REPORT ON GEOLOGICAL MAPPING, GEOCHEMICAL SAMPLING AND PROSPECTING LIBERT LAKE PROPERTY OF 493217 ONTARIO LTD. DISTRICT OF KENORA, PATRICIA PORTION PATRICIA MINING DIVISION, ONTARIO NTS 53B9

RECEIVED JUN 8 1983 MINING LANDS SECTION

H.J. Hodge P.Eng. August, 1982
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SUMMARY

The Libert Lake property of 493217 Ontario Ltd. consists of 45 unpatented mineral claims located approximately 70 miles north of Pickle Lake in northwestern Ontario.

The property is adjacent to a large property held by a consortium consisting of DOME-INCO-ESSO-LACANA, on which a major gold discovery of over 1,000,000 tons grading .20 ounce gold per tons was announced in 1981.

The property is accessible by fixed wing aircraft from Pickle Lake. Highway 599, an all-weather road, is only 20 miles south of the property. A new road is planned to link this highway to the Dome 341 property. This road will provide direct access to the Libert Lake property.

12 of the 45 claims were staked in September 1980 to cover a previously discovered gold showing, and 33 claims were staked in April 1981 following an announcement by Dome of the gold discovery on the adjacent property.

In late 1981, VLF EM and magnetic surveys were carried out by Geocanex over the property and outlined a large number of magnetic and electromagnetic anomalies.

A program of geological mapping, prospecting, limited geochemical sampling, stripping and trenching was carried out in July, 1982.

The property is underlain by mafic meta-volcanic flows, minor felsic meta-volcanics, clastic meta-sediments, and iron formation, cut by several types and ages of granites. The meta-volcanic meta-sedimentary sequence forms part of a major greenstone belt which extends for 80 miles in a north westerly-south easterly direction. Just north of the property the belt bifurcates into two lobes, one trending south through the property and one to the east through Neawagank Lake. A major syncline is suggested from government geological mapping, the axis trending north south through the meta-sediments.

The rocks have been metamorphosed to the middle amphibolite facies.

Gold was first discovered in the Opapimiskan Lake area to the north of the property by the Musselwhite brothers in 1962, followed by a program of prospecting, trenching, geological mapping and diamond drilling by Kenpat Mines in 1962-63. The property was virtually dormant until 1973 when the Musselwhite brothers formed a grub stake consisting of the present consortium members. Subsequent exploration, including extensive drilling, culminated in the discovery of a major gold deposit in 1981.
On the Libert Lake property prospecting was carried out following the original gold discovery at Opapimiskan Lake and the L-1 gold showing was discovered and trenched at that time. Several other trenches including L-4 were also explored by trenching but no geophysics or diamond drilling are reported on the property.

The present program indicates that the property is underlain primarily by mafic meta-volcanic flows, and minor tuffs with possibly minor ultramafic flows, felsic meta-volcanics, meta-sediments, and magnetite-chert iron formation.

Limited geochemical sampling of 'B' horizon soils over the iron formation indicates widespread anomalous gold mineralization in bedrock. Prospecting and trenching resulted in the discovery of a new copper zone on the edge of a heavily swamp covered area, in addition to relocation and sampling of several previously discovered gold occurrences. The best assay was .15 ounce per ton gold over 9.0 feet in a trench on Showing L-1. A grab sample from the copper showing assayed 3.60% copper.

The property has excellent potential for economic gold deposits as well as base metals, as evidenced by the widespread occurrences in a geological environment similar to that hosting the Dome-Inco-Esso-Lacana deposits.

A program of detailed geophysics and diamond drilling is recommended to test the gold occurrences and geophysical anomalies.

The cost of this proposed program is estimated at $137,000.00.
INTRODUCTION

The Libert Lake property of 493217 Ontario Ltd. consists of 45 unpatented mineral claims and is located in the Opapimiskan Lake area approximately 70 miles north of Pickle Lake. The property adjoins to the south of a large property held by a consortium consisting of DOME, INCO, ESSO and LACANA.

The property was staked in two stages; 12 claims were staked in September 1980 to cover a gold occurrence discovered in earlier years, and 33 claims were staked in April 1982 to cover iron formation extending southward from the Dome et al property following announcement of the discovery of a major deposit of gold within the iron formation. (Figure No. 1)

Electromagnetic and magnetic surveys were carried out over the property by Geocanex for 493217 Ontario in late 1981, and a broad band of highly magnetic iron formation was delineated extending on to the property from the north. A program of geological mapping, prospecting and geochemical sampling was recommended to cover the property. This report describes the result of that program.

PROPERTY

The property comprises 45 unpatented mineral claims. The claims are recorded on Ministry of Natural Resources Plan No. M2708, Zeeemel Lake area.

Claim details are given below:

<table>
<thead>
<tr>
<th>Claim Numbers</th>
<th>Total Claims</th>
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<td>2 yrs.</td>
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</table>

The claims are held by;

493217 Ontario Ltd.
700-11 Adelaide St. West
Toronto, Ontario

Tel. (416) 363-4376
Another major gold discovery in Ontario

By M. R. Brown

Working quietly on a large spread of ground 80 miles north of Pickle Lake in Northwestern Ontario, a consortium of major companies headed by the Dome Mines Group has come up with what appears to be a very important new gold find.

Four diamond drills are presently on the job, with over a million tons already indicated grading approximately 0.20 oz. gold per ton.

Project operator is Dome Exploration Canada Ltd., which holds a 35%-interest. The other active participants are Canadian Nickel Co., a unit of Inco Ltd., with 23.95%, Esso Minerals with 23.95% and Lacana Mining Corp. with 17.10%. The Dome interest is shared as to 40%-by Dome Mines, 30% to Dome Petroleum, Campbell Red Lake as to 21.10%-and 6%-Sigma Mines.

The discovery resulted from more than six years of continuous exploration on property staked by prospectors Alan and Harold Musselwhite, who retain an interest. The property now totals 620 claims.

"This appears to be a significant gold occurrence," Malcolm A. Taschereau, Dome's president and chief executive officer commented to The Northern Miner when asked if it could represent another Detour Lake.

At least $1 million will be spent on drilling this year, Mr. Taschereau says, adding that "an underground development program is indicated from the results so far."

The gold mineralization occurs in banded iron formation, with two major zones indicated thus far, as well as several smaller zones that will have to be followed up. Much of it lies under Opiumiskan Lake, so the operators want to get as much ice drilling done as possible before the spring breakup.

"We are quite enthusiastic about this new development," G. S. "Wally" Bruce, vice-president, exploration for the Dome Group told The Northern Miner this week.

The project was actually launched back in 1973, with the initial exploratory drilling carried out in 1974. To date a total of 180 holes has been put down following up extensive geophysical work and soil sampling. But it is only recently that the significance of the finds has become apparent. (Over 50 holes have been drilled this winter).
REGIONAL GEOLOGY, MINERAL SHOWINGS & PROPERTY HOLDING
Area of Dome-Inco-EssO-Lacana Gold Discovery
OPAPIMISKAN LAKE, PATRICIA MINING DIV., ONTARIO
From ODM Maps P2218 P2292.
H.J. HODGE P.ENG. MARCH, 1981
Scale: 1" = 4 Miles
LOCATION

The property is located 75 miles north of Pickle Lake, northwestern Ontario.

Figure No. 2 shows the general location of the property both regionally and with respect to adjacent properties.

ACCESS

The property is easily accessible by fixed wing aircraft from Pickle Lake.

An all-weather highway, No. 599, connecting Wendigo Lake to Pickle Lake, crosses the area in a west north westerly direction, approximately 20 miles to the south of the property.

A proposal by the Dome et al consortium to construct a road to link their property to Highway 599 is currently under study by the Ministry of the Environment.

FIELD PROGRAM

The geological mapping was carried out by H.J. Hodge by utilizing the geophysical grid. Picket line spacing is 400 feet.

Prospecting and soil sampling were carried out by Jack Hodge and Scott Waldie.

Sampling of the showings was carried out by H.J. Hodge.

The program was carried out during the period June 9th to June 20th, 1982.

HISTORY OF EXPLORATION

Gold was first discovered on the adjacent property of the Dome et al consortium by the Musselwhite brothers in 1962.

Kenpat Mines conducted an exploration program in 1962-63 consisting of a magnetometer survey, geological mapping, trenching and diamond drilling to explore the No. 1 Vein (the original discovery) on the north west shore of Opapimiskan Lake, and Numbers 1, 2 and Everway gold showings in iron formation on the south side of the lake.
In 1973, the Musselwhite brothers formed a grub stake financed by a number of joint venture partners including Dome, Inco, Esso and Lacana. Since that time an intermittent program of geophysical surveying, geochemical sampling, prospecting, geological mapping, trenching and 180 diamond drill holes (not including the 1981-1982 program) culminated in an announcement of the discovery of major gold deposits. (Northern Miner, March 5th, 1981), containing in excess of 1,000,000 tons grading .20 ounce per ton gold.

On the Libert Lake property of 493217 Ontario Ltd., considerable prospecting was carried out following Musselwhite gold discovery. Considerable trenching by Ben Ohman resulted in the discovery of several gold showings. The most important showing to date is L-1 (Map No. 1), where a zone of shearing and sulphides in weak iron formation was exposed in trenches over a length of approximately 400 feet. The best assay was .15 ounce of gold per ton over 9 feet. This showing lies along the south extension of the main magnetite-chert iron formation which extends southward from the Musselwhite gold discovery. Showing L-4 consists of a trenched sulphide zone, also in close proximity to the iron formation, as indicated on government magnetic maps. This showing assayed .05 ounce gold per ton over 6.0 feet.

There is no record or field evidence of previous geophysics or diamond drilling on this property.

**GEOPHYSICAL SURVEYS**

In late 1981 Geocanex, on contract to 493217 Ontario, established a picket line grid over the property with east west lines at 400 foot intervals. VLF EM and magnetic surveys were carried out over the grid.

A report by Geocanex describes the results of these surveys. The most prominent feature is the zone of high magnetic intensity, approximately 800-1,000 feet wide, which trends north-south from the north property boundary southward to the north shore of Libert Lake. The strong magnetic peaks (up to 10,000 gammas) indicate that this zone is a continuation of the magnetite-chert iron formation at Opapimiskan Lake. Some localizations indicate tight folding within the property.

EM conductors occur along the magnetic trend for 4,400 feet, with some anomalies expressing peak to peak responses as high as 80Y. Several anomalies lie off the main iron formation and are suggestive of non-magnetic sulphide zones.
REGIONAL GEOLOGY

The area was previously mapped by Satterly (1939) and Thurston et al (1971); both on reconnaissance scales.

The property straddles a one mile wide, north-south trending belt of Archean meta-volcanic and meta-sedimentary rocks. This belt represents a segment of a large regional greenstone belt called the Weaganow-North Caribou Lake belt which extends for approximately 50 miles to the north west. Immediately to the north of the property this belt bifurcates, with one lobe extending 10 miles south through the property and an easterly lobe extending east south easterly for 30 miles through Neawagank Lake.

In the property area the belt is composed primarily of mafic meta-volcanic flows with minor felsic meta-volcanics, meta-sediments and magnetite-chert iron formation. This sequence is intruded by several types of granitic rocks, and bounded on the east and west by granitic plutons.

Metamorphism ranges from upper greenschist to middle amphibolite facies.

Structurally Thurston (1971) and Satterly (1939) suggest that the meta-volcanic and meta-sedimentary rocks have been folded into a syncline which axis parallels the trend of the belt. The axis is considered to coincide with the meta-sediments.

A major fault is indicated by a strong topographic feature running north south through the Libert Lake system.

PROPERTY GEOLOGY

The property is underlain predominantly by mafic to intermediate volcanics, minor felsic meta-volcanics, clastic meta-sediments and magnetite-chert iron formation.

Mafic to Intermediate Meta-volcanic Rocks - Basalt is the predominant rock type with minor andesite and possibly minor ultramafic flows. They consist of massive, medium to dark green flows and occasional tuffs. Primary features such as pillows, vesicles, or flow contacts have been obliterated by later shearing and metamorphism. In hand specimen the rocks consist of chlorite and in most localities tremolite-actinolite, indicating amphibolite grade metamorphism. Garnets (andradite?) are common in areas close to iron formation.
In several localities an olive green, dense, rock suggesting possible ultramafic flows, are exposed. The principal locality is on the point on the east shore of the small lake in the central part of the property at approximately 20+00 south. This is in close proximity to a strong topographic feature which extends through the above mentioned lake, southward through the long narrow south bay of Libert Lake. An occurrence of asbestos south of the property on the west shore of this bay as shown on Map P1547 (1978), would substantiate the occurrence of ultramafic rocks along this structural feature.

Felsic Meta-volcanic Rocks - A band of fine grained pale brown to white weathering rhyolitic tuff is exposed in the north central part of the property. This rock is well bedded and contains minor pyrite and pyrrhotite.

Meta-sedimentary Rocks - These rocks are sparsely exposed on the property. On the east central portion, 2 outcrops expose a strongly foliated fine to medium grained pale brownish grey, rock consisting of quartz, grey feldspar and minor biotite suggesting arkosic quartzite or greywacke. In the south part of the property on the east shore of Libert Lake extensive outcrops expose a similar rock which appears to be well bedded parallel to strong regional foliation.

Iron Formation - The iron formation occurs in several bands extending from the north boundary south to the small lake around line 20+00 south. It consists of well banded magnetite, chert, and chlorite tuff, with individual bands up to several centimeters in thickness. The whole sequence is up to 400 feet thick near the north boundary, gradually attenuating southward. For the most part the formation appears to be continuous and unfolded but in several outcrops highly contorted drag folding was noted, and it is highly probable that the several bands in the north section are repeated by localized folding.

Sulphide facies iron formation occurs in several localities consisting of disseminated pyrite and minor pyrrhotite in tuffaceous volcanics.

Granitic Intrusives - The meta-volcanic - meta-sedimentary sequence is bounded on the east by gneissic granite consisting of approximately 25% quartz, 30% white and pink feldspar and 10-15% hornblende and biotite, and on the west by a medium to coarse grained gneissic granite containing 25-30% quartz, 35-45% grey feldspar with locally pink feldspar, and 15-20% biotite with minor hornblende.
Two distinct types of granitic intrusives cut the metavolcanic and meta-sedimentary rocks.

**Pink Granite** - This occurs near the east shore of the small lake in the centre of the property on lines 24S to 32S. It is a pink, coarse grained to pegmatitic granite consisting of quartz, pink feldspar, and minor biotite with occasional muscovite.

**White Granite** - This is more extensive than the pink granite and occurs as one or more wide sill like bodies in the central portion of the property. It is mainly pegmatitic, consisting predominantly of white feldspar (presumably albite and/or microcline) and subordinate quartz and muscovite with minor biotite.

**Quartz-Carbonate Veins** - Veins and stringers of quartz with minor carbonate occur in numerous outcrops ranging from inches up to several feet in width.

**ECONOMIC MINERALIZATION**

Gold is the principal mineral of economic importance on the property. However, a new discovery of copper mineralization in the current program indicates that potential exists for base metal mineralization as well.

Gold occurs in a number of locations on the property (See Map No. 1).

**Showing L-1** - This consists of a shear zone with minor sulphides and quartz in weak iron formation and sericitic schist, probably originally felsic tuff. 8 pits were put down along a strike length of approximately 400 feet. The best assay was .15 ounce per ton gold over 9.0 feet. (Fig. No.3), in a chip sample by Teck Corp.

**Showing L-2** - This showing consists of a 1' to 2' wide quartz vein which was uncovered along the east edge of an outcrop escarpment with minor pyrite and pyrrhotite particularly in the silicified mafic volcanic wall rock. The vein strikes approximately north 20° east and dips vertically. In the west wall of this vein near its south end heavy chalcopyrite mineralization in chlorite was discovered and a grab sample assayed 3.60% copper. This copper zone appears to cut across the vein, but could not be traced easterly because of heavy swamp cover. The vein itself does not carry anomalous gold values.

**Showing L-3** - is in iron formation and consists of 10-15% disseminated pyrite in magnetite-chert iron formation with quartz veins. Chip samples indicated geochemically anomalous values.
Showing L-4 - This is a 3 to 6 foot wide sulphide-magnetite- 
chert iron formation with 10% pyrite, traces of chalcopyrite, and 
minor quartz. A 6 foot chip sample assayed .05 ounce per ton gold.

On the adjacent property of Dome-Inco-Esso-Lacana a number 
of gold deposits have been found and several have been extensively 
explored by drilling in the past few years. Over 1,000,000 tons 
grading approximately .20 ounce per ton gold have been outlined, 
and exploration is continuing. (Figure 1)

The deposits are described by Andrews et al (1981) as follows;

"The Everway showing occurs within oxide facies iron formation 
at the crest of a westerly plunging anticlinal fold (S< sup> 1 ?< /sup>). 
The iron formation here consists of alternating chert and magnetite- 
rich bands and is in contact on the southwest side of the outcrop 
area with a highly sheared mafic unit which could be either meta- 
gabbro or a coarse-grained flow. The contact is folded and conforms 
to the orientation of the iron formation bands (that is, plunging 
20° to the west). The zone of mineralization occurs within the 
iron formation and appears to be oriented down-plunge along the 
nose of the fold. It is marked by a small, intense zone of oxida- 
tion (about 15 by 30m surface dimension) and late stage, cross 
cutting, axial planar quartz veins. The gossan contains about 2 
percent sulphide mineralization (mostly pyrite) much of which is 
highly oxidized leaving a box-work-like texture of limonite and 
goethite. The quartz veins exhibit a fine-to medium-grained, 
sugary texture, giving evidence of cataclasis. No visible gold was 
observed at this location however, assays conducted on four grab 
samples (4 to 7, Table 1) reveal that significant concentrations 
 occur within the highly oxidized pit and the axial plane quartz 
veins.

The Number 1 showing consists of oxide and silicate facies 
iron formation in a repeated series of tight, isoclinal folds 
(S< sup>x< /sup>type). The folds occur with a wavelength of about 2 to 3 m. 
The iron formation is interrupted in the central part of the out- 
crop area by a 3 to 5m wide mafic, possibly tuffaceous unit. 
Intense oxidation occurs in many of the fold culminations parti-
cularly the antiforms. The close spacing of folds renders these 
oxidized zones almost continuous across the southwest side of the 
outcrop where an elongate pit has been excavated within the oxidized 
fold culminations. Late quartz veins (< 0.5 to 2.0cm in width) cut 
across the folded iron formation, oblique to the axial plane 
direction. Again while no visible gold was observed at this site 
assays conducted on two grab samples revealed that significant 
concentrations occur within the oxidized fold culminations 
(samples 8 an 9, Table 1). As illustrated on Figure 2 both the 
Everway and Number 1 showings occur in what may be interpreted as 
a deformed, antiformal fold culmination."
The Number 2 showing consists of predominantly silicate facies and lesser oxide facies iron formation, with occasional intercalations of garnetiferous, mafic, possibly tuffaceous units. In contrast to the previous showings, the deformation here takes the form of a small, open folds of variable dimension (0.1 to 2.0 m across) best described as disharmonious buckling. The larger-scale folds appear to be coincident with a predominance of thick cherty layers (up to 10 cm in width) and a concomittant paucity of magnetite. A number of pits have been excavated down-plunge along the axial plane of antiforms (1 to 2m in width) which are marked by a small zones of gossan (about 1 m² in surface area). Quartz veins are present here but are not so prevalent as in the Everway and Number 1 showings. When viewed on a larger scale (Figure 2), the Number 2 showing appears to be located within the crest of a northwest-plunging antiform.

A brief examination was conducted of the Number 1 quartz vein located about 90m off the north shore of Opapiniskan Lake and the Teal. Cu-Au-Ag showing located north of Kaa-Gall Lake (Figure 1). Details concerning the Number 1 quartz vein have been compiled by Thurston et al (1979). This occurrence has been described as a northwest-trending quartz vein hosted by a thin band of iron formation and continuous over a length of about 210m. Twelve diamond-drill holes totalling 773m were put down along the length of this vein by Kenpat Mines Limited. The best mineralization reported was 0.39 ounce gold per ton over 0.4m. Our observations suggest that this occurrence is probably best described as a vein system since a number of locations along strike, multiple sub-parallel veins are in evidence. No iron formation was observed on the surface exposures we examined, however, the main vein does appear to be hosted by a highly oxidized shear zone, most likely originally mafic metavolcanic material. Two grab samples taken by the authors (11 and 12, Table 1) corroborate the conclusion of Thurston et al (1979) that the best mineralization occurs in shear zones adjacent to the quartz veins. According to Thurston et al (1979) the mineralized zones do not appear to be very persistent along strike.

GEOCHEMICAL SOIL SAMPLING

Surficial deposits in the area consist for the most part of coarse, bouldery, sandy, glacial drift in ground moraines, esker and tills. These are exposed only in areas of high ground, most of the area being heavily swamp covered.

The 'B' horizon soils were thought to provide the best possibility of detecting gold mineralization in bedrock.

Because of generally heavy swamp cover over much of the property
**FIG 2**

**HORSE/KOVAL PROSPECT**

**LIBERT LAKE AREA**

1 cm = 10 m

---

**FIG 3**

**HORSE/KOVAL PROSPECT**

**LIBERT LAKE AREA**

**MAIN TRENCH (Looking South)**

Scale: 2 cm = 1 m

(From Teck Corp. Report)

Figure No. 3
sampling was confined to the higher ground underlain by iron formation in the north central part of the property. Samples were taken every 100 feet along grid lines at 1,200 foot intervals across the magnetic and electromagnetic anomalies. Approximately one pound of fresh till was collected from each location and analyzed by Bell-White Laboratories using the Atomic Absorption method.

Results are shown on Map No. 1. Values up to 820 ppb gold were returned in a background approximately 5 to 10 ppb, indicating widespread gold mineralization. However, no distinctive trends can be established owing to insufficient sampling density.

PROSPECTING

A thorough examination of the property was carried out and most of the available outcrop was probably located. Stripping and limited trenching were carried out on all sulphide gossans or quartz veins.

Sampling of trenches were carried out and results are shown in the table on Map No. 1.

CONCLUSIONS

The salient features associated with the gold deposits on the DOME-INCO-ESSO-LACANA property are present on the property of 493217 Ontario Ltd. They are;

(1) Oxide-silicate iron formation, highly folded with disseminated sulphides.

(2) Wide spread gold mineralization with values up to .15 ounce per ton over 9.0 feet.

(3) Numerous untested EM and magnetic anomalies

(4) In addition to gold mineralization an important discovery of copper mineralization in an area adjacent to extensive swamp cover with electromagnetic anomalies indicates potential for base metal deposits as well.

In summary the property has excellent potential for economic gold, as well as base metals, deposits and warrents further systematic exploration.
PROPOSED EXPLORATION PROGRAM

Further exploration on the property should include more detailed geophysical coverage over the iron formation and areas of sulphide showings to define targets for diamond drilling.

Geophysics

1. VLF EM and magnetic surveys should be carried out over grid lines at 200 foot intervals within the existing grid, from line 28 south to line 40 north, from the base line to 30+60 east. Total -- 5 miles.

2. VLF EM and magnetic surveys should be carried out over claims 558891, 558886 and 558887 in the south section of the property to define and delineate the gold bearing sulphide zone exposed in showing L-4. Total -- 2 miles.

Diamond Drilling

A minimum of 10 diamond drill holes is required to investigate showings L-1, L-2 and L-4 and the iron formation at selected locations in the iron formation.

Total 10 diamond drill holes x 300' = 3,000 feet.

ESTIMATED COST OF PROPOSED PROGRAM

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H.J. Hodge P.Eng.
August 20th, 1982
REFERENCES


Map 2218 - Cat Lake - Pickle Lake - Geological Compilation Series, O.G.S., Scale 1 inch to 4 miles.

Map 2292 - Big Trout - North Caribou Lakes - Geological Compilation Series, O.G.S. Scale 1 inch to 4 miles.

Map 928G - Aeromagnetic Series, Opapimiskan Lake, Kenora District O.D.M.


Claim Sheet - M2707 - Skinner Lake, District of Kenora (Patricia Portion), Ontario. M.N.R.

Claim Sheet - M-2708 - Zeemel Lake, District of Kenora, Patricia Portion, Ontario, M.N.R.


Ministry of Natural Resources

Technical Assessment

Work Credits

Recorded Holder: 493217 ONTARIO LTD
Township or Area: ZEEMEL LAKE

<table>
<thead>
<tr>
<th>Type of survey and number of Assessment days credit per claim</th>
<th>Mining Claims Assessed</th>
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</thead>
<tbody>
<tr>
<td>Geophysical</td>
<td>PA 558860 to 62 inclusive</td>
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<tr>
<td>Electromagnetic</td>
<td>558864 to 66 inclusive</td>
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<tr>
<td>Magnetometer</td>
<td>558868 to 83 inclusive</td>
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<tr>
<td>Radiometric</td>
<td>558888 to 890 inclusive</td>
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<tr>
<td>Induced polarization</td>
<td>487050 to 61 inclusive</td>
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</table>

Section 77 (19) See “Mining Claims Assessed” column

Geological: 40 days

Geochemical: days

Man days ☐ Airborne ☐

Special provision ☐ Ground ☐

☐ Credits have been reduced because of partial coverage of claims.

☐ Credits have been reduced because of corrections to work dates and figures of applicant.

Special credits under section 77 (16) for the following mining claims

**20 DAYS CREDIT**
PA 558863
558867
558885 to 87 inclusive

**10 DAYS CREDIT**
PA 558884

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ Insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40; Section 77 (19) — 60; 828 (83/61).
Type of Survey(s) Geological, Geochemical
Township or Area Zemmel Lake M-2708
Claim Holder(s) 493217 Ontario Ltd. 700-11 Adelaide St. W Toronto M5H 1L9
Survey Company H.J. Hodge Incorporated
Author of Report H.J. Hodge
Address of Author 700-11 Adelaide St. W Toronto M5H 1L9
Covering Dates of Survey June 11/82 to June 19/82 (linecutting to office)
Total Miles of Line Cut 38.35

SPECIAL PROVISIONS CREDITS REQUESTED
ENTER 40 days (includes line cutting) for first survey.
ENTER 20 days for each additional survey using same grid.

AIRBORNE CREDITS (Special provision credits do not apply for airborne surveys)
Magnetometer
Electromagnetic
Radiometric

DATE: March 1, 1983 SIGNATURE: [Signature]

Res. Geol. Qualifications

Previous Surveys
File No. Type Date Claim Holder

TOTAL CLAIMS 45
GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken: PA 487050, 487051, 487052, 487053, 487054, 487058, 487059, 487060, 487061, 558862, 558863, 558868, 558869

Most of balance of property to east underlain by supracrustal rocks covered by deep swamp, 'B' horizon too deep to be sampled with method used.

Total Number of Samples 97

Type of Sample: soils

(Nature of Material)

Average Sample Weight: 2 kgs.

Method of Collection: shovel excavated hole to 'B' horizon

Soil Horizon Sampled: 'B' horizon

Horizon Development: fair

Sample Depth: 6" - 16"

Terrain: boulder till

Drainage Development: good in area sampled

Estimated Range of Overburden Thickness: 0-50 feet

ANALYTICAL METHODS

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

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

Others: Au

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: Bell-White Analytical

Extraction Method

Analytical Method: A.A.

Reagents Used

General
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Ontario
Report of Work
Geo- and Geophysical, Geochimcal and Expenditures

PATRICIA MINING DIV.
The Mining Act
MARCH 1, 1980

Type of Survey(s)
Geological

Claim holder(s)
493217 Ontario Ltd.

Address
700-11 Adelaide St. West, Toronto, Ontario M5H 1L9

Survey Company
H.J. Hodge Incorporated

Name and Address of Author (of Geotechnical report)
H.J. Hodge 700-11 Adelaide St. West, Toronto, Ontario M5H 1L9

Credits Requested per Each Claim in Columns at right

Sp*ec* Provisions
For first survey:
Enter 40 days. (This includes line cutting)
For each additional survey:
using the same grid:
Enter 20 days (for each)

Man Days
Complete reverse side
and enter total(s) here

Geophysical
Magnetic

Expenditures (excludes power striping)

Total number of mining claims covered by this report of work.

<table>
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<tr>
<th>Mining Claim</th>
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</table>

For Office Use Only

Date Recorded
Mar. 1, 1983

Name and Address of Person Certifying
H.J. Hodge 700-11 Adelaide St. West, Toronto, Ontario M5H 1L9

Date Certified
3/24/83

Total number of mining claims covered by this report of work.

48
Action Memo

1:45 P.M. Jan 83 05 26

J.W. MacEachren, Supervisor, Branch

No. 66, Mossey Recording Office Ltd.

T.C. N. No. 807 1937-21-05

Phone Box: 832 21-05

□ Please Call
□ Please Call Back
□ Will Call Back
□ Will Return

□ File
□ Draft Reply for My Signature
□ Provide More Details

□ Type Draft
□ For Your Approval and Signature
□ Keep Me Informed
□ Per Discussion

□ Type Final
□ Circulate Final and Return
□ Take Appropriate Action
□ Per Your Request

□ Make Copies
□ Return with Comments
□ Note and See Me
□ Returned with Thanks

□ Please Answer
□ Investigate and Report
□ Note and Return

Company

Elected mining claims, #58891 and #58892, were cancelled previous to dates of survey. Reentries completed subsequent to dates of survey. We have advised the recorded holder.

7540-1097 (Rev. 11/01)

Over

Pa. 58891 & 58892 lapsed as at 2:00 a.m. Oct. 3, 1982. For lack of work. Cancellation date May 20/82.

Restricted as

Mr. Albert Hanson  
Mining Recorder  
Ministry of Natural Resources  
P.O. Box 668  
SIOUX LOOKOUT, Ontario  
POV 2TO  

Dear Sir:  

We have received reports and maps for a Geological survey submitted under Special Provisions (credit for Performance and Coverage) on mining claims PA 558860 et al in the Area of Zeemel Lake.  

This material will be examined and assessed and a statement of assessment work credits will be issued.  

Yours very truly,  

E.F. Anderson  
Director  
Land Management Branch  

Whitney Block, Room 6450  
Queen's Park  
Toronto, Ontario  
M7A 1W3  

Phone: 416/965-1380  

A.Darriulb  

cc: 493217 Ontario Ltd.  
700-11 Adelaide St. W.  
Toronto, Ontario  
M5H 1L9  

Attention: Mr. H.J. Hodge
August 18, 1983

493217 Ontario Limited
Suite 700
11 Adelaide Street West
Toronto, Ontario
M5H 1L9

Dear Sir:

RE: Geological Survey on Mining Claims PA 588860
et al in the Area of Zeemer Lake

Geological Survey on Mining Claims PA 558854
et al in the Area of Neawagank Lake

Geological Survey on Mining Claims PA 558808
et al in the Area of Skinner Lake

Returned herein are the plans and final page of the report
(in duplicate) for each of the above-mentioned surveys.

The nature of the overburden is to be shown on each copy
of the maps. Also, please have the author of the report
sign each last page and copy of the maps.

For further information, please contact Mr. F.W. Matthews
at (416)965-1380.

Yours very truly,

E.F. Anderson
Director
Land Management Branch
Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-1380

S. Hurst:mc

Encl.

cc: Mining Recorder
Sioux Lookout, Ontario
September 1, 1983

Mr. E.F. Anderson  
Director  
Land Management Branch  
Ministry of Natural Resources  
Room 6450, Whitney Block  
Queen's Park  
Toronto, Ontario  
M7A 1W3

Re: Your file 2.5606, 2.5607, 2.5608

Dear Mr. Anderson:

The data which you requested in your letter of August 18th, relating to the geochemical surveys is currently being compiled for inclusion on the relevant maps and will be submitted as soon as possible.

Yours very truly,

H.J. Hodge, P. Eng.  
President

HJH:sh
Mr. Albert Hanson  
Mining Recorder  
Ministry of Natural Resources  
P.O. Box 669  
Sioux Lookout, Ontario  
POV 2T0

Dear Sir:

Enclosed are two copies of a Notice of Intent with statements listing a reduced rate of assessment work credits to be allowed for a technical survey. Please forward one copy to the recorded holder of the claims and retain the other. In approximately fifteen days from the above date, a final letter of approval of these credits will be sent to you. On receipt of the approval letter, you may then change the work entries on the claim record sheets.

For further information, if required, please contact Mr. F.W. Matthews at 416/965-1380.

Yours very truly,

[Signature]

R. F. Anderson  
Director  
Land Management Branch

Whitney Block, Room 6450  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone: 416/965-1316

R. Pichette: mc

Encls:

cc: 493617 Ontario Limited  
Suite 700  
11 Adelaide Street West  
Toronto, Ontario  
M5H 1L9

cc: Mr. G.H. Ferguson  
Mining & Lands Commissioner  
Toronto, Ontario  
File
An examination of your survey report indicates that the requirements of The Ontario Mining Act have not been fully met to warrant maximum assessment work credits. This notice is merely a warning that you will not be allowed the number of assessment work days credits that you expected and also that in approximately 15 days from the above date, the mining recorder will be authorized to change the entries on his record sheets to agree with the enclosed statement. Please note that until such time as the recorder actually changes the entry on the record sheet, the status c'the claim remains unchanged.

If you are of the opinion that these changes by the mining recorder will jeopardize your claims, you may during the next fifteen days apply to the Mining and Lands Commissioner for an extension of time. Abstracts should be sent with your application.

If the reduced rate of credits does not jeopardize the status of the claims then you need not seek relief from the Mining and Lands Commissioner and this Notice of Intent may be disregarded.

If your survey was submitted and assessed under the “Special Provision-Performance and Coverage” method and you are of the opinion that a re-appraisal under the “Man-days” method would result in the approval of a greater number of days credit per claim, you may, within the said fifteen day period, submit assessment work breakdowns listing the employees names, addresses and the dates and hours they worked. The new work breakdowns should be submitted direct to the Lands Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.
Mr. Albert Hanson
Mining Recorder
Ministry of Natural Resources
P.O. Box 669
Sioux Lookout, Ontario
POV 2T0

Dear Sir:

RE: Geological survey on mining claims PA 558860 et al in the Area of Zeemel Lake

The Geological Survey assessment work credits as listed with my Notice of Intent dated November 4, 1983 have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours very truly,

E.F. Anderson
Director
Land Management Branch
Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1N3
Phone:(416)965-1380

R. Pichette:mc

cc: 493217 Ontario Limited
    Suite 700
    11 Adelaide Street West
    Toronto, Ontario
    M5H 1L9

cc: Resident Geologist
    Sioux Lookout, Ontario
SEE ACCOMPANYING MAP(S) IDENTIFIED AS
538/09SW-0024, #1

LOCATED IN THE MAP CHANNEL IN THE FOLLOWING SEQUENCE (X)