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REPORT ON A COMBINED HELICOPTER-BORNE MAGNETIC, ELECTROMAGNETIC AND VLF SURVEY ABBOTSFORD TOWNSHIP PROPERTY LARDER LAKE MINING DIVISION PROVINCE OF ONTARIO

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FOR CONTINENTAL PRECIOUS METALS INC. BY AERODAT LIMITED May 20, 1988

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- 1. PHOTOMOSAIC BASE MAP; prepared from a semi-controlled photo laydown, showing the survey area.
- FLIGHT LINE MAP; showing all flight lines and fiducials with the base map.
- 3. AIRBORNE ELECTROMAGNETIC SURVEY INTERPRETATION MAP; showing flight lines, fiducials, conductor axes and anomaly peaks along with inphase amplitudes and conductivity thickness ranges for the 4600 Hz coaxial coil system with the base map.
- 4. TOTAL FIELD MAGNETIC CONTOURS; showing magnetic values contoured at 5 nanoTesla intervals, flight lines and fiducials with the base map.
- 5. VERTICAL MAGNETIC GRADIENT CONTOURS; showing magnetic gradient values contoured at 0.5 nanoTeslas per metre with the base map.
- 6. APPARENT RESISTIVITY CONTOURS; showing contoured resistivity values, flight lines and fiducials with the base map.
- 7. ELECTROMAGNETIC PROFILES; showing flight lines, EM anomalies, low and high frequency coaxial inphase and quadrature and mid frequency coplanar inphase and quadrature traces.

1. INTRODUCTION

This report describes an airborne geophysical survey carried out on behalf of Continental Precious Metals Inc. by Aerodat Limited. Equipment operated included a three frequency electromagnetic system, a high sensitivity cesium vapour magnetometer, a two frequency VLF-EM system, a video tracking camera and a radar altimeter. Electromagnetic, magnetic and altimeter data were recorded both in digital and analog form. Positioning data were stored in digital form and recorded on VHS Video Tapes as well as being marked on the flight path mosaic by the operator while in flight.

The survey area, comprising a block of ground in the Abbotsford Township area, is located approximately 100 kilometres east of Cochrane, Ontario. Three (3) flights, which were flown on March 31 and April 1, 1988, were required to complete the survey with flight lines oriented at an Azimuth of 045-225 degrees and flown at a nominal line spacing of 100 metres. Coverage and data quality were considered to be well within the specifications described in the contract.

The survey objective is the detection and location of mineralized zones which can be directly or indirectly related to precious or base metal exploration targets. Of importance, therefore, are poorly mineralized conductors, displaying weak conductivity, which may represent structural features which can sometimes play an essential role in the eventual location of primary minerals. Weak conductors associated with iron formations are also considered primary targets for precious metals. In regard to base metal targets, short, isolated or flanking conductors displaying good conductivity and having either magnetic correlation or no magnetic correlation, are all considered to be areas of extreme interest.

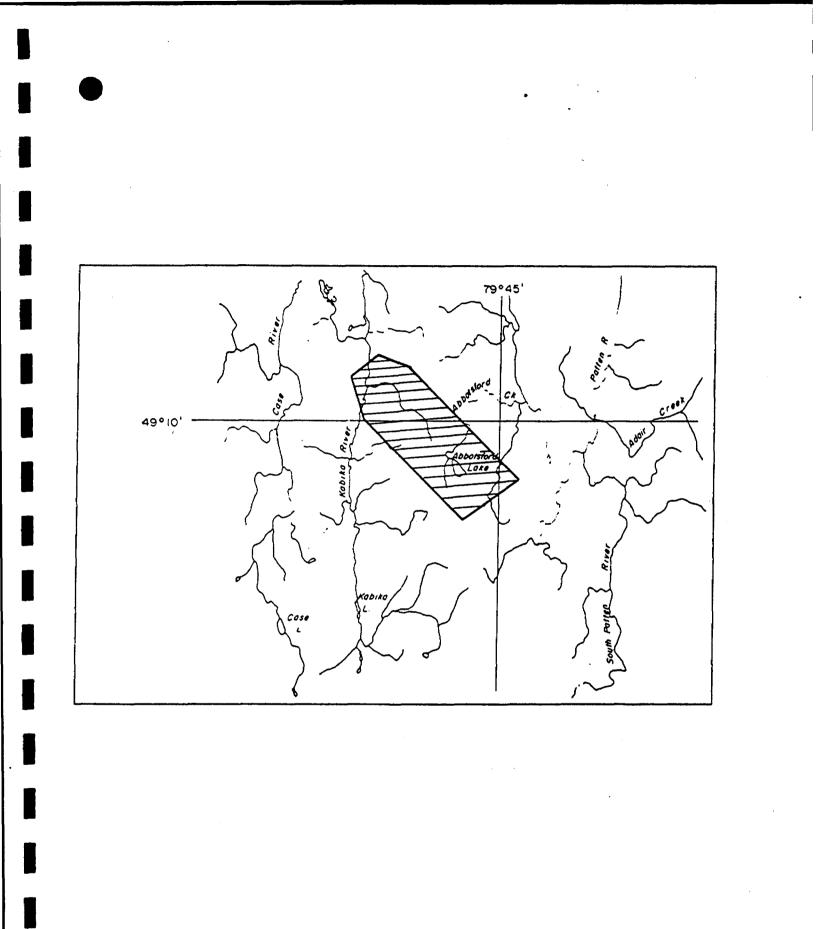
A total of 580 kilometres of the recorded data were compiled in map form and are presented as part of this report according to specifications outlined by Continental Precious Metals Inc.

# 2. SURVEY AREA LOCATION

The survey area is depicted on the index map as shown. It is centred at Latitude 49 degrees 09 minutes north, Longitude 79 degrees 50 minutes west, approximately 100 kilometres east of Cochrane, Ontario, and a similar distance from Rouyn-Noranda, Quebec. The area is also located some 25 kilometres north of the Canadian National Railway track which is just to the north of Lake Abitibi (NTS Reference Map No. 32 E 4).

The survey area is accessible from a number of lumber roads which lead into the area from both La Sarre, Quebec and Cochrane, Ontario.

The terrain is generally flat with elevations in the order of 50 feet.



#### 3. AIRCRAFT AND EQUIPMENT

## 3.1 Aircraft

An Aerospatiale A-Star 350D helicopter, (C-GATX), owned and operated by Ranger Helicopters Limited, was used for the survey. Installation of the geophysical and ancillary equipment was carried out by Aerodat. The survey aircraft was flown at a mean terrain clearance of 60 metres.

## 3.2 Equipment

## 3.2.1 <u>Electromagnetic System</u>

The electromagnetic system was an Aerodat 4-frequency system although only 3 frequencies were requested. Two vertical coaxial coil pairs were operated at 935 Hz and 4600 Hz and one horizontal coplanar coil pair at 4175 Hz. The transmitter-receiver separation was 7 metres. Inphase and quadrature signals were measured simultaneously for the 3 frequencies with a time constant of 0.1 seconds. The electromagnetic bird was towed 30 metres below the transmitter.

## 3.2.2 VLF-EM System

The VLF-EM System was a Herz Totem 2A. This instrument measures the total field and quadrature components of two selected transmitters, preferably oriented at right angles to one another. The sensor was towed in a bird 12 metres below the helicopter. The transmitters monitored were NAA, Cutler, Maine, broadcasting at 24.0 kHz for the Line Station and NSS, Annapolis, Maryland, broadcasting at 21.4 kHz for the Orthogonal Station.

#### 3.2.3 Magnetometer

The magnetometer employed a Scintrex Model VIW-2321 H8 cesium, optically pumped magnetometer sensor. The sensitivity of this instrument was 0.1 nanoTeslas at a 0.2 second sampling rate. The sensor was towed in a bird 12 metres below the helicopter.

## 3.2.4 Magnetic Base Station

An IFG-2 proton precession magnetometer was operated at the base of operations to record diurnal variations of the earth's magnetic field. The clock of the base station was synchronized with that of the airborne system to facilitate later correlation.

## 3.2.5 Radar Altimeter

A King Air KRA-100 radar altimeter was used to record terrain clearance. The output from the instrument is a linear function of altitude for maximum accuracy.

## 3.2.6 Tracking Camera

A Panasonic video tracking camera was used to record flight path on VHS video tape. The camera was operated in continuous mode and the fiducial numbers and time marks for cross reference to the analog and digital data were encoded on the video tape.

# 3.2.7 Analog Recorder

An RMS dot-matrix recorder was used to display the data during the survey. In addition to manual and time fiducials, the following data were recorded:

Channel	Input	Scale
CXI1	Low Frequency Coaxial Inphase	2.5 ppm/mm
CXQ1	Low Frequency Coaxial Quadrature	2.5 ppm/mm
CXI2	High Frequency Coaxial Inphase	2.5 ppm/mm
CXQ2	High Frequency Coaxial Quadrature	2.5 ppm/mm
CPI1	Low Frequency Coplanar Inphase	10 ppm/mm
CPQ1	Low Frequency Coplanar Quadrature	10 ppm/mm
PWRL	Power Line	60 Hz
VLT	VLF-EM Total Field, Line	2.5%/mm

Channel	Input	Scale
VLQ	VLF-EM Quadrature, Line	2.5%/mm
VOT	VLF-EM Total Field, Ortho	2.5%/mm
VOQ	VLF-EM Quadrature, Ortho	2.5%/mm
RALT	Radar Altimeter	10 ft./mm
MAGF	Magnetometer, Fine	2.5 nT/mm
MAGC	Magnetometer, Coarse	25 nT/mm

# 3.2.8 Digital Recorder

A DGR 33 data system recorded the survey on magnetic tape. Information recorded was as follows:

Equipment	Recording Interval
EM system	0.1 seconds
VLF-EM	0.2 seconds
Magnetometer	0.2 seconds
Altimeter	1.0 seconds

# 3.2.9 Radio Positioning System

A Motorola Mini-Ranger (MRS III) radar navigation system was used for both navigation and flight path

recovery. Transponders sited at fixed locations were interrogated several times per second and the ranges from these points to the helicopter measured to a high degree of accuracy. A navigational computer triangulates the position of the helicopter and provides the pilot with navigation information. The range/range data were recorded on magnetic tape for subsequent flight path determination.

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# 4. DATA PRESENTATION

#### 4.1 Base Map

A photomosaic base at a scale of 1:10,000 was prepared from a photo lay down map, and supplied by Aerodat as a screened mylar base.

## 4.2 Flight Line Map

The flight path was derived from the MiniRanger radar positioning system. The distance from the helicopter to two established reference locations was measured several times per second and the position of the helicopter calculated by triangulation. It is estimated that the flight path is generally accurate to about 10 metres with respect to the topographic detail of the base map.

#### 4.3 Airborne Electromagnetic Survey Interpretation Map

The electromagnetic data were recorded digitally at a sample rate of 10 per second with a time constant of 0.1 seconds. A two stage digital filtering process was carried out to reject major sferic events and to reduce system noise. Local sferic activity can produce sharp, large amplitude events that cannot be removed by conventional filtering procedures. Smoothing or stacking will reduce their amplitude but leave a broader residual response that can be confused with geological phenomena. To avoid this possibility, a computer algorithm searches out and rejects the major sferic events.

The signal to noise ratio was further enhanced by the application of a low pass digital filter. It has zero phase shift which prevents any lag or peak displacement from occurring, and it suppresses only variations with a wavelength less than about 0.25 seconds. This low effective time constant permits maximum profile shape resolution.

Following the filtering process, a base level correction was made. The correction applied is a linear function of time that ensures the corrected amplitude of the various inphase and quadrature components is zero when no conductive or permeable source is present. The filtered and levelled data were used in

the interpretation of the electromagnetics. An interpretation map was prepared showing flight lines, fiducials, peak locations of anomalies and conductor axes. The data have been presented on a Cronaflex copy of the photomosaic base map.

#### 4.4 Total Field Magnetic Contours

The aeromagnetic data were corrected for diurnal variations by adjustment with the digitally recorded base station magnetic values. No correction for regional variation was applied. The corrected profile data were interpolated onto a regular grid at a 25 metre true scale interval using an Akima spline technique. The grid provided the basis for threading the presented contours at a 5 nanoTesla interval.

The contoured aeromagnetic data have been presented on a Cronaflex copy of the photomosaic base map.

## 4.5 Vertical Magnetic Gradient Contours

The vertical magnetic gradient was calculated from the gridded total field magnetic data. Contoured at a 0.5 nT/m interval, the gradient data were presented on a Cronaflex copy of the photomosaic base map.

## 4.6 Apparent Resistivity Contours

The electromagnetic information was processed to yield a map of the apparent resistivity of the ground.

The approach taken in computing apparent resistivity was to assume a model of a 200 metre thick conductive layer (i.e., effectively a half space) over a resistive bedrock. The computer then generated, from nomograms for this model, the resistivity that would be consistent with the bird elevation and recorded amplitude for the 4175 Hz coplanar frequency pair used. The apparent resistivity profile data were interpolated onto a regular grid at a 25 metres true scale interval using an Akima spline technique.

The contoured apparent resistivity data were presented on a Cronaflex copy of the photomosaic base map with the flight path.

## 4.7 VLF-EM Total Field Contours

The VLF-EM signals from NAA, Cutler, Maine, broadcasting at 24.0 kHz were compiled. The Total Field data were compiled in contour form and presented on a Cronaflex copy of the photomosaic base map.

#### 5. INTERPRETATION

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## 5.1 Geology

The survey area lies in the northern part of the Early Precambrian Abitibi Belt of the Superior Province, on the southern flank of a supracrustal sequence which extends west from the main volcanic-sedimentary sequence in Quebec. The metavolcanic and metasedimentary rocks have undergone regional and contact metamorphism, ranging from upper greenschist to almandine-amphibolite facies rank.

For the most part, the supracrustal rocks are composed of interdigitated mafic to intermediate metavolcanics and felsic to intermediate metavolcanics. The mafic component pinches out to the northwest and the felsic component becomes interfingered with a clastic metasediment. The felsic metavolcanics then pinch out farther to the northwest. The overlying, clastic metasediments are conformable with the metavolcanics. These clastic metasediments contain iron-rich chemical metasediments which can be traced throughout the felsic tuff sequence. The north-northeast portions of the survey area was intruded by the quartz monzonitic to granodioritic Mistawak Batholith while the southwest area was intruded by the Case Batholith. These felsic to intermediate intrusions domed the supracrustal rocks and caused local complications in the structure.

A quartz diabase rock unit has been observed in an area towards the west central portion of the survey block. This is the only location exhibiting this rock unit, according to all geology maps that were available to the writer.

The depth of the Pleistocene overburden varies considerably within the surveyed area. To the west of Abbotsford Lake, from drilling results, the overburden has been observed to be in the order of 2 metres thick, whereas just to the northwest of the lake, the overburden is approximately 38 metres thick. The ground surface is a gently rolling till and lacustrine plain and as such the great variability in the depth of overburden indicates a variable bedrock topography.

Several mining companies have done preliminary exploration work

and follow up diamond drilling over various portions of the survey area. Within the western half of the survey block, Dome Exploration (Canada) Limited in 1975 carried out both airborne and ground geophysical surveys. Intercepted conductors were subsequently drilled in 1976 and 1977 with 21 diamond drill holes. The conductors were found to be thin massive and disseminated horizons of pyrite and pyrrhotite. The massive sulphide horizons contained up to 50 per cent pyrite and pyrrhotite in varying proportions. Low values of gold, copper and zinc were obtained.

To the west of Abbotsford Lake, Stanford Mines Limited in 1972 carried out ground magnetometer and electromagnetic surveys. Three strong conductors were intercepted and were eventually drilled. The holes were all drilled in metasedimentary rocks except for one which bottomed in felsic to intermediate metavolcanics. Narrow zones of pyrrhotite and pyrite, in combined amounts up to 80 per cent, were found in all holes. Analysis results were disappointing.

To the northeast of Abbotsford Lake, a couple of drill holes

were put down by the Keevil Mining Group Ltd. in 1966. Pyrite and pyrrhotite with minor chalcopyrite were intersected beneath approximately 30 metres of overburden.

Up-to-date and more detailed information on previous work can and should be obtained from the Assessment Department of the Ontario Geological Survey.

## 5.2 Magnetics

The magnetics within the surveyed area clearly show three strong, high intensity magnetic features striking in a northwestsoutheast direction across the entire survey block.

The single, wide trend traversing across the northern third of the block seems to be associated with mafic to intermediate flows with amphibolite appearing to be the dominate rock unit. In a couple of locations, chemical sediments have been noted. It is possible that iron formations within the chemical sedimentary horizon is the cause of the high intensity magnetic feature.

The two larger magnetic features to the south, one of which passes through Abbotsford Lake, are believed to be related to a similar geological environment. However, the rock types towards the south, in which the magnetic features are located, tend to be felsic to intermediate metavolcanics and clastic metasediments. One wonders, therefore, if the northern magnetic feature is related to the same geological source, as opposed to mafic metavolcanics. A geological re-interpretation is quite possible utilizing the magnetic data.

In a location towards the west central area of the surveyed block, there is believed to be a north-south trending diabase dike. It is definitely observable within the felsic metavolcanics, but once in the area of the strong iron formations, the diabase feature is obscured. There may be another diabase dike towards the south-southwest corner of the block, again traversing in a north-south direction.

The magnetically quiet areas along the northern and southern boundaries of the survey area are interpreted to be related to the Mistawak and Case Batholith granodioritic intrusives res-

pectively. Through the middle portions of the block, the long, linear magnetically quiet areas seem to be related to the felsic to intermediate metavolcanics.

## 5.3 Vertical Gradient Magnetics

The area of high intensity magnetics have been clearly broken up into unique trends as a result of the computation of the vertical gradient. This interpretation is not as readily obvious when one refers to the magnetic total field map. These are the areas that have been related to the iron formations within the chemical metasediments bounded by the felsic metavolcanics.

It should also be noted that the zero contour interval coincides directly or very close to geological contacts. It is because of this phenomenon that the calculated vertical magnetic gradient map can be compared to a pseudo-geological map. This is true for vertical bedding. However, with the bedding dipping, it will be found that the geological contacts will be closer to the magnetic peaks by a small distance.

Using known or accurate geological information and combining this data with the vertical gradient data, one can use the presented map as a pseudo-geological map. Obviously, the more that is known about an area geologically, the closer this type of presentation is to what the rock types are.

This type of presentation is an invaluable tool in helping to define complex geology, especially in drift covered areas. Since most of the survey area is overlain with Pleistocene till deposits, this presentation will be of extreme interest, in assessing what the rock types may be beneath this rather thick cover. The calculated vertical gradient computation has been of exceptional value in areas of complex geology and in areas of closely spaced geological horizons.

The writer has indicated several fault zones on the interpretation map. The nature of the computation of the vertical gradient data results in magnetic anomalies produced by near surface features being emphasized with respect to those resulting from more deeply buried rock formations. Therefore,

much more detail is obtained, providing a better opportunity to recognize fault zones. Some fault zones have been interpreted by the writer, however, it will become more apparent to the client as more field geological information is obtained, that other fault zones do exist.

This presentation may change the client's mind about certain geological horizons, and especially the location of contacts.

## 5.4 Electromagnetics

The electromagnetic data was first checked by a line-by-line examination of the analog records. Record quality was good with minor noise levels on the low frequency coaxial trace. This was readily removed by an appropriate smoothing filter. Instrument noise was well within specifications. Geologic noise, in the form of surficial conductors, is present on the higher frequency responses and to a minor extent, on both the low frequency inphase and quadrature response.

Anomalies were picked off the analog traces of the low and high frequency coaxial responses and then validated on the

coplanar profile data. These selections were then checked with a proprietary computerized selection program which can be adjusted for ambient and instrumental noise. The data were then edited and re-plotted on a copy of the profile map. This procedure ensured that every anomalous response spotted on the analog data was plotted on the final map and allowed for the rejection - or inclusion if warranted - of obvious surficial conductors. Each conductor or group of conductors was evaluated on the bases of magnetic (and lithologic, where applicable) correlations apparent on the analog data and man made or surficial features not obvious on the analog charts.

#### RESULTS

As a result of this airborne geophysical survey being carried out, it is very clear by the quadrature response from both the high frequency coaxial pair coil and the mid frequency coplanar pair coil that a majority of the survey area is overlain by a moderately conductive layer of overburden. It is suggested that the varying changes in amplitude for the various frequencies is a reflection of the thickness of the overburden. This in turn,

should be an indication of the basement topography. These areas of variable conductivity have no relationship with the magnetics, suggesting the probable association with the surface environment. The lake bottom sediments of Abbotsford Lake display characteristics of having similar conductivity as the surrounding regions of overburden.

It is also interesting to note that the inphase responses for all frequencies are negative over horizons which display high intensity magnetic features. This is a reflection of the magnetite content. The higher the magnetite content, the more pronounced would be the negative electromagnetic response. As can be seen from the results, there are a few areas which exhibit this phenomenon, in particular, the iron formations that have been mapped towards the southern half of the survey area. On occasion, sulphide grains are interstitially connected to the magnetite resulting in a positive coaxial quadrature response.

If there were to be any further studies related to anticlinal or synclinal structures within the survey area, establishment

of direction of dips related to the conductors will be of some importance. This has been done by the writer. There would appear to be a synclinal axis passing through Abbotsford Lake in an east-west direction. It seems to extend for at least four kilometres to the west of Abbotsford Lake.

Another interesting aspect within this area, as a result of the survey being carried out, is the direction of dip for many of the conductors that were intercepted. In a number of situations, the interpreted dips are in direct contrast to what the indicated drill hole information says. This is an important aspect to remember while in the field following up on the various conductors. In some cases, it is quite apparent that some of the conductors have been drilled down dip. This phenomenon should be examined very closely while in the field.

There were a good many bedrock conductors intercepted within the survey block. Most of them display fair to good conductivity. A few, which display poor conductivity, are believed to be related to bedrock sources and, as such, have been plotted on the map. A good many of the conductors have magnetic correlation suggesting that pyrrhotite may be the

source for a number of the indicated conductors.

The writer paid particular attention to interpreting the position and accuracy of conductor axes for each of the conductors intercepted within the survey area. It should be found that when in the field, most conductors should be located within 25 metres of the writer's interpreted axes. The magnetics assisted a great deal in delineating the various conductor axis as well as indicating strike direction.

Because of the great number of conductors in this area, it would be beyond the scope of this report to discuss each and every conductor intercepted in great detail. It is the writer's intention, therefore, to briefly assess and to comment on most conductors.

Zones A1 to A13 are not that well defined electromagnetic responses. This may be due, in part, to the depth of the basement. In the vicinity of Zones A1, A2 and A3, overburden has been mentioned as being in the order of 30 metres thick. Zones A2, A3, A4, A5 are believed to be contact related while A6 is correlating directly with a magnetic feature. It is probable that pyrrhotite is the source for A6 which is

dipping to the south. Towards the western extent of A3, a diamond drill hole was put down by Dome Exploration. Results are not known to the writer. It is suggested that a further look be given for A2 as it displays a reasonable electromagnetic response and is somewhat isolated. Two vertical holes were put down to the south of A5 and A6, apparently on a magnetic feature. The latter is thought to be an iron formation within mafic metavolcanics.

Zone A7 is located near an outcrop where mafic metavolcanics and amphibolite have been observed. The conductor, however, is not well defined. It would seem that A8 and A9 are associated with the same geological horizon as they both correlate with the same magnetic low. Both trends appear to be associated with wacke rocks.

The EM response for A10 is somewhat better than the previous nine conductors and is correlating with a magnetic trend. Pyrrhotite may be the source. Note its location in respect of the interpreted diabase dike. A dip to the south is interpreted. The conductor seems to be located very close to a metasedimentary-felsic tuff contact.

Zones A14 to A17 are all associated with the same geological environment, that is, felsic tuff. There is also good magnetic correlation and it is thought that this association may be related to an iron formation. A dip to the south for all conductors is interpreted. Any drilling in this area seems to have been either vertical or to the south. A direct contradiction to the interpreted conductor dip. Zone A18 has been drilled, but in a southerly direction. It should have been drilled to the north as the conductor is dipping to the south. Pyrrhotite is the probable source because of the good magnetic correlation. The conductive trend seems to be located quite close to a metasedimentary - felsic tuff contact. Zone A19 is a short, flanking trend which displays fair to poor conductivity. However, it may have been drilled. A check on the ground is suggested.

Zones A20 and A21 are both poorly defined electromagnetic responses, A21 may have been drilled previously. The same can be said for Zone A22 except that the latter conductor displays a reasonable EM response. In both cases, drilling has been carried out to the south, the same direction as the dip of the

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conductors. A field check is definitely warranted for Zone A22.

Although displaying a weak EM response, it is believed that the short trend has been drilled. Felsic tuff seems to be the host rock.

In a region extending from the west portion of the survey area to well beyond the east boundary, and located roughly in the southern third of the block, a number of conductors have been intercepted. All of these conductors are located in close proximity to a known iron formation. However, not all are assoociated directly with the magnetics. Most are located on the flank, either to the south or to the north of the magnetic iron formation. It would seem to be beyond the scope of this report to discuss each zone within this long conductive horizon. Note the direction of dip along the entire section.

Some of the more interesting areas within this horizon are Zones A27, A29 and A30. The latter two conductors are short strike length zones which are flanking the much longer conductors. Both are believed to be related to non-magnetic sulphides such as pyrite. Zone A27 may have been drilled but again, towards the south, the same direction as the dip of the conductors.

Zone A34 is a short trend displaying reasonable conductivity and is located just to the north of an iron formation, approximately 50 metres. An investigation of the short trend is certainly warranted.

It is recommended that Zones A41, A42 and A44 be looked at further especially in view of the fact that fault zones seem to have had some possible influence on the mineralization controls. Only A41 seems to have any magnetic correlation. It is not believed that either A41 or A44 has been drilled before.

Zones A45 to A53 each display fair to good conductivity and each tend to have short strike lengths. It would seem that the base metal potential for each is quite good. Felsic tuff is the host rock in each area. A49 displays quite a good EM response but its strike length is somewhat short. It has no magnetic association suggesting that pyrite may be the source. A closer examination for Zones A50 to A53, especially the latter, is definitely warranted. Along the southern boundary of the survey area are a number of en echelon conductors, some long, some short and each displaying fair to good conductivity. Most do not appear to have been drilled before. It is quite obvious that Zones A70, A71, A72, A76, A78 and A81 to A84 are all drill targets because of their good conductivity, short strike length and isolation from longer trends. These are particularly good base metal targets.

#### 5.5 Apparent Resistivity

It is very clear from this data presentation, that the method is sensitive to what is interpreted as conductive overburden, especially swamps and creek bottoms. Except for areas of known bedrock conductors, the remainder of the apparent resistivity data set is strictly related to the overlying conductive overburden.

It is interesting to note that in some areas, the apparent resistivity can be used to extend strike length for some of the conductors. For some areas, structural effects such as offsets may be recognized from this data.

Generally speaking, the various lithological units within the survey block are not mapable utilizing this method.

## 5.6 VLF-EM Total Field

The VLF data within the survey area, in general, does not conform with the magnetic data at all. It is quite clear after examining the comparison of the two sets of data, VLF and magnetics, that there are few similarities between the two. It would appear, therefore, that the VLF is not penetrating the variable thickness of the conductive overburden. It is also a general rule of thumb that the penetrating capability of the VLF system is approximately 50-75 feet. It would seem that this area may be presenting such a problem.

As for the 3 frequency conductors intercepted within the survey area, there is rather poor correlation with the VLF. As mentioned previously, this may be due to the poor penetrating ability of the system to detect conductors beneath a thick conductive cover. As well, the VLF system does not have the same resolution as the frequency system. Areas where there are at least two or three parallel conductors, these areas only show up as a single trend on the VLF data. As well, isolated, flanking conductors do not show up at all.

## 5.7 Recommendations

On the basis of the results of this airborne survey, ground follow-up work is recommended for several of the selected targets as outlined by the writer, on the interpretation map. A number of these zones would be primarily base metal targets because of their shorter strike lengths. Some of the longer conductors may be of interest with respect to their possible precious metal content, especially in the vicinity of the lapilli tuff-clastic metasedimentary contacts.

Because of the unobvious for the much longer conductors, in that conductances are similar, selecting areas for further follow up is difficult. Most of the conductors do not have any magnetic correlation while some do. As well, the geological picture, for some of the areas, is not clear in order to give a geological - geophysical synopsis. Therefore, it is suggested that a geological reconnaissance survey be carried out, where possible, in order to establish a relationship between each of the intercepted bedrock conductors and the basement rocks. As mentioned previously, there is a variable thickness to the overlying layer of glacial till, but for the most part, outcrop does exist.

Over the most favourable areas geologically, till or soil geochemical sampling for gold, copper, lead and zinc is recommended with any correlation of subsequent anomalous areas and intercepted bedrock conductors being prime targets for drilling. Areas which may give promising results are those conductors in close proximity to the interpreted fault zones as well as any in close proximity to the magnetite iron formations.

It is recommended that conductors correlating with magnetic lows should also be looked at while in the field. These conductive trends may represent areas which are highly carbonatized and/or silicified and contain pyrite. It is sometimes these geological horizons which contain appreciable amounts of auriferous material.

It is strongly recommended to the client that a complete and comprehensive evaluation be made of the magnetic data and especially the calculated vertical gradient magnetic data. All available geological information should be obtained, either through geological maps, diamond drill information or through the assessment files. Once such information is obtained, a

broad scale geological map should be compiled and then, in reference to the calculated vertical gradient magnetic map, a reasonable pseudo-geological map can then be prepared.

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Further structural information should also be obtained through a more comprehensive evaluation of both the VLF and magnetic data. Cross cutting faults are evident throughout the survey block and these too will play an important role in any future ground follow up. Strike slip faults are much more difficult to interpret from this geophysical data. Any evidence of this feature within the survey block, along with bedrock conductors, may prove to be areas of extreme interest.

All bedrock conductors which are located in close proximity to the iron formations, should definitely be looked at, in particular, Zones A7, A8, A9, A22, A51, A52, A53, A70 and A81.

In regards to a follow up geophysical system, any of the horizontal loop EM systems can be used. It would seem that detectability should be easy for any of the types of conductors intercepted in the survey area. However, the use of a VLF-EM system should not be considered because of its lack of penetrating ability or its resolution. There is, of course, a rather thick cover of conductive overburden. An induced polarization (IP) survey could be carried out in areas where anomalous gold values have been obtained but EM systems have not responded. As well, the former system may also be used in areas where ground EM methods have not defined the conductors fully or if disseminated sulphides are suspected.

A closer examination, by the client, of all intercepted conductors within the survey area, will, no doubt, reveal several targets that will eventually have to be followed up. It is suggested that the area has precious metal potential as well as having exceptionally good base metal possibilities.

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There is no question of the existence of bedrock conductors within the survey area. It is a matter of using all resources, including geophysics, drill information and the compilation of a pseudo-geological map. Reverse circulation drilling may render additional information, for some areas, that will lead to an exciting exploration program.

July J. Hle Robert J. de Carle Robert J. de Carle

Consulting Geophysicist For AERODAT LIMITED May 20, 1988

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#### APPENDIX I

#### REFERENCES

Bennett, G., Brown, D., George, P.

- 1966: Burntbush River Sheet, District of Cochrane; Ontario Department of Mines, Preliminary Geological Map P. 373, Geological Compilation Series, Scale 1 inch to 2 miles. Geology 1966.
- Johns, G.W.
- 1982: Geology of the Burntbush Detour Lakes Area, District of Cochrane; Ontario Geological Survey Report 199, 82 p. Accompanied by Map 2453, scale 1:100,000.
- Johns, G.W.
- 1979: Burntbush Lake Detour Lake Area (Southern Part) District of Cochrane; Ontario Geological Survey, Preliminary Map P. 2243, Geological Services, Scale 1:50,000. Geology 1978.

Lovell, H.L. and Frey, E.D.

1972: Abbotsford Township, District of Cochrane; Ontario Division Mines, Preliminary Map P. 783, Kirkland Lake Data Series, Scale 1 inch to 1/4 mile. Data compiled 1972.

# APPENDIX II

.

# PERSONNEL

## FIELD

Flown - April, 1988

Pilot - Bob Curiston

Operator

- Mark Fortier

## OFFICE

Processing - Carl Marston, Geophysicist

## Report

& Interpretation - Robert J. de Carle, Consulting Geophysicist

#### APPENDIX III CERTIFICATE OF QUALIFICATIONS

I, ROBERT J. DE CARLE, certify that: -

- 1. I hold a B. A. Sc. in Applied Geophysics with a minor in geology from Michigan Technological University, having graduated in 1970.
- 2. I reside at 28 Westview Crescent in the town of Palgrave, Ontario.
- 3. I have been continuously engaged in both professional and managerial roles in the minerals industry in Canada and abroad for the past eighteen years.
- 4. I have been an active member of the Society of Exploration Geophysicists since 1967 and hold memberships on other professional societies involved in the minerals extraction and exploration industry.
- 5. The accompanying report was prepared from information published by government agencies, materials supplied by Continental Precious Metals Inc. and from a review of the proprietary airborne geophysical survey flown by Aerodat Limited for Continental Precious Metals Inc. I have not personally visited the property.
- 6. I have no interest, direct or indirect, in the property described nor do I hold securities in Continental Precious Metals Inc.

Signed,

Robert J. de Carle

Palgrave, Ontario May 20, 1988 Robert J. de Carle Consulting Geophysicist

### APPENDIX IV

#### GENERAL INTERPRETIVE CONSIDERATIONS

#### Electromagnetic

The Aerodat three frequency system utilizes two different transmitter-receiver coil geometries. The traditional coaxial coil configuration is operated at two widely separated frequencies and the horizontal coplanar coil pair is operated at a frequency approximately aligned with one of the coaxial frequencies.

The electromagnetic response measured by the helicopter system is a function of the "electrical" and "geometrical" properties of the conductor. The "electrical" property of a conductor is determined largely by its electrical conductivity, magnetic susceptibility and its size and shape; the "geometrical" property of the response is largely a function of the conductor's shape and orientation with respect to the measuring transmitter and receiver.

#### Electrical Considerations

For a given conductive body the measure of its conductivity or conductance is closely related to the measured phase shift between the received and transmitted electromagnetic field. A small phase shift indicates a relatively high conductance, a large phase shift lower conductance. A small phase shift results in a large inphase to quadrature ratio and a large phase shift a low ratio. This relationship is shown quantitatively for a nonmagnetic vertical half-plane model on the accompanying phasor diagram. Other physical models will show the same trend but different quantitative relationships.

The phasor diagram for the vertical half-plane model, as presented, is for the coaxial coil configuration with the amplitudes in parts per million (ppm) of the primary field as measured at the response peak over the conductor. To assist the interpretation of the survey results the computer is used to identify the apparent conductance and depth at selected anomalies. The results of this calculation are presented in table form in Appendix II and the conductance and inphase amplitude are presented in symbolized form on the map presentation.

The conductance and depth values as presented are correct only as far as the model approximates the real geological situation. The actual geological source may be of limited length, have significant dip, may be strongly magnetic, its conductivity and thickness may vary with depth and/or strike and adjacent bodies and overburden may have modified the response. In general the conductance estimate is less affected by these limitations than is the

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depth estimate, but both should be considered as relative rather than absolute guides to the anomaly's properties.

Conductance in mhos is the reciprocal of resistance in ohms and in the case of narrow slab-like bodies is the product of electrical conductivity and thickness.

Most overburden will have an indicated conductance of less than 2 mhos; however, more conductive clays may have an apparent conductance of say 2 to 4 mhos. Also in the low conductance range will be electrolytic conductors in faults and shears.

The higher ranges of conductance, greater than 4 mhos, indicate that a significant fraction of the electrical conduction is electronic rather than electrolytic in nature. Materials that conduct electronically are limited to certain metallic sulphides and to graphite. High conductance anomalies, roughly 10 mhos or greater, are generally limited to sulphide or graphite bearing rocks.

Sulphide minerals, with the exception of such ore minerals as sphalerite, cinnabar and stibnite, are good conductors; sulphides may occur in a disseminated manner that inhibits electrical

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conduction through the rock mass. In this case the apparent conductance can seriously underrate the quality of the conductor in geological terms. In a similar sense the relatively nonconducting sulphide minerals noted above may be present in significant consideration in association with minor conductive sulphides, and the electromagnetic response only relate to the minor associated mineralization. Indicated conductance is also of little direct significance for the identification of gold mineralization. Although gold is highly conductive, it would not be expected to exist in sufficient quantity to create a recognizable anomaly, but minor accessory sulphide mineralization could provide a useful indirect indication.

In summary, the estimated conductance of a conductor can provide a relatively positive identification of significant sulphide or graphite mineralization; however, a moderate to low conductance value does not rule out the possibility of significant economic mineralization.

#### Geometrical Considerations

Geometrical information about the geologic conductor can often be interpreted from the profile shape of the anomaly. The change in shape is primarily related to the change in inductive coupling among the transmitter, the target, and the receiver.

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In the case of a thin, steeply dipping, sheet-like conductor, the coaxial coil pair will yield a near symmetric peak over the conductor. On the other hand, the coplanar coil pair will pass through a null couple relationship and yield a minimum over the conductor, flanked by positive side lobes. As the dip of the conductor decreased from vertical, the coaxial anomaly shape changes only slightly, but in the case of the coplanar coil pair the side lobe on the down dip side strengthens relative to that on the up dip side.

As the thickness of the conductor increases, induced current flow across the thickness of the conductor becomes relatively significant and complete null coupling with the coplanar coils is no longer possible. As a result, the apparent minimum of the coplanar response over the conductor diminishes with increasing thickness, and in the limiting case of a fully 3 dimensional body or a horizontal layer or half-space, the minimum disappears completely.

A horizontal conducting layer such as overburden will produce a response in the coaxial and coplanar coils that is a function of altitude (and conductivity if not uniform). The profile shape will be similar in both coil configurations with an amplitude ratio (coplanar:coaxial) of about 4:1\*.

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In the case of a spherical conductor, the induced currents are confined to the volume of the sphere, but not relatively restricted to any arbitrary plane as in the case of a sheet-like form. The response of the coplanar coil pair directly over the sphere may be up to 8\* times greater than that of the coaxial pair.

In summary, a steeply dipping, sheet-like conductor will display a decrease in the coplanar response coincident with the peak of the coaxial response. The relative strength of this coplanar null is related inversely to the thickness of the conductor; a pronounced null indicates a relatively thin conductor. The dip of such a conductor can be inferred from the relative amplitudes of the side-lobes.

Massive conductors that could be approximated by a conducting sphere will display a simple single peak profile form on both coaxial and coplanar coils, with a ratio between the coplanar to coaxial response amplitudes as high as 8\*.

Overburden anomalies often produce broad poorly defined anomaly profiles. In most cases, the response of the coplanar coils closely follows that of the coaxial coils with a relative amplitude ratio of 4\*.

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Occasionally, if the edge of an overburden zone is sharply defined with some significant depth extent, an edge effect will occur in the coaxial coils. In the case of a horizontal conductive ring or ribbon, the coaxial response will consist of two peaks, one over each edge; whereas the coplanar coil will yield a single peak.

\* It should be noted at this point that Aerodat's definition of the measured ppm unit is related to the primary field sensed in the receiving coil without normalization to the maximum coupled (coaxial configuration). If such normalization were applied to the Aerodat units, the amplitude of the coplanar coil pair would be halved.

#### Magnetics

The Total Field Magnetic Map shows contours of the total magnetic field, uncorrected for regional variation. Whether an EM anomaly with a magnetic correlation is more likely to be caused by a sulphide deposit than one without depends on the type of mineralization. An apparent coincidence between an EM and a magnetic anomaly may be caused by a conductor which is also magnetic, or by a conductor which lies in close proximity to a magnetic body. The majority of conductors which are also magnetic are sulphides containing pyrrhotite and/or magnetite. Conductive and magnetic

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bodies in close association can be, and often are, graphite and magnetite. It is often very difficult to distinguish between these cases. If the conductor is also magnetic, it will usually produce an EM anomaly whose general pattern resembles that of the magnetics. Depending on the magnetic permeability of the conducting body, the amplitude of the inphase EM anomaly will be weakened, and if the conductivity is also weak, the inphase EM anomaly may even be reversed in sign.

## VLF Electromagnetics

The VLF-EM method employs the radiation from powerful military radio transmitters as the primary signals. The magnetic field associated with the primary field is elliptically polarized in the vicinity of electrical conductors. The Herz Totem uses three coils in the X, Y, Z configuration to measure the total field and vertical quadrature component of the polarization ellipse.

The relatively high frequency of VLF (15-25) kHz provides high response factors for bodies of low conductance. Relatively "disconnected" sulphide ores have been found to produce measureable VLF signals. For the same reason, poor conductors such as sheared contacts, breccia zones, narrow faults, alteration zones and porous flow tops normally produce VLF anomalies. The method can therefore be used effectively for geological mapping. The only

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relative disadvantage of the method lies in its sensitivity to conductive overburden. In conductive ground the depth of exploration is severely limited.

The effect of strike direction is important in the sense of the relation of the conductor axis relative to the energizing electromagnetic field. A conductor aligned along a radius drawn from a transmitting station will be in a maximum coupled orientation and thereby produce a stronger response than a similar conductor at a different strike angle. Theoretically, it would be possible for a conductor, oriented tangentially to the transmitter to produce no signal. The most obvious effect of the strike angle consideration is that conductors favourably oriented with respect to the transmitter location and also near perpendicular to the flight direction are most clearly rendered and usually dominate the map presentation.

The total field response is an indicator of the existence and position of a conductivity anomaly. The response will be a maximum over the conductor, without any special filtering, and strongly favour the upper edge of the conductor even in the case of a relatively shallow dip.

The vertical quadrature component over steeply dipping sheet-like

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conductor will be a cross-over type response with the cross-over closely associated with the upper edge of the conductor.

The response is a cross-over type due to the fact that it is the vertical rather than total field quadrature component that is measured. The response shape is due largely to geometrical rather than conductivity considerations and the distance between the maximum and minimum on either side of the cross-over is related to target depth. For a given target geometry, the larger this distance the greater the depth.

The amplitude of the quadrature response, as opposed to shape is function of target conductance and depth as well as the conductivity of the overburden and host rock. As the primary field travels down to the conductor through conductive material it is both attenuated and phase shifted in a negative sense. The secondary field produced by this altered field at the target also has an associated phase shift. This phase shift is positive and is larger for relatively poor conductors. This secondary field is attenuated and phase shifted in a negative sense during return travel to the surface. The net effect of these 3 phase shifts determine the phase of the secondary field sensed at the receiver.

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A relatively poor conductor in resistive ground will yield a net positive phase shift. A relatively good conductor in more conductive ground will yield a net negative phase shift. A combination is possible whereby the net phase shift is zero and the response is purely in-phase with no quadrature component.

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A net positive phase shift combined with the geometrical crossover shape will lead to a positive quadrature response on the side of approach and a negative on the side of departure. A net negative phase shift would produce the reverse. A further sign reversal occurs with a 180 degree change in instrument orientation as occurs on reciprocal line headings. During digital processing of the quadrature data for map presentation this is corrected for by normalizing the sign to one of the flight line headings.

# APPENDIX V

ANOMALY LIST

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE		CTP		
1 1 1 1 1	10010 10010 10010 10010 10010 10010	A B C D E F	2 1 0 2 0 0	24.1 8.7 7.2 22.9 5.5 2.3	13.2 7.7 13.2 12.1 8.9 7.9		17 0 10 13	40 41 47 38 37 37
1 1 1 1 1	10020 10020 10020 10020 10020 10020	A B C D E F	0 2 0 0 3	7.0 23.2 8.1 8.8 10.2 56.4	18.3 12.6 23.8 21.9 16.9 19.8	0.2	14 0 0	29 34 35 36 37 35
1 1 1 1	10030 10030 10030 10030	A B C D	4 0 2 0	43.8 9.8 27.7 5.2	11.8	0.7	13	40 40 33 31
1 1 1	10040 10040 10040	A B C	1 0 3	15.5 6.6 55.3			-	37 34 33
1 1 1	10050 10050 10050	A B C	3 0 0	28.2 7.8 15.4	9.8 14.6 18.3	0.3		42 45 43
1 1	10060 10060	A B	1 2	18.8 16.3			-	42 41
1 1 1	10070 10070 10070	A B C	2 0 0	9.5 14.7 7.3	5.4 20.4 14.8			47 45 45
1 1 1	10080 10080 10080	A B C	0 0 1	9.8 11.5 9.5	13.8 18.2 6.5	0.6 0.5 1.6	0 0 24	46 45 37
1 1 1	10090 10090 10090	A B C	1 0 0	4.9 5.9 13.4	3.1 15.7 19.0	1.4 0.2 0.7	31 0 0	48 46 43
1 1	10100 10100	A B	1 0	13.9 9.5	12.6 13.3	1.30.6	2 0	46 47

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.			BIRD HEIGHT MTRS
1	10100	С	1	4.3	3.1	1.1	. 44	36
1 1 1	10110 10110 10110	A B C	0 0 0	4.3 9.5 12.6	4.1 15.7 14.7	0.7 0.5 0.8	26 0 0	46 47 45
1 1 1	10120 10120 10120	A B C	0 0 0	11.0 14.7 9.9	25.3	0.5 0.5 0.8	3 0 24	35 37 27
1 1 1	10130 10130 10130	A B C	1 0 2	13.3 10.5 23.5	13.6	1.3 0.7 2.7	0	30 48 42
1 1 1 1	10140 10140 10140 10140	A B C D	0 3 0 0	7.0 38.4 11.3 11.3	16.2 17.6 14.3 12.3	4.5		38 37 42 34
1 1 1 1 1	10150 10150 10150 10150 10150 10150	A B C D E F	0 0 0 2 2	7.1 3.7 2.8 12.7 28.3 21.2	7.9 6.1 3.8 14.3 18.1 13.0	0.3 0.9	24 32 1	40 33 39 44 39 39
1 1 1 1 1 1	10160 10160 10160 10160 10160 10160 10160	A B C D E F G H	0 2 3 0 0 0 0	9.7 23.8 35.9 15.5 9.6 4.7 7.2 8.9	18.0 13.4 14.6 17.8 12.5 6.6 8.8 11.6	2.9 5.2 0.9 0.6		39 33 36 41 39 30 31 33
1 1 1 1 1	10170 10170 10170 10170 10170 10170	A B C D E F	0 0 3 1 0	7.7 7.8 9.6 31.9 9.6 4.1	7.9 10.6 11.8 12.0 8.9 10.6	0.8 0.6 0.7 5.6 1.0 0.1	15 3 2 12 0	41 46 43 43 43
1 1 1	10180 10180 10180	A B C	0 0 3	12.3 8.7 46.2	22.3 13.4 19.6	0.4 0.5 5.3	0 8 4	39 36 34

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CONTINENTAL PRECIOUS METALS

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.		DUCTOR DEPTH MTRS	
1 1	10180 10180	D E	0 0	5.0 8.9	15.0 13.3		0 13	38 32
1 1 1 1 1 1	10190 10190 10190 10190 10190 10190 10190 10190	A B C D E F G H	0 0 3 3 0 0	6.0 5.1 7.7 27.4 28.5 3.9 10.7 7.3	8.0 5.3 12.9 12.1 11.5 12.1 19.3 19.8	0.5 0.7 0.4 4.3 4.9 0.1 0.4 0.2	2 5	40 41 42 41 42 43 41 41
1 1 1 1 1 1	10200 10200 10200 10200 10200 10200 10200 10200	A B C D E F G H	0 0 1 2 0 0	5.1 5.8 12.6 12.1 18.1 8.5 5.8 6.2	17.0 12.5 17.0 12.4 12.2 15.2 9.1 8.6	0.7 1.0 2.1 0.4 0.4	0 2 9 9 0 24 13	42 43 40 40 40 43 26 40
1 1 1 1 1 1	10210 10210 10210 10210 10210 10210 10210	A B C D E F G	0 0 0 1 0 0	7.3 7.6 13.9 11.8 14.5 7.4 4.1	8.1 8.8 17.5 13.3 11.0 13.2 12.7	0.7 0.7 0.8 0.9 1.6 0.3 0.1	14 20 0 6 14 8 0	42 34 44 41 37 35 42
1 1 1 1	10220 10220 10220 10220 10220	A B C D E	1 0 1 0 0	14.0 10.0 13.2 4.4 5.1	11.7 12.5 14.1 5.8 7.0	1.4 0.7 1.0 0.4 0.4	7 0 25 18	43 47 46 36 39
1 1 1 1 1 1	10230 10230 10230 10230 10230 10230 10230	A B C D E F G	0 0 1 1 1 0	5.3 13.2 13.2 12.7 7.0 6.3 4.2	7.6 16.5 14.6 12.3 6.1 4.7 9.3	0.4 0.8 0.9 1.1 1.0 1.2 0.2	17 0 1 7 26 31 2	38 45 41 37 38 44
1 1	10240 10240	A B	0 1	4.3 8.5	8.3	0.2 1.3	10 26	39 35

•

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.		DUCTOR DEPTH MTRS	BIRD HEIGHT MTRS
1 1 1 1	10240 10240 10240 10240 10240 10240	C D F G	1 0 0 0	8.3 13.3 12.0 15.0 3.6	6.8 13.3 17.8 17.8 9.4		25 6 0 9	35 41 43 42 35
1 1 1 1 1	10250 10250 10250 10250 10250 10250	A B C D E F	0 1 0 0 0	5.4 17.3 15.0 5.8 5.5 5.3	9.1 13.4 19.8 8.0 8.9 9.6	0.3 1.7 0.8 0.5 0.3 0.3	12 0 21 18 9	37 50 40 33 32 39
1 1 1 1 1 1	10260 10260 10260 10260 10260 10260 10260 10260	A B C D E F G H	0 1 0 2 0 2 0	2.9 7.3 6.1 6.8 25.4 12.6 24.7 4.3	6.6 6.0 5.7 12.1 18.8 21.1 15.8 5.7	0.5	14 24 25 3 1 0 22	37 40 39 41 41 43 45 39
1 1 1 1 1 1	10270 10270 10270 10270 10270 10270 10270 10270	A B C D E F G H	0 1 0 1 0 2 0 1	4.2 6.8 10.8 20.8 14.2 33.3 11.1 11.7	7.0 6.1 16.3 19.9 21.1 19.1 18.2 10.8	0.3 1.0 0.5 1.4 0.6 3.2 0.5 1.1	7 21 0 0 0 0 7	47 41 43 44 44 44
1 1 1 1 1	10280 10280 10280 10280 10280 10280	A B C D E F	1 0 0 0 0	10.4 21.8 16.0 10.8 12.0 7.0	7.9 22.7 23.8 19.6 18.4 8.2	1.5 1.2 0.7 0.4 0.6 0.7	16 0 0 0 17	41 39 39 39 39 38
1 1 1 1	10290 10290 10290 10290 10290	A B C D E	0 0 0 0	7.0 10.8 8.4 10.3 13.4	9.5 16.3 18.1 12.1 21.0	0.5 0.5 0.3 0.8 0.6	8 0 5 0	43 43 43 43 43
1	10300	A	0	14.7	22.9	0.6	0	43

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.	CTP MHOS	MTRS	BIRD HEIGHT MTRS
1 1 1	10300 10300 10300	B C D	0 0 0	16.9 12.3 10.8	25.2 24.8 20.7	0.7 0.4 0.4	0 0 0	41 40 39
1 1 1 1 1 1	10310 10310 10310 10310 10310 10310 10310 10310	A B C D E F G H J	0 0 0 0 0 0 0	10.4 8.4 14.4 17.8 25.8 28.7 19.7 17.8 4.9	23.4 19.7 31.2 36.8 39.7 43.7 41.9 36.5 6.0	0.3 0.2 0.4 0.4 0.8 0.8 0.8 0.4 0.4 0.5	0 0 0 0 0 0 21	38 37 35 35 35 36 38 40
1 1 1 1 1 1	10320 10320 10320 10320 10320 10320 10320 10320	A B C D E F G H	0 0 0 0 0 0 0	5.8 22.5 25.4 27.3 19.6 12.7 8.4 6.7	6.2 33.3 35.3 37.0 33.7 27.8 19.8 16.7	0.7 0.8 0.9 0.9 0.6 0.3 0.2 0.2	22 0 0 0 0 0 0 0	40 40 39 39 39 41 41 41
1 1 1 1 1 1 1	10330 10330 10330 10330 10330 10330 10330 10330	A B C D E F G H J	0 0 1 1 0 1 0	9.9 13.0 19.5 27.6 24.8 20.6 9.4 6.9 9.5	21.1 21.7 24.2 27.3 28.4 28.7 8.8 9.1 8.0	1.0 0.5	0 0 0 0 21 14 17	40 41 43 44 44 34 38 40
1 1 1 1 1 1 1 1	10340 10340 10340 10340 10340 10340 10340 10340 10340 10340 10340	A B C D E F G H J K M N	1 0 1 1 0 1 2 0 0 0 0	11.2 6.9 9.0 4.7 21.9 23.1 28.4 15.9 10.3 8.4 8.3 9.2	11.4 6.9 6.6 2.5 29.8 26.4 22.6 19.8 14.6 16.7 17.8 17.1	1.0 0.8 1.4 1.8 0.9 1.1 2.0 0.8 0.6 0.3 0.3 0.4	11 26 28 45 0 0 0 0 0 0	38 33 39 42 42 42 44 46 40 40 40

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CONTINENTAL PRECIOUS METALS

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.			BIRD HEIGHT MTRS
1	10350	A	0	13.7	21.9	0.6	. 1	36
1	10350	В	Õ	14.1	18.6		2	39
1	10350	ċ	Ŏ.	13.2	17.1		ō	41
1	10350	D	i	15.9	15.2	1.2	ŏ	45
1 1 1 1	10350	E	2	26.8	17.2		Ŏ	45
1	10350	F	1	22.3	24.8		Ō	44
1 1 1 1	10350	G	0	22.6	29.4		0	42
1	10350	H	1	6.6			32	35
1	10350	J	0	8.5	11.4	0.6	8	40
1	10360	A	0	5.9	10.5	0.3	6	41
1	10360	В	0	8.8	9.0	0.9	15	39
1 1 1 1	10360	С	0 1 2 0	26.4		0.7	0	37
1	10360	D	1	21.7	17.0		1	42
1	10360	E	2	13.2	8.5			42
1	10360	F	0	16.8			0	37
1	10360	G	1	21.4	19.9		4	37
1	10360	Н	1	20.4	17.4	1.6	8	36
4	10370	А	2	25.7	17.5	2.3	7	36
4	10370	В	1	24.2	23.0	1.5	3	37
4	10370	С	0	15.0	24.1	0.6	0	37
4	10370	D	1 2 2	15.2	12.3	1.5	7	42
4	10370	Е	2	16.6	11.2	2.0	7	43
4	10370	F	2	16.8	9.1	2.8	10	44
4	10370	G	0 1	18.6	27.0	0.7	0	42
4	10370	H	1	23.7	22.6	1.4	4	35
4	10370	J	0	5.5	14.4	0.2	2	35
4	10380	A	1	13.4		1.1	2	45
4	10380	В	2	18.7	12.9	2.1	7	41
4	10380		2	22.6	12.9	2.8	7	40
4	10380	D	1	21.7	17.8	1.7 1.0	3	40
4	10380	E	1	11.3	11.2	1.0	11	39
4	10380	F	0	10.7	20.9	0.4	0	36
4	10380	G	1	19.8	21.2	1.1	5	34
4	10380	н	1	17.8	16.8	1.3	9	35
4	10390	A	2	21.0	15.3	2.0	. 9	37
4	10390	В	1	22.7	19.1	1.7	6	36
4	10390	С	0	11.0	21.4	0.4		35
4	10390	D	1	21.2	20.3	1.4	2	39
4	10390	E	0 1 2 1	25.3	17.8	2.2	0 2 5 8	38
4	10390	F	1	18.7	14.8	1.7	8	38

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.			BIRD HEIGHT MTRS
4	10390	G	2	29.4	21.3	2.2	. 3	38
4	10390	Н	1	19.7	23.2	1.0	0	38
4	10400	A	0	12.5	18.9	0.6	0	42
4	10400	В	1	16.4	12.7	1.7	8	41
4	10400	C	0	10.9	12.4	0.8	5	43
4	10400	D	1	14.5	13.2	1.3	7	41
4	10400	E	1 2	18.3	13.9	1.8	6 3	41
4	10400	F G	2	22.8	16.9	2.0	3	41
4	$10400 \\ 10400$	G H	1 2 2	13.5	14.6	1.0	6	39
4	10400	л J	4	22.3 14.8	12.0	3.1	8	40
4	10400	0	2	14.0	9.1	2.2	13	41
4	10410	А	2 3	20.3	14.5	2.0	10	36
4	10410	в	3	27.6	12.8	4.0	9	37
4	10410	С	õ	12.1	15.8	0.7	4	39
4	10410	D	22	27.9	19.0	2.4	2 5 1	40
4	10410	Е	2	21.3	15.8	2.0	5	40
4	10410	F	0	14.9	17.1	0.9	1	42
4	10410	G	1	12.5	11.3	1.2	6 5	44
4	10410	H	1	19.2	15.6	1.7	5	41
4	10410	J	0	11.6	23.4	0.4	0	42
4	10420	А	0	12.5	19.4	0.6	0	42
4	10420	В	0	14.0	16.9	0.8	1	41
4	10420	С	2	24.0	16.4	2.3	0	45
4	10420	D	1	18.8	19.6	1.2	0	44
4	10420	E	0	6.3	12.5	0.3	0	45
4	10420	F	2 1	23.3	11.9	3.3	4	43
4	10420	G	1	15.0	12.0	1.5	6	44
4	10430	A	1	19.5	16.1	1.6	8	37
4	10430	B C	2	26.3	16.5	2.6	5	38
4	10430	С	0	6.7	11.6	0.3	5 5 1	39
4	10430	D	0 2 1	6.7 12.8 22.4 14.9	14.2	0.9 2.3 1.2		45
4	10430	E F	2	22.4	14.8	2.3	0	46
4	10430	F	1	14.9	14.6	1.2	1	45
4	10430	G	0	9.3	13.8	0.5	0	45
4	10430	Н	0	8.1	13.3	0.4	. 2	41
4	10440	A	0	8.7	12.9	0.5	3	42
4	10440	В	0 1	8.1	12.6	0.5	3	41
4	10440	С	1	16.5	18.4	1.0	0	42
4	10440	D	1	17.4	14.4	1.6	4	43
4	10440	E	2	26.6	13.3	3.6	9	37

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) Quad.	CTP	DUCTOR DEPTH MTRS	BIRD HEIGHT MTRS
4	10440	F	1	15.5	11.6	1.7	14	36
4 4 4 4 4	10450 10450 10450 10450 10450 10450	A B C D E F	2 2 1 0 0 0	18.3 21.7 13.8 15.3 11.9 15.2		2.3 2.9 1.0 0.9 0.6 0.7	16 13 5 0 2 0	42 38
4 4 4 4	10450 10460 10460 10460 10460	G A B C D	0 0 0	9.7 9.8 6.8 8.6 10.0	16.7 11.7 9.2 9.7 9.6	0.4 0.7 0.5 0.8 1.0	3 0 2 2 4	36 48 50 50 49
4 4 4	10460 10460 10460	E F G	0 1 2 2 2	15.6 15.3 16.6	10.0 6.5 9.9	3.7 2.4	16	36
4 4 4 4 4	10470 10470 10470 10470 10470 10470	A B C D E F	1 3 0 1 3 1	17.0 23.6 5.6 8.6 25.5 9.3	14.4 9.6 7.5 5.1 8.0 7.8	0.5 1.9 6.6	21 25	31 32 34 41 42 45
4 4 4 4 4 4 4	10480 10480 10480 10480 10480 10480 10480 10480	A B C D E F G H	1 1 1 1 1 3 2	8.1 11.5 39.7 10.6 8.2 8.3 16.0 18.1	5.2 11.0 10.4 7.4 6.1 7.3 5.7 10.5	1.7 1.1 9.5 1.6 1.4 1.1 4.8 2.6	9 4 20	41 39 38 39 36 35 36
4 4 4 4 4 4	10490 10490 10490 10490 10490 10490 10490 10490	A B C D E F G H	2 2 0 2 3 3 1 0	23.7 16.2 7.1 14.7 30.2 34.2 13.1 5.4	14.9 7.8 7.5 6.8 9.6 13.5 13.3 8.4	2.5 3.2 0.8 3.2 6.8 5.3 1.0 0.4	12 23 25 19 7 2 8 22	33 32 33 38 40 41 40 30
4 4	10500 10500	A B	1 3	16.3 34.6	13.8 14.6	1.5 4.9	8 7	39 36

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.		DUCTOR DEPTH MTRS	BIRD HEIGHT MTRS
4 4 4 4 4 4	10500 10500 10500 10500 10500 10500 10500	C D F G H J	3 3 0 2 2 0	29.1 27.9 20.3 4.7 13.1 21.1 5.2	12.7 12.0 7.1 4.1 7.3 10.2 4.4	0.8 2.4 3.5	11	36 35 34 36 39 40
4 4 4 4 4	10510 10510 10510 10510 10510 10510	A B C D E F	1 2 2 3 0	14.5 14.0 14.2 23.7 30.6 13.8	11.3 8.7 8.4 15.1 13.6 16.0	1.6 2.1 2.3 2.5 4.4 0.9	14 18 17 6 4	37 37 38 39 39 39
4 4 4 4 4	10520 10520 10520 10520 10520 10520	A B C D E F	0 2 2 2 2 0	12.7 24.8 18.2 20.8 20.5 8.4	13.2 12.9	2.0 3.9 2.5	17	37 36 35 34 34 35
4 4 4 4 4	10530 10530 10530 10530 10530 10530	A B C D F	0 3 3 3 3 0	6.0 33.7 16.8 14.5 14.6 9.1	6.4 10.8 5.2 5.1 5.7 9.3	5.9 4.8 4.1	10	37 35 42 44 44 45
4 4 4 4	10540 10540 10540 10540 10540	A B C D E	1 3 2 2 0	14.9 23.7 13.5 16.4 4.4	10.2 7.4 6.6 7.5 9.5	6.5	10 11 21 14 6	42 40 38 41 40
4 4 4 4 4 4	10550 10550 10550 10550 10550 10550 10550	A B C D E F G	0 2 2 3 2 0	5.4 17.8 9.7 13.5 16.0 17.9 7.9	5.4 8.2 4.3 6.4 5.9 9.6 13.9	0.7 3.5 3.0 3.1 4.6 2.9 0.4	26 11 30 22 19 10 0	39 42 37 37 39 42 44
4 4	10560 10560	A B	0 2	9.5 17.0	15.1 8.7	0.5 3.0	0 10	46 44

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.		DUCTOR DEPTH MTRS	
4 4 4 4 4	10560 10560 10560 10560 10560 10560	C D F G H	4 3 0 3 1	24.3 21.9 18.8 6.4 31.2 9.8	5.8 7.8 7.2 6.9 12.3 8.1	9.3 5.4 4.6 0.7 5.2 1.2	22 7	36 36 37 37 38 32
4 4 4 4 4 4 4 4	10570 10570 10570 10570 10570 10570 10570 10570 10570	A B C D E F G H J K	0 0 1 0 1 2 3 1 0	6.3 10.4 15.6 4.2 3.4 12.8 22.9 36.1 16.7 9.8	13.4 15.0 15.6 10.1 8.2 9.3 11.2 11.8 17.4 25.4	0.2 0.6 1.2 0.1 1.7 3.5 7.0 1.1 0.2	9 11 5 2 5 16 12 9 5 0	31 39 41 42 39 36 34 38 39
4 4 4 4 4 4 4 4 4 4	10580 10580 10580 10580 10580 10580 10580 10580 10580	A B C D E F G H J K M	0 0 0 3 3 1 0 1 0	6.7 10.7 7.5 10.7 37.6 31.9 12.0 8.5 18.6 6.2 11.8	13.9 20.5 16.6 15.3 15.1 13.8 8.5 13.1 15.2 10.3 14.9	$\begin{array}{c} 0.3 \\ 0.4 \\ 0.2 \\ 0.6 \\ 5.3 \\ 4.6 \\ 1.7 \\ 0.5 \\ 1.6 \\ 0.4 \\ 0.7 \end{array}$	0 0 4 5 16 2 8 14 11	48 49 47 38 38 39 40 42 37 33 33
4 4 4 4 4	10590 10590 10590 10590 10590 10590	A B C D E F	0 0 3 4 0 0	7.3 6.3 32.6 40.8 3.8 4.0	7.8 10.9 9.6 12.0 13.6 9.9		16 0 4 2 0 0	40 46 42 40 38 43
4 4 4	10600 10600 10600 10600	A B C D	0 0 3 3	3.6 12.0 43.4 45.7	7.9 14.7 14.5 14.7	0.2 0.8 7.1 7.6	1 1 0 0	47 44 41 41
4 4 4	10610 10610 10610	A B C	2 2 3	6.0 33.6 42.9	3.1 21.1 19.5	2.0 2.8 4.7	39 3 3	38 37 37

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.			BIRD HEIGHT MTRS
4 4 4	10610 10610 10610	D E F	2 0 0	29.8 11.8 7.2	22.1 15.7 11.9	2.2 0.7 0.4	1 1 0	39 42 48
4 4 4 4 4 4	10620 10620 10620 10620 10620 10620 10620	A B C D E F G	0 0 1 1 0 2	9.2 15.2 22.0 28.1 19.8 4.5 14.8	12.7 19.0 21.9 29.1 26.9 8.3 6.3	0.6 0.8 1.3 1.4 0.8 0.2 3.7		51 42 36 35 33 43 40
4 4 4 4 4	10630 10630 10630 10630 10630 10630	A B C D E F	2 2 0 2 2 1	21.0 8.8 7.3 12.1 29.3 19.1	14.4 3.7 10.9 22.3 20.5 16.2	2.2 3.1 0.5 0.4 2.4 1.6	10 33 8 0 0 3	37 37 40 39 41 41
4 4 4 4	10640 10640 10640 10640 10640	A B C D E	1 0 0 3 0	29.1 24.4 16.6 11.5 6.6	23.9 32.5 27.8 4.3 7.2	1.9 0.9 0.6 4.1 0.7	2 0 0 21 3	37 36 36 44 55
4 4 4 4 4 4	10650 10650 10650 10650 10650 10650 10650	A B C D E F G	0 1 0 0 1 0	3.9 4.6 0.5 14.6 23.8 24.3 6.1	8.2 3.7 11.2 29.9 32.9 25.7 15.5	0.2 1.0 0.0 0.4 0.9 1.3 0.2	2 38 0 0 1 0	47 37 38 35 35 36 47
4 4 4 4	10660 10660 10660 10660 10660	A B C D E	0 2 1 1 0	7.1 42.9 24.3 28.4 4.0	17.8 25.9 30.3 26.7 10.3	0.2 3.3 1.0 1.6 0.1	0 2 0 0 0	40 35 37 38 45
4 4 4 4 4	10670 10670 10670 10670 10670 10670	A B C D E F	0 1 2 0 0 0	4.6 10.1 26.3 12.9 11.1 7.2	8.9 10.0 18.0 17.9 13.9 18.1	0.2 1.0 2.3 0.7 0.7 0.2	0 2 0 0 0 0	49 50 44 47 42

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.	CTP		
4 4 4 4	10680 10680 10680 10680 10680	A B C D E	0 0 3 3	9.2 7.5 9.5 27.4 24.0	14.5 15.9 14.1 11.8 10.2	0.5	1	42 42 43 46 44
4 4 4 4 4	10690 10690 10690 10690 10690 10690	A B C D E F	2 3 0 0 0 0	25.7 29.0 12.0 5.3 11.1 10.4	13.7 13.3 10.8 19.7	3.6 4.0 0.9 0.2 0.4 0.9	0 0	43 44 44 44 44 42
4 4 4 4 4 4	10700 10700 10700 10700 10700 10700 10700	A B C D E F G	0 0 0 0 1 1	11.1 15.9 14.3 3.1 9.7 13.9 11.3	12.7	0.5 0.5 0.1 0.6 1.3 1.0	4	38 39 41 37 43 45 45
4 4 4 4 4 4	10710 10710 10710 10710 10710 10710 10710 10710	A B C D E F G H	0 0 0 0 0 1 0	11.0 11.4 8.7 1.6 7.1 15.1 30.3 11.5	21.4 16.6 12.4 12.2 17.1 24.8	0.4 0.6 0.5 0.0 0.2 0.6 1.1 0.3	4 0 0 0	37 43 41 43 41 36 35 36
4 4 4 4 4 4	10720 10720 10720 10720 10720 10720	A B C D E F	2 0 0 1 1 0	38.6 12.1 3.3 15.6 18.3 16.7				42 42 47 47 47 40
4 4 4 4 4	10730 10730 10730 10730 10730 10730	A B C D E A	0 0 0 2 3	6.9 28.0 18.0 13.1 40.3 26.9	12.4 38.5 29.1 23.9 29.7 12.4	0.3 0.9 0.6 0.4 2.5 4.0	0 0 0 1 2	47 37 38 39 35 44
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FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.		DUCTOR DEPTH MTRS	BIRD HEIGHT MTRS
4 4 4 4	10740 10740 10740 10740 10740	B C D E F	0 0 0 0	19.2 17.2 13.8 13.9 6.9	25.3 25.4 24.2 19.7 18.0	0.8 0.7 0.5 0.7 0.2	0 0 0 0	42 43 44 41 45
4 4 4 4 4	10750 10750 10750 10750 10750	A B C D E	0 2 0 1 2	11.7 29.8 18.5 20.1 34.0	25.8 23.2 24.3 23.7 17.4	0.3 2.1 0.8 1.0 3.7	0 1 0 2	37 38 42 42 40
4 4 4 4	10760 10760 10760 10760 10760	A B C D E	2 1 1 2 0	29.9 31.8 23.5 38.0 9.8	23.2 31.7 25.0 20.3 22.5	2.1 1.5 1.2 3.7 0.3	1 0 0 0	38 38 40 42 43
4 4 4 4 4 4	10770 10770 10770 10770 10770 10770 10770	A B C D E F G	0 2 0 1 1 0	9.1 43.8 18.5 12.5 20.1 21.4 12.7	24.9 25.3 25.2 14.7 16.5 17.6 14.7	0.2 3.5 0.8 0.8 1.7 1.7 0.9	0 0 0 0 0 1	41 39 40 44 44 44 44
4 4 4 4 4 4	10780 10780 10780 10780 10780 10780 10780	A B C D E F G	1 0 2 0 1 1	25.7 12.6 30.8 8.7 16.5 19.9 27.7	22.0 20.8 20.6 19.5 27.2 22.9 26.8	1.7 0.5 2.5 0.3 0.6 1.0 1.5	1 0 2 0 0 0 0	39 37 38 41 41 41 42
5 5 5 5 5 5 5 5 5	10791 10791 10791 10791 10791 10791 10791	A B C D E F G	1 0 0 2 1 2	35.3 32.2 14.6 12.0 32.3 16.1 16.1	46.8 40.7 29.1 24.3 17.5 15.3 9.0	1.1 1.1 0.4 0.4 3.4 1.3 2.6	0 0 0 8 9 1	35 35 37 39 34 37 53
5 5 5	10800 10800 10800	A B C	2 3 2	18.3 25.0 4.8	12.9 9.1 1.6	2.0 5.4 3.5	6 8 49	42 41 39

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.	CTP		
5 5 5 5	10800 10800 10800 10800	D E F G	1 1 0 1	13.9 24.5 19.4 22.9	23.4		2	45 37 37 36
5 5 5 5 5 5 5 5 5	10810 10810 10810 10810 10810 10810 10810	A B C D E F G	2 0 1 1 4 2		19.8 11.5 9.4 8.0 5.8	0.7 0.8 1.5 1.1	7 14 8	41 42 46 47 43 43 42
5 5 5 5 5 5 5 5 5	10820 10820 10820 10820 10820 10820 10820	A B C D E F G	2 1 1 0 0 1	19.7 22.0 20.1 16.7 10.9 8.3 14.2	11.9	1.5 1.5 1.1 0.9	7 3 0 0	38 36 40 52 50 50
5 5 5 5 5 5 5	10830 10830 10830 10830 10830 10830	A B C D E F	1 2 1 1 1	16.5 23.4 21.1 25.4 20.4 12.1	14.7 21.3	1.7	0 5 1	45 43 41 39 38 41
5 5 5 5 5 5 5 5 5	10840 10840 10840 10840 10840 10840 10840	A B C D E F G	0 1 2 1 1 0	6.3 14.7 20.7 19.9 18.3 20.5 8.8		1.0 1.5		42 39 41 39 48 48 53
5 5 5 5 5	10850 10850 10850 10850 10850	A B C D E	1 2 1 1 0	23.1 9.6 15.6 14.1 5.4	19.8 4.8 13.8 14.8 12.1	1.6 2.5 1.4 1.0 0.2	0 28 3 3 0	44 38 44 42 44
5 5 5	10860 10860 10860	A B C	0 0 1	12.5 12.7 17.4	21.7 16.7 18.7	0.5 0.7 1.1	0 2 1	40 40 41

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.		DUCTOR DEPTH MTRS	BIRD HEIGHT MTRS
5	10860	D	0	8.6	9.2	0.8	15	38
5	10860	E	1	6.7	5.7	1.0	29	36
5	10860	F	0	16.7	19.8	0.9	0	49
5	10860	G	1	20.0	19.9	1.3	0	49
5	10870	A	1	25.7	26.1	1.4	0	43
5	10870	B	1	12.3	8.9	1.6	23	31
5	10870	C	1	13.9	9.8	1.8	19	34
5	10870	D	0	10.7	17.4	0.5	2	37
5	10880	A	2	14.3	9.0	2.1	16	38
5	10880	B	1	11.3	7.3	1.9	18	40
5	10880	C	0	19.1	26.6	0.8	0	43
5	10890	A	0	11.7	31.4	0.2	0	38
5	10890	B	0	12.7	15.5	0.8	11	32
5	10890	C	2	20.4	12.2	2.6	16	33
5	10900	A	2	28.8	15.0	3.5	14	30
5	10900	B	0	9.7	19.1	0.3	0	41
5	10910	A	0	13.2	19.2	0.6	2	37
5	10910	B	2	20.6	11.1	3.0	16	33
5	10910	C	0	10.7	21.1	0.4	0	49
5	10920	A	0	11.8	22.2	0.4	0	46
5	10920	B	2	15.9	10.1	2.2	23	29
5	10920	C	0	11.0	16.1	0.6	3	38
5	10930	A	0	8.4	16.8	0.3	0	41
5	10930	B	2	15.4	7.6	3.0	26	30
5	10930	C	0	11.4	20.3	0.4	0	44
5	10940	A	3	11.9	4.3	4.3	29	35
5	10940	B	0	9.5	18.3	0.4	0	45
5	10950	A	0	9.6	30.3	0.2	0	35
5	10950	B	1	7.9	7.2	1.0	26	33
5	10950	C	2	12.8	5.6	3.4	27	33
5 5 5 5 5	10960 10960 10960 10960 10960	A B C D E	0 0 0 0	9.2 8.0 7.0 5.8 8.1	18.2 18.7 6.6 7.2 16.9	0.3 0.2 0.9 0.6 0.3	0 0 23 20 0	39 41 37 37 48

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.		DUCTOR DEPTH MTRS	BIRD HEIGHT MTRS
5	10970	A	0	12.2	20.5	0.5	0	43
5	10970	B	0	7.4	15.8	0.3	0	42
5	10970	C	0	11.5	15.0	0.7	0	57
5	10980	A	1	23.0	22.3	1.4	0	44
5	10980	B	0	10.3	22.9	0.3	0	39
5	10980	C	0	13.0	21.6	0.5	0	43
5	10990	A	1	10.1	8.5	1.2	20	36
5	10990	B	0	9.6	19.0	0.3	0	43
5	10990	C	0	10.5	22.0	0.3	0	41
5	10990	D	1	23.3	17.9	1.9	0	47
5	11000	A	1	19.8	14.6		1	45
5	11000	B	0	11.7	29.5		0	37
5	11000	C	0	12.6	24.6		0	42
5	11000	D	0	8.1	10.6		6	43
5 5 5 5	11010 11010 11010 11010	A B C D	0 0 1 1	9.6 15.0 13.8 17.5	17.6 22.8 14.3 19.2		0 0 0	44 41 52 44
5	11020	A	1	16.8		1.0	0	52
5	11020	B	1	13.7		1.0	0	52
5	11020	C	0	12.7		0.4	0	39
5	11030	A	0	13.5	15.1	0.9	0	52
5	11030	B	1	23.6	24.0	1.3	0	41
5	11040	A	0	18.4	30.0	0.6	0	38
5	11060	A	0	20.4	37.4	0.5	0	30
5	11070	A	0	21.6	33.0	0.7	0	38
5 5 5 5	11080 11080 11080 11080	A B C D	0 1 0 0	16.9 30.7 17.4 31.9	33.8 41.7 37.7 45.0	0.4 1.0 0.4 0.9	0 0 3	32 34 31 26
5	11090	A	0	19.4	24.9	0.9	0	50
5	11090	B	0	12.1	19.1	0.5	0	43
5	11100	A	0	17.9	34.8	0.5	0	36

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUD INPHASE	E (PPM) QUAD.		DEPTH MTRS	BIRD HEIGHT MTRS
5	11100	B	0	29.3	41.6	0.9	0	37
5 5	11110 11110	A B	1 0	23.7 19.5	28.9 26.5	1.0 0.8	0 0	43 43
5 5 5 5	11120 11120 11120 11120 11120	A B C D	0 0 0	19.5 17.6 26.0 24.7	25.9 27.2 40.9 43.1	0.8 0.7 0.8 0.6	0 0 0	43 42 36 38
5	11130	A	0	18.1	23.1	0.9	0	48
5 5	$11140 \\ 11140$	A B	0 0	17.1 22.5	23.9 38.4	0.7 0.6	0 0	45 38
5	11150	A	0	17.3	22.0	0.9	0	45
5	11160	A	0	20.7	26.1	0.9	0	43
5	11170	A	0	23.3	31.0	0.9	0	39
5	11180	A	0	20.6	29.3	0.8	0	40
5	11190	A	0	14.8	20.8	0.7	0	44
5	11200	A	0	18.7	33.9	0.5	0	34
5	11210	A	0	17.3	25.9	0.7	0	39

Estimated depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or overburden effects.

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Ontario	Geochemical a		urespoor					
( 🕘 🦯 🗸	2/1		/ Mining	32E04NW0100	2.11345 ABB	OTSFORD		900
Type of Survey(s)	7/anarya	mar I	~ Warming		Township	07 Å/88		
	notomoton -	VIE EM				tsford	n ta	
Airborne - Mag Cleim Holder(s)	Helometer -			-1 - 3	4	Prospecti	pr's Licence No.	<u></u>
<u>Continental</u> Pr	ecious Miner	als In	fred .•	TTO	<b>.</b> •	T-7	'30 ·	
Address	00.000	<u></u>			······		-	
<u>Suite 500, 67</u>	Richmond St	W., To	<u>ronto,</u>	<u>Ontario</u>	M5H 1Z	5		
Survey Company			•	Dete of Survey 31,03,8 Dev   Mo,	(from & to) 8   01   Vr.   Day	04 88	580 km(air	Cut
<u>Aerodat Limite</u> Name and Address of Author (or	d f Geo-Technical report)		·····	Dev Mo.	Yr, Day	Mo.   Yr.	580 Km(alf	vorne)
Milan Hlava, 2		., Timm	ins, O	ntario P4	IN 2J8			
Credits Requested per Each C	Claim in Columns at r	ight	Mining C	laims Traversed (	List in nume	rical sequ	ence)	
Special Provisions	Geophysical	Days per	M	lining Claim	Expend.		Mining Claim	Expend
For first survey:	-	Claim	Prefix	Number	Days Cr.	Prefix	Number	Days Cr
Enter 40 days. (This	- Electromagnetic			LIST OF			1	_
includes line cutting)	<ul> <li>Magnetometer</li> </ul>			CLAIMS	ATTACHI	F		
For each additional survey:	- Radiometric				<u> </u> ["			1
using the same grid:	• Other	<b> </b>			<u> </u>		·	
Enter 20 days (for each)		<b>  </b>		······································	<b>  </b>			
	Geological						·	
÷	Geochemical							
Man Days	Geophysical	Days per						
Complete reverse side	1	Claim						
and enter total								
	- Magnetometer							
JUN	1 1988 ometric			TARIO GEOLOGIC				
				ASSESSMENT				
RENIGNO E AN	- Other			OFFICE				
MINING LAN	ng ger in			NOV 7	988			
	Geochemical						14	
Airborne Credits		Days per		RECEIV			·	
		Claim		REVEIV				_
Note: Special provisions VZ credits do not apply	FElectromagnetic	40						_
to Airborne Surveys.	Magnetometer	40			┿┯┯╅╴┦╹	n N	LAKC	
	Radiometric		1.2	CORDE	PT			
Expenditures (excludes powe	l er stripping)	<u></u>			┨┨╌╴┧┨╍┨			
Type of Work Performed				4			1988	
				MAY 19 1988	AM		РМ	
Performed on Claim(s)					7 .9		12131415.5	
······			\$3. A					
				lpt #				
Calculation of Expenditure Days	s Credits				<b></b>			_
Total Expenditures		Total s,Credits						
\$	] + [15] = [					Total ou	mber of mining	
							overed by this	274
Instructions Total Days Credits may be ap	oportioned at the claim I	holder's	ſ	Eas Office His f	) n lu	יייייייייייייייייייייייייייייייייייייי		
choice. Enter number of days	s credits per claim select	●d		For Office Use C s Cr. Date Becorded		Mining R	ecorder	
			Recorded		18/99	YM.	a.l.) DIAN	noz
	corded Holder or Agent (		21.92	O Dete Approved	as Recorded	- Gransh L	in the second second	
May 16, 1988 C	hilow all	m	[ ] ]	1. Alter	X		1 Cour	))
Certification Verifying Repo	ort of Work		(		Į.	_		
I hereby certify that I have a	personal and intimate k	nowledge of	the facts set	forth in the Report	of Work anne	xed hereto	, having performed	the work
or witnessed same during and Name and Postal Address of Peri	and the second							
Milan Hlava, 2		Time	nine (	Intario D	4N 2J8			
	24 PINE SL S.			Date Certified		Certified	by (Signature)	
				and the second se	1988		lon ill	

<sup>1362 (85/12)</sup> 

274 CLAIMS - ABBOTSFORD TOWNSHIP LARDER LAKE MINING DIVISION

			and the state of the	•	
L	955908	L 955941	L 955979	L 955714	L 955747
	955909	955942	955980	955715	955748
	955910	955943	955981	955716	955749
	955911	955944	955982	955717	955750
	955912	955945	955983	955718	955751
	955913	955946	955984	955719	955752
	955914	955947	955985	955720	955753
	955915	955948	955986	955721	955754
	955916	955949	955987	955722	955755
	955917	955950	955988	955723	955756
	955918	955951	955989	955724	955757
	955919	955952	955990	955725	955758
	955920	955953	955991	955726	955759
	955921	955954	955992	955727	955760
	955922	955955	955993	955728	955761
	955923	955956	955994	955729	955762
	955924	955957	955995	955730	955763
	955925	955958	955996	955731	955764
	955926	955959	955997	955732	955765
	955927	955960	955998	955733	955766
	955928	955961	955999	955734	955767
	955929	955962	955702	955735	955768
	955930	955963	955703	955736	955769
	955931	955964	955704	955737	955770
	955932	955970•	955705	955738	955771
	955933	955971	955706	955739	955772
	955934	955972	955707	955740	955773
	955935	955973	955708	955741	955774
	955936	955974	955709	955742	955775
	955937	955975 `	955710	955743	955776
	955938	955976	955711	955744	955777
	955939	955977	955712	955745	955778
I	955940	955978	955713	955746	955779

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# 274 CLAIMS - ABBOTSFORD TWP

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L	955780	L	956022	L	956055	L	957785
	955781		956023		956056		957786
	955782		956024		956057		957787
	955783		956025		957753		955965
	955784		956026		957754		955966
	955785		956027		957755		955967
	955786		956028		957756		955968
	955787		956029		957757		955969
	955788		956030		957758	•	957780
	955789		956031		957759		957781
	955790		956032		957760		
	956000		956033		957761		
	956001		956034		957762		
	956002		956035		957763		
	956003		956036		957764		
	956004		956037		957765		
	956005		956038		957766		
	956006		956039		957767		
	956007		956040		957768		
	956008		956041		957769		
	956009		956042		957770		
	956010		956043		957771		
	956011		956044		957772		
	956012		956045		957773		
1	956013		956046		957774		
9	956014		956047		957775		
9	956015		956048		957776		
(	056016•		956049 .		957777		
9	956017		956050		957778		
9	956018	1	956051		957779		
9	956019	I	956052	L	957782		
	956020	1	956053		957783		
9	956021	1	956054		957784		

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