PRELIMINARY DISCUSSION
AIRBORNE MAGNETIC AND VLF-EM SURVEY
NORTHEASTERN ONTARIO
ARISTA RESOURCES INC.
VANCOUVER, B.C.

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LaRonge, Sask.
August 26, 1994
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1:10,000 TOPOGRAPHIC MAPS, AREAS A THROUGH E
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REFERENCES

GEOLOGY OF THE HILL LAKE AREA, DISTRICT OF TIMISKAMING, 1986
ONT. GEOL. SURVEY REPORT 250

REPORT OF ACTIVITIES, RESIDENT GEOLOGISTS, 1989 & 1990
ONT. GEOL. SURVEY

HIGHROCK CONTRACTING LTD.
INTRODUCTION

A high resolution helicopter airborne survey measuring total magnetic field and VLF-EM was flown during July 1994 for Arista Resources Inc., of Vancouver, by Geonex Aerodat. Flight lines were spaced at 100 meters and mean terrain clearance was 60 meters. A total of 1450 kilometres of line was flown.

Highrock Contracting has done preliminary interpretations of the data and has prepared this brief report which is intended to give an overview of each area. For more detailed background regarding the prospects for diamond exploration, I refer the reader to my report for assessment dated March 21/94, and my report for proposed exploration dated March 25/94. The latter report formed the basis for a successful application under OMIP which enabled this survey to take place.

The models for diatreme emplacement in the Superior Province are quite variable. Pipes have been found having positive, single- or multi-lobed peaks, and they have been found as negative magnetic features. Some have a degree of electrical conductivity associated with them, presumably a result of clay weathering of the upper portion of the pipe. A common place of occurrence is along the edges of the large diabase sills that are common in the New Liskeard area, but they also have been found at or near the margins of other intrusives, and as isolated features. Others have a definite spatial association with fault junctures. Many, if not all, have come to surface, giving rise to indicator mineral trains, kimberlite boulder trains, etc. The depths to the tops of the diatremes range from less than 40 metres to 200 meters.

To sum up, there does not seem to be one particular model to focus exploration on, so it is probably not wise at this stage to rigidly prioritize the anomalies. I have not done so in this report, although there are some anomalies that fit some of the known styles of occurrence better than others. Many of the anomalies will have to at least have magnetic profiles run across them in order to more closely determine depth estimates.

Aerodat has provided colour contour maps of both total field and first derivative vertical gradient magnetics, plus a total field strength VLF-EM contour map, at a scale of 1:10,000 for each area. They accompany this report as a separate roll. Aerodat also provided topographic maps at the same scale, upon which Highrock has red-balled any prospective anomalies. These maps are folded in the back pockets of this report. The exploration generated by the survey is expected to be an on-going, staged programme to be run by Arista personnel. The object of this report is to identify all the anomalies that are of interest. At this stage, nearly all circular, to elliptical, moderate positive or negative anomalies have been selected. Many are probably
peaks on diabase sills or dikes, several are probably derived from the volcanic rocks which underlie them, and still others may relate to the sedimentary rocks underneath. However, given the prospective locations of the properties, many will be pipe-like targets deserving of further work.

Magnetic profiles should be taken across representative anomalies in several of the geologic environments, and some modelling programmes will have to be run before one can pick the best targets with some degree of confidence.

As for the gold and base metal prospects, the survey has turned up several interesting features that can be related to mineral showings or deposits in the vicinities. As a comprehensive assessment file search has not been done, it is not certain how much of Arista's properties has been subject to modern exploration techniques. For instance, to the author's knowledge, this is the first detailed, high resolution airborne survey done over the much of the Bryce area, especially with respect to the diamond play. Therefore, it would be prudent to check assessment files for each area prior to committing exploration expenses.

The areas are discussed briefly below. They are labelled according to the letter designations given by Aerodat in their technical report, which is appended to this report.

After this survey was completed, Arista announced the acquisition of the GRAVEL PIPE, located in Bucke Township, southeast of the Bryce area. The pipe is known to be diamondiferous, and will be explored in detail by Arista. Having the pipe will allow the Company to undertake a variety of geophysical and geochemical surveys which can then be applied to the various anomalies found by the airborne survey.
DISCUSSION OF RESULTS BY AREA

BRYCE (Area A-1 and A-2)

TARGET: SHEAR-HOSTED GOLD IN NW 1/2
: KIMBERLITE DIATREMES

GEOLOGY: The northwestern 2/3 of the property contains mainly volcanic extrusive rocks which have been intruded by feldspar porphyry dikes, and a stock of feldspar porphyry (Britcanna Porphyry). Diabase sills and dikes, large and small, and lamprophyres have also cut the area. The area contains fairly abundant outcrops and numerous old gold and base metal showings are present, virtually all associated with easterly to northeasterly-trending shears, although there are some associated with northwest structures. Many of the old showings are within, or proximal to, small to medium-sized feldspar porphyry bodies, although their actual importance is not clear.

The southeastern portion of the claims are largely underlain by flat-lying clastic sediments which in turn are under fairly heavy overburden, including tills and lacustrine deposits. A few knobs of diabase and volcanic rocks peek through the cover here and there. This area is one of the company's priority areas of diamond interest.

The Bryce area is situated near and just south of, the Cross Lake Fault, a major northwest-trending break related to the Temiskaming Rift. Several north-trending structures that may play a part in diatreme emplacement cut through the area. Several of the better-looking magnetic anomalies are near these structures. The east-northeasterly-trending shears along which most of the gold mineralization occur are usually obvious, prominent topographic linears that were first found by prospectors in the 1930's. Several newer discoveries are in much subtler structures, some not really having much, if any, topographic expression. The feldspar porphyries show up very clearly as weak to moderate positive meagnetic features.

ECONOMIC GEOLOGY: Ontario Geological Survey Report 250, THE GEOLOGY OF THE HILL LAKE AREA, gives a good review of the dozens of mineral occurrences in the area. A few of the more notable ones are discussed briefly below.

The most significant of these is the Briscoe-Bryce Mine, found in 1938, which supported a small mill in the early 1960's. The author can find no tonnage estimates, but average grade was in the 0.2 to 0.28 oz/t gold. The deposit is hosted in felsic to intermediate volcanics which have been sheared, pyritized,
sericitized, and carbonatized across a maximum width of 5.5 feet. The best mineralization is in a massive, 3-inch seam of pyrite. Grab samples run as high as 5 oz/t, Au. Gold Fields Mining drilled the deposit in 1989 in an unsuccessful attempt to intersect the mineralized zones at depth. The deposit was flown in this survey, and lies along a structural-lithological trend that extends southwest and northeast into Arista ground.

Arista has optioned a group of claims that cover the Taylor Prospect, a series of old gold showings associated with a major northeast trending fault, the Palmer-Vaughan-Estival Break. Two main showings, the North and South Zones, carry erratic gold mineralization. The North Zone is on the main Break, and the South Zone is a couple of hundred meters south of it. The zones are less than 0.5 meters wide, have been traced upwards of 1000 feet along strike, and have yielded grab sample assays of up to 3 oz/t, Au. The best drill intersections are around 0.4 oz/t across short widths. These occurrences were one of the priorities of the airborne survey over Bryce.

One other old showing of interest is the old Rip van Winkle occurrence, just north Honeymoon Lake. It is reported to be in a pyritiferous tuff of undetermined width. Results of 0.114 oz/t over 60 feet are reported. It is unclear if this distance is along or across strike. The two drill holes put down were inconclusive. It is unclear also whether the pyrite is a primary (ie. iron formation), or an alteration product.

Just east of Heather Lake, is a discovery by Hudson Bay Mining, made in 1988. Narrow shears cutting intermediate to felsic volcanics carry good gold grades across narrow widths. The occurrence was found through a basal till survey. Nearby outcrops of feldspar porphyry have been stripped and sampled but the author does not have the results available.

The Britcanna Porphyry, a stock of feldspar porphyry, also wholly covered by the survey, contains the Britcanna Prospect. It is reported to have given drill intersections up to 5 feet wide containing 1.13 oz/t gold in northwest-trending shears.

The Karp property south of Honeymoon Lake reportedly contains up to 0.66 oz/t gold in a northwest-trending shear in volcanics.

A more recent showing, the DK Zone, now held by Arista, about 1.5 kilometers south of Honeymoon Lake. It is in an east-northeast-trending shear cutting volcanics and feldspar porphyry. Best grab sample results are around 0.3 oz/t gold, with anomalous silver, copper, lead, and zinc from the sheared volcanics. Anomalous, but lesser, values occur in the brecciated porphyry.

The southeast portion of the claim group is largely unexplored due to the paucity of outcrops there. To the author's knowledge,
no other detailed airborne surveys have been done over the ground, nor have any geochemical or indicator mineral sampling programmes been carried out. The only diamond exploration work has been Arista's ground magnetic surveys and soil sampling in the southeast Bryce area.

There are no silver-cobalt occurrences listed for the diabase outcrops on the property, although the large diabase 8 to 10 kilometers west contains numerous showings.

AIRBORNE SURVEY: The survey has defined numerous structural and lithological trends in the NW 1/2 which are of definite interest. Many faults and shears can be interpreted and one can pick out the main lithologies along with a number of minor lithological trends of interest. For instance, the Briscoe-Bryce host rocks can be traced west, past Honeymoon Lake, where a northwest structure cuts it. The trend has a direct EM association with it.

The intermediate to felsic volcanic terrane gives a pattern of magnetic intensities which shows a gradual increase northward toward the mafic volcanic contact. There is a fairly abrupt increase at the contact. The mafic volcanics can be seen as a 2.5 kilometer-wide band of quite strong magnetic susceptibilities starting just north of the Briscoe-Bryce zone. Some of the individual bands are probably derived from the pyritic tuff horizons (i.e. iron formation), mafic flows, and in part from diabase or lamprophyre dikes. Some of these trends have direct or flanking EM associations which are of interest because the best gold mineralization at every occurrence in the area is associated with the heaviest concentrations of sulphide mineralization in the shears. There is a drop in overall magnetic intensities north of the higher band, corresponding to the contact of a large granodiorite stock extending further north. The Britcanna Porphyry, in the northeastern part of the area, is easily interpreted from the data, as well.

The Palmer-Vaughan-Estival Break shows up clearly, although the ancillary, sub-parallel shears are not as obvious. The North showing lies north of the strong magnetic trend, while the South showing is within the main high.

One particular area of interest is near the west shore of Heather Lake. A north northeasterly-trending structure, possibly a porphyry dike, is cut by a northwest-trending fault along the west shore of the lake. In light of the Hudson Bay showings just on the other side of the lake, it would have to be a priority exploration target. This ground is presently held by an independent prospector who has optioned several claims to Arista and is interested in doing so with these claims.
In the southeastern part of the survey, the diabase intrusive margins were quite well defined, and this has led to the selection of quite a few potential kimberlite targets. There are a great number of weak high trends along with isolated circular highs that show up on the vertical derivative map. They may arise from some underlying sedimentary features such as paleo-depressions, etc. but several should be checked by ground profiles. There are a couple of intriguing anomalies which are isolated, bi-lobed, and apparently relatively shallow. These probably constitute the priority focus of diamond exploration from the Bryce survey.

AULD (Area B-1)

TARGET: KIMBERLITE DIATREME ON DIABASE SILL CONTACT

GEOLOGY: Diabase sill cutting flat-lying quartzite and arkoses. Claim covers a bulge in magnetic contours on sill margin. Regional north-south linear of possible importance in Bryce trends through area.

ECONOMIC GEOLOGY: To the author's knowledge, no exploration has been done except silver prospecting years ago. No showings are shown on the ODM compilation map.

AIRBORNE SURVEY: Magnetics show strong magnetic high bulge is probably a diabase response. The south contact of the diabase has a coincidental strong VLF response. Another weaker positive magnetic trend in the north half of the claim is dike-like in nature and is probably not a legitimate kimberlite target.

RECOMMENDATIONS: The EM anomaly may warrant checking out. There is always the possibility of hitting Cobalt-type silver-cobalt mineralization. No further work regarding diamond exploration is recommended.

AULD (Area B-2)

TARGET: KIMBERLITE DIATREME ON DIABASE SILL CONTACT

GEOLOGY: Diabase sill cutting flat-lying quartzite and arkoses.

ECONOMIC GEOLOGY: A silver-cobalt occurrence is listed on the ODM compilation map as being on the diabase, just west of the claim. Several other showings are strung out along the sill, towards the north.
AIRBORNE SURVEY: The total field magnetics show the diabase as a narrow, curvilinear feature with fairly smooth sides. No noticeable indurations of the contours are present along its edges. A strong VLF response is directly coincidental with the southern part of the diabase. Lepha Lake contains a secondary strength positive magnetic anomaly that is unfortunately only partially covered by the survey. It would seem to be the western edge of a larger anomaly of unexplained origin.

RECOMMENDATIONS: The mag high/VLF anomaly in the southern half of the claim warrants groundchecking with an eye to silver-cobalt mineralization. The mag anomaly in Lepha Lake is probably too big to be of much interest diamond-wise, and its location in the lake probably precludes doing much development work on it anyway, so no further work is recommended on it.

There are no other areas of interest evident from the survey.

CASEY (Area C)

TARGET: KIMBERLITE DIATREMES ALONG MARGINS OF INTRUSIVE BODY

GEOLOGY: Basic to ultramafic intrusive lens cutting clastic metasediments to the south and volcanic rocks to the north. The volcanic terrane is said to contain units of iron formation. The entire area is under the cover of up to 100 meters of lacustrine sediments, although there are some outcrops just east of the claims. The Quinze Dam Fault, a major northwest Timiskaming Rift structure, trends through the property.

ECONOMIC GEOLOGY: Four kimberlite pipes have recently been discovered just across the border, near Guigues, Quebec, by Spider Resources and KWG. They are apparently spatially related to the intrusive body which also enters the Arista property. Three are apparently in one contiguous cluster, and the fourth is separate. The Quinze Dam Fault is spatially related to the pipes. A recent announcement by the partners states that 22 microdiamonds have been recovered from a 22 kg sample from the westernmost pipe of the cluster. Thirteen other samples are currently being analyzed by an Australian lab. The pipes are reported to have negative magnetic signatures.

AIRBORNE SURVEY: The total field magnetics shows that the intrusive body probably occupies the east central portion of the property, and that several circular magnetic features occur in the vicinity of the interpreted intrusive. Most of the features are relative lows, although there are a couple of highs, one with VLF-EM correlation.
strong positive mag trend is coincident with the EM and may be worthwhile following up.

A couple of faults having east-west orientations cut the south part of the claim. There is some evidence from the survey to support the interpretation of a north south structure that cuts the entire property, including the northwest limits of the intrusive.

RECOMMENDATIONS: All potential pipe-derived anomalies should have magnetic profile lines run across them. Two lines, at right angles will suffice, but care should be taken to ensure that the anomalies are traversed completely.

As the area is covered by lacustrine sediments, no geochemical surveys are recommended.

Closely monitor any forthcoming technical information from the Guigues pipes.

REAUME (AREA D)

TARGET: KIMBERLITE DIATREMES
: Ni-Cu-PGM (platinum group metals)

GEOLOGY: Undivided intermediate to mafic volcanics intruded by small to mid-size basic to ultrabasic intrusions. The claim sits over a north-south fault, covering part of the contact between the volcanics and the intrusives.

ECONOMIC GEOLOGY: The ODM geology map shows a Ni-Cu-Pd occurrence a couple of kilometres southeast of property. The exploration history of the area is unknown at present.

AIRBORNE SURVEY: The magnetics show a strong high at the south edge of the claim, probably representing the basic intrusives. There is the beginnings of a coeval VLF anomaly with the mag high. The central part of the survey shows a narrow dike-like unit, possibly an apophyse of the larger peridotite, running more or less from west to east across the claim. It weakens abruptly in the centre of the claim. Here, two faults are interpreted to intersect, cutting the mag high. In this area, there is a single positive magnetic lobe with weak VLF correlation. The anomaly is situated on the flank of the central trend, postulated to be of intrusive origin. The anomaly is of interest because it lies along the intrusive contact and is situated within what looks to be the focal area where at least two faults intersect.

RECOMMENDATIONS: The two areas of interest should be ground
checked. There may be outcrops in strategic places which could
determine the worth of following up the anomalies. If surficial
cover is too heavy, perhaps a couple of magnetic profile lines
across the kimberlite target should be run. The potential base
metal target should have its conductor axis defined and a few
soil, till, or biogeochem samples collected along it.

EVELYN-DUNDONALD (AREA E)

TARGET: SHEAR-HOSTED GOLD
: ULTRAMAFIC NICKEL-COPPER

GEOLOGY: Intermediate to ultramafic volcanics in contact with
metasedimentary clastic and chemical rocks. The Buskegau Lake
Fault system trends northwest through claims near volcanic-
metasedimentary contact. Evidence for several subordinate structures
is shown by geophysics.

ECONOMIC GEOLOGY: Clavos Deposit, 1.16 million tons, 0.15 opt Au,
in quartz lenses. Deposit lies along the Pipestone Fault, near
the volcanic-metasediment contact, about 8 km east of the
property.

: Alexo Deposit, 52000 tons mined, grading 4.5% Ni,
0.5% Cu. Deposit is probably hosted in ultramafic flow. Several
nearby, sub-economic zones nearby. Exploration sporadic since
early 1900's. It is located about 10 kilometers northeast of the
property.

AIRBORNE SURVEY: Two linear magnetic highs, one having moderate
flanking EM conductivity, probably represent ultramafic units,
potential nickel-bearing targets. The Buskegau Fault trace and
sub-parallel subsidiaries along volcanic-metasediment contact
represent high priority gold exploration targets. Cross-cutting
(northeast striking) breaks are also shown by geophysics.

RECOMMENDATIONS: Thorough review of exploration history of the
property and a review of the available technical data from the
Clavos deposit should be done prior to initiating any field work.
Assuming the property has been well-covered in the exploration
for nickel, the focus will be on gold. Detailed prospecting,
till or soil sampling, ground magnetic and EM, and possibly IP
surveys will probably be the most helpful tools.
CONCLUSIONS

The survey has disclosed a multitude of potential pipe-like anomalies that will require ground magnetic coverage. Probably the area with the best potential given recent announcements is the CASEY area, along the Quebec border. The intrusive along which margins the Guigues pipes are thought to be located probably enters Arista ground, where the survey shows several anomalies of interest. The BRYCE area also has numerous anomalies, several of which appear to be very likely targets.

With regard to gold exploration in BRYCE, the survey has pointed up several areas worthy of detailed follow-up. Most of the early showings have been looked at in some detail, including drilling, so the author feels that the most prospective places to look are along their extensions, rather than the showings themselves. Such extensions of the geology from several old showings are indicated by the survey, although it remains to be seen if any of them have been the subject of previous scrutiny, or have gone unrecognized until now. Several new areas of interest were located by the survey, and apparently, a number of porhyry bodies have been outlined. These units are associated with several of the occurrences locally, and are possibly important constituents in the mineralizing processes.

The results from the AULD claim groups did not discern any of the hoped-for anomalies along the diabase sill margins. Some of the old GSC airborne data seemed to indicate that there were some prospects here.

To the north, the REAUME group contains one positive magnetic anomaly that could be groundchecked. It lies near the intersection of an intrusive contact and an interpreted north-south fault. Chances for a base metal deposit are probably slim, as several major mining companies are known to have worked the area over the years.

The EVELYN-DUN DONALD area is mostly prospective for gold in association with a sheared, volcanic-metasedimentary contact. Most of the modern exploration has probably been for base metals, which normally will overlook shear-type gold mineralization. The Clavos deposit is along a similar stratigraphic horizon, some 8 kilometers from the property. No anomalies suggestive of diatremes were seen in this part of the survey.
RECOMMENDATIONS

The airborne magnetic profiles should be looked at in detail to prioritize the anomalies with regard to shapes and depth. After this has been done, some of the better-looking anomalies should have ground magnetic surveys done over them. At this stage, compass-controlled, blaze and topofil lines are all that is required for gridding.

The second priority anomalies should have magnetic profiles run across them. The lines should be run in two directions at right angles to each other.

Consideration should be given to running till sampling sections at intervals through the CASEY and BRYCE areas, to check for indicator minerals. For the areas containing outcroppings, some of the anomalies may be at surface or very close, and prospecting might aid in their preliminary evaluation.

It would probably be a good idea to carry out the orientation surveys such as gravity, total magnetic field, vertical magnetic gradient, EM surveys, etc. over the Gravel Pipe, prior to starting the rest of the programme, to give some comparative data.

It is assumed that drilling of any potential pipes would be the first order exploration subsequent to geophysics.

The gold target areas should have thorough file searches done to prevent repeating old work. After this has been carried out, a programme tailored for each area should be outlined. Till sampling has been shown by Hudson Bay Mining to be an effective tool in the BRYCE area. To identify the better-mineralized parts of the shears, it is recommended that till, or soil sampling be done along interpreted shears. Once these areas are better defined, some formal grids should be cut. Exploration methods can then be tailored to follow.

For the gold properties, backhoe-assisted stripping would probably be the first order of follow-up exploration, although depending on the situation, immediate diamond drilling may be warranted.
No work is recommended on the Evelyn-Dundonald area until a thorough file review has taken place. Any exploration programme will have to be set up with previous work in mind. Again, if it hasn’t been done, till or soil sampling along shears could be utilized to home in on mineralized sections.

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LaRonge, Sask.

August 26, 1994
LOGISTIC REPORT

ON A HELICOPTER-BORNE MAGNETIC AND VLF-EM SURVEY

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JULY 1994

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APPENDIX I  -  Personnel
APPENDIX II -  General Interpretive Considerations
1. **INTRODUCTION**

This report describes an airborne geophysical survey carried out on behalf of Arista Resources Inc. by Geonex Aerodat Inc. Equipment operated included a high sensitivity cesium vapour magnetometer, a video tracking camera, an altimeter and an electronic positioning system. Magnetic and altimeter data were recorded both in digital form and analogs were created post-flight. Global positioning data were stored in digital form and encoded on VHS format video tape.

The area and flight lines were flown at a nominal spacing of 100 m. Coverage and quality were considered to be within the specifications described in the contract.

The survey covered six separate blocks located in Casey, Auld and Bryce with a total of 1450 line km flown.
2. SURVEY AREA LOCATION
3. AIRCRAFT AND EQUIPMENT

3.1 Magnetometer

Scintrex optically pumped/monitored, cesium vapour, high sensitivity H-8 magnetometer mounted in a Canagravad towed stabilized magnetometer bird designed for single engine operations. A Picodas magnetometer processor operated at a sample rate of 5 samples per second with a 2 Hz bandwidth was employed. The magnetometer sensitivity is 0.001 nT.

3.2 Digital Recorder

A PDAS 1100 data acquisition system was used to collect the geophysical and ancillary equipment outputs and display the data on an on-board screen. Digital output is recorded on a cartridge cassette tape with full read after write checking. The magnetometer and VLF channels are scanned at 0.2 second rate. In addition, altimeter, satellite information and coordinates, camera, manual fiducials and time, will be digitally recorded at appropriate times. The resolution of the VLF data is 1 percent and the altimeter data is 0.5 m. The magnetic readings are measured to a 0.001 gamma resolution.

3.3 Analog Recorder

Analog records were generated post-flight. The recorder can automatically label the channels, times and representative values for maximum record clarity.
3.4 **Video Camera**

Aerodat operated a VHS video camera to record the aircraft's overland flight path. The time as recorded on the digital record was displayed on the video image for precise correlation of video image with geophysical response.

3.5 **Global Positioning System**

GPS receiver, model MX4200D by Magnavox Electronic Systems Company, with antenna mounted at top of vertical stabilizer. Identical model of GPS base station for post flight differential correction of flight path.

3.6 **Altimeter**

A King KRA-10 radar altimeter was used to record terrain clearance of the aircraft. The response of the instrument is linear and the digital resolution is better than 2.5% with a departure of 3 m at 100 m altitude discernable. The output of the instruments were recorded in digital form.

3.7 **Aircraft**

An Aerospatiale AS 350 B1 A-Star helicopter (C-GNIX), owned and operated by Questral Helicopters was used for the survey. Installation of the geophysical and ancillary equipment was carried out by Geonex Aerodat Inc. The survey aircraft was flown at a mean terrain clearance of 60 metres.
3.8 **Magnetic Diurnal Monitor**

Magnetic base station with an Overhauser sensor, model GSM-9 by Gem Systems, with an accuracy of 0.1 nanoTeslas. Data logging will be made at one second intervals by computer. The time stamp for the magnetic base station is taken directly from the GPS ground receiver to ensure that it correlates with the airborne equipment.

3.9 **VLF-EM**

Herz Totem 2A measuring the total field and the quadrature components from two stations with full scale sensitivity of plus/minus 25%. The VLF antenna was mounted on a boom projecting well forward of the leading edge of the aircraft and positioned so as to be unaffected by the conductivity of the aircraft.

4. **DATA PRESENTATION**

A list of products are as follows:

**Basic Products (Scale at 1:10,000)**

1. **Base Map** - Topographic base map, prepared from 1:50,000 NTS maps.
2. **Magnetics** - Photocombination of Total Field Magnetic Contours with the base map.
3. **Magnetics** - Photocombination of Calculated Vertical Magnetic Gradient contours with the base map.
4. **VLF-EM** - Photocombination of Total Field VLF-EM Contours and Profiles of Quadrature @ 1% per m/m.

**Colour Products (Scale at 1:10,000)**

All colour products contain planimetry digitized from existing 1:50,000 scale NTS topographic maps.

1. **Magnetics** - Colour of Total Magnetic Field with superimposed contours.
2. **Magnetics** - Colour of Calculated Vertical Magnetic Gradient with superimposed contours.
3. **VLF-EM** - Colour of Total Field VLF-EM with superimposed contours and quadrature profiles.

**4.1 Total Field Magnetic Contours**

The aeromagnetic data were corrected for diurnal variations by adjustment using the digitally recorded base station magnetic values and tie lines. No correction for regional variation was applied.

**4.2 Vertical Magnetic Gradient**

The vertical magnetic gradient was calculated from the gridded total field magnetic data and contoured at a 0.05 nT/m interval.

**4.3 VLF-EM Contours**

VLF-EM Contours were done at 1% and .5% contour intervals.
APPENDIX I

PERSONNEL

OFFICE

Processing
E. Hamilton
G. McDonald

Report
E. Hamilton

FIELD

Pilot
R. Morrow

Operator
M. Barry
GENERAL INTERPRETIVE CONSIDERATIONS

Magnetics

A digital base station magnetometer was used to detect fluctuations in the magnetic field during flight times. The airborne magnetic data was levelled by removing these diurnal changes. The Total Field Magnetic map shows the levelled magnetic contours, uncorrected for regional variation.

The Calculated Vertical Gradient map shows contours of the magnetic gradient as calculated from the total field magnetic data. The zero conductor shows changes in the magnetic lithologies and will coincide closely with geologic contacts assuming a steeply dipping interface. Thus this data may be used as a pseudo-geologic map.
Report of Work Conducted After Recording Claim

Ministry of Northern Development and Mines
Mining Act

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 160 Cedar Street, Sudbury, Ontario, P3E 8A6, telephone (705) 679-7544.

Instructions:
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations to Recorder.
- A separate copy of this form must be kept by Recorder.
- Technical reports and maps must accompany.
- A sketch showing the claim and work is requested.

Recorded Holder:

Steve Dean Anderson
760 McClinon Dr., Timmins, ON P8B 4PB
Telephone No.: 705-268-2857
Client No.: 102480

Mineral Division: Porcupine
Township & Range 14P
M or Q Plan No.: C-35400


Work Performed (Check One Work Group Only)

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<thead>
<tr>
<th>Work Group</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geotechnical Survey</td>
<td>Airborne Magnetic &amp; ULF-EM Survey</td>
</tr>
</tbody>
</table>

Total Assessment Work Claimed on the Attached Statement of Costs: $25,000

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>R.H. Spencer</td>
<td>Lorraine, Sackaton</td>
</tr>
<tr>
<td>Cornex Avedart</td>
<td>Toronto</td>
</tr>
</tbody>
</table>

Certification of Beneficial Interest

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.

Certification of Work Report

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

Recorded Holder or Agent (Signature): [Signature]
Date: April 19, 1996

For Office Use Only

Total Value of Recorded Data Recorded: 25,000
Deemed Approval Date: July 9, 1996
Data Approved: [Signature] APR 9, 1996
Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to prioritize the deletion of credits. Please mark (☐) one of the following:

1. ☐ Credits are to be cut back starting with the claim listed last, working backwards.
2. ☐ Credits are to be cut back equally over all claims contained in this report of work.
3. ☐ Credits are to be cut back as prioritized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.

<table>
<thead>
<tr>
<th>Total Number of Credits</th>
<th>Total Amount Cut Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>25,000</td>
<td>25,000</td>
</tr>
<tr>
<td>25,000</td>
<td>25,000</td>
</tr>
</tbody>
</table>

Signature: ____________________________
Date: ____________________________
### Statement of Costs for Assessment Credit

**État des coûts aux fins du crédit d'évaluation**

**Mining Act/Loi sur les mines**

---

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

**Filing Discounts**

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.

2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

   \[
   \text{Total Value of Assessment Credit} \times 0.50 = \text{Total Assessment Claimed}
   \]

**Certification Verifying Statement of Costs**

I hereby certify:

that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as ___________________________ I am authorized

to make this certification

---

**2. Indirect Costs/Côts indirects**

**Note:** When claiming Rehabilitation work Indirect costs are not allowable as assessment work.

### 1. Direct Costs/Côts directs

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Amount</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wage Salaries</td>
<td>Labour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field Supervision</td>
<td>Supervision sur le terrain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contractor’s and Consultant’s Fees</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplies Used</td>
<td>Fournitures utilisées</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment Rental Location de matériel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Direct Costs**

**Total des coûts directs**

---

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

---

**Remises pour dépôt**

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.

2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

**Attestation de l'état des coûts**

J'atteste par la présente:

que les montants indiqués sont les dépenses engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de ___________________________ le suis autorisé

titulaire enregistr, représentant, poste occupé dans la compagnie

t à faire cette attestation.

---

**Signature**

**Date**

---

**Printed Name**

---

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé a. si s neutre
July 23, 1996

Dear Mr. White:

SUBJECT: APPROVAL OF ASSESSMENT WORK CREDIT ON MINING LAND, CLAIM P.1189538 IN REAUME TOWNSHIP

The 45 days outlined in the Notice dated June 6, 1996 have passed.

Accordingly, assessment work credit has been approved as outlined on the attached sheet. The credit has been approved under Section 15, Airborne Geophysics (MAG, VLF), of the Assessment Work Regulation.

The approval date is July 23, 1996. Please indicate this approval on the claim record.

If you have any questions regarding this correspondence, please contact Lucille Jerome at (705) 670-5858.

Yours Sincerely,

Ron C. Gashinski
Senior Manager, Mining Lands Section
Mines and Minerals Division

Enclosure:

cc: Resident Geologist
Timmins, Ontario

Assessment Files Library
Sudbury, Ontario
DISTRIBUTION OF ASSESSMENT WORK CREDIT

Note: credit distribution reflects the value of assessment work performed on mining land.

Date July 23, 1996
File Number: 2.16544
Transaction #: W9660.00079

<table>
<thead>
<tr>
<th>CLAIM NUMBER</th>
<th>VALUE OF WORK PERFORMED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1189538</td>
<td>$2800</td>
</tr>
</tbody>
</table>
Subdivision of this township into lots and concessions was annulled July 9, 1962.

Notes:
- SAND AND GRAVEL
- PROPOSED SUBDIVISION PLANTING CAMPS received January 9, 1992
- SNOWMOBILE TRAIL notice received 09-DEC-09
- Subdivision is subject to forest activity in 1999.

Legend:
- HIGHWAY AND ROUTE No.
- TRAILS
- SURVEYED LINES:
  - TOWNSHIP, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- OTHER ROADS
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SURVEY LINES
- MARD OR MINED
- MINE
- TRAVERSE MONUMENT

Disposition of Crown Lands:

- Type of Document
  - PATENT, SURFACE AND MINING RIGHTS
  - SURFACE RIGHTS ONLY
  - MINING RIGHTS ONLY
  - LEASE, SURFACE AND MINING RIGHTS
  - SURFACE RIGHTS ONLY
  - MINING RIGHTS ONLY
  - LICENSE OF OCCUPATION
  - ORDER-IN-COUNCIL
  - RESERVATION
  - CANCELLED
  - SAND AND GRAVEL

Scale: 1 inch = 40 chains

TOWNSHIP
- REAUME
- M.R. ADMINISTRATIVE DISTRICT: COCHRANE
- MINING DIVISION: PORCUPINE
- LAND TITLES/REGISTRY DIVISION: COCHRANE

Ontario Ministry of Natural Resources
Ontario Ministry of Northern Development and Mines

Report Date: OCT. 1975
Report Number: G-3560
Total field magnetic intensity contour data, measured by a cesium high sensitivity magnetometer at an average sensor elevation of 45m, and corrected for diurnal variation. Map contours are in nanoTeslas, and are multiples of those listed below:

- 2 nT
- 10 nT
- 50 nT
- 200 nT
- 1000 nT

Angles presented are approximate mean deviations for centre of NTS sheet. Use diagram for reference only.

Grid North - True North: -0.6°
Grid North - Magnetic North: -10.9°
Annual change: -0.02°

Flight path:
Navigation and flight path recovery was conducted using a Global Positioning System (GPS) satellite navigation system. Lines were flown at an azimuth of 0 - 180°, with an average line spacing of 100m. Average helicopter-terrain clearance of 60m was monitored by radar and barometric altimeters.

Arista Resources Inc
Total Field Magnetics
Buskega River Area
Ontario

Date flown: JULY 2 1994
NTS: 42A14 (AREA-D)
Project: Jo-138
Map Ref: 1 - 2

Geonex Aerodat