

Township of Mc Nish
Report No: 14

Work performed by: A. E. Jerome (Jerome Explorations Limited)

| Claim No | Hole N\% | Footage | Date | Note |
| :---: | :---: | :---: | :---: | :---: |
| S. 323447 | 1 | 2131 | Dec/72 | (1) |
|  | 2 | 154' | Jạn/73 | (1) |
| S. 323357 | 3 | 145.5' | Jan/73 | (2) |
|  | 4 | $81.5^{\prime}$ | Jan/73 | (2) |
|  | 5 | $95^{\prime}$ | Jan/73 | (2) |
|  | 6 | $54^{\prime}$ | Jan/73 | (2) |
|  | 7 | $30^{\prime}$ | Jạ/73 | (2) |
|  | 8 | $50^{\prime}$ | Jạn/73 | (2) |
|  | 9 | $180^{\prime}$ | Feb/73 | (2) |
|  | 10 | 160' | Feb/73 | (2) |
|  | 11 | $85^{\prime}$ | Feb/73 | (2) |
|  | 11 A | $63^{1}$ | Feb/73 | (2) |
| S. 323450 | 12 | $80^{\prime}$ | Feb/73 | (1) |
|  | 12A | 105' | Feb/73 | (1) |
| S. 323451 | 13 | $70^{1}$ | Mar/73 | (1) |
|  | 14 | $78^{\prime}$ | Mar/73 | (1) |

## Diamond Drilling

## Township of Mc Nish

Report No: 14

Work performed by: A. E. Jerome (Jerome Explorations Limited)

| Claim No | Hole No | Footage | Date | Note |
| :---: | :---: | :---: | :---: | :---: |
| S.323451 | 15 | 351 | Mar/73 | (1) |
|  | 15-A | 105' | Mar/73 | (1) |
|  | 15-B | $60^{\prime}$ | Mar/73 | (1) |
|  | 16 | 61 ' | Mar/73 | (1) |
|  | 16-A | $80^{\prime}$ | Mar/73 | (1) |
|  | 16-B | $69^{1}$ | Mar/73 | (1) |
| S. 323448 | 17 | $17^{\prime}$ | Apr/73 | (1) |
|  | 17-A | $75^{\prime}$ | Apr/73 | (1) |
|  | $: 24$ | 2146 |  |  |

Notes: (...) date placed on file
(1) (May 74) $23 / 74$
(2) (May 74) $22 / 74$

| .... Hole No. 2 , |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
| Departure $18+90 \mathrm{E}$ |  | 90 E Dip_ $\mathrm{C}^{\circ}$ | Claines - 323447 |  |  |  |  |
| $\qquad$ |  | $\text { Twpo, Ontario Length } 213.0^{\circ}$ | . | Core Size IEX. |  |  |  |
| Elevation__ Started D ${ }^{\text {a }}$ |  |  |  | Completed Jan. 1. 1973 |  |  |  |
| FROM | T0 | FORMATION | SAMPLE NO. | $\begin{aligned} & \text { IENGTH } \\ & \text { FT. } \end{aligned}$ |  |  |  |
| 0 | 2 | OVERBURDEN |  |  |  |  |  |
| 2 | 39 | BASIC VOLCANIC (Andesite?) massive, dark grey to blaok; fairly soft; disseminated magnetites <br> 35.2-39.0'- J.ess than 1 to 5\% disseminated pyrrhotite, pyrite and subsidiary chalcopyrite. |  |  |  |  |  |
| 39 | 68.5 | SILICIFIED BASIC TUFF - very inne-grained, hard! thin stringex of pyrrhotite, pyrite, minor chalcopyrite from 42-47' <br> 48' - quartz stringer with pyrrho tite。 |  |  |  |  |  |
| 68.5 | 183.5 | BASIC VOLCANIC - black, finegrained, oonposed of amphiboles, chlorite, minor feldspar, finely disseminated sulfides throughout, some blebs - pyrrhotite, minor chalcopyrite, <br> 76-78' - blebs, stringers, a few thin massive bands of pyrrhotite, minor chalcopyrite, about $5 \%$ sulf fides <br> 82-83'- siliceous, possibly rhyo lite band; <br> 78-82'- about 5\% sulfides; some chalcopyrite; <br> 83-89' - blebs of pyrrhotite, minor chalcopyrite; 120-123' - splotches, discantinu ous stringers pyrrhotite, pyrite minor chalcopyrite; 165-168'-5-20\% pyrrhotite, minof chalcopyrite (about 1\%); <br> - sulfides end at 180. |  |  |  |  |  |
| 183.5 | 213 | BASIC VOLCANIC - sohiŝtose, mica and.amphibole-rich; some inter- |  |  | $98 \times$ | COVERY |  |
| Drilled by Ae Jerome, Hanmer, ontario Logged by RoH. Henning, P.Eng。 |  |  |  |  |  |  |  |




Property MCN: h



Property




Property＿＿McNish
Hole No． $\qquad$ 5


Location MCNish Twp o，Ontario Length $\qquad$ 25．0＇

Core Size $\qquad$ TEX

Elevation＿Started Jan．22＾． 1973
Completed Jan 25． 1973
 oiated with quartz veins－pyrrho－ tite and chalcopyrite．
$43 \quad 95 \quad \frac{\text { ARGIILIME－very fine－grained，}}{\text { dark grey，massive；contains a }}$ dark grey，massive，contains a
few quartz stringers with scat－ tared pyrrhotite，minor chalco－ pyrite．

END OF HOLE－95．0＇
LE
LENGTH

| \％Cu | $02 / t$ | $02 / t$ |  |
| :--- | :--- | :--- | :--- |
|  |  | $A E$ | 10 |



$\qquad$ $-$

Hole No. $\qquad$



Hole No. $\qquad$ 7

| Lotitude $\quad 9+90 \mathrm{~N}$ | Beoring $090^{\circ}$ | Poge 1 of 1 |
| :---: | :---: | :---: |
| ' ${ }^{\text {c }}$ ( $31+00 \mathrm{E}$ | - $60^{\circ}$ | claime S-323357 |

Locotion MCNish Twpes Ontario Length $\qquad$ $30.0^{\prime}$ Core Size $\qquad$
Elevation StortedJan. 29., 1973 Completed Jan 30, 1973


Property
Hole Nj. $\qquad$


LocationMcNish Twp., ontario Length $\qquad$ $50.0^{\prime}$ Core Size IEX Elevation___ Started Jan. 31, 1973 Completed Feb. 1, 1973



Hole No. 10


LocotiomaNish Iuna_Ontaria Length $160.0^{\circ}$
Core Size_IEX
Elevation_C_Started Feb.11, 1973 CompletedApril 6, 1973

| FROM | T0 | formation' | SAMPLE NO. | $\begin{gathered} \text { LENCTH } \\ \text { FT. } \end{gathered}$ | \%Cu | 02/t | 0z/t |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | 160 | BASIC VOLCANIC TUPE, PLOH massive, very fine grained to Iine-grained; dark green, hard; scattered finely disseminated sulfides, discontinuous stringe blebs of pyrrhotite, minor chalcopyrite, minor sphalerite and galena. <br> END OF HOLE - 160.0' <br> Note: Drilling on D.D.H. 10 was suspended on Feb. 13,1973 and was resumed on April 5 , 1973. | rs; |  |  |  |  |
| $\begin{aligned} & 0.9 \\ & 40.5 \\ & 56 \end{aligned}$ | $\begin{aligned} & 2.5 \\ & 45.5 \\ & 60 \end{aligned}$ |  | $\begin{aligned} & 4914 \\ & 4915 \\ & 4916 \end{aligned}$ | $\begin{aligned} & 1.4 \\ & 5.0 \\ & 4.0 \end{aligned}$ | $\begin{aligned} & 0.08 \\ & 0.06 \\ & 0.06 \end{aligned}$ | $\begin{aligned} & 0.32 \\ & 0.04 \\ & \text { Trace } \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0.005 \\ & \text { Trace } \\ & \text { Trace } \end{aligned}\right.$ |
|  |  | pooression | 4914 4915 4916 |  | $\begin{aligned} & \$ 2 n \\ & 0.19 \\ & 0.10 \\ & 0.09 \end{aligned}$ |  |  |
|  |  |  |  |  | $98 \times$ | CORE RE | OVERY |



Property MCN1sh
Hole No.
114

Locotion MCNish THp.; Ontario Length $\frac{63.0^{\circ}}{\text { Core Size IEX }}$


| FROM | то | FOKMMTION | SAMPLE NO. | $\begin{array}{\|c\|} \hline \text { LENGTH } \\ \hline \end{array}$ | $\% \mathrm{Cu}$ | $\begin{gathered} 02 / t \\ \mathrm{Ag} \end{gathered}$ | $\begin{gathered} 02 / t \\ \mathrm{Au}^{2} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | 63 | SIIICIFIED ARGILLITE ( or volcanic grey-black, fine-grained, highly silioified; abundant quartz atringers with pyrrhotite, chalcopyrite mineralization within and adjacent to trese; <br> 2.0' - rassive bleb of pyrrhotitenwith about $3 \%$ chalcopyrite over $2^{\prime \prime}$; <br> 21.0' $0^{\prime \prime} \frac{2}{n}^{\prime \prime}$ chalcopyrite stringe <br> - abundant chloritic shist near bottom of hole ( 25 to 63') <br> END OF HOLE - 63.0' | 6? |  |  |  |  |
|  |  | - $\quad$ n |  |  |  |  |  |
| 2 | 4 |  | 4932 4933 | 2.0 2.0 | 0.03 0.14 | 0.06 0.40 | 0.005 |
| 4 | 5 |  | 4934 | 1.0 | 0.04 | 0.12 | $\stackrel{\square}{*}$ |
| 5 |  |  | 4935 | 1.0 | 0.27 | 0.24 | $\stackrel{\square}{\square}$ |
| 6 | 7.5 |  | 4936 | 1.5 | 0.04 | 0.06 | $\cdots$ |
| $7 \cdot 5$ | 10 |  | 4937 | 2.5 | 0.08 | 0.12 | $\stackrel{3}{2}$ |
| 10 | 12 |  | 4938 | 1.0 | 0.07 | 0.10 | $\stackrel{\sim}{*}$ |
| 11 | 13 |  | 4939 | 2.0 | 0.115 | 0.24 | ${ }^{\circ}$ |
| 13 | 14 |  | 4940 | 1.0 | 0.10 | 0.16 | $\underline{\sim}$ |
| 14 | 17 |  | 4941 | 3.0 | 0.155 | 0.20 |  |
| 17 | 19 |  | 4942 | 2.0 | 0.105 | 0.12 | \% |
| 19 | 20 |  | 4943 | 1.0 | 0.20 | 0.38 | $\cdots$ |
| 20 | 22 |  | 4944 | 2.0 | 0.23 | 0.12 | Trace |
| 22 | 23 |  | 4945 | 1.0 | 0.10 | 0.126 | 0.005 |
| 23 | 24 |  | 4946 | 1.0 | 0.09 | 0.32 | * |
| 24 | 25 |  | 4947 | 1.0 | 0.13 | 0.20 | - |
| 25 | 30 |  | 9628 | 5.0 | 0.04 |  |  |
| 30 | 35 |  | 9629 | 5.0 | 0.03 |  |  |
| 35 | 40 |  | 9630 | 5.0 | 0.02 |  |  |
| 40 | 45 | 事 ${ }^{\circ}$ | 9631 | 5.0 | 0.03 |  |  |
| 45 | 50 |  | 9632 | 5.0 | 0.02 |  |  |
| 50 | 53 | (\% R. H. HENNING ${ }_{\sim}^{\sim}$ | 2633 | 5.0 | 0.105 |  |  |
|  |  |  | 4933 | 2.0 | $\%$ 0.28 0.28 |  |  |
|  |  |  | 4946 | 1.0 | $\begin{array}{r} 0.18 \\ 98 \end{array}$ | ORE | VERY |

Dilled by A-Jorane, Hanmer, Ontario
$\qquad$
Hole No. 12
 Location MCNish Trpo, Ontari Length
$80.0^{\circ}$

Elevation
Storted Feb. 25, 1973
Core Size_IEX

| FROM | TO | FORMATION ${ }^{-}$ | SAMPI, NO. | $\begin{gathered} \text { LENGTH } \\ \text { FT. } \end{gathered}$ | \% Cu | 02/t | $\mathrm{oz} / \mathrm{t}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AE | EU |
| 0 | 80 | GRAYYACKE medium greys medium to ińne graineds composed of quartz, feldspar, chiorite and biotites a few thin quartz stringers; massive; <br> - Pinely disseminated pyrrhotite throughouts sane chalcopyrite, especially in veins; best cp. - $25.5^{\prime}$ <br> END OF HOIE - 80.0' |  |  |  |  |  |
| $\begin{aligned} & 0 \\ & 2 \\ & 5 \\ & 25 \\ & 35 \\ & 37.5 \\ & 40 \\ & 42.5 \end{aligned}$ | $\begin{aligned} & 2 \\ & 5 \\ & 7.5 \\ & 25.8 \\ & 37.5 \\ & 40 \\ & 42.5 \\ & 45 \end{aligned}$ |  | 4201 <br> 4202 <br> 4203 <br> 4204 <br> 4206 <br> 4207 4208 <br> 4209 | $\begin{aligned} & 2.0 \\ & 3.0 \\ & 2.5 \\ & 0.8 \\ & 2.5 \\ & 2.5 \\ & 2.5 \\ & 2.5 \end{aligned}$ | $\begin{aligned} & 0.04 \\ & 0.06 \\ & 0.10 \\ & 0.54 \\ & 0.08 \\ & 0.10 \\ & 0.04 \\ & 0.12 \end{aligned}$ | 0.28 | 0.005 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  | $100 \times$ | CORE P | OVERY |



Hole No. 13




| FROM | TO | FORMATION |  | SAAPLE <br> NO. | LENGTH <br> FT. | $\%$ CU |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |

CONGLOMERATE - medium grey,
massives composed of rounded to angular clasts of quartzite, granodiorite and basic volcanics, silicified matrix; scattered quartz veins:

- sparsely mineralized with disseminated pyrrhotite and minor chalcopyrite.

END OF HOLE - 70.0'


4238
$5.2 \quad 0.07$


Property McNish


Property_MaNish



Property Mo Nish

|  |  | Hole No. 15 B |
| :---: | :---: | :---: |
| titude $\quad 9+00 \mathrm{~N}$ | $\text { Beoring } 270^{\circ}$ | 1 ot 1 |
| Departure $5+00 \mathrm{E}$ | Dip - $80^{\circ}$ | claims S-323451 | Location McNish Twp., Ontario Length_ $60.0^{\circ}$._—_Core Size IEX




Property MoNish
. Hole No. 16

Lotitude $11+80 \%$ Beoring $090^{\circ}$ Poge 1 of 1
Deporture $7+00 \mathrm{E}$ $\operatorname{Dip}-75^{\circ}$ laime S- 323451
Location
McNish Twp., ontario Length $\qquad$ Core Size IEX Elevation $\qquad$ March 29, 1973 Completed March 21, 1973


Hole No. 16A

Latitude $11+80 \mathrm{~N}$
Bearing $270^{\circ}$
Page $\qquad$ 1 of 1
Departure $7+00 \mathrm{E}$
Dip - $65^{\circ}$
Claim S - 323451
LocotionMCNish Twp., Ontario Length $80.0^{\circ}$
Elevation $\qquad$ Started

March 222, 1973 Core Size IEX


$$
20
$$

CONGLONERATE - medium grey, massive; siliceous matrix i composed of pebbles and cobbles of quartzite, granodiorite, mafic volcanics;

- contains minor disseminated pyrrhotite and very minor chapcopyrite; 5-5.5' - pyrite band.
BASIC VOLLCANIC - Andesite?- silicified; medium-dark green, fine-grained; contains 1-2\% sulfides - pyrrhotite, pyrite and minor chalicepyrite associated with quartz stringers
$53.5-54^{\circ}$ - $35 \%^{\circ}$ pyrrhotite, wyrite blebs, semi-massive sulfides, very little chalcopyrite.

END OP HOLE - 80.0'


Completed

Property
McNish

|  |  | Hole No. 16B |
| :---: | :---: | :---: |
| Latituda $12+80 \mathrm{~N}$ $\qquad$ | Bearing $180^{\circ}$ | Page 1 of 1 |
| Deporture $\quad 7+00 \mathrm{E}$ | Dip $-85^{\circ}$ | Claimi S- 323451 | Location MCNish Twi., Ontario Length $69.0^{\prime}$ Core Size IEX Elovation Storted $\qquad$ Completed March 26,19



$\qquad$
Hole No. 17 A

Letitude $\qquad$ $3+85 \mathrm{~S}$ Beoring $\qquad$ $285^{\circ}$ Claims S-323448
Deporture_ $24+30$ E $\qquad$ Core Size_IEX Elevation___ Started April2, 1973

Completed April 3.1973
 pyrito.

END OP HOLE - 75.0 ${ }^{\circ}$


ANALYTICAL CHEMISTS - ASSAYERS - SHIPPERS' REPRESENTATIVES - CONSULTANTS .

## CERTIFICATE OF ANALYSIS

Jerome Explorations Led
Recetived from:
insto 30日. 2 30 : $2 n y$ strwet. ioronto. int.
Semples of:
Reca from B Jurom jx


## JEROME EXPLORATIONS LIMITED

REPORT On


MaNish Property

MaNish Township, Sudbury Mining Division, ontario

## CERTIFICATE

I, RUDI \#. HENNING, do hereby certify that:

1. I am a Consulting Geologist with address at 6 Park $\nabla$ ista Drive, Apt. 704, Toronto, Ontario.
2. I graduated from McGill University, Montreal, in Honours Geological Sciences in 1966, and have been practising my profession since then. .
3. I am a member in good standing of the Association of Professional Engineers of the Prov ince of Ontario.
4. I have no interest, direct, indirect nor expected, in the properties or Securities of Jerome Explorations Ltd.
5. This report is based on:
a. "Report of Examination on Mcilisi Tomsaip Claims Held by Jerome Explorations Limited, Sudbury Mining Division, Ontario, Canada" by A.S. Bayne, P.Eng., dated February 7, 1972, which constitutes the Qualifying Report for the property described herein.
b. "Report Covering Electromagnetic and Magnetic Surveys over Jerome Explorations Limited Claim Group, McNish Township, Sudbury Mining Division; Ontario" by J. Duncan Crone, B.A., P.Eng., dated October 6, 1972. c. Ontario Dept. of Mines Map 4 If accompanying Vol. XII, Part IV, 1932.
d. Plan showing preliminary geology and location of mineralized showings, by A.E. Jerome (based on mapping and prospecting carried out by A.E. (Bert) Jerome during the fall of 1972 on the McNish Property). $\qquad$
e. My persona? observations and logging of diamond drill core while visiting the property described nerein. between January and April, 1973.

Dated at Toronto, Ontario, this 20th. day of March, 1974


## STPMARY

The McNish Property consists of 24 contiguous, unpatented mining claims totalling approximately 960 acres held by Jerome Explorations Limited on Lots 8, 9, and 10 of McNish Township, Sudbury Mining Division, Ontario. The recorded claim numbers are: S. 323353 to S. 323358 inclusive; S. 323446 to S . 323455 inclusive; S. 323840 to S. 323847 inclusive. The claims are in good standing until October" 5 , 1974 at the earliest.

The property is located approximately 35 miles northeast of Sudbury, and 10 miles north of the North Bay-Capreol C.N.R. line. It is accessible during the summer months by road No. 805 connecting with Sudbury, and during the winter, by ski-equipped aeroplane which can land on Ozhway Lake at the southern boundary of the clajm group.

Previous work on the property consisted of sporadic stripping and rock-pitting between the early 19301 's and 1944 In 1956, Palston Mining and Development Company Limited held title to 34 claims which included the present Jerome Explorations Limited property. During that year, 8 mineralized showings were pitted by blasting, and an electromagnetic and gravity survey was done. The Paiston Mining and Development Company Limited claims were abandoned after that company pecame inactive in 1957 due to a lack of funds. In September of Sturgeon River and staked copper sulfides on the west bank carried out through October and present property. Prospecting location of most of the old and November, 1971 resulted in the of copper sulfides.

The property is underlain by rocks of Precambrian age. About $20 \%$ of the ground consists of outcrop exposures, the rest being overburden and swamp covered. The oldest exposed rocks are the Keevatin volcanic and meta-sedinentary rocks which are overlain unconformably by younger Precambrian sedimentary rocks of the Cobalt Series consisting of conglomerate, argillite, greywacke and quartzite. The rocks are folded and sheared and are mineralized in a number of localities rith copper, zinc, lead and nickeliferous sulfides. Low tenors of silver and gold have been found associated with the copper-iron-zinc-lead sulfides. A total of 17 mineral showings have been located so far on the property. Signiricantly high copper values, in the order of 1 to $2 \%$, were obtained from samples taken from these showings, along with silver values up to 1.88 .9 z. Iton and gold values along from an old dump assayed $0.45 \% \mathrm{Cu}, 1.60 \% \mathrm{~Pb}$, and grab samples

There is no equipment on the property and no mine workings other than the pits and trenches.

Exploration work by Jerome Explorations Limited commenced on the property in the fall of 1972 and consisted of about 21.6 miles of line cutting, preliminary detailed geological mapping of the area west of Sturgeon River, trenching, rockpitting and sampling of old and new showings, 16.3 miles of V.I.F. el ectromagnetic and magnetic surveys, and diamond drililing of 24 short noles totalling 2146.0 feet.

The geophysical surveys revealed the existence of a number of attractive anomalies, some of which were drilltested. In addition, a number of holes were drilled on the better showings, testing mainly for vertical extent of the mineralization exposed in the pits.

Results of the drilling program indicated that marginal grade copper, and low-grade silver and gold mineralization extends to a vertical depth of at least 150 feet in one locality. Best assay obtained from drilil-core was $0.69 \%$ copper, $0.580 z . /$ ton silver and 0.02 oz ./ton gold over a

It is recommended that a discriminating exploration program be carried out on the property, including Induced Polarization (I.P.) and gravimetric surveys, minor amount of prospecting and. possibly trenching with a buldiozer, and diamond drilling of the most promising targets.

It is anticipated that the recommended exploration program will cost about $\$ 26,350.00$.

## INTRODJCTION

This report sumarizes the known facts and the exploration work performed on the McNish property by Jerome Explorations. Limited up to the prosent date since the submission of the Qualifying Reporv on the said property by A.S. Bayne, P.Eng., dated February 7th, 1972 and entitled "Report of Examination on McNish Township Claims Held by Jerome Explorations Limited, Sudbury Mining Division, Ontario, Canada", to which reference is made.

It alṣo draws certain conclusio:s and makes recommendations as to further exploration work to be carried out on the Property, based on an assessment of the available data by the author.

## HOLDINGS

The MCNish property consists of 24 contiguous, unpatented mining claims totalling approximately 960 acres held by Jerome Explorations Limited on Lots 8, 9 and 10 of MaNish Township, Sudbury Mining Division, Ontario.

The claim numbers are as follows:
S. 323353 to S. 323358 inclusive; S. 3236446 to S .323455 inclusive; S. 323840 to S. 323847 inclusive.

Titles to the claims are in good standing until October 5, 1974 at the earliest. Two years assessment work from geophysical surveys performed in the fall of 1972 was applied in October, 1972. The next dates, by which additional work
must be completed to maintain the claims in good standing until 1975; are October 5; 1974 for 16 of the claims, and Hovember 23, 1974 for 8 of the claims. Filing of other work done to the present date, including trenching and diamond drilling, is expected to maintain a large portion, if not all, of the claims in good standing until the fall of 1975 at the earliest.

## LOCATION AND ACCESS

The property is located approximately 35 miles northeast of the City of Sudbury in north-central Ontario. It in about one mile long from north to south and li miles wide from east to west.

It is repshed during the summer months by means of a poor gravel road ( $\mathrm{K} .$. . 805) which branches north from Glen Afton on the C.N.R., 5 miles hest of River Valley. This road continues to the east bank of Sturgeon River, near the north boundary of the property. During the winter months, access by ski-equipped light aircraft is most easily achieved by landing at Ozhway Lake, near the southern boundary of the property. The nearest railroad is the C.N.R. North Bay-Capreol line which passes about 10 miles south of the clajm group.

## REGIONAL GEOLOGY

The general geology of the property is showa on the accompanying plan and has been compiled using Map 41 f published by the Ontario Department of Mines in Vol. XLI, Part IV in

1932, constituting the only government regional mapping done to the present in McNish Township, and a preliminary geological plan prepared by A.E. Jerome as a result of his detailed prospecting work on the property.

The area is characterized by scarp-life ridges and swamp and muskeg-filled depressions, the relief between these being up to 350 feet. The overburden cover over most of the area covered by Map 4lf, which includes McNish, Janes, Pardo and Dana Townships, is relatively thick in places: Outcrop exposure is moderately scarce, the best exposures occurring on the higher hills and scarps.

In the four townships shown on Map 4lf, the oldest rocks exposed are the Keewatin Volcanic-sedimentary rocks shown outcropping south of McNish Township. They are composed of basaltic flows, rhyolite, iron formation and sedimentary schists. The western portion of McNish Township is shown underlain iv Cobalt Series sedimentary rocks including Gowganda conglomerate, slate and quartzite. Nipissing diabase is shown underlying the east part of the township.

1 The strike of the Keewatin rocks is roughly NW-SE, and they dip steeply to vertical. Cobalt Series or Sudbury Series sedimentaries overlie the Keewatin rocks with pronounced unconformity. Numerous basic dykes have intruded Кеенаtin rocks and younger sedimentaries. The sediments are folded and sheared, considerable silicification and quartz veining having accompanied the shearing.

## 日ISTORY AND PREVIOUS EXPLORATION

The history of the area has been described in detail in the report by A.S. Bayne dated Febmary 7, 1972, to which reference is made here. A concise summary is given below.

In the early $1930^{\prime}$ s, prospector George Waltenbury discovered nickel-cobalt-copper mineralization in quartzite about $\frac{1}{2}$ mile west of the N.W. corner of the MoNish property. He did a minor emount of development work on this showing. In the late 1930's, Waltenbury discovered lead-zinc-copper float about 600 feet north of Ozhway Lake. He subsequently sank two shallow shafts to bedrock and apparently located the source of the float, since he remov, 1 about a ton of ore-grade $\mathrm{Pb}-\mathrm{Zn}-\mathrm{Cu}$ mineralization. Apparently the mineralization occurred within a cherty conglomerate at the contact with argiliite.

In 1944, the claims held in the 1930's by Waltenbury were restaked by his son, but were abandoned.

In 1.956, Charles E. Stone, geologist, bought 18 claims staked on the present Jerome Explorations Ltd. property, Incorporated a company called Palston Mining and Development Company Limited under an Ontario charter, and increased the company's holdings to 34 claims. During this time, Stone carried out 'a large amount of surface work on old trenches opened by Waltenbury and exposed some new copper showings.

From Mey 1956 to September 1956, Palston conducted an exploration program beginning with an examination, sampling and mapping of surface showings by R.H. Penierton, M.Sc.,

Geologist, and followed by a vertical loop E.M. and gravimetric survey over a part of the ground presently held by Jerome Explorations Limited.

It appears that in 1957, Palston Mining and Develorment Company became inactive through lack of funds, and the titles to the company's claims subsequently lapsed.

In Septermber 1971, Prospector A.E. (Bert) Jerome discovered copper mineralization in silicified conglomerate on the west bank of Sturgeon River (see showing 13 on accompanying map). He subsequently discovered two more showings ( 16 and 17 on map). As a result of these discoveries, 16 of the most westerly claims of the present Jerome Explorations Limited ground were staked.

In October 1971, A.S. Bayne, Consulting Engineer, examined the then known shouings on the original 16 claims, and located and sampled with Mr. Jerome, four of the showings worked in 1956 (see 8, $12,14,14 B$ on map).

In late October and early November of 1971, Mr. Jerome discovered two additional showings of copper-bearing sulfides (see 18 and 19 on map). The latter showing, No. 19, occurs about $\&$ mile east of Sturgeon River, and consequently the property was expanded to the present size of 24 claims by adding 8 claims on the east side of Sturgeon River.

During the examination by A.S. Bayne in October 1971, about 150 feet of old drill core was foumd in the vicinity of

Waltenbury's 1939 lead-zinc float discovery (see showing 9). An examination of tinis locality by the author in early April 1973, revealed two places, one of which was found on A.S. Bayne's visit, about 150 feet apart, where old drill core was stored. Alltogether, it is estimated that about 600 lineal feet of core had been stored in the two places. The core trays are rotted, and the size of the core, $A X$, suggests that it may have been recovered in the 1950's. The core is composed predominantly of conglomerate and argillite. No record has been found of this drilling in Government assessment files. Other than the work described above, no other exploratory hork is known to have been done on the property prior to the work carried out subsequently by Jerome Explorations Limited. No mine workings or equipment occur on the property.

## ECONOMIC GEOLOGY

A number of mineralized showings occur on the MaNish property. The mineralization consists of stringers, blebs and disseminations of copper sulfides (chalcopyrite), goldbearing iron sulfides (pyrite-pyrrhotite), $z$ inc-bearing sulfides (sphalerite), silver-bearing lead sulfides (galena), and minor amounts of copper-nickel mineralization.

The mineralization occurs predominantly within quartz veins and silicified zones, Cobalt sedimentary rocks, and Keewatin volcanic rocks. The mineralization appears to have been introduced during the period of shearing and hydrothermal activity which accompanied intrusion of basic rocks, and possible
as yet undiscovered silicic rocks. Coarse clastic sedimentaries, especially the siliceous Gowganda conglomerate, appear to have been the most susceptible to fracturing; silicification and accompanying mineralization in Keweenawan time. The mineralized shears strike from N $35^{\circ} \mathrm{E}$ to N $15^{\circ} \mathrm{W}$ and dip from $60^{\circ}$ to $90^{\circ}$.

In some of the showings, the author has observed disseminated mineralization a short distance away from siliceous veins, in siliciried rock. Finely. disseminated iron-sulfides with very little associated copper sulfides occur commonly within the iner:grained clastic sedimentary rocks, such as greywacke and quartzite. Small blebs and disseminations of copper-nickel sulfides occur within a coarse-grained ultramafic ruck which has been termed "pyroxenite" in one locality only (see showing $D$ on map). The latter occurrence suggests segregation of primary sulfides from an ultramafic magma.

The following is a brief description of mineralized showings known up to the time of the report on the McNish Property by A.S. Bayne, dated February 7, 1972, and new showings discovered since then. The numbers assigned to the showings correspond with those shown on the accompanying plan.

Shouings Nos. 1 to 7 are not shown on the map included in this report, but are indicated on the map accompanying the A.S. Bayne report of February 7, 1972. These showings occur to tine west
of the Jerome Explorations Limited property and contain copper-zinc-lead sulfides which are silver and gold-bearing. Showins No. 8. This is the locality where Waltenbury sank an 18 foot deep shaft in 1939. The locality ras visited by the author in April 1973. A dump contäining ore-grade lead-zinc sulfides with minor copper sulfides occurs next to the debrisifiled shaft. The mineralization occurs in silicified conglomerate-argillite, as large blebs and veins. A sample taken by A.S. Bayne in 1971 assayed $0.45 \%$ copper, $1.60 \%$ lead and $7.5 \%$ zinc.

Shoring No. 2. This, apparently, is the locality, about 130 feet S.E. of No. 8, where the lead-zinc boulder was discovered in 1938. The author visited the locality in early April of 1973 and found that the boulder had apparently been dynamited - some time ago and much of the mineralized rock had been removed. The mineralization occurs witiin cherty conglomerate as blebs and veins of $z$ inc and lead sulfides.

Shouing No. 11. This site has also been described in the 1956 reports. Chalcopyrite and pyrrhotite mineralization associated with quartz-filled fractures occurs within conglomerate in a 101 'x 10 ' trench. Only low ( $0.17 \%$ ) assays of copper and nickel were obtained.

Shoring No. 10. This was not visited by A.S. Bayne or the author. It is reported in the 1956 work to be chalcopyrite-pyrrhotite-pyrite mineralization in and near a diabase dyke
.-cutting the sedimentary rocks. Samples taken in 1956 from the $20^{\prime} \times 6^{\prime}$ trench assayed up to $0.48 \%$ copper.

Showing No. 12. This site was located by A.S. Bayne in October 1971. Copper mineralization occurs kithin a chloritic shear at the contact betreen a basic intrusive rock and quartzitic conglomerate. A grab sample from the dump next to the water-filled pit assayed $0.31 \%$ copper, $0.0102 . /$ ton gold, $0.18 \mathrm{oz} . /$ ton siliver and a trace of nickel. Showins No. 13 (F). This showing was visited by the author in April 1973. It had been recently dynamited (in March 1973), exposing a width of about 10 feet of a higniy brecciated quartzveined zone wition conglomerate. Large to small blebs and stringers of pyrrhotite and chalcopyrite occur uithin the quartz veins. Extensive prospecting and stripping of the thin overburden in the vicinity of the trench revealed a possible width of the mineralized zone of at least 100 feet. About 200 feet to the east, on the east bank of Sturgeon River, a similar showing was discovered by A.E. Jerome, but was under water at the time of the autior's visit. The strike of the mineralized zone is approximately N 15 W . Samples taken in the fall of 1972 from the old pits assayed up to $0.38 \%$ copper, $0.50 \mathrm{oz} . /$ ton silver and $0.02 \mathrm{oz} . /$ ton gold. The new trencing, however, has revealed better and more extensive mineralization. Sampling has been done, and assay results are expected in the near future.

Bhorins No. 14. This 1956 site was located by A.S. Bayne in October 1971. Chalcopyrite and pyrite mineralization occurs as massive blebs replacing quartz-carbonate fracture fillings and mafic silicates within a mixture of greywacke, quartzite and conglomerate. Eight samples taken by A.S. Bayne from the trench assayed up to $1.03 \%$ copper, $0.0202 . /$ ton gold and 0.55 oz./ton silver.

Shouing No. 14B. This is located about 100 feet N.E. of No. 14, offset about 50 feet east of the northerly strike projection of the shearing. The rocks and mineralization exposed in the trench are similar to showing No. 14. Two samples taken over a 4 foot width of the trench in October 1971 assayed up to $1.5 \%$ copper, $0.05 \mathrm{oz} . /$ ton gold and $1.01 \mathrm{oz} . /$ ton silver.

Showines Nos. $16 \& 17$. These are old water-filled pits located by Mr. Jerome in September 1971. The dumps contain a dark coloured, partly silicified rock mineralized witi disseminated pyrite, pyrrhotite and minor chalcopyrite. Grab samples from the dumps assayed from 0.15-0.30\% copper and $0.01 \%$ nickel. Showing No. 18 (E). This showing was discovered by A.E. Jerome in October 1971. The author examined the showing in January 1973 while supervising the diamond drill program on the property. Sufficient snow was removed from the trenches blasted in November. 1971 to permit examination of a representative cross-section. Five trenches are exposed over an east-rest length of about 100 feet. The longest of these is about 50
feet long. The rock type exposed is predominantly conglomerate. Chalcopyrite and pyrriotite occurs as blebs and thin stringers witinin quartz veins and adjacent to these as disseminations. The quartz veins strike due north and dip at about $60^{\circ}$ to the west. Mineralization occurs in all of the trenches. Resampling of the pits in the fall of 1972 yielded assays of up to $2.29 \%$ copper, $0.0202 . /$ ton gold and $1.50 \mathrm{oz} . /$ ton silver. Anotiner showing was discovered about 150 feet due east of No. 18 on the next hillock to the west. The autior examined . 3 showing while on the property in January 1973. Two trenches were blasted in the fall of 1972 into the rest side of the scarplike hill, about 40 feet apart. A stockwork of quartz veins, about 4 feet wide, trending due north is exposed in the trenches. The veins and the host rock in the immediate vicinity of the veins are mineralized with predominantly disseminated chalcopyrite and minor pyrrhotite. A one-inch pyrriotite vein cuts through the most northernly trench. The host rock is siliceous conglomerate. A grab sample taken from one of the pits in the fall of 1972 assayed $0.53 \%$ copper, $0.49 \mathrm{oz} . /$ ton silver, and 0.005 oz./ton gold.

Showing No. 12. This was discovered by Mr. Jerome in November 1971. The rock type is an altered quartzitic rock near the basic intrusive contact. It is mineralized with disseminated chalcopyrite and pyrite. A 20-pound composite bulk sample taken across 8 feet of rock exposure assayed $0.73 \%$ copper.

Showing A. This was discovered in the fall of 1972 and subsequently blasted. Chalcopyrite occurs at the intrusive contact of greywacke with gabbro. Samples taken from the pit assayed up to $2.98 \%$ copper, $0.53 \%$ zinc, $0.0202 . /$ ton gold and $1.88 \mathrm{oz} . /$ ton silver.

Showing B. This was discovered in the fall of 1972 and was blasted at that time. The mineralization consists of copperiron sulfides, probably associated with quartz veining, within conglomerate. A sample from the pit assayed $0.85 \%$ copper and $0.24 \mathrm{oz} . /$ ton silver.

Shouine, C. This showing was also discovered in the fall of 2972. The mineralization consists of disseminations and tiln stringers of pyrriotite and chalcopyrite within a dark coloured, fine grained rock which is probably a basic volcanic. Grab samples taken from the showing assayed up to $0.85 \%$ copper, $0.28 \%$ zinc, $0.02 \mathrm{oz} . /$ ton gold, and $0.50 \mathrm{oz} . /$ ton silver.

Showing D. Tnis new showing was discovered in the fall of 1972. The author examined it in January 1973, when some, but not all of the snow was cleared from the face of the pit, which has been blasted into the east side of a N-S elongated hill. The mineralization consists of scattered small blebs and disseminations of chalcopyrite and pyrrhotite witnin a coarsegrained ultramafic rock, which has been termed "pyroxenite". The ultramafic appears to be a dyke which trends roughly east-
west:within siliciried volcanics. ..About 20 feet of width was exposed by the author. On the west, the dyke trends into dark coloured volcanic rocks, and on the east, is only exposed over a length of about 25 feet, disappearing under swampy ground on the bottom of the hillside on which it is exposed. The silicified volcanic is also mineralized with disseminated pyrite and chalcopyrite in close proximity to the contacts of the dyke. Three samples taken from the pit by Mr. Jerome in the late fall of 1972 assayed up to $0.89 \%$ copper, $0.78 \mathrm{oz} . /$ ton silver and $0.265 \%$ nickel. One sample, which may have been mineralized volcanic rock close to the contact of the dyke, assayed $0.45 \%$ copper and $0.10 \mathrm{oz} . /$ ton gold. Qther Showings (not plotted on map). In September 19in, Mr. Jerome discovered disseminated chalcopyrite and pyrrhotite mineralization ritinin a silicified volcanic rock in 2 outcrops near the middle of the west boundary of claim S.323448. Two grab samples from the outcrop assayed $0.23 \%$ and $0.06 \%$ copper.

## EXPL,ORATORY WORK

The following exploration work has been carried out on the property by Jerome Explorations Limited since the date of incorporation of the company, December 23, 1971 to the present date, following the recommendations, in part, outlined by A.S. Bayne, E.Eng., in his report dated February 7, 1972.

## Linecutting

4 grid of 18.8 miles of picket and base lines was cut between September 12, 1972 and September 26, 1972. Crew chief was A. Jerome of Hanmer, Ontario.

Picket lines were cut east-rest from two base lines trending true north. Line spacing was 400 feet.

In December and January 1973, 2.8 miles of additional line miles were cut uner Mr. A. Jerome's direction on the northrestern portion of the grid. This involved cutting lines between existing lines and at closer spacings in order to detail certain geophysical anomalies. The location of the lines is shown on the accompanying plan.

## Preliminary Geological Mapping

During the fall of 1972, preliminary geological mapping was carried out under Mr. A.E. Jerome's supervision on the grid of lines west of Sturgeon River in order to provide a more accurate picture of the geology of the property, to map any exposures on the lines, and to locate old and new showings accurately on the grid. During the course of this hork, several new showings were discovered. These have been described in the "Economic Geology" section of this report. The accompanying map shows the results of this work, in addition to the geology in the areas mapped previously by A.S. Bayne and also shown on Map 41 f of the Ontario. Department of Mines. The topography of the area west of Sturgeon River is
characterized by low hills and scarp-like features separated by swampy depressions filled with recent to glacial sand, gravel and clay. Overburden cover, in general, is thin except in the larger swampy areas, where up to 50 feet or more may occur. Relief ranges up to 150 feet above the depressions. Approximately $20 \%$ of the area is underlain by outcrops.

The oldest rocks exposed in the area mapped are the Keeuatin volcanic-sedimentary rocks. They occupy most of the central and the western areas of the claims mapped. Although the government mapping does not show Keewatin rocks in McNish Township, the author is convinced, along with Mr. A.E. Jerome, that basic to intermediate volcanics constitute a fairly large proportion of the rocks in this area. These rocks are dark green to black in colour, fine-grained, and composed of mafic minerals with subsidiary feldspars. Much of the rock is amphibolitized. In places, it is schistose and has a chloritic composition. The schistosity observed in outcrops strikes roughly NW-SE and dips from $70^{\circ}$ to $85^{\circ}$. It is possible that some sedimentary rocks of the Sudbury and/or Cobalt Series are included in the areas mapped as volcanic rocks.

Cobalt Series type sediments overlie the Keewatin rocks with pronounced unconformity. These are composed of argillites, slates, quartzites, greywacke and conglomerate containing well-rounded pebbles of acidic to basic intrusives, acid and basic volcanic material within an argillaceous to siliceous
matrix. Total thickness of the sediments exposed in the area is estimated to be no more than 150 feet. The Gorganda (?) conglomerate is the most common sedimentary rock exposed, since, due to its resistant nature, it forms scarps. Two main areas of conglomerate occur on the property - one trending NW-SE from Sturgeon River on the east boundary of the area mapped, the other trending north near the western boudary of the property. A smaller area of conglomerate and quartzite is exposed about 1,800 feet north of 0 zhẉay Lake, trending approximately NE-SW. Immediately south-east of the conglomerate exposures, a band of argillites trends NE-SW to the eastern 1 imit of the area mapped, near Sturgeon River. Bedding observed in the sediments indicates a possible NNW strike and $25^{\circ}$ to $45^{\circ} \mathrm{dip}$.

A number of narrou diabase dykes cut the volcanic rocks in the eastern part of the map area. These trend approximately NW-SE and are exposed intermittently. An arcuate, north-south trending, narrow gabbroic body occurs on the north-western part of the property. A narrow, east-west trending pyroxenitic ultramafic dyke cuts the volcanic rocks at locality D.

Shearing and silicification is quite common within the voleanic and sedimentary rocks. Abundant quartz veins, ranging in thickness from less than $\frac{子}{3}$ inch to more than 4 feet occur, especially within the rocks most susceptible to fracturing, such as the conglomerates and quartzites. These quartz veins
strike at various directions, from NW-SE to NE-SW and dip steeply. Most of the mineralization on the property is associated with the quartz veining. The fer strikes and dips of the shearing and bedding observed in the rolcanic rocks suggests that they are tightly folded, with fold axes trending approximately NW-SE.

## Trenching and Sarpling.

During the fall of 1972, trenching and sampling was done on old and new showings at six locations shown on the map as $A, B, C, D, E$ and $F$. Tinis involved enlarging old pits by blasting and opening new pits on the new. showings. In March 1973, additional blasting and sampling was done in the immediate vicinity of showing 13(F). The latter work exposed a width of at least 100 feet of well-mineralized conglomerate and quartzite. A description of the above showings and assay results obtained from samples taken from the pits is given in the "Economic Geology" section of this report. Geophysical Surveys

About 16.3 line miles of V.L.F.-Electromagnetic and magnetic surveys were carried out on the grid of picket lines cut in September by party chief W.J. Sharpe of Toronto and helper A. Jerome of Hanmer, Ontario, during the pariod September 12, 1972 to October 2, 1972. The instruments used were a Crone RADEM unit for the V.L.F.-E.M. survey, and a Sharpe Flurgate magnetometer for the magnetic survey. Reference
is made to the "Report Covering Electromagnetic and Magnetic Surveys over Jerome Explorations Limited Claim Group, McNish Township, Sudoury Mining Division, Ontarion by J. Duncan Crone, B.A., P.Eng:, dated October 6, 1972.

During December 1972 and January 1973, 2.8 line miles of V.L.F.-E.M. and magnetic surveys were done by A. Jerome of Hanmer, Ontario on the detailed grid of lines cut in the northwestern corner of the property. Instruments used were the same.

## Results \& Interpretation of Geor'ilysical Surveys

The accompanying plan shows the results of the magnetic and V.L.F.-E.M. surveys and has been compiled from maps included in the above report by J. Duncan Crone, dated October 6, 1972, and maps prepared by A. Jerome covering the surveys in the detailed area. Actual field readings have been omitted from the plan, and only significant magnetic anomalies, but all of the V.L.F.-E.M. conductive zones hare been plotted by the author. The following is a revised and more detailed discussion. of results and interpretation done by the author.

The magnetic survey revealed tine existence of several significant anomalies confined mainly to the area west of Sturgeon River. The most prominent of these is an elongated anomaly in the central area of the claims rest of Sturgeon River. It extends from near the northern boundary of the claims on Line 19N southrard to at least Line 265 , some 35.00 feet.

It appears to consist of 2 magnetic bodies close together, the easternmost being about 100 to 150 feet thick, exhibiting a possible fold structure in the area of Lines 4 S to $8 \mathrm{~S}, 19$ to 24E. The western anomaly curves away in an arcuate band, near its south end from the eastern anomaly. The thickness of this magnetic body is estimated to be 100 feet. Maximum relief on the anomalies is 5700 gammas on Line $12 \mathrm{~N}, 19+00 \mathrm{E}$, but in general is in the order of 500 to 600 gammas. Detailed surveys over the northern portion of the anomaly has shown that it trends roughly NE-SW from Line 12 N to Line 10 N . The other significant anomaly occurs Just west of Sturgeon River. It is at least 600 feet long and trends roughly NW-SE, with peak magnetic highs occuriing on Line $4 N$ at 32 E and on Line 0 at 34 E . Maximum relief on the anomaly is 2100 gammas, and the magnetic body is estimated to be 50 feet thick. Two much less prominent magnetic features occur immediately to the NW of the above anomaly, having up to 300 gammas of relief above background. It is possible that these three anomalies form part of the same magnetic zone.

A smaller prominent magnetic body occurs between Lines 10N and 8 N about 5E. This has a maximum relief of about 7200 gammas and is estimated to be at least 400 feet long and 125 feet thick. It trends roughly $\mathrm{N} 10^{\circ} \mathrm{W}$. ,
A. fairly wide, strong magnetic feature occurs near the northwestern property boundary on $\mathrm{L}-16$ and 18 N . It trends $\mathrm{NW}-\mathrm{SE}$.

The narrow magnetic feature at about $9 E$ trending northsouth between Lines 18 N and 4 N appears to be caused by a thin body of intrusive gabbro.

East of Sturgeon River, only a fey magnetic features occur near the eastern boundary of the claims. Some of these may be due to gabbroic intrusives which underlie that part or the property.

Drilling and field examination has shown that nearly all of the magnetic features, including the most prominent, are caused by the magnetic surfide, pyrrinotite, associated with quartz veining and silicification accompanying shearing within the rocks exposed on the property.

The V.L.F.-Electromagnetic surveys indicated the existence of a number of anomalies which occur, except.for one, all on that portion of the property west of Sturgeon River.

The conductor east of Sturgeon River is at least 1000 feet long and occurs on Lines 0 to l6N, 11E to 13E. The anomaly projects to the copper showing just north of Line 16 N (No. 19 on map) and appears to be due to sulfides.

A fairly strong conauctor occurs either coincident with or closely flanking the strong magnetic anomaly just west of Sturgeon River on Lines 0 and $4 \mathbb{N}$. Abundant pyrrisciite with some chalcopyrite occurring just east and west of the anomaly (13, 14 on map) and coincident with the anomaly (140) indicates that the anomaly is due to similar sulfides within conglomerate
and possibly within the underlying sedimentary rocks and volcanics. The anomaly NNE of the above on L-12N, $33 E$ is along strike of showing 18 and appears to be due to stringers and blebs of chalcoryrite and pyrrhotite within conglomerates. It is likely that the tro conductors described above iorm part of the same zone.

A short, weak conductor, unrelated to showings or magnetic anomalies, occurs on Line $0-00$, 28E. No significance is attached to this conductor.

A distinct conductive zone was outlined in December 1972 over the northern part of the strong, long magnetic feature which trends north-south through the centre of the part of the property west of Sturgeon River. On Line 12 N , at 29+25E, it is coincident with a strong, 6300 gamma magnetic anomaly at the locality of showing $C$. Drilling has shown the conductor to be due to stringers and blevs of cosper-bearing iron sulfides in the vicinity of this locality. South of the showing, the conductor appears to trend away from the magnetic anomaly to the south-southwest, intermittently responsive over a length of at least 3,000 feet from Line 16 S to 13 N . It probably reflects a major sulfide-bearing shear zone within volcanics and overlying sedimentary rocks.

The most resterly conductive zone is intermittently exposed on Lines $12 \mathrm{~N}, 1+50 \mathrm{E}, 1 \mathrm{n} \mathrm{N}, 3+75 \mathrm{E}$ and $5+50 \mathrm{E}$, and Line $0,6+75 E$, trending NNW-SSe. It is a strong conductor and on

Line 8 N is coincident or closely flanking, a 7200 gamma magnetic anomaly at.the locality of showing B. It appears to be due to copper-bearing fron sulfides related to a zone of shearing, silicification, and quartz veining in conglomerate.

A short conductor was located between lines 10 and 12 N at 7+00E. Drilling has shown the conductor to be due to bands and disseminations of pyrite, pyrriotite and some chalcopyrite within quartz-veined conglomerate.

## Diamond Driliing

A diamond drill program, with the objective to test conductive and magnetic zones detected by the geophysical surveys and probe the width and extension of mineralization in the showings, was commenced on December 2lst, 1972 in the hope of finding a commercial grade copper-silver-zinc-gold orebody on the property. The drilling was done with a portable, light weight drill (Winkie) purchased by Jerome Explorations and recovered IEX size core. The drilling crew consisted of A. Jerome of Hanmer, Ontario (runner) and R. Charron (helper). The drill program was supervised by the author and Mr. A.E. Jerome. Assaying was done, certified, by the Sudbury Assay Office, Sudbury, Ontario.

24 short holes were drilled between Dec̣ember 2lst, 1972 and April 6th. 1973 totalling 2,146.0 feet, for an average hole length of 89.4 feet. The location of the diamond drill
holes is shown or the accompanying plan with azimuth as indicated.
The following is a brief surmary of the results of the drilling program, based on the author's logs of the drill core and other pertinent data.
D.D.H. No. 1. (Dip - $65^{\circ}$ St, leneth - 2131)

Objective - to test a good conductor coincident with a 6300 gamma nagnetic anomaly at the locality of showing $C$.

Results - The hole intersected about 150 feet of volcanic rock mineralized with disseminations, blebs and bands of pyrrhotite and subsidiary chalcopyrite.

Best assays obtained were over an 61.51 interval as follows:

| Footage | Interval | \% Cu. | 02./t Ag. | oz./t Au. |
| :---: | :---: | :---: | :---: | :---: |
| 117-119 | 2.01 | 0.27 | 0.26 | 0.02 |
| 133-135 | 2.01 | 0.22 | 0.20 | 0.02 |
| 140-143 | 3.01 | 0.33 | 0.26 | 0.02 |
| 165-168 | 3.01 | 0.24 | 0.22 | 0.02 |
| 177-178.5 | 1.51 | . 0.20 | 0.44 | 0.04 |

D.D.H. No. 2 (Dip - $75^{\circ}$ SE, length - $254^{1}$ )

Objective - to test the anomaly tested by D.D.H. No. labout 200 feet to the SSW.

Results - The hole intersected a few short sections of pyrrhotite and chalcopyrite stringers near the top of the hole. The hole apparently was drilled too steep to intersect the main sulfide section. Best assays obtained ranged from 0.10 to $0.17 \% \mathrm{Cu}$, 0.19 to $0.47 \mathrm{oz} . /$ ton Ag , and 0.01 to $0.02 \mathrm{oz} . /$ ton Au over short sections.
D.D.H. No. 3 (Dip - 60 SE, length - 145.51)

Objective - To drill-test the copper showing to the west of showing 18.

Results - The hole penetrated 103 feet of Cobalt sedimentary rocks including conglomerate, argillite, greywacke and quartzite, and 42.51 of basic volcanic rock. Mineralization (pyrrhotite and chalcopyrite) occurs disseminated associated with quartz veining. Best assay came from a 2.61 section, from 17.5 to 20.11 in conglomerate, being $0.46 \% \mathrm{Cu}, \therefore .43 \mathrm{oz./t}$ Ag, and $0.05 \mathrm{oz} / \mathrm{t}$ Au.
D.2.H. No. 4 (Dip - $49^{\circ} \mathrm{E}$, length - 81.51)

Objective - To test the east side of showing 18 (E).
Results ~ The hole intersected short sections of conglomerate mineralized with minor chalcopyrite and pyrrhotite. It bottomed in argililite. Best assay obtained was $0.31 \% \mathrm{Cu}$, $0.13 \mathrm{oz} . / \mathrm{t}$. Ag, and $0.005 \mathrm{oz} . / \mathrm{t}$. Au over 1.0 foot from 6.51 to 7.5'.
D.D.H. No. 5 (Dip - $35^{\circ} \mathrm{W}$, length 951)

Objective - To test the west side of showing 18 (E).
Results - The hole intersected rock types similar to the ones intersected by hole No. 4. Best assay obtained was $0.69 \% \mathrm{Cu}$, $0.58 \mathrm{oz} . / \mathrm{t}$. Ag, and $0.02 \mathrm{oz} . / \mathrm{t}$. Au over a $4^{1 \mathrm{ln}}$ section from 9'11" to 14.0'. The mineralization consists of blebs and disseminations of chalcopyrite and pyrrhotite within quartz veined and silicified conglomerate.

## D.D.1. No. 6 (Dip - $50^{\circ}$, length 54 ${ }^{\circ}$ )

Objective - This hole was drilled from the same set-up as No. 5 to undercut No. 5.

Results - The hole intersected rock types similar to those in D.D.H. No. 5. Minor disseminated mineralization was intersected.
D.D. H No. $7\left(\right.$ Dip $60^{\circ} \mathrm{E}$, length $30^{\circ}$ )

Opjective - To drill-test the showing west of No. 18 from the same set-up as D.D.H. No. 3.

Results - The nole bottomed in conglomerate and intersected only minor, sparse copper mineralization.
D.D.H. No. 8 (Dip 45 W, length 50 I)

Objective - To drill test the showing tested by D.D.H. No. 3 on the west side.

Results - The hole intersected conglomerate and minor copper mineralization associated with quartz veins. Best assays obtained were $0.12 \% \mathrm{Cu}, 0.26$ to $0.32 \mathrm{oz} . /$ ton Ag , and 0.005 oz./ton Au over short sections.
D.D.H. No. 9 (Dip $60^{\circ} \mathrm{NE}$, length 1801)

Qbjective - To test a strong magnetic anomaly with coincident B.M. conductor.

Results - The hole intersected basic volcanic rock containing fine disseminations and blebs of pyrrhotite and minor chalcopyrite over short sections. Best assay obtained was $0.13 \% \mathrm{Cu}, 0.44 \mathrm{oz} . /$ ton Ag , and $0.005 \mathrm{oz} . /$ ton Au over 9.0 feet
from 10.0-19.0 feet. The hole apparently did not penetrate to the magnetic and conductive zone since it was drilled at a steep angle.
D.D.H. No. 10 (Dip $-45^{\circ} \mathrm{E}$, length $260^{\prime}$ )

Objeotive - To test a strong magnetic ananaly and ooincident conductor, apparently missed by D.D.H. NO. 9.

Results - This hole interseoted 160 feet of a massive, dark green volcanic rook with minor disseminated chalcopyrite and thin stringers and small blebs of pyrrhotite. Assays from the upper part of the hole retumed oopper values of less than 0.10\%.
D.D.H. No. 11 (Dip $-85^{\circ}$ S, length $85^{\prime}$ )
D.D.H. NO. 12A. (Dip $-60^{\circ} \mathrm{E}$, length $63^{\circ}$ )

Objective - To test showing No. 14.
Results - Hole No. Il intersected quartzite containing 1-3\% pyrite and pyrrhotite. The rock is chloritized in places. Copper assays from the hole were $0.05 \%$ or less.

Hole No. lla intersected a chloritio schist with a few scattered stringers mineralized with pyrrhotite and chalcopyrite. Best assays obtained over short core sections ranged from 0.20 to $0.27 \% \mathrm{Cu}, 0.12$ to $0.38 \mathrm{0z}. / \operatorname{ton} \mathrm{Ag}$, and $0.005 \mathrm{oz} . / \tan \mathrm{A} \mathrm{u}_{\mathrm{o}}$
D.D.H. No. 12 (D1p-450N, length 801)
D.D.H. No. 12A(Dip-550NH, length 1051)

Objective- To test shouing A.
Results - The holes intersected greywacke, containing thin quartz stringers mineralized with chalcopyrite and pyrrhotite. Best assay from hole 12 was $0.54 \% \mathrm{Cu}, 0.28 \mathrm{oz} . /$ ton Ag , and $0.005 \mathrm{oz} . /$ ton Au over 0.81 and from nole 12 A was $0.28 \% \mathrm{Cu}$, $0.20 \mathrm{oz} . /$ ton Ag , and $0.005 \mathrm{oz} . /$ ton Au.
D.D.H. No. 13 (Dip $-45^{\circ} \mathrm{S}$, lengtio 701)

Objective - To test minor chalcouyrite mineralization exposed In a pit west of showing A.

Results - The hole intersected conglomerate very sparsely mineralized witin pyrrhotite and chalcopyrite. Only one assay was done on the core, returning less than $0.10 \% \mathrm{Cu}$.
D.D.H. No. 14 (Dip $-45^{\circ}$ SW, lengti 781)

Oblective - To test a conductor flanking a strong magnetic anomaly.

Results - The hole intersected volcanic rock with insionificant mineralization. The conductor does not appear to occur in the place saown.
D.D.H. No. 15 (Dip $-45^{\circ} \mathrm{W}$, length 351)
D.D.H. No. $15 \mathrm{~A}\left(\mathrm{Dip}-40^{\circ} \mathrm{E}\right.$, length $105^{\circ}$ )

D, D.H. No. 15 B ( $\mathrm{Dip}-80 \mathrm{H}^{\prime}$, length 60 I )
Qbjective - To test showing $B$ and a coincident conductor Ilanking a strong magnetic anomaly on the east side. The holes were drilled from the same set-up.

Results - The noles intersected conglomerate and other Cobalt Series sediments mineralized uiti pyrriotite and chalcopyrite. Best assay obtained was from hole 15 A , being $0.45 \% \mathrm{Cu},{ }^{\prime} 0.20$ $0 z . /$ ton Ag , and $0.005 \mathrm{oz} . /$ ton $A u$ over 2.5 feet from 58 to 60.5 feet.
D.D.H. No. 16 (Dip $-75^{\circ} \mathrm{E}$, lengti 611)

D.D.H. No. 16B (Dip $-85^{\circ} \mathrm{S}$, length 691)
objective - To test an isolated conductor.
Results - The holes intersected conglomerate underlain by Keewatin volcanics. The rocks are mineralized witi stringers, blebs and disseminations of predominantly pyrrhotite and minor chalcopyrite.

Qbjective - To test a fairly strong magnetic anomaly. Results - The holes intersected from 10 to 17 feet of a sulfide section within a highly altered, silicified garnetiferous rock, associated with Keewatin volcanic rocks. The sections contain up to $20 \%$ pyrriotite and minor chalcopyrite witin the pyrrhotite.

## EXPLORATION EXPENDITURES

The following expenditures were incurred by Jerone Explorations Ltd. on its McNish Property during tine period from incorporation, December 23, 1971 to March 31, 1973: Consulting Fees and Wages .............. \$16,276.00

Supplies and Equipment .................. 6,925.00
Travel and Transportation .............. 6,775.00
Equipment Rental ......................... 4, 264.00
Geophysical Surveys ..................... 2,790.00
Line Cutting ................................ 1,800.00
Di mond Drilling ......................... 3,315.00
Assaying ................................... i; 939.00
General Field Expense ...................
Total Expenditures ...... \$ 44.619,00

## CONCLUSIONS

1. The preliminary mapping done in December 1972 showed that Keewatin volcanics underlie a large portion of the property. This has previously unknown. The presence of these rocks lends strong support to the theory that significant economic concentrations of base metal sulfides containing precious metals may occur on the property, since these deposits are generally associated with volcanic rocks of the Keewatin sequence.
2. Prospecting and trenciing done in the fall of 1972 and early 1973 resulted in the discovery $0:$ new copper-silver-zinc-gold-nickel snowings, and rèvealed significant mineralization in
old pits. The trenching done in the vicinity of showing No. 13 revealed considerably more width to the mineralized shear in this area, and the mineralization in the latest pits appears to be of better grade.
3. The geophysical surveys performed in the fall of 1972 and in January 1973 showed that a number of magnetic and conductive zones of significant lengti and strength occur on the property, especially on the west side of Sturgeon River. These correlate well with known showings and indicate extensions of exposed sulfide zones. The magnetic anomalies are largely due to pyrrhotite. The conductive zones appear to be all due to metallic sulfides, most of which contain copper, silver, gold, and $z$ inc mineralization. The geophysical surveys have, therefore, proved to be extremely useful in providing drillable targets on the extensions or in the vicinity of showings. An induced polarization survey (I.P.), however, would prove to be more useful in locating dissemirated sulfide mineralization to a depth of at least 300 feet.
4. The diamond drilling program, subsequent to the geophysical surveys, showed that $\mathrm{Cu}-\mathrm{Ag}-\mathrm{Au}-\mathrm{Zn}$ mineralization extends along strike of the known showings, and at least in one area tested by D.D.H. No. 1, extends to depth. Although no intersections considered to be economi: by present day standards were obtained, several short mineralized sections(from D.D.H.'s ivos. 3,5,12 andl15A) returned values which would be considered economic if the mineralized zones were uider, would extend to depth, and
sufficient length could be proved．The best intersection obtained was $0.69 \% \mathrm{Cu}, 0.58 \mathrm{oz} . /$ ton Ag and $0.02 \mathrm{oz} . /$ ton Au over a $4^{1 \prime \prime}$ section in hole No．5．The type of drill used has a possible maximum penetration of 250 feet，and therefore rould be ineffective in testing for depth extensions of mineralized zones．A larger macinine，such as a B．B．S．l would have to be employed for this purpose．

5．The discovery in 1972 of copper－nickel mineralization at locality $D$ within an ultramafic dyke is significant in that nickel mineralization was hitinerto unknown on the property． It indicates that possible economic concentrations of copper－ nickel sulfides may occur either within such dykes or within ultramafic bodies $⿴ 囗 十 ⺝ 丶 i_{i n}$ the basic Keewatin volcanic rocks． 6．The lead－zinc－silver－copper occurrences（showings $8 \& 9$ ） were not drill－tested during the drilling program conducted on the property．A recent $\nabla$ isit by the author to the sites has convinced him that the material in the old dumps next to the cared－in shafts is of ore grade．The material was apparently removed from bedrock covered by 10 to 23 feet of overburden． An examination of data on the gravity survey done in 1956 by Palston Mining and Development Company Ltd．over an area of the property covering these showines showed the existence of a significant gravity anomaly over，and north ánd south of the old prospect shafts．This may be due to a bociy of heavy lead and zinc sulfides nidden beneath 10 to 25 feet of over－
burden. It is autior's opinion that this lead-zinc-silvercopper occurrence is important enough to warrant follow-up work consisting of trenciing by bulldozer, detailed Induced Polarization and gravity surveys, and drilling.
7. In conclusion, it may be said that the now known mineral occurrences, results of geophysical surveys and the results of the limited, shallow hole diamond drilling program indicates that marginal-grade base metal mineralization uith precious metal values is widespread in the area west of Sturgeon River. This may be an indication of one or more low-grade orebodies occuring at depth, which could be economic provided enough tonnage was outlined.

## BECOMAENDATIONS

1. Induced Polarization (I.P.) surveys over the long magnetic anomaly drilled near its nortnern end by D.D.H.1s 1 and 2, between Lines 16 S and 18 N , using 200 foot electrode spreads on 400 foot centres. Roughly $3 \frac{1}{2}$ miles of surveying would be required in this area.
2. Detailed Induced Polarization (I.P.) and gravity surveys over the area of showings 8 and 9 north of Ozhway Lake. These surveys are recommended to be done on 200 foot centres between Lines 24 S and $22 \mathrm{~S}, 4 \mathrm{E}$ to 24 E . Roughly 3 miles of surveying would be required in this area. Stripping of the overburden over the old sharts with a bulldozer is recomnended, but may be difficult to do.
3. More dynamiting and trenching on the copper-nickel showing at locality $D$, and possibly a small I.P. survey on short lines running N-S across the ultramafic cyke.
4. Prospecting south of showing No. 19 in order to locate the source of the conductive zones detected on Lines 8,12 and 16N. If this is unsuccessiful, one drill hole is recommended to test the conductive zone on Line $12 \mathrm{~N}, 13+25 \mathrm{E}$ of the eastern base-line.
5. Diamond drilling of the most attractive I.P. and/or gravity anomalies in the areas recommended for surveying above. 6. Drilling of one or two diamond drill holes under D.D.H.1s No. $1 \& 2$, to test for possible improvement of mineralization at depth. A machine capable of drilling to at least 600 feet (B.B.S.1) should be employed.

## COST ESTIMATE

Prospecting -
1 man, 3 days ..................... \$ 150.00
Induced Polarization Surveys -
approx. 7 miles $\mathbb{Q} \$ 350 /$ mile $. . . \quad 2,450.00$
Gravity Survey -
3 miles @ \$250/mile .............. 750.00
Diamond Drilling ${ }^{-}$. 3 holes, 1800 ft. © $\$ 10 / \mathrm{ft} \ldots . . \mathrm{Cl} 18,000.00$
Trenching, Bulldozing ............... 2,500.00

total COST ESTIATE ........... \$ $26,350.00$

- 34 -

