OPAP PROJECT #0P91-229 & 0P91-230

[#1]

OLIVER-SEVERN PROPERTY

ELMHIRST TOWNSHIP

THUNDER BAY MINING DIVISION

CLAIMS NO.

TB1110576-77

TB1120328

TB1120331

TB1120335

TB1120336-37

TB1120504-05

TB1120685

TB1194597

JAMES R. B. PARRES
B. Sc. [GEOLOGY]

THUNDER BAY JAN. 31/92





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INTRODUCTION

IN 1934-35 OLIVER SEVERN GOLD MINES LIMITED DRILLED AT LEAST THREE SHALLOW HOLES ON A PROMISING GOLD SHOWING ON THE NORTH-SOUTH BOUNDARY OF CLAIMS TB13658-59 (PART OF A GROUP OF SIX CLAIMS TB13654-59 INCLUSIVE) IN ELMHIRST TOWN-SHIP AND OWNED BY THE COMPANY. THREE CASINGS ARE STILL IN EVIDENCE (SEE MAP PLAN ATTACHED).

Note: Sampling of the trenches had indicated an average of 0.17 ozs. gold/ton over a width of 4 feet 8 inches for a length of 200 feet. (Bruce, 1936, pg. 57 - attached).

Some of the (assumed) old drill core was found about 1000 feet away from the actual workings (trenches) at an old dilapidated log cabin adjacent to a beaver pond (part of a creek system).

CHLORITE SCHIST WAS EVIDENT IN THIS OLD CORE. THE COMPANY WAS DISAPPOINTED WITH THE DRILLING RESULTS AS NOT MUCH CHLORITE SCHIST WAS INTERSECTED. THEY BELIEVED THE QUARTZ VEINS WERE CONTAINED IN THE LAVA (NOW CHLORITE SCHIST) AND THAT THE LAVA WAS AN INCLUSION WITHIN THE GRANITE. IN CYRIL WRIGHT'S 1934 REPORT HE OBSERVED THAT THE QUARTZ VEINS EXTENDED BEYOND THE CHLORITE SCHIST INTO THE "GRANITE".

IN 1980-81 MATTAGAMI LAKE EXPLORATION LTD. MAPPED THE GEOLOGY OF A LARGE ADJACENT PROPERTY (COYLE LAKE CLAIM GROUP) AND ALSO COVERED THE SIX OLIVER-SEVERN CLAIMS. IN DECEMBER 1981 THEY DRILLED TWO HOLES - CL-81 - 1 + 2 ON AN IP ANOMALY ON CLAIM TB518975 TYING ON TO THE NORTH-EAST OF THE OLIVER-SEVERN CLAIM TB13655. DRILL LOGS INDICATED ALTERNATING SECTIONS OF GRANODIORITE AND (SHEARED) CHLORITE SCHIST. LOW GOLD VALUES IN SEVERAL SECTIONS WERE ENCOUNTERED

IN BOTH THE CHLORITE SCHIST AND THE GRANODIORITE.

MATTAGAMI ALSO SAMPLED THE 1934 TRENCHES AND RECEIVED QUITE POSITIVE ASSAYS.

THE SIX OLIVER-SEVERN CLAIMS WERE PLACED IN THE ONTARIO GAZETTE AND CAME OPEN FOR STAKING ON JUNE 1, 1989.

ALTHOUGH MOST OF THE "RUSH" ATTENTION WAS DIRECTED AT THE JACOBUS NI-CU PROPERTY IN THE NORTH-WEST OF ELMHIRST TOWNSHIP (WHICH ALSO CAME OPEN AT 7 A.M. THAT DAY) THE OLIVER-SEVERN WAS STAKED BY J. PARRES AND JOHN TOMAC WITH A HELICOPTER AND CREW OF STAKERS.

THE FOUR CLAIMS STAKED THAT DAY WERE COMBINED WITH NINE CLAIMS STAKED EARLIER TO MAKE A PACKAGE OF THIRTEEN COVERING THE MAIN SHEAR ZONE. NORANDA EXPLORATION ALSO GRABBED ONE KEY CLAIM AND THIS LEAD TO AN OPTION BY PARRES AND TOMAC WITH NORANDA.

THE CLAIM GROUP WAS EXPANDED TO SEVENTY-SIX CLAIMS AND COVERED THE MAIN SHEAR ZONE EXTENDING TO THE SOUTH INTO WALTERS TOWNSHIP. NORANDA CARRIED OUT EXPLORATION WORK ON THE CLAIM GROUP ALONG WHAT THEY CONSIDERED TO BE THE MAIN SHEAR ZONE AND SEVERAL SUBSIDIARY SHEAR ZONES (SPLAYS OFF THE MAIN SHEAR ZONE) TO THE NORTH OF THE MAIN OLIVER-SEVERN GOLD SHOWING. ALTHOUGH THEIR WORK SHOWED SOME ENCOURAGEMENT THE OPTION WAS TERMINATED DUE TO BUDGET RESTRICTIONS AND THE PROPERTY RETURNED TO THE PROSPECTORS.

A HELICOPTER AIRBORNE E.M. AND MAG SURVEY WAS CARRIED OUT BY THE MINISTRY OF NORTHERN DEVELOPMENT AND MINES AND RELEASED IN 1991. This survey, called the "Tashota-Geraldton-Longlac Area" covered the Oliver-Severn Claims and revealed new information that was partly responsible for developing a new exploration strategy.

LOCATION AND ACCESS

THE OLIVER-SEVERN GOLD PROPERTY IS LOCATED IN ELMHIRST TOWNSHIP IN THE THUNDER BAY MINING DIVISION.

THE NTS IS 42 E 13/SE.

Travel on Highway 11 for five kms west of Jellicoe to Highway 801 (or travel 24 kms. East from Beardmore to Highway 801). Travel north on Highway 801 (a gravel road) for 12.9 kms. to the Black Sturgeon River (there is a bridge there). Turn east (right) on the south side of the bridge and travel along a sand road (old lumber road) which follows the river. Travel 12 kms. to where the creek from Mud Lake flows into the Black Sturgeon River. Park there (at the bush road). Follow the bush trail 1.6 kms. south to claim group. As you walk the trail you will cross the north part of the baseline several times as you traverse the trail. The main showing is at 0 + 0 on the baseline if you want to walk the baseline. Or, the trail crosses line 0 approximately 200 m west of the showing on line 0 west.

GEOLOGY

THE OLIVER-SEVERN CLAIMS ARE LOCATED WITHIN THE COYLE LAKE INTRUSION WHICH IS AN OVAL SHAPED BODY (STOCK) OF GRANODIORITE TRANSECTED BY A "MAIN" SHEAR ZONE. SEE GEOLOGY MAP ACCOMPANYING OGS REPORT #168, ELMHIRST/RICKABY SHEET (1978) MAP #2373, SCALE 1" - ½ MILE.

THE MINERALOGY OF THE COYLE LAKE STOCK IS WELL DESCRIBED ON PAGES 36 AND 38 OF THE ABOVE REPORT (#168).

IN SOME OUTCROPS HEAVY HEMATIZATION WAS OBSERVED,
HOWEVER, GENERALLY, A FRESH SURFACE EXPOSURE IN THE STOCK
WOULD EXHIBIT A LIGHT BUFF COLORED WEATHERED SURFACE -

SOMETIMES WITH A GREENISH TINGE.

QUARTZ VEINS OF THE GASH TYPE CAN BE FOUND ANYWHERE THROUGHOUT THE STOCK BUT WERE MOST ABUNDANTLY LOCATED ALONG THE EDGE OF SWAMP "GUTWAYS" AND SEEMED TO INDICATE MOVEMENT (SHEARING) OR FOLDING OR AS A RESULT OF COMPRESSION.

IT WOULD APPEAR THERE HAS BEEN MOVEMENT ALONG
THE MAIN SHEAR ZONE THAT BISECTS THE INTRUSIVE BODY AND
WHICH HAS OFFSET THE EAST PORTION TO THE NORTH.

THE BIG QUESTION IS - IS THE COYLE LAKE STOCK A GOLD ENRICHED INTRUSION? WOLFE'S GEOCHEM SURVEY, ODM IN 1971 INDICATED NO ABNORMAL GOLD CONCENTRATION OCCURS WITHIN THE GRANODIORITE BODY. (SEE CONCLUSIONS, PAGE 8) GEOPHYSICS

1991 AIRBORNE SURVEY RELEASE MAP #81321 - THE AIRBORNE MAG SHOWS THE "WEST" PORTION OF THE COYLE LAKE STOCK TO BE RELATIVELY NON-MAGNETIC (EXCEPT FOR A NORTH-SOUTH LINEAR MAGNETIC HIGH REFLECTING A DIABASE DIKE FLIGHT LINES 20350, 40010, 40020. ALSO SHOWN ON GEOLOGY MAP #2373).

THE EAST PORTION OF THE INTRUSION (AS BISECTED BY THE MAIN SHEAR ZONE) EXHIBITS A MUCH STRONGER MAGNETIC PATTERN.

This unusual feature may be explained by one of several theories:

- DIFFERENTIATION WITHIN THE INTRUSION (I.E. THE WEST PORTION IS MORE FELSIC; EAST PORTION MORE MAFIC)
- 2. VERTICAL MOVEMENT ALONG THE MAIN SHEAR WHEREBY THE EAST SIDE IS IN CLOSER PROXIMITY TO MORE MAGNETIC

MAFIC VOLCANICS

3. THE EAST PORTION OF THE STOCK PLUNGES UNDER THE VOLCANICS

COMPLICATING MATTERS IS THE FACT THAT THERE IS A SERIES OF LINEAR MAG HIGHS:

- 1. ON THE WEST AND SOUTH PERIMETER OF THE WEST PORTION OF THE STOCK
- 2. THREE TO FOUR SETS OF LINEAR MAG HIGHS IN THE EAST PORTION

DO THESE MAG HIGHS REFLECT:

- 1. SEGREGATION OF MAFIC MINERALS WITHIN THE STOCK AND/OR
- 2. ASSOCIATION WITH SHEAR ZONES WHICH MIGHT ALIGN THE MAFIC MINERALS
- 3. VOLCANICS

From an electromagnetic (conductive) interpretation there are two interesting features:

1. AN EAST-WEST SERIES OF VERY WEAK CONDUCTORS IN THE CEDAR SWAMP ADJACENT (AND TO THE EAST) OF THE MAIN GOLD SHOWING AE, AD, AG, ON FLIGHT LINES 20260, 20250, 20240. THESE CONDUCTORS EXHIBIT ONLY A QUADRATURE COMPONENT (NO IN-PHASE)

THEY MAY BE REFLECTIVE OF CONDUCTIVE OVERBURDEN OR POSSIBLY (HOPEFULLY) DISSEMINATED SULPHIDES.

 A NORTH-EAST SERIES OF VERY WEAK CONDUCTORS TRENDING TOWARDS MUD LAKE

AD, AR, AK, ON FLIGHT LINES 20222, 20210, 20190. AGAIN MOSTLY QUADRATURE ANOMALIES.

PREVIOUS VLF SURVEYS TO THE SOUTH AND NORTH-EAST OF THE OLIVER-SEVERN PROPERTY HAVE OUTLINED SEVERAL LINEAR BUT INTERMITTENT CONDUCTIVE ZONES. IN SOME CASES THESE

VLF conductors appear to be associated with faults - but why aren't they continuous? (Perhaps the angle of the transmitted signal?)

1991 EXPLORATION PROGRAM

From data on the aeromagnetic map #81321, it was interpreted that the main shear zone either turned or splayed to the east in the area of the main gold showing continuing on up a large cedar swamp towards Mud Lake.

BECAUSE OF THE SIMILIARITIES BETWEEN THE BOURLAMAQUE BATHOLITH AND THE COYLE LAKE STOCK:

- (A) MINERALIZATION STYLES (TYPES) PYRITE-CHALCO_GOLD
- (B) GOLD ASSOCIATED WITH SHEAR ZONES
- (C) ALTERATION STYLES GRANITE TO CHLORITE
 SCHIST AND/OR MAFIC DIKES TO CHLORITE SCHIST
- (D) POSSIBLE THAT TWO DIFFERENTIATED INTRUSIONS
 EXIST (ONE MORE FELSIC, OTHER MORE MAFIC)
- (E) SHEAR ZONES CUT CENTRAL PART OF BATHOLITH
- (F) THE SPATIAL RELATIONSHIP OF THE SHEARS

WE DECIDED TO USE THE FERDERBER MINE IN THE BOURLAMAQUE BATHOLITH AS OUR MODEL. (PETER FERDERBER FOUND THE DEPOSIT IN 1975 WHEN HE DRILLED A VLF ANOMALY.)

ONCE THE OPAP GRANTS WERE CONFIRMED AND A WORK
PERMIT OBTAINED, CAMP WAS ESTABLISHED AT CEDAR SHORES (JELLICOE)
AND CONSTRUCTION OF A ROAD TO FACILITATE TRAVEL BY ATV AND
TO HAUL THE HEAVY GEAR, ETC. IN TO THE PROPERTY WAS BEGUN.

THE FIRST STAGE OF THE EXPLORATION PROGRAM

CENTERED ON "RECONNAISSANCE" VLF AND PROSPECTING. PROSPECT
ING AND STRIPPING OF QUARTZ VEINS IN OUTCROP FROM THE

SHOWING TO THE NORTH REVEALED DEFINITE STRUCTURAL (SHEAR-ING AND/OR FOLDING) ACTIVITY ALONG THE PERIMETER LARGE CEDAR SWAMP. QUARTZ VEINS WERE NUMEROUS IN OUTCROP ALONG THE PERIPHERY OF THE SWAMP AND MUCH LESS NUMEROUS FURTHER OUT IN THE INTRUSION. MOST OF THESE QUARTZ VEINS ARE GASH TYPE WITH VERY LITTLE SULPHIDES OBSERVED BUT MANY CONTAIN SPECULARITE.

THE RECONNAISSANCE VLF SURVEY INDICATED THAT THE "MAIN SHEAR" BIFURCATES JUST IMMEDIATELY SOUTH OF THE MAIN GOLD SHOWING. THE STRONGEST READINGS CONTINUE ON UP THE CEDAR SWAMP WHERE IT BIFURCATES AGAIN.

THIS CONFIRMS ALONG WITH THE ABUNDANCE OF PERIPHERAL QUARTZ VEINS THAT THERE HAS BEEN STRUCTURAL ADJUSTMENT IN THE CEDAR SWAMP. THIS MAY BE SHEARING OR AS A RESULT OF FOLDING. THE SHEAR ZONE CONTINUED ON TO THE NORTH-EAST.

South of the main showing prospecting revealed LIMITED QUARTZ VEINS DUE TO THE OVERBURDEN. MOST ATTEMPTS TO REACH BEDROCK BY HAND WERE ABANDONED.

IT WAS THEN DECIDED TO CUT A MORE DETAILED GRID TO CARRY OUT AN ACCURATE VLF SURVEY TO PINPOINT THE SHEAR ZONE FOR POSSIBLE DRILLING. PICKET LINES WERE CUT ACROSS THE CEDAR SWAMP. GRID LINES WERE CUT AND CHAINED AND THEN SURVEYED BY VLF. INSTRUMENT USED WAS A GEONICS VLF-EM-16. THE TRANSMITTER USED WAS CUTLER, MAINE WHICH TRANSMITS AT A FREQUENCY OF 24.0 kHz. THE SIGNAL IS RECEIVED VERY CLOSE TO THE STRIKE OF THE MAIN OLIVER-SEVERN SHOWING.

SLASHING WAS CARRIED OUT BY CHAIN SAW AND AXE AT THE MAIN SHOWING IN ANTICIPATION OF STRIPPING AND WASHING.

CONCLUSIONS AND RECOMMENDATIONS:

How then do we explain the existence of the Oliver-Severn gold showing? If the gold wasn't present in the intrusion so it could be remobilized into dilatant zones within shear zones during deformation and alteration, did gold enriched hydrothermal solutions travel channelways, perhaps major faults.

THE OLIVER-SEVERN GOLD SHOWING IS WITHIN A ZONE OF APPARENT SHEARING. THE CHLORITE SCHIST IN PLACES IS "PLATY". THE DIP OF THE SCHISTED ROCKS IS STEEPLY TO THE SOUTH-EAST. TWO OF THE OLD DIAMOND DRILL HOLES WERE DRILLED AGAINST THIS DIP (ONE HOLE WAS VERTICAL).

THE DRILL LOGS ARE NOT AVAILABLE SO WE DON'T KNOW WHAT ELSE WAS INTERSECTED IN THE SHALLOW OLIVER-SEVERN DRILL HOLES IN 1934-35. Assumedly, there couldn't have BEEN MUCH QUARTZ OR SULPHIDES EITHER. (?)

THE ONLY SHEAR ZONES - VLF ZONES THAT ARE EXPOSED ARE TO THE NORTH OF THE MAIN SHOWING. FROM PREVIOUS WORK WE KNOW THESE SHEARS CARRY GOLD. A GRAB FROM ONE SILICIFIED SHEAR RAN 0.16 oz. GOLD/TON [PLACER DOME].

THE "MAIN" (ASSUMED) SHEAR ZONE IS NOT THE ZONE
THAT REFLECTS THE STRONGEST VLF READINGS. IT IS POSSIBLE
THAT A STRONG SHEAR ZONE (VLF ANOMALY) IS LOCATED UNDER THE
LARGE CEDAR SWAMP.

IP IS NOT A USEFUL GEOPHYSICAL TOOL IN THE CEDAR SWAMP AS THE SWAMP IS TOO WET. MAG MAY BE USEFUL. SOME MAG DATA IS AVAILABLE BUT HAS NOT BEEN CORRELATED TO DATE WITH THE VLF DATA.

IT CAN BE SEEN ON THE VLF MAP THAT THE OLIVER-SEVERN

MAIN GOLD SHOWING APPEARS TO BE ON THE NOSE OF A FOLD.

THERE IS SOME EVIDENCE THAT THE MAIN SHOWING IS AT THE INTERSECTION OF TWO SHEAR ZONES.

GEO-CHEM HAS BEEN TRIED WITH SOME POSITIVE RESULTS.

USING THE FERDERBER MINE AS OUR MODEL IT IS OBVIOUS

THAT THE OLIVER-SEVERN PROPERTY DESERVES FURTHER WORK.

FURTHER LINECUTTING AND VLF WOULD BE A FIRST RECOMMENDATION. OVERBURDEN DRILLING WOULD BE IDEAL OR NORMAL CORE DRILLING OF THE SHOWING, THE FAULT INTERSECTIONS AND THE VLF ANOMALY.

REFERENCES

- 1. CLAIM MAP ELMHIRST TOWNSHIP G162 [1 INCH = 40 CHAINS]
- 2. Namewaminikan [Sturgeon] River Area Preliminary Map #1934c [District of Thunder Bay] [2 miles = 1 inch]
- 3. 1989 AIRBORNE GEOPHYSICAL SURVEY MAP #81321 [TASHOTA-ONAMAN]
 - A. E.M. SHEET WITH AIR PHOTOS, SCALE 1:31680
 - B. MAG AND E.M., SCALE 1:20000
- 4. GEOLOGY MAP OGS REPORT #168, ELMHIRST/RICKABY [1978]
 [MACKASEY & WALLACE]
- 5. PRELIMINARY MAP #P801, ELMHIRST, SCALE 1 INCH = 4 MILE
- 6. DATA SERIES MAP OGS MAP #P2514, 1982 NTS 42E/13E
 [WILKINSON LAKE AREA] SCALE 1:15840
- 7. JELLICOE, PROVINCIAL SERIES NTS 42E/NW, MNR, SCALE 1:100,000
- 8. ODM GSC AEROMAGNETIC MAP 2136G
- 9. ODM GEOLOGICAL COMPILATION SERIES MAP 2102, 1966: TASHOTA-GERALDTON SHEET, SCALE 1 INCH = 4 MILES
- 10. AIR PHOTOS NE CORNER OF B83-50

ONE 75-4931 CAN SEE TOWNSHI

ENLARGEMENT PHOTO OF OLIVER-SEVERN AREA

- 11. BRUCE 1936, PAGE 57
- 12. OGS OCCURENCE WRITE UP BY THE THUNDER BAY OFFICE
- 13. THE STURGEON RIVER GOLD AREA, ONTARIO BY CYRIL W. WRIGHT (TORONTO) OCTOBER 26, 1934, PAGE 15 AND 16 CHAS. TAYLOR (WALTER SEGSWORTH INTERESTS)
- 14. Special Volume 43 CIMM Northwestern Quebec Polymetallic

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OLIVER SEVERN GOLD MINES LIMITED (21)

In 1972, this company held a group of six leased claims, 13654 to 13659 inclusive, in south-central Elmhirst Township. Although the property was traversed during the field survey, no workings or showings were found. The following account is thus taken from Bruce (1936, p.57):

All the consolidated rock on the claims is granite except a small lenticular remnant of older rocks in which the veins occur. Apparently the roof of the batholith was not far above the present surface. Dark-coloured and gneissic areas in the granite at several other places in the vicinity are probably the lower parts of other roof pendants now almost completely assimilated.

The main lava inclusion of the Oliver-Severn claims is now chlorite schist. It is 225 feet in length and 35 feet in width at the widest part. The strike is N65°E. In the schist there are large and irregular quartz veins roughly parallel to the schistosity. Individual quartz veins in the wide part of the lens have widths up to 5 feet and at the point where the schist inclusion has a total width of 30 feet, approximately one-half of it is quartz. At the southwest end where the schist tapers out, a quartz vein continues into the granite beyond the end of the schist but narrows sharply and fingers out.

The quartz is a white, vitreous variety. Metallic minerals form 5 to 10 percent of the vein material. Pyrite and chalcopyrite are in approximately equal proportions, and in places quite large masses of mixed sulphides occur in the quartz. Sampling of trenches indicated an average gold content of 0.17 ounces per ton over a width of 4 feet 8 inches, for a length of 200 feet.

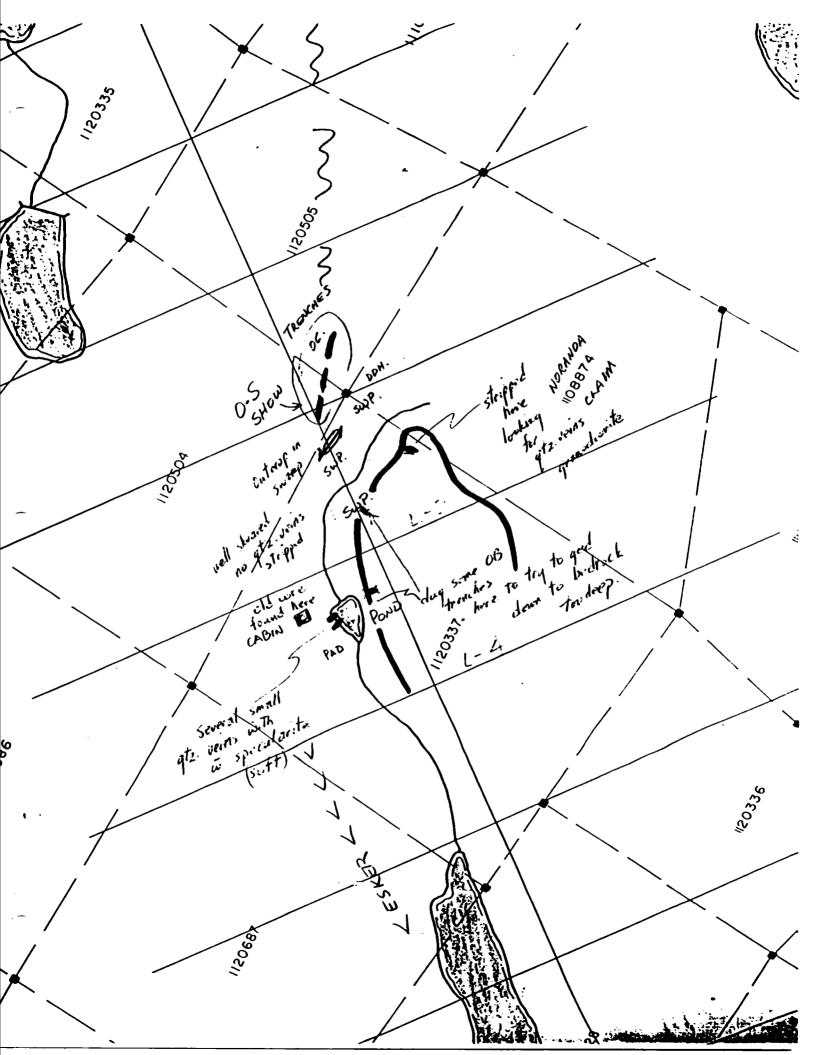
The chlorite schist in which the quartz veins occur contains only small quantities of sulphides. Thomson reports the examination of two specimens, one of which consisted mainly of sulphides, the other mainly of gangue. In the former, pyrite and galena were the predominant metallic minerals

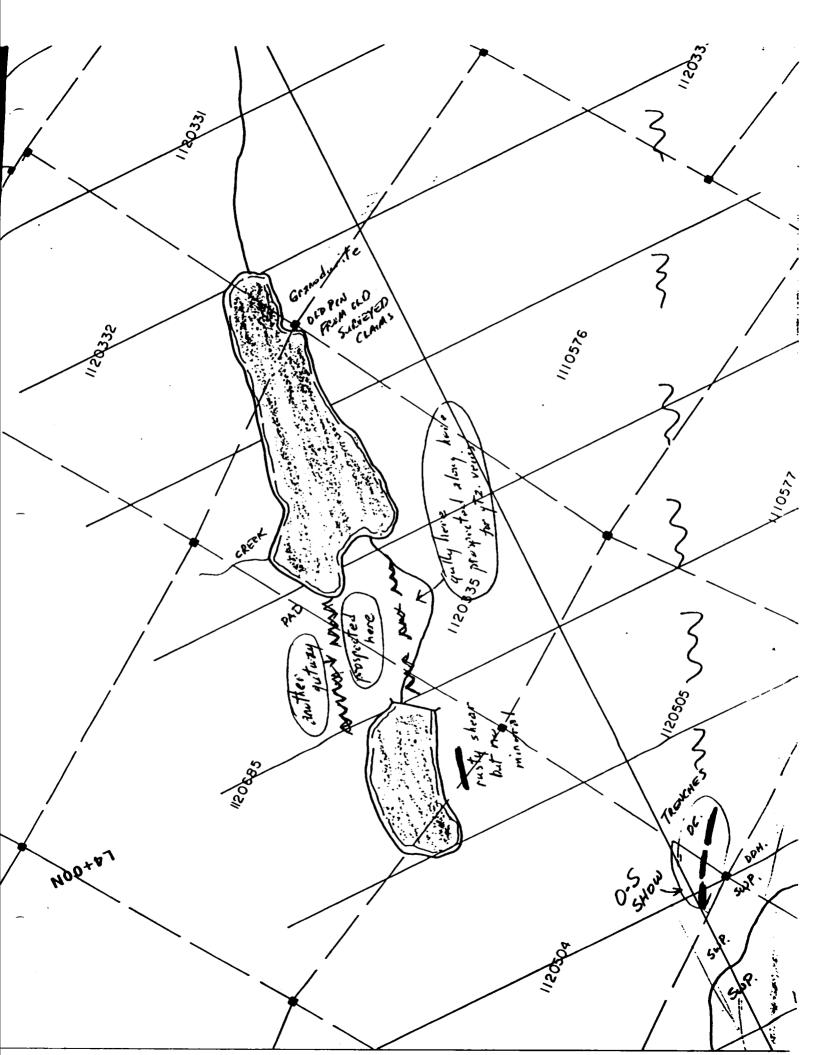
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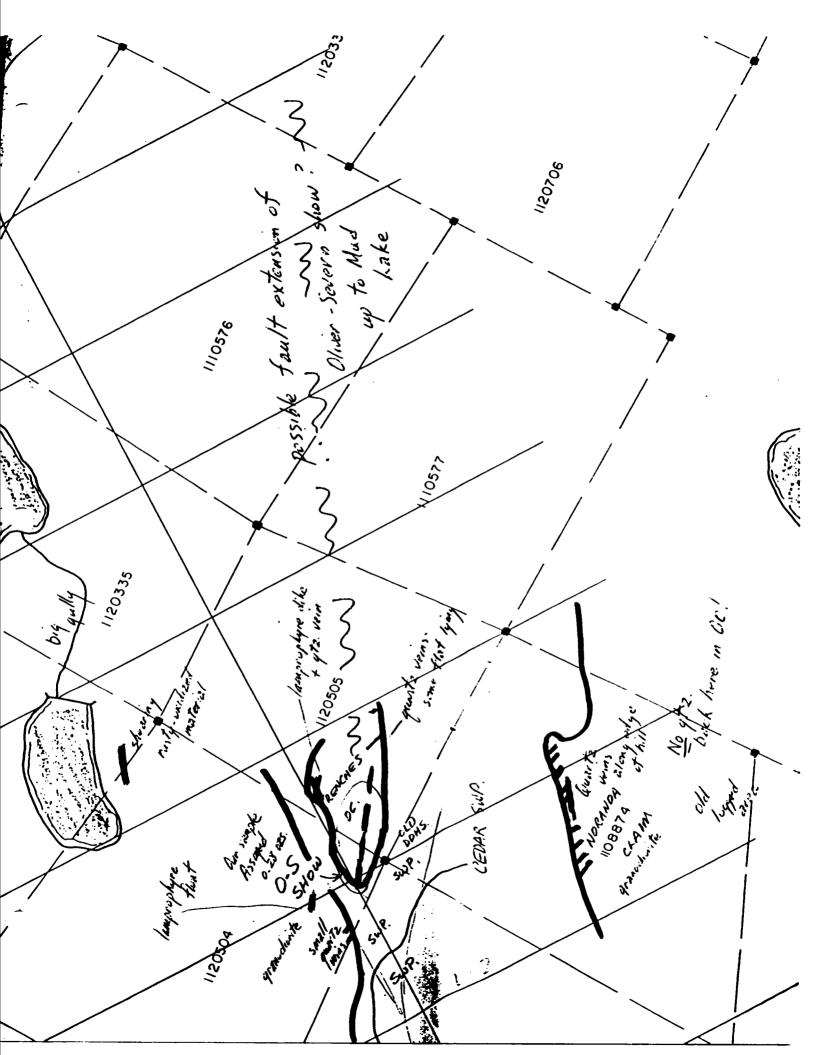
with subordinate quantities of sphalerite, chalcopyrite, hematite, and gold; the latter specimen showed chalcopyrite as the common metallic mineral, with pyrite and hematite in minor amounts.

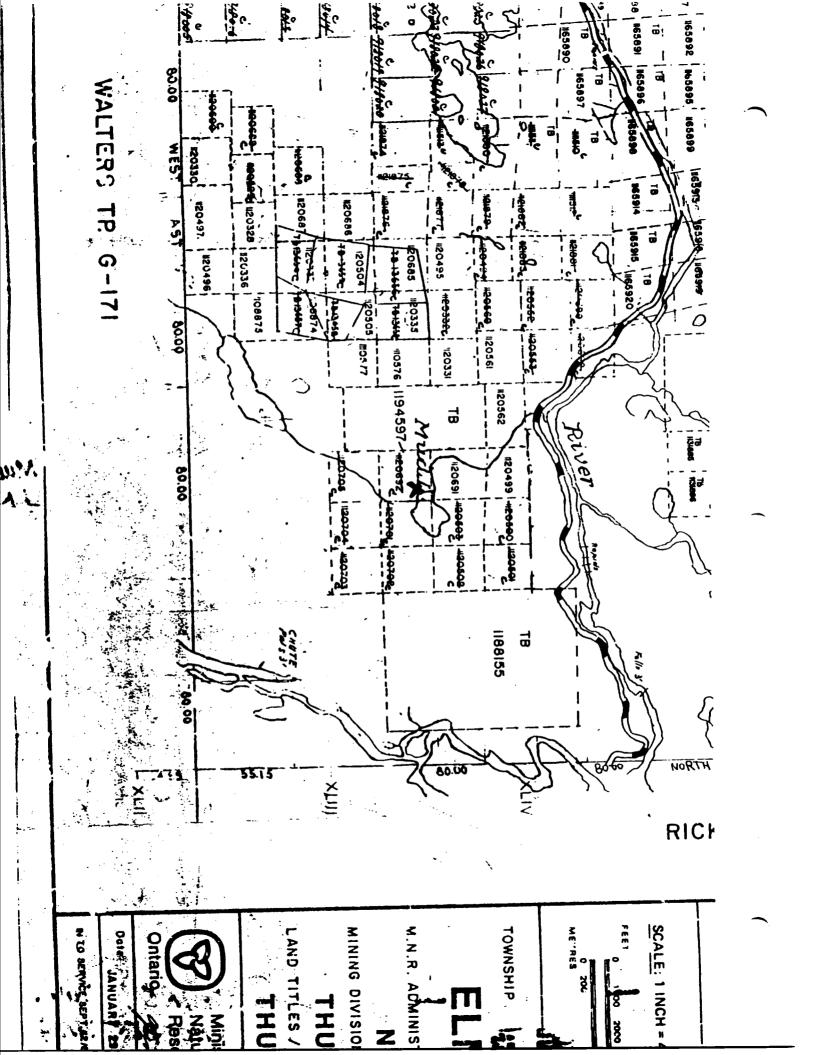
Trenches were put down to the consolidated rock for a length of 340 feet. Some diamond-drilling was done in the winter of 1934-1935, and the schist was found to narrow and finger out in depths as it does on the surface. In most of the holes little schist was found at vertical depths of 100 feet. The veins apparently do not continue far into the granite beneath, and work was discontinued.

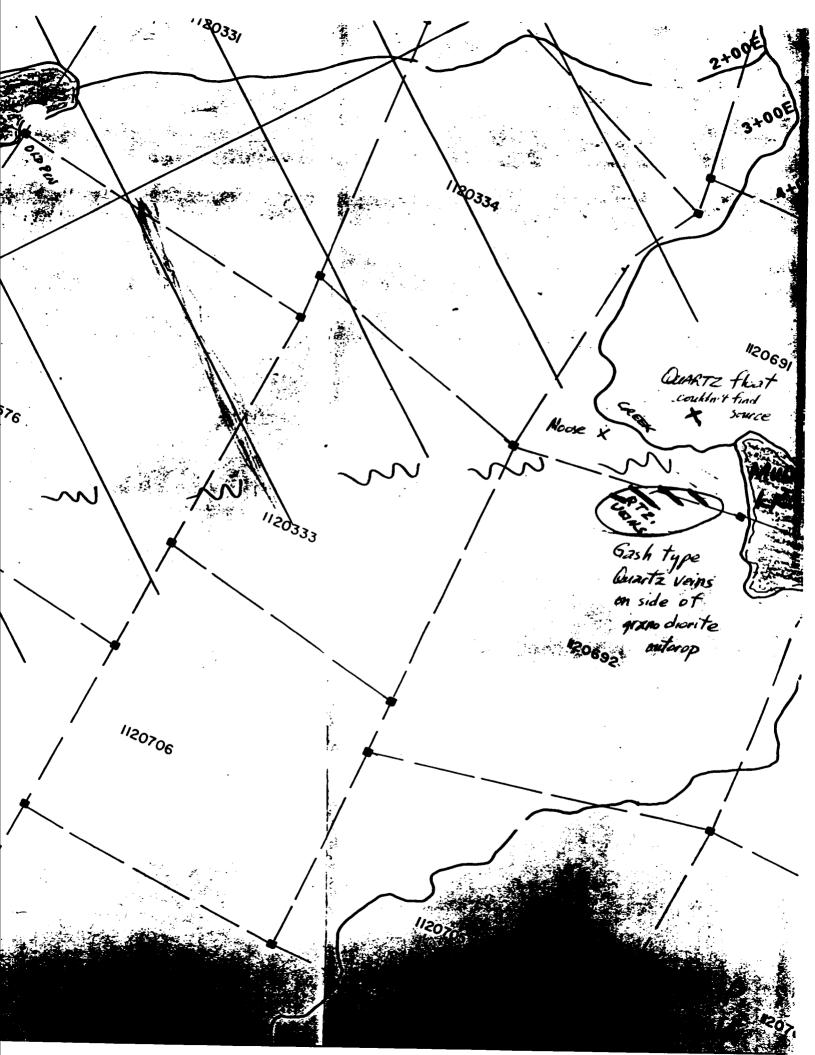
No work has been reported for assessment credit, and no exploration work appears to have taken place since the 1930s in this area.

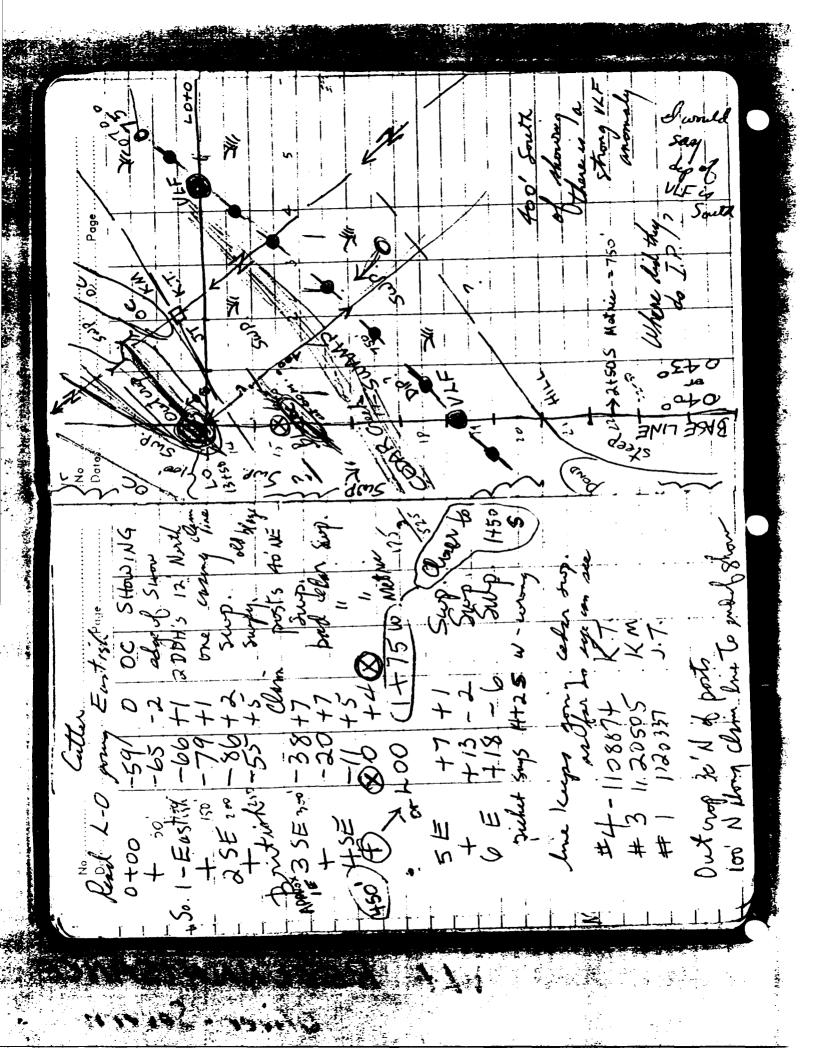


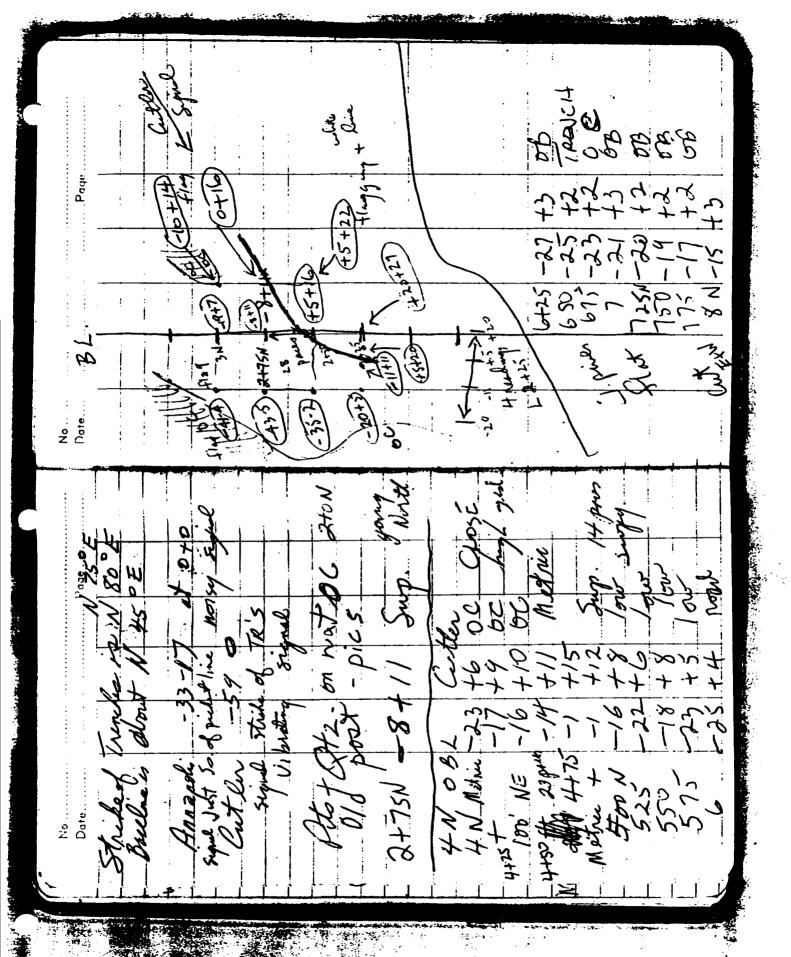












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Ministry of Northern Development and Mines

Mines and Minerals Division

ONTARIO GEOLOGICAL SURVEY GEOPHYSICAL/GEOCHEMICAL SERIES MAP 81321

Cliver - Severn Area

TASHOTA-GERALDTON-LONGLAC AREA

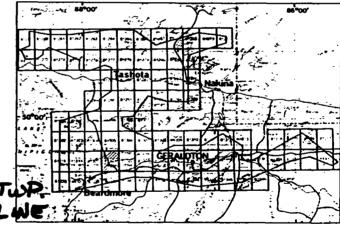
Airborne Electromagnetic Survey

DISTRICT OF THUNDER BAY

Scale 1:31 680

SHEWING

NTS References: 42E/12.42E/13 ODM-GSC Aeromagnetic Map: 2135G.2136G ODM-Geological Compilation Map: 2102 *1989 Queens Printer for Ontano, Printed in Ontario, Canada



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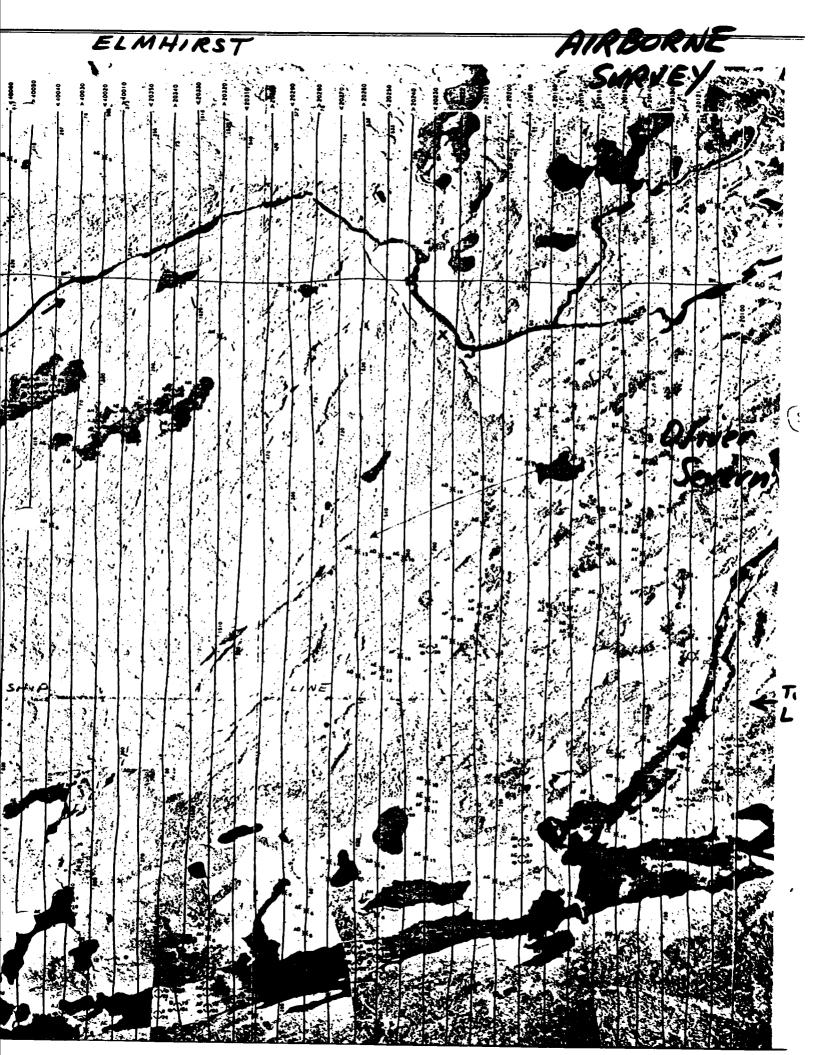
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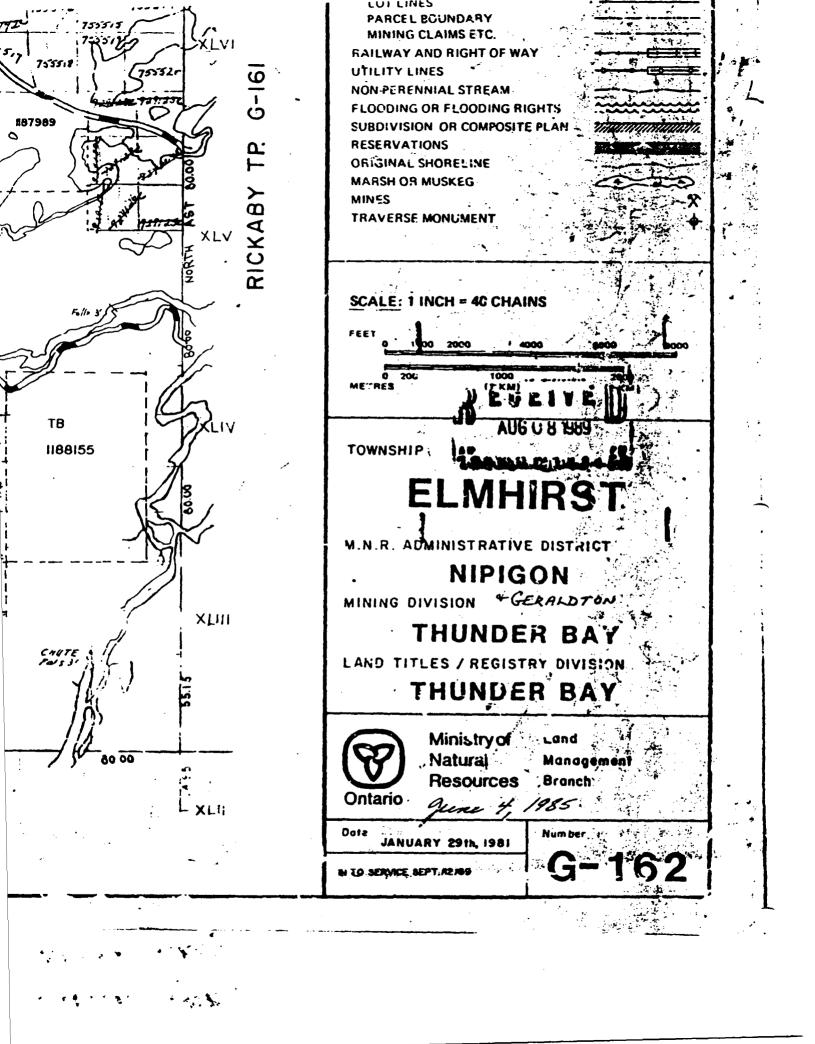
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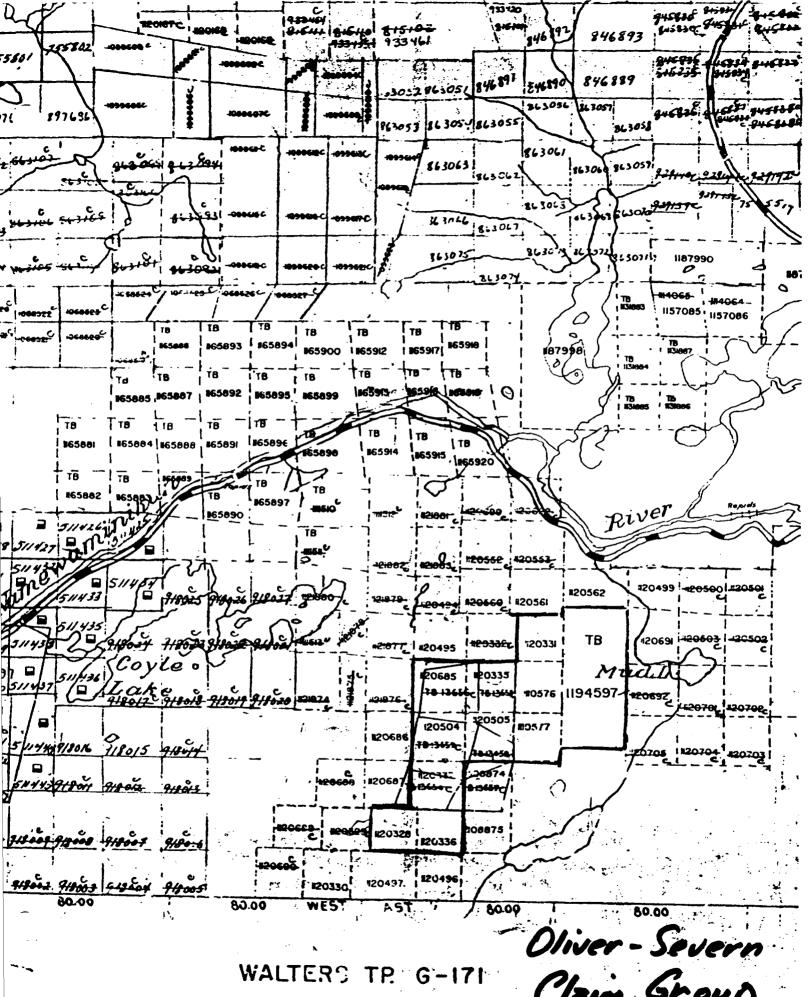
Cultural Response

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Claim Group



OPAP PROJECT #0P91-229 & OP91-230 [#2]

"SHABAQUA" PROPERTY

CLAIM NO. TB1142866-73 INCLUSIVE

TB1151759-65 INCLUSIVE

TB1162120-25 INCLUSIVE

LAURIE & HORNE TOWNSHIPS

THUNDER BAY MINING DIVISION

'92 JAN 31 PM 4 11

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THUNDER BAY
JAN. 31/92



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Introduction

THE SHABAQUA PROPERTY CURRENTLY CONSISTS OF TWENTY-ONE CLAIMS NUMBERED: TB1142866-73 INCLUSIVE, TB1151759-65 INCLUSIVE AND TB1162120-25 INCLUSIVE.

It is jointly owned by J. Parres and John Tomac. The property was originally staked for its gold/base-metal potential in October of 1987, then restaked in 1988-89.

GOLD IS ASSOCIATED WITH IRON FORMATIONS AND ONE GOLD SHOWING WAS MARKED ON MAP P2856 (HORNE TOWNSHIP) BY OGS GEOLOGISTS ALONG THE SHEBANDOWAN RIVER. A GRAB SAMPLE FROM THE IRONSTONE UNIT, BY OGS (CHEMICAL SEDIMENTS OR IRON FORMATION) RAN 0.02 OZ. GOLD/TON. I PROSPECTED THIS AND BROUGHT OUT A NUMBER OF SAMPLES BUT NOTHING LOOKED "LIVELY" ENOUGH TO ASSAY. THIS UNIT HAS BEEN DRILLED ALONG STRIKE TO THE SOUTH-EAST BUT DOES THE CORE EXIST?

Two other gold showings on map P3083 were staked (property 6 and B.).

PROPERTY 6 - (W. Hayne) IS DESCRIBED AS AU, Cu, Zn IN A PIT. I PROSPECTED THIS AREA. THERE IS A LARGE HILL WITH GOOD OUTCROP EXPOSURE BUT I COULDN'T FIND AN OLD PIT. (THERE ARE AIRBORNE E.M.'S ALONG STRIKE TO THE WEST OF HERE.)

PROPERTY B - ALSO SEARCHED FOR B SITE WHERE ASSAY RAN 0.02 OZ. AU/TON FROM A SHEARED AND SILICIFIED MAFIC VOLCANIC CONTAINING PYRRHOTITE WITHOUT SUCCESS. (SEE GEOPHYSICS) MOST OF THE OUTCROPS I WHACKED HAD VERY LITTLE MINERALIZATION ALTHOUGH I DID FIND SEVERAL RUSTY BOULDERS IN OVERBURDEN.

THE PROPERTY IS INTERPRETED TO LIE ALONG OR CLOSE
TO A HORIZON CONSIDERED TO BE FAVOURABLE FOR BASE METALS.

THE SHEBANDOWAN NI-CU PRODUCING OREBODY LIES 30 KMS TO THE WEST.

THE OGS MAPPED ULTRAMAFIC AND MAFIC KOMATIITES IN NORTHERN LAURIE. THESE ROCKS HAVE NI POTENTIAL AND WOULD EXHIBIT MAGNETIC HIGH ANOMALIES.

An airborne survey of the Shebandowan area was released by the Ontario Government in 1990 and produced some interesting geophysical targets on the property. The property is located on map 81578.

A NUMBER OF MAJOR AND JUNIOR EXPLORATION COMPANIES ARE ACTIVE IN THE IMMEDIATE AREA EXPLORING FOR GOLD/BASE-METALS WITH INCO BEING THE MOST ACTIVE ALONG THE BELT FOR BASE-METALS AND NORANDA/CENTRAL CRUDE FOR GOLD.

LOCATION & ACCESS

THE SHABAQUA PROPERTY IS LOCATED IN LAURIE AND HORNE TOWNSHIPS IN THE THUNDER BAY MINING DIVISION AND IS 50 kms west of Thunder Bay. The north part of the Shabaqua PROPERTY IS LOCATED 3 kms south-south-west of the Village of Shabaqua.

THE ACCESS IS QUITE REASONABLE. THE CLAIMS ARE TRANSECTED BY THE SHEBANDOWAN RIVER, A GRAVEL ROAD AND THE CN RAILWAY TRACKS. ALL OF THE ABOVE HAVE BEEN USED TO FACILITATE ACCESS TO THE CLAIMS.

The property is bounded on the south by the Matawin River. The current project was carried out by driving to the bridge on the Shebandowan River by truck and using a skidoo and sloop as well as Honda 4 trax machines on the Matawin Dam road. This allowed access to 0 + 0 on the baseline which is located on a right angle corner on the Matawin Dam road.

THE BASELINE WAS CUT ON AN AZIMUTH BEARING OF 113° THROUGH TO THE RAILWAY TRACKS TO PROVIDE MULTIPLE ACCESS TO THE CLAIMS. IT WAS PLANNED TO RESTAKE 5 CLAIMS IN HORNE TOWNSHIP ON THE LAURIE/HORNE BOUNDARY.

GEOLOGY

THE GENERAL GEOLOGY OF THE CLAIM GROUP HAS BEEN MAPPED BY THE OGS AND IS SHOWN ON THE FOLLOWING PRELIMINARY MAP SHEETS

- 1. Laurie Township Map P3083 (1987)
- 2. Horne Township Map P2856 (1985)

THE "SHABAQUA" CLAIM GROUP IS WITHIN AN AREA IDENTIFIED AS THE EASTERN PART OF THE MATAWIN IRON RANGE AND WAS MAPPED BY TANTON (1925) AND THE GSC (1930A, 1930B, 1931).

THE SEQUENCE OF ROCKS ARE TYPICAL ARCHEAN KEEWATIN

TYPE METAVOLCANICS WITH INTERLAYERED METASEDIMENTS.

IRON IS ABUNDANT IN CHEMICAL SEDIMENTS (OXIDE-FACIES UNITS) IN THE GENERAL AREA. THESE IRON FORMATIONS SHOW UP AS MAGNETIC HIGHS AND ARE THE DOMINANT MAGNETIC FEATURE ON MAP 81578. MOST OF THE IRON FORMATIONS AS SHOWN ON MAP (ENCLOSED) ARE READILY IDENTIFIABLE BY THEIR MAG HIGHS BUT THERE IS NO IRON FORMATION SHOWN IN THE AREA OF THE MAG HIGH ANOMALY ON THE CLAIMS.

1991 EXPLORATION PROGRAM

The claim area has limited outcrop exposure. Previous prospecting had located the Iron formation along the Shebandowan River which yielded the gold assay of 0.02 oz. gold/ton on map P2856 Horne Township.

ATTEMPTS TO LOCATE THE GOLD SHOWING (ASSAY .02 oz. GOLD/TON) LABELLED B ON THE MAP #3083 WERE UNSUCCESSFUL.

THE TERRAIN IS FAIRLY UNDULATING AND GENERALLY COVERED WITH A THICK LAYER OF GLACIAL DEBRIS. A LARGE ESKER TRAVERSES THE PROPERTY (NORTH-SOUTH) IN HORNE TOWNSHIP JUST EAST OF THE LAURIE LINE.

WITH THE RELEASE OF MAP 81578 IN 1991, AN INTEREST-ING GEOPHYSICAL PICTURE EMERGED. THE TREND OF THE GENERAL GEOLOGY WAS CONFIRMED AS BEING EAST-SOUTH-EAST. LARGE SCALE FOLDING CAN BE OBSERVED IN THE CENTRAL WEST PART OF THE MAP SHEET (81578). THE MAGNETIC IRON FORMATIONS APPEARED AS LINEAR MAG HIGHS AND COULD BE CONFIRMED BY GROUND OBSERVATION (OGS, PROSPECTING, ETC.).

GEOPHYSICAL ANOMALIES

- A. THE "SHABAQUA" CLAIM GROUP CONTAINED A MAG HIGH WITH COINCIDENT CONDUCTIVITY AS SHOWN BY ANOMALIES AH, AG, Y AND AE, FLIGHT LINE 13910, 13930 AND 13950.
- B. THERE WAS ALSO ONE STRONG ISOLATED E.M. RESPONSE LETTERED AC ON FLIGHT LINE 13900.
- c. And one weaker response AG on flight line 13950.

None of the other mag highs in the area exhibit any coincidental EM responses (or flanking) therefore this anomaly was unusual.

Due to the limited ability of traditional prospecting techniques and the intriguing geophysical picture, it was proposed to grid this area and carry out magnetic and E.M. surveys.

SHABAQUA PROJECT

A METRIC GRID WAS CUT ON THE SHABAQUA PROPERTY TO INVESTIGATE THE AIRBORNE ANOMALIES BY GROUND TECHNIQUES. A BASELINE WAS COMMENCED AT 0+0 ON THE MATAWIN DAM ROAD

AND CUT THROUGH 2300 METRES TO THE RAILWAY TRACKS. THE GRID BASELINE IS 1600 METRES LONG ON AN AZIMUTH OF 113°. THE GRID IS METRIC. AT 8E (800 METRES EAST) A PICKET LINE WAS TURNED OFF AND CUT 700 METRES NORTH-NORTH-EAST (AZIMUTH 023°). A 90° TURNOFF HERE ESTABLISHED THE 7-N TIE-LINE WHICH EXTENDS FROM 0 TO 16E.

THE GRID WAS DESIGNED TO COVER MOST OF THE E.M. ANOMALIES, THE MAG ANOMALY AND THE GOLD SHOWING. IT WAS CALCULATED THAT E.M. RESPONSE Y AND AE MIGHT BE JUST OFF THE PROPERTY.

ALL LINES CUT (BASELINE, TIE-LINE, WING LINES)
WERE CUT, CHAINED AND PICKETED. GRID CO-ORDINATES WERE
ALL METRIC. GEOPHYSICS WERE CARRIED OUT WITH:

- 1. A GEONICS VLF-EM UNIT THAT MEASURES THE IN-PHASE AND QUADRATURE. TRANSMITTER STATION UTILIZED WAS NSS, ANNAPOLIS, MARYLAND WHICH TRANSMITS AT 21.4 kHz AND
- 2. A PROTON PRECESSION MAGNETOMETER (GEOMETRICS)

 6816/826A WHICH MEASURES THE MAGNITUDE OF THE

 EARTH'S MAGNETIC FIELD IN A VERTICAL PLANE

 (TOTAL FIELD INTENSITY). ACCURACY IS

 +/-1 GAMMA.

THE BASELINE WAS READ IN TWO SECTIONS AND DOUBLE READINGS WERE TAKEN TO ACCURATELY ESTABLISH CONTROL AT THE BASELINE. READINGS WERE ADJUSTED FOR DRIFT WHEN NECESSARY.

MAGNETIC SURVEYING WAS ABANDONED SEVERAL DAYS DUE TO WIDE FLUCTUATIONS IN THE MAG READINGS CAUSED BY MAGNETIC STORMS. ON MOST DAYS, HOWEVER, THE TIE-INS AT THE BASELINE STATION WERE WITHIN A FEW GAMMAS AND NOT A LOT OF CORRECTION WAS REQUIRED.

TOTAL BASELINE CUT	2300 m = 2.3 kms
TOTAL LINECUTTING WAS	19175 m = 19.175 kms
TOTAL CHAINING WAS	21475 m = 21.475 kms
TOTAL MAG READINGS	19175 m = 19.175 kms
TOTAL VLF-EM READINGS	17575 m = 17.575 kms

RESULTS

THE GROUND SURVEYS WERE SUCCESSFUL IN LOCATING THE MAGNETIC AND ELECTROMAGNETIC ANOMALIES AS SHOWN ON THE AERODAT HELICOPTER-BORNE SURVEY MAPS.

A LARGE CLIFF WHICH IS PART OF THE MATAWIN RIVER GULLY, ALONG THE SOUTH BOUNDARY OF THE PROPERTY COMPLICATED THE LINECUTTING, CHAINING AND GEOPHYSICAL SURVEY PROCEDURES.

IT WAS ANTICIPATED TO CHECK ALL THE ANOMALIES WITH HORIZONTAL LOOP E.M. BEFORE DRILLING BUT THIS MAY NOT BE POSSIBLE ON ALL THE ANOMALIES.

CONCLUSIONS

THE GROUND SURVEYS OUTLINED VIABLE EXPLORATION TARGETS.

- A) THE "NORTH" CONDUCTOR (NORTH OF THE BASELINE)
 SHOWS GOOD IN-PHASE AND QUADRATURE READINGS
 ON LINES 2 AND 3. THIS SHOULD BE CHECKED
 WITH HL-EM. THE GOLD SHOWING WITH PYRRHOTITE
 IS IN THIS AREA.
- B) This anomaly does not exhibit as good a phase characteristics as A.
- Magnetic High Possible Iron Formation or Ultramafic BODY.

RECOMMENDATIONS

THAT TRADITIONAL GROUND PROSPECTING, STRIPPING/
WASHING BE USED TO IDENTIFY THE SOURCE OF THE BEDROCK ANOMALIES

NOW THAT THEY HAVE BEEN PINPOINTED ON A GRID AND BY GEOPHYSICS.

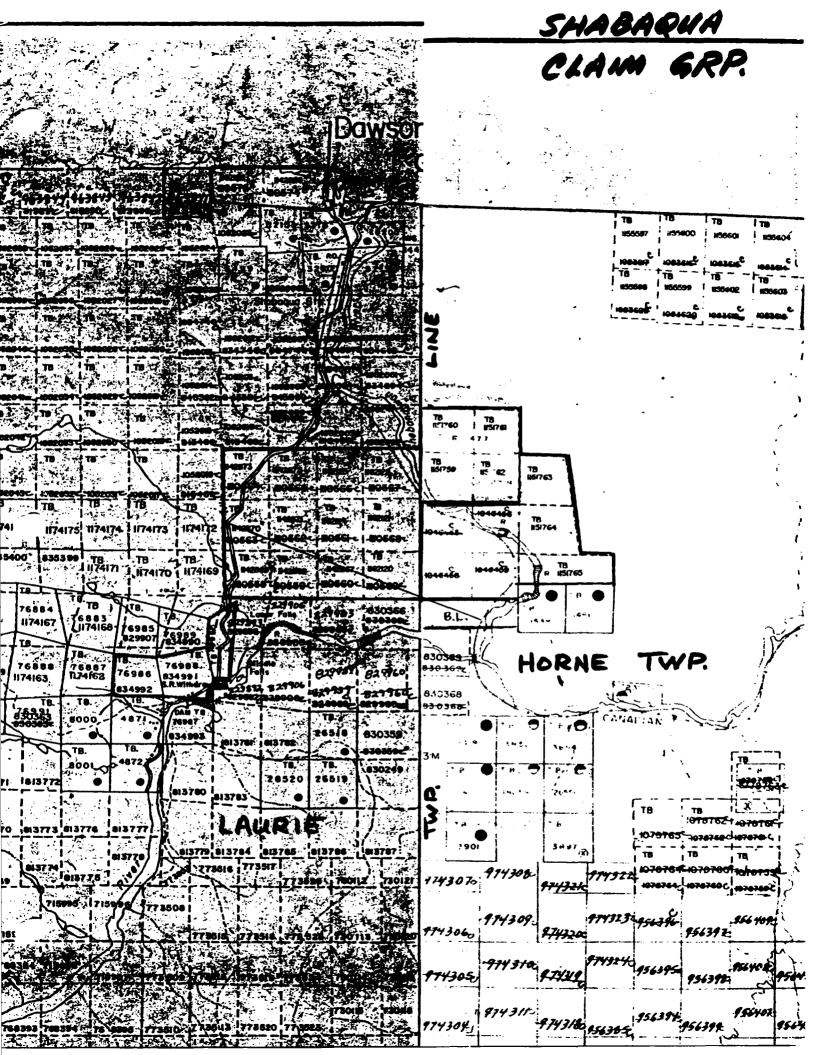
DIAMOND DRILLING WOULD DETERMINE THE ECONOMICS OF
THE IDENTIFIED TARGETS.

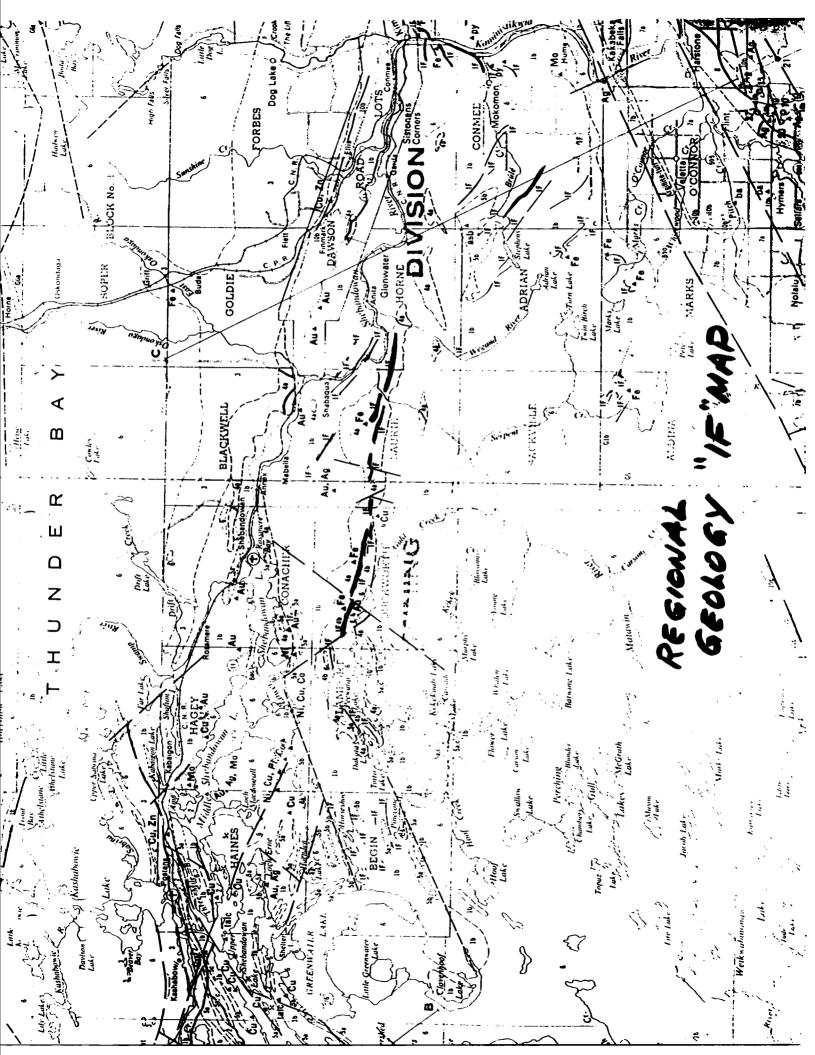
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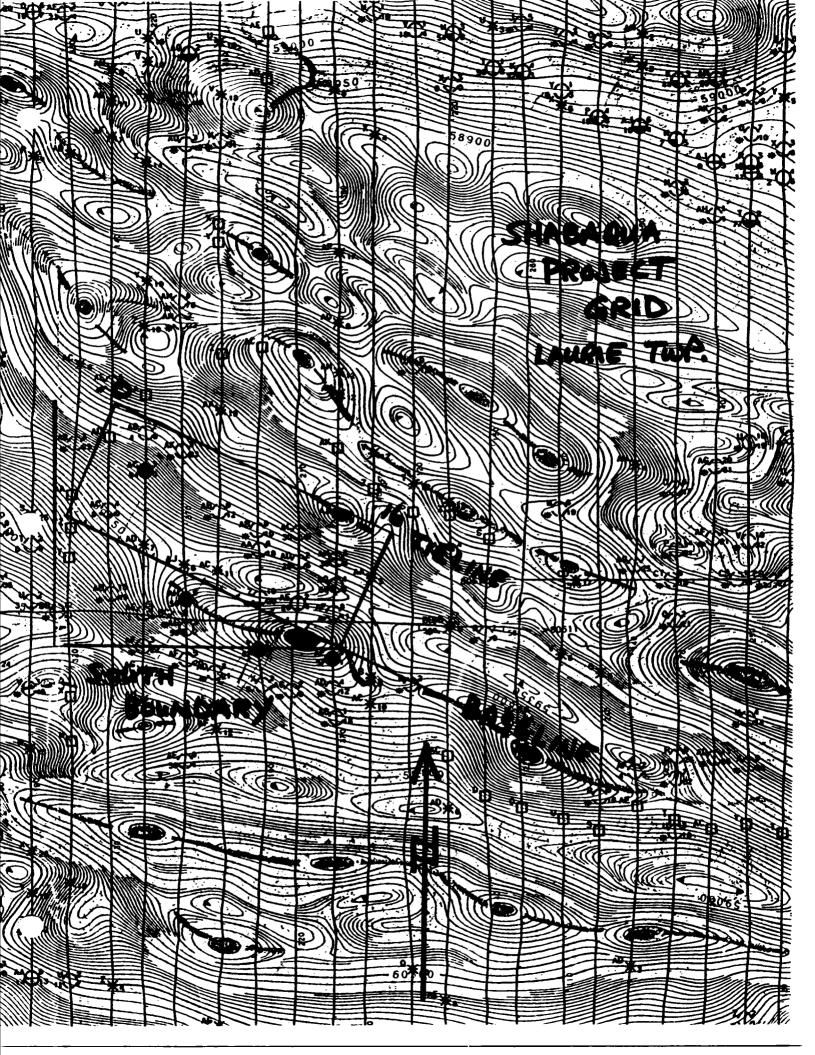
- 1. MNDM OGS GEOPHYSICAL MAP #81578 [2 SHEETS]

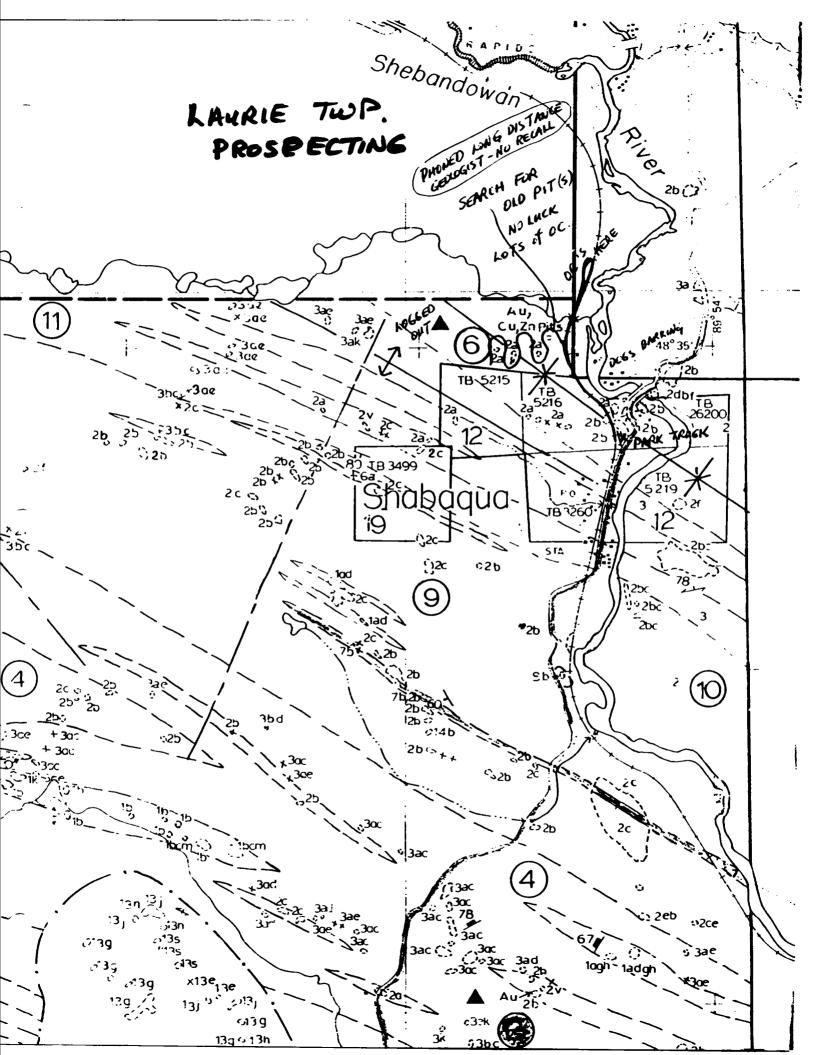
 TOTAL INTENSITY MAGNETIC SURVEY SCALE 1:20000

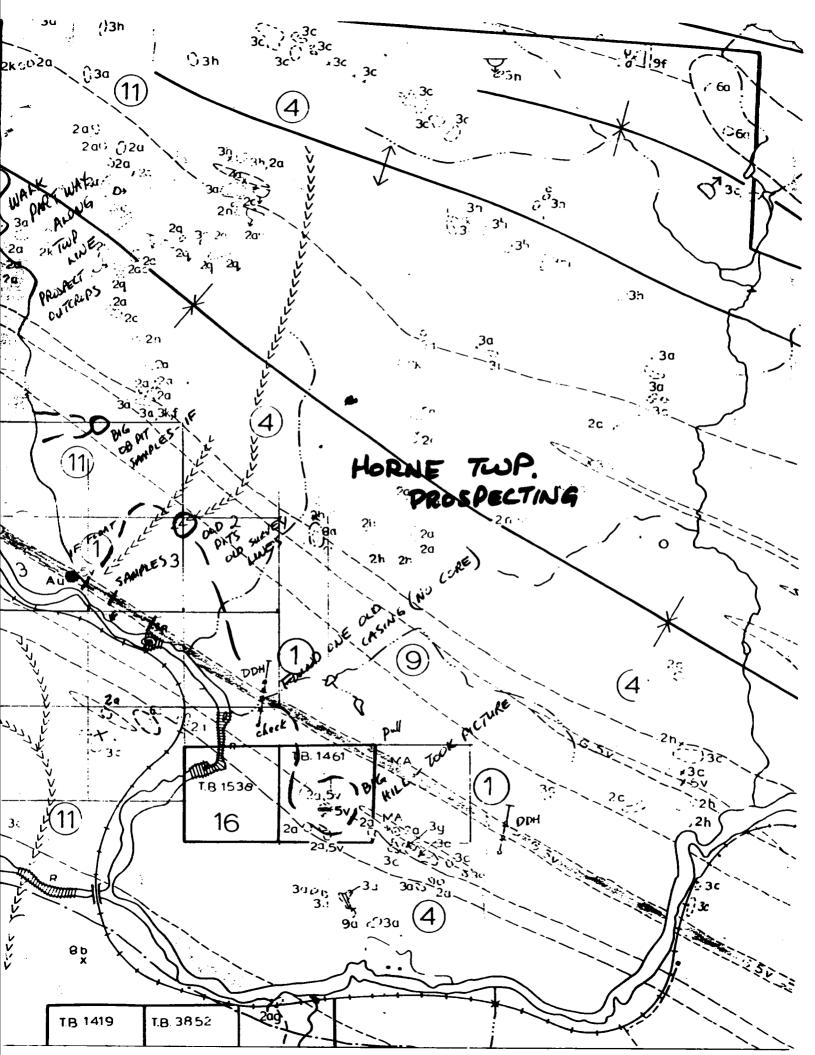
 AIRBORNE ELECTROMAGNETIC SURVEY SCALE 1:31680
- 2. ODM GSC AEROMAGNETIC MAP 2096G, 2097G, 1101G, 1102G scale 1" 1 mile
- 3. ODM GEOLOGICAL COMPILATION MAP 2065 SCALE 1" 4 MILE
- 4. CLAIM MAPS LAURIE TOWNSHIP G-669 SCALE 1" 40 CHAINS
 HORNE TOWNSHIP G-664 SCALE 1" 40 CHAINS
- 5. GEOLOGICAL HIGHWAY MAP #2440 (1980) SCALE 1:1 600 000
- 6. OGS 1985 PRELIMINARY GEOLOGY HORNE TOWNSHIP P2856 SCALE 1" 14 MILE
- 7. OGS 1987 PRELIMINALY PRECAMBRIAN GEOLOGY LAURIE TOWNSHIP,
 MAP P3083 SCALE 1" % MILE
- 8. A. J. WILLY, P. Eng. Report for 751160 ONTARIO LTD.

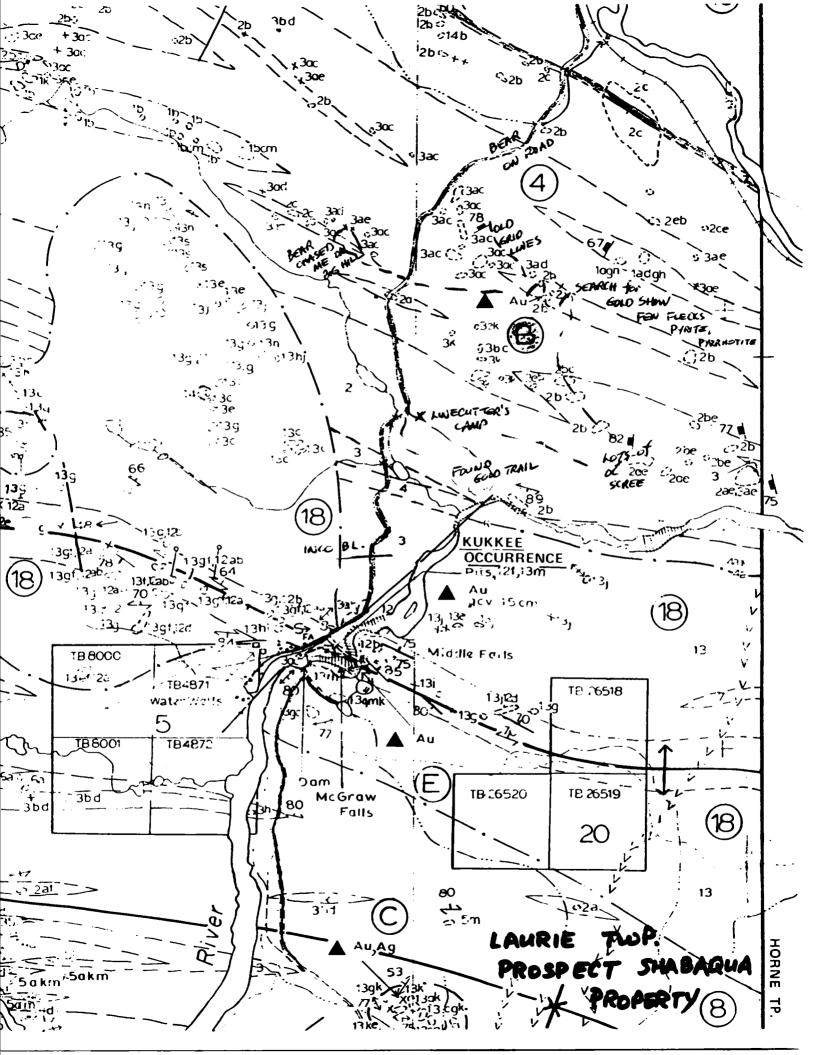


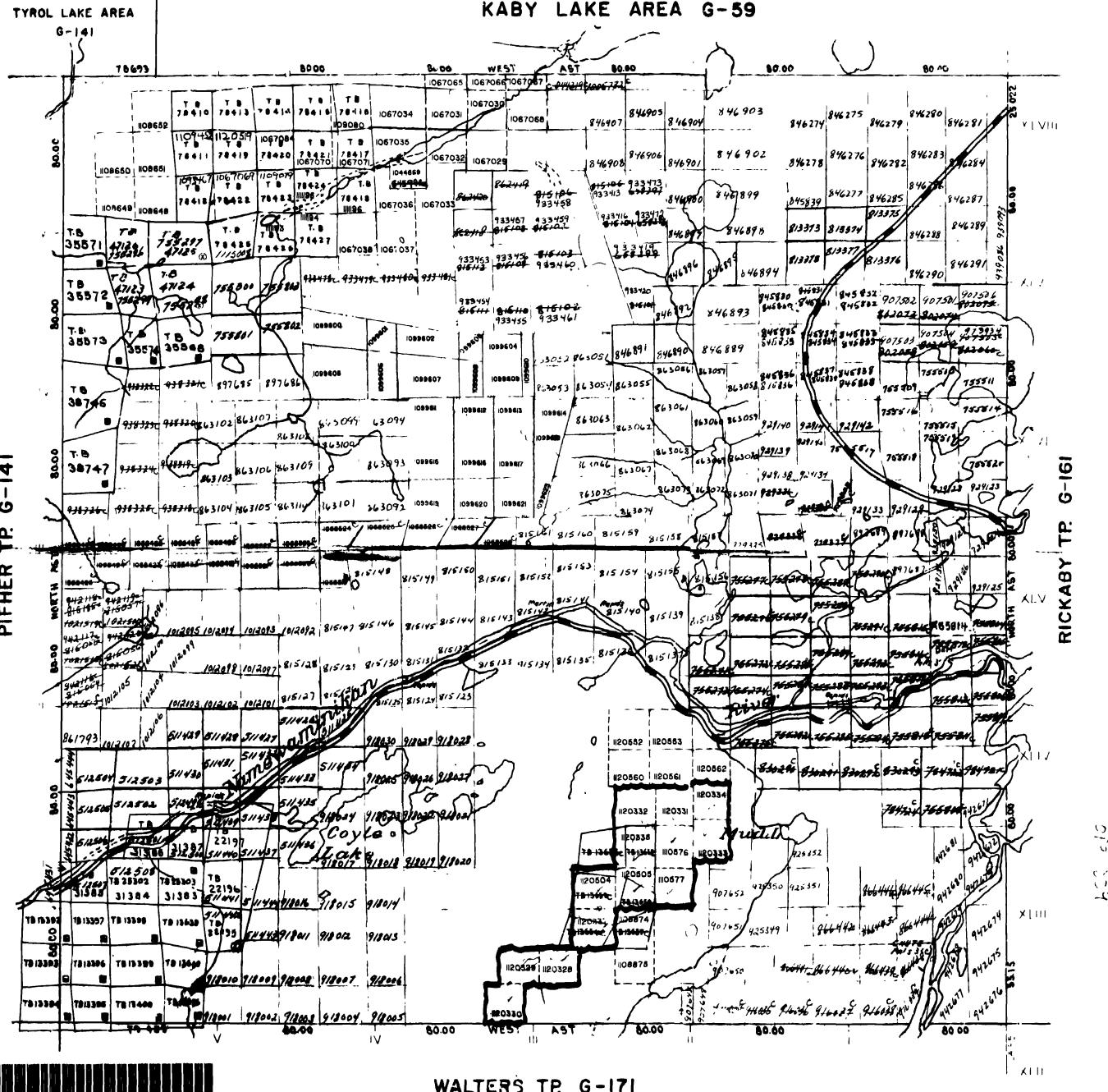










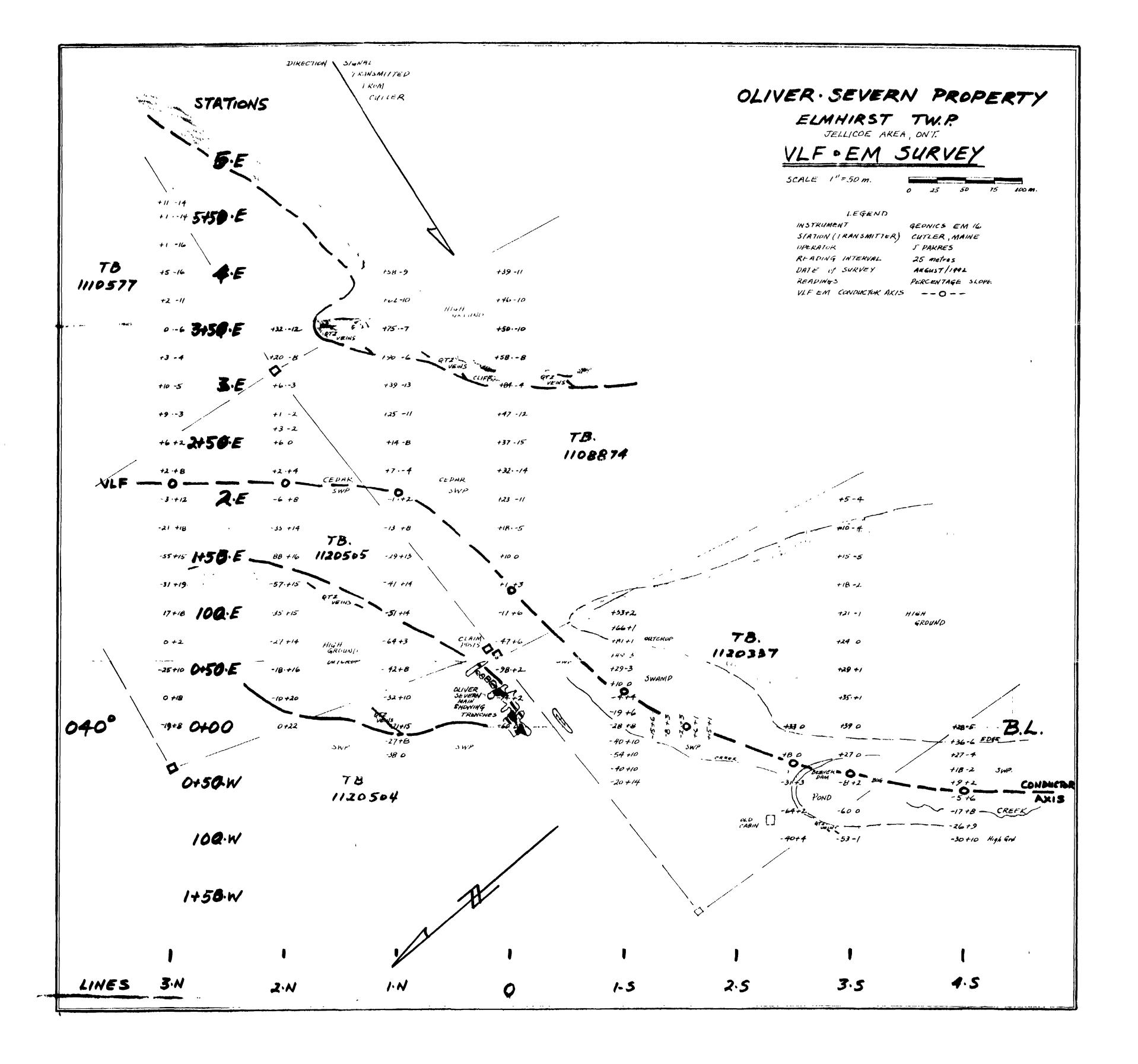


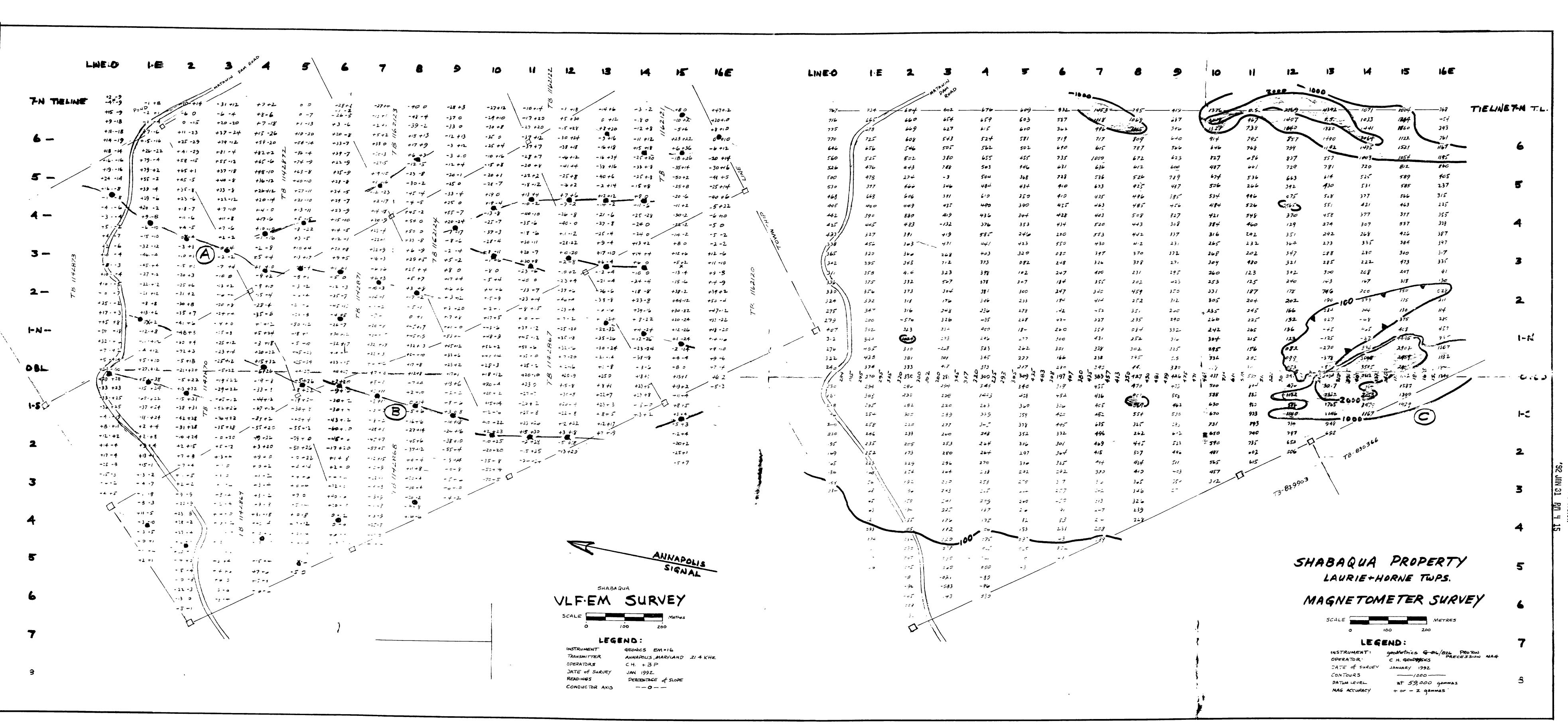
TYPE OF DOCUMENT PATENT, SURFACE & MINING RIG. TS SURFACE RIGHTS ONLY. MINING RIGHTS ONLY LEASE, SURFACE & MINING RIGHTS , SURFACE RIGHTS ONLY... MINING RIGHTS ONLY..... ... LICENCE OF OCCUPATION CANCELLED NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR T J MAY 6 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT R 8 0 1970, CHAP 380, 8E3 63, SUBSEC LEGEND HIGHWAY AND ROUTE No. OTHER ROADS TRAILS SURVEYED LINES TOWNSHIPS, BASE LINES, ETC LOTS, MINING CLAIMS, PARCELS, 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 **ORIGINAL SHORELINE** TRAVERSE MONUMENT SCALE: 1 INCH = 40 CHAINS 0 200 METRES TOWNSHIP M.N.R ADMINISTRATIVE DISTAL **NIPIGON** MINING DIVISION & GERALDTON LAND TITLES / REGISTRY DIVISION THUNDER BAY **Ministry of** Land Natural Management Resources Branch Ontario June 4, 1985

JANUARY 29th, 1981

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