CLINE MINE NORTH & EAST GROUPS
MARKES-ESSO OCCURRENCE

Jacobson Township, Northern Ontario.

2.16553

by

F.T. Archibald, B.Sc. Geologist
May 15, 1996.
Summary-

The claim group consists of three claim group totalling some twelve claim units; situated between the Cline Mine property to the west and the Vega Explorations Ltd. property to the east in Jacobson Township of Northern Ontario.

This report is comprised of geological, proton magnetics, and VLF electromagnetics which were run over the group. Approximately 20.1 kilometers of each survey was run over the claim group.

The Lake Zone and the East Zone of the Cline Mine, on strike with each other, have at least two parallel zones each which dip at depth onto the property. These zones also trend eastward onto the property.

At least four electromagnetic zones associated with gold-bearing systems occur on the east group; one of which is associated with the Esso-Markes Occurrence. At least seven magnetic signatures are associated with coarse grained mafic volcanic flows, and the gold-bearing systems are all found at the contacts with this unit. The gold-bearing zones are generally associated with the contact areas of the fine and coarse grained flows and at the contacts between porphyry units and mafic metavolcanic units.

At least three anomalous (electromagnetic-magnetic) zones occur on the north group. These zones are associated with the contact areas between fine and coarse grained flows. At least one of these zones has massive sulphide associations.

Sampling of surface showings on the east group has returned values as high as 9.0 grams Au per ton. Three zones with values greater than 1.5 grams Au per ton were observed by the survey.

It appears that there are at least two gold-bearing deformation zones which carry through the property; both of which have been delineated in detail on the Cline Mine property (Lake-East Zones and West-Main Zones) to the west and the Vega property (A Zone and E Zone) to the east.

Targets for detailed exploration have been delineated by this program.
Location & Access-

The property is located some thirty-two kilometers to the northeast of Wawa, in Jacobson Township of the District of Algoma, Ontario.

The property is located some three kilometers southwest of Lochalsh and some six kilometers east of Goudreau. Both towns are located on the Canadian Pacific Railway and Algoma Central Railway respectively. A dirt-road connects Goudreau to Lochash and cuts the northern most section of the claim block. This road is cut by a gravel road which extends from the town of Dubruilville; a distance of approximately twenty kilometers away. Dubruilville is accessed from Wawa along the Trans Canada Highway #17 to Highway #566. These roads are paved.

Presently the area is being timbered and the roads are open year-round.

Access is also by float plane to Godin Lake at the east side of the claim group.

Topography-

The area is generally flat-lying. It is mainly covered by gentle undulating knolls with some northeasterly trending creek-fed swamps. Approximately sixty percent of the area is covered by these knolls. Approximately five to twenty percent of the area is covered by outcrop or shallow overburden. Most of the area, in particular the northern section, is covered by boulder-glacial till.

The timber generally consists of immature to mature birch, poplar, and spruce. The northern and eastern section of the claim group has recently been cut over. Approximately ten to fifteen percent of the area has been logged. Timber road access to the northern and southeastern section of the group is accessible.

The drainage is eastward into Godin Lake and then northeast into Wabatongushi Lake which is within the Michipicoten River drainage basin.

A power line crosses the northern section of the claim group.
Property Status:

The property consists of twelve claim units in four claim blocks. These are registered under the name of Sven Dean (Client number 300672). The claims are a contiguous group of unpatented mining claims situated within the central portion of Jacobson Township, within the Sault Ste. Marie Mining District of Algoma District of Northern Ontario.

The claim numbers are as follows:

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History:

Gold was discovered in this region in 1896. The area had a period of gold mining in the 1920's and 1930's. This area remained dormant due to poor access until timbering in the early 1980's reopened the area to exploration.

Between 1918 and 1927, three shafts were sunk on the Pick Mine (Cline) property. By 1936, another shaft was sunk to 366 meters depth with eight development levels. Some 331,842 tons was extracted above the 152 meter level.

In the 1930's gold production also occurred at the Edwards Mine and Magino Mine, to the west of the property and along the same deformation zone.

In 1934, W. Markes discovered a gold showing in the southern section of the claim group.

In 1937 and 1938, Erie Canadian Mines drilled the central part of the Markes gold showing in the south part of claim 1174694.

In 1959, some 20,000 tonnes averaging 19.5 grams Au per tonne was proven from the Shaft #3 area of the Cline Mine by A.C. Howe International.

In 1975, airborne electromagnetics was run over the area by Burt Lang and Associates. Several strong conductors were outlined south of the property along the contact between the mafic metavolcanic units to the north and the felsic tuff-agglomerate units to the south.

In 1976, Gulf Minerals ran ground geophysics, magnetics, and geological surveys over the area of the airborne. Five drill holes were drilled over the strongest zones. Results showed iron formation, chemical sediments, and banded pyrite-silica rich shear zones with low gold values and some low zinc-copper values.

In 1979 and 1980, AMAX Canada picked up the northernmost claims.

In 1982, VLF electromagnetics and magnetics were run over the southern most part of the claim group for assessment purposes.

In 1985, Cline Development Corp. / Prophet Resources / June Resources picked up the claim group.

From 1981 through 1986, Vega Gold Explorations Inc. delineated five gold-bearing zones through a program of: VLF electromagnetics, magnetics, geology, Pulse electromagnetics, Induced Polarization electromagnetics, till sampling and diamond drilling. Some thirty-nine holes were put into these zones with two of them displaying significant gold values (one with significant zinc-copper values).
In 1986, gold mineralization was discovered at the Kremzar property. Mining occurred between 1988 and 1990. The Magino Mine operated and mined during this same period.

From 1986 through 1987, Esso Minerals Canada spent $325,000 to test the Markes Occurrence. The previous programs consisted of airborne electromagnetics, ground electromagnetics, magnetics, geological surveys, stripping and backhoe trenching, and limited diamond drilling. In 1986 EMC stripped the showing and channel sampled the stripped area; followed by 1113 meters of diamond drilling in thirty-one drill holes. In 1987, EMC did further stripping and put in forty-three drill holes over the area.

From 1986 through 1992, Noranda Exploration drilled over 30,000 meters of drilling in sixty drill holes to delineate four gold-bearing zones which lie within two defined deformation zones. Both of these continue onto the property.

In 1993, Noranda drilled some eleven holes to extend four of the zones on the Vega property; encountering significant gold values over narrow widths. These zones coincide with two deformation zones; one of which is associated with the Markes Showing.
General Regional Geology:

This area is located within the northern limb of an east-west trending anticline within the Wawa Greenstone Belt. The area was last mapped in 1982 by Ron Sage of the OGS and in detailed areas in 1987 by Kevin Heather of the OGS.

The oldest rocks in the area are of Precambrian Age. Archean metavolcanics and metametasediments in the area have been intruded by granodiorite, diorite, quartz porphyry, and diabase dykes. A series of east-west shears are found to bissect the area; paralleling the regional strike. The oldest underlying rocks are felsic volcanics (tuffs and agglomerates), which are intercalated with younger mafic volcanics (basalts and andesites). These have been intruded by gabbro sills.

The diabase dykes cut at a discordant angle to the regional strike; at a northwest to southeast direction. Several periods of quartz veining are found; cutting in a northwest-southeast, east-west, and northeast-southwest direction. Gold-bearing veins generally strike at 90 degrees and 110 degrees; and coincide with shearing and faulting respectively.

The northern contact zone is cut by an east-west trending deformation zone, Goudreau Lake Deformation Zone (GLDZ), which is up to 1.0 kilometers in width. Within this GLDZ zone are numerous.

The regional rocks have undergone regional greenschist facies metamorphism.
Table of Lithologic Units

Cenozoic
  Recent- stream till
  Pleistocene- glacial till
    unconformity

Late Precambrian (Proterozoic)
  Firesand Carbonatite- dolomitic core rocks
    gradational contact
  Firesand Carbonatite- silicocarbonatite rim rocks
    intrusive contact
  Diabase Dykes

Early Precambrian (Archean)
  Felsic Intrusives- feldspar porphyry & quartz-feldspar porphyry
    intrusive contact
  Intermediate Metavolcanics- tuff flows
  Mafic Metavolcanics- basalt flows
Local Geology:

Most of the outcrops top to the north and are steeply dipping to the north 70 degrees to 90 degrees vertical. The shear zones are generally in an east-west direction (80 degrees). Fault zones generally cut at 110 degrees and north-south.

The majority of the property is cut by mafic metavolcanic units mixed with fine grained flows and coarse grained flows. It is noteworthy to mention that previous reports categorize the coarse-grained flows as quartz diorite to gabbro sills. Alternation of andesite and basalt is characteristic of the area; both units displaying massive character. Where these units are sheared they become increasingly carbonated.

The mafic units are cut by east-west trending quartz-feldspar porphyries, feldspar porphyries, felsite dykes, and chemical-sediment rich shears. The porphyries consist of older feldspar porphyry dykes and sills and the younger quartz-feldspar porphyry dykes and sills.

All of the units have been cut by a northwest trending series of diabase dykes and lamprophyre dykes. There is a younger unit of tourmaline rich quartz veins which cuts all of the above units.

The gold-bearing zones are a result of chemical sediments and remobilization of hydrothermal solutions through emplacement of felsite and porphyry sills. The Markes Occurrence is hosted within deformed mafic volcanics which are intruded by quartz porphyry dykes. The gold-bearing horizons are associated with the edges of sericitized and silicified contacts of shear-deformation zones with 2-5% pyrite content. The higher grade units are silicified and brecciated.

The Markes Shear, which can be traced across the Cline and Edwards Mine properties to the west and the Vega property to the east, varies from a few meters to forty meters in width. Iron formation units are located along the edges of this unit and are in close proximity but not direct contact with the gold-bearing units. The iron formation plunges 10 to 40 degrees eastward.

Small scale folding and mineral lineations plunge at 45 degrees to the east. Outcropping is prevalent over approximately ten percent of the property. The northeast section of the group is covered by swampy overburden. The property was mapped at approximately 1:1000 scale.
Rock Unit Descriptions-

1) Mafic Volcanics-
   Mafic rock units are the dominant units. They are pillowed to massive and vesicular and are weakly deformed. Pillows suggest they face north. These rocks are pervasively weak to moderately carbonatized; carbonate increasing near shear zone structures. These units are intercalated fine and coarse grained flows; gold values generally close to the contacts with both units.

2) Felsic Volcanics-
   These units are exposed in the southeast section of the property. They are fine grained and sericite rich. They are found as rhyolites and tuff units. These units are also located as felsite dykes which are younger units that cut the mafic volcanics.

3) Felsic Intrusives-
   These are feldspar porphyry and quartz-feldspar porphyry dykes and sills. These dykes in close proximity to the shears are sericitic-chloritic-carbonate rich. Some phases of the altered porphyry are granodioritic in composition. There are two sets of porphyries; one which predates the emplacement of gold and the other which postdates the emplacement of gold. Chlorite rich phases are altered biotite. These dykes strike northwest and east-west.

4) Ultramafic Flows-Intrusives-
   These are generally coarse grained gabbros with medium grained hornblende and minor magnetite. These units are intercalated with the fine-grained mafic flows. One of these units is located on the hangingwall side of the Markes Occurrence and is along the north side of the occurrence (150 meters wide). They are non-foliated to weakly foliated and generally postdate the deformation and alteration on the property. Gold mineralization within this unit is usually within distinct sugary-quartz seams and veinlets.
Economic Geology-

Several past gold producers are located within a gold-bearing deformation belt which crosses the property. There are two zones within this belt. These producers have collectively produced over 2,400,000 grams of gold and 405,000 grams of silver. Gold-bearing zones are generally associated with altered mafic volcanics (fine to coarse grained interfaces), silicified felsic intrusives, and altered porphyry and granodiorite units.

The largest producer in the area, the Cline Mine or Pick Mine, is located adjacent to the west and south side of the claim block. It has produced some 1,970,000 grams of gold and some 330,000 grams of silver from 333,435 tons milled.

The gold-bearing zones are associated with two deformation zones; named as the South Shear (Edwards Mine & Markes Occurrence) and the North Shear (Cline Lake & East Zone, Vega “A” Zone). The South Shear averages from 12 to 24 meters in width and occurs within silicified-carbonate rich mafic metavolcanics and sheared quartz porphyry units. The North Shear occurs within tension fractures within mafic metavolcanics and within sheared quartz porphyry units at the north edge of a regional shear. The gold-bearing veins, ranging from 0.3 meters to 5.5 meters in width, dip 70 degrees north in both cases.
Geological Survey Results:

The survey was run over two grids, called the East Grid (claims 1174694 & 1174695) and the North Grid (1163305).

Six mineralized shear zones were located on the East Grid, one of which coincides with the Markes Occurrence. These shears are all associated with the contact areas of fine and coarse grained flows. At these contacts are units of quartz porphyry. These gold-bearing zones are controlled by northwesterly and northeasterly faulting, and are generally located at a 110 degree angle. They generally plunge steeply eastward. There are three coarse grained flows cutting the East Grid. These range from one hundred to two hundred meters in width. The Noranda North Zone is found along the north contact of the intermediary zone and the Markes Occurrence along the south contact of the southern zone.

Five mineralized shear zones cut the North Grid, one of which corresponds with massive sulphides. Another unmineralized quartz vein system cuts the contact between fine and coarse grained flows. There are three coarse grained flows cutting the North Grid. These range from thirty to sixty meters in width. There are five zones; three of which coincide with the contacts between fine and coarse grained flows. Another corresponds to massive sulphides within a basalt unit which cuts the southwest section of the claim grid.
VLF Electromagnetic Survey-

The Crone V.L.F. electromagnetic unit utilizes higher than normal electromagnetic frequencies and is capable of detecting small sulphide bodies and disseminated sulphide deposits. It accurately isolates banded conductors and operates through areas of high noise and interference levels.

This method is capable of deep penetration but due to the high frequency used, its penetration is limited in areas of clay and conductive overburden. The components of dip angle in degrees of the magnetic field component, field strength of the magnetic component of the V.L.F. field, and the out of phase component of the magnetic field are measured at each station.

There are several different channels or stations available; each with a different frequency. A channel used should be parallel to the general strike of the area. If this cannot be determined or if two different strikes are found, then two orthogonal stations should be used to define the systems or conductors.

The dip angle measurement measures the angle of inclination from horizontal of the direction of the resultant V.L.F., or the amplitude of the major axis of the polarization ellipse. It is detected by a minimum on the field strength meter and is read from an inclinometer with a range of plus or minus ninety degrees. A conductor is designated by a “true” crossover pattern of the readings. The measurement is taken from an audio null when the instrument is held in a vertical position; after turning perpendicular to the direction of alignment with the V.L.F. field. The V.L.F. field is found by an audio null or minimum field strength measurement when the instrument is held in a horizontal position. The accuracy of the dip angle measurement is plus or minus one-half degree. It is contoured at one inch to ten degrees.

The field strength measurement defines the shape and attitude of the conductor by the strength of the field in the horizontal plane or the amplitude of the major axis of the polarization ellipse. It is the maximum reading obtained from the field strength meter when the instrument is rotated in the horizontal plane; and is measured as a percent of the normal field strength established at a base station. This base reading is set at 100. The field strength measurement has an accuracy of plus or minus two percent. It is plotted in increments of ten percent.

The out of phase component of the magnetic field, as a percent of the normal primary field, is sensitive to a lower order of magnitude. It is used to locate conductors
of a low order of magnitude. This reading is not recorded except where a high order of magnitude pulse is observed. It is a measurement of the secondary field produced by a ground conductor which is in a different phase than the primary field. This is the minimum reading of the field strength meter obtained when measuring the dip angle. The measurement has an accuracy of plus or minus two percent.

The survey was carried out over February of 1996. A total of approximately 21.1 kilometers of each survey was traversed. Lines were cut in a north-south direction. Lines are at two hundred to three hundred feet (60-100 meters) between lines. Stations are at 25 and 30 meters between stations.
VLF Electromagnetic Results:

East Grid:

**Anomaly A** is located for some 360 meters on lines 94E to 98E (1900 to 2000’ N) before it passes to the east of the claim group. This weak anomaly corresponds to overburden covered area underlain by coarse grained flow units.

**Anomaly B** has been traced from L74E to L94E 1100’ to 1200’ N) for a distance of some 700 meters. It is a moderate to weak conductor which is strongest at the western end where massive conductor (mineralized) at a shallow depth are causing this anomaly. It coincides with a shear zone at the contact between coarse grained flows to the south and fine grained flows to the north.

**Anomaly C** is a localized anomaly found on L82 E (650’N) and is approximately 120 meters in length. It coincides with a sulphide mineralized section of the Noranda North Zone shear. Values from this zone have returned assays of 1.73 grams Au per ton.

**Anomaly D** is a weak and discontinuous anomaly traced for some 900 meters from L78E to L100E (100’S to 100’N). It corresponds with a carbonate and serecite rich shear zone which is related to a quartz porphyry structure. Values of 0.06 grams Au per ton are related to this zone.

**Anomaly E** has been traced along the southern portion of the claims for some 900 meters. It is a weak to moderately strong anomaly which coincides with the Markes Occurrence and lies along the contact between coarse grained flows to the north and fine grained flows to the south. Although it is located from L78E to L100E (1000’S), it is strongest between L78E to L86E. The strongest portion lies on the west side of a north-south fault whereas the Markes Occurrence mineralization lies on the east side of this fault. There is possibly an offset and northwest plunge of the mineralization on the west side of the fault (displayed along a minor northeasterly trending fault).

**Anomaly F** is traced for some 660 meters in the central and eastern side of the property; between L82E and 100E (900’ to 1000’ N) where it passes off the property to the east. It is a moderately strong conductor which coincides with low swamp covered area. Although it coincides with the Noranda North Zone, it is felt that this conductive trend has been influenced and masked by conductive overburden in this area.

**Anomaly G** is approximately 480 meters in length and splays northeasterly from
the north side of Anomaly E between L90E and L100E (500S to 700'S). It is a moderately strong anomaly which corresponds to swampy overburden.

Four of the anomalies on the east grid coincide with mineralized zones; two of which are known to be gold-bearing. These are Anomalies B, C, D, and E.

**North Grid**

**Anomaly A** is located for some 300 meters in length between L40E and L50E (1250'N). It is a moderately strong anomaly corresponding to swampy overburden. The underlying rock unit is at the contact between coarse grained flow to the north and fine grained flow to the south.

**Anomaly B** is some 900 meters in length and is located between L18E and L46E (750'N). It is a strong anomaly which corresponds to a quartz porphyry along the south contact of a coarse grained flow with a fine grained flow unit. It is strongest for a distance of 180 meters between L42E and 46E.

**Anomaly C** is a moderate to weak anomaly traced between L46E and L50E (400-500'N); for a distance of approximately 200 meters. It corresponds with a shear within fine grained flow units.

**Anomaly D** is a weak anomaly parallelling on the south side of Anomaly B at between L30E and L34E (300' to 500' N) for some 150 meter length and possibly extending to the west. It coincides with swampy ground.

**Anomaly E** is a moderately strong conductor which coincides with massive sulphides (steeply dipping) at the southwest corner of the property. It is strongest at the west boundary. Located between L18E and L30 E (on north side of baseline), it trends for some 360 meters before continuing off the property at both ends.

Three of the anomalies correspond to mineralized zones. These are anomalies B, C, E.
Proton Magnetometer Survey:

The survey was completed with the use of the Exploranium-Geomterics "Unimag" proton magnetometer. It has a digital readout with a sensitivity of plus or minus ten gammas. The maps are plotted at a contour interval of 250 gammas.

The accuracy of the readings is increased by averaging two to three readings at each station; or until readings settle out to a normalized reading. The range selector is changed up or down in areas where there is high magnetic noise, or until a normalized reading is found.

The "World Gamma Range" setting on the instrument was brought down to a scale relative to the magnetics of the area when plotting the resultant readings. The instrument requires no calibration once the proper range setting is found. The average range setting for this area is 58,000 gammas. When plotting, the 58,000 setting is set at zero. Every few hours the readings are checked at a base station (on the base line) and changes are noted and calibrated for drift at the end of the day.

Results are plotted after corrections for daily and diurnal deviations. Base plans are plotted at a scale of one inch to sixty meters. The field work was completed in February of 1996.
Proton Magnetometer Survey Results -

East Grid -

Anomaly A is located for 60 meters, and is located between L00 and L2W to the south of the Markes Occurrence. This strong trend coincides with a fault which cuts the west side of the Markes.

Anomaly B coincides directly with the north side of the Markes Occurrence, and is probably outlining geological structure; the magnetite rich contact of the coarse grained flow which lies on the north side of the Markes. This strong signature has been traced between L82E to L100 E; for a distance of approximately 550 meters.

Anomaly C is a moderately strong signature which outlines geological structure; contact area of the north contact of the same coarse grained flow that is found along the north contact of the unit on the hangingwall of the Markes Occurrence. There is gold-bearing shearing along this contact. It has been traced across the property for some 660 meters, from L78E to L100E. This anomaly trends at 70 to 80 degrees.

Anomaly D is a weak signature which coincides with a mineralized shear which cuts a fine grained mafic flow located between L70E to L100E (100' to 400' N).

Anomaly E is a weak to moderately strong signature which coincides with the Noranda North Zone between L62E to L82E (550'N to 650'N); for a distance of at least 600 meters. his trend coincides with the contact between coarse grained flows to the north and fine grained flows to the south. Gold-bearing shearing is associated with this trend.

Anomaly F coincides with another east-west trend which has gold-bearing shear associations. It is located along the north contact of the same coarse grained flow associated with the Noranda North Zone (Anomaly E). It is located between L70E and L94E (1100'N); a distance of over 720 meters.

Anomaly G coincides with a shear zone within a coarse grained mafic flow; located at the northeast corner of the grid. This weak trend is found discontinuously between L82E to L100E (2300'N); over a distance of approximately 540 meters.

At least seven magnetic trends have been outlined over the East Grid. Most of
these coincide with magnetite rich contact units of coarse grained flow units which are in contact with fine grained flow units. Some of these are associated with mineralized shears. Although three of these anomalies are associated with gold-bearing systems, all seven anomalies have significant importance.

North Grid

**Anomaly A** coincides with a magnetite rich coarse grained flow which traverses across the northern boundary area of the claims in an east-west direction. This unit is 60 to 100 meters in width. This moderate signature has been traced for over 1000 meters. A gold-bearing quartz system has been located at the southern contact of the coarse grained flow unit.

**Anomaly B** coincides with a narrow 40-50 meter wide coarse grained flow unit which traverses across the central portion of the claim unit for over 1600 meters. This weak signature is strongest between L32E and L40E (500' to 600' N); a distance of approximately 240 meters.

**Anomaly C**, strongest between L36E and L50E, has been traced across the southern boundary of the claim grid for approximately 420 meters. It corresponds to a coarse grained mafic volcanic flow unit in this area. There is a massive sulphide unit associated with the western extension of this signature.
Conclusions & Recommendations:

The geological survey has delineated several mineralized shear zones which are located at the contact between fine grained mafic flows and coarse grained mafic flows. At least two of these zones are gold-bearing, with observed values as high as 9.00 grams Au per ton. At least one zone of massive sulphides has also been located. The Markes Occurrence has been traced across the property for a distance of over 660 meters.

The VLF electromagnetic survey has outlined some eleven zones trending approximately 70 to 80 degrees. At least seven of these are related to mineralized shear zones; most of which are associated with altered quartz porphyry dykes intruding mafic volcanic flows. Gold values have been associated with at least three of these anomalies.

The proton magnetics has outlined at least ten anomalous responses. Most of these correspond with magnetite rich units of coarse grained mafic flows. The magnetite content is approximately 5 to 7 percent disseminated magnetite. Gold values are associated with the sheared contacts between coarse-grained and fine-grained mafic flows. At least four of these contact zones have gold-bearing quartz-silicified systems.

Several gold-bearing systems have been delineated on this property. Extensions of these zones have been delineated and detailed exploration in these areas should be done. As well, the extension of the Markes Occurrence and Noranda North Zone have been outlined. Most gold-bearing zones are found in pods which are controlled by cross-fault structures bearing at 110 degrees. Wherever high values have been delineated, these areas should be tested especially where these faults cross the shear systems.

It appears that the east-west shears initially emplaced the gold which was then reconcentrated within cross-cutting fault structures. Most of the gold-bearing systems are controlled by sheared contacts between fine and coarse grained mafic volcanic systems which quartz porphyry intrusions that have also remobilized the gold.

May 15, 1996
Concord, Ontario

CERTIFICATE OF ANALYSIS


SUBMITTED BY: F.T. ARCHIBALD CONSULTING LTD.

ATTENTION: MR. F.T. ARCHIBALD.

DATE RECEIVED: APRIL 26, 1995 SAMPLE OF: ROCKS

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J. van Engelen Mgr.
May 15, 1996

IN ACCOUNT WITH:

Mr. Sven Dean
77 Kimbark Bvld.
Toronto
M5N 2X9

Re: Assessment Report on 1174694-95,1163415,1163305

Geological Survey and Sampling 20.1 km. X $180 per km—— $3618.00
VLF electromagnetic Survey—— 20.1 km. X $180 per km—— $3618.00
Proton Magnetometer Survey—— 20.1 km. X $180 per km—— $3618.00
Assaying charges—----------------------------------------- $ 120.75

TOTAL OWING for contract------------------------------------------ $10974.75

with thanks,

Report of Work Conducted
After Recording Claim

Ministry of Northern Development and Mines

The information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 158 Cedar Street, Ontario, Ontario, P3E 5A5, telephone (705) 670-7284.

Instructions:
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations for requirements.
- A separate copy of this form must be completed.
- Technical reports and maps must accompany this form.
- A sketch, showing the claims the work is assigned to, must be attached.

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</tr>
<tr>
<td>Assignment from Reserve</td>
</tr>
</tbody>
</table>

 recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

| 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. |

Certification of Beneficial Interest
-See Note No. 1 on reverse side

<table>
<thead>
<tr>
<th>Certification of Work Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name and Address of Person Certifying</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.T. Archibald Consulting Ltd.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Value Cr. Recorded</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10,975.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time Notice for Amendments Sent</th>
</tr>
</thead>
<tbody>
<tr>
<td>7,8,9,10,12,1,2,3,4,5,6</td>
</tr>
</tbody>
</table>

Sault Ste. Marie

Revised from: February 17, 1996 to May 15, 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:

 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>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>May 15, 1996</td>
</tr>
</tbody>
</table>
### Statement of Costs for Assessment Credit

** mines**

**Minister du Développement du Nord et des mines**

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute question sur la collecte de ces renseignements au chef provinctial des terrains miniers, ministère du Développement du Nord et des mines, 159 rue Cedar, 4ème, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

#### 1. Direct Costs/Coûts directs

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Amount</th>
<th>Total global</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wages Salaires</strong></td>
<td>Labour Main-d'oeuvre</td>
<td>3618</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Field Supervision</td>
<td>3618</td>
<td></td>
</tr>
<tr>
<td><strong>Contractor’s and Consultant’s Fees</strong></td>
<td>Geological</td>
<td>3618</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Magnetometer</td>
<td>3618</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VLF EM</td>
<td>10854</td>
<td></td>
</tr>
<tr>
<td><strong>Supplies Used / Fournitures utilisées</strong></td>
<td>Assaying</td>
<td>121</td>
<td>121</td>
</tr>
</tbody>
</table>

**Total Direct Costs**

**Total des coûts directs**

10975

#### 2. Indirect Costs/Coûts indirects

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

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Amount</th>
<th>Total global</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transportation</strong></td>
<td>Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Food and Lodging</strong></td>
<td>Nourriture et logement</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mobilization and De-mobilization</strong></td>
<td>Mobilisation et démobilisation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sub Total of Indirect Costs**

**Total partiel des coûts indirects**

10975

**Total Value of Assessment Credit**

**Valeur totale du crédit d’évaluation**

10975

### 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.


<table>
<thead>
<tr>
<th>Value of Assessment Credit</th>
<th>Total Assessment Claimed</th>
<th>Total Assessment Claimed × 0.50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Attestation de l'état des coûts

J'atteste par la présente :

que les montants indiqués sont le plus exact possible et que ces dépenses ont été 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 (titulaire enregistré, représentant, poste occupé dans la compagnie)...

À faire cette attestation.

**Signature**

May 15, 1996
August 13, 1996

Dear Ms. Lessard:

SUBJECT: APPROVAL OF ASSESSMENT WORK CREDIT ON MINING LAND, CLAIM(S) 1163305 ET AL. IN JACOBSON TOWNSHIP

Assessment work credit has been approved as outlined on the Declaration of Assessment Work Form accompanying this submission. The credit has been approved under Section 12, Geology, and Section 14, Geophysics (MAG, VLF), of the Assessment Work Regulation.

The approval date is August 12, 1996. Please indicate this approval on the claim record.

If you have any questions regarding this correspondence, please contact Steven Beneteau at (705) 670-5855.

Yours sincerely,

ORIGINAL SIGNED BY:

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

SBB/jf

cc: Resident Geologist
Sault Ste. Marie, Ontario

Assessment Files Library
Sudbury, Ontario
SVEN DEAN
77 Kimbark Bvld.
Toronto, Ontario

February 7, 1996

As holder of 100% interest in mining claims:

1174694
1174695
1163415
1163305

I declare that F.T.Archibald & F.T.Archibald Consulting Ltd. are agents to do work requirements on these claims and that I authorize expenditures of $10,854.00 plus assaying charges to be performed on the above said group.

SVEN DEAN, claim holder

SAULT STE. MARIE MINING DIVISION RECEIVED
MAY 2 1 1996 PM
7,8,9,10,11,12,1,2,3,4,5,6
LEGEND

contour interval 250 gammas
LEGEND
-VE anomaly-crossover A
+VE

contour 1 inch to 10 degrees
PLATE D

STATION: Seattle, Washington
FREQUENCY: 24.1 KHz
CONTOUR: 10% intervals of base station reading (100)

CLINE NORTH PROPERTY

VLF ELECTROMAGNETICS - Field Strength Readings
claim 1163305

legend

0 100 200 meters
0 50 100 feet
LEGEND

- STATION - SEATTLE WASHINGTON 24.1 KHz.
- Contour 1" = 20°
- Scale 1" = 40 meters
- Crossover -

VLF ELECTROMAGNETICS
DIP ANGLES
LEGEND

SCALE 1" = 40 Meters
STATION - SEATTLE, WASHINGTON
24.1 KHz.
CONTOUR @ 10% INTERVALS
LEGEND

Assay Values in grams per ton
Au - gold

PLATE

SAMPLING PROGRAM
ESSO-MARKES OCCURRENCE

2.16553

Vega Explorations Inc.
Property

North Zone
Cline-Pick Property
South Zone

SCALE
0 200 400 meters
0 25 50 75 100