Report on

Benson Lake Property

Cartier Township

Ontario

H.J. Tracanelli

July 1990

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BENSON LAKE PROPERTY CARTIER TOWNSHIP

1.0 Location and Access

The location of the Benson Lake quartz emplacement alteration zone found on the Benson Lake property is approximately 53 km northwest of Sudbury, Ontario, along highway #144 north. The area subject to the recent property examination begins several hundred meters south of the highway and extends northwards along the east side of Benson Lake, which is located slightly south of the centre of Cartier Township. Additionally, the investigation area extends further northwards beyond Benson Lake following an apparent lineament in which a series of chain lakes is found.

Access to the area may be either by highway 144 north or the Canadian Pacific Railway main line, both of which cross the area of interest.

2.0 Ground Status

Presently the Benson lake property consists of two 40 acre mining claims numbered

S - 1043657	S - 1095073	S - 1095076
S - 1043658	S - 1095074	
S - 1095072	S - 1095075	

These claims were staked by Harold J. Tracanelli in late June of 1989 and early April 1990.

3.0 Investigative Procedures

In early July of 1989 Harold J. Tracanelli, exploration geologist, was accompanied by David Trivett a student assistant to the exploration geologist entered into the Benson Lake area in Cartier Twp. to investigate an apparent north-southlike trending zone which

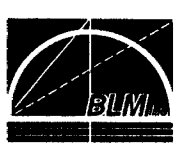
was known from previous investigations to be enriched in quartz-chlorite bearing materials. The quartz-chlorite rich zone occurs in an area which is clearly marked out on the provincial geological compilation maps as being granites. Although granites are quite common in the area, they do not predominate, but are equal or subordinate to such rock-types as the quartz-biotite-feldspar gneiss of the Levack gneiss complex, which also host the well known Sudbury-Levack breccia, etc.

Work on what this writer has classified as a quartz emplacement - alteration zone consisted essentially of realing off moss to expose fresh rock outcroppings which would allow for the observations and determination of variances in quartz concentrations - accessoring minerals, sulphide contents, widths, strike length, structures, host rocks and contact character, past geological events, etc.

A number of samplings from the quartz zone were collected and have been visually classified as to quartz, accessory content, sulphides, texture etc. Assaying results from the various samplings can be referred to in the appendix of this report.

All available documentation which includes historical data, previous-recent field examination notations, observations and whatever available government publications and maps were examined, in an attempt to correctly assess the potential of the area of interest.

During the middle of May 1990, detailed mapping was carried out over portions of claims S - 1043657, S - 1043658, and S - 1095074. Pace and compass methods were used at approximately fifty to two hundred and fifty foot intervals from an established compass baseline. A map of the property was compiled using this data at a scale of one inch to one hundred feet.



4.0 Exploration History

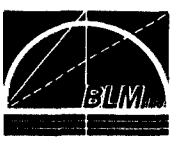
Recent investigative type work in an attempt to better understand the exploration history of the area, has shown that the ground between the central portion of Cartier Twp., which includes the southern portion of the recent investigation area and the Sudbury basin nickel irruptive near Windy Lake was subject to various forms of claim staking and primativelike exploration activities as far back as the mid to late 1940's.

In the late 50's and early 60's during the Sudbury basin nickel-copper hay day, a number of known localized sulphide-iron occurrences to the south-east and southwest of the recent investigative area were periodically examined and explored by a series of shallow surface pits to assess the nickel-copper-iron potential by a few local prospectors.

The most significant work was carried out by Stanley Walker, now of Sturgeon Falls, Ontario, who in 1960 blasted a couple of pits on a pluglike feature of coarse Sudbury breccia with localized masses and disseminations of nickel-copper and iron bearing sulphides.

Various sampling of the sulphide bearing materials from a couple of roadside pits were said to have yielded values of 1% copper - 1% nickel and minor silver values. In 1984 this writer assayed a few samples from the pit dumps which returned values for nickel and copper of less than 1% each and low silver values of around 0.1 oz. per ton. This ground is presently open for staking.

Additionally, during the time while Walker was exploring for base metals, Falconbridge Limited staked up and subsequently, patented an area to the southeast of Walker's workings over an extensive glacial sand and gravel deposit which was planned to be a future source of mine backfill. This ground is also open for staking.



No backfill materials were ever extracted from this site.

During the periods between the mid 1940's and the mid 1960's sporadic claim staking activities were carried out in a northwesterly fashion - stretching out into the central portion of the twp. Although little documentation is available on what, if any, work was ever carried out on these claims, it is believed that the activity was centred around areas with base metal potential.

Recent investigative work has shown that no recorded claim staking activities have taken place in the main Benson Lake Property area quartz bearing zones prior to 1987. This was determined through a thorough investigation of all claim map microfiche records, both at Sudbury and Toronto.

In the late 1960's during the progressively advancing construction of highway 144 north through Cartier Twp., a number of shallow surface pits were excavated on a number of semicontinuous bands of iron sulphide bearing siliceous iron formation in the southeastern portion of an oval shaped onclave of quartz-biotite-feldspar gneiss of the Levack Gneiss complex. The iron formation occurs only a few hundred feet west of the main quartz emplacement - alteration zone. The property presently covers the iron formation. In 1972 Mr. George Huycke of Dowling, Ontario carried out a reconnaissance type self-potential survey between Windy Lake and the Benny Greenstone Belt along the highway right of way of 144 - passing through the present property. Little of interest was detected using this geophsyical technique.

In 1985 this writer conducted an extensive documentation evaluation of the central portion of the township which was subsequently followed up by field examination.

The former Stanley Walker workings and the surface excavations were examined and prospecting in the areas adjacent to the iron

formations was also carried out. Additionally, in 1985 prospecting endeavours led to the recognition of the rich quartz bearing feature which is presently under investigation.

Prospecting was continued in 1986 at which time a strong north trending quartz rich shear zone 2.25 kms long and up to 190 meters wide was identified which was believed to have been formed within the Levack Gneiss complex and the Cartier granites.

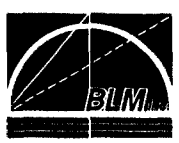
In May of 1987 this writer presented a number of geology-prospecting ideas to a local prospector and in June of 1987, 12 mining claims were staked to cover the main strike length of the apparent quartz bearing shear zone and the Walker sulphide occurrence.

Later in the summer of 1987, this writer blasted two shallow pits, one on a sulphide bearing Sudbury breccia south of Benson Lake and 150 feet ± north of the CPR track and, a second pit on an isolated sulphide bearing occurrence in the quartz-chlorite rick shear zone along an east-west claim line approximately 200 feet west of Benson Lake.

Samples were collected and submitted to the owner of the property for assaying for various elements. The assay results were said to have been very low and not very encouraging.

No additional work on the property has been conducted. Due to a lack of the proper assessment work, the 12 claims were allowed to revert back to crown.

It is recommended that further exploration work be conducted in the Benson Lake area to investigate the metal bearing potential of the extensive quartz bearing emplacement alteration zone, on the Benson Lake property.



5.0 Examination Area Geology

The area which is presently under investigation is geologically situated within the southern most portion of the Superior geological province approximately 6.4 km ± northwest of the unique Sudbury Basin.

Various sequences of medium to high grade metamorphic facies para or ortho gneiss boarder the northern rim of the Sudbury Basin igneous complex and the rocks in the area make up what is commonly known as the Levack Gneiss complex. An oval shaped outlier of Levack Gneiss complex measuring approximately 2.5 km x 0.75 km located near the centre of Cartier Twp. is partially within part of the present claim block and has been shown to be the most interesting at present. This outlier of gneiss is thought to be surrounded by archean porphyritic medium to coarse grained quartz monzonites, granodiorite, diorite and granites commonly known as the Cartier or Birch Lake batholith.

The Levack gneiss complex is though to have been derived from archean layered igneous intrusive rocks which were quite likely formed within an extensive volcanogenic region which probably once covered an area now occupied by the Sudbury Basin.

As an apparent result of the intense Sudbury event, bodies of various sizes and composition of Sudbury or Levack breccia has been injected into most rock types of the area. Sudbury breccia masses or dykes have been detected as far away as 40 to 60 miles distant from the north rim of the Sudbury basin.

In localized areas the Sudbury breccia is known to carry iron-nickel and copper bearing sulphide minerals. Masses of Sudbury breccia have been clearly identified intruding the quartz emplacement-alteration zone northwest of Benson Lake and may have played an important role in the emplacement of noted iron sulphides

concentrated within portions of the quartz-chlorite rich rock a short distance from known intruding breccia contacts.

At one distinctive location within the Levack gneiss complex, on the south side of highway 144, southwest of Benson Lake there occurs semicontinuous bands of massive magnetite with minor bands and disseminations of cubic pyrite.

The primary geological feature of present interest is the quartz-chlorite rich emplacement-alteration zone.

The quartz-chlorite rock appears to be confined to a north-south trending feature at least 53 meters (175 feet) wide in places with a determined strike length of at least 900 meters or approximately 3000 feet.

A strong lineament clearly distinguishable from various maps and air photographs was found to trend from old Sawmill Lake in Cascaden Twp. along the west side of Benson Lake continuing northwards to Vignette and Hess Lake in Hess Twp. It is within this apparent lineament; which may represent a strong fault zone, at some point in time quartz-chlorite rich fluids may have been emplaced and solidified into this fault zone. Field measurements have shown that the zone in the Benson Lake area strikes strongly north-south but is irregularly dipping to the east, ranging from 50° to 85°.The vast majority of the quartz veins and irregular masses or bodies of quartz within the zone as a whole appear to have a general trend of north south and range in thickness from a fraction of an inch to distances exceeding 15 feet in localized areas along the trend.

Most of the vein materials consist of 70% - 99% grainy-sugary to massive snow-grey coloured fine grained quartz with fine grained inclusions-whisps or disseminations of green to black chlorite

minerals. Trace to a couple percent localized concentrations of pyrite as finely disseminated masses or cubes usually occur within the more chlorite rich portions of the zone. Most of the primary or strong veins run parallel to each other and there would appear to be no evidence of primary cross veining.

Apparent secondary quartz veining and cross veining as short truncated veins were observed throughout much of the zone.

These secondary veins may have resulted from a remobilization or additional chemical or structural alteration of the existing quartz rich rocks.

The apparent host rock of the quartz emplacement - alteration zone is a fledspar rich granite at the eastern contact and a sequence of quartz-biotite-feldspar rich banded gneiss on the western unexposed assumed extrapolated contact.

Both of the contacting host rocks appear to have been altered from the contacts outwards in a gradational fashion. The gradation would appear most evident in the foliated gneissic rocks where foliation has been lost at the apparent contacts and slowly regains its existence further afield. The granites on the eastern contact appear less altered and recognition of the original granitic textures is evident less than 50 feet east of the zone contacts.

The original rock in which the initial structural event occurred and the siliceous rich solutions were emplaced is thought to be both the existing, or pregneissic rocks and the granitic rocks. No direct remnants of the gneissic rock have been observed although apparent remnants of the granitic rocks appeared evident as xenoliths within the quartz. The original rock type has been highly altered as a result of silicification and chloritization. Subsequent to the original veining emplacement and host rock

alteration various degrees of folding into complicated patterns took place throughout the zone. Some folding has taken place along the weak less competent chlorite rich sections between the parallel veins. Quartz veins which were directly subjected to folding appear to have been fractured and separated.

At a couple of locations along the zone the chlorite rich host rock and the fractured and folded veins appear to have undergone shearing, suggesting secondary structural events.

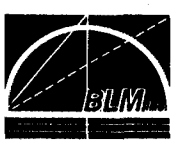
The adjacent country rocks do not show any direct evidence of folding or shearing.

Virtually everywhere along the length of the zone parallel and right angle joints inclined or vertical have formed in a fashion perpendicular to the contacts of the zone after folding and deformation events.

As quite common to the regions north of the Sudbury basin, the occurrences of Sudbury breccia appear to have randomly intruded at many points of former weakness.

In close proximity to the quartz-emplacement alteration zone, irregular masses or dykelike features of Sudbury breccia have been intruded. In a number of locations the breccia has clearly intruded the zone and taken up xenoliths of the quartz rich rock.

The intruding breccias consist of xenolithic rounded fragments of the granitic country rock including portions of the quartz rock ranging in size from a fraction of an inch to a couple of feet across. The breccia fragments are set in very fine grained aphanitic mafic ground mass which carries trace to 3% fine disseminated pyrite as blebs and as fine cubes, with traces of chalcopyrite.



The ground mass appears to be rather quartz rich and exhibits anhedral phenocrysts of fine granularlike quartz ranging from 10 → 15% the largest porphyry (porphyroblast) measuring less than 1/2" across. The composition of the ground mass would be in the quartz diabase field as opposed to the olivine diabase field with feldspar phenocrysts as is commonly observed in most Sudbury breccia matrixes north of the basin. Some of the silica may have been introduced into the matrix of breccia as a result of secondary remobilization along the quartz zone. A large portion of the breccia fragments have been well rounded likely as a result of partial in-situ digestion by the molton ground mass. The textures of the fragments shows obvious alterations and in many instances fragments exhibit fine grained recrystalize-reaction rims.
Although the breccia ground mass is very hard it appears to weather rather quickly leaving the breccia fragment in a raised manner. The quick weathering of the breccia matrix appear to indicate the presence of olivine in the ground mass. Although olivine and quartz cannot exist together in solid solution, the matrix chemistry may be such that the two minerals may have formed at two separate periods during molton stages.

In areas of the quartz zone where the breccia has intruded, sulphides from 3% to 15% appear to have been formed as medium grained disseminations and as fine grained micro seams within a few feet of the intrusive contacts. It is believed that chlorine-silica and iron-sulfer mixtures migrated outwards from the breccia matrix into the fractured quartz rock. It would appear at this time the higher the sulphide content the higher the chlorite content.

Much of the quartz vein materials and the associated chlorite minerals exhibit films of limonite along minute fractures and on surface exposures. Since only a few percent of the entire existing

length of the quartz emplacement-alteration zone has been exposed it cannot be concluded that the emplacement of the breccia resulted in the emplacement of all sulphide minerals. The quartz could carry appreciable sulphides which may be structurally or chemically related to the initial faulting, or siliceous fluid emplacement, remaining unrelated to breccia structures or chemistry. The emplacement of the breccia within the zone would suggest that the quartz zone was in place prior to the Sudbury event.

The age of the apparent structure and rock emplacement may date to an early archean volcogenic episode or may be related to some proterozoic Huronian event such as the Nipissing intrusive period.

A pluglike feature of Nipissing intrusive rock with a somewhat layered appearance ranging from coarse gabbroic to noritic in composition was found to intrude the gneiss approximately 500 meters to the west of the quartz zone. A gabbroic dyke several meters thick strikes in an east-west fashion and intrudes the gneiss-quartz and granites in the area.

6.0 Conclusion

There is strong evidence on the ground that a north-south fault cuts through the area and shows characteristics features, topographic lows with straight line creeks, swamps, and chain lakes. The quartz-chlorite rich material which has been emplaced and has altered the adjacent country rocks appears to be strong at both north and south ends of the trend.

A thick to thin layer of glacial debris consisting mainly of coarse boulders and till generally obscure the zone from view to the north.

A deep extensive layer of recent swamp deposits and glacial till obscures the southern extent of the zone make prospecting

endeavours difficult.

7.0 Recommendations

Assaying and additional outcrop exposing work would have to be carried out to further assess the full potential of the quartz zone. Very large tonnages could be realized granted that favourable metal concentrations of value can be delineated throughout the zone. At various locations along the trend of the zone the concentration of quartz and the thickness may allow one to assess the potential of the material as a possible source of smelter flux. It has been suggested that portions of the zone may have tonnages and silica grades suitable for smelter flux or some other silica related industrial agents and should be assessed accordingly.

2.13417

BENSON LAKE PROPERTY , CARTIER TOWNSHIP

CHERYL LANG - DRAFTING PERSONAL

DATE	HOURS WORKED	TYPE OF WORK PREFORMED
APRIL 30/90	1.0	CLERICAL
MAY 22/90	0.5	CLERICAL
MAY 23/90	1.0	DRAFTING
JUNE 12/90	2.0	DRAFTING
JUNE 18/90	1.5	DRAFTING
TOTAL	6.0	

6 HOURS/ 8 HOUR DAY = 0.75 DAYS

DAVID G.B TRIVETT - GEOLOGICAL ASSISTANT

DATE	HOURS WORKED	TYPE OF WORK PREFORMED
MAY 14/90	12	GEOLOGICAL MAPPING/HAND TRENCHING
MAY 15/90	11.5	GEOLOGICAL MAPPING/HAND TRENCHING
MAY 16/90	12.5	GEOLOGICAL MAPPING/ SAMPLING/DRAFTING
MAY 17/90	8.5	DRAFTING/SAMPLE PREPARATION FOR ASSAY
JUN 13/90	3.0	DRAFTING
TOTAL	47.5	

47.5 HOURS / 8 HOUR DAY = 5.938

ANNE MARIE FOY - SECRETARY

DATE	HOURS WORKED	TYPE OF WORK PREFORMED
JUNE 13/90	7.0	WORD PROCESSING
TOTAL	7.0	

7.0 HOURS / 8.0 HOUR DAY = 0.875 DAYS

BENSON LAKE PROPERTY , CARTIER TOWNSHIP

HAROLD J. TRACANELLI - EXPLORATION GEOLOGIST

DATE	HOURS WORKED	TYPE OF WORK PREFORMED
FEB 26/90	2.0	GEOLOGICAL CONSULTATIONS
FEB 27/90	2.0	GEOLOGICAL CONSULTATIONS
FEB 28/90	2.66	GEOLOGICAL CONSULTATIONS
MAR 01/90	1.66	GEOLOGICAL CONSULTATIONS
MAR 20/90	6.00	DATA COLLECTION PRIOR TO FIELD
MAR 28/90	10.00	GEOLOGICAL STUDIES PRIOR TO FIELD
APR 04/90	2.0	EXPLORATION PROGRAM PLANNING
APR 07/90	2.0	EARLY SPRING PROSPECTING
APR 09/90	3.5	BEGAN DRAFTING OF GEOLOGICAL DATA
APR 17/90	1.0	CONSULTATION WITH RES. GEO. SUD.
MAY 09/90	8.5	PRELIMINARY REPORT WRITING
MAY 10/90	3.00	REPORT WRITING & PREPS.
MAY 14/90	12.00	DETAILED MAPPING
MAY 15/90	11.50	DETAILED MAPPING
MAY 16/90	12.50	DETAILED MAPPING
MAY 17/90	9.45	FINAL MAP & REPORT PREP.
TOTAL	84.02	

89.77 HOURS / 8 HOUR DAY = 11.221 DAYS

W9007-00272

Ministry of Northern Development and Mines
Ontario

W 9007.00272

41I12NE0014 2.13417 CARTIER

900

Report of Work
Mining Act
(Geophysical, Geological and Geochemical Surveys)

2.13417

Mining Lands Section, Mineral Development and Lands Branch:

Type of Survey(s)	Mining Division	Township or Area
Geological	Sudbury	Cartier Twp (G-4021)

Recorded Holder(s)	Prospector's Licence No.
Harald Joseph Tracanelli	C-32130

Address	Telephone No.
Box 167 Chelmsford, Ontario P0M-1L0	705 855-5350

Survey Company
BLM Mines Inc / Bharti Engineering Associates Inc

Name and Address of Author (of Geo-Technical Report)
Harald J. Tracanelli Bharti Engineering Assoc Inc
Box 2336 Sudbury, Ontario P3A-4S3

Date of Survey (from & to)

From: Day	Mo.	Yr.	To: Day	Mo.	Yr.
26	02	90	13	06	90

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	Geophysical - Other	
	Geological	
	Geochemical	
Man Days Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	
	Geophysical - Other	
	Geological * ~~(44) 43.8~~ 40	
	Geochemical	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.		Days per Claim
	Electromagnetic	
	Magnetometer	
	Other	

Total miles flown over claim(s).

Date: July 6/90 Recorded Holder or Agent (Signature): Harald J. Tracanelli

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Mining Claim Prefix	Mining Claim Number	Mining Claim Prefix	Mining Claim Number
S	1043657				
S	1043658				
S	1095071				

RECEIVED
JUL 17 1990
MINING LANDS SECTION

Total number of mining claims covered by this report of work: Three

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
Harald J Tracanelli % Bharti Engineering Assoc Inc / Box 2336 Sudbury, Ontario P3A-4S3

Telephone No. 705 566-6612

Date: July 6/90

Certified By (Signature): Harald J. Tracanelli

Received Stamp
SUDBURY MINING DIV. RECEIVED
JUL 09 1990
A.M. 7 8 9 10 11 12 1 2 3 4 5 6 P.M.

2:30 mH

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
132	July 9, 1990	V.C. Miller
	Date Approved as Recorded	Provincial Manager, Mining Lands
	19 July 90	

1362 (89/06)

Assessment Work Breakdown

Man Days are based on eight (8) hour Technical or Line-cutting days. Technical days include work performed by consultants, draftsmen, etc..

Type of Survey Geological

Technical Days				Technical Days Credits		Line-cutting Days		Total Credits		No. of Claims		Days per Claim
18.784	X	7	=	131.488	+	-0-	=	131.488	÷	3	=	43.829

Type of Survey

Technical Days				Technical Days Credits		Line-cutting Days		Total Credits		No. of Claims		Days per Claim
	X	7	=		+		=		÷		=	

Type of Survey

Technical Days				Technical Days Credits		Line-cutting Days		Total Credits		No. of Claims		Days per Claim
	X	7	=		+		=		÷		=	

Type of Survey

Technical Days				Technical Days Credits		Line-cutting Days		Total Credits		No. of Claims		Days per Claim
	X	7	=		+		=		÷		=	

Ministry of Northern Development and Mines

Ontario

Geophysical-Geological-Geochemical Technical Data Statement

2.13417

File _____

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 Survey.
Township or Area Carlier Township (G-1021)
Claim Holder(s) Harold J. Tracanelli Box 167
Chelmsford, Ontario P0M-1L0
Survey Company BLM Mines Inc. Sudbury, Ont.
Author of Report H.J. Tracanelli Bharti Eng Assoc. Inc
Address of Author Box 2336 Sudbury Ont P3A-4S8
Covering Dates of Survey Feb 26/90 to June 13/90
(linecutting to office)
Total Miles of Line Cut Chain and compass mapping Procedures were used.

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
–Electromagnetic	
–Magnetometer	
–Radiometric	
–Other	
Geological	
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: July 04/90 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications 2 10394

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
S-	1043657
S-	1043658
S-	1095074

If space insufficient, attach list

TOTAL CLAIMS Three.

OFFICE USE ONLY

837 (85/12)

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 _____

Ministry of Natural Resources
Ontario

Ministry of Northern Development and Mines

IN SERVICE OCT. 3/89.

INDEX TO LAND DISPOSITION

PLAN
G-4021

TOWNSHIP
CARTIER

M.N.R. ADMINISTRATIVE DISTRICT
SUDBURY
MINING DIVISION
SUDBURY
LAND TITLES/REGISTRY DIVISION
SUDBURY

Scale 1:20 000

1000 0 1000 2000 Metres

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 Feet

Contour Interval 10 Metres

AREAS WITHDRAWN FROM DISPOSITION

MRO - Mining Rights Only
SRO - Surface Rights Only
M + S - Mining and Surface Rights

Description	Order No.	Date	Disposition	File
(R) SEC.: 36/80	W-46/85	21 V 1986	S + M	

SYMBOLS

Boundary
- Township, Meridian, Baseline
- Road allowance, surveyed
- shoreline
- Lot/Concession, surveyed
- unsurveyed
- Parcel, surveyed
- unsurveyed
- Right-of-way, road
- railway
- utility
- Reservation
- Cliff, Pit, Fills
- Contour
- Interpolated
- Approximate
- Depression
- Control point (Horizontal)
- Flooded land
- Mine Head frame
- Pipeline (above ground)
- Railway, single track
- double track
- abandoned
- Road, highway (county, town, etc.)
- access
- trail, bush
- Shoreline (original)
- Transmission line
- Wooded area

LAND DISPOSITION

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
- Cancelled
- Reservation
- Sand & Gravel

DATE OF ISSUE
JUN 1 6 1989
SUDBURY
MINING RECORDER'S OFFICE

NOTES

SUBDIVISION OF THIS TOWNSHIP INTO LOTS AND CONCESSIONS WAS ANNULLED ON 27 APR 1953

TOWNSHIP SUBJECT TO FORESTRY OPERATIONS

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

Map base and land disposition drafting by Surveys and Mapping Branch, Ministry of Natural Resources.

The disposition of land, location of tenure and parcel boundaries on this index was compiled for administrative purposes only.

SMD 4021

41112NE0014 2.13417 CARTIER

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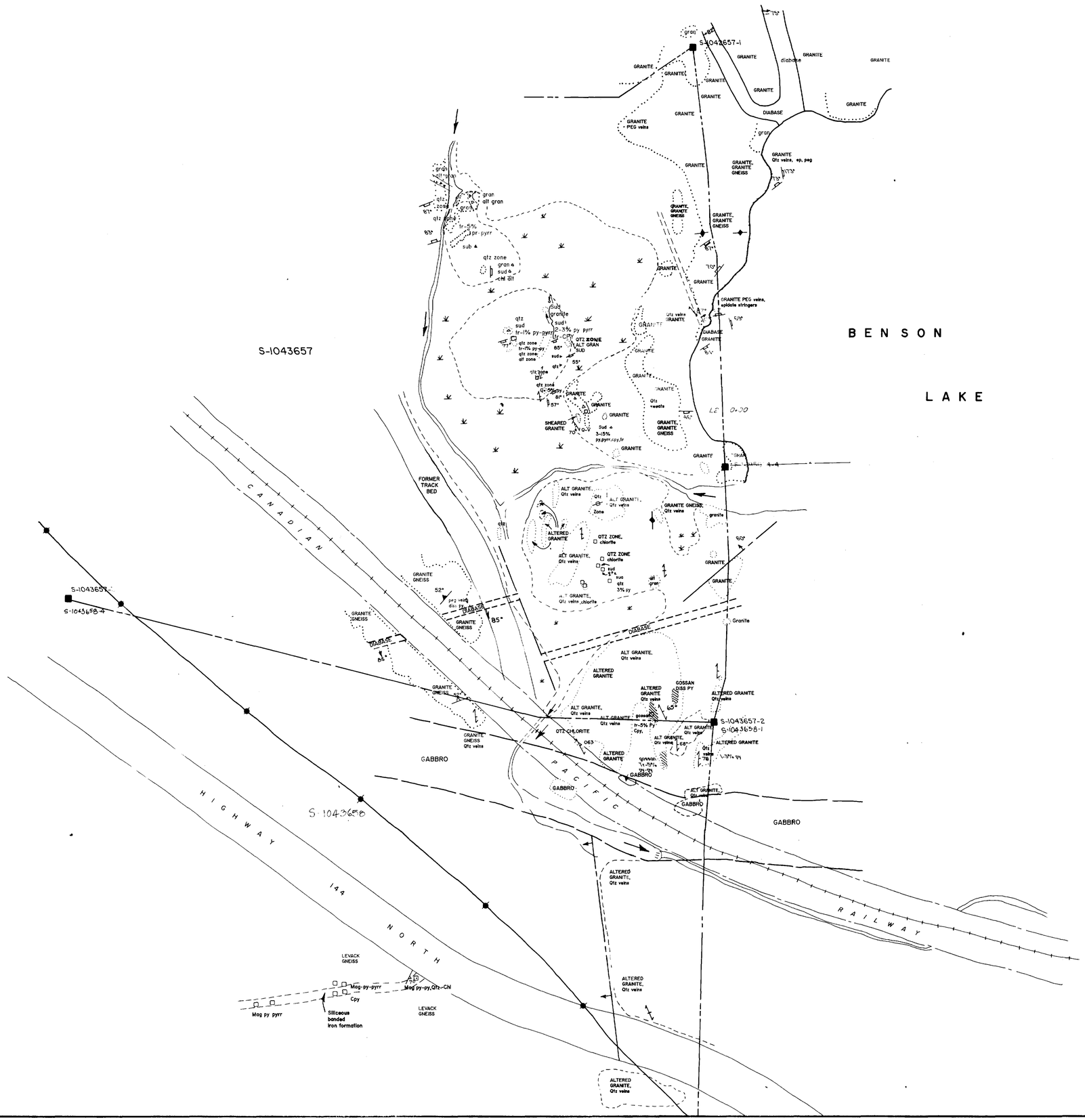
89-05



2.13417

NO	REVISION	BY	DATE

BHARTI ENGINEERING ASSOCIATES INC.
SUDBURY, ONTARIO

TITLE: GEOLOGICAL PLAN OF THE 'BENSON LAKE PROPERTY' CARTIER TWP.

DRW: HJT/DGBT	DATE: MAY 17, 90.	DRAWING NO
CHECK'D: HJT	DATE: MAY 19, 90.	
APPR'D: HJT	SCALE: 1"=100'	SHT NO.

41112NE0014 2.13417 CARTIER