55
45+00E 17+22N	<0.25	2	47	<0.25	1.12
45+00E 17+71N	0.44	5	69	<0.25	6.33
45+00E 18+25N	0.32	2	387	<0.25	5.23
45+00E 24+25N	<0.25	16	120	<0.25	7.58
45+00E 24+75N	<0.25	11	317	0.27	11.3
46+00E 17+00N	<0.25	8	34	<0.25	2.20
46+00E 17+55N	0.62	2	36	<0.25	4.27
45+70E 18+00N	<0.25	7	30	0.26	5.57
46+00E 18+37N	<0.25	36	53	<0.25	3.94
46+00E 22+85N	<0.25	30	200	0.27	9.67
46+00E 23+00N	<0.25	8	431	<0.25	9.03
46+00E 23+22N	<0.25	11	241	0.33	6.48
46+00E 23+50N	<0.25	6	533	<0.25	11.6
46+00E 24+00N	<0.25	8	201	0.32	10.7
46+00E 24+48N	<0.25	3	155	<0.25	15.1
47+00E 15+25N	<0.25	5	358	<0.25	1.25
47+00E 15+50N	<0.25	34	191	<0.25	5.69
47+00E 15+75N	0.55	1	264	0.29	13.0
47+00E 16+25N	<0.25	5	62	<0.25	0.44

Work Order: 017778 **Date:** 13/01/98 **FINAL**

Element.	Au	Co	Ni	Pd	Ag
Method.	MMI-B	MMI-B	MMI-B	MMI-B	MMI-B
Det.Lim.	0.25	1	5	0.25	0.25
Units.	ppb	ppb	ppb	ppb	ppb
47+00E 16+75N	<0.25	15	26	<0.25	7.67
47+00E 17+29N	<0.25	5	46	<0.25	4.12
47+00E 18+25N	<0.25	6	36	<0.25	13.7
47+00E 18+75N	<0.25	5	51	<0.25	9.77
47+00E 22+75N	<0.25	8	59	<0.25	6.34
47+00E 23+25N	<0.25	8	61	<0.25	7.59
47+00E 23+95N	<0.25	7	161	0.27	9.87
47+00E 24+75N	<0.25	13	64	0.54	11.4
48+00E 15+01N	0.31	9	838	<0.25	15.1
48+00E 16+35N	0.56	7	380	<0.25	7.97
48+00E 17+60N	5.23	3	160	<0.25	6.40
48+00E 18+00N	<0.25	16	180	<0.25	12.4
48+00E 18+50N	<0.25	6	178	<0.25	5.03
48+00E 19+01N	<0.25	2	154	<0.25	0.90
48+00E 22+00N	<0.25	44	120	<0.25	30.2
47+95E 23+00N	<0.25	13	79	0.26	12.1
47+95E 24+00E	<0.25	4	152	<0.25	2.37
48+01E 16+00N	1.40	8	614	0.40	20.0
48+05E 17+18N	0.28	7	296	<0.25	8.23
48+00E 24+50N	1.15	30	164	0.49	36.8

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A REPORT ON AN
INDUCED POLARIZATION/RESISTIVITY SURVEY
performed over the
FLINT LAKE PROJECT
Kenora District, Ontario
submitted to
AVALON VENTURES LTD.
98-N310.2 APRIL 1998

2.19340

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GEOSCIENCE ASSESSMENT
OFFICE

TABLE OF CONTENTS

LIST OF FIGURES

APPENDICES

ATTACHED AT THE END OF THIS REPORT

Pseudosections and *image2D* true-depth sections of the apparent resistivity and apparent chargeability (3 sheets at a scale of 1 : 2500).

LIST OF MAPS, at a scale of 1 : 5000

98-N310-4.0	Geophysical interpretation
98-N310-4.2	*image2D* apparent resistivity contour map at 50 m depth level
98-N310-4.3	*image2D* apparent chargeability contour map at 50 m depth level

COLOUR PLANS SUBMITTED SEPARATELY

98-N310-4.2c	*image2D* apparent resistivity contour map at 50 m depth level
98-N310-4.3c	*image2D* apparent chargeability contour map at 50 m depth level

1 INTRODUCTION

At the request of Mr. Ian Campbell of AVALON VENTURES LTD., VAL D'OR SAGAX INC. has performed an induced polarization/resistivity survey over the FLINT LAKE property (NTS 52F/5) (figure 1). The object of this survey is to define, if possible, promising anomalies for the search of economic mineralization on this property.

After a brief description of the method employed, we discuss the results obtained and attempt to interpret them in light of the available geological and geophysical information. Based on the results of this interpretation, we then establish what further work, if any, should be performed.

2 THE FLINT LAKE PROPERTY

2.1 Location and Access

The property is located approximately 60 kilometres south-east of Kenora in the Kenora District, province of Ontario (NTS 52F/5) (figure 1). The access is possible first by the Highway #71 as far as 10 kilometres south of Sioux Narrows and then by the Cameron road for a distance of approximately 11 kilometres.

2.2 Survey Grid

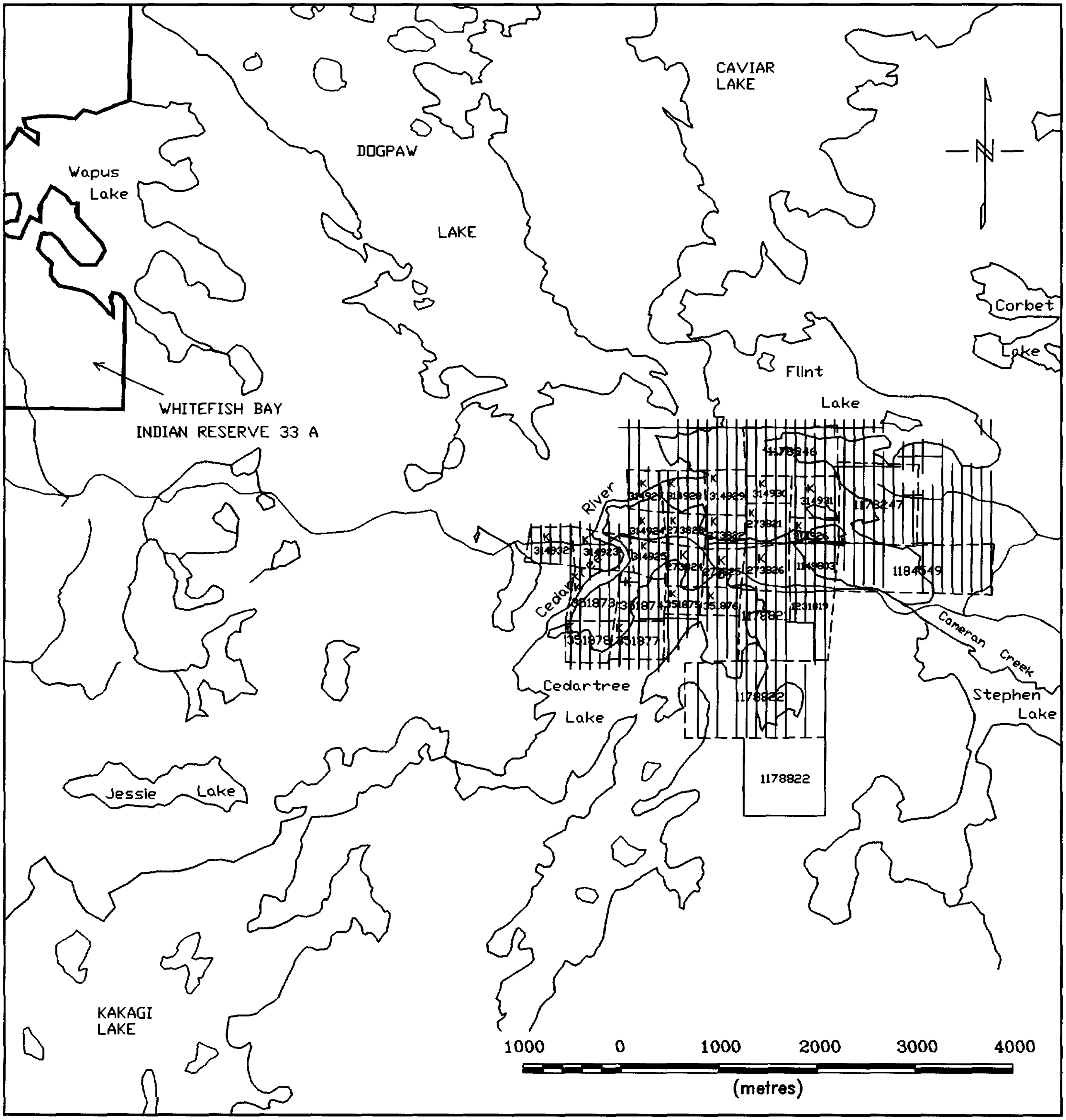
The survey grid consists of several tie lines striking east-west and lines striking north-south, cut every 100 metres between 1+00E and 48+00E. This grid is metric and all the lines are chained every 25 metres. However, the present survey only covered lines 44+00E, 46+00E and 48+00E between 15+00N and 21+00N (figure 2).

2.3 Description

The property is held by AVALON VENTURES LTD. and the claims partially and totally covered by the present field works are shown on figure 2.

Figure 1: General location

Figure 2: Index of claims
and survey area



3 TECHNICAL SPECIFICATIONS OF THE SURVEY

3.1 Generalities

A total of 1.8 kilometres of induced polarization/resistivity were completed on March 9, 1998 over the FLINT LAKE property. This survey was performed under the direction of Mr. Paul Melançon with the help of four assistants.

3.2 Electrode Array

The dipole-dipole array (figure 3) was used for the investigation of all IP lines performed on the FLINT LAKE property. The nominal spacing *a* between the electrodes was set at 25 metres and separation factor *n* between the transmitting and the potential dipoles ranged from 1 to 6.

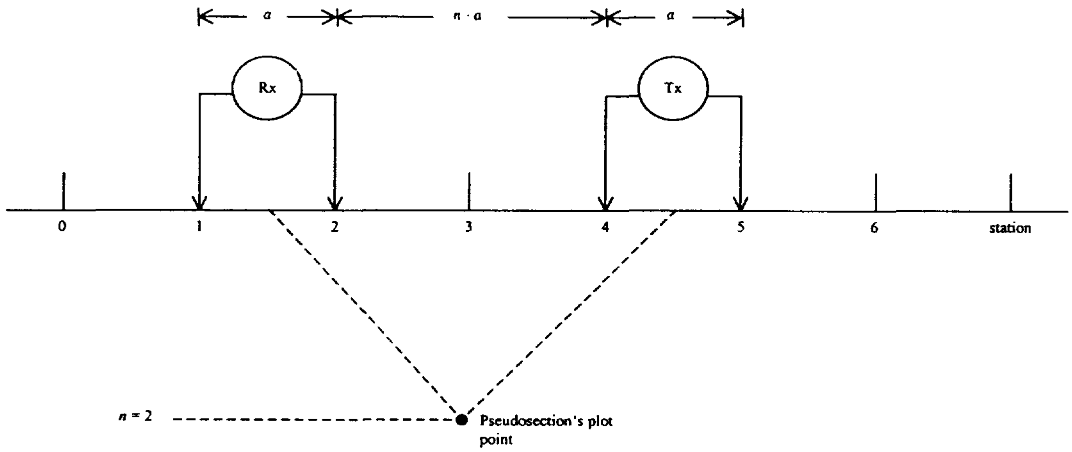


Figure 3: The dipole-dipole array

3.3 Equipment

The induced polarization equipment employed consisted of a transmitting device as well as a receiving device, both working in pulse current mode. A GDD transmitter model TX-11 supplied by a 1.4 kW generator was used to provide a stable current. Stainless steel electrodes were used to provide contact with the ground for the transmission of current as well as the reception of the signal. The current was transmitted with a period of 8 seconds and an effective cycle of 50% (figure 4).

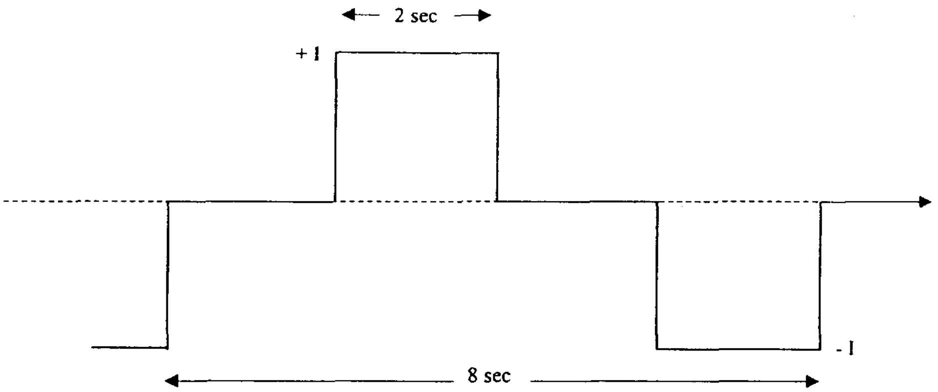


Figure 4: The transmitted signal at C_1-C_2

Primary voltage V_p and apparent chargeability M_a were measured with an ELREC-6+ IP receiver manufactured by Iris Instruments Ltd. The integration of the transient voltage after current shut-off was performed over twenty windows (M_1 to M_{20}) of equal duration of 80 ms each (figure 5). Those twenty parameters are automatically normalised in relation with the decay rate of the transitory voltage due to a pure electrode polarization effect. Therefore, all parasitic contribution to the signal can be filtered by observing the deviation between the values M_1 to M_{20} read at the receiver.

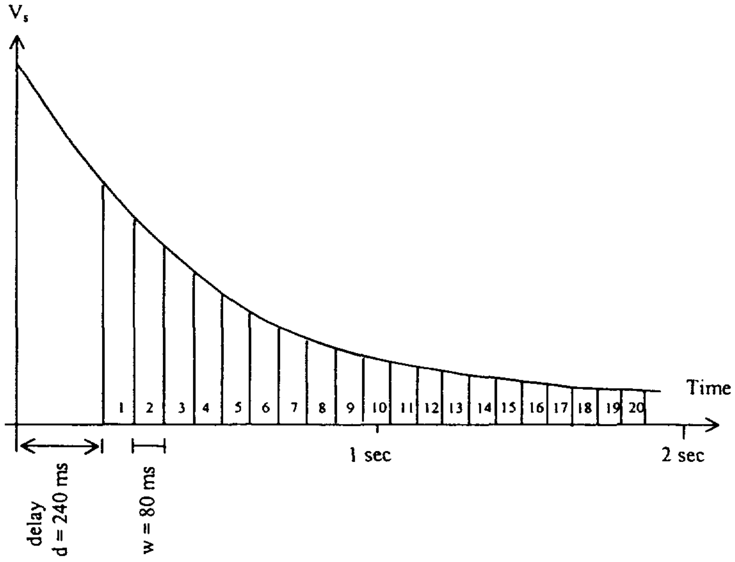


Figure 5 : ELREC-6+ Timing for the slices of an IP decay curve

3.4 IP Survey Parameters Calculations

Apparent resistivity was determined using the following equation :

$$\rho_a = \pi \cdot \frac{V_P}{I} \cdot n \cdot (n+1) \cdot (n+2) \cdot a \quad (in\, \Omega \cdot m)$$

Where
a = dipole length (25 m)
n = dipole separation factor
V_P = primary voltage (mV)
I = injected current (mA)

Chargeability M_a is expressed in mV/V and is the weighted average of at least 10 of the partial apparent chargeability windows (M_1 to M_{20}). Windows that do not fit the general polarization curve are rejected.

3.5 True-Depth Section Imaging

To facilitate quantitative interpretation, an automatic 2D inversion software of resistivity/induced polarization data sets, developed by VAL D'OR SAGAX INC., has been used with the data from the FLINT LAKE property. With this software, no initial guess (starting model) needs to be defined by the user. The subsoil is divided in small cells and a spatial deconvolution of raw data is applied. The result is a smooth model representing the conductive, resistive and polarizable bodies distribution on true-depth sections. The resulting image represents a model of all possible solutions, highlighting the most probable ones. However, this process does not recover intrinsic resistivity and chargeability unless the source is very wide.

Imaging cannot create information that is not in the raw data set, i.e. the limitations of the technique and array used will still prevail. For instance, resolution at depth is very limited and subhorizontal structures are difficult to resolve. However, noise is efficiently rejected, near-surface effects are easily identified and complex responses such as wide units, two sources next to each other, vertical or inclined geological contacts are well resolved.

3.6 Quality Control

The apparent resistivity error is essentially that of the nominal spacing a between the electrodes, approximately 3% in all. The average error on apparent chargeability measurements, which represent the average of 5 to 17 measuring cycles, is 0.40 mV/V.

4 RESULTS AND INTERPRETATION

4.1 Data presentation

The results of the induced polarization survey are presented in the form of pseudosections and *image2D* true-depth sections of the apparent resistivity and apparent chargeability at a scale of 1 : 2500. Position of the interpreted IP anomalies has been included on the pseudosections.

The results are also presented in the form of *image2D* apparent resistivity and apparent chargeability maps at 50 m depth level (98-N310-4.2 and 98-N310-4.3). Colour versions of *image2D* apparent resistivity and apparent chargeability maps at 50 m depth level are submitted separately. The principal interpreted anomalous IP zones have been reproduced on the geophysical interpretation map (98-N310-4.0). All maps are presented at a 1 : 5000 scale.

4.2 Interpretation

The measured apparent resistivity values ranged between 16 and about 96 000 Ω·m while the apparent chargeability values ranged between less than 0 and 38 mV/V. The poorly polarizable and highly conductive zone present in the north portion of the survey area is characteristic of a thick overburden layer and of an inefficient bedrock investigation with the present electrode configuration.

The present survey delineated only one (1) polarizable anomaly labelled IP-8 and two isolated anomalies, which were not marked. Anomaly IP-8, weakly to strongly polarizable, is partially associated with a resistivity high on lines 46+00E and 48+00E. This anomaly is probably induced in part by a bedrock uplift, the bedrock being more resistive and polarizable than the overburden. However, the presence of an appreciable amount of disseminated mineralization is locally possible due to the only partial correspondence with the high resistivity values. Finally, note that the source of this anomaly seems to be shallow and its depth extension very limited.

5 CONCLUSION AND RECOMMENDATIONS

One moderate anomaly, named IP-8, and two isolated anomalies were defined by the present IP survey. Anomaly IP-8, which can reflect the presence of a variable amount of disseminated mineralization, seems to be caused by a shallow source of very limited depth extent.

Therefore, a surface verification is recommended on anomaly IP-8 at lines 46+00E and 48+00E to determine the nature of the associated mineralization. If the results of this verification are positive, a DDH could be executed to test at depth the extension of the source of this anomaly; an additional IP coverage could also be done eastward of line 48+00E.

Finally, we recommend to use a more penetrating array, like pole-dipole or dipole-dipole with a spacing *a* of 50 metres, for the achievement of an eventual additional IP survey in the north part of the present surveyed area.

Respectfully submitted,

VAL D'OR SAGAX INC.

INGÉNIEUR
Hugues Potvin
39412
QUÉBEC

Hugues Potvin

Hugues Potvin, Eng.
Geophysicist

HP/ag

Ontario Ministry of Northern Development and Mines

Declaration of Assessment Work Performed on Mining Land

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

W9910.00077
Assessment Files Research Imag

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

52F05SW2006 2.19340 DOGPAW LAKE 900

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 Tim Twomey	Client Number 203959
Address P.O. Box 88	Telephone Number c/o 807-735-3450
Balmertown, ON POV 1CO	Fax Number c/o 807-735-2703
Name correspondence to: Avalon Ventures Ltd.	Client Number
Address 851 Field Street	Telephone Number 807-346-0404
Thunder Bay, ON P7B 6B6	Fax Number 807-346-4233

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
☐ Rehabilitatior

		Office Use
Work Type Linecutting, Ground Magnetometer survey, IP survey, Mapping, Rock Sampling, Soil sampling, (Geol) (Gchem)		Commodity
		Total $ Value of Work Claimed 26,800.
Dates Work Performed From 01 Day / 04 Month / 97 Year To 31 Day / 03 Month / 98 Year		NTS Reference
Global Positioning System Data (if available)	Township/Area Dogpaw Lake	Mining Division Kenora
	M or G-Plan Number G-2613	Resident Geologist District

RECORDED
MAR 30 1999

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.

2.19340

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

Name Avalon Ventures Ltd.	Telephone Number 807-346-0404
Address 851 Field Street, Thunder Bay, ON P7B 6B6	Fax Number 807-346-4233
Name and Val d'Or Sagax Inc.	Telephone Number 819-874-2001
Address 50 Lamaque Boulevard	Fax Number 819-874-2002
Name Val d'Or, Quebec J9P 2H6	Telephone Number
Address Hugues Potvin, Eng. Geophysicist	Fax Number

DEEMED June 28/99

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2:20 p.m.
MAR 30 1999
GEOSCIENCE ASSESSMENT OFFICE

4. Certification by Recorded Holder or Agent

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

Signature of Recorded Holder or Agent Karen Rees Avalon Ventures Ltd. 851 Field St.	Date March 29, 1999
Agent's Address Thunder Bay, ON · Telephone Number 0404	Fax Number 807-346-423

the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

W-9910.00077

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 wor to be distributed at a future date.
eg	TB 7827	16 ha	$26, 825	N/A	$24,000	$2,825
eg	1234567	12	0	$24,000	0	0
eg	1234568	2	$ 8, 892	$ 4,000	0	$4,892
1	K 1178246	2	4,560	2,400	0	2,160
2	K 1178247	4	8,450	3,200	0	5,250
3	K 1184549	4	13,790	1,600	0	12,190
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
		Column Totals	26,800	7,200	0	19,600

RECORDED
MAR 3 0 1999

I, Karen Rees (Print Full Name), do hereby certify that the above work credits are eligible unde 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: Karen J Rees

Date: March 29, 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 hov 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):

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MAR 3 0 1999
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Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

Received Stamp	Deemed Approved Date	Date Notification Sent
	Date Approved	Total Value of Credit Approved

Ontario

Ministry of
Northern Development
and Mines

Statement of Costs for Assessment Credit

W9910.00077

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

Work Type	Units of Work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
see attached statement of expenditures			
Associated Costs (e.g. supplies, mobilization and demobilization).			
Transportation Costs			
Food and Lodging Costs			
Total Value of Assessment Work			

RECORDED
MAR 30 1999

Calculations of Filing Discounts:

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

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

Note:

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

Certification verifying costs:

2.19340

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

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MAR 30 1999
GEOSCIENCE ASSESSMENT OFFICE

Signature Karen Rees

Date March 29 1999

Statement of Expenditures

W-9910-00077

Work Type	Units of Work	Cost per Unit of Work	Total Cost
Linecutting	25 km	$ 290/km	$ 7,250
Ground Magnetometer Survey	25 km	$ 80/km	$ 2,000
IP Survey	1.5 km	$ 1500/km	$ 2,250
Geological Mapping – Geologist and Assistant	6 days	$ 550/day	$ 3,300
Geochemical Sampling – Geological Assistant	3 days	$ 200/day	$ 600
Rock Sample Analyses	52 analyses	$ 15/sample	$ 780
Soil Sample Analyses	40 samples	$ 25/sample	$ 1,000
Supervision, Report and Drafting	20 days	$ 350/day	$ 7,000
Associated Costs			
Supplies and small equipment rental (e.g., sampling materials, stationery, fuel, report reproduction)			$ 870
Truck and boat rental			$ 750
Food and Lodging Costs			$ 450
Mobilization and Demobilization			$ 550
		Total Value of Assessment Work	**$ 26,800**

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

April 20, 1999

TIMOTHY J TWOMEY
P.O. BOX 88
BALMERTOWN, Ontario
P0V-1C0

Submission Number: 2.19340

Dear Sir or Madam:

		Status
Subject: Transaction Number(s):	W9910.00077	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 Steve Beneteau by e-mail at steve.beneteau@ndm.gov.on.ca or by telephone at (705) 670-5855.

Yours sincerely,

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

Correspondence ID: 13653

Copy for: Assessment Library

Work Report Assessment Results

Submission Number: 2.19340

Date Correspondence Sent: April 20, 1999 **Assessor:** Steve Beneteau

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9910.00077	1178246	DOGPAW LAKE	Deemed Approval	April 14, 1999

Section:
14 Geophysical IP
14 Geophysical MAG
12 Geological GEOL
13 Geochemical GCHEM

Correspondence to:
Resident Geologist
Kenora, ON

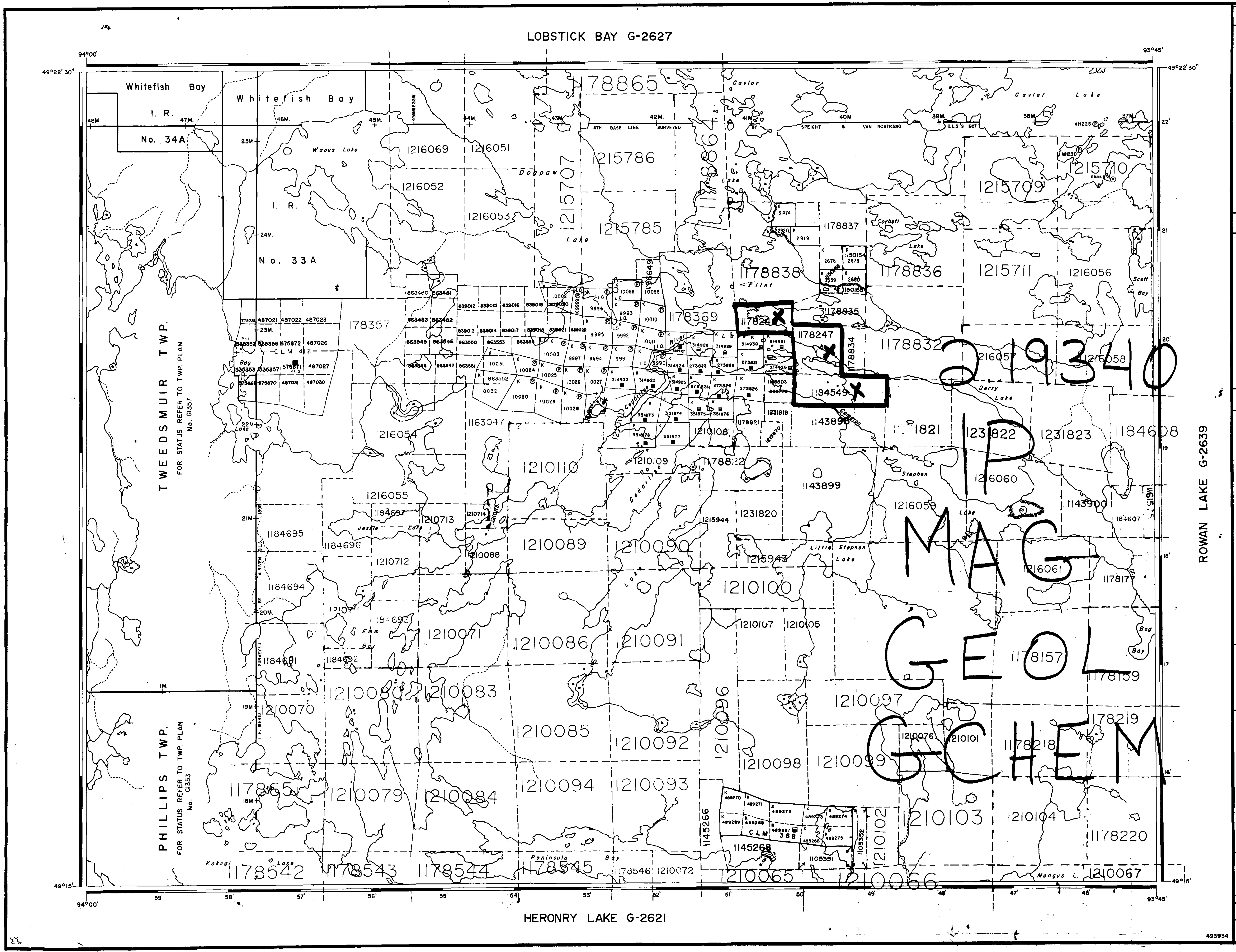
Assessment Files Library
Sudbury, ON

Recorded Holder(s) and/or Agent(s):
Karen Rees
THUNDER BAY, ONTARIO, CANADA

TIMOTHY J TWOMEY
BALMERTOWN, Ontario

TRIM LINE

G-2613



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IP

MAG

GEOL

GCHEM

LEGEND

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

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	Ⓟ or ●
" , SURFACE RIGHTS ONLY	⊖
" , MINING RIGHTS ONLY	⊖
LEASE, SURFACE & MINING RIGHTS	■
" , SURFACE RIGHTS ONLY	⊟
" , MINING RIGHTS ONLY	⊟
LICENCE OF OCCUPATION	▼
ORDER-IN-COUNCIL	OC
RESERVATION	Ⓡ
CANCELLED	⊗
SAND & GRAVEL	Ⓢ

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

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY

S.R.O. – SURFACE RIGHTS ONLY

M.+ S. – MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File
Ⓢ	W20/82	mar 1/72	m & s	162473

DATE OF ISSUE
APR 21 1999
PROVINCIAL RECORDING
OFFICE - SUDBURY

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000

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

AREA

DOGPAW LAKE

M.N.R. ADMINISTRATIVE DISTRICT

KENORA

MINING DIVISION

KENORA

LAND TITLES / REGISTRY DIVISION

KENORA

Ontario

Ministry of Natural Resources

Land Management Branch

Date JANUARY, 1984

Number G-2613

493934

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.

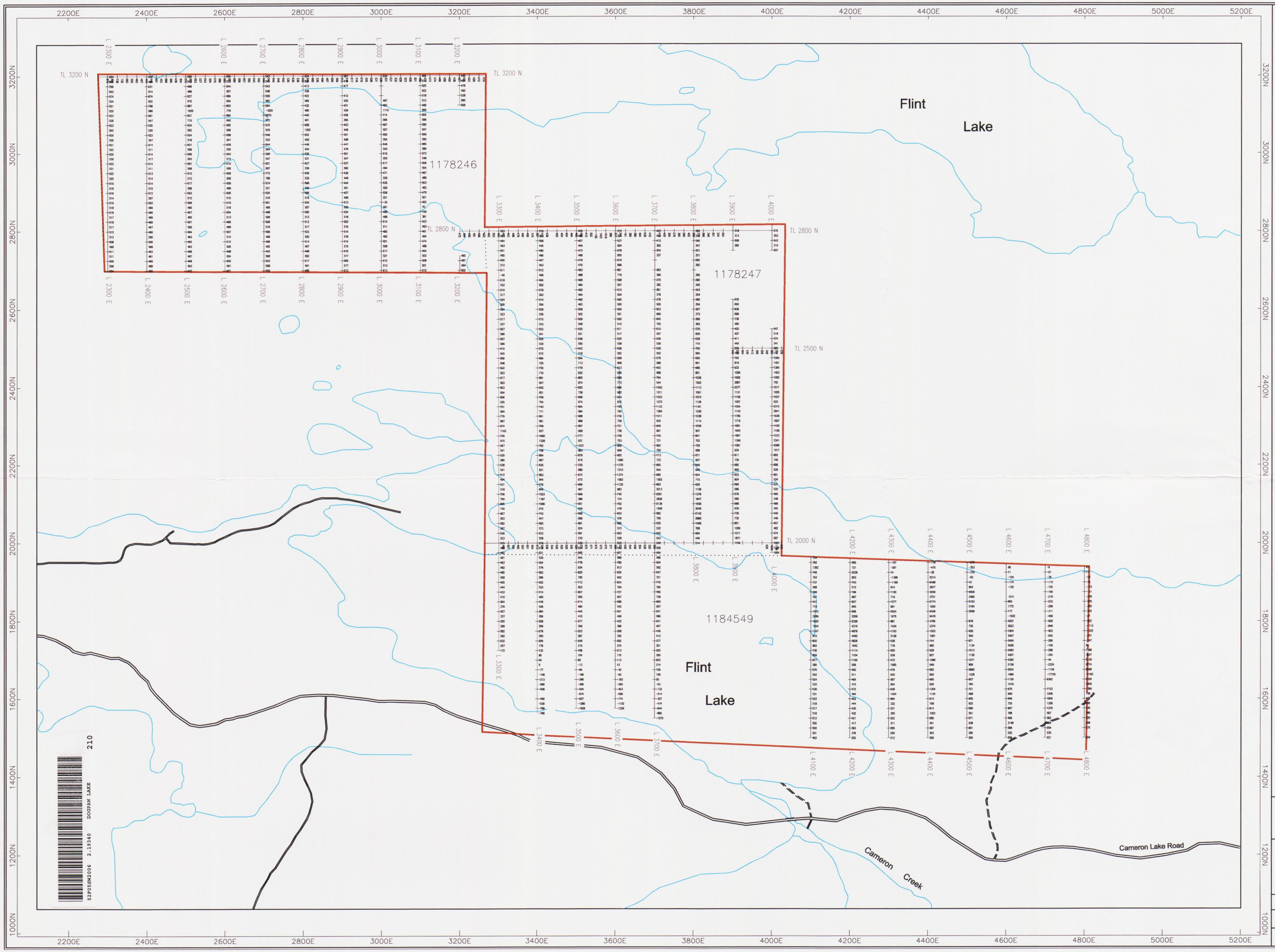
[illegible]RA MINING DIV
RECEIVED
EFFECTIVE
JUL 11 1994
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

DOGPAW LAKE

G-2613

52F05SW2006 2.19340 DOGPAW LAKE 200

TRIM LINE



Scale 1:5000

100 0 100 200 300

(metres)

Map 1

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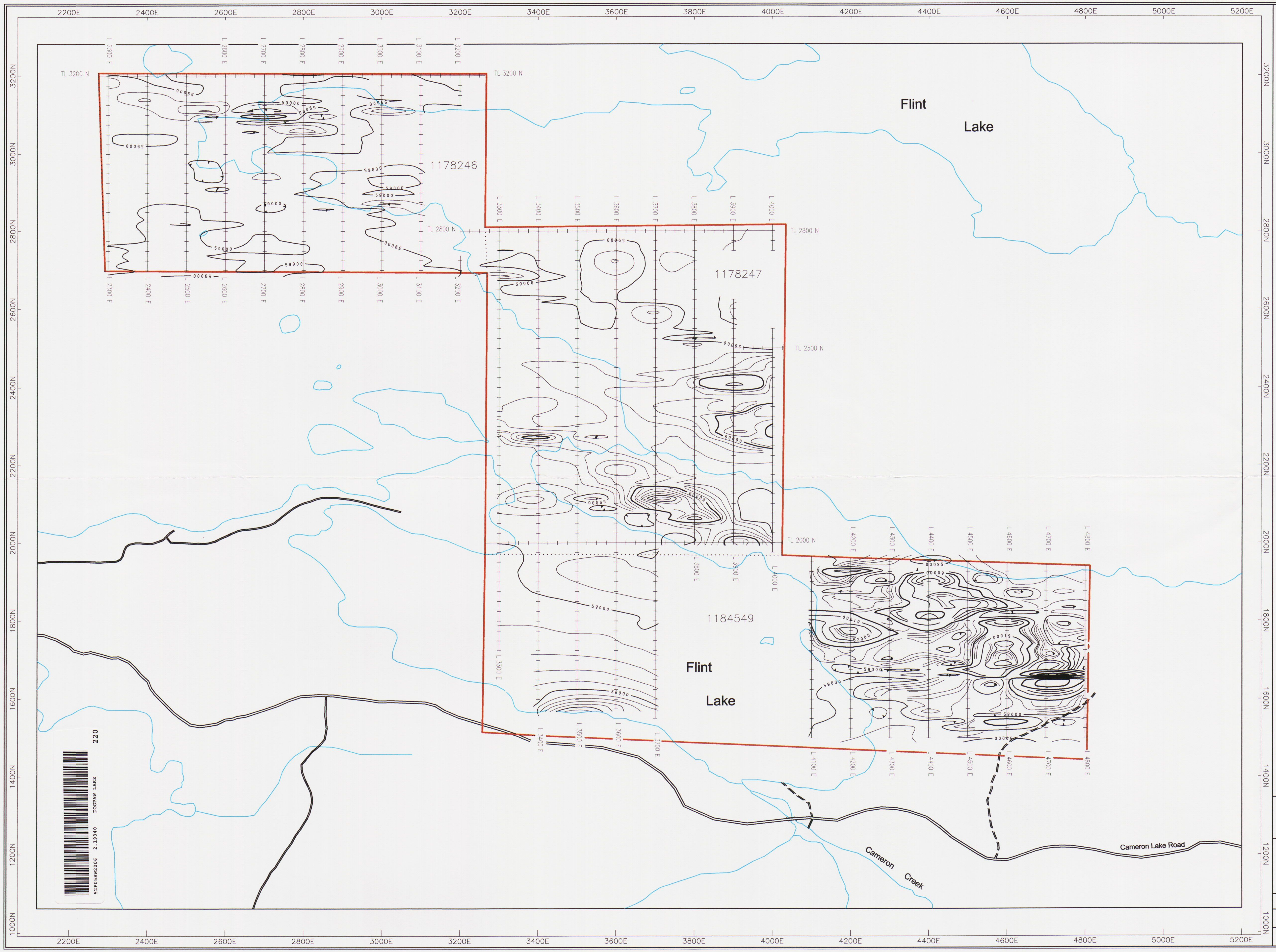
AVALON VENTURES LTD.

Flint Lake Property
Total Field Ground Magnetometer Survey
Posted Data

Survey By: Vytyl Exploration Services and Gibson & Associates

Datum: 58500 nT	NTS: 52 F 05
Drawn By: Paul Nielsen Geological	Date: Dec 1997



2.19340

Map 2

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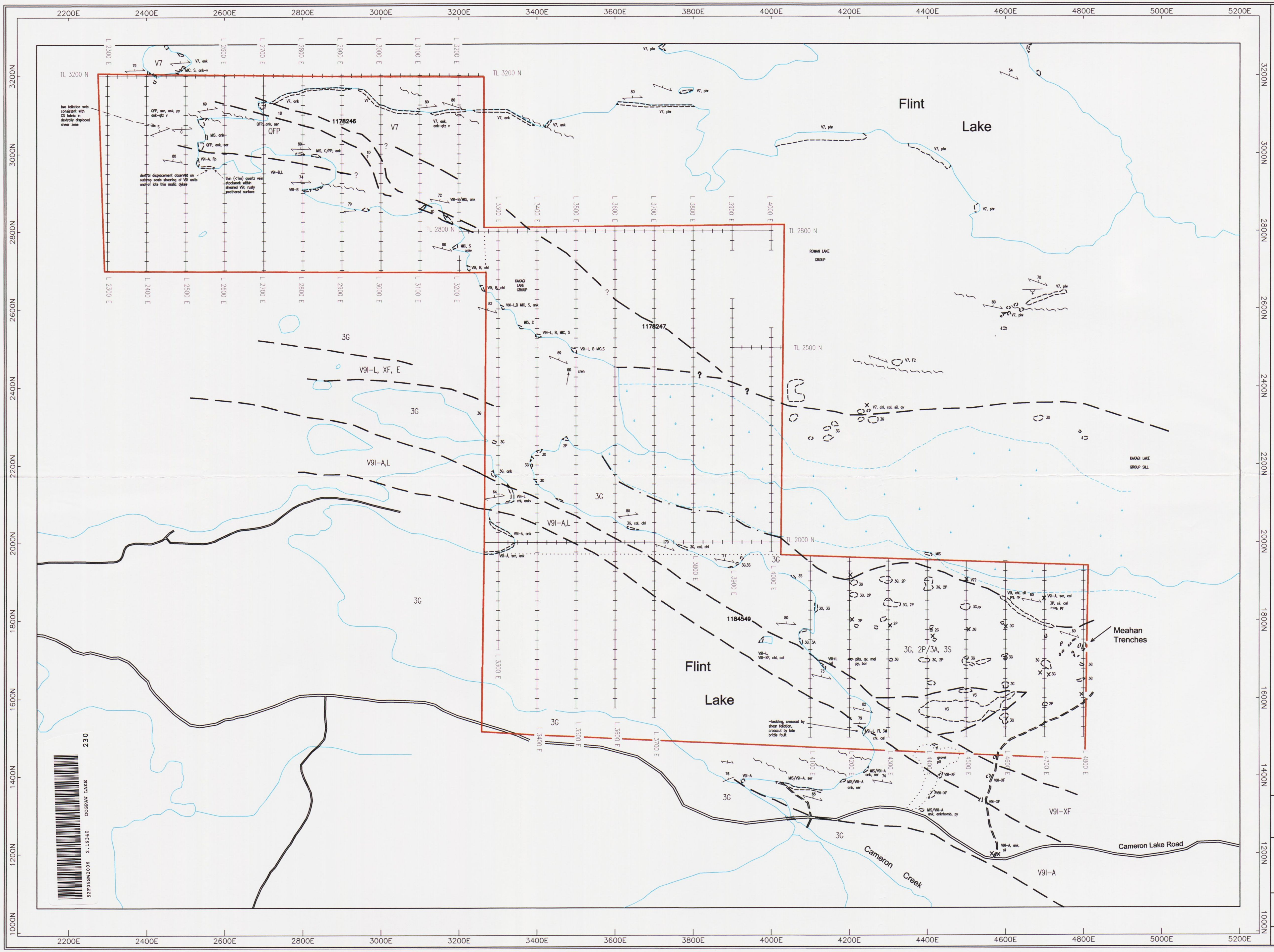
AVALON VENTURES LTD.

Flint Lake Property
Total Field Ground Magnetometer Survey
Contoured Data

Survey By: Vytyl Exploration Services and Gibson & Associates

Contour Interval: 200 nT
NTS: 52 F 05
Drawn By: Paul Nielsen Geological
Date: Dec 1997



FLINT LAKE PROPERTY LEGEND

LITHOLOGIES

Archean

Kenora–Fort Frances Dike Swarm – Failed rift arm/foredeep basin (2120–2240)

1D	Diabase Dike

Stephen Lake Intrusive Suite – Syn to post tectonic – Calc–Alkalic (2699 Ma)

QFP	Quartz Feldspar Porphyry
FP	Feldspar Porphyry

Kakagi Lake Group – Upper Volcanic–Intrusive Complex

Kakagi Sills – Syn to Post–Upper Volcanic – Tholeiitic (2725 Ma)

3G, 2P, 3S	Gabbro, Pyroxenite, Serpentinite

Cedartree Lake Formation
–Upper Volcanic/Volcaniclastic Cycle–Calc–Alkalic (2724–2711 Ma)

F1, F2	Chert, Chert–Magnetite Iron Formation
V9I	Rhyodacitic Volcaniclastic, non specific
V9I–X, XF	Rhyodacitic Crystal Tuff, Feldspar Crystal Tuff
V9I–A	Rhyodacitic Ash Tuff
V9I–L	Rhyodacitic Lapilli Tuff
V9I–B	Rhyodacitic Tuff Breccia
V3	Massive Rhyodacite Flows

Rowan Lake Volcanics
–shallow submarine tholeiitic to calc alkaline mafic volcanic sequence (2731 Ma?)

V7, V7 plw	Mafic Volcanic Flows, massive, pillowed

ALTERATION & STRUCTURE

py	pyrite
mal	malachite
bor	bornite
qv	quartz vein
ank v	ankerite vein
qtz ank v	quartz–ankerite vein
sil	silica
chl	chlorite
ser	sericite
cal	calcite
hem	hematite
fuc	fuchsite
ank	ankerite
ank rhombs	porphyroblastic ankerite
mag	magnetite
	swamp
⬭ ×	outcrop: large, small
	contact
	shearing
68 S C	foliation: dipping, S fabric, C fabric
	foliation: vertical
	foliation: dip undetermined
45	bedding
55 →	lineation: arrow azimuth & numerical dip
cren, qv	trend: undefined, crenulation, fracture vein
	cleavage
	pillowed lavas: tops indicated

Scale 1:5000
100 0 100 200 300
(metres)

Map 3
2.19340

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AVALON VENTURES LTD.

Flint Lake Property

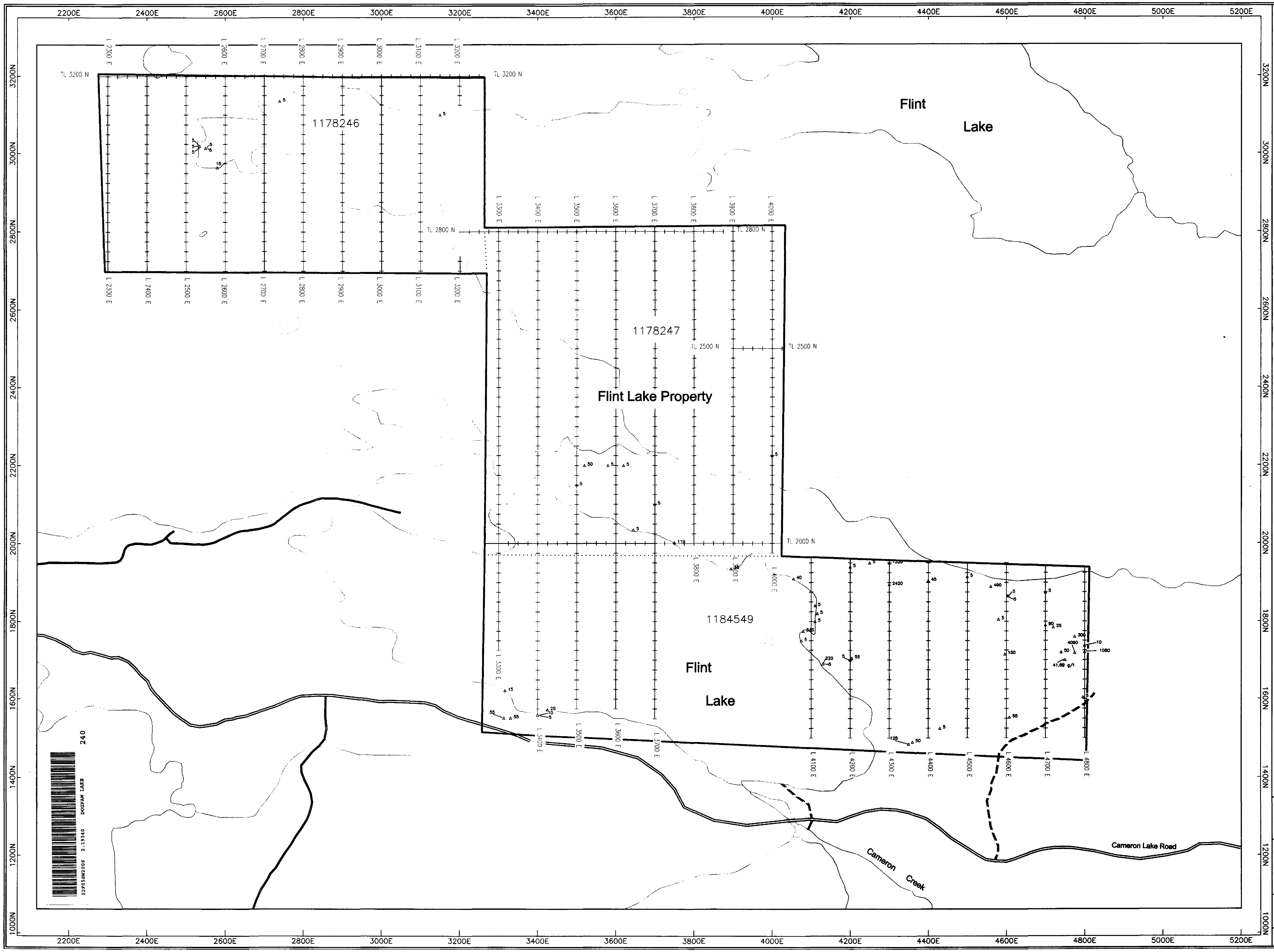
Geology Map

Interpretation: P. Lengyel

NTS: 52 F 05

Drawn By: Paul Nielsen Geological

Date: Dec 1997



Map 4

2.19340

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Sample Location
△ 500 — Au (ppb)

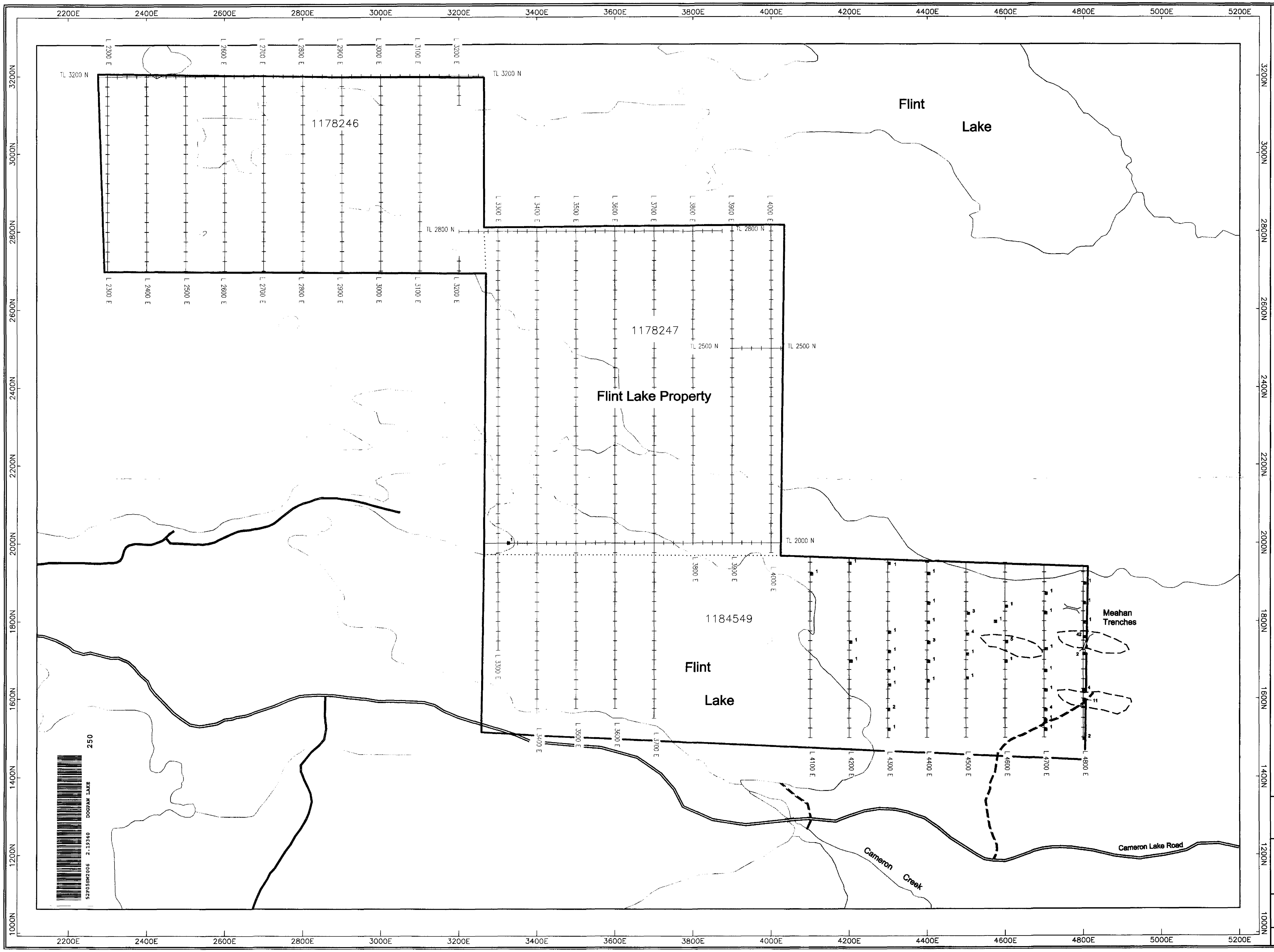
Scale 1:5000
100 0 100 200 300
(metres)

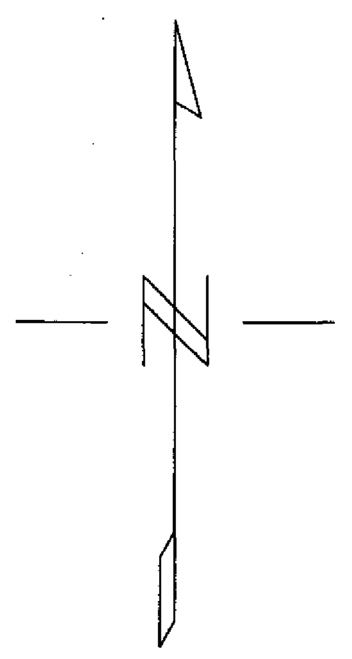
AVALON VENTURES LTD.

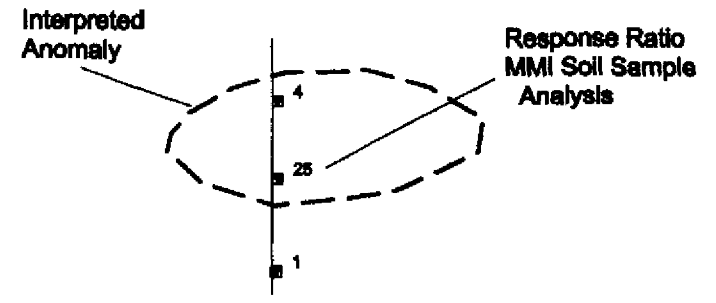
Flint Lake Property

Lithogeochemistry Au(ppb)

Interpretation:	NTS: 52 F 05
Drawn By: Paul Nielsen Geological	Date: Dec 1997







Note: All values >5 are anomalous, and all values >20 should be given high priority.

Map 5

2.1938

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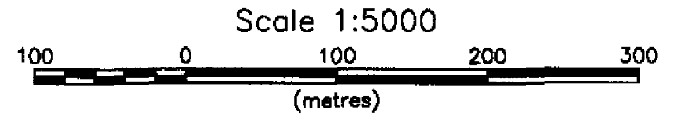
OFFICE

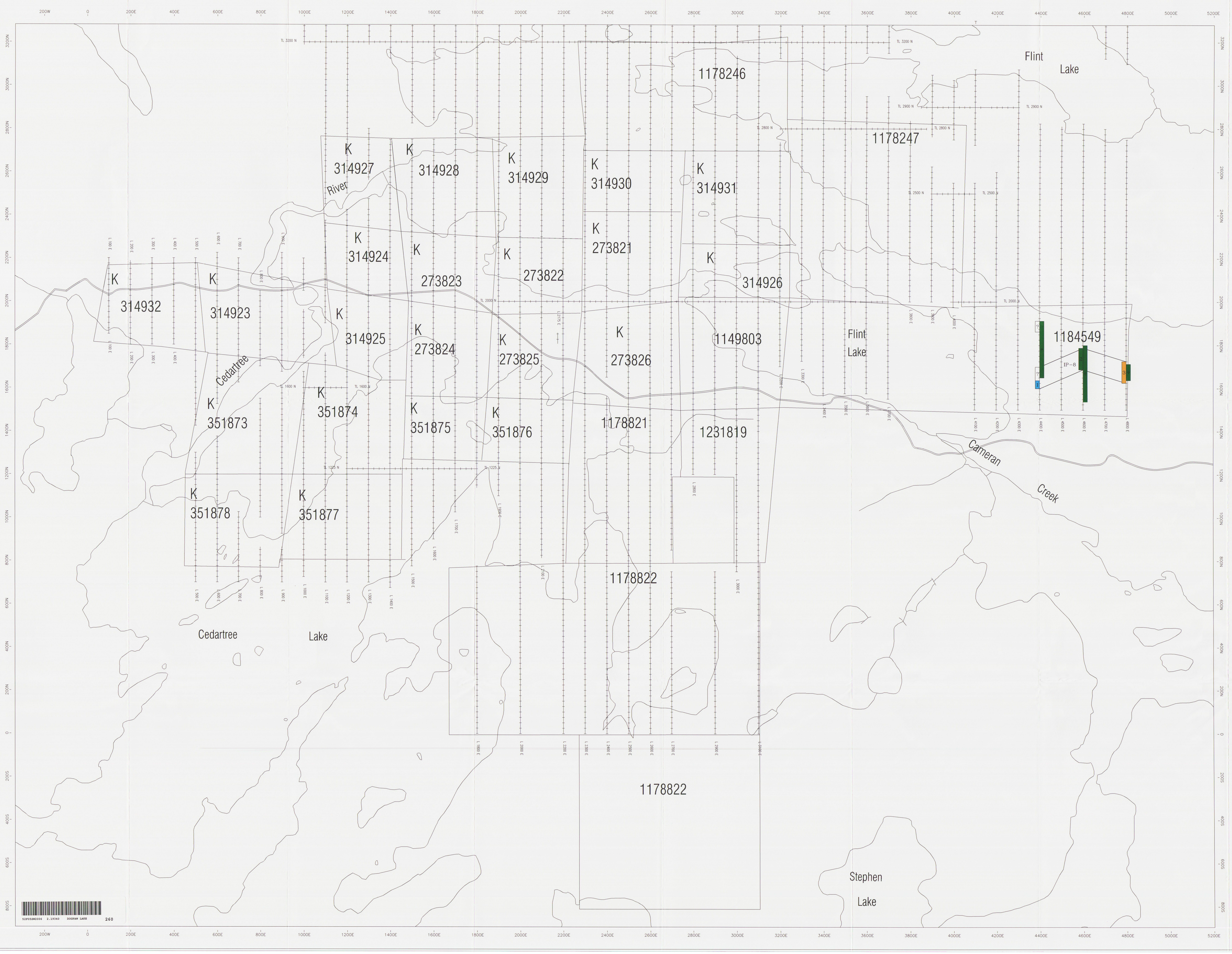


AVALON VENTURES LTD.

Flint Lake Property

MMI Soil Geochemistry Map

Interpretation:	NTS: 52 F 05
Drawn By: Paul Nielsen Geological	Date: Dec 1997



LEGEND

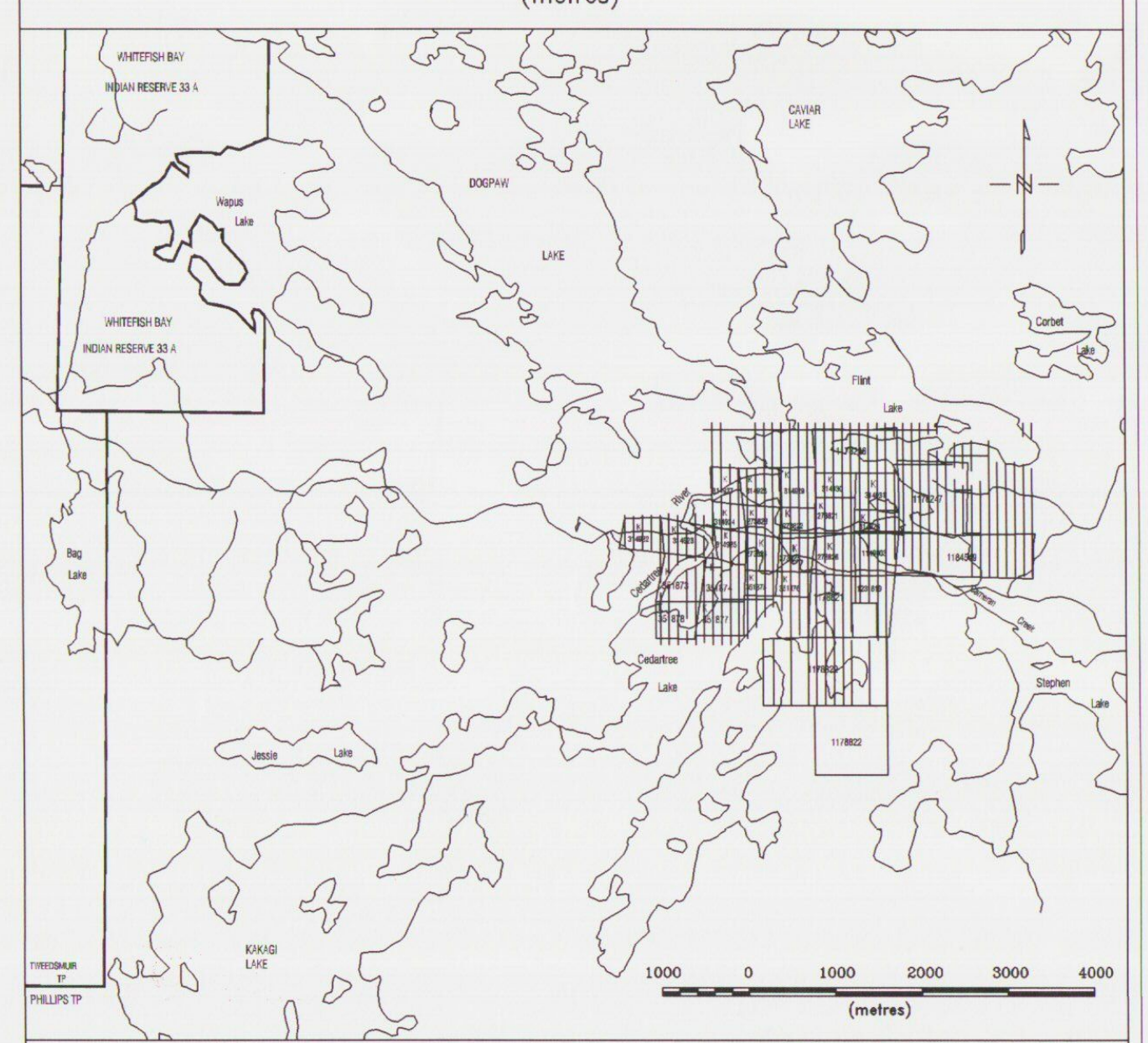
INDUCED POLARIZATION

POLARIZATION		RESISTIVITY	
Very high	4	⇈	Very resistive
High	3	↑	Resistive
Moderate	2	↓	Conductive
Weak	1	⇊	Very conductive
Marginal	?		

2.19340

SCALE 1 : 5 000

100 0 100 200 300
(metres)

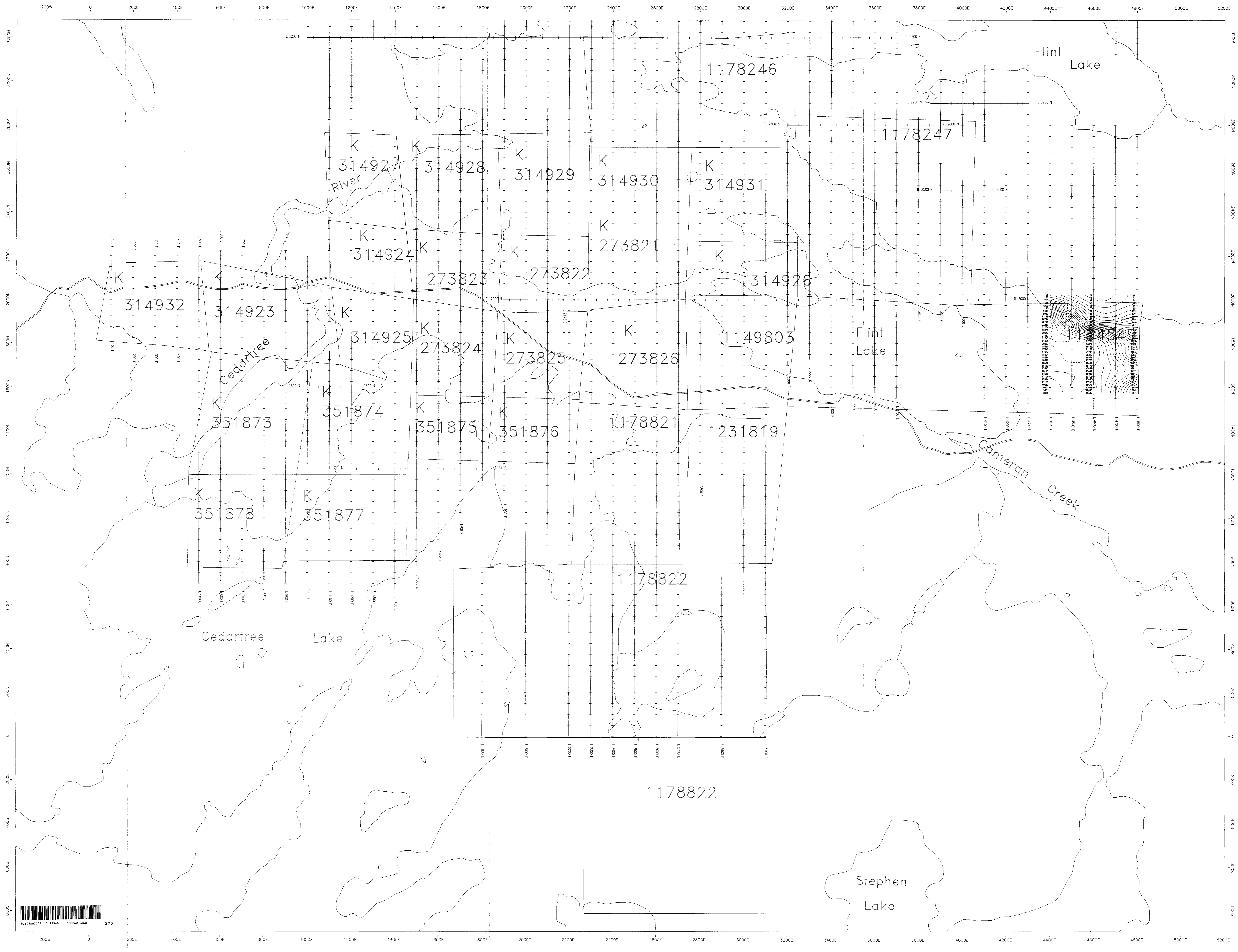


AVALON VENTURES LTD.
FLINT LAKE PROPERTY

GEOPHYSICAL INTERPRETATION

VAL D'OR SAGAX INC.

Interpreted by: D. Bérubé, B.Sc.
Date: 04/98
Scale 1 : 5 000
Drawing no: 98-N310-4.0



LEGEND

CONTOUR INTERVALS (Ohm−m)

Logarithmic contours:

- - - - -	0.1
———	0.2
━━━	0.5

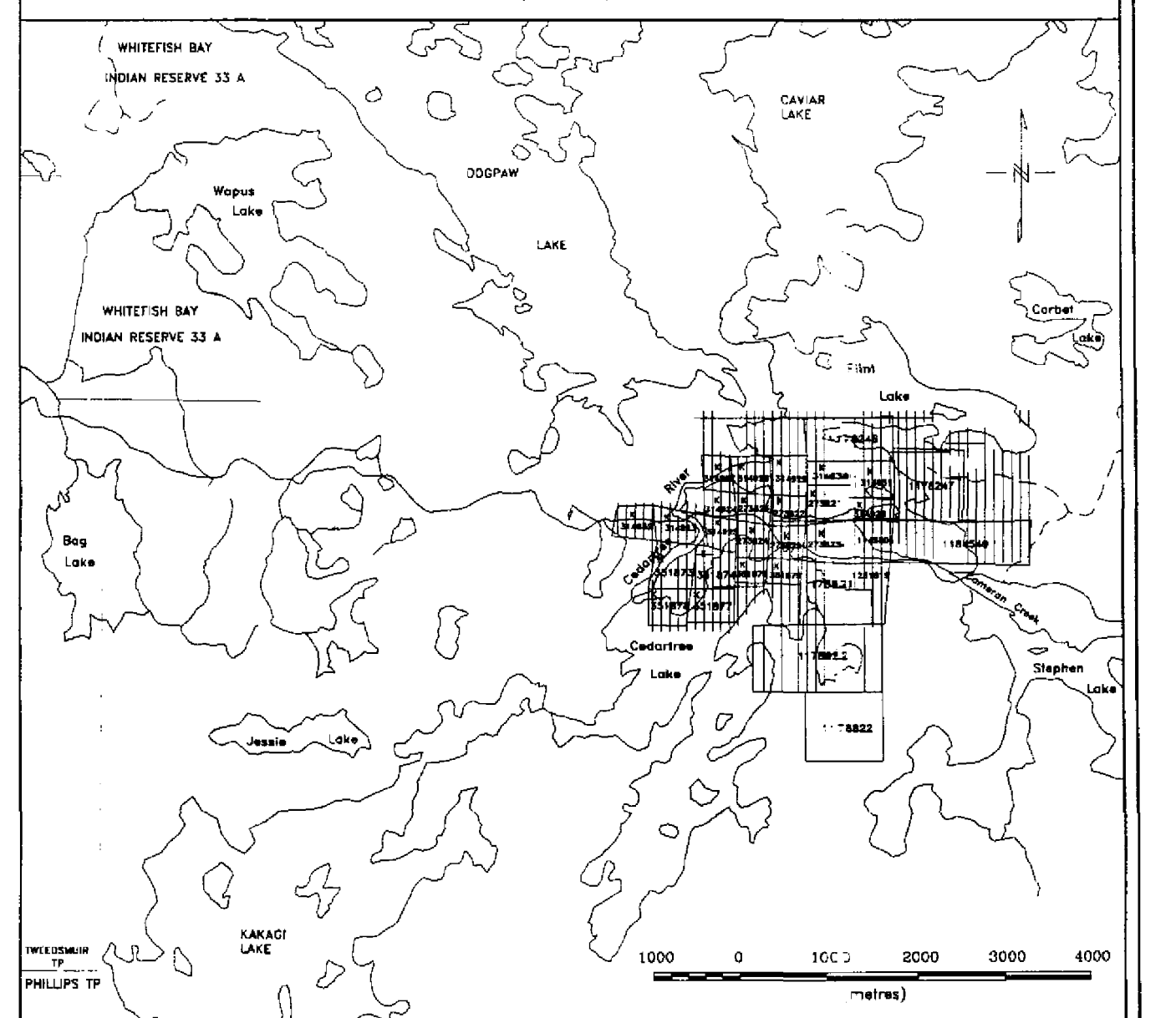
Electrode array: Dipole−Dipole
a = 25 m n = 1 to 6

Instruments: Elrec−6+ (IRIS), Tx−11 (GDD)

Time cycle: 8 sec.

Injection time: 2 sec.

SCALE 1 : 5 000
100 0 100 200 300
(metres)



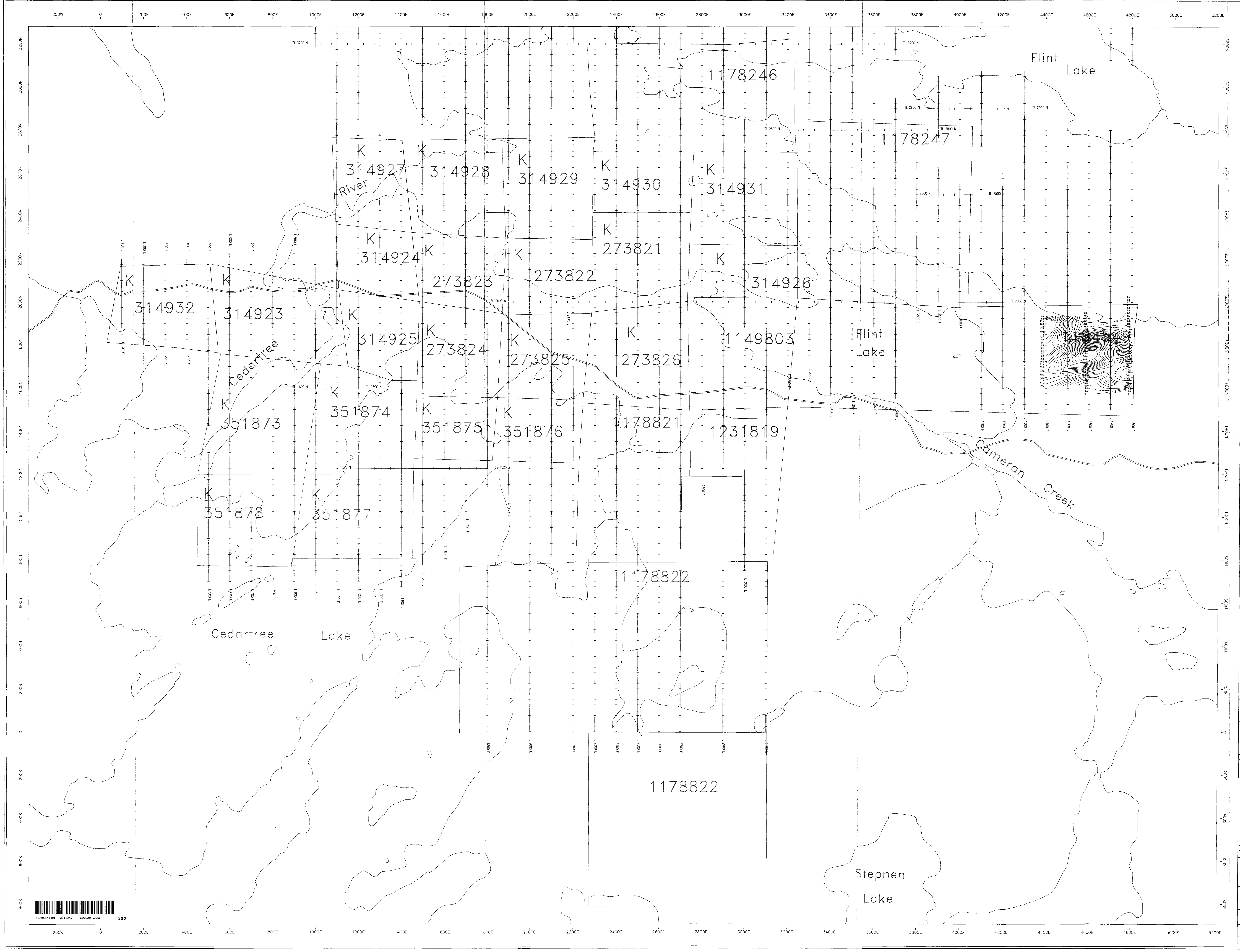
AVALON VENTURES LTD.
FLINT LAKE PROPERTY

INDUCED POLARIZATION SURVEY
Image2D APPARENT RESISTIVITY MAP AT 50m DEPTH LEVEL

VAL D'OR SAGAX INC.

Interpreted by: D. Bérubé, B.Sc. Date: 04/98

Scale 1 : 5 000 Drawing no: 98−N310−4.2



52F05SW2006 2.19340 DOGPAW LAKE 280

LEGEND

CONTOUR INTERVALS (mV/V)

Linear contours:

- - - - -	0.5
———	1.0
———	2.0

Electrode array: Dipole–Dipole
a = 25 m n = 1 to 6

Instruments: Elrec–6+ (IRIS), Tx–11 (GDD)

Time cycle: 8 sec.

Injection time: 2 sec.

2.19340

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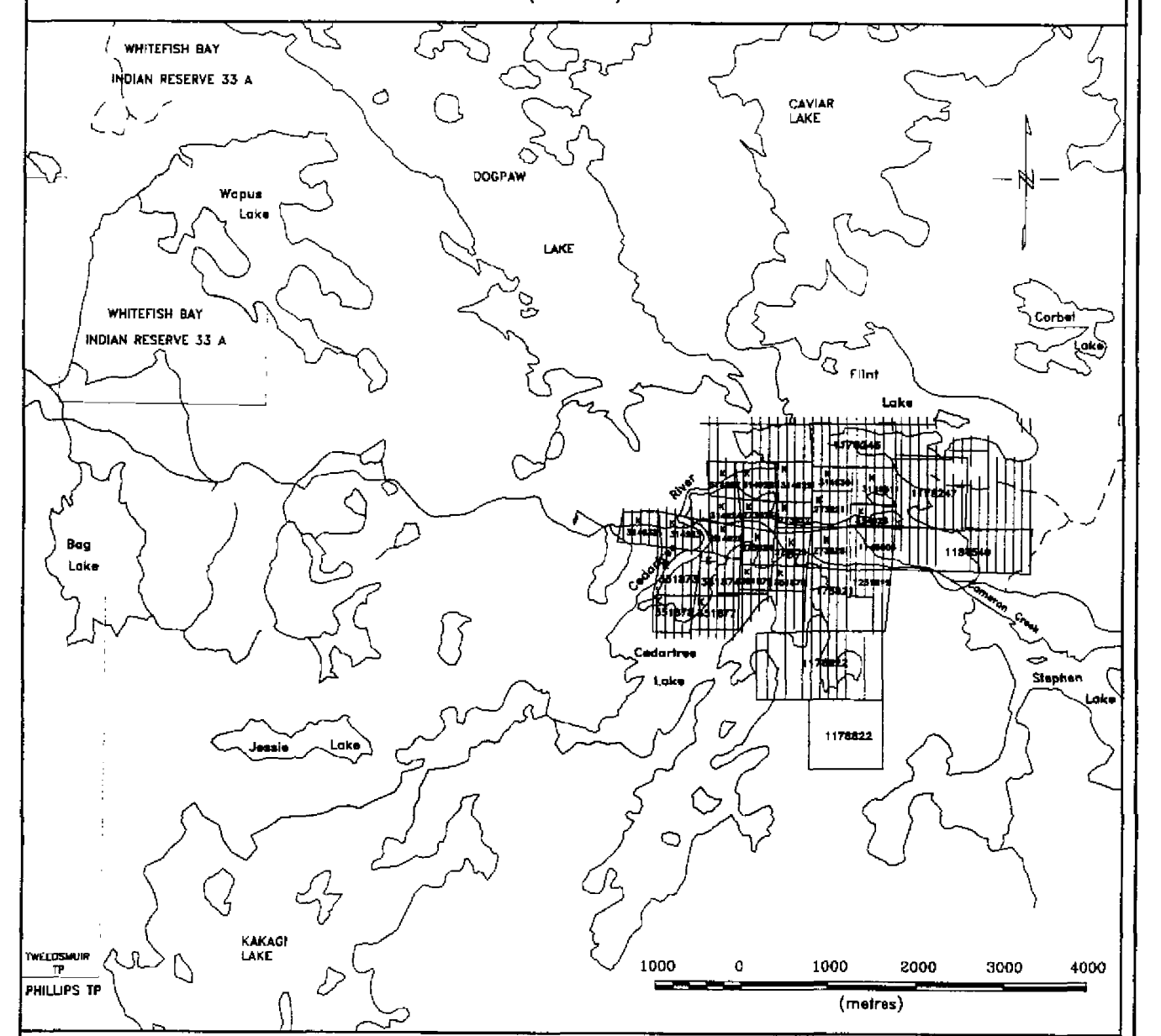
MAR 3 0 1999
GEOSCIENCE ASSESSMENT
OFFICE

SCALE 1 : 5 000
100 0 100 200 300
(metres)



AVALON VENTURES LTD.
FLINT LAKE PROPERTY

INDUCED POLARIZATION SURVEY
Image2D APPARENT CHARGEABILITY MAP AT 50m DEPTH LEVEL

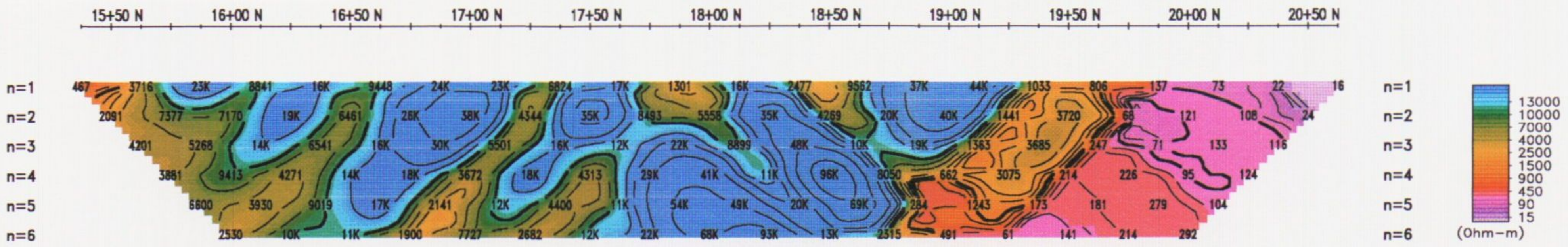
VAL D'OR SAGAX INC.

Interpreted by: D. Bérubé, B.Sc. Date: 04/98

Scale 1 : 5 000 Drawing no: 98–N310–4.3

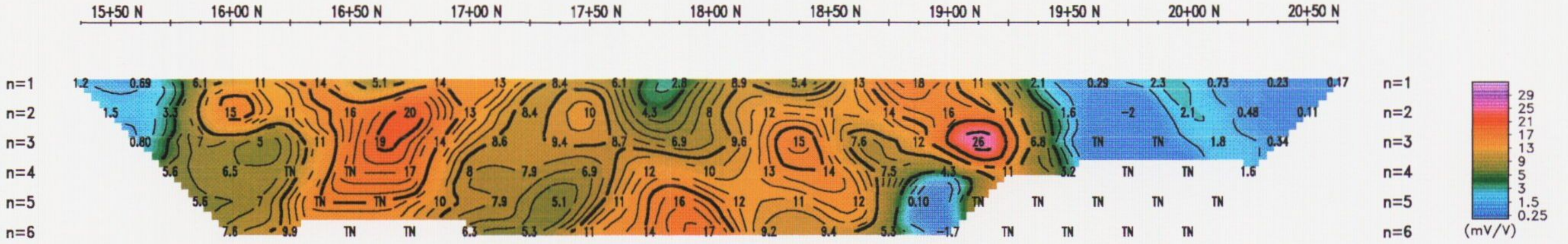
APPARENT RESISTIVITY PSEUDO SECTION

Contours: Logarithmics

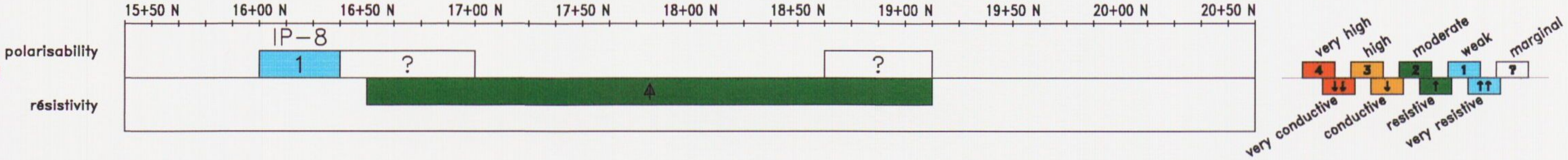


APPARENT CHARGEABILITY PSEUDO SECTION

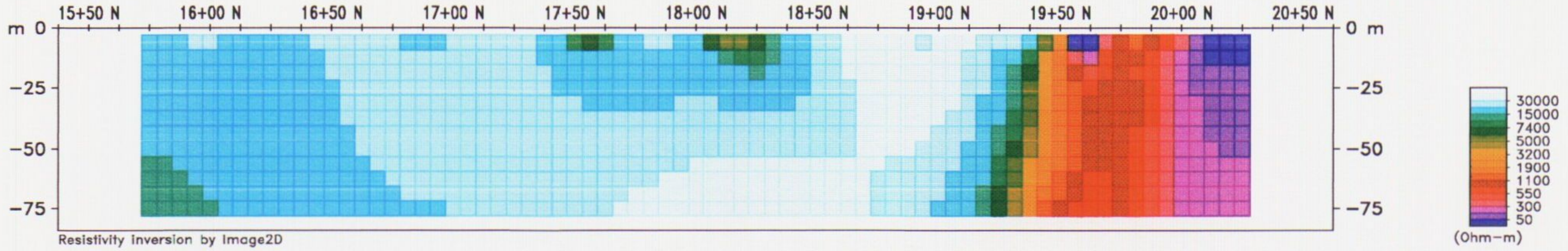
Contours: 1



INTERPRETATION

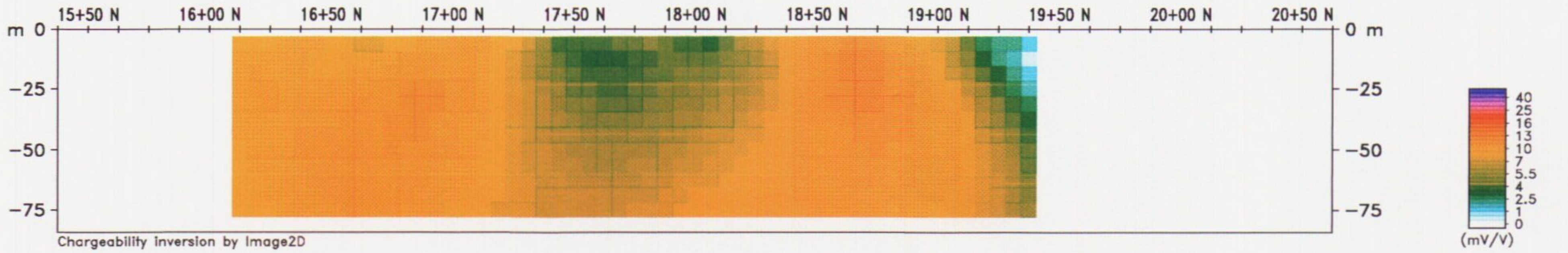


RESISTIVITY TRUE DEPTH SECTION



Resistivity inversion by Image2D

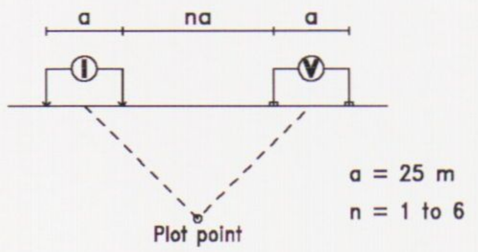
CHARGEABILITY TRUE DEPTH SECTION



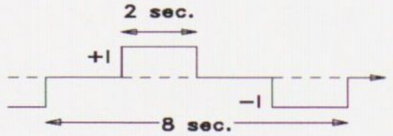
Chargeability inversion by Image2D

INDUCED POLARIZATION SURVEY

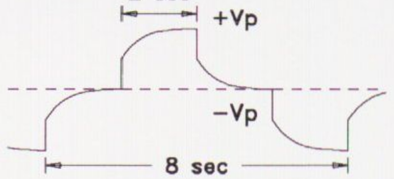
Dipole-Dipole Array



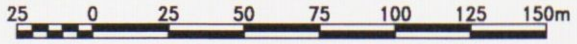
Transmitter: TX-11 (GDD), 1.4 kW



Receiver: Elrec-6+ (IRIS)



Scale 1 : 2500



AVALON VENTURES LTD.

Flint Lake Property
N.T.S. 51F/05
Ontario

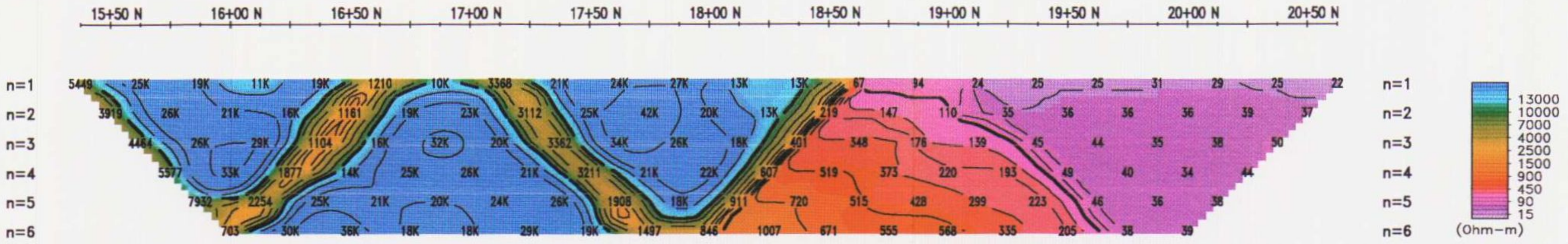
Line 4400E

Interpreted by: Dominique Bérubé, B.Sc.
Date of survey: March 1998
Surveyed by: Paul Melançon
Reference: 98N310

VAL D'OR SAGAX

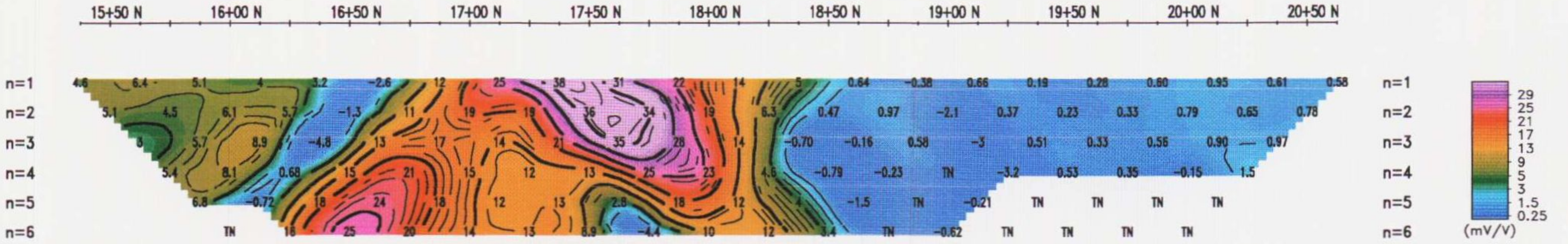
APPARENT RESISTIVITY PSEUDO SECTION

Contours: Logarithmics

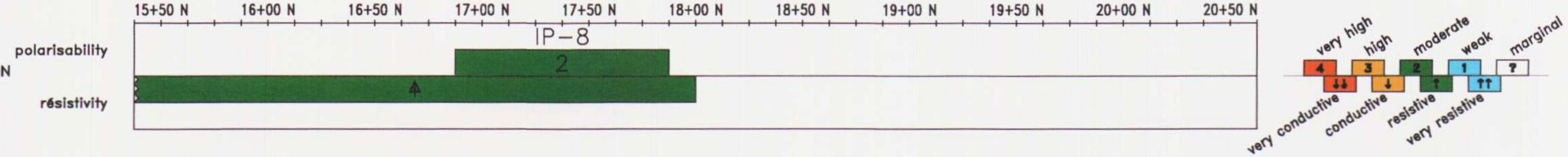


APPARENT CHARGEABILITY PSEUDO SECTION

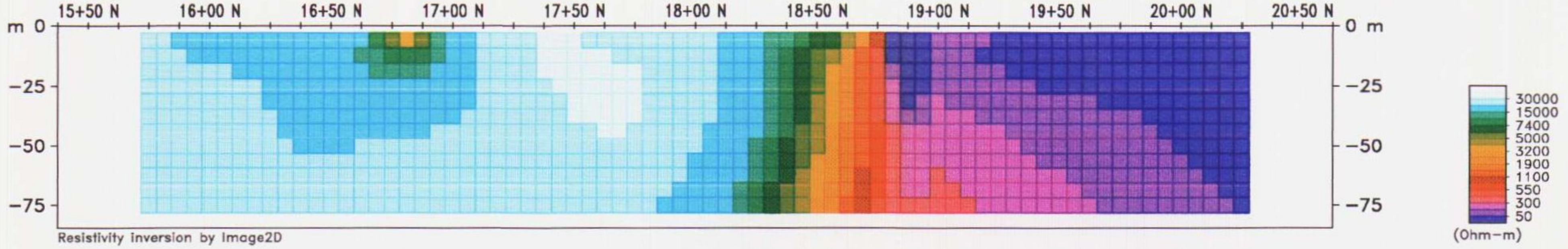
Contours: 1



INTERPRETATION

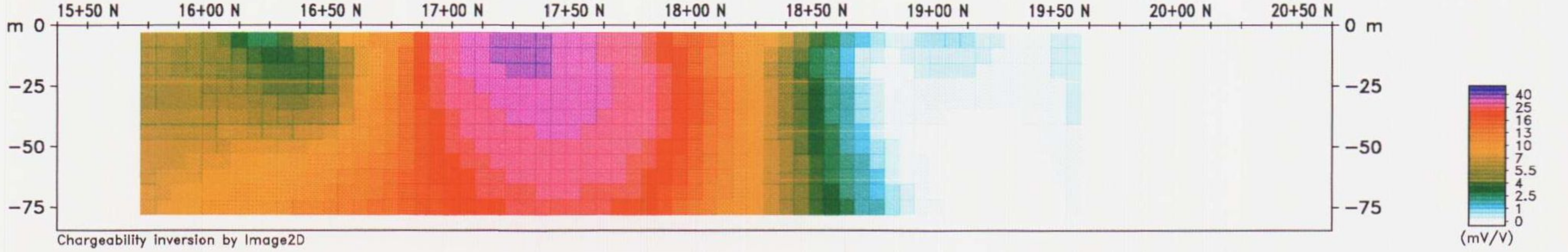


RESISTIVITY TRUE DEPTH SECTION



Resistivity inversion by Image2D

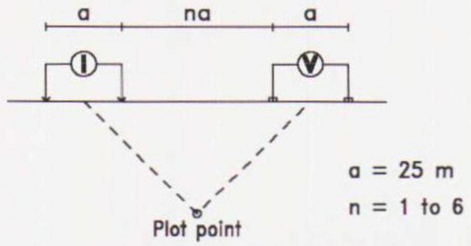
CHARGEABILITY TRUE DEPTH SECTION



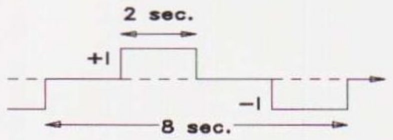
Chargeability inversion by Image2D

INDUCED POLARIZATION SURVEY

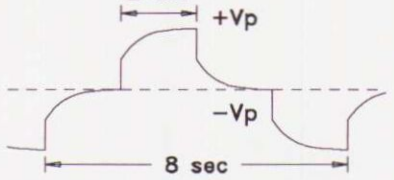
Dipole-Dipole Array



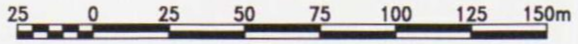
Transmitter: TX-11 (GDD), 1.4 kW



Receiver: Elrec-6+ (IRIS)



Scale 1 : 2500



AVALON VENTURES LTD.

Flint Lake Property
N.T.S. 51F/05
Ontario

Line 4600E

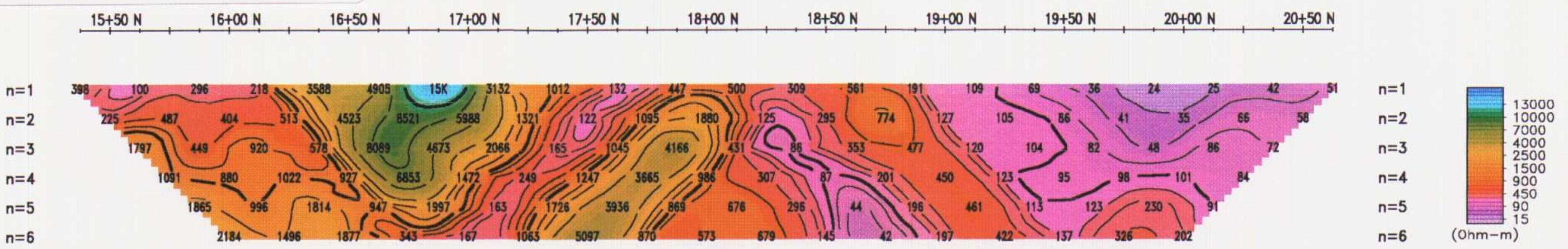
Interpreted by: Dominique Bérubé, B.Sc.
Date of survey: March 1998
Surveyed by: Paul Melançon
Reference: 98N310

VAL D'OR SAGAX

52F05SW2006 2.19340 DOGPAW LAKE 310

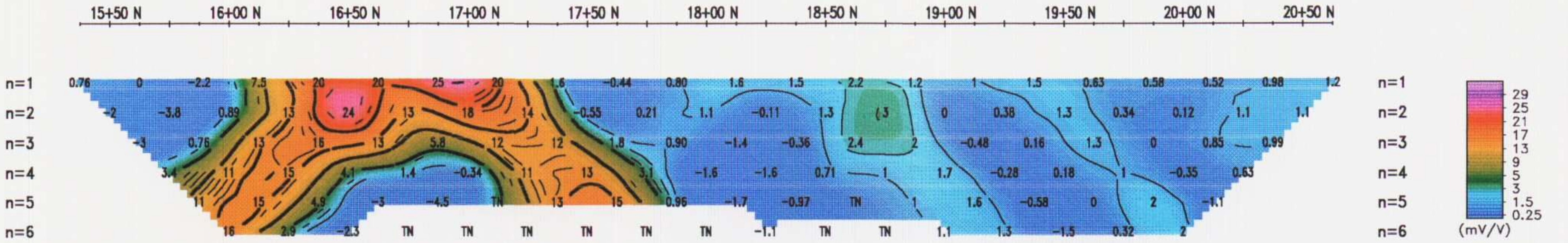
APPARENT RESISTIVITY PSEUDO SECTION

Contours: Logarithmics

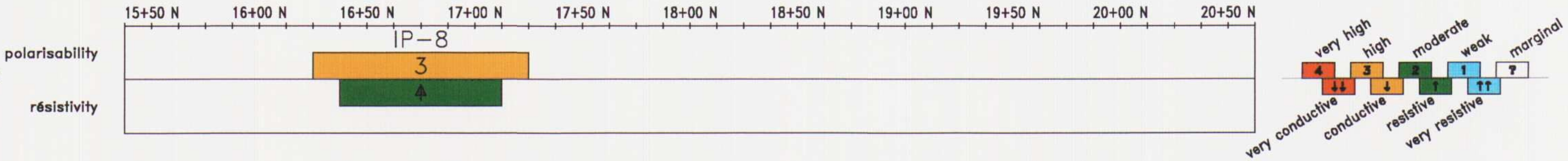


APPARENT CHARGEABILITY PSEUDO SECTION

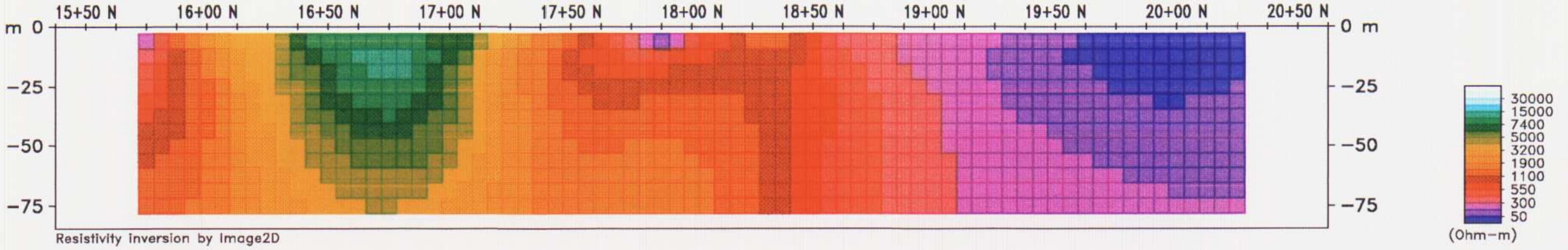
Contours: 1



INTERPRETATION

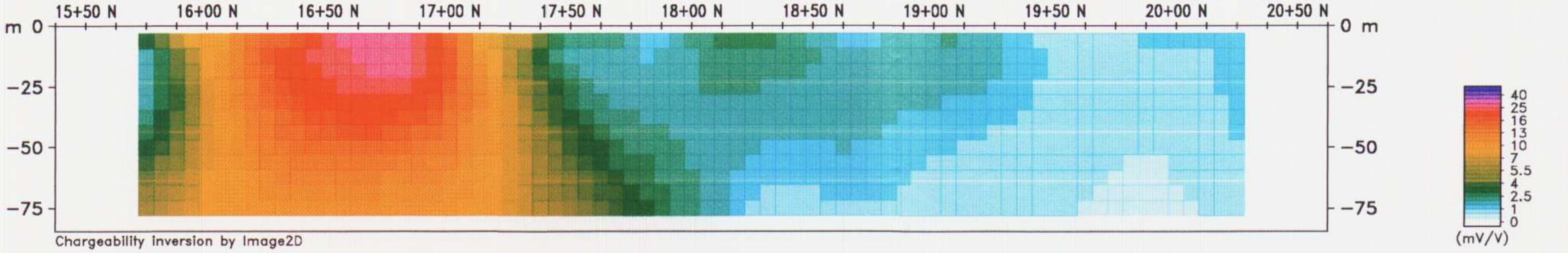


RESISTIVITY TRUE DEPTH SECTION



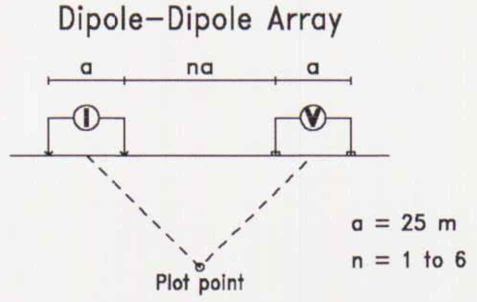
Resistivity inversion by Image2D

CHARGEABILITY TRUE DEPTH SECTION

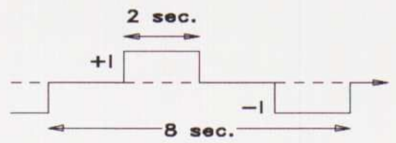


Chargeability inversion by Image2D

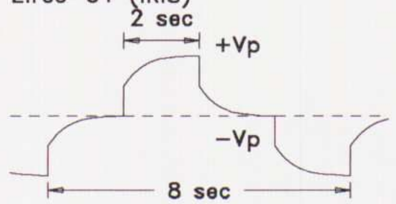
INDUCED POLARIZATION SURVEY



Transmitter: TX–11 (GDD), 1.4 kW



Receiver: Elrec–6+ (IRIS)



Scale 1 : 2500

AVALON VENTURES LTD.

Flint Lake Property
N.T.S. 51F/05
Ontario

Line 4800E

Interpreted by: Dominique Bérubé, B.Sc.
Date of survey: March 1998
Surveyed by: Paul Melançon
Reference: 98N310

VAL D'OR SAGAX