



32D04NW0074 2.12772 GAUTHIER

010

Lac Minerals, Exploration Division
Geological Report
on Gauthier Project
Gauthier Township
Larder Lake Mining Division
District of Timiskaming

2.12772

Longitude 48° 11'
Latitude 79° 50'
NTS 32 D/4 West

By: G. Morris
Project Geologist

2.8570



32D04NW0074 2.12772 GAUTHIER

010C

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Summary & Introduction

A group of fifty contiguous unpatented mining claims were staked in Gauthier Township to investigate their gold and/or base metal mineral potential. Gold and copper mineralization of the type found at the Upper Beaver Mine, east of the property, was the primary exploration target.

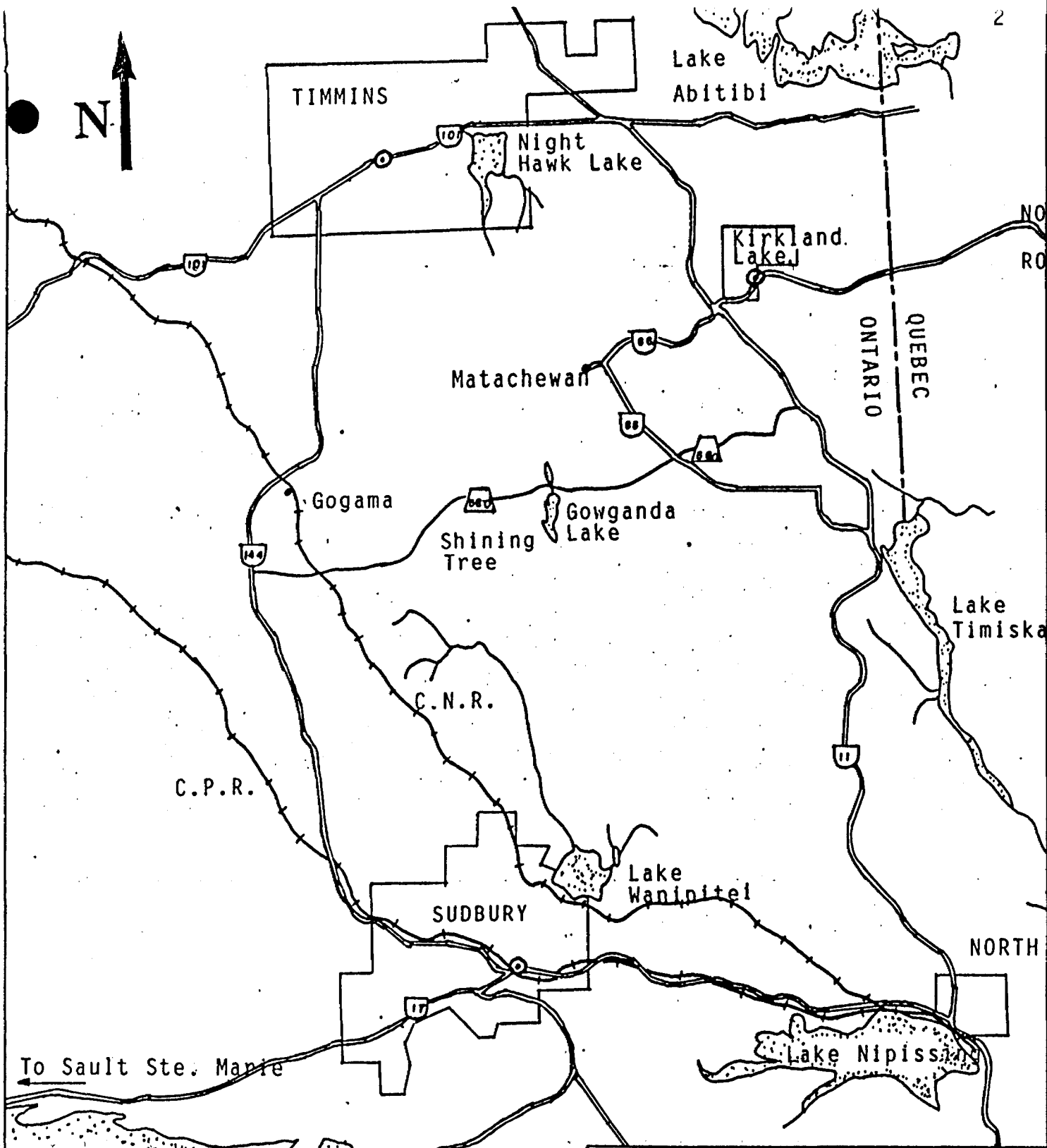
The survey area is underlain by Mg-Fe rich tholeiites (Kinojevis Group) and K-rich calc-alkalic (Gauthier Group) rocks.

Results from the geological survey, which is the subject of this report do not indicate the presence of any mineralization being exposed on the property. Due to the thick accumulation of glacial overburden, over most of the property, a basal till survey was introduced to find any buried mineralization. The results of the basal till survey, at the time this report was written, were not completely known.

Location and Access

The fifty unpatented mining claims are located on the northern boundary of Gauthier Township, in the District of Timiskaming, Ontario. (Figure 1)

Claims are accessible by taking highway 66 east from Kirkland Lake to the Esker Park Road (12.8km). You then travel along the Esker Park Road 5.7km to where there is a road to the



Gauthier Project

LOCATION MAP

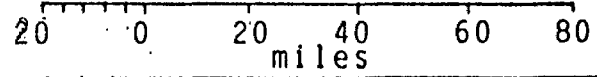
Date Sept. 27, 1985

Scale 1:1,600,

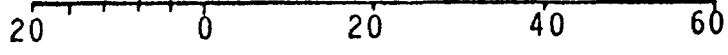
Greg Morris

F

kilometers



miles



east. This road is followed 1.3km to the east, where there is an old camp site. From the campsite there are two old logging trails that cut across the property, north and south of Victoria Creek.

The Esker Park Road is presently not kept open during the winter months.

Property Description

The property consists of fifty contiguous unpatented mining claims. (see figure 2)

<u>Claim No.</u>	<u>Number of Claims</u>
L-821215	1
L-821288	1
L-821290	1
L-821260-821274	15
L-821351-821358	8
L-800255-800278	24
	<u>50</u>

Mining claims L821825, L-821288, and L-821290 were recorded October 17th, 1984. Mining claims L-821260-821274 inclusive, L-821351-821358 inclusive and L-800255-800278 inclusive were recorded October 3rd, 1984.

Physiography & Vegetation

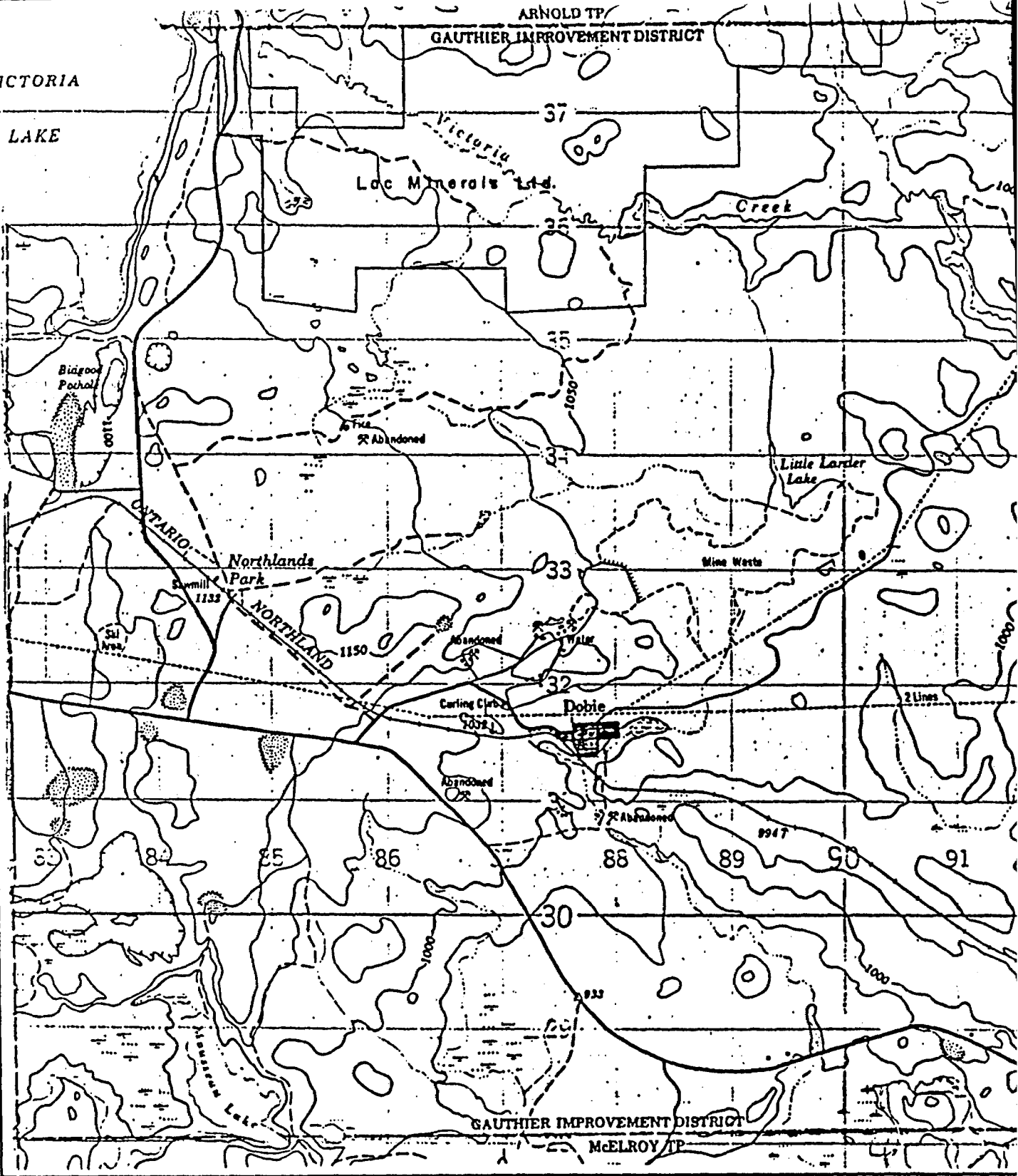
The bedrock in the survey area is covered by deposits of basal till, clay and deltaic sands. In some areas the glacial overburden is thirty-five meters thick. The area of thickest

VICTORIA

LAKE

ARNOLD TP

GAUTHIER IMPROVEMENT DISTRICT



Property Location

Gauthier Township

Scale 1:50,000

Figure 2

overburden extends south of the baseline for two thousand feet, between lines 6 east and 52 west. Outcrop is exposed between lines 40 west to 28 west from 8+00 south to 26+00 south. A ridge of outcrop also occurs between lines 18 west and 12 east from 24+00 south to 32+00 south.

North of the baseline outcrop occurs across most of the lines between 4 east and 48 east. Between lines 4 east and 40 west most of the outcrop is from 20+00 north to 37 north.

The vegetation in the area is composed of 70% spruce and pine, 20% poplar and 10% alders found in the swamps. The area between lines 10 west and 26 east from 24+00 south to 46+00 south has been timbered within the last five years.

Survey Procedure

A grid was cut over forty unpatented mining claims in Gauthier township.

During the period from July 5, 1985 until August 22, 1985 the area was geologically mapped by two Lac Minerals geologists and one assistant. A baseline was cut through the center of the claim block in an east west direction. Lines 52 west to 40 west and 28 east to 48 east were cut at 400 foot spacings. Lines 40 west to 28 east were cut at 200 foot spacings. A total of fifty six miles of line was cut over the property. The area was mapped at a scale of 1"=400.

Previous Work

In 1932 Kirkland Lake Consolidated Mines Ltd. owned thirteen patented mining claims 10790, 10791, 10792, 13791, 13792, 11961, 9289, 9290, 9291, 9268, 9269, 9270 and 9480. A series of quartz veins were uncovered by trenching on claims 9289, 9290 and 10792. According to the records, five quartz veins were uncovered. The largest of the veins was reported to be ten to twenty feet wide and several hundred feet long, located on claims 9289 and 9290. No gold values were reported.

Victoria Creek Mines, in 1936, did some geological mapping on the same group of claims. No gold values were given.

Norart Uranium and Gold Mines Ltd. geologically mapped claims L-10791, L-13792, L-9289, L-9290 and L-9291 in August 1954. No mineralization of any kind was reported on the accompanying geological map.

In 1966, between July 14 and 27, J.G. Bragg logged two diamond drill holes for Upper Canada Mines on claims L-94104 and L-94100. The two holes were drilled on a sand plain and there is no information in the government files as to why they were drilled. It is concluded that Upper Canada was drilling geophysical targets, as there is no outcrop in the vicinity of the holes. The two holes intersected Gauthier Group rocks. Diamond drill hole 66-3 was drilled on line 22 west at 3+00 south, 55 feet west of line, to a depth of 386.0 feet. A graphitic

schist unit was intersected from 334.6' to 386.0'. From 334.0' to 334.9' in an arkosic sediment, .02 oz/ton Au was encountered. Also, from 369.0' to 369.4', .01 oz/ton Au was obtained in the graphic schist. Diamond drill hole 66-2 was drilled on line 16W-17+25S, and 75 feet west of line. This bore hole was drilled to a depth of 322.0 feet. There were two gold intersections found in hole 66-2. The first intersection was from 208.4' to 209.0', which ran .01 oz/ton Au over 7 inches and secondly from 246.7' to 247.0', which ran .02 oz/ton Au over one foot.

Upper Canada Mines Ltd. in 1971 conducted a reconnaissance whole rock mercury geochemistry survey over 42 unpatented claims in Gauthier Township. The geochemistry survey covered the area north of Victoria Creek. High backgrounds of mercury were found in and around the Upper Beaver Mine. No significant mercury values were found, in the Gauthier Township survey area.

Upper Canada Mines Ltd., in 1971, flew an airborne electromagnetic survey. The airborne survey indicated a weak conductor south of Victoria Creek, where bore hole 66-3 is located. There were no other anomalies indicated from the airborne survey, over Lac's property.

The Ontario Geological Survey in 1979 did an airborne electromagnetic and magnetometer survey over Gauthier Township. The electromagnetic anomalies closely follow the contacts between the Gauthier and Timiskaming Group and also the Kinojevis and Gauthier Group.

The Ontario Geological Survey in 1982, as part of the K.L.I.P. program, drilled a reverse circulation hole on claim L-800276 with a gold value of 360 ppb being obtained in the basal till.

The original geological mapping in Gauthier Township was done by Jas.E. Thomson and A.T. Griffis, 1941. Since 1941 no geological work has been published on the survey area. (see figure 3 for summary of exploration work)

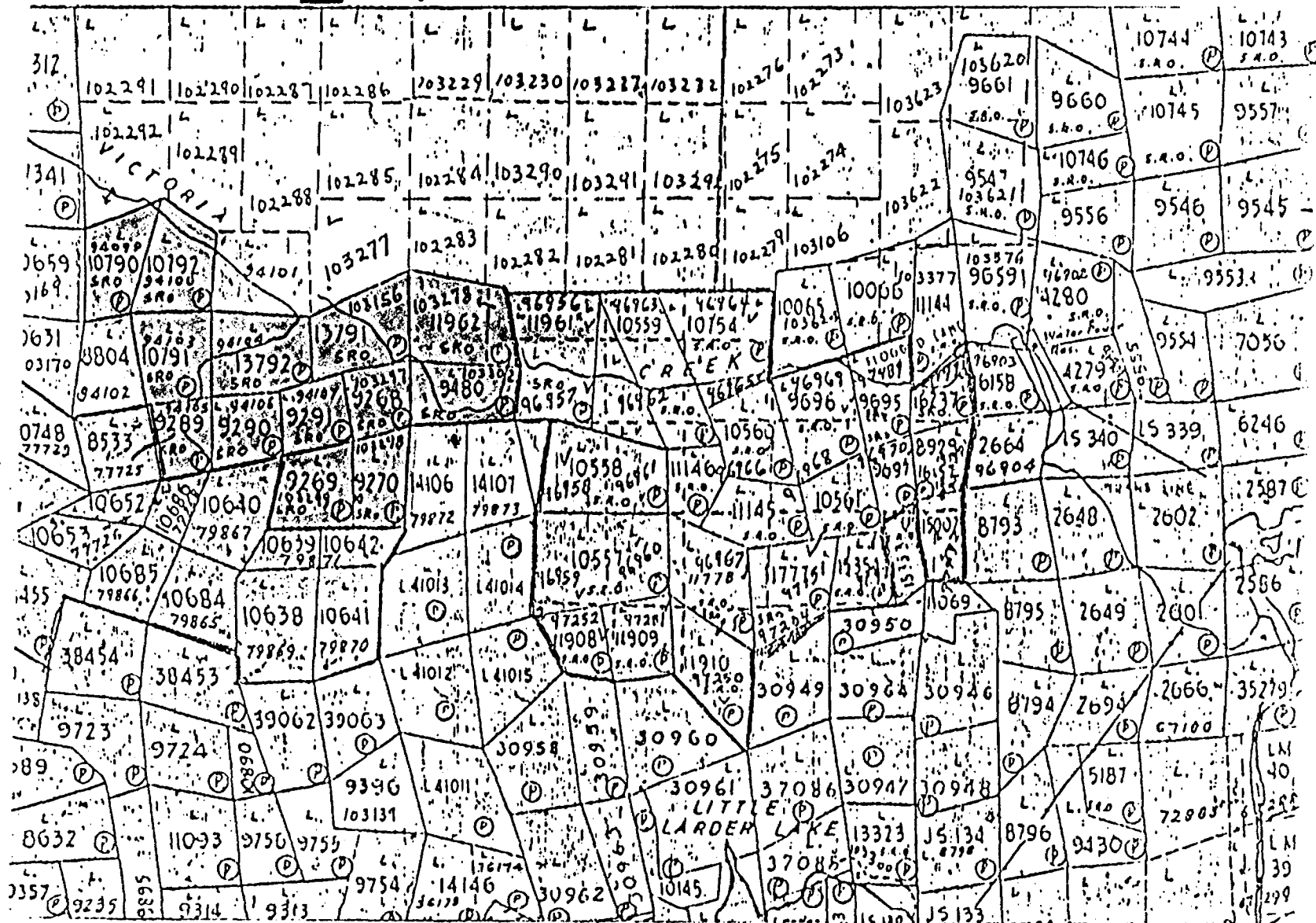
Regional Geology

The Kirkland - Larder Lake area is situated in the Abitibi greenstone belt which is part of the Superior Province. Typically the rocks in the area have undergone lower-greenschist + grade metamorphism and are composed of metavolcanic, metasedimentary and plutonic rocks. The age of these rocks in the Kirkland Lake - Larder Lake area is Archean. Proterozoic (middle Precambrian) sedimentary rocks unconformably overlie the Archean rocks. Finally Pleistocene glacial deposits of till, deltaic sand and clay overlie the bedrock.

The Kirkland - Larder Lake area forms part of the south limb of a synclorium and consists of two volcanic cycles. Each volcanic cycle consists of komatiitic rocks at the base overlain by tholeiitic and calc-alkalic rocks which are in turn capped by alkalic rocks. Figure 4 regional geology

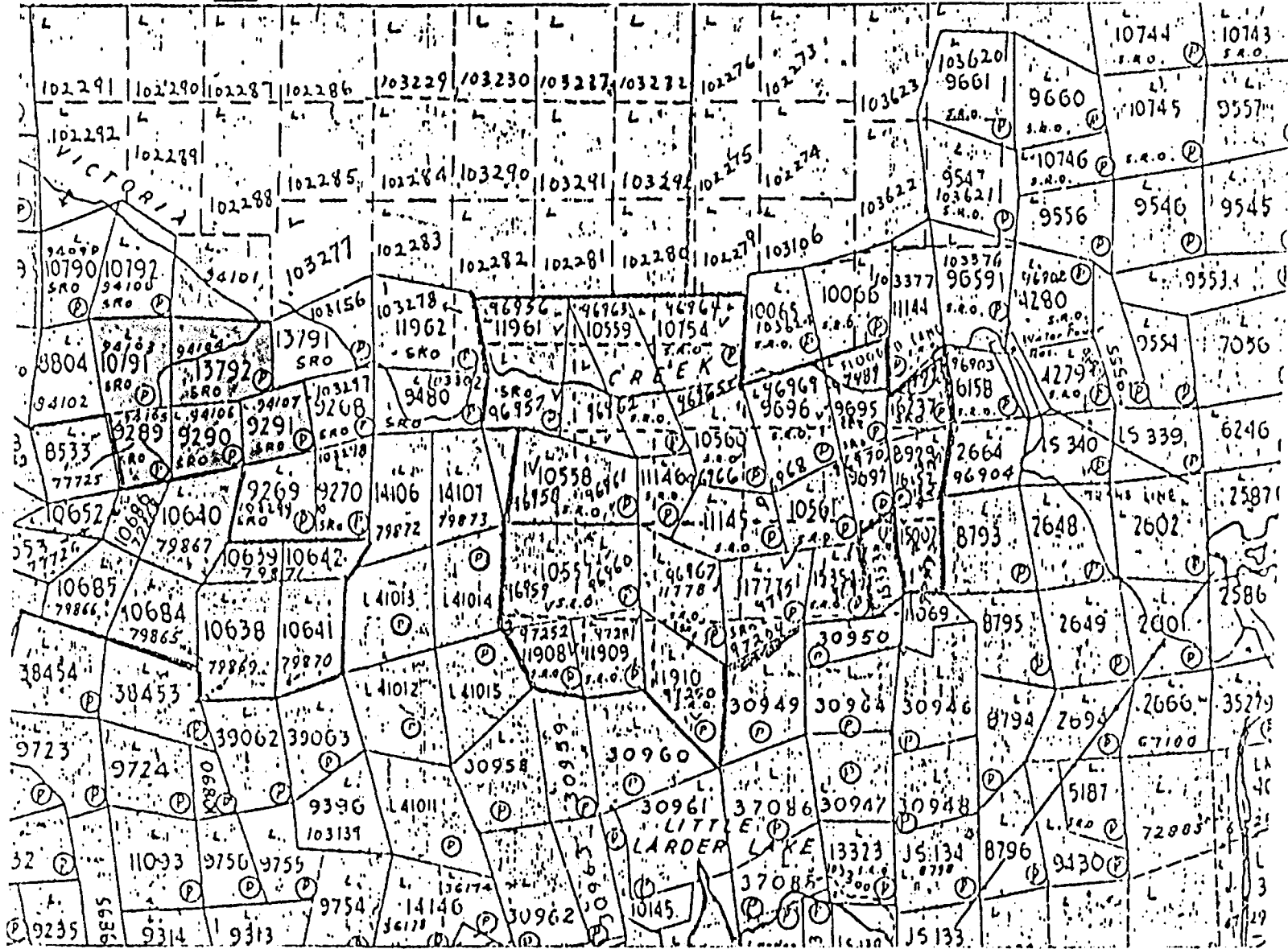
GAUTHIER TWP.

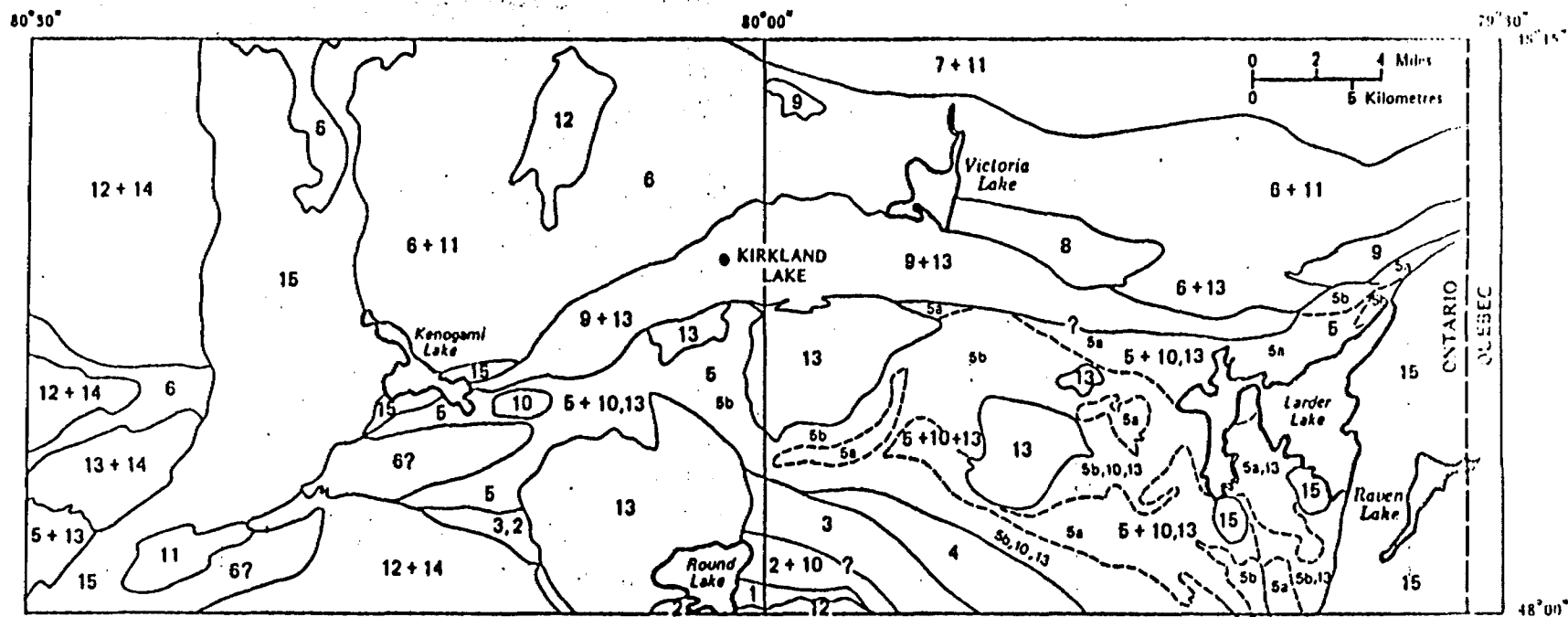
Kirkland Lake Consolidated Mines
Victoria Creek Mines
Taylor



GAUTHIER TWP.

Norart Uranium
Gold Mines Ltd.





Stratigraphic units in the Kirkland Lake-Larder Lake area.

Layered assemblages - 1) Pacaude Group, 2) Wabewawa Group, 3) Catharine Group, 4) Skead Group, 5) Unnamed group (5a Sedimentary rocks. 5b Volcanic rocks), 6) Kinojevis Group, 7) Blake River Group, 8) Gauthier Group, 9) Timiskaming Group, 15) Coleman member of the Gowganda Formation.

Intrusive Assemblages - 10) Ultramafic to mafic, 11) Mafic to intermediate, 12) Felsic, 13) Ultramafic to felsic alkalic, 14) Diabase. 15) Huronian Cover

Jensen (1975)

Figure 4

The oldest cycle in the Kirkland Lake area is the Wawbewawa Group komatiites and Mg tholeiites which are overlain by the Catherine Group Mg-Fe tholeiites followed, by the Skead Group calc-alkalic rocks (2709my).

The youngest cycle in the Kirkland Lake area has the Larder Lake Group komatiites (5000m) disconformably overlying the Skead Group. Conformably overlying the Larder Lake Group is the Kinojevis Group (10,000m thick) Mg-Fe tholeiites. Conformably above the Kinojevis Group the Blake River Group (10,000m, 2703my) calc-alkalic rocks, occur.

Unconformably overlying all of the above and earlier groups is the Timiskaming Group (3000m 2690my).

The Gauthier Group is a thin sequence of K-rich calc-alkalic volcanics that unconformably underlie the Kinojevis and Timiskaming Groups. The origin of this formation is uncertain. Ridler (1970) correlates the Gauthier group with the Skead Group due to its fragmental appearance. However (Jensen, 1983) suggests the Gauthier Group is part of the Blake River Group because of its well rounded felsic clasts and higher potassium values.

(1-2% K_2O)

Most of the major, world class, gold deposits in the Kirkland Lake-Larder Lake area are found in the Timiskaming Group. The major exception is the Kerr Addison gold deposit, which is a world class deposit, hosted in the Larder Lake Group. The gold

deposits located in the Timiskaming Group are related to alkaline volcanism.

The Upper Beaver Mine is another exception to these world class deposits in both production and geology. The deposit is located on the east boundary of Gauthier Township. During the period from 1965-1972 the mine produced 389,000 tons having grades of 1.28% Cu and .25 oz/ton gold.

The Upper Beaver Mine is primarily underlain by mafic volcanics and volcanic debris flow sediments of the Kinojevis Group. Immediately south of the deposit the Kinojevis Group is unconformably underlain by the Gauthier Group. The ore is classified into two types; 1) gold bearing quartz carbonate veins associated with sub-volcanic rocks and 2) chalcopryite pyrite-magnetite stratabound ore in volcanic sediments.

Property Geology

The mapped area is divided into two main groups. Firstly, Kinojevis Group (Mg-Fe tholeiites) found north of Victoria Creek and secondly, the Gauthier Group (K-rich-calc-alkalic) found south of the creek. The contact between the Gauthier and Kinojevis group is buried by glacial overburden. With the aid of geophysics, that was done in spring of 1985 the Fe and Mg + tholeiites were generally divisible. The Fe-rich tholeiites were sometimes highly magnetic while the Mg tholeiites are not noticeably magnetic. The electromagnetic survey helped

distinguish topographical features in the volcanics as well as outlining graphitic horizons in the Gauthier Group. Approximately 20% outcrop is exposed in the mapped region. Glacial sediments cover 80% of the areas south of 5 south on the survey lines. West of line 4 west outcrop is restricted to north of 20 north. North of the baseline, east of line 4 east, there is 30-35% outcrop exposed as topographic features rising 5-15 meters above the otherwise flat terrain.

Three cycles of Mg and Fe tholeiite altering sequences were identified in the Kinojevis Group. The thickness of the cycles varied from 200 to 2000 feet each cycle having different widths along strike. Magnesium and iron tholeiites were separated on the basis of their color and magnetic properties. Contacts between Fe-Mg tholeiites were generally sharp although within the different sequences there can be considerable compositional variation. Volcanic units vary from several meters to several tens of meters in width. Individual units could not be mapped but in some cases were recognized to extend over lengths in excess of 1200 feet. It is suspected that flow units are grossly lenticular in cross section.

Magnesium rich tholeiites comprise 70% of the mapped area. These tholeiites are grey-green in color and consistently non-magnetic. They weather to a grey color. Other common features of the Mg rich tholeiites are, they are fairly harder, unaltered and they are void of sulfides. Mg tholeiites occur

primarily as pillowed flows and less commonly as amygdaloidal massive and flow breccia units.

The pillow units consists of pillows up to 2 meters in length that are fractured perpendicular to the long axis of the pillows or radiating from the pillow centre. The pillow rims sometimes contain amygdules. Pillow selvages commonly contain quartz blebs and chlorite stringers. plate No. 1,2,3.

The amygdaloidal units contain 30%, 2-8mm quartz, calcite and/or chlorite amygdules in a fine grained matrix. Rarely fine-medium grained feldspar amygdules up to 15mm in diameter were observed in the flows. plate 4-5. Sometimes the amygdules are found scattered throughout the pillowed & fine grained amygdaloidal units. (Plate 6)

The massive flows have a medium grained texture that is commonly dioritic. These flows are sometimes associated with the amygdaloidal units. No visible flow textures were seen in the massive flows. Plate No. 7-8

Flow breccia units are generally less than five meters in width. Breccia fragments are up to 30cm in diameter, being hosted a fine grained matrix, and are subangular to subrounded in shape. plate No. 9-10

Variolitic flows were observed in a 100' thick unit located on line 32 east at 15+00 north. The varioles are grey in colour and are concentrically banded varying from 5mm to 20mm in diameter in a fine grained matrix.

Pillow breccias have brecciated matrices or they are completely brecciated, containing remnant pillow selvages. plate 11

Iron tholeiites occur primarily as thick, fine to medium grained massive flows. They weather from brown to orange-brown in colour, and are occasionally magnetic. On fresh surface they are green to green-black and contain up to 1% pyrite and pyrrhotite. Epidote-silica and saussurite alteration are common in the iron tholeiites along fractures and pillow selvages plate 12-13-14. No flow textures are found in these rocks.

Pillowed flows accounted for 20-30% at the Fe-rich tholeiites, and are only rarely magnetic. plate 15

Amygdaloidal flows and hyaloclastic breccias are less abundant varieties of the Fe-tholeiites. Amygdaloidal flows are descriptively similar to the ones found in the Mg-tholeiites.

Hyaloclastites contain 70% angular to subangular Mg-Fe tholeiite fragments, up to 20cm in diameter in a poorly sorted chlorite altered foliated matrix. The matrix contains secondary carbonate and quartz and hosts up to 2% pyrite. This unit is suspected of being an interflow accumulation of clastic volcanic debris. Hyaloclastites are distinguished from flow top breccias in that they have undergone transportation while flow top breccias are result of insitu brecciation. Hyaloclastites were located on line 18 east to 44 east and on line 40 west.

The Gauthier Group consists of a thick sequence of interbedded lapilli tuffs and tuff agglomerates. These tuffaceous rocks weather white to grey buff in colour and are non-magnetic. Carbonate \pm sercite alteration is very pervasive throughout the sequence, which locally weathers to a rusty brown colour.

Lapilli tuffs are commonly thinly bedded without any sedimentary structures preserved. This is due to their schistose nature which is developed sub-parallel to their bedding direction.

Tuff agglomerates contains rounded to subrounded felsic clasts, up to 20cm in diameter in a fine grained, grey matrix. Some of the clasts in the agglomerate, appear pumiceous.

Individual units within the Gauthier Group were not traceable along strike. Quartz veins cut across the stratigraphy subparallel to the 110° schistosity. Plates 16, 17, 18, & 19

Structural Geology

Deformation in the Kinojevis Group has been extremely weak. Strike directions of pillowed flows vary from 040° to 120° with an average of 090° to 080° . Pillow tops are consistently to the north with steep dips in the same direction. Variations in strike directions of the pillow flows might be an indication of folding. Locally strike directions, appear to be aligned parallel to northeast trending faults.

Major schistosity and shear zone trends are at 060° and 080°. The silica-epidote saussurite alteration is localized along these major schistosity directions. There are three major fracture sets 0°-020°, 060°-080° and 110°-130°. The fracture set at 0°-020° sometimes contains quartz and epidote altered veins. The 060° and 080° schistosity and alteration zones are cut by the later 0° to 020° fracture set. The 0° to 020° fracture set is probably related to the Onapping lineaments. Movement along this late fracture set (0° and 020°) appears to be in a right lateral, sense. The 060° to 080° structures are offset by the 110° to 130° fractures, which is related to the Timiskaming rift, fault system.

A strong schistosity of 110° is developed in the Gauthier Group having a subvertical dip. Fractures are found at trends of 040°, 090° and 340° with vertical dips. The deformation in the Gauthier Group becomes more intense as it nears the contact of the Kinojevis Group. plate No. 19

Economic Geology

The epidote-silica ± carbonate alteration zones adjacent to 060° and 080° trending structures rarely contain Tr-1% pyrite. Trace amounts of pyrite ± pyrrhotite are occasionally disseminated in the Fe-tholeiites. Mineralization is absent in the pillow selvages and along the 0° to 020° and 110° to 130° fracture sets. A lot of trenching was done on the Gauthier Group where unmineralized

quartz veins are exposed over the southwest grid area. No economic mineralization was found in outcrops on the property. Grab samples from selective outcrops during the mapping had no significant gold values. figure

Geochemical Sampling

Thirty selective rock samples were collected on the property. Whole rock was performed on the samples using the neutron activation method.

Twenty-five separate grab samples were taken and assayed for gold.

The results of the whole rock analysis and grab samples are found in the appendix of this report.

Conclusion

The geological survey on the property does not suggest any evidence of economic mineralization. However the basal till survey, now being completed, may indicate some buried mineralization.

BIBLIOGRAPHY

- ROBERTS, R.G. and MORRIS, S.H. (1980): The Geological Setting of the Upper Beaver Mine Kirkland Lake District, Ontario; acopper-gold deposits in mafic volcanic rocks. Published in Geology of Canadian Gold Deposits- Special Volume 24 - Canadian Institute of Mining and Metallurgy.
- JENSEN, L.S.(1983): Published Ontario Geological Survey Miscellaneous Paper 116; Summary of Field Work No. 14 Kirkland Lake-Larder Lake Synoptic Mapping Project, District of Timiskaming
- THOMSON, JAS. E. and GRIFTIS, A.T. (1941): Geology of Gauthier Township, East Kirkland Area; Vol. L, Part VIII, 1941
- RIDLER, R.H., 1970: Relationship of Mineralization to Volcanic Stratigraphy in the Kirkland - Larder Lake Area, Ontario Geol. Assoc. Can. p33-42.



Mining Act
(Geophysical, Geological and Geochemical)

Report of Work

Type of Survey(s) Geological	Mining Division Larder Lake	Township or Area Gauthier
Recorded Holder(s) LAC Minerals Ltd.	2.12772	
Address 6 Al Wende Avenue, P.O. Box 670, KIRKLAND LAKE, Ontario P2N 3K1	Prospector's Licence No. T-664	
Survey Company LAC Minerals Ltd.	Telephone No. (705)-567-5656	
Name and Address of Author (of Geo-Technical Report) Greg Morris 6 Al Wende Avenue, P.O. Box 670, KIRKLAND LAKE, Ontario		Date of Survey (from & to) 05 07 85 22 08 85 Day Mo. Yr. Day Mo. Yr.

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

Special Provisions	Geophysical	Days per Claim	Mining Claim		Mining Claim		Mining Claim	
			Prefix	Number	Prefix	Number	Prefix	Number
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic		L	821270 -	L	800277 -	L	800267 -
	- Magnetometer			821271 -		800278 -		800268 -
	- Other			821272 -		800255 -		800269 -
For each additional survey: using the same grid: Enter 20 days (for each)	Geological	20		821273 -		800256 -		800270 -
	Geochemical			821274 -		800257 -		800271 -
Man Days Complete reverse side and enter total(s) here	Geophysical			821351 -		800258 -		800272 -
	- Electromagnetic			821352 -		800259 -		821285
	- Magnetometer			821353 -		800260 -		821288
	- Other			821354 -		800261 -		821290
	Geological			821355 -		800262 -		
	Geochemical			821356 -		800263 -		
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic			821357 -		800264 -		
	Magnetometer			821358 -		800265 -		
	Other			800273 -		800266 -		
				800274 -				
Total miles flown over claim(s).				800275 -				
Date Sept 25/89	Recorded Holder or Agent (Signature) <i>Greg Morris</i>			800276 -				
			Total number of mining claims covered by this report of work.			40		

Certification/Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in this Report of Work, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying
Greg MacMillan, 6 Al Wende Avenue, P.O. Box 670, KIRKLAND LAKE, Ontario P2N 3K1

Telephone No.
(705)-567-5656

Date
September 25/89

Certified By (Signature)
Greg MacMillan

For Office Use Only

Total Days Cr. Recorded 800	Date Recorded Sept 26/89	Mining Recorder <i>J. Bettner</i>
	Date Approved as Recorded 6 Nov 89	Provincial Manager Mining Lands <i>[Signature]</i>

Received Stamp

LARDER LAKE MINING DIV.

RECEIVED

SEP 26 1989

AM 7 18 10 11 12 1 2 3 4 5 6 PM



TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Geological
Township or Area Gauthier Township
Claim Holder(s) LAC Minerals Ltd.
Survey Company LAC Minerals Ltd.
Author of Report Greg Morris
Address of Author 6 Al Wende Ave, Kirkland Lake
Covering Dates of Survey July 5, 1985 - August 22, 1985
Total Miles of Line Cut 56 miles

MINING CLAIMS TRAVERSED
List numerically
Table with columns for L (prefix) and number, listing claim numbers from 821270 to 821272.

SPECIAL PROVISIONS CREDITS REQUESTED
Table with columns for Geophysical (Electromagnetic, Magnetometer, Radiometric, Other) and Geological/Geochemical, and a column for DAYS per claim.

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)
Magnetometer Electromagnetic Radiometric
DATE: September 25, 1989 SIGNATURE: [Signature]

Res. Geol. Qualifications 2.8570

Previous Surveys
Table with columns: File No., Type, Date, Claim Holder

OFFICE USE ONLY

If space insufficient, attach list

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy – Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: Fixed transmitter Shoot back In line Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured _____

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

Base station value and location _____

Elevation accuracy _____

**INDUCED POLARIZATION
RESISTIVITY**

Instrument _____

Method Time Domain Frequency Domain

Parameters – On time _____ Frequency _____

– Off time _____ Range _____

– Delay time _____

– Integration time _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

Corrections made _____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

Additional information (for understanding results) _____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken _____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

Drainage Development _____

Estimated Range of Overburden Thickness _____

SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

General _____

ANALYTICAL METHODS

Values expressed in: per cent
p. p. m.
p. p. b.

Cu, Pb, Zn, Ni, Co, Ag, Mo, As, -(circle)

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____



Instructions

- Please type or print.
- Refer to Section 77, the Mining Act for assessment work requirements and maximum credits allowed per survey type.
- If number of mining claims traversed exceeds space on this form, attach a list.
- Technical Reports and maps in duplicate should be submitted to Mining Lands Section, Mineral Development and Lands Branch:

Report of Work
(Geophysical, Geological and Geochemical Surveys)

Type of Survey(s) Geological	Mining Division Larder Lake	Township or Area Gauthier
Recorded Holder(s) LAC Minerals Ltd.	Prospector's Licence No. T-664	
Address 6 Al Wende Avenue, P.O. Box 670, KIRKLAND LAKE, Ontario P2N 3K1		Telephone No. (705)-567-5656
Survey Company LAC Minerals Ltd.		
Name and Address of Author (of Geo-Technical Report) Greg Morris 6 Al Wende Avenue, P.O. Box 670, KIRKLAND LAKE, Ontario		Date of Survey (from & to) 05 07 85 22 08 85 Day Mo. Yr. Day Mo. Yr.

Credits Requested per Each Claim in Columns at right			Mining Claims Traversed (List in numerical sequence)						
Special Provisions	Geophysical	Days per Claim	Mining Claim		Mining Claim		Mining Claim		
			Prefix	Number	Prefix	Number	Prefix	Number	
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic		L	821270 ✓	L	800277 ✓	L	800267 ✓	
	- Magnetometer			821271 ✓		800278 ✓		800268 ✓	
For each additional survey: using the same grid: Enter 20 days (for each)	- Other	20		821272 ✓		800255 ✓		800269 ✓	
	Geological			821273 ✓		800256 ✓		800270 ✓	
	Geochemical			821274 ✓		800257 ✓		800271 ✓	
Man Days Complete reverse side and enter total(s) here	- Electromagnetic			821351 ✓		800258 ✓		800272 ✓	
	- Magnetometer			821352 ✓		800259 ✓		821285 ✓	
	- Other			821353 ✓		800260 ✓		821288 ✓	
	Geological			821354 ✓		800261 ✓		821290 ✓	
	Geochemical			821355 ✓		800262 ✓			
					821356 ✓		800263 ✓		
					821357 ✓		800264 ✓		
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic			821358 ✓		800265 ✓			
	Magnetometer			800273 ✓		800266 ✓			
	Other			800274 ✓					
					800275 ✓				
Total miles flown over claim(s).						Total number of mining claims covered by this report of work.			
Date Sept 25/89			Recorded Holder or Agent (Signature) <i>Greg Morris</i>			40			

Certification/Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in this Report of Work, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying
Greg MacMillan, 6 Al Wende Avenue, P.O. Box 670, KIRKLAND LAKE, Ontario P2N 3K1

Telephone No. **(705)-567-5656** Date **September 25/89** Certified By (Signature) *Greg MacMillan*

Received Stamp

For Office Use Only

2. 12772 Duplicate copy

Total Days Cr. Recorded	Date Recorded	Mining Recorder
	Date Approved as Recorded	Provincial Manager, Mining Lands

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

- M.R.O. - MINING RIGHTS ONLY
- S.R.O. - SURFACE RIGHTS ONLY
- M.+S. - MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File

BARRICK POWER LINE
(Application pending under Public Lands Act)

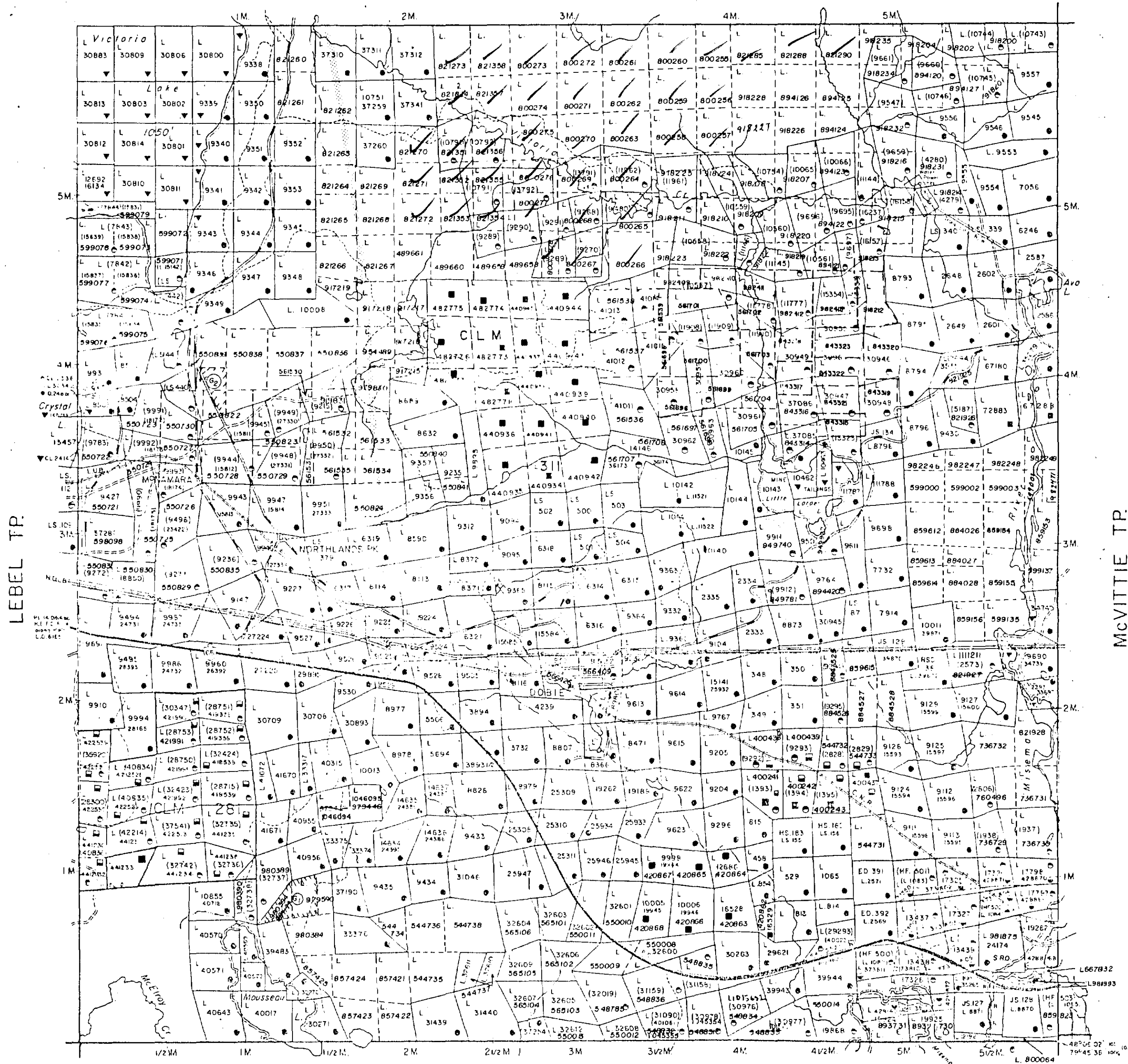
SAND and GRAVEL

- ① M.T.C. PIT No 1666 FILE 101421
- ② M.T.C. PIT 3F-27

NOTICE OF FORESTRY ACTIVITY

THIS TOWNSHIP / AREA FALLS WITHIN THE
TIMISKAMING MANAGEMENT UNIT
AND MAY BE SUBJECT TO FORESTRY OPERATIONS.
FOR MORE INFORMATION CONTACT THE UNIT FORESTER FOR THIS AREA CAN BE
CONTACTED AT: P.O. BOX 129
SWASTIKA, ONT.
POK, TO
705-642-3222

ARNOLD TP.



LEBEL TP.

MCVITTIE TP.

McELROY TP.

**TOWNSHIP SUBJECT
TO
FORESTRY OPERATIONS**

DATE OF ISSUE
JUL 17 1989
LARDER LAKE
MINING RECORDER'S OFFICE

LEGEND

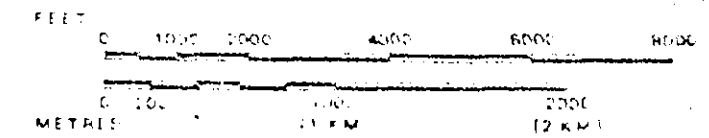
- HIGHWAY AND ROUTE No
- OTHER ROADS
- TRAILS
- SURVEYED LINES
- TOWNSHIPS BASE LINES ETC
- LOTS MINING CLAIMS, PARCELS, ETC
- UNSURVEYED LINES
- LOT LINES
- PARCEL BOUNDARY
- MINING CLAIMS ETC
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION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

DISPOSITION OF CROWN LANDS

- | TYPE OF DOCUMENT | SYMBOL |
|--------------------------------|--------|
| PATENT SURFACE & MINING RIGHTS | ○ |
| " SURFACE RIGHTS ONLY | ○ |
| " MINING RIGHTS ONLY | ○ |
| LEASE SURFACE & MINING RIGHTS | □ |
| " SURFACE RIGHTS ONLY | □ |
| " MINING RIGHTS ONLY | □ |
| LICENCE OF OCCUPATION | ▽ |
| ORDER-IN-COUNCIL | OC |
| RESERVATION | ⊙ |
| CANCELLED | ⊙ |
| SAND & GRAVEL | ⊙ |

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 1 1913 VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT R.S.O. 1910, CHAP. 386, SEC. 63, SUBSEC. 1

SCALE: 1 INCH = 40 CHAINS



TOWNSHIP

GAUTHIER

M.N.R. ADMINISTRATIVE DISTRICT

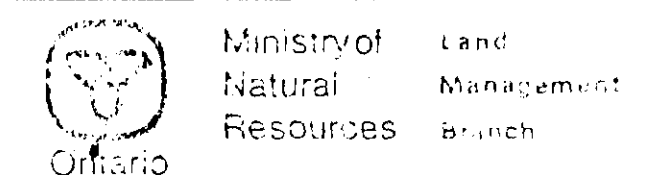
KIRKLAND LAKE

MINING DIVISION

LARDER LAKE

LAND TITLES / REGISTRY DIVISION

TIMISKAMING



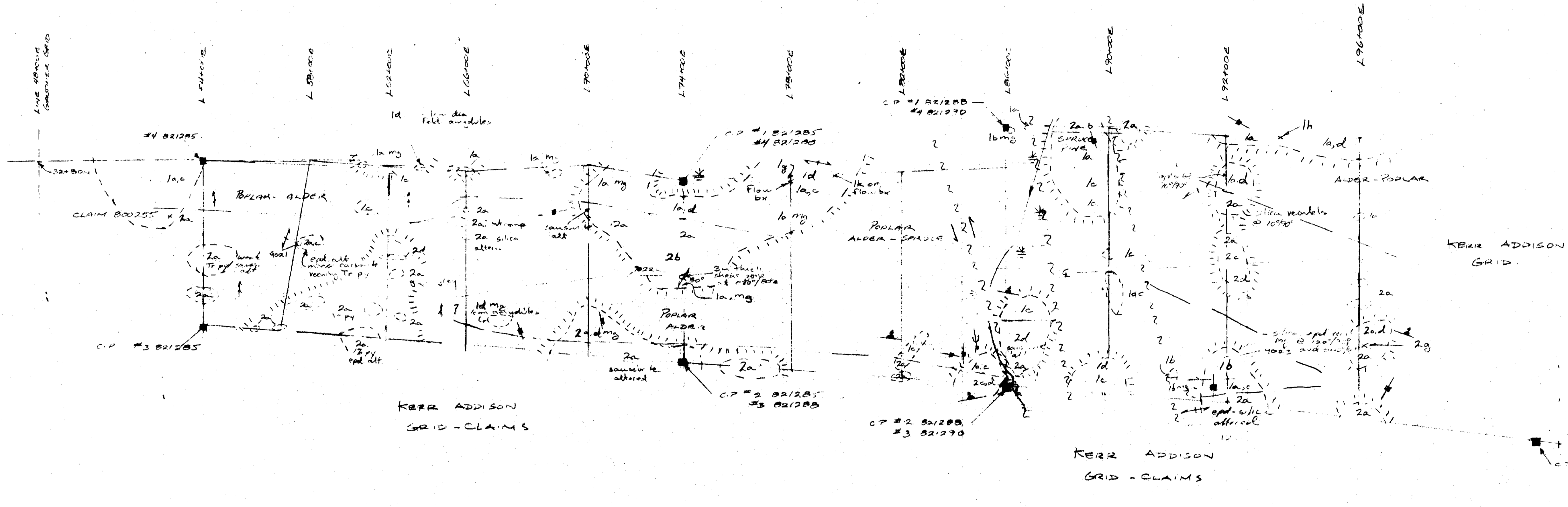
DATE: JANUARY, 1985

FEBRUARY 8, 1988



32004N0074 2.12772 GAUTHIER

LINE 4000
GAUTHIER GRID



See
loc and
on Gauthier
grid map
plus add.

■ CLAIM POST AND BOUNDARIES.
 ○ 7025 ROCK SAMPLE LOCATION

2.12772

Goes under
1242nd → NOTE - TRAVERSES MADE USING
PACE AND COMPASS.

RECONNAISSANCE MAPPING OF
 NORTH EAST CLAIMS
 GAUTHIER PROPERTY

SCALE 1" = 200'

RECONNAISSANCE MAPPING
 OF
 NORTH EAST CLAIMS
 GAUTHIER PROPERTY



