REPORT ON

GEOPHYSICAL AND GEO-CHEMICAL SURVEYS

8 CLAIMS

JAYCO MINES LIMITED

KIRKWOOD TOWNSHIP

ALGOMA DISTRICT

SAULT STE, MARIE MINING DIVISION

ONTARIO.

CANA EXPLORATION CONSULTANTS LIMITED
CONTENTS

Page

Introduction................................................. 1
Property, Location and Access............................ 1
Geology and Aeromagnetic Data............................ 2
Survey Data................................................ 3
Survey Results and Interpretation....................... 3
Conclusions and Recommendations....................... 5

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

Plan: Geophysical Survey Data on 8 Claims of
JAYCO MINES LIMITED
Kirkwood Township
Sault Ste. Marie Mining Division, Ontario.
(Including Geo-Chemical Survey Results)
Scale: 1"=200',
November 1965.
The President and Directors,
Jayco Mines Limited,
Suite 305,
100 Adelaide Street West,
Toronto, 1, Ontario.

Gentlemen:

This report describes the results of a program of geophysical and geo-chemical survey conducted on 8 claims of your property located in Kirkwood Township, Algoma District, Sault Ste. Marie Mining Division, Ontario. The results are depicted on the plan accompanying this report, plotted to a scale of 1" = 200'.

PROPERTY, LOCATION AND ACCESS -

The 8 claims covered by these surveys are numbered as follows:

S. S. M. -70323 to S. S. M. -70328, inclusive;
S. S. M. -70331 and S. S. M. -70332.

They are located in Lot 3, Concession VI, at the northeast part of Kirkwood Township.

These claims are approximately 4 miles by motor road from Thessalon, which is accessible by Highway No. 17.
GEOLOGY AND AEROMAGNETIC DATA -

Geological Map No. 6 - 1961, G. S. C., showed that the property is located on a formation of igneous rock, with diabase, gabbro and basalt (Nipissing Diabase), cutting a sedimentary formation known as the Gowganda Formation, at the southwest boundary area of the property. The same map showed many copper prospects in the general area, within the above-said two formations.

Preliminary Geological Map No. P. 304, O. D. M., 1965, showed a copper occurrence at the west boundary area of your property, in the Nipissing Diabase near the above-said geological contact. There is a series of copper occurrences located along the south shore of Wakwekobi Lake (Basswood Lake), parallel to the said contact.

The economic aspects of copper deposits in the area have been fully described in a report by your Consulting Geologist, Mr. J. C. Honsberger.

Aeromagnetic Map No. 3238G, G. S. C., showed that there is an anomaly located to the north of Lomas Lake (also known as Loon Lake) and small magnetic changes at the southeast part of the property.
3.

**SURVEY DATA** -

The geophysical and geo-chemical surveys were carried out along picket lines cut at 200-ft. intervals north-south, covering the 8 claims.

The geophysical survey is comprised of a complete magnetometer survey, using a Fluxgate MF-1 magnetometer; and two electromagnetic check surveys, using a Sharpe SE-200 unit and a Ronka horizontal-loop unit. Because of interference from a power line which runs at various angles across the property, the electromagnetic work was limited at the southeast and northwest parts of the property.

The geo-chemical survey was carried out to cover all the 8 claims. A total of 751 soil samples was collected at depths of 2-3 feet, wherever possible. The samples were first tested for total heavy metals, zinc equivalents, by using a McPhar Geo-chemical Soil-Test Kit and samples with anomalous readings tested by hot method for total copper.

**SURVEY RESULTS AND INTERPRETATION** -

The magnetometer survey outlined several narrow magnetic zones with readings of over 1,000 gammas on the property, in the area of basic intrusives. The background readings are in the order of 500-600 gammas. The most outstanding zone is located at the west part of
Claim S. S. M. -70328, where the highest reading is over 30,000 gammas - apparently indicating a strong local concentration of magnetite. This magnetic zone strikes east-west, open to the area of the two claims to the west.

The next strong magnetic zone is located at the southeast of S. S. M. -70325. This zone has high readings just over 3,000 gammas, and is striking northwest-southeast.

There are many areas with below background readings. Several of these are apparently dipole effects and parallel to the magnetic zones.

One magnetic "low" area located at the central parts of Claims S. S. M. -70332 and S. S. M. -70323, has an apparently north-south trend. The west boundary of this magnetic "low" area, between picket lines 24 and 26, is inferred as indicating a contact zone between the basic intrusives to the east and the sediments to the west.

The few electromagnetic traverses encountered negative results at the southeast and northwest boundary areas of the property. They showed that the strong magnetic anomalies outlined there are not associated with appreciable concentrations of conductive minerals at shallow depth. However, samples from L. 6, 1200 and 1300 south, showed interesting narrow seams of chalcopyrite, one of which assayed...
1.05% copper and a trace of silver. It follows that these mineralizations are probably very narrow and/or, because of the siliceous matrix, do not respond to electromagnetic detection.

The soil-sample geo-chemical survey encountered many positive indications on the property; most of them are located at the south four claims. It is interesting to note that several of the stronger indications with 100 to 300 p.p.m. of total heavy metals and 100 to 500 p.p.m. of copper are located at the southwest part of the property, just east of the inferred intrusive-sediment contact. In correlation with the magnetic data, these strong geo-chemical indications are inferred as indicating interesting chalcopyrite mineralization along fractures, more or less vertical to the said geological contact.

The geo-chemical survey also encountered three indications of similar magnitude in Claim S. S. M. -70328, one of which, located at L. 22, 1,200 north, is associated with a small but interesting negative magnetic anomaly.

CONCLUSIONS AND RECOMMENDATIONS -

The magnetometer survey has outlined two strong but narrow magnetic zones over mainly basic intrusives. Electromagnetic check survey indicated no heavy concentration of conductive minerals associated
with these magnetic zones. The known chalcopyrite-bearing showings are probably narrow and small.

The magnetic data, however, indicated an interesting structural picture. There are many strong geo-chemical indications located along inferred fractures vertical to an inferred north-southerly contact between basic intrusives to sediments, at the southwest part of the property. Three other interesting indications are located in Claim S. S. M. -70328.

The writer considers that the results of the surveys are of merit, and the property should be further explored by a program of geological prospecting. All the strong geo-chemical indications should be tested by trenches, and, if necessary, guided by detailed geo-chemical survey. The recommended program of surface work probably would lead to a program of exploration diamond drilling.

Respectfully submitted,

CANA EXPLORATION CONSULTANTS LIMITED

SSS:rw
Encl.

Toronto, Ontario,

S. S. Szetu, Ph. D.,
Consulting Geologist.
### Assessment Work Breakdown

#### 1. Technical

<table>
<thead>
<tr>
<th>Type of Work</th>
<th>Name &amp; Address</th>
<th>Dates Worked</th>
<th>Hours</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geo-Chemical Soil-Sample Survey</td>
<td>Gaston Heyerdahl, Operator, 12 Richmond St. E., Suite 427, Toronto, Ont.</td>
<td>Oct. 21, 22, 25-31 incl./65.</td>
<td>72</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Vincent Gray, Helper, Blind River, Ont.</td>
<td>Oct. 21, 22, 25-31 incl./65.</td>
<td>72</td>
<td>9</td>
</tr>
<tr>
<td>Analysis</td>
<td>P. R. Donovan and Others, Period: Nov. 1-3/65, McPhar Geophysics Ltd., 139 Bond Ave., Don Mills, Ont.</td>
<td></td>
<td>48</td>
<td>6</td>
</tr>
</tbody>
</table>

#### Consultants

<table>
<thead>
<tr>
<th>Name &amp; Address</th>
<th>Dates Worked (specify in field or office)</th>
<th>Hours</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. S. Szeto, Ph.D., Consulting Geologist, Office</td>
<td>Nov. 23/65, Suite 427, 12 Richmond St. E., Toronto, Ont.</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Doughtsman, Typing, others (specify)

<table>
<thead>
<tr>
<th>Name &amp; Address</th>
<th>Type of Work</th>
<th>Dates Worked</th>
<th>Hours</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>L. Nagy</td>
<td>Drafting</td>
<td>Nov. 13/65</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

#### 2. Line-Cutting

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>Dates Worked</th>
<th>Hours</th>
<th>Days</th>
</tr>
</thead>
</table>

| Totals | 24     | 192        |
Use for one type of survey only

Submit in duplicate

Assessment Work Breakdown

1. Type of Survey: Geo-Chemical Survey.

2. Township or Area: Kirkwood Township.

3. Mining claim numbers: S.S.M. -70323 - S.S.M. -70328, inclusive;
   S.S.M. -70331 and S.S.M. -70332.

4. Number of miles of line cut by Jayco Mines Limited.

5. Type of instrument used: McPhar Geo-Chemical Soil-Test Kit.

6. Scale constant or sensitivity

7. Number of stations established: 751 soil-sample stations.

8. Summary of days worked (details on reverse side)
   Total technical (include consultants, draughting etc.) 26 x 7 = 182
   Total line-cutting
   Total man-days (technical plus line-cutting)
   Assessment days credit per claim 22


* Complete only if applicable

Complete list of names, addresses and dates on reverse side
THE TOWNSHIP OF KIRKWOOD
DISTRICT OF ALGOMA

SCALE: 1-INCH = 40 CHAINS
SEE ACCOMPANYING MAP(S) IDENTIFIED AS

Kirkwood 0012-B1 #1

LOCATED IN THE MAP CHANNEL IN THE FOLLOWING SEQUENCE (X)
GEOPHYSICAL SURVEY DATA ON 8 CLAIMS OF JAYCO MINES LIMITED
KIRKWOOD TOWNSHIP
SAULT STE. MARIE MINING DIVISION, ONTARIO
Scale: 1" = 200', November 1965
CAN A EXPLORATION CONSULTANTS LIMITED

LEGEND

- Claim post and claim boundaries
- Claim markers
- Claims
- Claim boundary
- Higher ground
- Shore
- Cliff
- Higher ground
- Swamp
- Location of rock samples
- Bush road
- Highway with power line
- Magnetic control station
- Magnetic base control station
- Picket line cut and chained
- Magnetic readings obtained and plotted to the East of picket line
- Magnetic contours

- Electromagnetic readings obtained at the receiver station by using a Ronka Mark—IV unit and 300' cable.
- In-phase readings plotted to the West, out-of-phase readings plotted to the East of picket line.
- Scale of profile: 1/10" = 170° of phase change.

- Geochemical soil sample data (in parts per million of copper.)
- Geochemical soil sample data (Total Heavy Metal; Zn. Equivs. parts per million)
- Geochemical anomaly
- Direction of traverse

- Electromagnetic dip angles obtained by using a Sharpe SE-200 unit (parallel line method.)
- Scale of profile: 1/10" = 1° of dip angle.