REPORT ON A SOIL GEOCHEMISTRY SURVEY
ON THE WABIKOBÁ LAKE PROPERTY,
THUNDER BAY MINING DIVISION, ONTARIO
FOR
DENOM RESOURCES INC.

P.O. Box 2028
Wawa, Ontario
November 24, 1983

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SUMMARY

A soil sample survey was carried out over the Wabikoba Lake Property of Denom Resources Inc. to augment geological mapping, rock sampling, and geophysical surveys. The claims are located in the Hemlo gold camp of Northwestern Ontario.

Several areas of weak but persistent gold values were detected in soil samples. A northeast-trending fault system cutting metasedimentary and intrusive rocks was found to host anomalous gold values, up to 525 parts per billion, in altered zones of biotite-quartz-feldspar gneiss.

Because of the scarcity of "B" horizon soil it is recommended that a detailed program of "A" horizon soil sampling be conducted across selected favourable areas. Detailed geophysical surveys should also be considered to delineate zones within the gold-bearing fault structure.

Respectfully Submitted,

Wawa, Ontario
November 24, 1983
Seymour M. Sears, B.A., B.Sc.
Geologist
INTRODUCTION

A soil geochemical survey has been completed on 16 contiguous, unpatented mining claims in the Wabikoba Lake Area of Northwestern Ontario (Figure 1). Soil samples were collected by Manwa Exploration Services Ltd. personnel (Sonja Sagin and Susan Butorac) on behalf of Denom Resources Inc. of Toronto, Ontario. Work was completed during the period of August 20th to September 21st, 1983, coincident with geological mapping, and geophysical surveys.

Samples were taken from the "B" Horizon, at 30-metre spacings along a 32-kilometre cut grid, with lines every 100 metres. Only about 40% of the potential 984 grid locations were sampled due to swamp and water cover.

A total of 57 rock samples were collected during the course of a geological mapping program carried out at the same time as the soil sampling survey (Dutka, 1983). The analytical results of these samples are presented in this report, along with some suggested follow-up work.
LOCATION AND ACCESS

The 16-claim property of Denom Resources Inc. is located on the east side of Little Wabikoba Lake, on NTS map sheet 42/C/13, White Lake, Ontario. It is situated approximately 15 kilometres northeast of the immediate area of the presently known "Hemlo" gold deposits.

Access to the claims is gained by boating across Wabikoba Lake, southward to the east shore of Little Wabikoba Lake. The landing on Wabikoba Lake is reached by an 11-kilometre gravelled road which branches east off of the Manitouwadge Highway (Highway 614) from a point approximately 5.5 kilometres north of Highway 17 (Figure 1).

The claims are shown in their approximate position on MNR claim map G-620. Claim numbers are shown on Figure 2. All claims are in good standing, and have anniversary dates in May, 1984.

PHYSIOGRAPHY

The Wabikoba Lake property is approximately 50% covered by cedar and alder swamps. These swamps occupy the troughs between low, often steep sided ridges which normally contain bedrock exposure. The property is generally
covered by thin glacial deposits, consisting of ground moraine and outwash apron deposits of gravelly and boulderly till (Dutka, 1983). Relief is generally less than 50 feet with one ridge approximately 200 feet high in the east-central portion of the claim group.

Drainage in the swampy areas is generally poor, and in a south and west direction into the Wabikoba Lake water system. The higher land is well-drained. Vegetation consists of mixed spruce, balsam, poplar and birch with dense undergrowth on the ridges, and cedar, spruce, and alder in the swamps.

REGIONAL AND PROPERTY GEOLOGY

The Wabikoba Lake property is situated on the north rim of an Archean volcano-sedimentary synformal basin, which lies within the Superior Province of the Precambrian Canadian Shield. Rocks within the basin include a basal sequence of mafic metavolcanics, a middle sequence of felsic to intermediate metavolcanics with interbedded metasediments and an upper sequence dominated by metasedimentary rocks. The center of this basin has been intruded by several large granitic and numerous small mafic and ultramafic bodies, including a late system of diabase dykes.
This basin hosts the recently delineated "Hemlo" gold deposits on its southern rim. Mineralization in that area consists of gold, pyrite, molybdenite, barite, and numerous other accessory minerals, associated with locally altered zones within the felsic volcanic/metasedimentary contact area. Various other sulphide prospects (Cu, Pb, Zn, Ni - often with significant gold values), currently of lesser importance, have been reported within the basin, as well as numerous gold occurrences associated with shear zone and intrusive contact hosted quartz vein system.

The Wabikoba Lake property is underlain by a complex sequence of metasedimentary rocks (paragneiss; conglomerate, etc.), silicic plutonic rocks (biotite and hornblende granodiorite) and a fairly extensive system of diabase dykes (Dutka, 1983). A northeast-trending fault system crosses the northwest corner of the property.

Mineralization observed on the property includes pyrite in all rock types with notable concentration in and adjacent to fault zones, as well as pyrite and pyrrhotite associated with the many diabase dykes.
SOIL SAMPLING PROCEDURE AND ANALYTICAL METHOD

Soil samples were collected from the "B" horizon at 30-metre intervals along 100-metre spaced cut lines. Information such as grain size, vegetation, drainage, colour and soil horizon, if different than "B", were recorded at the sample sites. Samples were dried in the field, and shipped to Min-En Laboratories in North Vancouver for analysis.

The samples were sieved at the laboratory to 80-mesh size and a six-gram sample utilized for analysis. Five grams were used for the gold analysis, using an Atomic Absorption technique. Detection Limit for gold by this technique is give (5) parts per billion. The remaining 1 gram was used to analyse for a 24-element group by an Inductively Coupled Argon Plasma (ICP) technique. These elements include Mo, Pb, Zn, Cu, Ag, Cd, Co, Mn, Ni, Sr, As, Sb, U, Th, B, Bi, V, Al, Ca, Fe, K, Mg, Na, and P.

A total of 384 samples were collected from 960 potential sample sites. Because of swamps and water cover, it was impossible to collect meaningful "B" horizon samples from the other 576 stations.
SURVEY RESULTS

Part 1 - Soil Samples

Results for the soil content of silver (Ag), copper (Cu), lead (Pb), and zinc (Zn) in parts per million (ppm) and gold (Au) in parts per billion (ppb) are plotted on map 625/4. Results for other elements can be found in the Appendix. As can be seen, the poor distribution of "B" horizon soil, due to the extensive cedar and alder swamps has severely limited the effectiveness of the survey.

Analytical data, for the 384 samples collected, shows extremely low background values for all elements, with the possible exception of gold. Therefore, no further discussion of data for other elements is felt necessary.

Values for gold range from less than 5 (i.e. below the detection limit) to a high of 25 ppb. This data is displayed on the histogram (Figure 3), from which a left-hand skewed population is apparent. The best interpretation of this type of distribution is to imagine two sets of data, superimposed on the same figure. This would represent data expected from normal metasedimentary rocks as well as data from the same
HISTOGRAM (Au)
384 'B' Horizon
SOIL SAMPLES

DENOM: RESOURCES INC.

DATE: Nov. 25, 1983
FIG. 3
rocks but enhanced by some secondary enrichment related to faulting, contacts, etc. This first population is clustered very tightly around the value of 5 ppb in this set of data. The second set however is clustered around the 10 ppb value. This second group represents the set of values which one would expect from rocks having a slightly higher background in gold, thus the more favourable data to interpret.

Using this approach, the observed values of 15 ppb may or may not be considered anomalous, and thus should be treated cautiously in any interpretation. The single value of 20 ppb, and the three (3) values of 25 ppb however are considered to be truly anomalous, and may represent some, albeit slight, concentration of the precious metal in these areas.

The gold values of 10 ppb or greater are contoured on map 625/4. Due to the sparcity of data points, caused by "no sample" stations, this contouring may sometimes reflect the bias of the author. However, several interesting anomalous areas are apparent.

The most obvious high values occur in the northeastern corner of the claim group (north grid) near the end of a small unnamed lake that extends eastwards off the property. They include a 25 ppb gold at 1170
East on Line 12+00 South, a 20 ppb at 1050 East on Line 11+00 South, a 25 ppb at 750 East on Line 11+00 South and numerous 15 and 10 ppb stations. Contouring suggests a possible northeast-trend, parallel to several narrow magnetic high anomalies interpreted to represent unexposed diabase dykes (Sears, 1983). Several weaker trends (10 - 15 ppb) parallel these two more obvious ones. It is thought that these soil anomalies reflect anomalous gold content within or on the edges of the interpreted diabase dyke system.

A weak but significant anomalous feature (10 - 15 ppb) occurs trending northwest through three stations (north grid), 660, 690 and 720 East on Line 8+00 South. It occurs on two adjacent lines (10 ppb) at 750 and 780 East on Line 900 South and at 570 East on Line 700 South near the north boundary of the claim block. It is in fact possible to extend the contouring through 840 East on Line 10+00 South, and 900 East on Line 11+00 South and hence southeastward into the previously mentioned lake on the east boundary. If the anomaly does in fact follow this lineament, it could represent anomalous gold in a previously unrecognized structure and may therefore deserve future consideration. It coincides with a weak VLF-EM conductor designated as Conductor F in an earlier geophysical report (Sears, 1983).
One value of 25 ppb occurs near the southwest corner of the claim group, at 600 North on Line 4+00 West (south grid). This station lies near the west boundary of the claim group. A major northeast-trending fault zone passes approximately 100 metres west of the sample site. This fault system cuts through the northwest corner of the claim block from 390 North on Line 4+00 West (south grid) through 60 East on Line 700 South (north grid). It appears as a distinct linear feature on aerial photographs and was recognized during the previously reported geological mapping program (Dutka, 1983). A number of samples collected during this mapping, were found to be very anomalous in gold (up to 525 ppb). It is felt that the 25 ppb gold as well as other weaker values in soils along Line 4+00 West, represent bedrock mineralization associated with this fault system or subsidiary structures.

Part 2 - Rock Samples

Fifty-seven (57) rock samples were collected routinely during a geological mapping survey for the purpose of rock identification and geochemical analysis. Their locations are shown on the accompanying geological map -- Map 675/3 (Dutka, 1983). Fifty-five (55) of these were analysed by the ICP method for the same
24-element suite as was presented for the soil samples. Gold analysis, however was completed by Fire Assay, a method which can detect gold in amounts as low as 1 part per billion (ppb).

Values ranged from lows of 1 ppb to a high of 525 ppb. Although background values in normal metamorphic and igneous rocks average from 4 to 6 ppb gold (Hawkes & Webb, 1962), it is felt that for exploration purposes on this property, those having in excess of 45 ppb gold can be considered anomalous.

Twelve of the fifty-five samples selected for analysis were found to have values of 45 ppb gold or greater. Five of these appear to be related to the northeast-trending fault zone (northwest part of the claim group) described earlier in this report and shown on Map 625/3. These sample numbers and approximate locations are as follows:

<table>
<thead>
<tr>
<th>SAMPLE NO.</th>
<th>LOCATION</th>
<th>ASSAY (Au in ppb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RJ- 8</td>
<td>Baseline, 750S.</td>
<td>(north grid) 145</td>
</tr>
<tr>
<td>RJ-16</td>
<td>200E, Line 900</td>
<td>(north grid) 68</td>
</tr>
<tr>
<td>RJ-17</td>
<td>Baseline, Line 900</td>
<td>(north grid) 525</td>
</tr>
<tr>
<td>RJ-27</td>
<td>240W, Line 1400S</td>
<td>(north grid) 425</td>
</tr>
<tr>
<td>RJ-35</td>
<td>540N, 340W</td>
<td>(north grid) 105</td>
</tr>
</tbody>
</table>

In general, the rocks are epidotized and silicified biotite-quartz-feldspar gneiss with associated pyrite.
Three other samples are clustered in a small area near 660 East on Line 900 South (north grid). They occur near a granite contact with similar biotite-quartz-feldspar gneiss. They are as follows: RJ-12 (70 ppb), RJ-13 (72 ppb) and RJ-14 (45 ppb).

The other four (4) anomalous samples were taken from relatively isolated locations. They include:

<table>
<thead>
<tr>
<th>SAMPLE NO.</th>
<th>LOCATION</th>
<th>ASSAY (Au in ppb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RJ-30</td>
<td>400E, at 1360S (north grid)</td>
<td>375</td>
</tr>
<tr>
<td>RJ-38</td>
<td>300N, Line 200W (south grid)</td>
<td>46</td>
</tr>
<tr>
<td>RJ-41</td>
<td>360N, Line 100W (south grid)</td>
<td>50</td>
</tr>
<tr>
<td>RJ-46</td>
<td>420N, Line 300E (south grid)</td>
<td>50</td>
</tr>
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Of these, the first one, RJ-30, is obviously the most interesting. It is located within a garnetiferous metasediment near the center of the property. It appears to have no association with recognized structures (faults, etc.) and therefore may warrant further investigation. The other three occur within gneissic metasedimentary rocks and have no obvious explanation, other than their close proximity to granite contacts.

CONCLUSIONS AND RECOMMENDATIONS

The soil geochemical survey accompanied by routine rock sampling (Dutka, 1983) have outlined several areas of anomalous gold values which should be considered...
for further work. These areas are generally related to geological structures which unfortunately have strong correlation with low, poorly drained linear surface features, upon which soil development is poor and sampling of the "B" horizon is virtually impossible. Any future follow-up work should utilize the "A" horizon (i.e. the organic-rich uppermost soil layer) in order to attain more complete coverage.

Two weak but persistent geochemical anomalies in "B" horizon soils situated in the northeast end of the property should be investigated by detailed soil sampling and prospecting. Samples should be collected (from the "A" horizon) at 15-metre intervals along the existing grid lines. The eastern-half of the north grid (from 5+40 East to the east boundary) should be covered. This would require approximately 500 samples.

Two anomalous areas detected by rock sampling should also be further explored. The area around sample RJ-30 (i.e. 400 East, 13+50 South, north grid) should be covered by a detailed geochemical sampling grid using existing as well as fill-in lines. Five lines are recommended -- Lines 12+50S, 13+00S, 13+50S, 14+00S, and 14+50South, from 2+10 East to 5+40 East. Samples should be collected at 15-metre intervals. This would require approximately 115 samples.
The second, but possibly most important anomalous rock sample zone is the major fault in the northwest corner. A detailed soil grid, once again collecting "A" horizon samples should be established across the entire strike length of this fault within the property boundary. A total of 540 samples would be required, using existing and fill-in east-west trending lines. This fault zone should also be covered by a geophysical survey (EM) using an active transmitter (Vertical Loop, Horizontal Loop or I.P.) to attempt to delineate any concentrations of sulphides with which gold might be associated.

This program would involve a total of 1155 "A" horizon samples. These samples should be analysed for gold, copper, lead and zinc by Atomic Absorption methods.

A diamond drill program consisting of a minimum of 500 metres will ultimately be required to assess the potential of the anomalous fault zone in the northwest corner of the claim block.

Cost estimates for this proposal are as follows:
DETAILED PROGRAM

Soil Sampling
Collection (1155 samples @ $3.00) $3,465.00
Analysis (1155 @ $11.00) 12,705.00

Geophysical Survey
Active Transmitter EM 5,000.00
Recce I.P. 5 days @ $1200 6,000.00
Supervision, Drafting and Report Writing 4,000.00
Sub Total 31,170.00
Contingency 3,830.00
TOTAL COST $35,000.00

DIAMOND DRILLING PROGRAM

Drilling (500m @ $75.00) $37,500.00
Assaying (40 samples @ $12.50) 500.00
Core Logging, Supervision, Etc. 3,500.00
Report Writing and Drafting and Compilation of Data 2,500.00
Sub Total 44,000.00
Contingency 6,000.00
TOTAL COST $50,000.00

Respectfully Submitted,

Seymour M. Sears, B.A., B.Sc.
Geologist

MANWA EXPLORATION SERVICES LTD.
REFERENCES


STATEMENT OF QUALIFICATIONS

I, SEYMOUR M. SEARS, of the Town of Wawa, Ontario, do certify that:

1. I am a consulting geologist for Manwa Exploration Services Ltd., P.O. Box 2028, Wawa, Ontario.

2. I am a B.Sc. graduate in Geology and a B.A. graduate in Psychology from Mount Allison University, Sackville, New Brunswick.

3. I have been practicing my profession continuously for the past 11 years.

4. I have not received directly or indirectly, nor do I expect to receive any interest direct or indirect, in the property of Denom Resources Inc. or any of its affiliates, nor do I beneficially own, directly or indirectly any securities of the Company or any affiliates of the Company.

5. This report is based upon field work carried out by myself and under my supervision during the period of August 20th to September 21st, 1983.

Respectfully Submitted,

Seymour Sears

Wawa, Ontario
November 24, 1983

Geologist
CERTIFICATE OF ENDORSEMENT

I, ANTONIO M. deQUADROS, do certify that:

1. I have the following degrees in Geology:
   a. B.Sc. Honours University of London 1964
   b. M.S. U.C.L.A. 1968

2. I have worked as a geologist since 1964 and in Canada since 1972, mainly in the mineral exploration and development industry.

3. I have worked in the area of the claims since August 1982, mapping as a consultant, and have supervised the work done. I am familiar with Seymour Sears' work and find the work to be professional and the report to be a true representation of the data.

4. I have the following professional affiliations:
   1. Fellow of the Geological Association of Canada
   2. Engineer-in-training in the Association of Professional Engineers of B.C.

5. I have not received directly or indirectly any interest nor do I expect to receive any interest, direct or indirect, in the properties or securities of the Company, nor do I own beneficially, directly or indirectly, any securities in the Company or affiliates of the Company.

Wawa, Ontario
November 24, 1983

A.M. deQuadros, Ph.D.
Geologist

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REPORT
ON THE
GEOLOGICAL SURVEY
OF THE
WABIKOBA LAKE PROPERTY
ONTARIO
FOR
DENOM RESOURCES INC.
TORONTO, ONTARIO

September 27th, 1983
P.O. Box 2028
Wawa, Ontario

R.J. Dutka
Geologist

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SUMMARY

This report deals with the geological mapping and prospecting completed on the Denom Resources Inc. claims in the Wabikoba Lake Area, Ontario.

The geological mapping shows the property to be underlain by a highly deformed and metamorphosed biotite-quartz-feldspar paragneiss. These rocks have been regionally metamorphosed to amphibolite facies and subsequently intruded by a biotite-hornblende granodiorite. Diabase dikes crosscut all formations. Mineralization occurs as disseminated pyrite within all rock types and in greater concentrations within minor shear zones.

A geophysical and a geochemical survey is presently being carried out. The results of these surveys, together with the geological mapping, will help to assess the gold and base metal potential of the claims. The final recommendations will be presented on the geochemical report.
INTRODUCTION

During the period of July to September, 1983, line-cutting, geological mapping and prospecting was carried out on sixteen (16) unpatented mining claims in the Wabikoba Lake Area, Ontario, for Denom Resources Inc. Geophysical and geochemical surveys were carried out simultaneously.

The purpose of the survey was to assess the gold and base metal potential of the property. Geological mapping and prospecting was conducted to outline geological structures favourable to the deposition of economic minerals.

The following report and accompanying maps describe the results of the survey and provides an interpretation of these results.

Property Location and Access

The Denom Resources property consists of 16 contiguous unpatented mining claims located in the Wabikoba Lake Area of the Thunder Bay Mining Division, Ontario (Figure 1). The claims, numbered TB 768304-06; TB 768313-15; TB 768323-26, and TB 766814-19 inclusive, are shown on the Wabikoba Lake claim sheet, Ontario Ministry of Natural Resources Sheet No. G-620 (Figure 2). The claims, which cover an area of approximately 640 acres are held in
good standing by Denom Resources Inc. of Toronto, Ontario, and have an anniversary date of May 11, 1984.

The property is located approximately 210 miles (340 km) northeast of Thunder Bay and approximately 233 miles (375 km) northwest of Sault Ste. Marie, Ontario. Access to the claims is by Highway 17 (Trans-Canada Highway) from Thunder Bay or Sault Ste. Marie, and then north along Manitouwadge Road (Highway 614) for 5 miles (8 km). From there the claims may be reached by travelling northeastward on a gravel road for 6 miles (9.5 km) to Wabikoba Lake, followed by boating to the east side of Little Wabikoba Lake and a short hike eastward to the property. Alternative access may be obtained by walking the disused Theresa Lake – Etna Lake Road.

The claims are located at latitude 48° 45' 20"N and longitude 85° 45' 00"W, approximately 7 miles (12 km) northeast of the Hemlo gold camp.

The property is less than 3 miles (4.5 km) east of the Canadian Pacific Railway branch line which services Manitouwadge. A major east-west trending hydro transmission line passes 4 miles (6 km) south of the claim block.
Physiography and Vegetation

The Denom Resources claim block is situated within the Canadian Shield Physiographical Belt of Canada. The topography consists mainly of moderate local relief with abundant bedrock outcrops throughout the claim block. The slopes of the bedrock-bearing hills are often steep and complex, and swamps are commonly found in the low areas between outcrops. The eastern portion of the claim block is covered by a thin, discontinuous veneer of ground moraine over the bedrock surface. This ground moraine was deposited by the Laurentide Ice Sheet advancing from the northeast. The till is generally less than one metre thick, but thickens considerably on the flanks of some of the bedrock hills, particularly along a prominent northwest-trending diabase dike. The till consists of stony, cobbly, and bouldery silty sand. Associated with the ground moraine deposits are glacial outwash deposits which cover most of the southern portion of the property. The outwash deposits have undulating to planar, low relief topography. The property elevation ranges from 925' (282 m) to 1200' (366 m).

The claims are covered with thick secondary growth of black spruce, balsam fir, some scattered jack pine, and a few stands of poplar and white birch. Large cedar and spruce bogs occupy the central and northeastern
portion of the claim block. The undergrowth, generally very dense, consists of tag alder, moose maple, witch hazel, various bushes and thick moss.

Drainage conditions are relatively good on the property. The bedrock and ground moraine terrains are usually dry with the exception of areas of cedar, spruce and alder swamps, where conditions are generally wet. Water is readily available from small lakes located along the eastern claim boundary and from the intermittent creeks which traverse the property and drain the cedar swamps to the south.

History and Previous Work

The first-known gold discovery in the Hemlo Area was in 1945. Gold was found to be deposited within a strong auriferous pyritic shear zone in the area of Moose Lake, approximately 7 miles (12 km) southwest of the Denom Resources property. Recent exploration has outlined significant gold deposits within the Hemlo Area, resulting in increased exploration activity. The gold mineralization occurs within the contact zone between siliceous sericitized tuffaceous and agglomeritic horizons and overlying metasediments. Mineralization consists of auriferous pyrite and minor native gold associated with small amounts of fuchsite,
tourmaline, molybdenite, sphalerite and chalcopyrite.

Previous exploration work in the region has indicated that gold mineralization occurs in other locations outside of the immediate Hemlo discovery area. In 1965, Caravelle Mines conducted an airborne geophysical survey and located a copper-nickel showing in the vicinity of Lunny Lake, 4 miles (6.5 km) to the northeast of the Denom claim group. Later drilling by Falconbridge (Wierzbicki, 1967) indicates that gold values were encountered in two holes. It is unlikely that the Denom Resources ground has seen any previous exploration work.

During the spring of 1983, a control grid was established over the property by Manwa Exploration Services Ltd. The grid consists of east-west picket lines over the north portion of the claim block and north-south picket lines over the south portion of the property. The lines were cut at 100-metre intervals from a base line with appropriate tie lines and picketed at 30-metre intervals. These lines were used in the subsequent geological, geochemical and geophysical surveys.

Present Survey

Detailed geological mapping and prospecting was
conducted by the author by traverses over the established grid, and where outcrop was extensive, areas between the grid lines were examined. A total of 51 rock samples were collected and shipped to Min-En Laboratories Ltd., of North Vancouver, B.C. for analyses. Simultaneously, geophysical (magnetometric and VLF-EM) and geochemical surveys were conducted. The results of these surveys will be presented in forthcoming reports.
PROPERTY GEOLOGY

The claims are underlain by a sequence of complexly-folded metasedimentary rocks. These rocks have been deformed and metamorphosed regionally and thermally by the intrusion of the Bullring Lake Pluton.

The metasedimentary rocks consist principally of biotite-quartz-feldspar paragneiss with some interbedded conglomerate bands outcropping in the northeast part of the property. In general, the gross composition of the paragneiss is relatively uniform throughout the property. It consists of a fine-grained, light and dark-grey banded, well-foliated biotite-quartz-feldspar gneiss. The banding varies in thickness from very thin to several feet and represents the metamorphosed equivalent of fine pelitic mudstone layers and thick greywacke beds. The dark and light banding in the rock reflects differences in the biotite content of the layers. The paragneisses are composed of varying amounts of biotite, quartz, feldspar and minor hornblende. Garnets ranging in size up to 5 mm are present in many of the paragneiss outcrops in the northeast part of the property. Secondary chlorite, muscovite, sericite, epidote and pyrite were observed in many of the paragneisses throughout the map area.

Often interbedded with the paragneisses are
fine-grained, pink weathering thinly laminated quartzofeldspathic metasediments which appear to be meta-arkosic beds. In addition, conglomerate is interbedded with biotite-quartz-feldspar-garnet gneiss and is less than one metre thick. The clasts within the conglomerate are of various compositions, including granodiorite, quartz, arkose and greywacke. The clasts have undergone considerable strain and have been elongated parallel to the foliation.

Contacts between the metasedimentary gneisses and the Bullring Lake granodiorite are found throughout the map area. The paragneisses are invariably intruded by narrow, discontinuous stringers of quartz-feldspar and granodiorite which are frequently pytgmatically folded. In these contact zones, the paragneiss often shows evidence of migmatization, along with extensive alteration consisting of silicification, chloritization, sericitization and some hematitization. The contacts are generally sharp with the coarse-grained intrusive granodiorite contrasting sharply with the fine-grained paragneiss. Some outcrops show contorted xenoliths of paragneiss within the granodiorite and it is not uncommon for the paragneiss layers to curve from the contact into the granodiorite.

The granodiorite which ranges in colour from a whitish-grey to pink, is medium to coarse-grained and generally massive. The mineral composition of the granodiorite consists of equigranular feldspar, quartz, biotite...
and hornblende. Minor disseminated pyrite mineralization was noted in the granodiorite.

Within the claim block, there are many diabase dikes which intrude all of the formations previously discussed in this report. The most prominent diabase dike outcrops in the eastern part of the property, where it strikes northwest with a vertical dip. This dike varies in width from a few metres to over 60 metres and can be traced for a distance of 1000 metres along strike. Other similar diabase dikes outcrop in the western claim block area and have differing strike attitudes ranging from north-south to N35°E and are discontinuous along strike.

In general, the diabase which occurs on the property is dark greenish-grey, medium-grained, equigranular and massive. Disseminated pyrite and pyrrhotite are accessory minerals within all of these rocks.

Mineralization

Disseminated, fine-grained pyrite occurs throughout the paragneisses. Locally, the pyrite ranges from 1% to 5% of the rock volume within minor shear zones and sometimes in the finer paragneisses. While the sulphide concentrations are not always visible, they are often shown by reddish-brown iron-oxide staining, particularly
along the foliation planes.

As previously noted the diabase dikes contain disseminated pyrite and pyrrhotite, making the rocks slightly magnetic.

**Structural Geology and Metamorphism**

The metasedimentary paragneiss rocks have been highly metamorphosed and have undergone intense complex folding. These rocks have been regionally metamorphosed to amphibolite facies and subsequently intruded by a biotite-hornblende granodiorite. Diabase dikes crosscut all formations.

The metamorphic grade increases towards the northern claim block boundary as evidenced by the appearance of garnets within the paragneiss. The rocks which outcrop in the southern part of the property appear to have undergone less metamorphism and the original bedding laminations are present throughout the paragneiss. However, primary bedding features such as graded-bedding and cross-bedding which may be used for top determinations have been overprinted by the metamorphism.

The rocks have been complexly folded and several minor tight isoclinal folds were observed. There is evidence for more than one foliation, particularly in the finer-grained paragneisses. The most pronounced
foliation in the map area strikes 110° with dips ranging from 25° to 40° northward. On the bases of the information available, it appears that the paragneisses have been folded into tight isoclinal folds about an east-southeast trending axis.

A prominent northeast-striking fault occurs on the western portion of the property, and can be traced for over a 1000 metres along strike. This fault appears as a well-defined lineament on aerial photographs and is expressed on the ground by steep cliffs with narrow valleys. Outcrop evidence shows that the fault crosscuts both the paragneiss and granodiorite formations, though distinctive marker horizons are absent. In the area of the faulting epidote and hematite-carbonate fracture-filling is present in the granodiorite and paragneiss. The granodiorite is commonly altered to a brick-red colour particularly along fracture planes. There is also a noticeable increase in the sulphide content of the paragneiss. There are a number of discontinuous diabase dikes in this area and it is interpreted that the diabase dikes tend to follow a major fracture direction for this region.
CONCLUSIONS AND RECOMMENDATIONS

The geological mapping and prospecting shows the property to be underlain by a sequence of highly deformed and metamorphosed paragneisses. These rocks have undergone intense complex folding and faulting, and have been metamorphosed regionally and thermally to amphibolite facies by the intrusion of a biotite-hornblende granodiorite. A pronounced foliation has been developed in an east-southeast direction. Several diabase dikes crosscut all of the formations.

Mineralization consists of disseminated fine-grained pyrite in all rock types, with a notable increase in concentration in fault zones.

No precious or base metals were observed visually during the geological and prospecting work carried out on the property, and the rock assays are not yet available. The geophysical report is presently being prepared and shows some interesting structural features. The sedimentary beds (greywackes) could host precious-metal concentrations but further recommendations will have to await the results of the rock assays and geochemical survey. These results are expected in the next two or three weeks and will be incorporated in a report that will contain further evaluation of the geological, geophysical and geochemical features on the property and recommendations for further
Respectfully Submitted,

Rick Dutka
R.J. Dutka
Geologist
BIBLIOGRAPHY

deQuadros, A.M. (1983),
Geological Report on the Wabikoba Lake Property,
District of Thunder Bay Ontario, for Denom Resources
Inc.

Milne, V.G. (1968),
Geology of Black River Area, Geological Report #72,
Ontario Dept. of Mines.

Muir, T. (1982),
Geology of the Hemlo Area, Ontario Geological Survey

Ontario Ministry of Natural Resources
Map #2147, White Lake Sheet
Geophysical Map #2168G, White Lake Sheet
Claim Sheet G-620, Wabikoba Lake.
STATEMENT OF QUALIFICATIONS

I, RICHARD J. DUTKA, of 215 Clavet Street, Thunder Bay, Ontario, do hereby certify that:

1. I am a graduate of Lakehead University (1982) and hold an Honours B.Sc. degree in Geology.

2. I am presently employed as a consulting geologist with Manwa Exploration Services Ltd. of 370-625 Howe Street, Vancouver, B.C.

3. I have been practicing my profession continuously for the past five years.

4. The information contained in this report was obtained from personal knowledge of the area through a series of systematical geological traverses made in August and September, 1983 and from various government publications listed in the bibliography.

5. I have not received, nor do I expect to receive, directly or indirectly, any interest in the properties or securities of Denom Resources Inc. or any of its affiliates.

September 27th, 1983
Wawa, Ontario

R. J. Dutka
Geologist
CERTIFICATE OF ENDORSEMENT

I, ANTONIO M. deQUADROS, do certify that:

1. I have the following degrees in Geology:
   a. B.Sc. Honours University of London 1964
   b. M.S. U.C.L.A. 1968

2. I have worked as a geologist since 1964 and in Canada since 1972, mainly in the mineral exploration and development industry.

3. I have worked in the area of the claims since August 1982, mapping as a consultant, and have supervised the work done. I am familiar with Rick Dutka's work and find the work to be professional and the report to be a true representation of the data.

4. I have the following professional affiliations:
   1. Fellow of the Geological Association of Canada
   2. Engineer-in-training in the Association of Professional Engineers of B.C.

5. I have not received directly or indirectly any interest nor do I expect to receive any interest, direct or indirect, in the properties or securities of the Company, nor do I own beneficially, directly or indirectly, any securities in the Company or affiliates of the Company.

P.O. Box 2028
Wawa, Ontario
September 27th, 1983

A.M. deQuadros, Ph.D.
Geologist
DENOM RESOURCES INC.
REPORT
ON THE
GEOPHYSICAL SURVEYS
ON THE
WABIKOBA LAKE PROPERTY
THUNDER BAY MINING DIVISION
ONTARIO

September 27, 1983
Wawa, Ontario

Seymour M. Sears
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Map 1: VLF-EM Survey, ‘Fraser’ Values (625-1)  In Back Pocket
Map 2: Magnetometer Survey (625-2)  In Back Pocket

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Summary

Ground magnetometer and VLF-EM surveys were conducted over the 16-claim Hemlo Area property of Denom Resources Inc., in conjunction with a geological mapping and geochemical soil sampling program. The resulting data indicates several weak VLF-EM conductors which may represent viable targets for stratiform gold mineralization. It is recommended that further work should be dependent upon the results of the geochemical sampling program which has just been completed.
Introduction

A VLF-EM survey and a ground magnetometer survey has been completed upon 16 contiguous, unpatented mining claims in the Wabikoba Lake Area of Northwestern Ontario. The claims are owned by Denom Resources Inc. of Toronto, Ontario. The fieldwork was carried out by Sonja Sagin and Susan Butorac for Manwa Exploration Services Ltd. of Vancouver, B.C., between August 20th and September 21st, 1983.

The surveys were conducted along a 32-kilometre cut grid, having a line spacing of 100 metres and station intervals of 30 metres.
Property, Location and Access

The 16-claim property of Denom Resources Inc. is located on the east side of Little Wabikoba Lake (Ellis Lake), centered at latitude 48° 45' 30" North and 85° 45' 20" West, and can be found on 1:50,000 scale N.T.S. Sheet 42/C13, White Lake, Ontario. It lies approximately 15 kilometres northeast of the immediate area of the presently known "Hemlo" gold deposits.

Access to the claims is gained by following the gravelled Wabikoba Lake road from its junction with the Manitouwadge Highway (Highway 614) at a point five kilometres north of Highway 17, for a distance of approximately 11 kilometres to the boat landing on Wabikoba Lake (see Figure 1). From here a one-mile southeasterly boat trip is required to reach the eastern shore of Little Wabikoba Lake. The west boundary of the claim group is located approximately 700 metres east of this lake.

The claims are shown in their approximate position on Ministry of Natural Resources claim maps G-620 (Wabikoba Lake) and G-622 (White Lake, North Part) and are numbered as follows (see Figure 2):

Topography

The property is covered approximately 30% by cedar and alder swamps flanked by northeast and northwest-trending ridges of glacial origin. The higher ground is covered by mixed forest with abundant moose maple, witch hazel and older underbrush. Drainage is generally poor in the lower areas.

Bedrock is exposed along many of the ridges, although thick glacial overburden is suspected locally.

Regional and Property Geology

The Denom claims are situated along the north rim of an Archean volcano-sedimentary synformal basin measuring 24 by 36 kilometres. Rock types within this basin environment include a basal sequence of mafic volcanics, overlain by felsic volcanics and interbedded marine clastic sediments, which gradationally gives way to a dominantly marine clastic sedimentary unit. The centre of the basin was then intruded by several granite and numerous small mafic and ultramafic bodies, including a late system of diabase dikes.

This basin hosts the recently discovered Hemlo gold deposits on its south margin. Mineralization here consists of pyrite, molybdenite, gold, barite and numerous other accessory minerals associated with locally altered zones within the felsic volcanic/metasediment contact area. Various
other sulphide prospects (Cu, Pb, Zn with significant gold values) currently of lesser importance have been noted within the area, as well as numerous gold occurrences associated with shear zones and granite contact hosted quartz vein systems.

The rocks observed on the Denom claims consist of metasediments and granite cut by late diabase dikes. Pyrite is a common occurrence within all rock types on the property and pyrrhotite is associated in varying amounts with most of the diabase dykes.

Survey Procedure and Instrument Information

Because of ambiguous structural and metamorphic overprinting of the regional geologic trend, a two-directional, thirty-two (32) kilometre grid was cut on the property, with the north-half oriented east-west, and the south-half oriented north-south. Stations were established every 30 metres along 100-metre spaced lines, with appropriate base and tie lines.

The VLF-EM survey was conducted using a Sabre VLF-EM receiver. Since the dominant regional geological trend on the property is interpreted to be northwest-southeast, the Cutler, Maine (N.A.A.) transmitting station (17.8 kHz) was utilized. The observed dip angle measurement data was filtered using a mathematical technique devised by Fraser (1968) which...
effectively renders the anomalous crossover data contourable, and thus easier to interpret. The Fraser filtered data was plotted at a scale of 1:3000 and contoured (Map 1).

The magnetometer survey was conducted using a Geometrics Model G-816 Portable Proton Magnetometer. This instrument measures the total intensity of the earth's magnetic field in gammas. A main Base Station was established at 1050W on Line 1500S (Tie Line 600N) and floating base stations along the north-south base line of the north portion of the grid, and along the north tie line of the south grid. These stations were utilized during the survey in determining the diurnal variations of the magnetic field. Magnetic intensities were observed, and the diurnally corrected data was plotted on a scale of 1:3000 and contoured (Map 2).

Survey Results

The VLF-EM survey conducted over the Denom Resources Inc. property has delineated numerous northwest-southeast trending weakly conductive zones, which appear to be crudely parallel to the regional trends in this area. It is felt that several of these may represent local shearing at or near contacts with granitic stocks and dikes, while others may be caused by contrasting conductivity of local metasedimentary horizons. Both of these environments could possibly host gold mineralization. Several weak northeast-trending conductive features appear
to represent sulphide concentrations associated with the edges of a prominent diabase dike which occurs in the northeast corner of the property. It should be cautioned, however, that the generally low intensity of the conductive zones may well indicate overburden anomalies, related to the edges of the abundant swamps in the area.

The magnetic background over the claim group ranges between 59,600-59,700 gammas. Numerous diabase dikes are well-defined by long linear magnetic highs, trending generally in a north, northeast and northwest direction. A major north-east trending lineament observed on aerial photographs in the west portion of the property does not appear to have been detected by either the magnetometer or the VLF-EM survey.

Nine of the more significant conductive features which were detected are indicated by letters on the enclosed maps (Maps 1, 2).

Anomaly 'A' is the strongest of five weakly conductive zones which appear to radiate from a small (400 m diameter) semi-circular feature on the southwest corner of the property. A major aerial photograph lineament transects the center of this feature; this is thought to be a granitic stock at very shallow depth. The conductors probably represent contact related fracture zones.

Anomaly 'B' occurs on the north flank of the same...
circular zone, but is also coincident with a southeast trending zone which intermittently crosses to the southeast corner of the map. Three other anomalously conductive one or two-line zones occur along this trend ($B_1$, $B_2$ and $B_3$). These may well represent a sulphide-rich metasedimentary horizon, on the south contact of an extensive granitic dike.

Anomaly 'C', along with several other weaker zones occurs in the northwest corner of the map and tend to be oriented somewhat more north-south than the inferred regional trend in the area. The previously mentioned aerial photo lineament passes through the centre of these zones. It is possible that they represent fluid or sulphide concentrations within this assumed fault or shear zone.

Anomalies 'D' and 'E' like anomaly 'C' have a slightly more north-south trend. They occur in a vague association with a diabase dike system, and probably are caused by a concentration of sulphides in shear zones adjacent to and crosscutting the diabase dikes.

Anomalies 'F' and 'G' are somewhat more compatible to regional geological trends and may represent sulphide-rich horizons or sheared contacts within the metasedimentary sequence. These anomalies are associated with very weak magnetic zones which appear to trend in the same general direction, thus providing some support for a stratiform source.
Anomalies 'H' and 'I' occur adjacent to a major northeast and northwest bearing diabase dike system, and are thought to be caused by sulphide concentrations associated with these dikes.

Conclusions and Recommendations

The VLF-Em and ground magnetometer surveys have outlined numerous zones that may be favourable geological environments for gold mineralization. Several of these, including those discussed as Anomalies 'B', 'F' and 'G' may be related to stratiform sedimentary sequences and could possibly warrant more work. Similarly, those anomalies thought to be caused by shear zones, particularly Anomalies 'C', 'D' and 'E' may deserve additional evaluation.

It is recommended that further work be conditional upon results of the geochemical (soil) sampling program just completed. If any of the anomalous zones prove to be accompanied by significant soil anomalies, a program commencing with detailed prospecting, more effectively oriented ground geophysics and, ultimately, diamond drilling should be initiated.

Wawa, Ontario
27th September 1983

Seymour M. Sears
Geologist

MANWA EXPLORATION SERVICES LTD.

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References

deQuadros, A.M. (1983),
Geological Report on the Wabikoba Lake Property,
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Milne, V.G. (1968),
Geology of Black River Area, Geological Report #72,
Ontario Dept. of Mines.

Muir, T. (1982),
Geology of the Hemlo Area, Ontario Geological Survey

Ontario Ministry of Natural Resources
Map #2147, White Lake Sheet
Geophysical Map #2168G, White Lake Sheet
Claim Sheet G-620, Wabikoba Lake.
Statement of Qualifications

I, SEYMOUR M. SEARS, of the Town of Wawa, Ontario,
do certify that:

1. I am a consulting geologist for Manwa Exploration
   Services Ltd., P.O. Box 2028, Wawa, Ontario.

2. I am a B.Sc. graduate in Geology and a B.A. graduate
   in Psychology from Mount Allison University, Sackville, New
   Brunswick.

3. I have been practicing my profession continuously for
   the past 11 years.

4. I have not received directly or indirectly, nor do I
   expect to receive any interest, direct or indirect in the
   property of Denom Resources Inc., or any of its affiliates nor
   do I beneficially own, directly or indirectly, any securities of
   the Company or any affiliates of the Company.

5. This report is based upon field work carried out
   under my supervision during August and September, 1983.

Respectfully Submitted,

P.O. Box 2028
Wawa, Ontario
September 27, 1983

Seymour M. Sears, B.A., B.Sc.
Certificate of Endorsement

I, ANTONIO M. deQUADROS, do certify that:

1. I have the following degrees in Geology:
   a. B.Sc. Honours University of London 1964
   b. M.S. U.C.L.A. 1968

2. I have worked as a geologist since 1964 and in Canada since 1972, mainly in the mineral exploration and development industry.

3. I have worked in the area of the claims since August 1982, mapping as a consultant, and have supervised the work done. I am familiar with Seymour Sears' work and find the work to be professional and the report to be a true representation of the data.

4. I have the following professional affiliations:
   1. Fellow of the Geological Association of Canada
   2. Engineer-in-training in the Association of Professional Engineers of B.C.

5. I have not received directly or indirectly any interest nor do I expect to receive any interest, direct or indirect, in the properties or securities of the Company, nor do I own beneficially, directly or indirectly, any securities in the Company or affiliates of the Company.

P.O. Box 2028
Wawa, Ontario 27th September 1983
A.M. deQuadros, Ph.D.
Geologist
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**Date of Survey (from 61 to)**

**Name and Address of Author (of Geotechnical report)**

**Instructions**

Total Days Credits may be apportioned at the claim holder's discretion. Days and Credits in column at right may be entered for each claim separately.

**Certification Verifying Report of Work**

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

**Geophysical**

- Electromagnetic
- Magnetometer
- Radiometric
- Other

**Geological**

- Magnetic
- Geochemical
- Other

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- Geophysical
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**Expenditures includes power stripping**

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**Additional**

**FROM**

**RECORD**

**Nov 8 1983**

**REC**

**CORRECTED & ADDED**

**Box 2028, Rossland, B.C.**

**M.M. McQwman, Geophysical, Geological, and Geochemical Exploration Services Ltd.**

**Date of Survey**

**Day Mo. Yr.**

**Total Days Credits**

**Airborne Credits**

Note: Special provisions credits do not apply to Airborne Surveys.
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**Ministry of Natural Resources Ontario**  
**Geophysical, Geological, Geochemical and Expenditures**

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<td>MANUA EXPLORATION SERVICES</td>
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**Expenditure (excludes power stripping)**

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**Performed on Claim(s)**

**Calculation of Expenditure Days Credits**

**Total Expenditures**

**Total Days Credits**

Instructions:
- Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.
- Total number of mining claims covered by this report of work.

**Certification Verifying Report of Work**

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying:

**Mel de Quadros Box 2025 Wawa Ontario POS 1K0**

**Date Certified:** 29 Sept 63  
**Certificate Signature:**  

**Date Recorded:** 29 Sept 63  
**Mining Recorder:**  

**Certiﬁcation Verifying Report of Work**

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying:

**Mel de Quadros Box 2025 Wawa Ontario POS 1K0**

**Date Certified:** 29 Sept 63  
**Certificate Signature:**
Ontario

Ministry of Natural Resources

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL
TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s)  Geological  EM-ULF and Magnetometer
Township or Area  Wabi Lake West / Wabi Lake North
Claim Holder(s)  Robert J. McGowan / Dawson Resources Ltd.
Survey Company  Musso Exploration Services Ltd.
Author of Report  R.J. Dutka - S. M. Scara
Address of Author  Box 2028  White, Ontario P6L 1K0
Covering Dates of Survey  01 Aug 83 - 28 Sept 1983
Total Miles of Line Cut  33 Kilometres

SPECIAL PROVISIONS
CREDITS REQUESTED

Geophysical
- Electromagnetic  40
- Magnetometer  20
- Radiometric
- Other
Geological  20
Geochemical

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

Magnetometer  Electromagnetic  Radiometric

DATE: 30 Sept 83  SIGNATURE: [Signature]

Res. Geol.  Qualifications  25/14

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### Geophysical Technical Data

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<td>Dip angle, Fraser filter, and field strength</td>
</tr>
</tbody>
</table>

**Electromagnetic**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument</td>
<td></td>
</tr>
<tr>
<td>Scale constant</td>
<td></td>
</tr>
<tr>
<td>Corrections made</td>
<td></td>
</tr>
<tr>
<td>Base station value and location</td>
<td></td>
</tr>
<tr>
<td>Elevation accuracy</td>
<td></td>
</tr>
</tbody>
</table>

**Gravimetry**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument</td>
<td></td>
</tr>
<tr>
<td>Method</td>
<td>Time Domain</td>
</tr>
<tr>
<td>Parameters - On time</td>
<td></td>
</tr>
<tr>
<td>Parameters - Off time</td>
<td></td>
</tr>
<tr>
<td>Parameters - Delay time</td>
<td></td>
</tr>
<tr>
<td>Parameters - Integration time</td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td></td>
</tr>
<tr>
<td>Electrode array</td>
<td></td>
</tr>
<tr>
<td>Electrode spacing</td>
<td></td>
</tr>
<tr>
<td>Type of electrode</td>
<td></td>
</tr>
</tbody>
</table>

**Induced Polarization**

**Resistivity**
### SELF POTENTIAL

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey Method</td>
<td></td>
</tr>
<tr>
<td>Corrections made</td>
<td></td>
</tr>
</tbody>
</table>

### RADIOMETRIC

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Values measured</th>
<th>Energy windows (levels)</th>
<th>Height of instrument</th>
<th>Size of detector</th>
<th>Overburden</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Background Count</td>
<td></td>
<td></td>
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#### OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

<table>
<thead>
<tr>
<th>Type of survey</th>
<th>Instrument</th>
<th>Accuracy</th>
<th>Parameters measured</th>
<th>Additional information (for understanding results)</th>
</tr>
</thead>
</table>

### AIRBORNE SURVEYS

<table>
<thead>
<tr>
<th>Type of survey(s)</th>
<th>Instrument(s)</th>
<th>Accuracy</th>
<th>Aircraft used</th>
<th>Sensor altitude</th>
<th>Navigation and flight path recovery method</th>
<th>Aircraft altitude</th>
<th>Line Spacing</th>
<th>Miles flown over total area</th>
<th>Over claims only</th>
</tr>
</thead>
</table>


### GEOCHEMICAL SURVEY – PROCEDURE RECORD

<table>
<thead>
<tr>
<th>Numbers of claims from which samples taken</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Number of Samples</th>
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</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Nature of Material)</td>
</tr>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Average Sample Weight</th>
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</thead>
<tbody>
<tr>
<td></td>
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<table>
<thead>
<tr>
<th>Method of Collection</th>
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</thead>
<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Soil Horizon Sampled</th>
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<tbody>
<tr>
<td></td>
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<table>
<thead>
<tr>
<th>Horizon Development</th>
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<tbody>
<tr>
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<table>
<thead>
<tr>
<th>Sample Depth</th>
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<tbody>
<tr>
<td></td>
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<table>
<thead>
<tr>
<th>Terrain</th>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>Drainage Development</th>
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</thead>
<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Estimated Range of Overburden Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

### ANALYTICAL METHODS

<table>
<thead>
<tr>
<th>Values expressed in:</th>
</tr>
</thead>
<tbody>
<tr>
<td>per cent</td>
</tr>
<tr>
<td>p. p. m.</td>
</tr>
<tr>
<td>p. p. b.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cu, Pb, Zn, Ni, Co, Ag, Mo, As-(circle)</th>
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<table>
<thead>
<tr>
<th>Others</th>
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</table>

<table>
<thead>
<tr>
<th>Field Analysis (          tests)</th>
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</thead>
<tbody>
<tr>
<td>Extraction Method</td>
</tr>
<tr>
<td>Analytical Method</td>
</tr>
<tr>
<td>Reagents Used</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field Laboratory Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. (          tests)</td>
</tr>
<tr>
<td>Extraction Method</td>
</tr>
<tr>
<td>Analytical Method</td>
</tr>
<tr>
<td>Reagents Used</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Commercial Laboratory (          tests)</th>
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</thead>
<tbody>
<tr>
<td>Name of Laboratory</td>
</tr>
<tr>
<td>Extraction Method</td>
</tr>
<tr>
<td>Analytical Method</td>
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<td>Reagents Used</td>
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<table>
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<tr>
<th>General</th>
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<tbody>
<tr>
<td></td>
</tr>
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</table>

### SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

<table>
<thead>
<tr>
<th>Mesh size of fraction used for analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
Mrs. Audrey Hayes  
Mining Recorder  
Ministry of Natural Resources  
P.O. Box 5000  
Thunder Bay, Ontario  
P7C 5G6

Dear Madam:

RE: Notice of Intent dated June 18, 1984  
Geophysical (Electromagnetic and Magnetometer),  
Geological and Geochemical Survey on  
Mining Claims TB 766814 et al in the  
Areas of Wabikoba Lake and White Lake

The assessment work credits as listed with the  
above mentioned Notice of Intent, have been approved  
as of the above date.

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

Yours sincerely,

S.E. Yundt  
Director  
Land Management Branch  
Whitney Block, Room 6643  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone: (416) 965-6918

D. Kinvig:mc

cc: Manwa Exploration Services Ltd  
P.O. Box 4  
Suite 370  
625 Howe Street  
Vancouver, B.C.  V6C 2T6

cc: Mr. G.H. Ferguson  
Mining & Lands Commissioner  
Toronto, Ontario

cc: Resident Geologist  
Thunder Bay, Ontario  
cc: Denom Resources Inc  
67 Richmond Strtee West  
Suite 305  
Toronto, Ont. M5H 1Z5

Encl.
### Recorded Holder
R.J. McGOWAN/DEMON RESOURCES INC

### Township or Area
WABIKOBA LAKE AND WHITE LAKE AREAS

#### Type of survey and number of Assessment days credit per claim

<table>
<thead>
<tr>
<th>Type of survey and number of Assessment days credit per claim</th>
<th>Mining Claims Assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geophysical</td>
<td><strong>TB 766814 to 19 inclusive</strong></td>
</tr>
<tr>
<td>Electromagnetic</td>
<td>766823</td>
</tr>
<tr>
<td>Magnetometer</td>
<td>768304 to 06 inclusive</td>
</tr>
<tr>
<td>Radiometric</td>
<td>768313 to 15 inclusive</td>
</tr>
<tr>
<td>Induced polarization</td>
<td>768324 to 26 inclusive</td>
</tr>
</tbody>
</table>

| Other days                                                    | 20 days                |

#### Geophysical days

<table>
<thead>
<tr>
<th>Man days</th>
<th>Airborne</th>
<th>Special provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

#### Special provision

- □ 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

#### 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 (83/6)
Eastern Canada:

July 3/84

1984 06 18

Mrs. Audrey Hayes
Mining Recorder
Ministry of Natural Resources
P.O. Box 5000
Thunder Bay, Ontario
P7C 5G6

Dear Madam:

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 416/965-6918.

Yours very truly,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1316

D. Kinvig:mc

Encls.

cc: Manwa Exploration Services Ltd
P.O. Box 4
Suite 370
625 Howe Street
Vancouver, B.C.
V6C 2T6
R.J. McGowan

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
645
Toronto, Ontario

cc: Denom Resources Inc
67 Richmond Street West
Suite 305
Toronto, Ontario
M5H 1Z5
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 of 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 Land Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.
D. Kinzig, Land Management Branch
Whitney Block Room 6643
Queens Park, Toronto

RECEIVED
JUN 13 1984
MINING LANDS SECTION

Dear Mr. Kinzig:

Enclosed please find two copies of a Dip Angle (raw data) survey on the property referred to as Denom Resources Inc.'s Wabikoom Lake Area.

This data is supplied at the request of Mr. Yundt in his letter (attached) of May 31, 1984. Please note that this data is required by June 15th. Would you please see that it gets to its proper place and that the credits are allowed.

Thank you

Seymour Ross

attachment

CC: AM. de Quarios
Vancouver
May 31, 1984

Denom Resources Inc
67 Richmond Street West
Suite 305
Toronto, Ontario
M5H 1Z5

Dear Sir:

RE: Geophysical (Electromagnetic and Magnetometer), Geological
and Geochemical Survey submitted on Mining Claims TB 766814
et al in the Areas of Wabikoba Lake and White Lake

Enclosed is a copy of our letter dated February 10, 1984, requesting
additional information for the VLF survey. You have not yet returned
the corrected VLF plans to this office.

Unless you can provide the required data by June 15, 1984, the mining
recorder will be directed to cancel the work credits for VLF survey
recorded on October 27, 1983.

For further information, please contact Mr. Ray Pichette at (416)965-4888.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416)965-4888

D. Kinvig:mc

cc: Manwa Exploration Services
   Box 2028
   Wawa, Ontario
   P0S 1K0

cc: Mining Recorder
   Thunder Bay, Ontario

Encl.
Dear Sir:

RE: Geophysical (Electromagnetic and Magnetometer), Geological and Geochemical survey submitted on mining claims TB 766814 et al in the Areas of Wabikoba Lake and White Lake.

Enclosed is the V.L.F. plan, in duplicate, for the above mentioned survey. Please indicate the actual reading at each station, and return the maps to this office.

In addition, please provide a report and a map, in duplicate, for the Geochemical survey. The plan should indicate sample locations and assay results.

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

Yours very truly,

J. R. Morton
Acting Director
Land Management Branch
Whitney Block, Room 6643
Toronto, Ontario
M7A 1W3
Phone: 416/965-1380

D. Kinvig:dg
Encls.

cc: R. J. McGowan
c/o Manwa Exploration Services Ltd.
P.O. Box 4
370-625 Howe Street
Vancouver, B.C.
V6C 2T6

cc: Mining Recorder
Thunder Bay, Ontario.
### Mining Lands Comments

- VLF. Survey Fraser-filtered.

<table>
<thead>
<tr>
<th>To: Geophysics</th>
<th>Mr. Bealower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
<td>VLF data needed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To: Geology - Expenditures</th>
<th>Mr. Kustra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To: Geochemistry</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To: Mining Lands Section, Room 6462, Whitney Block.</th>
<th>(Tel: 5-1380)</th>
</tr>
</thead>
</table>
Dear Madam:

We have received reports and maps for a Geophysical (Electromagnetic & Magnetometer) and Geological Survey submitted under Special Provisions (credit for Performance & Coverage) on mining claims TB 766814 et al in the areas of Wabikoba Lake and White Lake North.

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

We do not have a copy of the report of work which is normally filed with you prior to the submission of this technical data. Please forward a copy as soon as possible.

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

D. Kinzig:sc

cc: R.J. McGowan
1174 Edgewood Road
North Vancouver, B.C.
V7R 1Y9

cc: Denom Resources Inc
67 Richmond Street West
Suite #305
Toronto, Ontario
M5H 1Z5
To: Geology - Expenditures

Mr. C. Krusta

This is mostly a geochimical survey. We require a geological report.

To: Geochemistry

Dr. Furtense

To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)
Mrs. Audrey Hayes  
Mining Recorder  
Ministry of Natural Resources  
P.O. Box 5000  
Thunder Bay, Ontario  
P7C 5G6

Dear Madam:

We have received reports and maps for a Geochemical Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims TB 768304 et al in the Areas of White Lake and Wabikoba 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 6643  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone: 416/965-1380

R. Barr:sc

cc: Robert McGowan  
1174 Edgewood Road  
North Vancouver, B.C.  
V7R 1Y9

cc: Manwa Exploration Services Ltd  
Box 2025  
Wawa, Ontario  
P0S 1KO  
Attention: Mel deQuadros.
Type of Survey(s) | GEOCHEMICAL
---|---
Township or Area | WABIKOBA LAKE/WHITE LAKE
Claim Holder(s) | D.S. McGowan/DENON RESOURCES LTD
Survey Company | MANWA EXPLORATION SERVICES
Author of Report | SEYMOUR BEARS
Address of Author | BOX 2028 WAIBA ONTARIO POSIKO
Covering Dates of Survey | 01.07.83 - 28.09.83 (linecutting to office)
Total Miles of Line Cut | 32 KMS

SPECIAL PROVISIONS

CREDITS REQUESTED

Geophysical
- Electromagnetic
- Magnetometer
- Radiometric
- Other

Geological

20

DAYS per claim

GEOPHYSICAL — GEOLOGICAL — GEOCHEMICAL TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

MINING CLAIMS TRAVERSED

List numerically

<table>
<thead>
<tr>
<th>Type</th>
<th>Date</th>
<th>Claim Holder</th>
</tr>
</thead>
<tbody>
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<tr>
<td>1B 168303</td>
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<td>1B 168305</td>
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<td>1B 168306</td>
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<td>1B 168310</td>
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<td>1B 168325</td>
<td></td>
<td></td>
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<tr>
<td>1B 168326</td>
<td></td>
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</tbody>
</table>

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 to airborne surveys)

Magnetometer
Electromagnetic
Radiometric

DATE: 29 NOV 83 SIGNATURE: Author of Report or Agent

Res. Geol. Qualifications

File No. Type Date Claim Holder

OFFICE USE ONLY

TOTAL CLAIMS 16

837 (6/79)
## GEOPHYSICAL TECHNICAL DATA

**GROUND SURVEYS** — If more than one survey, specify data for each type of survey

<table>
<thead>
<tr>
<th>Number of Stations</th>
<th>Number of Readings</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</table>

Station interval ____________________________ Line spacing ____________________________

Profile scale ____________________________ Contour interval ____________________________

### Instrument

<table>
<thead>
<tr>
<th>Accuracy — Scale constant</th>
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<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

Diurnal correction method ________________

Base Station check-in interval (hours) ________________

Base Station location and value ________________

### Magnetic

<table>
<thead>
<tr>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

Coil configuration ____________________________

Coil separation ____________________________

Accuracy ____________________________

Method:  
- D Fixed transmitter
- D Shoot back
- D In line
- D Parallel line

Frequency ________________ (specify V.L.F. station)

Parameters measured ____________________________

### Electromagnetic

<table>
<thead>
<tr>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

Scale constant ____________________________

Corrections made ____________________________

Base station value and location ____________________________

Elevation accuracy ____________________________

### Gravity

<table>
<thead>
<tr>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Scale constant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

Corrections made ____________________________

Base station value and location ____________________________

Elevation accuracy ____________________________

### Induced Polarization

<table>
<thead>
<tr>
<th>Instrument</th>
</tr>
</thead>
<tbody>
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Method  
- D Time Domain
- D Frequency Domain

Parameters — On time ________________ Frequency ________________

- Off time ________________ 
- Delay time ________________ 
- Integration time ________________ 

Power ____________________________

Electrode array ____________________________

Electrode spacing ____________________________

Type of electrode ____________________________
SELF POTENTIAL
Instrument_________________________________________ Range.
Survey Method__________________________________________
Corrections made________________________________________

RADIOMETRIC
Instrument__________________________________________
Values measured_______________________________________
Energy windows (levels)_________________________________
Height of instrument____________________________________
Background Count_______________________________________
Size of detector________________________________________
Overburden__________________________________________
(type, depth — include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)
Type of survey________________________________________
Instrument___________________________________________
Accuracy_____________________________________________
Parameters measured___________________________________
Additional information (for understanding results)

AIRBORNE SURVEYS
Type of survey(s)_____________________________________
Instrument(s)_________________________________________
(specify for each type of survey)
Accuracy_____________________________________________
(specify for each type of survey)
Aircraft used_________________________________________
Sensor altitude_______________________________________

Navigation and flight path recovery method

Aircraft altitude_______________________________________
Line Spacing_________________________________________
Miles flown over total area_________________________________________
Over claims only_______________________________________
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<th>V.L.E. Mag</th>
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**Note:** The entry for 26.081 is crossed out, and there is a handwritten note: "on file 766823." 

**Pro-rate:**

\[
\frac{16 \times 20}{16 + \frac{3}{4}} = 14.33 \text{ days.}
\]

**D.K.**