# GEOLOGY



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### HUTT LAKE PROSPECT

MONTROSE TOWNSHIP (N.T.S. 41P/14), ONTARIO

LARDER LAKE MINING DIVISION

FINAL REPORT - ONTARIO PROSPECTOR'S ASSISTANCE PROGRAM

GEOLOGICAL MAPPING PROGRAM

**O.P.A.P. PROJECT REGISTRATION #OP92-004** 

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### HUTT LAKE PROSPECT - FINAL O.P.A.P. REPORT

### 1.0) INTRODUCTION

The following report describes a work program completed in the summer of 1992 on the Hutt Lake Prospect. Funding for the program was provided by the Ontario Prospectors Assistance Program (O.P.A.P.).

Reference is directed to the original project proposal forwarded to the O.P.A.P. incentives office by Mike Dyment in March of 1992.

The work program consisted of three portions:

- geological mapping
- prospecting
- geophysical surveys (mag & VLF)

All work was performed in June - July of 1992 by Mike Dyment & Jocelyn Kidston of Tarzwell, Ontario (mag, VLF, prospecting), Glenn J. Mullan (geological mapping) of Dubuisson, Quebec, with linecutting by Daniel Ferderber and Pat Lanigan both of Val d'Or.

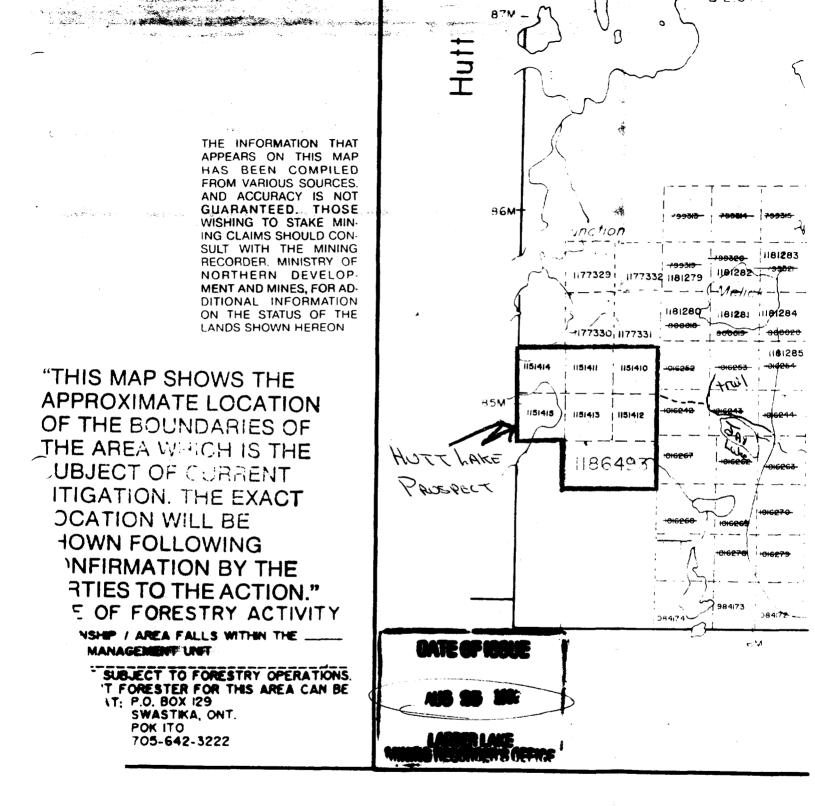
### 2.0) LOCATION AND ACCESS

The property consists of 7 unpatented mining claims (total 8 units) located in southwest Montrose Township, Ontario (See Figure #1 - claim map).

The area is approximately 45 km north of Shining Tree or 30 km west of Matachewan in the southwest corner of the Temiskaming District. Geographic coordinates are approximately centered at 81.40' west & 47.57' north (NTS #41 P/14).

Access to the claims is via old logging and mine roads trending west from Matachewan or south from Timmins. Approximately 22 km west of Matachewan, a bridge & culvert at Duncan Creek have been washed out with a temporary bypass circumventing the deeper part of the creek on the north side (4 wheel drive). Continuing on the main mine road for approx. 4 km, a well used secondary road heads NNW - NW towards the abandoned Stairs Mine in NW Midlothian Township (Frank Lake, Sirola Lake area). This road continues NNW past the Stairs Mine turnoff and heads into adjacent Montrose Twp. Melick Lake is some 5 km north of the Stairs Mine turnoff, and is 1 km east of the grid area.

A temporary shelter was erected off the main road at Jay Lake (1 km south of Melick Lake). From here, access into the claims is a 400 metre walk due west. Claim post #1-1151412 (#2-1151410) is located at Line 0+00, 24+00 East.



Carlos States

Sec. 18

FIGURE # 1 Claim Nup - Montauce To Many of the roads and trails in this area are not shown on the current toprographic sheets. Forestry activity in the last 20 years has generally improved access. Time required for transportation from Matachewan into the grid area is approximately 1 hour.

### 3.0) PREVIOUS EXPLORATION SUMMARY

Five files describing previous work within portions of the current project area are on record at the office of the Resident Geologist in Kirkland Lake:

KL-206 "Beder, E.A." (1943 - 1944)
KL-1237 "Hutt Lake Claims"
KL-1405 "Kidd Creek Mines Ltd."
KL-2754 "United Buffadison G.M.L."
KL-3017 "Trinity Explorations"

several additional sources were located in newspaper clippings and O.D.M. reports. See Figure #2 (work compilation).

3.1) Annual Report 41-2 (1932) "Bannockburn Gold Area"

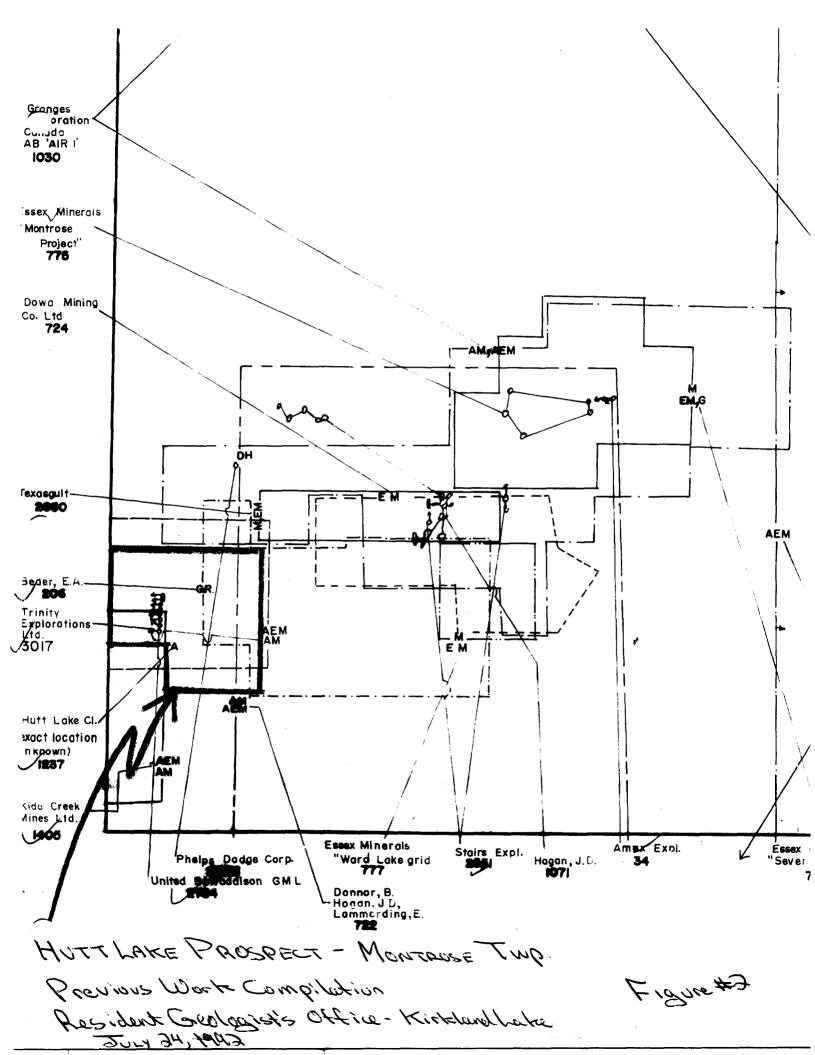
1932 H.C. Rickaby report by the (then) O.D.M. describing developments in the area west of Matachewan. Work in this area was precipitated by the discovery of the Ashley Mine in 1930.

9 claims were held by T. Wright, J. Young, and J.R. Todd in the area at the NE end of Hutt Lake (current project area?). Work by the Tump Line Syndicate (p. 21) was directed towards a sulphide deposit associated with iron formation on (then) claim #G.G. 5915, said to be 400' NE of Hutt Lake.

Earlier work had been conducted by the Ogiltree Mining Syndicate. A 30 wide, N10W striking band of rusty schist had been traced for 600 feet. It consisted of several disconnected (ie: boudinaged?) lenses of quartz up to 5 feet wide, variously mineralized with pyrite and chalcopyrite. The quartz was said to be cherty and banded (iron formation) and the schist altered to sericite and carbonate. A small lens shaped felsic intrusive was observed to be altered.

3.2) File #KL-206 "Beder, E.A."

1943 geological report by G.L. Holbrooke of Erie Canadian Mines (Sylvanite Gold Mine exploration affiliate). This regional program was directed towards exploration of several targets, any of which were thought to represent the potential western extension of the "Larder - Cadillac Break".



The #4 zone was described as being located just north of Hutt Lake on the contact of the north rhyolites and the underlying greenstone flows to the north. Its width (400 feet), strike (3000 feet) of N70E, and general location north of the expected location of the "Larder - Cadillac Break" made it a lower priority target in view of other developments nearby in the 1940's.

By 1944, the group consisted of 9 claims covering the #4 zone for 5000' along strike. Claims (then) numbered 13877 & 13880 had a strong NE-SW shear mineralized with bands of pyrite from which assays up to 2.40 (dwts.) were obtained.

A N-S striking shear was located on claims (then) numbered 13873 & 13876. Well mineralized quartz veins and stringers across widths up to 60 feet were hosted in the shear. Low assays were obtained on surface.

Undated (1960's?) property submission notes from the Keevil Mining Group ("K.M.G. Files") indicates the Beder claims adjoin the United Buffadison property where an assay of .21 oz/t Au had been obtained in a recent 8 drill hole program.

3.3) File #KL-1237 "Hutt Lake cl."

Undated (1940's? Sylvanite?) hand written notes describing 14 trenches and mineralization on the "Hutt Lake Group". Summaries follow:

Trench 1: N2OE strike. Iron formation. numerous qtz str, heavily mineralized with marcasite, some py. & pyrrhotite (sheared)

Trench 2: N2OE strike. Iron formation. numerous qtz str. Qtz vein at east end 10' wide well mineralized over most of trench. Marcasite, pyrite, some pyrr. & sheared.

Trench 3: N2OE strike. Iron formation. numerous qtz str. medium marcasite, pyrite, & pyrr, qtz vein at east end 10' wide, sheared

Trench 4: Iron formation sheared with qtz str, medium mineralization, marcasite, pyrite, pyrrhotite.

Trench 5: Iron formation sheared qtz str, medium min. (marcasite) 7' vein at east end of trench

Trench 6: arkose, partly sheared, strike N-S

Trench 7: sheared iron formation, numerous qtz str, massive mar & pyrr

Trench 8: reading west to east, 55' rhyolite, 15' arkose, 30' iron formation, 110(?) rhyolite, some shearing over most of this trench considerable qtz str, medium marcasite & pyrr

SCALE 1"=200' 7 FROM FIRE KL- 1237 "HUT LARE d. An' Read S. to N. 40' IF. Well min. An' with mar., pyrr. + a little chalco 1 Assay 320 DWT in S. end of Tr 1944 2.20 DWT \$ 1.60 1943, same place in Tr. Q vein in S. end 4' wide. IF Stake N20E, Gtz Strs. Havy Min. Py, Pyrr, Mar. (shrd) 13877- SYLVANITE \* See 1944 Sylvanite Assay sheet IF (shrd) with Qtz strs. med. min, mar., pg, pyrr. TF (shrd) numerous Qt strs. massive mar f pyrr. \$7. #3. , Otz Vein 10' Wide enct end. IF, (Shrd.) Qt strs. Med. Min. Mar. 
 If (N2ak), GHZ stre. Qt vein at East end fr. 10'wide

 #2./
 Well min most of tr., Mar. Pyrr., (Shrd.)
 well numerous Q. strs, min.,mar, 30' Rhy? 60' IF, (Shrd.) T' vein, east end trench. Arkose partly shrd. (strike N.S.) Qtz vein 10'wide, east end. West to East 55' Rhy, 15' Arkose QL. S. end 30 Rhy? 30'IF, 110 Rhy. some shearing (h. over most of Tr. considerable at strs. med. min. mar. + pyrr. ¥12. م. مجمع الم 13880 SYLVANITE . • \* (,00) Rhy. shrd. weak, min mar. 20' IF well min, mar t pyrr. 15' IF , 0, #0, BUFFADISSON 🕙 #14 50'shrd. Arkose, med.min.mar. CL. 34877 UNITED Who white a start of the start UNITED BUFFADISSON KIL ASSESSMENT FILES UANTE # KL-1237 SYLVANITE ¥ 1 ¥. S# 2# + 47 \$ CL. 13876 CL. 34378 5421 \* FROM To Hutt Lake

Trench 9: 70' rhyolite sheared weak min. (marcasite) 20' iron formation well min. marcasite & pyrr reading north to south

Trench 10: rhyolite

Trench 11: reading south to north; 40' iron formation, well mineralized marcasite, pyrite & a little chalco., 1 assay of 3.20 dwts in s end of trench in 1944, 1 of 2.20 same place , 1 Of 1.60 1943 gtz vein in s end 4' wide

Trench 12: 60' iron formation sheared numerous qtz str, well mineralized marcasite, 30' rhyolite ? reading north to west (?)

Trench 13: 15' iron formation in s end, 30' rhyolite?

Trench 14: 50' sheared arkose med. min. marcasite, tied on to picket line at point "A"

See trench sketches.

3.4) File #KL-1405 "Kidd Creek Mines Ltd."

1984 airborne mag and em (Questor) regional survey in the Hutt, Halliday, and Montrose Twp's area. A broad E-W trending mag high was identified in the area to the south of Hutt Lake.

3.5) File #KL-2754 "United Buffadison Mines Ltd."

1960's file contains logs of the 8 hole program and newspaper clippings (Northern Miner?) describing the results.

Work was directed (July, 1962) on a 9-claim group adjacent to the Stairs property. Summer prospecting program located a 20' wide mineralized shear zone striking N-S.

In October (1962) an 8-hole drill program was designed to test the "gold-bearing shear zone, which has been traced by a recently completed surface prospecting and trenching campaign for a length of about 500 feet. Average width of the shear is about 25 feet.

Quartz veins and stringers up to two and a half feet wide occur en echelon within the shear. Surface samples have returned values of .23 oz, .20 oz, and 0.05 oz gold per ton".

Drill logs are brief and describe short holes and are summarized below:

Hole 8: tuff 0' - 100' quartz stringers 100' - 105' (e.o.h.)

- Hole 7: tuff 0' 11' carbonated tuff 11' - 13.7' tuff 13.7' - 74' andesite, chloritized 74' - 101' (e.o.h.)
- Hole 6: tuff 0' 51' (e.o.h.)
- Hole 5: tuff, sheared 0' 20' tuff 20' - 105' (e.o.h.)
- Hole 4: rhyolite 0' 14' quartz, well mineralized with pyrite +/- chalcopyrite 14' - 21' rhyolite 21' - 105' (e.o.h.)
- Hole 3: rhyolite 0' 17.5' quartz, hard, well mineralized 17.5' - 23.6' rhyolite 23.6' - 29' quartz milky white, minor mineralization 29' - 36' tuff 36' - 108' (e.o.h.)
- Hole 2: tuff 0' 104' (e.o.h.) graphite 0 - 23.5' patches of fine pyrite 34.4' - 37.1' white quartz & fine dark pyrite 37.1' - 40.6' sections of quartz & some scattered fine pyrite 40.6' - 104'
- Hole 1: blue quartz 0' 2.5' tuff 2.5' - 107'

A drill sketch shows location of ddh's with respect to Hutt Lake.

The group was later restaked and transferred back to United Buffadison (1965). No further work is on record.

3.6) File # KL-3017 "Trinity Explorations"

Consists of an airborne VLF-em and mag survey flown in 1991. A strong mag high is indicated in the Hutt Lake area with a second weaker high suggested in the eastern portion of the claims near the pyrrhotite zone located by Sylvanite. Several linear features are shown on the compilation map ("GI-1"), one of which corresponds to the Mist Lake Fault Zone ("F1"). The United Buffadison showing may be related to this structure.

Ten VLF conductors are indicated, several of which show general correlation with the position of the two showings, and several of which may indicate general geological contacts and/or shearing. Onely the anomalies along the northern boundary appear to be caused by topography.

Anomaly "B2" correlates with the conductor located in 1992 ground surveys using the Crone Radem (NSS)

### 3.7) Government Surveys

The only geological map by government agencies (1932) is #41-A (AR 41-2) "Bannockburn Gold Area " at a scale of 1" = 3/4 mile, by H.C. Rickaby by the (then) Ontario Department of Mines. The area in the vicinity of the subject claim group is shown to be underlain by basic volcanics to the north, acid volcanics to the southwest, and Temiskaming sediments to the east and southeast.

Two airborne surveys have been funded by the Ministry, both at township scales. Map #P-1020 "Montrose Twp.", airborne em and total field (1" = 1/4 mile) indicates a broad mag-high in the Hutt Lake area.

Map #81401 "Shining Tree Area" (airborne em and total field) at a 1:20,000 scale shows a similar magnetic high feature in the Hutt Lake area. In both surveys, the direction of flight lines was north-south.

A recent O.G.S. Miscellaneous Paper (#156) describes a grant project (#359) entitled "Structural Geology and Stratigraphic Correlations in the Midlothian Lake - Peterlong Lake Area, Abitibi Subprovince" by R.B. Hrabi and H. Helmstaedt, pages 31-40.

The study area included Montrose Twp for which the "Hutt Lake Prospect" is shown to be underlain by Mg-tholeites of the Zavitz-Hutt assemblage to the north and the Halliday assemblage to the south. 4.0) GEOLOGY OF THE PROSPECT (Regional)

The Hutt Lake Prospect is located in the southwestern portion of the Abitibi Greenstone Belt. The greenstone belt is itself located within the Abitibi Subprovince of the Canadian Shield. The Abitibi Greenstone Belt extends in an east - west general direction for over 500 km from Chibougamou, Quebec (northeast) to west of Timmins, Ontario (west) making it the largest greenstone belt in the world.

The Timmins-Kirkland Lake-Rouyn/Noranda area forms a large east trending synclinorium (1985: L. Jensen, in <u>Geology and</u> <u>Petrogenesis of the Archean Abitibi Belt in the Kirkland Lake</u> <u>Area, Ontario</u>, M.P. #123) extending between the Lake Abitibi and Round Lake batholiths. Both limbs of the synclinorium are cut by major geological structures, the Destor-Porcupine Fault Zone (north) and Kirkland Lake-Larder Lake Fault Zone (south).

Supracrustal Archean rocks in the Midlothian - Peterlong Lakes area are subdivided into several metavolcanic assemblages (Beemer, English, Zavitz-Hutt, Halliday) and a single sedimentary assemblage (Midlothian).

Much of the general geological work has been compended from earlier work in the Matachewan area and does not necessarily correlate with similar work in the south Timmins area. Revisions to the existing general stratigraphic relationships are underway with field mapping still in progress in the Matachewan area.

In general, rocks younger than 2800 Ma host all known economic massive (VMS) & base metal deposits of volcanic origin in the Timmins area. Age dating in the south Timmins area has ascribed 2725 Ma for the felsic portion of the Deloro Group (= Skead Equivalents?).

Most of the lode gold deposits in the Abitibi Greenstone Belt are spatially associated with regional ductile shear/fault zones (ie: Larder - Cadillac) which were active later in the tectonic history (<2690 Ma) of the region. 60% of all lode gold production occurs in rocks older than 2500 Ma (1990: <u>Ore Deposit</u> <u>Models</u>, Geoscience Canada, Reprint Series #3, edited by RG Roberts & P.A. Sheahan).

4.1) GEOLOGY OF THE PROSPECT (Local - Montrose Township Area)

As the township has not been mapped with any degree of resolution, the following Table of Formations is derived from several sources including assessment files, government area reports, and general field observations using L.S. Jensen's legend as a guide (1986: M.P. 129). Table of Formations

Cenozoic Recent & Pleistocene: Sands, gravels, clays = Unconformity Precambrian Proterozoic: "Keeweenawan" Diabase Dykes (NE series) = Intrusive Contact Archean: "Matachewan" Diabase Dykes (NS series) = Granitic Intrusives = Granodiorite, monzonite, quartz monzonite, syenite Massive to gneissic quartz diorite, tonalite, trondhjemite Upper Supergroup Temiskaming Group & Destor-Porcupine Complex Blake River Group Kinojevis Group \*\* Larder Lake Group & Stoughton - Roquemaure Group **\*\*** Porcupine Group Lower Supergroup \*\* Skead Group & Hunter Mine Group Catherine Group Wawbewawa Group Pacaud Tuffs

See Figure #3. \*\* = Represented in the Montrose Township area. In the Montrose Township area, lithologies are dominated by two assemblages: the Halliday which consists of calc-alkaline felsic tuffs, and the Mg-tholeites of the Zavitz - Hutt assemblage consisting of pillowed and massive basalts and flowbreccia's (1991: R.B. Hrabi & H. Helmstaedt in <u>Geoscience</u> <u>Research Grant Program, Summary of Research 1990 - 1991</u>, Grant #359, pages 31 - 40).

These units have also been referred to in earlier literature as the Larder Lake Group Equivalents (tholeites) Porcupine Group Equivalents (conglomerates), and Skead Group Equivalents (pyroclastics).

General stratigraphy in the Montrose Township area strikes north to northwesterly, as indicated by the regional airborne surveys. Several major lineaments are observed (rivers, creeks, etc.) and trend to the north to northeast. Original work in the Montrose area was directed towards confirming the possibility that the Larder - Cadillac Break might pass through the southern portion of the township.

### 4.2) GEOLOGY OF The Hutt Lake Prospect

Mapping was completed over the group in a single stage from mid to late June of 1992. The author was assisted by Mike Dyment and Jocelyn Kidston who had already conducted prospecting over most of the group.

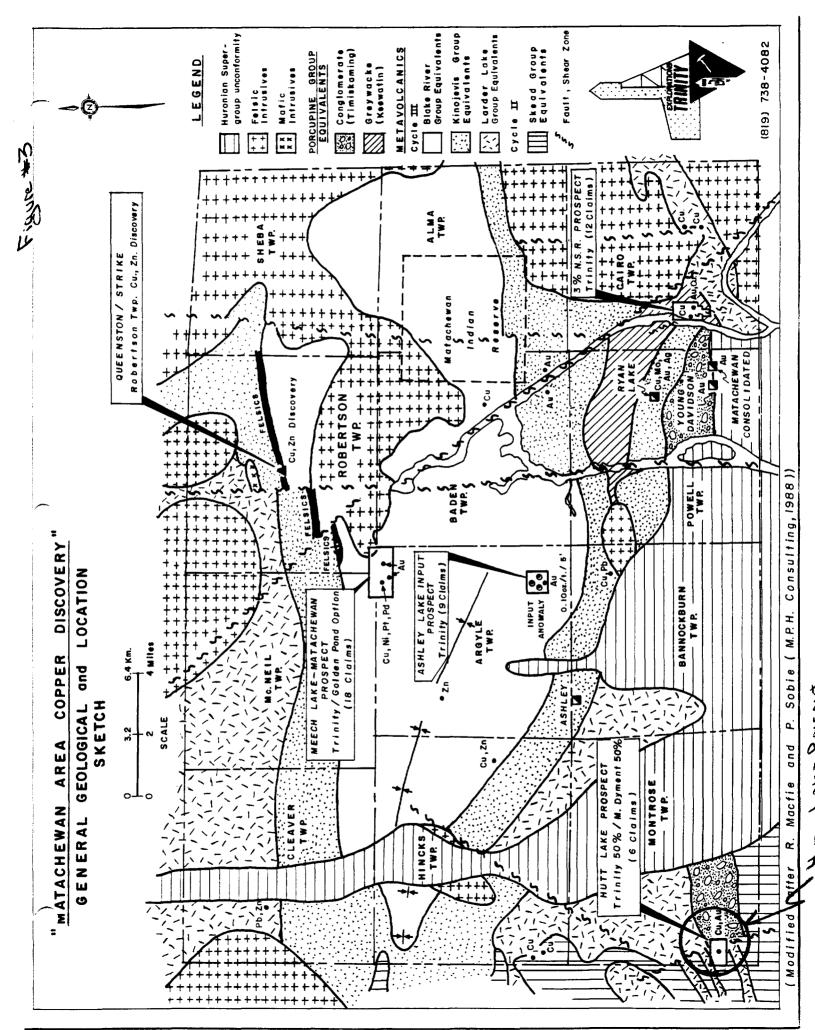
All grid lines were mapped although line-cutting was still in progress at time of mapping in the west end. These lines were projected by pace and compass to claim boundaries. Claim lines were also mapped, all claim posts were located and are shown on the map.

36 samples were taken during the prospecting and mapping programs and analysed for gold (36), copper (22), zinc (2), and nickel (1). Several type specimens were kept from the United Buffadison showing. No whole rock analyses were completed.

Purpose of the program was to determine the potential of both of the reported showings ("United Buffadison" and "Sylvanite") in view of previous reported results and with respect to recent exploration results in the Matachewan-Robertson area by Queenston Mining Inc and Strike Minerals Inc.

Both base metals (VMS) and gold are thought to be valid targets within the area of search.

Reference to the geological map (in pocket) and Figure #3 (Matachewan compilation sketch) are suggested. The geological legend (Appendix B) used is that employed by the Ministere de l'Energie et Ressources (1984: M.E.R. - Quebec).



### 4.2-1) Morphology

General topography in the area is controlled by underlying bedrock with large ridges and humocks in the area northeast of Hutt Lake and to the north of the property (rising to approx. 75' positive relief) with a general trend of approx. N15E and gentle rolling hills and subcrop located in the southern claims. There is a fairly high degree of outcrop - subccrop within the claims due to forestry activity through much of the area.

A northerly striking lineament is observed in the west portion of the two eastern claims (1151410, 1151412) and is occupied by a creek and narrow pond. This lineament hosts the "Sylvanite Showing".

Several small swamp areas are located within the claims to the south and southeast.

### 4.2-2) Lithology, Stratigraphy of the Hutt Lake Prospect

Much of the northwestern area (claim #1151414) is underlain by volcaniclastic rocks consisting of agglomerates (V10) and spherulitic lavas (V10 $\star$ ) with breccias ( $\blacktriangle$ ), tuff breccias (V9 $\bigstar$ ), and tuffs (V9) scattered throughout the claim group.

Fragmentals (V10) were also obeserved in the areas immediately northeast of Hutt Lake and along the central portion of the northern boundary. Bomb sized fragments up to 12" were observed in several of the large ("whale-back") outcrops which tend to be weathered to a pale bleach grey.

Intermediate to mafic volcanics (V5, V50) are distributed throughout the claim block and may be part of the volcaniclastic series without relict textures. Many of these outcrops were difficult to expose due to the dense overburden mat. Pillowed basalt (V70) was observed only at the southern end of Tie-Line 14+00 East.

Two series of tuffs (V9, V996) are seen in the central portion of the claims (west portion of claims 1151411, 1151413) and west portion of 1151410, 1151412). Both of the showings appear to be hosted within the tuffs. In both cases, field relationships indicate a northerly strike to the units.

Felsic rocks are confined to the areas in northeastern 1151411 (V2), 1151410 (V1) and southeastern 1151512 (V2).

Alteration typically consists of weak carbonatization (f), locally intense silicification (5), and sericite  $(\lambda)$  development in the tuffs (V9) proximal to the United Buffadison showing.

Contacts are largely assumed from general relationships and from geophysical data. None were observed.

A prominant foliation to the NNE exists in most outcrops (N10E - N20E with dip steeply to the southeast). Shearing and/or faulting appears to be confined to the area near the United Buffadison showing (approx. N10E/75-85SE).

Most of the units exhibit little to no magnetic signature. One exception is the tuffaceous unit hosting the "Sylvanite" showing which shows continuity across the property from L12+00 S to L 12+00 N (12+00 E - 13+50 E). Note that the only sulphide iron formation located during mapping (rubble from an old slumped trench) is located near the northern end of the mag-high.

4.2-3) Geology of the "United Buffadison" Showing

The "United Buffadison" showing is a strong northerly (N10E - N15E) striking shear zone consisting of quartz veins, veinlets, and stringers over much of the 30' - 60' width. Where exposed, it is hosted entirely within the tuffaceous unit (V9) which is variably altered to sericite ( $\lambda$ ), carbonate ( $\beta$ ), and locally silicified ( $\delta$ ).

It is located along a narrow area in the western part of the claim group, northeast of Hutt Lake. A large pit (15') is located at approx. 0+50 E @ 3+20 N, with several smaller pits and trenches having been excavated along strike to both the north and south.

Total length (intermittent exposure) of the area is approximately 800 feet although the area of interest may well continue along strike in both directions. Forestry activity has filled most of the trenches and the remaining overburden cover was nearly impenetrable in most areas due to the root maze and large stumps inhibiting access.

Much of the core of the showing may be sericite schist with ankerite alteration yielding the rusty orange hue. Up to 5% pyrite was observed on surface in the walls of the pits. Quartz veins and veinlets from 4" - 2' are conformable to the schist and are composed of both pristine bull white and smokey blue/grey "cherty" varieties. Many of both types of veins are well mineralized with fine to medium grained pyrite.

The pit at 0+50E @ 3+20N contains a 5' thick mudstone unit which is also conformable to regional strike.

VLF data from Annapolis (NSS, 21.4 KHz) indicates a coincident conductive zone striking across the property just east of the Base Line 0+00 from L12+00 S to L12+00 N. The anomaly may be displaced due to the southeasterly dip of the showing.

Earlier work here by the Ogiltree Mining Syndicate (pre-1930's) and Tump Line Syndicate (1932) described iron formation in the area. This was not observed and was not indicated by the mag survey. The zone was said to be 600' long, 30' wide, strike N10W, and consist of lenses of quartz up to 5' wide mineralized with pyrite and chalcopyrite. Work by United Buffadison Mines in the 1960's described the zone as having a strike of over 500', average width of 25', with quartz veins and stringers up to 2 1/2' wide occuring en echelon within the shear. Assays of .23 oz/t Au, .20 oz/t Au were said to have been obtained. 8 holes were drilled to an average depth of 105'. Newspaper clippings indicate that an assay of .21 oz/t Au resulted from the program.

### 4.2-4) "Sylvanite" Showing

The "Sylvanite" showing is located north of the beaver pond located at 12+00 E from L0+00 to 10+00 N. Most of the showing lies beneath the pond which did not exist at the time of the original work. Sketches from Sylvanites work were used to locate three trenches in the area near grid 13+00 E, 10+00 N (possible original trenches #12, 13, 11 from north to south).

The three trenches are completely overgrown with poplars to 12" inside some of the muck piles. One of the samples selected is iron formation (sulphide facies) which corresponds with the original sketches submitted in the 1940's.

Note that this work was directed towards locating areas thought to represent the western extension of the Cadillac-Larder Lake Break in the west Matachewan area. Assays of 3.20 dwts and 2.20 dwts Au had been obtained in one of the above trenches.

There is no outcrop exposure in the immediate area due to flooding by the beaver dam.

Some of the marcasite described may refer to the area of gossan located near Tie-Line 14+00 E @ L 8+00 N. Several old trenches were located among the small rusty outcrops, several of which have a cherty grey quartz component.

The magnetic survey highlighted the Sylvanite showing area as a definite mag-high image is outlined west of TL 14+00 E across the property from L 12+00 S to L 12+00 N. The highest mag readings were taken near the area of the sample containing iron formation.

Two VLF responses characterize the area with a definite anomaly located along the pond (11 E - 13 E, between lines 4+00 S and 8+00 N), likely also coincident with the original trenches (area now flooded). A second, shorter response is observed to be coincident with the area of gossan (TL 14+00 E @ 8+00 N).

### 5.0) Recommendations

Several primary targets have been outlined by the recent geological mapping & geophysical surveys (mag & VLF). These merit follow-up by power stripping and possibly a modest diamond drilling program (depending on results from mechanical stripping program). A) "United Buffadison" Showing

A large scale stripping and washing program is required to expose the zone, most of which was covered during forestry activity over the last 20 years. Much of the area subcrops such that a back-hoe would be the most usefull tool in this capacity.

Blasting in areas of interest would be beneficial as most of the surface cap is oxidized.

The coincident mag and VLF anomalies, together with the geological context and historical assays make this a high priority target.

B) "Sylvanite" Showing

The coincident mag and VLF anomalies enhance the target in view of the sample of iron formation obtained from one of the trenches along the north boundary. Along with the historical assays, and in consideration of the excellent work by Erie Canadian Mines (G.L. Holbrooke) through much of the Kirkland Lake area in the 1930's and 1940's, the target should be considered high priority. Note that it was never drilled by the Sylvanite interests as they redirected their efforts to other projects in the Matachewan area.

As the beaver pond has flooded most of the original trenches, the dam would need be broken in order to muck out and investigate the showing along strike to the south.

Stripping with a back hoe could be initiated at the three trenches already located along the northern boundary before proceeding with the program. Diamond drilling with a small machine should also be contemplated as this would avoid the necessity of destroying the beaver dam.

C) Gossan (T.L. 14+00 E @ 8+00 N)

The zone should be followed with a "beep-mat" in order to investigate possibilities along strike. Blasting in the area of exposure would facilitate sampling which was all but useless in the area which now outcrops. Strong shearing is observed to be trending to the northeast in several outcrops such that the directions of the grid system are not efficient (45 degrees off of strike) for geophysical surveys.

D) Rhyolite Unit (1+50 W @ 9+00 N)

This unit should be examined in greater detail. Several small quartz veins and stringers were observed through the area (trending northerly), several with malachite staining. This zone may be continuous through the agglomerate shown near 1+50 W near 11+00 N.

E) "Beep-Mat" Survey

Although not recommended as a geophysical tool, the "Beepmat" is an under-utilized prospecting aid and could be of use in this area with a high degree of outcrop & subcrop. Areas to be investigated include the felsic unit identified along the boundary of 1151412 and new claim #1186493 (2 units).

6.0) Statement of Costs (FOR ASSESSMENT CREDIT PURPOSES ONLY)

Item - Description

Cost

A) Geological Mapping

-	Field	work	(10	days	1	* 1	geologist,	1	prospector
	ass	sistant -	) = 1	0 days	*	\$400			\$4000
-	Final	report	(1 *	5 days	*	\$200)			\$1000

B) Support costs

-	travel	(200 km/day *	* .30/km * 12 days)	=	\$720
-	food &	accomodation	(10 days * \$75/day)	=	\$750

Total: \$6470

Signed in Dubuisson Quepec on August 30th, 1992: Glenn J. Mullan

æ

J9P 4P5 TEL.: (819) 824-4337 FAX: (819) 824-4745 Rock Sourple Assays



ÉCHANTILLONS

RECU DE

Sample #

## LABORATOIRE D'ANALYSE BOURLAMAQUE LTÉE BOURLAMAQUE ASSAY LABORATORIES LTD.

### JOMI EXPEDITING

SAMPLES .....

Hutt Lake Prospect

RECEIVED FROM

EDITING		CERTIF	FICAT D'ANALYSI	ES				
e Prospect		CERTIFICATE OF ANALYSIS						
Rock	• • • • • • • • • • • • • • • • • • • •	Jı	une 10	ے 92				
		VAL D'OR (QUÉBEC)						
Glenn Mullan		ANALYSES 36 Au, ASSAYS	22 Cu, 2 Zi	n, 1 Nì				
<u>Au ppb</u>	<u> </u>	<u>Zn % Ni</u>	<u>-</u> &					
10	0.001							

AMALYSTE / ASSAYER

	12004	10	0.001	-			
	12005	20	0.005	-			
	12006	20	0.001		-		
	12007	10	0.011	-	-		
	12008	N.D.	N.D.	~~	-		
· [	12009	10	0.001				
	12010	20	0.021	-	0.012		
	12011	10	0.002	-	-		
· ·	12012	N.D.	0.002				
_	12013	10	0.001		-		
	12014	N.D.	N.D.	·			
	12015	N.D.	0.002	-			
	12016	N.D.	0.004	-	-		
,	12017	N.D.	-	-	-		
1	12018	N.D.	0.004				
	12019	N • D •	0.009		-		
	12020	10	0.003	-			
	12021	20	-	-	-		
	12022	N.D.	-	-			
	12023	N.D.	0.010	-	-		
	12024	N.D.	0.021	_			
	12025	N.D.	-	-			
	12026	10		-			
	12027	N.D.	-	<del>-</del> .	-		
-	12028	N.D.	-	-			
	12029	10	0.005	-	_		
	12030	N.D.		— N			
	12031	N.D.	0.005	0.011			
	12032	20	0.002	0.011			
	12033	N.D.	-			•	
	12034	N.D.	~	-			
	12035	10		-			
	12036	N.D.	-		-		
	12037	N.D.		-	· <u></u>		
_	12038	10	-	-	-		
(	10501	ND	0 000				
	16501	N.D.	0.003	-			

report See Prospections

APPENDIX B

### SYMBOLES LITHOLOGIQUES

### ROCHES VOLCANIQUES ARCHEENNES

i

v	Roches volcaniques indeterminees
٧١	Roches volcaniques felsiques ou intermediaires
V2	Rhyoine
V3	Trachyle
∨4	Dacne
V5	Roches volcaniques intermediaires ou maliques
∨6	Andesite
<u>v7</u>	Basalle
V8	Ruches pyroclastiques indeterminees
٧٩	Tul
V10	Aggiomerat

V13 Roches voicaniques ultramatiques

### ROCHES SEDIMENTAIRES ARCHEENNES

s	Roches sedimentaires indéterminees
S1	Conglomerat
S2	Arkose
S3	Grauwacke
<b>S</b> 4	Argilite, snale, ardoise, phyllade
S5	Quartzite
	FORMATIONS DE FER ARCHEENNES

F1	Formation	đe	fer	indéterminee
----	-----------	----	-----	--------------

- F2 Formation de fer sulfuree
- F3 Formation de fer oxydee
- F4 Formation de fer carbonatee

### ROCHES SEDIMENTAIRES PROTEROZOIQUES

ρ	Roches seamentaires indéterminées
P١	Conglomeral
P2	Arkose
Р3	Grauwacre
P4	Quartzite et gres
P5	Argilite, stiale, ardoise et phyllade
P6	Formation de ler
P7	Dalomie et autres roches à carbonates
P8	Tillite

### ROCHES SEDIMENTAIRES PALEOZOIQUES

P1 Calcaire

ROCHES METAMORPHIQUES	R	OCHES	MET.	AMORE	PHIOUE	S
-----------------------	---	-------	------	-------	--------	---

м	Roches metamorphiques indeterminees
MI	Schiste
••••	
мз	Roches hybrides
M5	Migmatite
M7	Gnerss
M8	Amphibolite
M9	Granuhte
_	Mylonite
	Quartzile
M12	Marbre
	ROCHES INTRUSIVES
1	Roches intrusives felsiques indéterminées
15	Syènite
10	Syénite quartzique
1 F	Syenite à feldspath alcalin
۱E	Syénite quartzique à leidspath alcalin
1G	Granite
10	Granite à leidspath alcaim
1A	Monzonite quartzique
1 M	Monzonite
1N	Monzodiorite guartzique
17	Tonalite
10	Granodiorite
1P	Pegmatue
18	Albrine
12	
	Aplice
1Z	Granophyre Z
18	Rhyolite et leisite intrusive
2	Roches intrusives intermediaires indeterminées
2T	Diorite quartzique
2M	Monzodiorite
2D	Diorite
2L	Lamproph, re intermediaire
3	Roches intrusives maliques indeterminees
3G	Gabbro
3N	Norte
3R	Anorthosite
3L	Lamprophyre malique ou «idetermine
30	Diabase
4	Roches intrusivies ultramaliques
4P	Perindutite

**4H** 

Hornblendite

APPENDIX "B"

### SUFFIXES POUR LES MINERAUX DES ROCHES

ь	biotite	1	carbonate	5	stauronde
с,	chlorite	k.	Sericite paragonite	1	trémolite actinote
d	disthene	m	muscovite	U	amphibole (indetermine)
e	epidole	n	nephetine	v	tiveine de
1	feldspath (indetermine)	0	feldspath potassique	· ·	tourmaline
g	grenat	p	plaqioclasi	А.	silimanite
h	hornblende	q	quartz	v	pyroxeme
ı	taic	1	Chloritoide	1	zealitie

TA utiliser avec un autre suffixe de mineral (sg. serne de quarta)

### SUFFIXES POUR COMPOSITION, ORIGINE ET ALTERATION

### COMPOSITION

. .

### ALTERATION

a	felsique	~	amphibolitisee	λ	sericilisee
β	matique	0	sticitee	η	carbonalisee
7	uitramatique	μ	albitisee	١	serpentinisee
	ORIGINE	π	pyritisee	N.	alteration polassique
ò	sedimentaire	•	epidotiseé	<del>,</del>	alteration indeterminee
11	volcanique	11	porphyritisée	ţ	skarn
ψ	Intrusive	ტ	chloritisee	E	COLUCERUNE

### SUFFIXES POUR LES SUBSTANCES D'INTERET ECONOMIQUE MINERAUX ET ROCHES

Am	amianie	Fp	feldspath	Pn	pentiandite
Aγ	anthophylitte	FI	fluorine	Pc	pierre de construction
Ap	apalite			Pm	pierre ornementale
Asp	arsenopyrite	Gn	galène	Ργ	pyrite
		Gρ	graphite	Pi	pyrophyllite
Ba	barytine			Po	pyrrhotine
' 8е	beryl	Hem	hematite		. •
8s	bismuth		٠ •	Ra	mineraux radioactifs
Bo	bornite	IIm	limenite		
				Sh	scheelite
Cp	chalcopyrite	Mt	magnetite	Şd	siderose
Cn	chalcosine	Mc	malachite	Si	Silice
Ch	chert, jäspe	Ma	marcasite	Sp	sphalerite
Cr	chromite	Mi	mica	Sm	spodumene
Ct	cordierite	Md	mineraux décoratifs	Su	sulfures (indetermines)
Cor	corindon	Mo	molybdenite		
C٧	covelline		· · · · · ·	Ta	tanlahte
Fu	Fuchsite	OI	olivine		

Fu Fuchsite

1

SUFFIXES POUR STRUCTURES PETROGRAPHIQUES ET TEXTURES CARACTÉRISTIQUES

۵	porphyle iplus de 50° de phenocristauxi		turbidites
	porphyrique (10%) a 50% de phenocristauxi	$\Delta$	brechilorme
•	variolitique, spherulitique	<b>A</b>	breche tectonique
Φ	coussinee /,	Δ	breche intrusive
ο.	amygdalaire		breche pyroclastique
, <b>Ж</b>	a spinifex	. 🛦	breche explosive
#	rubanee lannan ) amination )	<u> </u>	brèche de coul <del>ee</del>
+	Crsaillee State	₽.	hyacloclastique
14	m stan		•



 DAN FERDERBER & PAT LANDGAN (LINECUTTERS), CHAINING L 0+00 AT 12+00E



2. L.0+00, APPROX. 6+00E RIDGE IN BACKGROUND IS UNITED BUFFADISON SHOWING



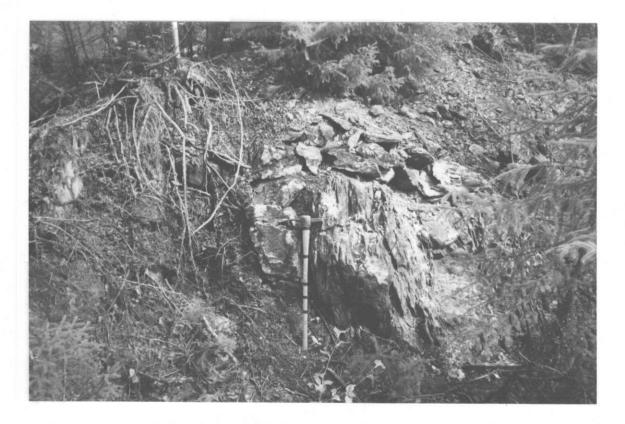
3. OUTLET OF HUTT LAKE NW BOUNDARY OF PROP.



162



 TENSION VEINLETS IN SILICIFIED TUFF (vq) BUFFADISON SHOWING @ 3+20N, 0+50E



 PIT IN UNITED BUFFADISON SHOWING SERICITE SCHIST (vq) @ 3+20N, 0+50E



7. UNITED BUFFADISON SHOWING 1+50N @ 0+35E



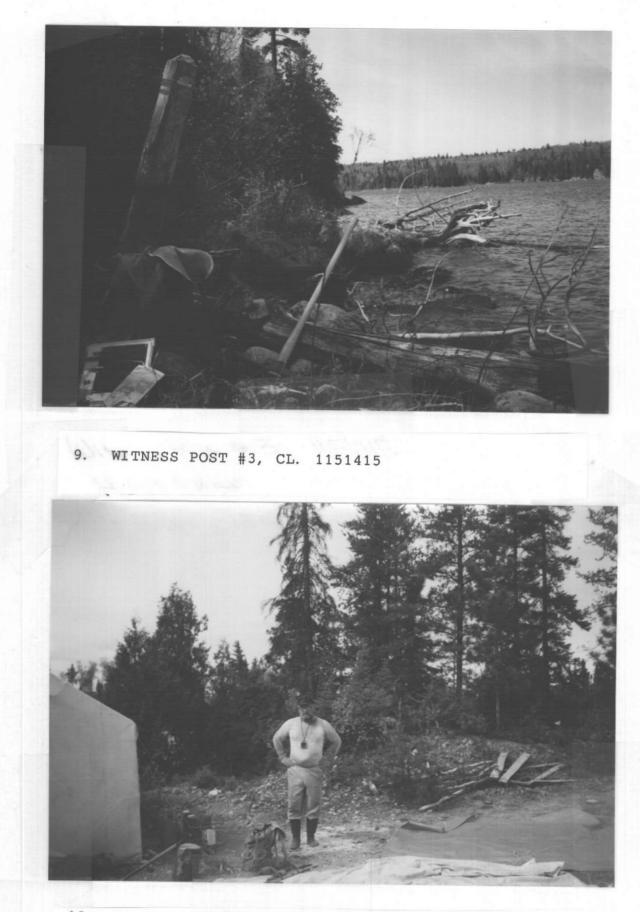
 UNITED BUFFADISON SHOWING 0+50N @ 0+20E



9. WITNESS POST #3, CL. 1151415



10. L. MIKE DYMENT @ LINECUTTERS CAMP.



10. L. MIKE DYMENT @ LINECUTTERS CAMP.

## GEOPHYSICS



41P14NE0030 OP92-004 MONTROSE

020

MAGNETOMETER AND VLF EM SURVEY

HUTT LAKE PROPERTY

MONTROSE TOWNSHIP

LARDER LAKE MINING DIVISION

NTS 41P/14

August 11, 1992

14

L.M. DYMENT BOX 66, SWASTIKA, ONTARIO



41P14NE0030 OP92-004 MONTROSE

020C

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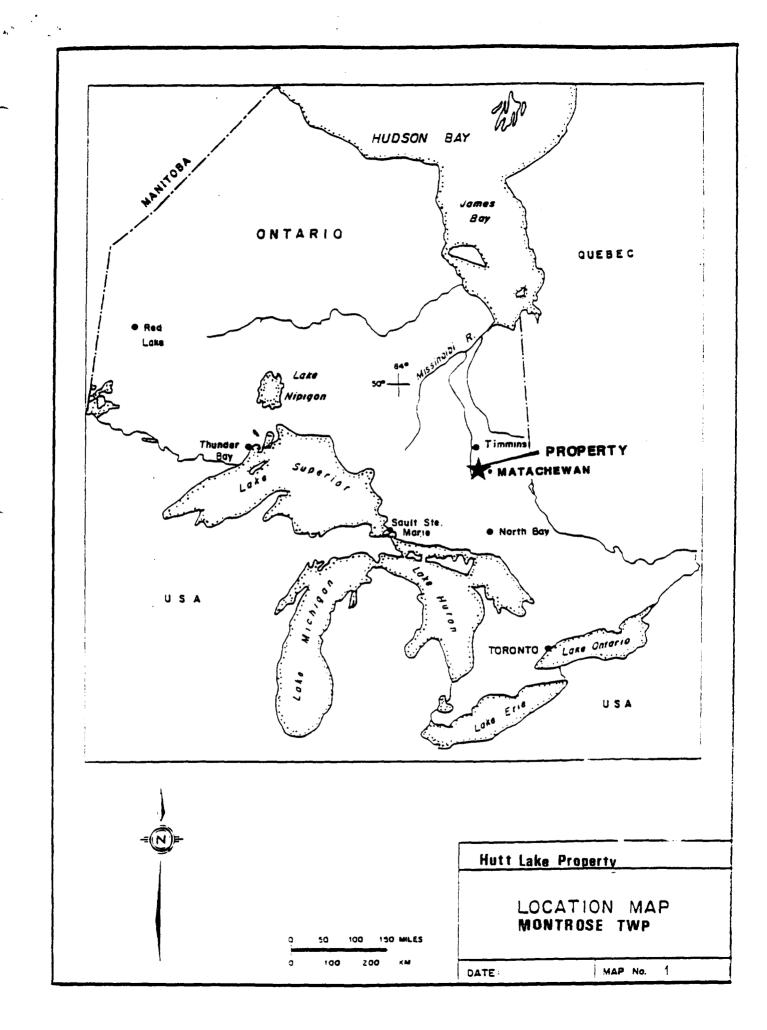
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RESULTS
CONCLUSION

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APPENDIX	II	-	CLAIM HOLDERS AND SUPERVISION
APPENDIX	III	-	CERTIFICATION

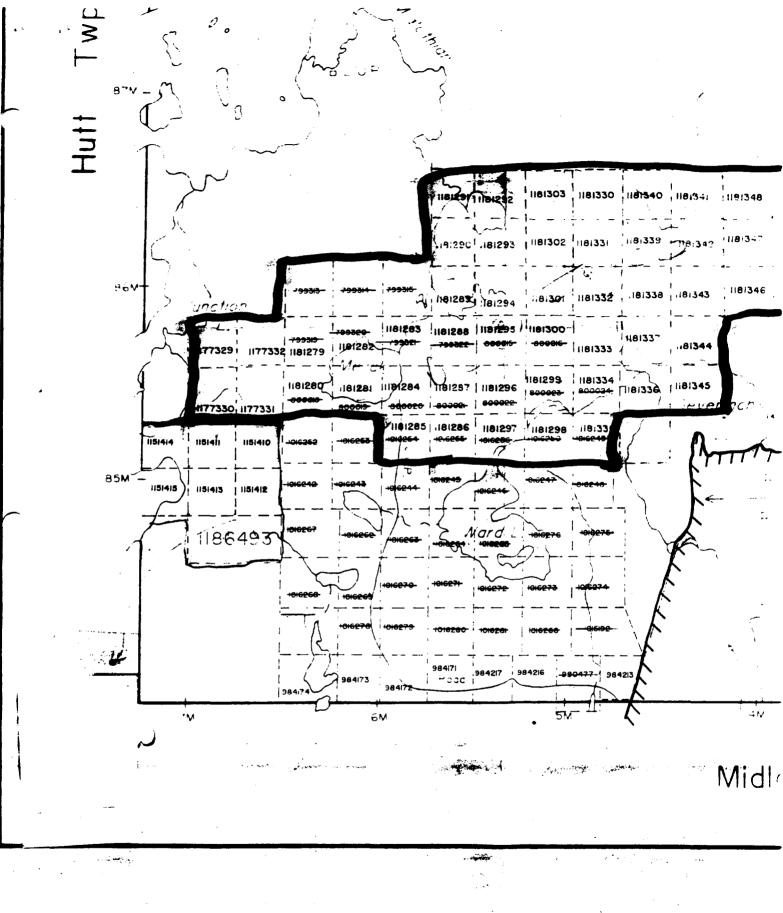
### FIGURES

1)	Regional location	scale	1"	=	8 miles
2)	Claim location	scale	1"	-	1/2 mile
3)	VLF profiles & Fraser filter	scale	1"	=	200 fe <b>et</b>
4)	Magnetometer Contours	scale	1"	=	200 feet



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19LE	нитт	Mantrost	E Bânnacu gun	s- Powskil	CAND	FL.	AVELLE	GROSS	BLAIN	MARMUS			CAT
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ENS	עושעט	STULL		(	MAPLE		Mou	INTAIN	MEDINA	COLE		BRIGSTO	
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₹1 <b>12</b>	McHanada	COTTEN							ISD3G LE ROCHE	Cynthia		CHAMBER	s 5'



## INTRODUCTION

Six claims, 1151410 through 1151415 were staked in June of 1990 to cover 2 historical Copper-Gold showings. The Western showing is known as the United Buffaddison Showing (AFRO KL-2754) and the Eastern showing is known as the Sylvanite showing (AFRO KL-1237;AFRO KL-2606).

The claims are located on the NE end of Hutt Lake in the SW corner of Montrose Township. The showings are represented by a Cu symbol on the OGS map 2205 (Timmins-Kirkland Lake).

The claims were geophysically surveyed by L. M. Dyment (K18402) and J. A. Kidston (K18401) over an eight day period between June 5 and June 28, 1992.

# LOCATION AND ACCESS

The property is located approximately 25 miles West of the town of Matachewan. Access is via the United Asbestos Mine road and then North on the Stairs Mine road to Melick Lake and through the bush, cross-country, for 1/2 mile to the Eastern boundary of the claim group. The property is 210 KM return from the home of J.Kidston and M. Dyment.

#### GEOLOGY

The Hutt Lake property is situated on the Southwestern flank of the Abitibi Greenstone Belt of the Superior Province. The volcanic and sedimentary rocks of the Timmins-Noranda portion of the Abitibi Greenstone Belt form a large Easterly trending synclinorium. Domal tonalite to trondhjemitic batholiths and gneissic terrains are present to the North, South, and West of this synclinorium. Two major fault zones, the Destor-Porcupine and Kirkland Lake-Cadillac, transect the Northern and Southern limbs.

Numerous small plutons of granodioritic to syenitic composition cut all the volcanic and sedimentary rocks. Diabase dykes varying from Archean to Late Proterozoic in age occur throughout the area, and Proterozoic sedimentary rocks of the Huronian Supergroup onlap the Archean rocks to the South (Jensen, L.S., 1986).

Recent work on the Chemo-Stratigraphic divisions of the Abitibi Greenstone Belt indicate the felsic volcanic package belongs to the Upper Formation of the Deloro Group and the mafic volcanics to the Lower Formation of the Tisdale Group (Jensen, L.S., 1986). South of Timmins an age date of 2,725 Ma has been given for the top of the Deloro Group (Nunes, P.D., and Pyke, D.R., 1980). PAGE 2

# **<u>GEOLOGY</u>** cont'd

Although the stratigraphic relationships described by Rickaby (1932a,b) fit in a general way for the Abitibi Greenstone Belt, the detailed picture appears to be incorrect. The stratigraphy consisting primarily of mafic flows and tuffs was found to strike Northwest to North instead of East-West.

In general terms, the Archean to Proterozoic dykes consist of both quartz and olivine bearing varieties of diabase (Rickaby, H.C., 1932b). Based on mapping completed in Midlothian Township to the South, the quartz diabases appear to be the older, having a distinctive North-South strike. The constituents are labradorite, augite, quartz, magnetite and limenite with minor amounts of biotite, apatite, and epidote (Marshall, H.J., 1947)

The olivine diabases generally strike in a Northwesterly fashion and consist of an ophitic mixture of hypersthene, labradorite, olivine, apatite and magnetite with minor amounts of pyrite. They also appear to belong to the Nipissing series and are considerably younger than the quartz diabases of the Matachewan series as they are found to cross-cut the Gowganda Formation in Midlothian Township (Bright, E.G., 1970).

# <u>GEOLOGY</u> cont'd

The Proterozoic Gowganda Formation onlaps onto the Archean stratigraphy in the Southern portions of Montrose and Bannockburn Townships, and is present as an inlier in the central portion of Hincks and Montrose Townships. Rocks of the Gowganda Formation consist of horizontal to gently dipping interbedded greywacke, conglomerate, quartzite. argillite and some arkose. The basal conglomerate of the uncomformable sequence outcrops along portions of Ashley, Argyle and Bannockburn Lakes (Rickaby, H.C., 1932a).

As stated previously, the stratigraphy in Montrose Township appears to strike North to Northwesterly. Several factors support this hypotheses such as:

the overall Northwesterly grain to the regional airborne magnetometer survey (ODM 1975)

the preponderance of Northwesterly striking bedding attitudes in Hincks, Argyle and Bannockburn Townships (Rickaby, H.C., 1932b)

the detailed mapping carried out by Cascade Pacific Explorations Ltd. (Nall, 1991 AFRO KL-3010) This evidence is all at odds with the East-West strike of Rickaby's 1932 Geological map. The dip of the stratigraphy in Hincks, Argyle and Bannockburn Townships according to Rickaby (1932a) is between vertical and 35 degrees to the Northeast, with tops to the Northeast. Overall, this PAGE 4

# GEOLOGY CONT'D

attitude is consistent with the presence of a structural dome in Halliday Township to the Southwest (Bright, E.G., 1970), a structural feature that has been well documented (Hall, B.V., 1991).

The dominant faulting direction appears to be North-South and to the Northeast. This is largely based on the orientation of some of the major bodies of water, plus the regional mapping in Midlothian and Halliday Townships to the South (Bright, E.G., 1970). Coincidentally, if the Kirkland Lake-Cadillac Break were projected from the vicinity of Matachewan through the overlying Gowganda Formation, it could likely pass through the area of Montrose Township (Hall, B.V., 1991).

# PREVIOUS WORK

Prospecting in the Matachewan area began about 1906, soon after the important discoveries in the Cobalt camp to the Southeast.

Interest in the rea of Montrose Township increased significantly in the fall of 1930 when several rich goldbearing quartz veins were discovered by B. Ashley and William Garvey in Bannockburn Township.

The next period of exploration was in 1945-1946 with the discovery of gold in Midlothian Township which discovery eventually led to the development of the Stairs Mine.

Government surveys in the area of Montrose Township began in 1896 with some reconnaissance mapping (Burwash, E.M., 1896). Further mapping was carried out in 1911 by J.G. Macmillan who accompanied a party surveying the Timiskaming and Northern Ontario Railway Trail Line between Gowganda and Porcupine. The most detailed mapping project of the time was that completed in 1932 by H.C. Rickaby of the Ontario Department of Mines. Detailed examinations of all the active mineral properties was carried out, plus, pace and compass traverses over Montrose, Hincks, Argyle, and Bannockburn Townships (Rickaby, H.C., 1932a,b). Lastly, the Ontario Division of Mines completed an airborne geophysical survey of Montrose Township in 1975. This PAGE 6

# PREVIOUS WORK cont'd

survey was carried out by Questor Surveys Limited using North-South flight lines.

Immediately to the South of Montrose Township, both Midlothian and Halliday Townships have received considerable attention with the discovery of volcanogenic massive sulphide mineralization (Class, L.G. and Sada, E.V., 1982). Most of this work was centered on the Halliday Dome, a structure which is cored by rhyolitic pyroclastic rocks of the Upper Formation of the Deloro Group (the same package of rocks which hosts the Kidd Creek and KamKotia ore bodies to the North). Companies that were active in this area in the late 1960's include:

> Amax Exploration Inc. Cominco Limited Dominion Gulf Company Talisman Mines Limited Texas Gulf Sulphur Company

All of these companies were exploring sulphide-rich zones associated with felsic volcanic rocks. Some of the properties such as the Adele and Annie Lake Groups had intersections of massive pyrite (Bright, D.G., 1970). Massive pyrite mineralization has also been encountered immediately to the North-East on ground once held by the Golden Bounty Mining Company Limited. Highly decomposed massive sulphides were exposed in a small outcrop of frag-PAGE 7

# PREVIOUS WORK cont'd

mental rhyolite in the Southwest corner of claim 374743. Elsewhere on the property and associated with an altered rhyolite tuff, pyrite and lesser amounts pf pyrrhotite are widespread and sometimes occur in massive concentration.

On the property of Sylvanite Gold Mines Limited (1946), there was considerable trenching and sampling carried out with interesting results (AFRO KL-1237). Unfortunately, the area of this work is at present flooded by beavers and was mostly innaccessible for sampling by Dyment and Kidston. One claim West of the Sylvanite ground, a gold-copper showing was drilled with 7 shallow holes in 1962 by United Buffaddison (AFRO KL-2754). There has been no work handed in for this ground since 1962.

# LINECUTTING

Prospecting and research indicated the stratigraphy strikes North to Northeasterly rather than the previously assumed East-West direction. Six miles of line were cut in an East-West direction with an extra North-South tieline cut for better control over the Sylvanite showing are. All lines were chained at 100 foot intervals.

# GEOPHYSICAL SURVEYS

The Magnetometer survey was done over the entire grid using a Barringer GM122. Readings were taken every 100 feet with detailed readings taken at 50 foot intervals where required. Diurnal control was by the "loop to loop" method and also by the use of a base station established at 24E on Line 0+00.

The VLf survey was done over 2/3 of the six claim property using a Crone Radem set at Annapolis, Maryland at 21.4 KHZ. Only the In Phase data was plotted and the results were subsequently Fraser filtered.

A copy of all these geophysical results were plotted at a scale of 1"=200ft and accompany this report.

# MAGNETOMETER RESULTS

A very subtle Mag anomaly is shown - coincident with the East VLF conductor over the Sylvanite showing.

The area covered by the anomaly is all flooded but we suspect a weak iron formation of pyrite, pyhrrotite and magnetite to be responsible as described in the Sylvanite assessment report (AFRO KL-1237 and AFRO KL-2606).

Both the VLF and Mag anomalies trend in a North-South direction and all airborne surveys flown in the township have also been flown in a North-South direction. VLF RESULTS

Two conductors are noted: the West conductor (United Buffaddion showing) maps a 25' to 40' wide shear containing quartz veins and stringers. Gold values have been obtained within this shear in the past (NMiner October 11, 1962), AFRO KL-206.

The East conductor (Sylvanite showing), presently completely flooded by a beaver dam, was extensively treched in 1946 (AFRO KL-1237, AFRO KL-2606) with Cu and Au results noted. What was once a 5' to 10' meandering creek in Sylvanite's time is presently a 100' to 150' wide pond. The trenches have all been flooded with the exception of one

# VLF RESULTS cont'd

trench located North of the beaver dam at 11N, 13E, which showed 30% quartz, 30% pyrite, pyrrhotite, in a tuffaceous hand sample of fly rock from the trench.

The West conductor is interpreted to be a shear zone containing disseminated sulphides, quartz, and stringers.

The East conductor is interpreted to be a possible Iron Formation containing quartz and massive sulphides in palces.

Both conductors have been mapped on the grid and a claim has been added to the South of the property. The claims to the North of the property are held by Inco.

# CONCLUSION

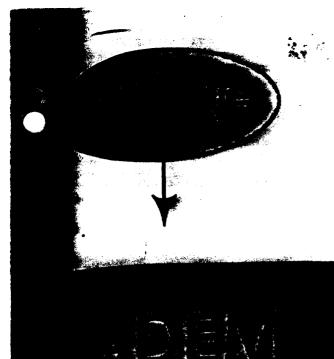
An HLEM survey is recommended and also mechanical stripping is warranted to prepare for summer sampling of the United Buffaddison showing. Permission to break the beaver dam to access the Sylvanite showing will have to be obtained.

The grid should be continued to the South to further trace the East and West conductor zones. PAGE 11 APPENDIX I

1

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Accuracy:	- raise		
Sensitivity:	I Y BARRINGEA	GP1-12	2
adlent Tolerance:		, magn	
rower:	12_"0" cells		Ergine
Power Consumption:	< 50 Joules (Wsec) per reading		
Polarizing Power:	0.8 A @ 13.5 V for 1.5 sec. (3 second cycle)		
	0.8 A @ 13.5 V for 3 sec. (6 second cycle)	•	
Number of Readings with 1 Battery Set:	2,000 - 10,000 depending on type ' of batteries		
Frequency of Readings:	l every 3 seconds l every 6 seconds		
Controls:	Pushbutton switch Range Selection switch - Slide switch for 3 and 6 sec. located on P/C Board		
Output:	5 digit incandescent filament . readout		-
Indicators:	LED point Lock Indicator - last three digits of the display blanked off when phaselock not achieved Segment Function Indicator - all segments light up to permit visual	<b>G</b>	-
Mechanical:	Inspection of the display function :	<b>~9</b>	
Instrument: Dimension	ns - 7" X 3.5" X 11" (18 cm X 9 cm X 28 cm)	Q <sub>8</sub>	· ·
Weight	- 8 lbs (3.6 kg) including batteries		
Sensor:	Omnidirectional noise cancelling toroidal sensing head		<b>V</b>
Dimension	s - 4 7/8" (12 cm) diameter - 4 3/8" (11 cm) height		7
Weight	- 3 lbs (1.4 kg)		•
Abient Conditions:	Operating Temperature Range –		
	-40°F to 131°F (-40°C to 55°C)		
•	Relative Humidity - 0 to 100%		L
	High Impact plastic		

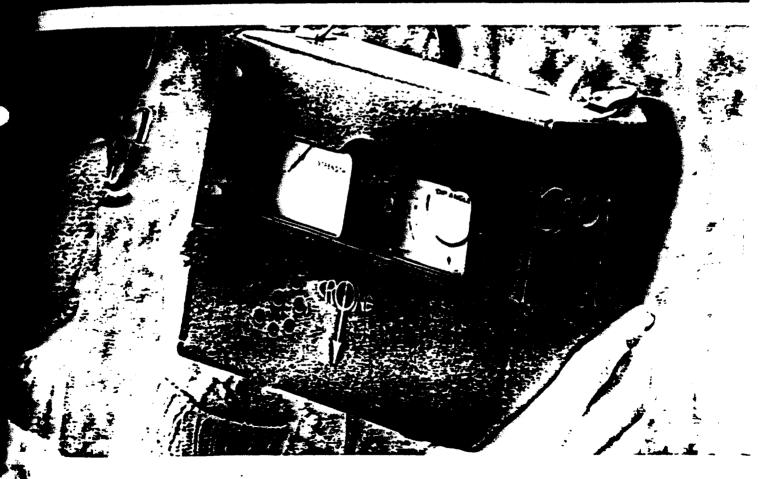


# CRONE GEOPHYSICS LIMITED

3607 WOLFEDALE-ROAD, MISSISSAUGA, ONTARIO, CANADA, L5C 1V8

Phone: (416) 270-0096

Cable: CRONGEO, TORONTO



This is a rugged, simple to operate, ONE MAN EM unit. It can be used without line cutting the thus ideally suited for GROUND LOCATION OF AIRBORNE CONDUCTORS and the CHECKING OF MINERAL SHOWINGS. This instrument utilizes higher than normal EM frequencies and is under of detecting DISSEMINATED SULPHIDE DEPOSITS and SMALL SULPHIDE BODIES. it is conductive conductive overburden.

# **GPECIFICATIONS**

JOUR	CE OF PRIMARY FIELD:	OF PRIMARY FIELD: VLF Communication Stations 12 to 24K hz		
NMB	ER OF STATIONS:	7 switch selectable		
STATIC	ONS AVAILABLE:	The seven stations my be selected from:		
Code	Station & Location	Frequency		
CM	Cutler, Maine			
SW	Seattle, Washington			
AM	Annapolis, Maryland			
H	Laulualei, Hawaii			
BOF	Bordeaux, France			
E	Rugby, England			
NS	Gorki, Russia			
<b>OD</b>	Odessa (Black Sea)			
NC	Australia, N.W.C.			
YJ	Yosamai, Japan			
HN	Hegaland, Norway			
TJ	Tokyo, Japan			
BA	Buenos Aires			

CHECK THAT STATION IS TRANSMITTING: Audible signal from speaker.

# **PARAMETERS MEASURED:**

(1) DIP ANGLE in degrees of the magnetic field component, from the horizontal, of the major axis of the polarization ellipse. Detected by a minimum on the field strength meter and read from an inclinometer with a range of  $\pm 90^{\circ}$  and an accuracy of  $\pm \frac{1}{2}^{\circ}$ .

(2) FIELD STRENGTH (total or horizontal) of the magnetic component of the VLF field, (amplitude of the major axis of the polarization ellipse). Measured as a percent of normal field strength established at a base station. Accuracy  $\pm 2\%$  dependent on signal. Meter has two ranges: 0 - 300% and 0 - 600%.

(3) OUT-OF-PHASE component of the magnetic field, perpendicular in direction to the resultant field, as a percent of normal field strnegth, (amplitude of the minor axis of the polarization ellipse). This is the minimum reading of the Field Strength meter obtained when measuring the dip angle. Accuracy  $\pm 2\%$ .

OPERATING TEMPERATURE RANGE: -30°C (-20°F) to +50°C (120°F)

DIMENSIONS AND WEIGHT:

9 x 19 x 27cm — 2.7Kg (6 lb)

SHIPPING:

Instrument with foam lined wooden case, shipping wt. -6.0Kg (13 lb)

BATTERHES:

2 of 9 volt — Eveready 216 Average life expectancy — 20 hours for continuous operation RESIDENT GEOLOGIST ONTARIO GOVERNMENT RECEIVED APPENDIX II

# CLAIM HOLDERS

Jocelyne Kidston Box 66 Swastika, Ontario POK 1T0

25%

L.Mike Dyment Box 66 Swastika, Ontario POK 1TO Glen J.Mullen

25%

50%

SURVEY SUPERVISION

L.Mike Dyment

Val D'or Quebec APPENDIX III

# CERTIFICATE

I, Leslie Michael Dyment, residing in the township of Marquis, Ontario, and having a mailing address of Jomi Minerals and Expediting Ltd., Box 66, Swastika, Ontario, POK 1TO, do hereby certify:

- (1) That I am a Mining Technician having taken the two year course at Haileybury School of Mines, Haileybury, Ontario.
- (2) That I have been employed in all phases of mining exploration and developement for 32 years.
- (3) That I did personally accumulate and set forth the facts and knowledge in the accompanying report and maps.
- (4) That the accompanying report is true.

LESLIE MICHAEL DYMENT

AUGUST 11, 1992 SWASTIKA, ONTARIO

# PROSPECT AND SAMPLE



030

# PROSPECTING AND SAMPLING REPORT

HUTT LAKE PROPERTY

# MONTROSE TOWNSHIP

LARDER LAKE MINING DIVISION

NTS 41P/14

June 25, 1992

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L.M. DYMENT BOX 66, SWASTIKA, ONTARIO



PAGE

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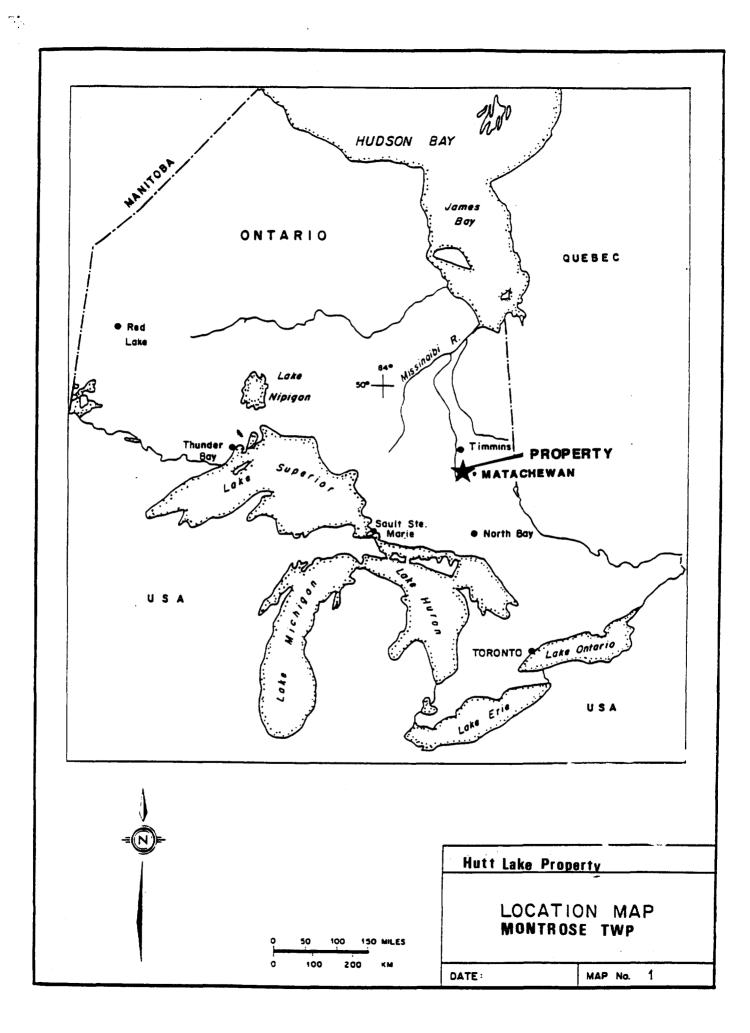
APPENDIX I - ASSAYS APPENDIX II - CLAIM HOLDERS AND SUPERVISION APPENDIX III - CERTIFICATION

# FIGURES

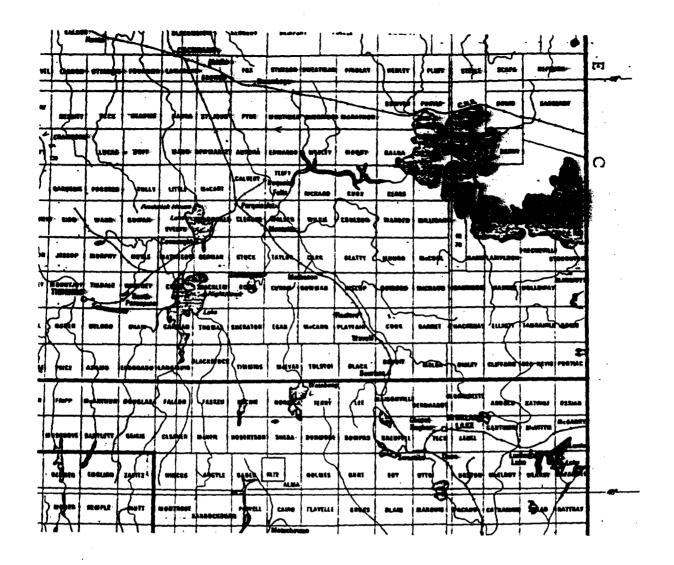
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1)	Regional location	Scale 1" = 8 miles
2)	Claim location	Scale 1" = 1/2 mile
3)	Grid and Sample location map	Scale 1" = 200 ft



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# INTRODUCTION

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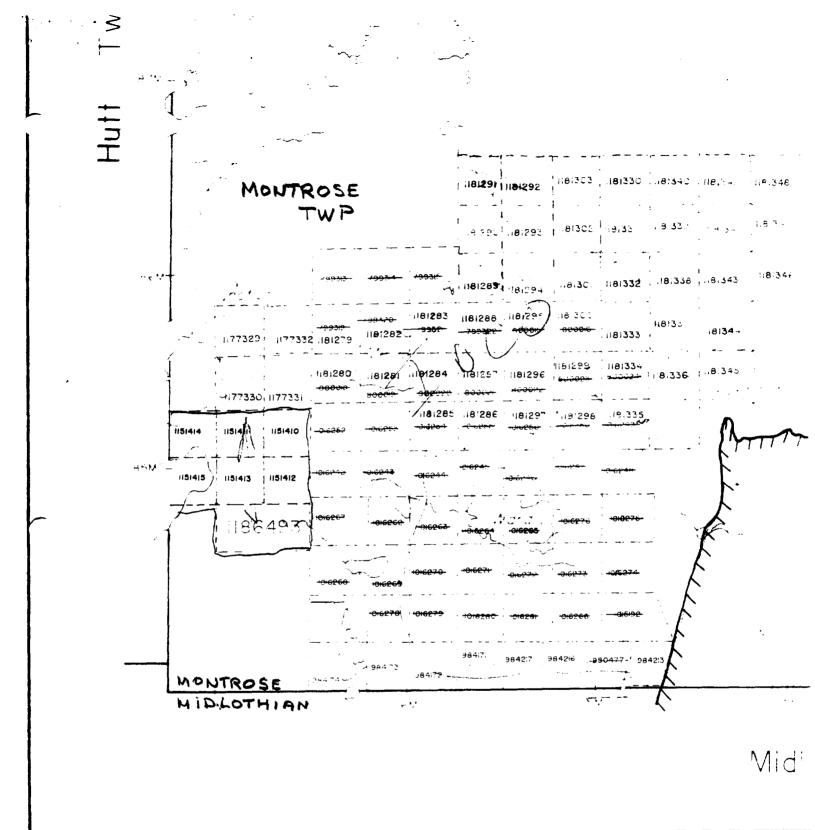
Six claims, 1151410 through 1151415 were staked in June of 1990 to cover 2 historical Copper-Gold showings. The Western showing is known as the United Buffaddison Showing (AFRO KL-2754) and the Eastern showing is known as the Sylvanite showing (AFRO KL-1237)

The claims are located on the NE end of Hutt Lake in the SW corner of Montrose Township. The showings are represented by a Cu symbol on the OGS map 2205 (Timmins-Kirkland Lake).

The claims were prospected and sampled by L. M. Dyment (K18402) and J. A. Kidston (K18401) over a period from May 18, 1992 to June 3, 1992.

# LOCATION AND ACCESS

The property is located approximately 25 miles West of the town of Matachewan. Access is via the United Asbestos Mine road and then North on the Stairs Mine road to Melick Lake and through the bush, cross-country, for 1/2 mile to the Eastern boundary of the claim group.



# GEOLOGY

The Hutt Lake property is situated on the Southwestern flank of the Abitibi Greenstone Belt of the Superior Province. The volcanic and sedimentary rocks of the Timmins-Noranda portion of the Abitibi Greenstone Belt form a large Easterly trending synclinorium. Domal tonalite to trondhjemitic batholiths and gneissic terrains are present to the North, South, and West of this synclinorium. Two major fault zones, the Destor-Porcupine and Kirkland Lake-Cadillac, transect the Northern and Southern limbs.

Numerous small plutons of granodioritic to syenitic composition cut all the volcanic and sedimentary rocks. Diabase dykes varying from Archean to Late Proterozoic in age occur throughout the area, and Proterozoic sedimentary rocks of the Huronian Supergroup onlap the Archean rocks to the South (Jensen, L.S., 1986).

Recent work on the Chemo-Stratigraphic divisions of the Abitibi Greenstone Belt indicate the felsic volcanic package belongs to the Upper Formation of the Deloro Group and the mafic volcanics to the Lower Formation of the Tisdale Group (Jensen, L.S., 1986). South of Timmins an age date of 2,725 Ma has been given for the top of the Deloro Group (Nunes, P.D., and Pyke, D.R., 1980). PAGE 2

# <u>GEOLOGY</u> cont'd

Although the stratigraphic relationships described by Rickaby (1932a,b) fit in a general way for the Abitibi Greenstone Belt, the detailed picture appears to be incorrect. The stratigraphy consisting primarily of mafic flows and tuffs was found to strike Northwest to North instead of East-West.

In general terms, the Archean to Proterozoic dykes consist of both quartz and olivine bearing varieties of diabase (Rickaby, H.C., 1932b). Based on mapping completed in Midlothian Township to the South, the quartz diabases appear to be the older, having a distinctive North-South strike. The constituents are labradorite, augite, quartz, magnetite and limenite with minor amounts of biotite, apatite, and epidote (Marshall, H.J., 1947)

The olivine diabases generally strike in a Northwesterly fashion and consist of an ophitic mixture of hypersthene, labradorite, olivine, apatite and magnetite with minor amounts of pyrite. They also appear to belong to the Nipissing series and are considerably younger than the quartz diabases of the Matachewan series as they are found to cross-cut the Gowganda Formation in Midlothian Township (Bright, E.G., 1970).

# <u>GEOLOGY</u> cont'd

The Proterozoic Gowganda Formation onlaps onto the Archean stratigraphy in the Southern portions of Montrose and Bannockburn Townships, and is present as an inlier in the central portion of Hincks and Montrose Townships. Rocks of the Gowganda Formation consist of horizontal to gently dipping interbedded greywacke, conglomerate, quartzite. argillite and some arkose. The basal conglomerate of the uncomformable sequence outcrops along portions of Ashley, Argyle and Bannockburn Lakes (Rickaby, H.C., 1932a).

As stated previously, the stratigraphy in Montrose Township appears to strike North to Northwesterly. Several factors support this hypotheses such as:

the overall Northwesterly grain to the regional airborne magnetometer survey (ODM 1975)

the preponderance of Northwesterly striking bedding attitudes in Hincks, Argyle and Bannockburn Townships (Rickaby, H.C., 1932b)

the detailed mapping carried out by Cascade Pacific Explorations Ltd. (Fall, 1991)

This evidence is all at odds with the East-West strike of Rickaby's 1932 Geological map. The dip of the stratigraphy in Hincks, Argyle and Bannockburn Townships according to Rickaby (1932a) is between vertical and 35 degrees to the Northeast, with tops to the Northeast. Overall, this PAGE 4

# GEOLOGY CONT'D

•

attitude is consistent with the presence of a structural dome in Halliday Township to the Southwest (Bright, E.G., 1970), a structural feature that has been well documented (Hall, B.V., 1991).

The dominant faulting direction appears to be North-South and to the Northeast. This is largely based on the orientation of some of the major bodies of water, plus the regional mapping in Midlothian and Halliday Townships to the South (Bright, E.G., 1970). Coincidentally, if the Kirkland Lake-Cadillac Break were projected from the vicinity of Matachewan through the overlying Gowganda Formation, it could likely pass through the area of Montrose Township (Hall, B.V., 1991).

# PREVIOUS WORK

Prospecting in the Matachewan area began about 1906, soon after the important discoveries in the Cobalt camp to the Southeast.

Interest in the area of Montrose Township increased significantly in the fall of 1930 when several rich goldbearing quartz veins were discovered by B. Ashley and William Garvey in Bannockburn Township.

The next period of exploration was in 1945-1946 with the discovery of gold in Midlothian Township which discovery eventually led to the development of the Stairs Mine.

Government surveys in the area of Montrose Township began in 1896 with some reconnaissance mapping (Burwash, E.M., 1896). Further mapping was carried out in 1911 by J.G. Macmillan who accompanied a party surveying the Timiskaming and Northern Ontario Railway Trail Line between Gowganda and Porcupine. The most detailed mapping project of the time was that completed in 1932 by H.C. Rickaby of the Ontario Department of Mines. Detailed examinations of all the active mineral properties was carried out, plus, pace and compass traverses over Montrose, Hincks, Argyle, and Bannockburn Townships (Rickaby, H.C., 1932a,b). Lastly, the Ontario Division of Mines completed an airborne geophysical survey of Montrose Township in 1975. This PAGE 6

# PREVIOUS WORK cont'd

survey was carried out by Questor Surveys Limited using North-South flight lines.

Immediately to the South of Montrose Township, both Midlothian and Halliday Townships have received considerable attention with the discovery of volcanogenic massive sulphide mineralization (Class, L.G. and Sada, E.V., 1982). Most of this work was centered on the Halliday Dome, a structure which is cored by rhyolitic pyroclastic rocks of the Upper Formation of the Deloro Group (the same package of rocks which hosts the Kidd Creek and KamKotia ore bodies to the North). Companies that were active in this area in the late 1960's include:

> Amax Exploration Inc. Cominco Limited Dominion Gulf Company Talisman Mines Limited Texas Gulf Sulphur Company

All of these companies were exploring sulphide-rich zones associated with felsic volcanic rocks. Some of the properties such as the Adele and Annie Lake Groups had intersections of massive pyrite (Bright, D.G., 1970). Massive pyrite mineralization has also been encountered immediately to the North-East on ground once held by the Golden Bounty Mining Company Limited. Highly decomposed massive sulphides were exposed in a small outcrop of frag-PAGE 7

# PREVIOUS WORK cont'd

mental rhyolite in the Southwest corner of claim 374743. Elsewhere on the property and associated with an altered rhyolite tuff, pyrite and lesser amounts pf pyrrhotite are widespread and sometimes occur in massive concentration.

On the property of Sylvanite Gold Mines Limited (1946), there was considerable trenching and sampling carried out with interesting results (AFRO KL-1237). Unfortunately, the area of this work is at present flooded by beavers and was mostly innaccessible for sampling by Dyment and Kidston. One claim West of the Sylvanite ground, a gold-copper showing was drilled with 7 shallow holes in 1962 by United Buffaddison (AFRO KL-2754). There has been no work handed in for this ground since 1962.

# LINECUTTING

Prospecting and research indicated the stratigraphy strikes North to Northeasterly rather than the previously assumed East-West direction. Six miles of line were cut in an East-West direction with an extra North-South tieline cut for better control over the Sylvanite showing are. All lines were chained at 100 foot intervals.

# PROSPECTING AND SAMPLING

The property was prospected thoroughly in hope of locating other areas of interest apart from the two known showings. Thirty-six samples were taken, the results of assaying these are attached to this report in Appendix I. The sample location map is also attached to this report.

## RESULTS

Although the sampling results proved disappointing, the geology and stratigraphic findings were interesting enough to prompt the claim holders to stake a further 2 unit claim on the Southern boundary of the origianl 6 claim property.

The United Buffaddison showing was easily located as the area has recently been timbered (within the last PAGE 9

# <u>RESULTS</u> cont'd

<u>.</u> .

10 years). The pits, trenches, and stripped areas were covered by windfalls, brush and treetops from the timber operation.

The Sylvanite showing which had been extensively trenched in 1946 proved elusive until it was determined with the discovery of one water-filled trench that the showings themselves lay under the water of a 300 to 400 foot beaver pond.

# CONCLUSIONS

The area of the Buffaddison showing, which was enlarged to 900 feet by prospecting, **g**hould be mechanically stripped. The area lies along an outcrop ridge and should be an excellent target for stripping and high-pressure hosing.

Permission should be obtained to break the extensive beaver dam which completely covers the Sylvanite showings to expose the trenching and alow complete sampling.

The property should be geologically mapped to prove the North-South striking units found on the property during prospecting. APPENDIX I

C.P. / P.O. / 50	<b>D:</b> 148, AVENUE PERREAULT	VAL D'OR (QUÉBEC)	J9 <b>P: 4P5</b> :	T <u>Èl::</u> ( <b>810): 824-4837</b> FAX: (81 <b>9): 824-474</b> 5	
	LABORATOIRE BOURLAMA	D'ANALYSE QUE ASSAY	• • A.		
EN COMPTE AVE IN ACCOUNT WI	K Mike Dyment Box 66 Swastika, Ontario POK 1TO		date June	FACTURE INVOICE	
	Cert. No. 59648         36 Au @ 8.00         22 Cu @ 8.00         2 Zn @ 3.00         1 Ni @ 3.00         36 Sample preparat:         7% GST         GST Nº TPS       R10290         PAID BY CHEQUE JUNE	ions @ 3.00 02301			581.0 40.6 521.6
		2 22, 1992	THANK YOU		

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C.P. / P.Q. 550

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148; AVENUE PERREAULT

VAL D'OR (QUÉBEC)

J9P 4P5

TEL.: (819) 824-4337 FAX: (819) 824-4745

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# LABORATOIRE D'ANALYSE BOURLAMAQUE . . BOURLAMAQUE ASSAY LABORATORIES LTD.

#### JOMI EXPEDITING

## **CERTIFICAT D'ANALYSES** CERTIFICATE OF ANALYSIS

June 10

59648

Au, 22 Cu, 2 Zn, 1 Ni

Hutt La	ke Prosp	ect			N°	
ECHANTILLONS ROCK SAMPLES				VAL D'OR (QUÉBEC)		
RECU DE RECEIVED FROM	Glenn	Mullan		ANALYSES ASSAYS	36 Au,	
Sample #	Au	ррр	Cu %	Zn 8	<u>Ni</u>	

	Sample #	Au ppb	<u>Cu %</u>	Zn %	Ni %	
	12004	10	0.001			
		20		-	-	
	12005		0.005	-	-	
	12006	20	0.001	-	-	
	12007	10	0.011	-	-	
	12008	N.D.	N.D.	-	-	
	12009	10	0.001		-	
	12010	20	0.021	-	0.012	
	12011	10	0.002	-	-	
	12012	N.D.	0.002	-	-	
	12013	10	0.001	-	-	
	12014	N.D.	N.D.	-	-	
	12015	N.D.	0.002	-	-	
	12016	N.D.	0.004	-	-	
	12017	N.D.	-	-	-	
	12018	N.D.	0.004	-	-	
	12019	N.D.	0.009	-	-	
	12020	10	0.003	-	-	
	12021	20	-	-	-	
	12022	N.D.	-	-	-	
	12023	N.D.	0.010	-	-	
	12024	N.D.	0.021	-	-	
	12025	N.D.	-	-	-	
	12026	10	-	-	-	
	12027	N.D.	-	-	-	
	12028	N.D.	-	-	-	
	12029	10	0.005	-	-	
	12030	N.D.	-	-	-	
	12031	N.D.	0.005	0.011	-	
	12032	20	0.002	0.011	-	
	12033	N.D.	-	-	-	
_	12034	N.D.	-	-	-	
	12035	10	-	-	-	
	12036	N.D.	-	-	-	
	12037	N.D.	-	-	-	
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	22000					
	16501	N.D.	0.003	_	-	

APPENDIX II

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## CLAIM HOLDERS

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Jocelyne Kidston Box 66 Swastika, Ontario POK 1TO

25%

L.Mike Dyment Box 66 Swastika, Ontario POK 1TO

25%

Glen J.Mullen Val D'or Quebec 50%

SURVEY SUPERVISION

L.Mike Dyment

APPENDIX III

والمتعادية والمتحي والمحاد

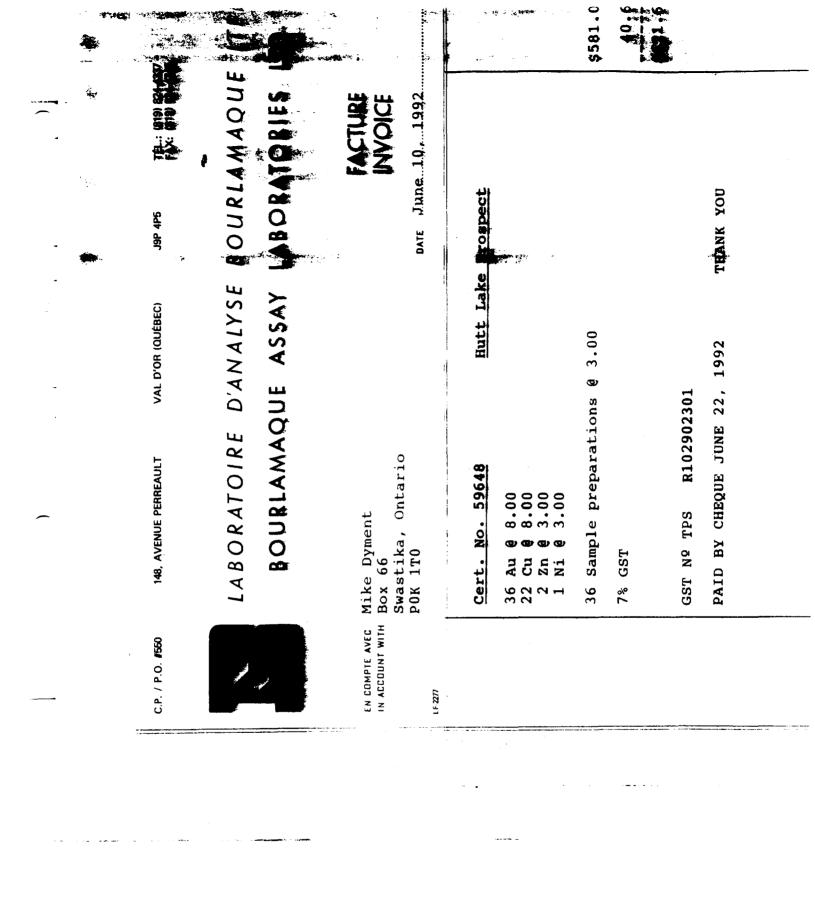
### CERTIFICATE

and the second second

I, Leslie Michael Dyment, residing in the township of Marquis, Ontario, and having a mailing address of Jomi Minerals and Expediting Ltd., Box 66, Swastika, Ontario, POK 1TO, do hereby certify:

- (1) That I am a Mining Technician having taken the two year course at Haileybury School of Mines, Haileybury, Ontario.
- (2) That I have been employed in all phases of mining exploration and developement for 32 years.
- (3) That I did personally accumulate and set forth the facts and knowledge in the accompanying report and maps.
- (4) That the accompanying report is true.

JUNE 25, 1992 LESLIE MICHAEL DYMENT SWASTIKA, ONTARIO





STEWART J. CARMICHAEL BSc., FGAC

P.O. Box 271 Swastiks, Onterio POK 1T0 (705) 567-7286

**Consulting Exploration Geologist** 

Paid in full by check (2. 1. C.)

P.O Box 271 Swastika, Ontario POK 1TO JULY 20, 1992

To: Mike Dyment P.O. Box 66, Swastika, Ont. POK 1TO From: Stewart J. Carmichael, B.Sc., FGAC Invoice DY92-001

Consulting services, Montrose Township Project

Autocad Services, 5 hrs a \$30.00/hr Plotting, 15 "C" size a \$10.00/plot Sub Total	\$150.00
GST a) 7% (R123680373)	21.00
Total	.\$321.00

Yours truly

Stewart J. Carmichael, B.Sc., FGAC Cullar aun,

Please remit within 30 days

Received From L.M. DYMENT

FOR 6 miles of Linecutting

Montrose Twp at 375 /mile

375 × 6 = #2250 =

Axe Exploration 1 inultander



## STEWART J. CARMICHAEL BSc., FGAC

P.O. Box 271 Sweetlin, Onterio POK 1TU (705) 567-7286

**Consulting Exploration Geologist** 

Paid in full Sc.

Aug. 11, 1992

P.O Box 271 Swastika, Ontario POK 1TO

To: Mike Dyment P.O. Box 66, Swastika, Ont. POK 1TO From: Stewart J. Carmichael, B.Sc., FGAC Invoice DY92-002

Consulting services, Montrose Township Project

Autocad Services, 5 hrs @ \$30.00/hr Sub Total	
GST @ 7% (R123680373)	10.50
Tota1	.\$160.50

Yours truly

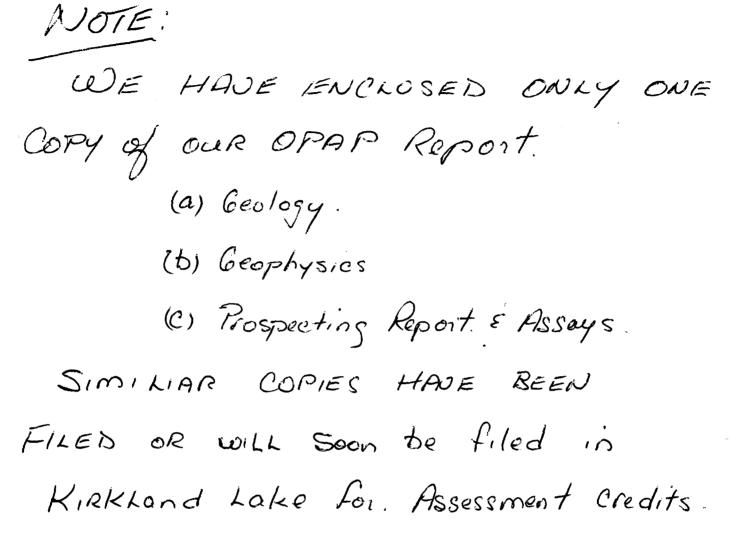
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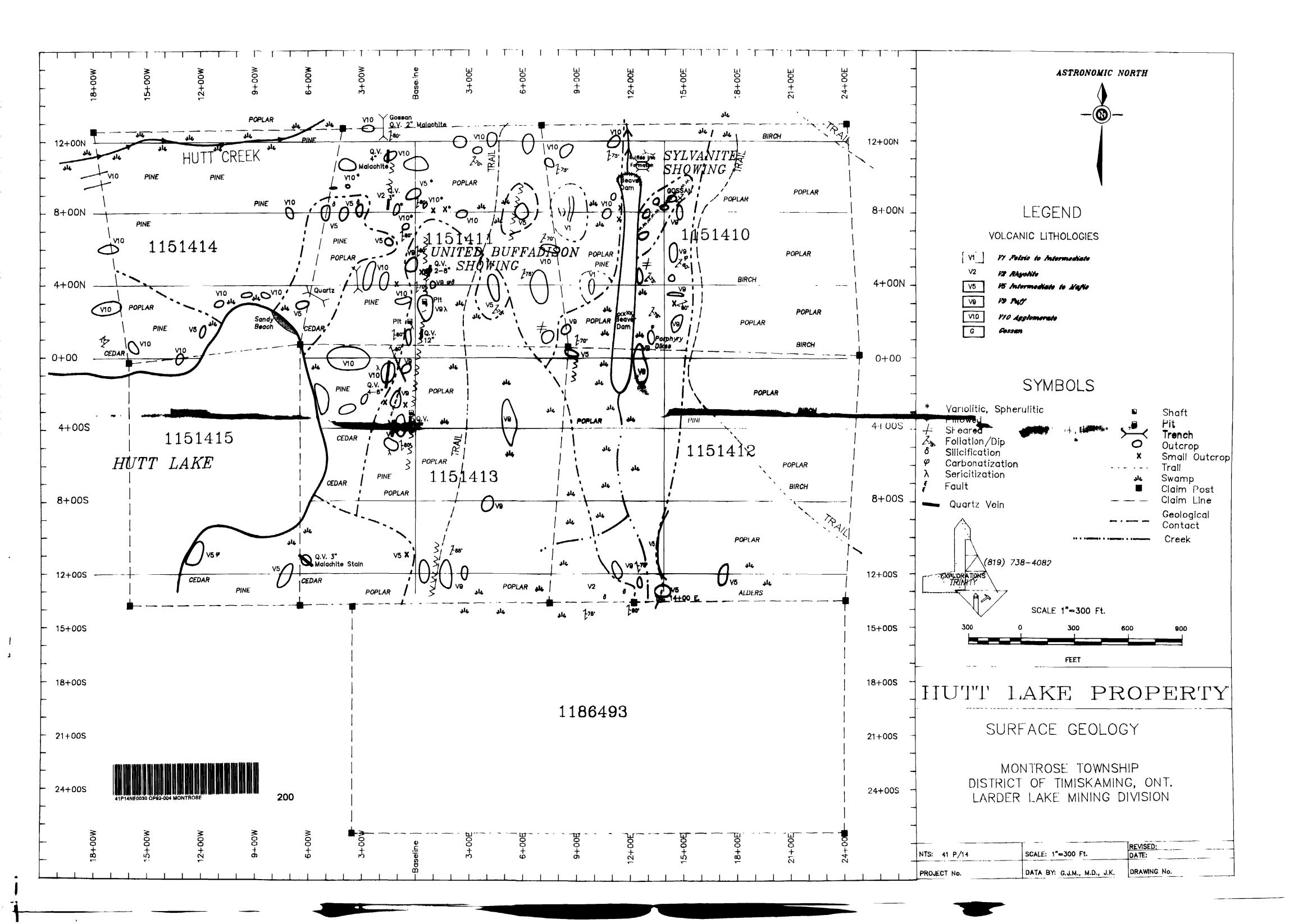
Please remit within 30 days

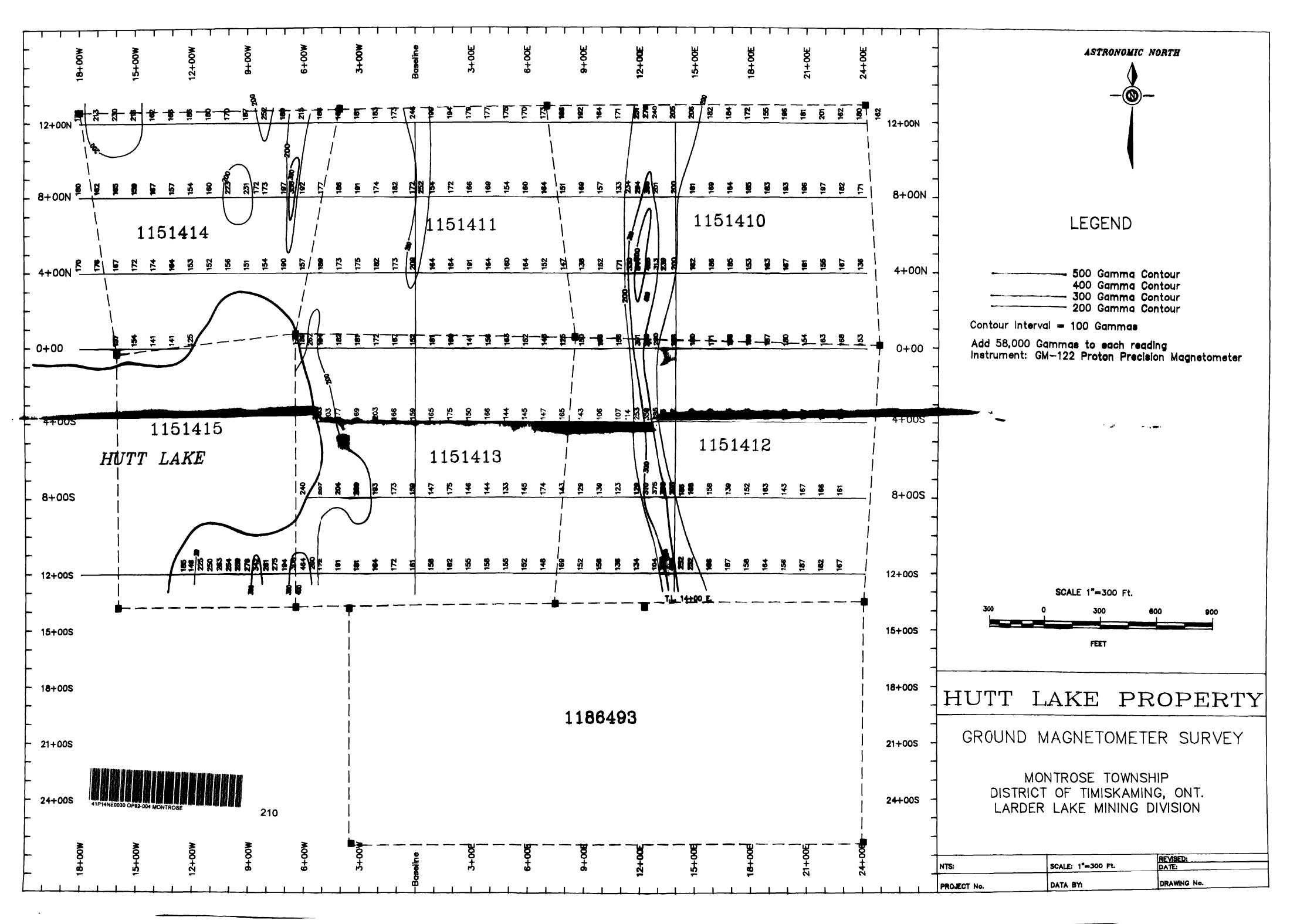


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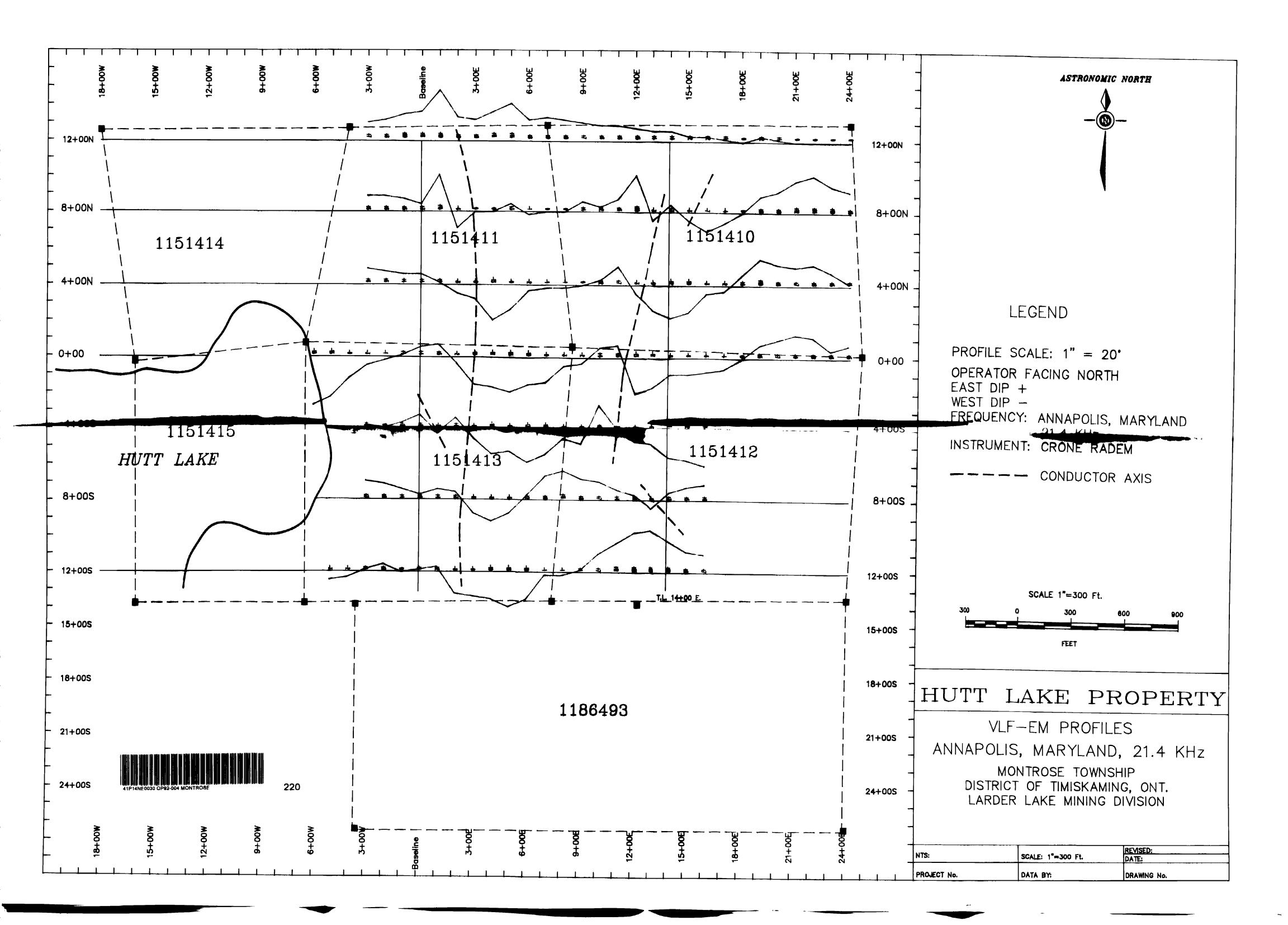


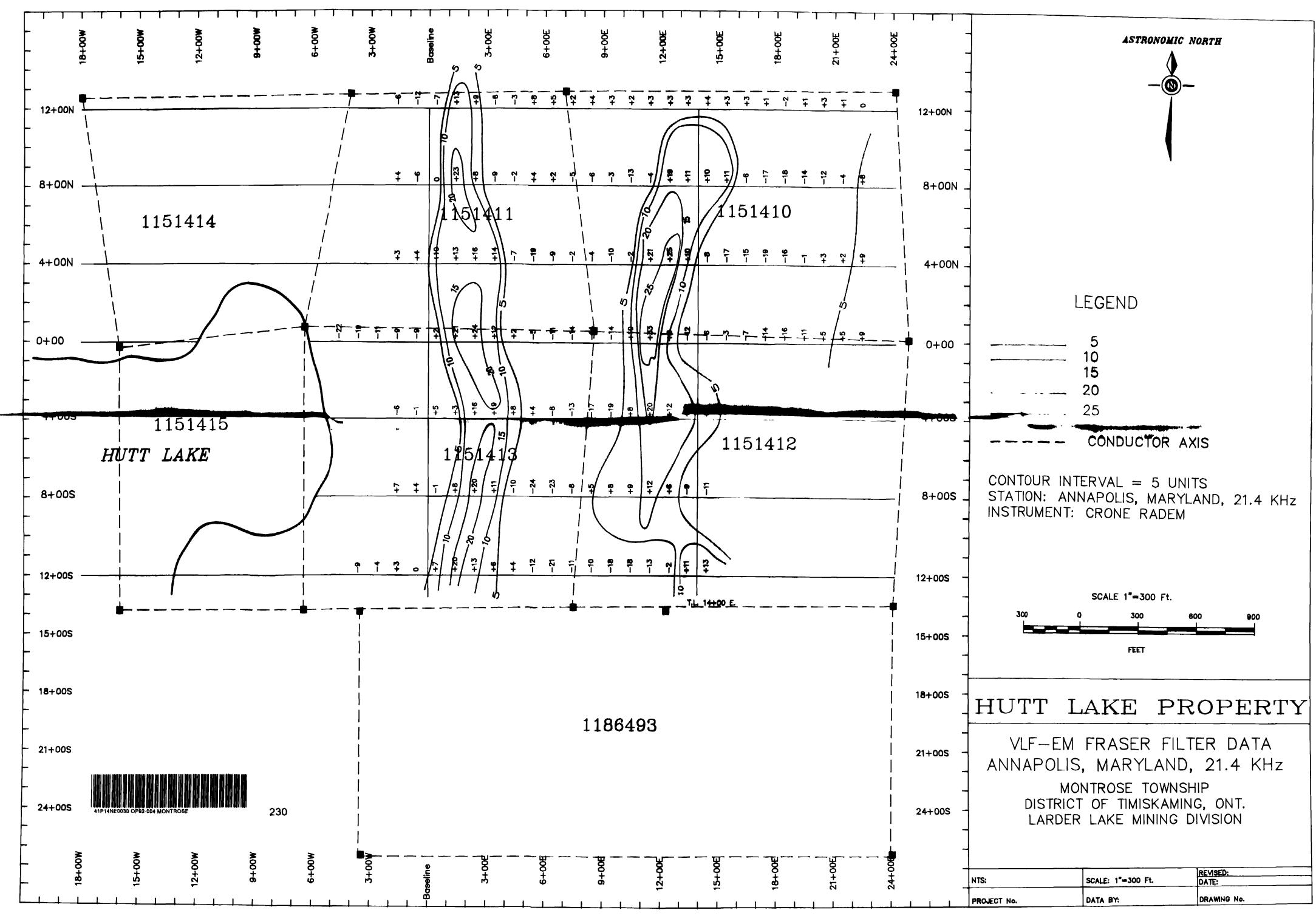
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