## REPORT ON

## LINECUTTING AND MAGNETOMETER \& VLF-EM SURVEYS

FOR THE
FERGUSON, ANNETT, TINDALE PROPERTY
AT
HOUSTON LAKE, SHINING TREE AREA

## MACMURCHY TOWNSHIP

## LARDER LAKE M. D.

2. 

Toronto, Ontario
May 15, 1992
J. L. Tindale Geologist
63.2846

LONGITUDE $47^{\circ} 40^{\prime}$ LATITUDE $81^{\circ} 06^{\prime}$
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Scale 1:20,000
Scale 1:2,000
Scale 1:2,000
Scale 1:2,000

The property described in this report is owned equally be Ralph Ferguson of Matachewan, Roy Annett of Shining Tree and J. L. Tindale of Toronto. Prospecting has revealed a sequence of mafic through acidic volcanic flows and pyroclastic rocks with sulphide rich bands carrying elevated values in nickel, copper and zinc. Pre-1930 trenches found north of Houston Lake over a strike length of approximately one kilometer exposed portions of the sulphide rich area and encouraged the partners to acquire the property by staking.

The geophysical surveys described in this report were carried out prior to breakup to permit full coverage of the property including the river and lake covered portions.

## CLAIM STATUS, ACCESS, LOCATION



The property is reached from the village of Shining Tree by travelling easterly along Highway 560 for approximately 12 kilometers to Houston Lake Camp and then westerly along Houston Lake by boat or skidoo depending on the season.

The west branch of the Montreal River flows easterly across the western portion of the property emptying into Houston Lake. Approximately one-third of the claims are water covered. North of the river and the lake the topography rises gradually whereas south of these waterways the land rises sharply in the form of steep northfacing hillsides. Low areas adjacent to the river and lake are covered with spruce, balsam and cedar

changing to jackpine and poplar at higher elevation. Maximum relief difference approximately 50 metres from the lake level to the highest ground along the south boundary.

## PREVIOUS EXPLORATION

Little is known about previous exploration attempts on the property. Prospecting by Roy Annett located a series of deep trenches north of Houston Lake on present claim 1180347. These trenches are badly caved and have sizeable trees growing in them so are probably 30 to 40 years old. Digging with grubhoes turned up pyrrhotite and pyrite mineralization in mafic volcanics which on assay returned up to 2000 ppm nickel. The trenches are spread out across approximately 500 metres in an east to west direction.

Further west on claim 1152182 just north of the river a number of old trenches have been put down on a quartz vein occurrence in what appears to be a silicious tuff unit. An old drill casing is present at the river bank indicating at least one drill hole tested this zone, probably for gold.

Macmurchy Township was geologically mapped by M. W. Carter of the Ontario Division of Mines and his report entitled Geology of Macmurchy and Tyrrell Townships was published as Geoscience Report 152 in 1977, Carter's mapping indicates the property to be underlain by a volcanic sequence composed of mafic to felsic flows and pyroclastic rocks which trend in an east to west direction.

The O.G.S. published a set of airborne magnetometer and electromagnetic maps in December of 1990 under the title Shining Tree Area. Two weak electromagnetic responses occurred on the subject claim block.

Exploration activity in the Shining Tree Area during the last year has increased mainly due to the discovery of copper-nickel mineralization in Fawcett Township, approximately 10 kilometers southwest of Houston Lake. Recent drilling, also for copper-nicke1, has been carried out in Knight Township at Arthur Lake, approximately three kilometers northeast of our property.

A grid was established over the property between March 23 and April 3, 1992 by Roy Annett of Shining Tree and J. L. Tindale of Toronto. A central east-west baseline measuring 1,375 metres was cut, picketed and chained across the property with pickets established at 25 metre intervals and lines turned off to the north and south at 100 metre intervals. From the baseline the north-south grid lines were chained and flagged at 25 metre intervals. Claim boundaries were tied to this grid. The total distance of the grid measures 15.98 kilometers.

## MAGNETOMETER SURVEY

A magnetometer survey was carried out over the grid from April 4 to April 8, 1992 by Roy Annett of Shining Tree using a GEM Systems Model GSM-8 magnetometer rented from Salo Contracting of Timmins. The instrument automatically measures the absolute value of the earth's magnetic field to a resolution within 0.1 gammas. The survey was completed using the baselineloop method which allows for correction of the data for diurnal variations. Sample readings were taken at 25 metre intervals along the baseline and grid lines. A base magnetic value of 57,000 gammas was utilized for the duration of the magnetic survey. Total coverage was 15.98 kilometres. Cross-overs at the north and south extremities of the grid lines were read from chained intervals.

Results of the survey are presented as Map No. 1 at a scale of $1: 2000$. Background appears to be between 900 and 1,000 gammas. Gamma values above 1,100 are contoured at 100 gamma intervals and are considered anomolous.

The most interesting feature is present north of the baseline on lines 0 and $1 E$ where readings up to 1,550 gammas occur coincident with an airborne electromagnetic anomoly and flanking a series of cross-overs from our V.L.F. survey. A number of deep trenches are adjacent to this magnetic feature from which we have extracted sulphide-rich mafic rocks carrying anomolous nickel values. This zone of high magnetics appears to strike to the north-east crossing other trenched areas. The zone is in total approximately 600 metres long with the highest portion approximately 150 metres long at the southwest section.

Further north between lines $1 W$ and 2E on claim 115283 an irregular a of anomolous magnetics with values in the 1,300 gamma range. This area corresponds with a similarly irregular filtered V.L.F. anomolous zone.

The highest magnetics occur on the south end of line 1 E where readings up to 2,150 gammas were obtained. This zone appears to be caused by a diabase dike striking northwesterly.

Aside from the above there are several 100-200 gamma anomolous zone scattered over the property. These are characterized by short strike lengths and/or irregular strikes and are probably due to local variances in rock composition.

## VLF-EM SURVEY

The VLF survey was conducted by the writer between April 4 and Apri18, 1992 using a Geonics EM-16 tuned to Cutler, Maine at a frequency of $24.0 \mathrm{KH}_{2}$. The VLF method uses the military and time standard VLF transmissions as primary field. Only a receiver is then used to measure the secondary fields radiating from the local conductive targets. The EM-16 system provides the in phase and quadrature components of the secondary field with the polarities indicated.

Data from this survey is presented on two maps. Map 2 is a profile depicting the in phase and quadrature readings obtained in the field and as such is a "crossover presentation". Map 3 is a filtered presentation of the results utilizing the techniques developed by D. C. Fraser.

Conductor A is located on lines 1 E and 2 E at about 150 metres north of the baseline. This strong zone coincides with old deep trenches, sulphide mineralization and nickel values obtained from limited sampling. The zone is flanked by abnormal magnetic highs and is situated upon an airborne response from the electromagnetic survey flown by Geoterrex for the OGS and published as the Shining Tree Area series. This active area will be further examined on the ground during the course of geological mapping and trench clearout planned for the summer of 1992.

Filtered data compilation extends Conductor A all the way to the west boundary. This westerly extension is underlain by the river and low swampy ground and may be caused in part by conductive overburden. Magnetic response over this westerly extension is lacking.

Conductor $B$ occurs in the south west corner of the property and retches from Saws Lake to the small pond along the southern boundary. Magnetics are not particularly interesting over this zone. The low ground makes the zone suspect.

Conductors C, D, E are short, discontinuous responses across the northern portion of the property and have similar irregular magnetic anomolies in association. Most are in high, open ground and could be caused by changes in lithology in the underlying rocks. Geological mapping may assist in the interpretation of these lower grade conductors.

Conductor $F$ on claim 1146629 while fairly strong over three lines occurs in low swamp covered ground and is: probably caused by conductive overburden. Conductor $G$ to the northeast of $F$ is similarly interpreted.

Conductor H is located under Houston Lake and is an arcuate zone paralleling the shoreline commencing at the mouth of the Montreal River. This zone is doubtless caused by conductive overburden deposited by the river.

## CONCLUSION AND RECOMMENDATIONS

The area of old deep trenches immediately north of Houston Lake on lines 0 to $2 E$ and from which we obtained sulphide mineralization and anomolous nickel assays has been confirmed as an area of high magnetics and conductivity.

Weaker but consistent conductive zones are also present near the north boundary of the claim group. Other VLF responses, particularly in the southwest quarter of the property are deserving of further examination.

It is recommended and planned to carry out a geological survey of the property along the established grid during the summer of 1992. Prospecting and trench cleanout will be done in conjunction with the mapping.

Respectfully submitted,

Toronto, Ontario
May 15, 1992


## REFERENCES

Carter, M. W. Geology of Macmurchy and Tyrrell Townships; Geoscience Report 152, MNR, 1977.

Fraser, D. C.
Contouring of VLF-EM Data;
Geophysics Vol. 14, No. 6, 1969.

Shining Tree Area
Airborne Electromagnetic Survey;
Geophysical Series, MNR, Map 81420, 1990.

Ontario

| Ministry of | Ministers du |
| :--- | :--- |
| Northern Development | Développement du Norad |
| and Mines | et does Mines |



October 6, 1992
Mining Recorder
Ministry of Northern Development and Mines
4 Government Road East
Kirkland Lake, Ontario
P2N 1 AR
Dear Sir:
Re: Approval of Assessment Work on mining claims L. 1180346 et al. in MacMurchy Township.

The deficiencies in this submission have been rectified and the Assessment Credits for Geophysics, section 14 of the Mining Act Regulations, as listed with the original submission, have therefore been approved as of OCTOBER 6, 1992.

Please indicate this approval on the claim record sheets.
If you have any questions, please contact Clive Stephenson at (705) 670-5856.

Yours sincerely,


Ron C. Gashinski
Senior Manager, Mining Lands Branch Mines and Minerals Division

Enclosures:
cc: Assessment Files Office Toronto, Ontario

RECEIVED
ONTARIO GEOLOGICAL SURVEY GIS-ASSESCBENT FILES

DEC 1. 41992

Resident Geologist Cobalt, Ontario

Report of Work Conducted After Recording Claim

Mining Act
 $9280 \cdot 00133$

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

Instructions: - Please type or print and submit in duplicate.

- Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
- A separate copy of this form must be completed for each Work Group.
- Technical reports and maps. must accompany this form in duplicate.
- A sketch, showing the claims the work is assigned to, must accompany this form.


Work Performed (Check One Work Group Only)


Total Assessment Work Claimed on the Attached Statement of Costs

$$
\$
$$

$\qquad$
Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

(attach a schedule if necessary)
Certification of Beneficial Interest * See Note No. 1 on reverse side

| I certify that at the time the work was performed, the claims covered in this work |
| :--- |
| report were recorded in the current holder's name or held under a beneficial interest |
| by the current recorded holder. |

Certification of Work Report

Certification of Work Report



## Statement of Costs for Assessment Credit <br> État des coûts aux fins du crédit d'évaluation



## Mining Act/Lol sur les mines

Personal Information coliected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4 Ih Floor, 159 Codar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

## 1. Direct Costs/Coats directs

| Type | Description | Amount Montant | Totals Total global |
| :---: | :---: | :---: | :---: |
| Wages Salalres | Labour Main-d'oeuvre | 2200 |  |
|  | Field Supervision Supenision sur le terrain | 3200 | 5400 |
| Contractor's and Consultant's Fees Drolts de I'entreprenour et de l'oxpertconsell | Type <br> Report Prep. | 1575 |  |
|  | Praughtin | 480 |  |
|  |  |  | 2055 |
| Supplies Used Fournitures utillados | $\begin{aligned} & \text { Type } \\ & \text { Flogs:m, Tapc }, \text { hlint }^{\text {in }} \end{aligned}$ | 63.11 |  |
|  | Printing ${ }^{\text {cres }}$ | 6003 |  |
|  |  |  | 123.14 |
| Equipment Rental Location de matérial | Type <br> Skides | 346.47 |  |
|  | FMAE:MIFA | 304.94 |  |
|  | UG1-31092 |  | 651.41 |
| Total des couts directs |  |  | 8229.55 |

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification Is not made, the Minister may reject for assessment work all of part of the assessment work submitted

Les renseignements personnels contenus dans la présente tormule sont recueillis en vertu de la Lol sur los mines et serviront à tenir a jour un registre des concessions minierres. Adresser toute quesiton sur ta collece de ces renseignements au chef provinclal des terrains miniers, ministere du Dóveloppement du Nord et des Mines, 159, rue Cedar, $4^{\circ}$ etage, Sudbury (Ontario) P3E 6A5, télephone (705) 670-7284.

## 2. Indirect Costs/Coots indirects

* Note: When claiming Rehablitation work Indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les couts indirects ne sont pas admissibles en tant que travaux d'Avaluation.


Note : Le titulaire enregistre sera tenu de verifier les depenses demandees dans le présent etat des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeler tout ou une partie des travaux d'évaluation présentés.

## Remises pour dépót

1. Les travaux deposés dans les deux ans suivant leur achèvement sont remboursés à $100 \%$ de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à $50 \%$ de la valeur totale du crédit d'évaluation susmentionne. Voir les calculs ci-dessous.

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## Attestation de l'état des coats

J'atteste par la présente :

dépenses ont été engagées poür effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'á titre de $\qquad$ je suis autorisé (utulaire enregisiró, représentant, posie occupe dans ia compagnle)
a faire celte attestation.








