

31M04SW0149 OM91-192 STRATHY

010

GEOPHYSICAL SURVEY REPORT

OF THE
CLENOR PROPERTY
STRATHY TOWNSHIP
SUDBURY MINING DIVISION
DISTRICT OF NIPISSING, ONTARIO

FOR

ALEXANDER H. PERRON

DECEMBER 24, 1991

MARY GREER
GEOPHYSICAL TECHNICIAN

ILLUSTRATIONS

Location Map - Figure 1 a). 1 a)

Accompanying Maps. In Back Pockets

Scale: 1 inch to 200 feet

Date: November 1991

Gwen Resources Ltd.

The Clenor Project

Ground VLF-EM Survey

NAA-Profiled

Map No: 91-Clenor EM-NAA-1

Ground VLF-EM Survey

NAA-Contoured

Map No: 91-Clenor-EM-NAA-1a

Ground VLF-EM Survey

NSS-Profiled

Map No: 91-Clenor-EM-NSS-2



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GEOPHYSICAL SURVEY REPORT
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CLENOR PROPERTY
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INTRODUCTION

The claim group consists of four (4) patented mining claims located in the centre of Strathy township, just south of Net Lake and west of Arsenic Lake. Access to the property is via the Kanichee Mine road, which is three miles north of the Town of Temagami, then west on the Kanichee Mine road for one mile, turning south on a bush road after Goward Lake. Further access can be made off a newly constructed road north off of the Sherman Mine access road. (See Figure 1a).

Ownership of the claim group has been attested to by Alexander H. Perron, 103 Government Road East, Kirkland Lake, Ontario, and was not independently ascertained by the writer.

A turn-off point for the baseline was established where there would be little interference from the abandoned mine buildings and the iron-formation to the north, and providing convenient tie-in points to the shaft. The baseline was turned off at BL 0+00, N 55° E for 2,000 feet to the east and 1,400 feet to the west. Picket lines were then turned off at 200 foot intervals perpendicular to the baseline. The lines were cut for a pre-determined length to ensure complete ground coverage and full field information of the hard to access corners of the claims. A tieline was established at 20+00 S turned off from L 0+00 20+00 S.

GENERAL GEOLOGY

The Ontario Geological Survey Report 163, Geology of the Northeast Temagami Area, indicates that the predominant bedrock of the Clenor property is mafic to intermediate meta volcanics, which occur as flows and sills. The structural textures which can occur are pillows porphyritic textures, amygdaloidal and massive basaltic and andesite flows. These rocks are found to be mainly dark green to black in colour and weathering grey to greenish grey. It is generally difficult to tell the difference between mafic intrusive rocks and the coarser grained interior parts of the massive flows.

INSTRUMENTATION

i) Electromagnetic Survey:

The VLF-EM method uses as a source, one of the main submarine communications transmitters in the 15 to 25 kHz band found throughout the world. These submarine communication radio waves travel in a single mode parallel to the surface of the earth along the earth-air interface.

Without vertical conductors and travelling over flat ground, the magnetic field component of this radio or surface wave is horizontal and perpendicular to it's direction of travel.

VLF instruments are capable of picking up these structures that change the direction of the waves by measuring the tilt angle of the major axis of the polarization ellipse. This is illustrated by the tilt angle being zero on flat ground, but when a conductor is present the tilt angle will acquire a finite value. The direction of such parameters as depth, depth extent, dip and width of the conductor is very minimal.

The VLF easily illustrates the location of the upper limit of dipping structures which can be seen or plotted as VLF profiles as areas of greatest change in tilt angle per unit of distance.

The instrument used for this survey was an EDA OMNI-PLUS Mag and VLF Unit. The sensitivity of this unit is $\pm .1\%$ for the inphase and $\pm .1\%$ for the quadrature. The operating frequency for the OMNI-PLUS is from 15-25 kHz and the station selection is made by computer controlled data input.

For the purpose of this survey the station used was Cutler, Maine, which has a frequency of 24.0 kHz, as well as Annapolis, Maryland, which has a frequency of 21.4 kHz.

All readings were taken perpendicular to the station and the topography was noted for further use in the interpretation of the EM results.

ii) Magnetic Survey:

This system uses a backward motion of spinning protons of a hydrogen atom within a fluid of hydrogen and carbon. These spinning magnetic protons are caused to have two opposite poles by applying a magnetic field using a current within a coil of wire. When the current is stopped, the protons precess about the earth's magnetic field and in turn generate a small current in the wire. This frequency of precession is proportional to the earth's total magnetic field.

This instrument is read directly in gammas which is the absolute value of the earth's total field for that station.

The instrument used for this survey was an EDA OMNI-PLUS Magnetometer and EDA 350 PPM base station magnetometer, this instrument has a .01 gamma.

The diurnal variation was monitored by a base station at L 10+00 E 7+00 N which has a reference value of 57,700 gammas.

Diurnal corrections were applied by linear distribution of any observed variation over the time between the base station and the field readings.

PRESENTATION AND DISCUSSION OF RESULTS

i) Electromagnetic Survey; NAA:

The field data is presented on two plan maps, Map No: 91-Clenor-EM-NAA-1, in which the data is presented in profiled form, and Map No: 91-Clenor-EM-NAA-1a, in which the data is presented in contoured form.

The VLF-EM data is illustrated as profiled data along the survey lines and is plotted at a vertical scale of 1 inch to \pm 40%, with the positive to the left and negative to the right. See the accompanying plan map for the conductor location. It is also illustrated as contoured data which is calculated data manipulation to more easily determine the conductor location.

Six major conductors were found on the property by using NAA. Two of the conductors appear to have a strong association with surface topographical structures. Conductor 91-1 follows a low cedar swamp straddled by drier areas to the north and south of mixed bush of spruce and balsam fir. The conductor has areas of stronger and weaker intensities

and may reflect conductive overburden. Conductor 91-5, is cased by a low lying swamp area consisting of several beaver ponds, and flooded creek sections. The conductor axis lies in line with the creek although it does deviate away from the creek at L 14+00 E in an easterly direction.

Conductors 91-2, 91-3 and 91-4 can be described as weak electromagnetic responses, but may be the most possible target for an underlying structure. Conductor 91-4, while not very strong, is in a good location to be associated with the known auriferous structures of the Clenor Property.

ii) Electromagnetic Survey; NSS:

The field data is presented on a plan map, Map No.: 91-Clenor-EM-NSS-2 found in the back pocket of this report.

The VLF-EM data is illustrated as profiled data along the survey lines and is plotted at a vertical scale of 1 inch to \pm 40%, with the positive to the left and negative to the right. See the accompanying plan map for the conductor location.

The NSS survey only clearly define five (5) EM targets. Conductor 91-1 again illustrates the cedar swamp which stretches across the bottom of the grid. Conductor 91-3 and 91-4 indicates the northern swamp and the conductor axis falls exactly overtop of the creek.

Conductor 91-2 occurs, as Conductor 91-4 from the NAA survey, in the same location as the known auriferous zone of the Clenor Minesite.

iii) Magnetic Survey:

The field data is presented on a map, Map No.: 91-Clenor-Mag-3. The magnetic data is illustrated as isomagnetic contours (contour interval: 100 gammas) on a map of corrected magnetic values recorded at fifty foot intervals. In some areas of higher magnetic intensity, the contour intervals used was 500 or 1000 gammas. The data was not contoured with any values higher than 10,000 gammas.

The general magnetic trend appears to be in a northeast-southeast direction. A larger magnetic high with intensities of +10,000 gammas was found to occur north of the baseline and crosses the complete width of the grid. This large zone is definitely caused by the iron formation known to occur there. These iron formations appear spotty and are discontinuous in many areas. On L 16+00 E and on L 12+00 W the higher values are interrupted by lower values which displace the high magnetic trends between L 10+00 W and L 14+00 W. These disruptions may indicate a north-south fault zone.

The rest of the property was found to be uniformly similar. The southern half of the grid has many isolated and semi-continuous zones of a greater magnetic intensity than the surrounding background values. This may be representative of the local differences in the grades of magnesium to iron in the bedrock which is composed of mafic to intermediate metavolcanics.

CONCLUSIONS AND RECOMMENDATIONS

The high magnetic response to the north is clearly caused by the iron formation and no further examination of this response is required. One possible recommendation for further defining the iron formation would be by conducting a

gradiometer survey. The magnetic survey has produced an anomalous area without clearly defining the inconsistencies of the formation or the contact between the iron formation and the surround mafic flows.

The gradiometer survey would clearly define where the iron formation lies and this data could be used in determining diamond drill hole collar locations penetration distances of the formation in case it requires to be drilled through to reach targets on the other side.

Some interest should be put forth on the minor magnetic responses which cross the middle of TRT 4250 while it may be differences in the composition of the mafic flows it may also indicated some structural changes which may be of economic importance especially since NAA conductor 91-2 follows these magnetic differences and doesn't appear to be related to any topographical features.

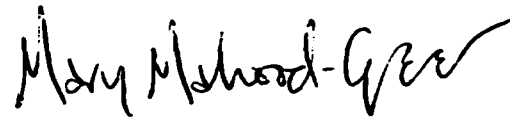
Also Conductor NAA 91-4 and it's nearly similar counterpart NSS 91-2 require further examination to determine more precisely the cause of this conductor. An Induced Polarization survey would be recommended to obtain the maximum data available. Old Mine maps should also be examined before the survey is considered to rule out only anomalous areas caused by underground workings.

Any other future work plans must consider cleaning off and re-trenching of the old trenches and an assemblage of all the old mine maps, reports, etc. , then tying in the old trenches to the new grid. This would involve more work than a generalized geological or prospecting survey.

The possibility of re-opening the mine workings should also be

considered. Rehabilitation of the shaft may be required.

Respectfully submitted,

A handwritten signature in black ink that reads "Mary Mahood-Greer". The signature is written in a cursive style with a long, sweeping tail on the "r".

December 24, 1991

Mary Mahood-Greer
Geological Technician

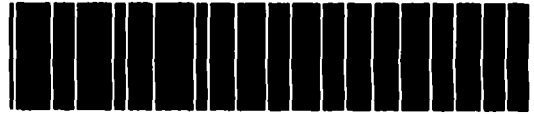
C E R T I F I C A T E

I, Mary Mahood-Greer, of Kirkland Lake, Ontario, do hereby certify:

- 1) That I am a Geophysical Technician and reside at:
50 Dixon Avenue, Kirkland Lake, Ontario, P2N 3L1.
- 2) That I graduated from Sir Sandfor Fleming College at Lindsay,
Ontario, in 1978, with a diploma as a Geological Technician.
- 3) That I have been continuously engaged in my profession for
the past ten (10) years and I am qualified to write this report.
- 4) That I participated in this survey.

Dec. 24, 91
Date

Mary Mahood-Greer
Mary Mahood-Greer
Geophysical Technician



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**REPORT ON
DIAMOND DRILL PROGRAM
CLENOR PROJECT

STRATHY TOWNSHIP
DISTRICT OF NIPISSING

NTS 31M/41P**

FEBRUARY 1992

**D.R. Hawke, Msc.
M. M. Greer, Techn.**



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- FIGURE 2 GEOLOGY OF PART OF STRATHY TOWNSHIP
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SUMMARY

The Glenora claim group, controlled by Gwen Resources Ltd. is located in Strathroy Township in the district of Nipissing, Ontario. The property consists of four contiguous patented claims numbered JS62, TRT 4257, TRT 4249, and TRT 4250. During the 1930's and 40's Consolidated Mining and Smelting Co., Goodfish Mines Ltd. and Beanland Mining Co Ltd. completed an extensive exploration program on the property consisting of mapping, trenching, drilling and underground Development. Two separate auriferous quartz vein structures were discovered. The property was subsequently optioned to Perron Gold Mines Ltd. and more drilling was carried out. Kelly (1983) re-evaluated the property and calculated in situ reserves as 24,000 tons grading 0.22 oz/ton Au plus surface stockpiles totalling 4,145 tons at 0.12 oz/ton Au.

In 1991 Gwen Resources completed a program of linecutting, trenching, geological surveying and diamond drilling on the property.

The main vein was exposed in surface trenches and holes drilled into this structure revealed that vein contacts were highly irregular, the vein pinches and swells rapidly along strike and down dip and gold bearing sulphide mineralization is irregularly distributed throughout the vein. An underground exploration program consisting of mapping, sampling, crosscutting and drilling will be required to adequately assess the size and attitude of the main vein and the distribution of gold values within it.

INTRODUCTION

The Clenor property consists of four patented mineral claims in Strathy township, Nipissing district, Ontario. Gold bearing quartz veins up to 6 ft (1.83m) wide are exposed in an extensive network of surface trenches. During the period of 1920 - 1945 those quartz veins were explored in a series of underground workings. A 4,000 lb (1.814 tonnes) bulk sample assaying 0.34 oz/ton (1.66 g/t) Au and 1.8 oz/ton (61.71 g/t) Ag was removed from the main vein at surface.

In December 1991 Gwen Resources Ltd. undertook a 1,000 foot (304.8m) drilling program on the Clenor property to probe the main vein structures and to explore the continuity of the vein between surface and the underground workings on the 175 foot level.

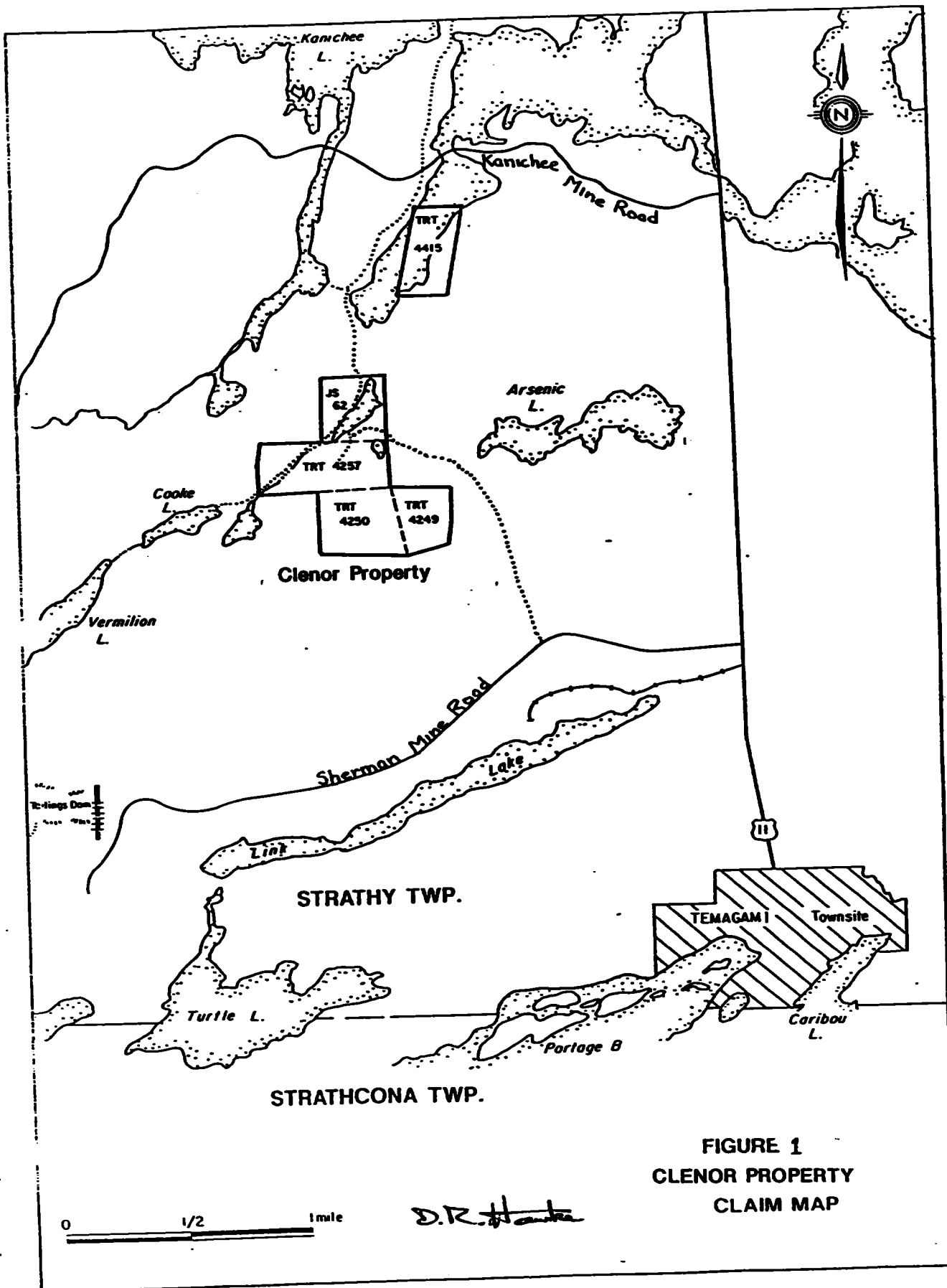
Mr. A.H. Perron, president, Gwen Resources Ltd. commissioned DRH Geological Consulting to examine the surface workings, spot holes and to help log core. This report describes the results of the drilling.

PROPERTY LOCATION AND ACCESS

The Clenor property is located approximately 8 kilometers northwest of the town of Termagami, Ontario, in central Strathy township. It consists of four contiguous surveyed, patented mining claims numbered TS 62, TRT 4257, TRT 4249 and TRT 4250. (Figure 1). Ownership of these claims has been attested to by Mr. Perron and it was not independently verified by the author.

Access to Strathy township is provided by provincial highway 11 which crosses the eastern portion of the township.

The claim group itself can be accessed from highway 11 via the Kanichee Mine road or the Sherman Mine road and thence by bush roads (figure 1). A seasonal road branching off the Kanichee Mine road provides access to the northern portion of the claims. Gwen Resources Ltd. refurbished an old forest access road off the Sherman Mine road to provide access to the southern and central portions of the claim group.



**FIGURE 1
CLENOR PROPERTY
CLAIM MAP**

PREVIOUS AND PRESENT WORK

Strathy township was the scene of very active prospecting and mining programs during the 1930's and 1940's. This work continued sporadically until 1973 when a caution was applied by the local Indian band against all crown land in a large area that included Strathy township. The caution was lifted for Strathy township in 1991 and this area was opened for staking by the Ontario government in January, 1992. Numerous showings, deposits and past producers are located in Strathy township. Gold, iron, nickel and copper have all been previously mined at various properties in the township.

The Clenor claims were first staked in 1929 by Sidney Beanland and subsequently optioned to Consolidated Mining and Smelting Co. The latter carried out an exploration program consisting of trenching, bulk sampling and diamond drilling. This work delineated an ore shoot 50m (160 ft) long and 1.4 m (4.6 ft) wide assaying 10.63 g/t (0.31 oz/ton) Au and 61.71 g/t (1.8oz/ton) Ag. The property was subsequently optioned to Goodfish Mines Ltd. and then to Beanland Mining Co Ltd. By 1938 a five hundred foot, 3 compartment shaft with development on three levels was completed. A total of 2,758 linear feet of drifting and raising plus 2,835 ft. of underground drilling was carried out.

In 1946 the property was optioned to Perron Gold Mines Ltd. and subsequently to Clenor Mines. A total of 1,135 m (3720 ft.) of surface drilling was completed. The property lay dormant until 1983 when Sherritt-Gordon Mines Ltd. evaluated the property and sampled the surface stock piles. Kelly (1983) estimated total reserves on the Clenor property as 24,000 tons grading 0.22 oz/ton Au.

In 1991 Gwen Resources Ltd. undertook a program of linecutting, VLF and magnetometer surveying, trenching and diamond drilling on the Clenor claims.

REGIONAL AND PROPERTY GEOLOGY

The geology of the area has been mapped for the Ontario government by Moorehouse (1942), Bennett (1978) and Fyon and Crockett (1986). The Clenor claim group is located in a northeast trending belt of mafic to felsic metavolcanic rocks intercalated with iron formation and metasedimentary rocks. This assemblage has been intruded by ultramafic to felsic plutonic rocks. Late Nipissing diabase and lamprophyre dikes intrude all other rocks in the area. The older volcanic and sedimentary rocks have been folded into a faulted, broad synclinal structure called the Tetapaga Lake syncline (Bennett, 1978).

The Clenor property straddles the contact between a series of sheared and carbonatized rhyolite flows to the north and massive, pillowed andesite and basalt to the south. (figure 2.) These rocks strike in a northeast direction, dip steeply to the southeast and face southeast. The contact between the two rock units is marked by a unit of oxide facies iron formation that is highly deformed. A northeasterly trending zone, the Vermillion Lake - Net Lake deformation zone follows the mafic-felsic contact and the iron formation unit.

Two types of mineralization are known on the Clenor property:

1. pyrite-galena-sphalerite-chalcopryite bearing quartz-carbonate veins carrying gold, and
2. chalcopryite-arsenopryite-pyrite bearing quartz veins.

The auriferous, pyrite-sulphide bearing quartz veins are presently the most important known mineralized structures on the Clenor claims. These veins have received the bulk of the development work to date and they were the target of the drill program which is the subject of this report. The veins are up to 1.8m (6 ft) wide, with a strike of approximately 60 degrees and a dip of 85 degrees southeast. The main vein pinches and swells and it has been traced for approximately 213m (700 ft) along strike. It has been displaced up to 21m (70 ft) by younger, north trending faults. The more productive sections of the vein are characterized by silica-sulphide assemblages whereas the barren sections are comprised predominantly of carbonate and quartz without sulphides. Drilling has shown the main vein is contained within a zone of shearing and alteration at least 15.2m (50 ft.) wide. In the vicinity of the shaft this zone cuts a sequence of mafic volcanic rocks and thin, pyritic interflow sediments. The zone is characterized by strong carbonate (ferroan), chlorite, sericite, quartz alteration assemblages cut by numerous stringers, irregular masses and veins of quartz and carbonate. Irregularly distributed patches of medium to coarse pyrite crystal aggregates are scattered throughout the alteration zone. This pyrite clearly post dates the earlier fine grained, nodular variety associated with the interflow sediments. Pyritization is normally most intense adjacent to vein walls. The main vein as well as other larger

veins in the alteration zone are characterized by ragged margins and they contain numerous, irregular fragments of highly altered wall rocks and sulphides. Scattered disseminated concentrations of pyrite, galena, sphalerite, and chalcopyrite are distributed throughout the veins. Gold values vary sympathetically with the concentration of sulphides in the vein and wall rock.

Details of the auriferous arsenopyrite bearing quartz veins in the northern section of the property are scarce. This type of mineralization appears to be similar to the Leckie deposit about 2.2 km (1.4 miles) to the east.

DRILL PROGRAM

A total of 304.8m (1000 ft.) were drilled in seven holes to test the main vein on the Clenor property. Parameters for these drill holes are listed in Table 1 and the logs are attached as Appendix A. Hole locations are plotted on Figure 2.

TABLE 1

DRILL HOLE PARAMATERS

<u>HOLE NO.</u>	<u>LINE</u>	<u>STATION</u>	<u>AZIMUTH</u>	<u>DIP</u>	<u>LENGTH (FT)</u>
CL-91-1	L 0 + 77 E	1 + 35 N	333°	-63°	144 (43.8m)
CL-91-2	L 0 + 77 E	1 + 35 N	333°	-44°	144 (43.8m)
CL-91-3	L 3 + 65 E	1 + 00 N	153°	-83°	157 (47.9m)
CL-91-4	L 3 + 65 E	1 + 00 N	341°	-43°	139 (42.4m)
CL-91-5	L 3 + 65 E	1 + 00 N	341°	-60°	145 (44.2m)
CL-91-6	L 3 + 75 E	1 + 80 N	161°	-30°	145 (44.2m)
CL-91-7	L 0 + 00	0 + 54 N	329°	-45°	<u>144</u> (43.8m)
			TOTAL		1000

Holes CL-91-1 and CL-91-2 were designed to intersect the main vein zone and the surrounding shear zone to define the attitude of the vein and to check for mineralization in the wall rock. Both holes collared in massive basalt and intersected a zone of highly sericitic and chlortic basalt cut by irregular quartz veins, masses and stockworks. These zones were evident over a core length of 22.7m (74.5 ft), in hole CL-91-1 and over a core length of 23.5M (77.1 ft) in hole CL-91-2. Mineralization in both the quartz veins and the wall rock was found to be irregularly distributed. Therefore, due to the limited metreage available for the drill program hole CL-91-3 was designed to test the continuity of the mineralization by drilling along the vein between the surface and the underground drift on the 175 mine level. This hole indicated that the vein contacts and the distribution of sulphide mineralization was highly irregular. Also, the vein contained numerous highly altered fragments of wallrock of varying sizes. The hole was terminated when the bit broke through into the underground workings.

Holes CL-91-4, 5 and 6 were spotted in order to probe the faulted extension of the main vein northeast of the shaft. These holes encountered a wider shear/alteration zone as in holes CL-91-1, 2 but the main vein proved to be more continuous down dip and the sulphide mineralization was more homogeneously distributed than the main vein southwest of the shaft. Hole CL-91-6 was stopped after it entered the underground workings at 38.7m (127ft).

CONCLUSIONS AND RECOMMENDATIONS

The main vein at the Clenor property was observed to pinch and swell irregularly along strike and down dip. Gold values generally varied sympathetically with the sulphide content of the veins and the sulphides were distributed irregularly as disseminated aggregates throughout the vein. A wide mineralized shear/alteration zone hosted the main vein as well as many other irregular quartz veins, masses and stockworks. The wall rock was mineralized with pyrite and it carried low grade gold values. The main vein is flanked by a number of parallel veins and stockworks within the wider alteration zone.

Due to the irregular nature of the quartz veins and the contained sulphide mineralization intercepts from surface drill holes are only of limited use in defining the internal morphology and grade distribution of the mineralized quartz veins for reserve estimation purposes. Accordingly it is recommended that the most efficient way of evaluating the veins will be to dewater the old workings. This will allow for a careful mapping, sampling, crosscutting and short hole drilling program to be carried out to block out potentially mineable zones.

REFERENCES

- Bennet, G., 1978; Geology of the Northeast Temagami Area, District of Nipissing, Ontario Geological Survey Report 163, 128p.
- Derry, Michener, Booth & Wahl, 1989; Valuation of Mineral Rights Held By The Perrex Group in Ontario, Yukon Territory, Northwest Territories, Quebec and Ghana. private report in the files of Gwen Resources Ltd.
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- Warriner, L.P. 1961; Report on Consolidation of Certain Mining Properties, Strathy Township, Ontario. Private report in the files of Gwen Resources Ltd.

CERTIFICATION

I, Donald Robert Hawke, of the City of Mississauga, Province of Ontario, do hereby certify as follows;

1. I am a geologist residing at 302-1900 Bloor Street, Mississauga, Ontario, and I have practised my profession for the past 18 years.
2. I graduated from Cambriam College, Sault Ste. Marie, with a Geology Technician diploma in 1968, and from Laurentian University with an Hons, B.Sc. degree in Geology in 1973 and a M.Sc. degree in Geology in 1981.
3. I am a fellow of the Geological Association of Canada, and a member of the Canadian Institute of Mining and Metallurgy.
4. This report is based on the listed references plus my general knowledge of the area and numerous property visits during the period 1986 to 1992.
5. I have no interest direct or indirect in the property discussed in this report or in the securities of Gwen Resources Ltd., nor do I expect to receive any.

Mississauga, Ontario
February, 1992



D.R. Hawke, B.Sc., M.Sc., F.G.A.C.

C E R T I F I C A T E

I, Mary Mahood-Greer, of Kirkland Lake, Ontario, do hereby certify:

- 1) That I am a Geophysical Technician and reside at:
50 Dixon Avenue, Kirkland Lake, Ontario, P2N 3L1.
- 2) That I graduated from Sir Sandfor Fleming College at Lindsay,
Ontario, in 1978, with a diploma as a Geological Technician.
- 3) That I have been continuously engaged in my profession for
the past ten (10) years and I am qualified to write this report.
- 4) That I participated in this survey.

Dec. 24, 1991
Date

Mary Mahood-Greer
Mary Mahood-Greer
Geophysical Technician

LEGEND

PRECAMBRIAN

LATE PRECAMBRIAN

MARIC INTRUSIVE ROCKS

- 11a Olivine diabase (Sudbury type)
- 11b Granophytic (diabase?)
- 11c Intrusive breccia

INTRUSIVE CONTACT

MIDDLE PRECAMBRIAN

MARIC INTRUSIVE ROCKS

- 12a Quartz diabase gabbro
- 12b Amphibolite gabbro, diorite

INTRUSIVE CONTACT

HURONIAN SUPERGROUP

COBALT GROUP

GOWANDA FORMATION

- 3 Unsubdivided
- 3a Gneiss, micaeous, quartzite
- 3b Amphibolite, quartzite
- 3c Amphibolite, quartzite, minor gabbro and smaller components
- 3d Unconformity

EARLY PRECAMBRIAN

(ARCHAIC)

MARIC INTRUSIVE ROCKS

- 4 Unsubdivided
- 4a Altered diorite and gabbro (diabase)
- 4b Chloritic mafic diorite
- 4c Diorite and hornblende-rich gabbro

INTRUSIVE CONTACT

INTERMEDIATE TO FELSIC

INTRUSIVE ROCKS

- 7 Unsubdivided
- 7a Amphibolite quartz monzonite
- 7b Quartz monzonite, amphibolite
- 7c Quartz monzonite, amphibolite, gabbro
- 7d Hornblende amphibolite, quartz diorite
- 7e Hornblende quartz diorite, amphibolite
- 7f Hornblende quartz diorite, amphibolite, quartz monzonite
- 7g Quartz diorite, amphibolite (conglomeratic phases)
- 7h Amphibolite monzonite
- 7i Hybrid rocks, hornblende, megacrysts

INTRUSIVE CONTACT

HYPABISSAL FELSIC INTRUSIVE

ROCKS

- 8a Quartz porphyry
- 8b Quartz (felsic) porphyry

INTRUSIVE CONTACT

INTERMEDIATE TO ULTRAMARIC

INTRUSIVE ROCKS

- 9 Unsubdivided
- 9a Amphibolite diorite (green feldspar rocks)
- 9b Altered gabbro, quartz gabbro (conglomeratic phases)
- 9c Amphibolite, diorite, and altered equivalents
- 9d Amphibolite, quartzite, peridotite
- 9e Quartz diorite
- 9f Amphibolite gabbro

INTRUSIVE CONTACT

METAVOLCANICS AND

METASEDIMENTARY

DETITAL METASEDIMENTS

- 4 Unsubdivided
- 4a Light greenish, siliceous
- 4b Siliceous, thin (granitic in part)
- 4c Amphibolite, micaeous, calcareous
- 4d Trifluorous sandstone

IRON FORMATION

2 Unsubdivided

- 2a Banded siliceous-oxide facies
- 2b Siliceous facies

FELSIC TO INTERMEDIATE

METAVOLCANICS

- 2 Unsubdivided
- 2a Amphibolite, diorite, minor gabbro
- 2b Amphibolite, quartzite, tuff-breccia, minor gabbro
- 2c Amphibolite, quartzite, tuff-breccia, minor gabbro
- 2d Amphibolite, quartzite, tuff-breccia, minor gabbro
- 2e Amphibolite, quartzite, tuff-breccia, minor gabbro
- 2f Intermediate mafic breccia, tuff-breccia
- 2g Intermediate mafic-tuff, crystal tuff

MARIC TO INTERMEDIATE

METAVOLCANICS

- 1 Unsubdivided
- 1a Massive to foliated andesite and basalt
- 1b Basalt
- 1c Tuffaceous andesite and basalt
- 1d Fine-grained amphibolite, hornfels
- 1e Amphibolite basalt and andesite
- 1f Amphibolite, coarse-grained amphibolite
- 1g Mafic tuff, tuff, agglomerate



GEOLOGY OF PART OF STRATHCONA TOWNSHIP

- Ag Silver
- Au Gold
- carb Carbonate
- Ce Cerium
- Cu Copper
- gn Galena
- Ln Lanthanum
- Mo Molybdenum

- mo Molybdenite
- Ni Nickel
- Pd Palladium
- Pt Platinum
- q Quartz
- qc Quartz-carbonate
- S Sulphide mineralization

Scale



SYMBOLS

- Glacial till
- Esker
- Small beaver ponds
- Area of bedrock outcrop
- Bedding, top unknown; (inclined, vertical)
- Bedding, top (arrow) from grain position; (inclined, vertical, horizontal)
- Low flow, top (arrow) from pillow shape and packing
- Schistosity; (horizontal, inclined, vertical)
- Graben; (horizontal, inclined, vertical)
- Foliation; (horizontal, inclined, vertical)
- Shoaling; (inclined, vertical)
- Unconformity
- Unconformity with phuge
- Geological boundary, possible interpretation
- Well (observed, assumed), spot indicates down flow side, arrow indicates horizontal movement
- Unconformity
- Drag fold with phuge
- Anticline, syncline, with phuge
- Drill hole; (vertical, inclined)
- Well, width in inches
- Magnetic attraction
- Stream
- Water reef, Provincial Highway number indicates where applicable
- Other road
- Trail, perhaps winter road
- Township boundary, with mileage, approximate position only
- Mining property, surveyed
- Mineral deposit, mining property, unsurveyed
- Surveyed line, approximate position only



DIAMOND D



31M04SW0149 OM91-192 STRATHY

030

PROPERTY CLENOR TOWNSHIP STRATHY

PERRONS DATE DECEMBER 28, 1991 PAGE: 1 OF 2

HOLE NO. CL-91-1 DIP -63° AZMIUTH 333° LOGGED BY D. R. HAWKE

CORE SIZE BQ TOTAL FOOTAGE 144 FEET HOLE LOCATION L0+77E/1+35N

DIP FOOTAGE AND DEGREE _____

CASING LEFT IN HOLE: YES/NO _____ CASING FOOTAGE _____

DRILL TIME: START _____ FINISH _____ MECHANICAL TIME _____

MISCELLANEOUS PROBLEMS _____

Alvin H. Perron

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS
0.0 - 8.0	Casing		GOLD OZ/T SILVER I
8.0 - 13.0	Massive dark green basalt, brecciated in places (flow breccia?)		
13.0 - 23.2	Light green Andesite Tuff, light green, fine grain matrix with dark green chloritic sub-angular fragments to 4mm.		
23.2 - 48.4	As at 8.0-13.0 cut by a few white quartz-carbonate vein zones at 29.0 and 30.9.		
48.4 - 50.7	Feldspar Porphyry dike contacts at az. 30° at 29.0 and 30.0 upper contact highly weathered.		
50.7 - 69.5	As at 8.0-13.0. Possible pillow selvage at 58.5 become increasingly cut by irregular quartz-carbonate stringers and veins/breccia zones down the section. Slightly to moderate chloride at 62.0 contains 1-2% diss. pyrite. 63.5-65.8 contains az. 20% diss. pyrite that is brecciated in places. Possible interflow sediments.	(63.5 - 65.6) (65.6 - 69)	0.004 7 0.001 1
69.5 - 71.6	QUARTZ VEIN BRECCIA ZONE. Irregular zone containing much white quartz and dark grey quartz. - contains fragments of chloritic and sircitic wall rock and 20% diss. pyrite and 1-2% diss. galena. Also contains a fine grain fibrous lime green mineral (roscoelite?). - Upper and lower contacts irregular and gradational. - Also contains az. 1% leccoxene.	(69.5 - 71.6)	0.148 17

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS	
			GOLD	SILVER
71.6 - 94.6	ALTERED STOCKWORK ZONE Chloritic and siricitic basalt cut by numerous irregular quartz-carbonate stringers and small breccia zones, at least 2 generations of quartz in zone. Contains az. 1% diss. pyrite.	(71.6 - 73.8)	0.003	1
		(73.8 - 75.4)	0.194	9
		(75.4 - 77.4)	0.071	4
		(77.4 - 82.4)	0.007	2
		(82.4 - 87.4)	0.001	2
		(87.4 - 92.4)	0.002	2
4.6 - 97.0	QUARTZ VEIN Massive white quartz vein at az. 35° to center axis. Contains 5-8% diss. pyrite and 3-5% diss. galena, 1% diss. copper pyrite, less 1% honey coloured Sphal. Also contains highly siricitic wallrock fragments and some lime green fibrous mineral (roscocite?)	(94.6 - 97.0)	0.052	19
97.0 - 108.3	As at 71.6-94.6. Contains az. 3-5% diss. pyrite. 108.3-111.1 - much stronger brecciation and veining with az. 5% diss. pyrite.	(97.0 - 99.0)	0.096	5
		(99.0 - 104.0)	0.004	1
		(104. - 108.3)	0.006	<1
		(108.3 - 111.1)	0.024	3
111.1 - 113.0	QUARTZ VEIN - Contacts at az. 40° to center axis. - Contains az 1% diss. pyrite and galena.	(111.1-113.)	0.087	2
113.0 - 130.3	BASALT - massive, green (dark), fine grain, cut by a few irregular stringers quartz and carb. Contains generally <1% pyrite.	(113 - 118)	0.012	1
		(118 - 120.3)	0.016	2
		(120.3-129.3)	0.001	2
		(129.3-131.7)	0.007	1
130.3 - 141.9	QUARTZ - CARB STOCKWALL ZONE Cut by numerous irregular quartz-carb. stringers at all orientations and some larger quartz-carb. vein breccia zones. Contains up to 2% pyrite in rounded, brecciated blocks to 3 centimeters and as finer disseminations. (possible interflow sed.). Zone contains numerous highly siricitic & chloritic fragments wall rock & at least 2 generations of quartz (early white porcellaneous variety & late dark grey translucent variety).	(131.7-135.5)	0.004	3
		(135.5-138.7)	0.004	3
		(138.7-141.9)	0.003	4
141.9 - 144.0	LAMPROPHYRE? DIKE Highly deformed and altered. Contains az. 1% diss. pyrite.	(141.9-144)	0.002	2
144.0	END OF HOLE			

Alex H. Pearson



DIAMOND DRILL LOG

PROPERTY CLENOR TOWNSHIP STRATHY**ERRONS** DATE DECEMBER 29, 1991 PAGE: 1 OF 2HOLE NO. CL-91-2 DIP -44° AZMIUTH 333° LOGGED BY D. R. HAWKECORE SIZE BQ TOTAL FOOTAGE 144' HOLE LOCATION L 0+77E 1+35N

DIP FOOTAGE AND DEGREE _____

CASING LEFT IN HOLE: YES/NO _____ CASING FOOTAGE 12.0 FEET

DRILL TIME: START _____ FINISH _____ MECHANICAL TIME _____

DISCELLANEOUS PROBLEMS _____

Ally H. Pearson

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS	
			GOLD OZ/T	SILVER PPM
0.0 - 12.0	OVERBURDEN			
12.0 - 13.2	BASALT, dark green fine grained massive			
13.2 - 23.2	INTERMEDIATE TUFF? - Light grey matrix with a few sub-angular frags to 2 mm. - Same as 13.0 to 23.2 in hole CL-91-2.			
23.2 - 46.0	As at 12.0-13.2 - Cut by a few irregular quartz-carb. stringers. Contains 1-2% diss. pyrite.			
46.0 - 50.2	ANDESITE FLOW, massive, fine grained, light green, 46.0-47.6 - cut by numerous white quartz stringers at az. 30° to c. axis.			
50.2 - 52.2	INTERFLOW SED.? Dark green to black with az. 15% pyrite as irreg. blebs and disseminations.	(50.2 - 52.2)	0.004	5
52.2 - 58.4	BASALT FLOW BRECCIA Dark green fine grained, with subrounded frags to 4 cm.	(52.2 - 57.4) (57.4 - 58.4)	0.001 0.005	1 2
58.4 - 62.1	QUARTZ VEIN/ALTERATION ZONE g.v. - cut by numerous irregular stringers and patches of white and grey quartz wall-rock highly sericitized and epidotized? - contains 3-5% pyrite as irregular sub-rounded blebs and disseminations. - possible small speck v.g. at 59.6 61.0-62.3 - highly weathered.	(58.4 - 61.0) (61.0 - 62.3)	0.093 0.042	15 4
62.1 - 64.3	As at 51.2 - 56.4	(62.3 - 64.3)	0.003	1
64.3 - 77.4	As at 58.4-62.1 g.v. 71.0-74.0 - mainly quartz (2 types) - contains az. 15% pyrite, 2-3% galena and az. 1% cp. and some dark grey black,	(64.3 - 69.3) (69.3 - 71.0) (71.0 - 74.0) (74.0 - 77.4)	0.001 0.003 0.120 0.058	1 4 84 4

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS	
	fine grain mineral (tetrahedrite?) Same as 94.6-97-0 in hole CL-91-1		GOLD OZ/T SIL.PP	
77.4 - 108.2	BASALT, massive fine grain, dark green cut by numerous irreg. quartz-carb veins at az. 0-50° to c. axis, slightly silicified, chloritized and sericitized. - Contains up to 2% diss. pyrite generally with the quartz veins.	(77.4 - 79.4) (97. -101.)	0.001 0.008	<1 1
108.2 - 112.6	INTERFLOW SEDIMENT Dark grey to black fine grain, medium to highly chloritic and carbonatized. Contains az. 3% diss. pyrite.	(107.2-112.6)	0.008	1
112.6 - 115.3	As at 77.4-108.2	(112.6-115.3)	0.002	1
115.3 - 120.4	QUARTZ STOCKWORK Green fine grain chloritic basalt cut by numerous irreg. stringers quartz and carb. Contains 3-5% pyrite intruded blebs and fine disseminations.	(115.3-117.2) (117.2-120.4)	0.024 0.001	6 2
120.4 - 125.6	QUARTZ BRECCIA ZONE - Highly alt. wall rock as at 115.3 to 120.4 white porcellaneous quartz is brecciated by dark grey quartz.	(120.4-125.0)	0.002	3
125.6 - 130.0	QUARTZ VEIN g.v. - contacts irreg. white quartz, brecciated and cut by dark grey quartz. Little wall rock inclusions. Contains 2-3% pyrite.	(125.0-130.0)	0.001	1
130.0 - 133.8	LAMPROPHYRE? DIKE - highly altered and deformed with 1-2% pyrite (diss.) Foliation at az. 45° to c. axis.	(130. -133.8)	0.003	3
133.8 - 135.5	QUARTZ VEIN - White quartz vein 2.5 cm wide at az. 10° to c. axis. Very fine dark grey black mineral along selvages (tetrahedritic?).	(133.8-135.5)	0.003	4
135.5 - 144.0	BASALT Dark green to black fine grain, mod. chloritic and carb.			
144.0	END OF HOLE.			

Steve H. Person



DIAMOND DRILL LOG



PROPERTY CLENOR TOWNSHIP STRATHY

PERRONS DATE DECEMBER 30, 1991 PAGE: 1 OF 3

HOLE NO. CL-91-3 DIP _____ AZMIUTH _____ LOGGED BY D. R. HAWKE

CORE SIZE BQ TOTAL FOOTAGE 157' HOLE LOCATION _____

DIP FOOTAGE AND DEGREE _____

CASING LEFT IN HOLE: YES/NO _____ CASING FOOTAGE _____

DRILL TIME: START _____ FINISH _____ MECHANICAL TIME _____

MISCELLANEOUS PROBLEMS _____

Alex H. Perrons

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS	
			GOLD OZ/T	SILVER F
0 - 6.0	OVERBURDEN			
6.0 - 7.0	BASALT, massive fine grain dark green			
7.0 - 9.4	BROKEN CORE			
9.4 - 19.6	ANDESITE FLOW Massive, fine grain, light green, cut by quartz stringers. 11.4-12.0 - broken core, dark green 17.0-18.3' - quartz-carb veins			
19.6 - 23.0	As at 6.0-7.0 Cut by quartz stringers at 20.5-21.0 23.0' - quartz vein az. 30° to c. axis			
23.0 - 30.5	As at 9.4-19.6 Fine grained, light green to grey green 26.0-30.5 - brecciated - variations of light green and grey green blobs, more fine grained pyrite and irregular quartz-carb stringers. 27.1-27.2 weathered rust red zone.	(26.0 - 30.6)	0.001	
30.5 - 52.3	ALTERED ANDESITE BRECCIA - Pyrite found in cubic form - Light grey green colour - Wall rock highly sericitized. 32.0-34.0 - concentrated pyrite and alteration zones. 36.4-36.6 - quartz vein az 60° to c. axis 38.7 - quartz veins az. 90° to c. axis. 43.0-45.5 - quartz stockwork most trending parallel to core axis possibly brecciated high amounts of pyrite dark green. 47.2-47.6 - two parallel quartz veins az at 140° to c. axis with a centre of sericitized wall rock. 49.8-50.0 - quartz vein az. 90° to c. axis	(30.6 - 35.6) (36. - 38.6) (38.6 - 39.4) (39.4 - 42.4) (42.4 - 44.5) (44.5 - 49.4) (49.4 - 51.1)	0.036 0.007 0.010 0.001 0.007 0.068 0.015	

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS
52.3 - 56.0	As at 9.4-19.6 Similar to above zone less alteration and less pyrite, less quartz veins, more homogenous possibly a tuff?	(51.1 - 56.1)	GOLD OZ/T 0.012
56.0 - 57.6	As at 30.5-52.3 - 10% pyrite highly sericitized, darker green quartz vein at 56.2' az. 140° to c. axis. 56.5 - quartz vein at az. 75° to c. axis.	(56.1 - 60.1)	0.002
57.6 - 62.0	As at 9.4-19.6	(60.1 - 65.6)	0.006
62.0 - 65.6	ALTERED BASALT, dark green to black fine grained, upper contact visible at 62.0' az. 170° to c. axis. 64.9 to 65.6 Quartz Stockwork - concentrated pyrite.		
65.6 - 72.7	Same as 62.0 to 65.6 70.5 rust quartz vein 70.8 concentrated pyrite 70.5 to 72.7 minor quartz vein with 10% pyrite possibly brecciated, 72.7 lower contact separated by narrow quartz vein az. 35° to c. axis.	(65.6 - 70.2) (70.2 - 72.8)	0.001 0.003
72.7 - 81.5	Same as 30.5 to 52.3 77.0-77.5 highly pyrite concentration 78.2-81.5 highly altered, sericitized and epidotized? Very light grey grey.	(72.8 - 76.0) (76.0 - 80.0) (80.0 - 81.6)	0.009 0.049 0.083
81.5 - 82.0	QUARTZ VEIN - Contacts irregular, white quartz breccia wall rock inclusions, less than 2% pyrite.	(81.6 - 82.0)	0.066
82.0 - 84.0	Same as 30.5-52.3 83.0 to 84.0 - quartz stockwork green/white, basalt cut by irregular masses of quartz-carb.	(82.0 - 87.0)	0.087
84.0 - 86.1	QUARTZ VEIN - Massive white quartz-blebs of pyrite. - Lower contact - not visible - blends into sericitic altered andestitic rock, equal amounts of quartz, some quartz carbonate.		
86.1 - 87.2	HIGHLY ALTERED SERICITIC ZONE - 10% pyrite, large blebs of sericite quartz intruded.		
87.2 - 89.0	BASALT BRECCIA - Minor amounts of quartz veining 5% pyrite, epidotized.	(87.0 - 89.0)	0.012
89.0 - 91.7	Same 86.1 to 87.2	(89.0 - 91.6)	0.029

David H. Perrow

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS
91.7 - 129.0	QUARTZ STOCKWORK IN BASALT Grey green fine grained, chloritic basalt containing numerous irregular quartz veins and quartz-carb. stringers. Most quartz-carb veins parallel to c. axis. Contains areas of 3-5% pyrite as well as disseminated pyrite in large masses, scattered throughout the zone.	(91.6 - 94.1) (94.1 - 99.0) (99.0 - 104.0) (104.0 - 106.0) (106.0 - 109.0) (109.0 - 114.0) (114.0 - 117.0) (117.0 - 119.0) (119.0 - 122.0) (122.0 - 124.0) (124.0 - 129.0)	GOLD OZ/T SILVER PPM 0.006 0.007 0.001 0.003 0.001 0.007 0.054 0.002 0.020 0.007 0.054
129.0 - 138.5	QUARTZ VEIN BRECCIA ZONE - irregular zone containing white quartz. - contains frag. and blebs of chloritic and sericitic basalt. 130.0 - 130.5 pure white quartz.	(129.0-134.0) (134.0-137.2) (137.2-138.7)	0.012 0.008 0.008
138.5 - 143.4	Same as 91.7 to 129.0 142-144.0 - less quartz stockwork, more epidotized wall rock and sericitic basalt.	(138.7-144.0)	0.057
143.4 - 146.4	BASALT - massive fine grained green. Cut by a few quartz stringers less than 1% pyrite.	(144.0-144.08)	0.001
146.5 - 148.7	ANDESITE TUFF Fine grained, light grey green matrix Small sub-angular (occasionally elongated) chloritic fragments.		
148.7 - 151.6	ANDESITIC BRECCIATED ZONE - Irregular quartz and quartz-carb. stringers. - Sericitic wall rock 2% pyrite.	(148.7-150.0)	0.010
151.6 - 155.5	Same as 146.5 - 148.7	(155.0-157.0)	0.012
155.5 - 157.0	Same as 148.7 - 151.6		
157.0	END OF HOLE.		

Alastair Pearson



DIAMOND DRILL LOG



PROPERTY CLENOR TOWNSHIP STRATHY

ERRONS

DATE DECEMBER 30, 1991 PAGE: 1 OF 2

HOLE NO. CL-91-4 DIP _____ AZMIUTH 341° LOGGED BY D. R. HAWKE

CORE SIZE BQ TOTAL FOOTAGE 139 HOLE LOCATION _____

DIP FOOTAGE AND DEGREE _____

CASING LEFT IN HOLE: YES/NO _____ CASING FOOTAGE _____

DRILL TIME: START _____ FINISH _____ MECHANICAL TIME _____

MISCELLANEOUS PROBLEMS _____

Accepted Report

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS	
			GOLD OZ/T	SILVER P
0 - 7.0	OVERBURDEN			
7.0 - 68.0	BASALT - Massive fine grained dark green - Interspersed with quartz-carb. veins - Minor amounts of very fine diss. sericite 40.0-41.0 - broken rusty brown 63.4-64.1 - diabase dyke? sericitic, chloritic med. grained rock. 64.1-67.0 - quartz stockwork in basalt	(48.3 - 49.3)	<0.001	1
68.0 - 70.7	ALTERATION ZONE Fine grained epidotized and sericitized basalt possibly brecciated flow. 70.1-70.7 - quartz stockwork	(70.0 - 71.1)	<0.001	2
70.7 - 72.3	BASALT - Fine grained green massive.	(72.2 - 72.8) (73.4 - 74.2)	<0.001 0.001	2 2
72.3 - 80.0	Same as 68.0 to 70.7 - Areas of more alteration including some rust zones. - Quartz stockwork at 73.5 to 74.6	(78.0 - 81.0)	0.001	2
80.0 - 83.0	Same as 70.7 to 72.3. 81.7 - 82.6 Quartz carbonate.			
83.0 - 91.0	QUARTZ STOCKWORK ALTERATION ZONE - Numerous irr. quartz-carb stringers occurring in olive green sericitic and chloritic wall rock. 85.5 bleb of chalcopyrite 86.0-86.3 quartz vein with dull yellow staining. 90.1-90.3 - quartz vein, upper contact 125° to c axis. 90.3 - molybdenum min. at lower contact found in two blebs.	(83.0 - 87.7), (87.7 - 91.5)	0.022 0.019	8 3

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS	
			GOLD OZ/T	SILVER PPM
91.0 - 95.6	BASALT, massive fine grained dark green with some B.S. porphyry and quartz-carb. stringers. 91.0-91.6 rusty zone with quartz vein at 91.2 az. 130° to c. axis.			
95.6 - 98.3	QUARTZ STOCKWORK IN BASALT 95.6-97.0 higher amounts quartz veining with large blebs of sericitic altered basalt.	(95.6-98.0)	0.001	1
98.3 - 110.4	B.S. PORPHYRY BASALT fine grained, green with small phenocrysts (2-3 mm) of quartz eyes and quartz carb.	(107.4-108.1)	<0.001	1
110.4 - 117.0	BASALT Dark fine grained, green, interspersed with chloritic alteration, very minor amounts of quartz-carb.	(110.6-113.8) (113.8-115.0) (115.0-115.7)	<0.001 <0.001 0.001	<1 1 1
117.0 - 126.3	Same as 83.0-91.0 Rusty zone at 123.0	(122.0-126.4)	0.001	1
126.3 - 128.3	DIABASE DYKE 126.3 to 126.6 rusty alteration zone.			
128.3 - 139.0	BASALT Massive fine grained, dark green basalt. 129.1 to 130.4 quartz stockwork - quartz-carb. veins.	(131.0-132.3)	<0.001	2
139.0	END OF HOLE.			

Alex H. Benson



DIAMOND DRILL LOG



PROPERTY CLENOR TOWNSHIP STRATHY

ERRONS DATE DECEMBER 29, 1991 PAGE: 1 OF 3

HOLE NO. CL-91-5 DIP _____ AZMIUTH 341° LOGGED BY D. R. HAWKE

CORE SIZE BQ TOTAL FOOTAGE 145' HOLE LOCATION _____

DIP FOOTAGE AND DEGREE _____

CASING LEFT IN HOLE: YES/NO _____ CASING FOOTAGE 10.5 FEET

DRILL TIME: START _____ FINISH _____ MECHANICAL TIME _____

MISCELLANEOUS PROBLEMS _____

Alfred H. Peres

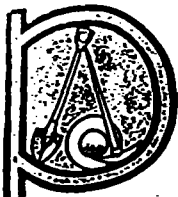
FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS	
			GOLD OZ/T	SILVER P
0 - 10.5	OVERBURDEN			
10.5 - 45.0	BASALT, dark green, fine grained, massive minor quartz-carb. veining. Some broken up rusty weathered sections 35.7 to 37.0 - altered rusty red-light green chloritized rock. 40.8 to 41.1 - quartz-quartz-carbonate stockwork.	(36. - 37.) (38. - 38.7) (42. - 43.)	0.002 <0.001 <0.001	2 2 2
45.0 - 53.2	MAFIC TUFF Medium green fine grained matrix with stretched elongated phenocrysts approx. less than 1 mm long-varying from cloudy grey to dull yellow (sericite?) Foliation az. 140° to core axis. 46.8 to 47.8 broken core weathering rusty red. 49.0 to 50.0 - slightly mineralized core (pyrite) some minor quartz veining (stockwork).	(46. - 47.)	<0.001	1
53.2 - 55.1	ALTERATION ZONE - Chloritized and sericitized andesite? olive green fine to medium grain core < 1% pyrite, may be brecciated in places.	(53.3 - 54.6)	0.002	2
55.1 - 58.6	Same as 45.0 to 53.2 - 55.7-56.5 weathered rusty red. - 57.1 siliceous rounded frag. dark grey black. - lower contact easily seen az. 50° to c. axis.			
58.6 - 61.6	MAFIC BRECCIATED ZONE - Medium dark green fine grained matrix - contains large blebs of pyrite.			

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS
	61.1 to 61.6 broken up. 61.6 lower contact weathered rusty brown		GOLD OZ/T SILVER PPM
61.6 - 67.0	QUARTZ STOCKWORK - Light olive green fine grained chloritic basalt - Intercut by numerous quartz-carb. stringers - 1% pyrite. 65.0 rusty brown weathering.	(61.2-67.0)	0.002 2
67.0 - 68.5	QUARTZ BRECCIA Matrix similar as other basalts up/down hole fine grained, green-grey with large blebs of quartz and rusted edges.		
68.5 - 69.3	QUARTZ STOCKWORK Cut by numerous quartz-carbonate stringers matrix fine grained, light green to grey no min. seen.		
69.3 - 70.2	MAFIC DYKE - contact broken up rock weathered rusty brown, could be a small mafic dyke.		
70.2 - 75.5	BASALT - fine grained, dark green, massive - some quartz-carb. veining 73.6 to 75.5 rusty broken core.		
75.5 - 87.6	BRECCIATED BASALT (Flow Top) - Fine grained, dark green core with quartz-carb. stringers. - Blebs and fragments of brecciated material. - Small quartz (eyes 1mm) at lower part of zone - Lower contact rusty brown az. 60° to c. axis - minor amounts of pyrite 1% or less. - some places brecciation not visible.	(84. -84.7)	<0.001. 2
87.6 - 94.0	B.S. PORPHYRY BASALT Fine grained dark green basalt with small quartz and carbonate blebs. 93.2-94.0 rusty brown contact not obvious.		
94.0 - 102.7	ALTERATION ZONE - dark green to black fine grained basalt. - broken up by zones of weathered rusty red-brown areas. Interspersed with quartz veins and high concentrations of pyrite. 94.0-95.6 dark green basalt < 1% pyrite no quartz Some pyrite veining. 95.6-97.1 - weathered broken core chalky green-brown 97.1-97.6 - basalt with quartz stringers. 97.6-99.0 - as at 95.6-97.1	(94.6-95.8) (99.3-102.)	<0.001 1 0.003 4

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FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS	
			GOLD OZ/T	SILVER PPM
	99.0-102.7 - basalt - larger concentration of pyrite. 100.8-101.3 - sulfides compose 50% of matrix copper coloured mineral - pyrrhotite? Mixed in with large quartz blebs.			
102.7 - 112.0	BRECCIATED CHLORITIC BASALT - with quartz stockwork - blebs of brecciated material, fine grained olive green. - quartz-carb stringers scattered throughout 109.0 - rusty brown weathering. - foliation appears to be az. 70° to c. axis	(104. - 106.6)	< 0.001	2
112.0 - 117.9	BRECCIATED BASALT - Same as above only dark green to black 112.0 to 113.0 - highly mineralized pyrite as disseminated veinlets, pyrite at 5%. 113.0-113.5 - quartz stockwork 115.5 to 116.5 - quartz eyes 116.9 to 117.3 - very fine disseminated pyrite.	(112.-113.8) (114.-115.3)	0.001 0.001	3 2
117.9 - 118.9	QUARTZ STOCKWORK - cut by numerous irr. quartz stringers. - no pyrite. 118.7-118.9 - heavily brecc. contact.	(117.1-117.8)	0.001	2
118.9 - 121.2	Same as 102.7 to 112.0 119.2-119.6 - heavily mineralized with pyrite. 120.7-121.0 - heavily mix. pyrite.	(119.2-120.1)	0.001	2
121.2 - 131.0	Same as 112.0 to 117.9 121.7 to 122.1 - large pyrite crystals (2mm)	(120.3-123.6)	< 0.001	2
131.0 - 131.5	FELDSPAR PORPHYRY DYKE - contact at 120° to c. axis - contact at 85° to c. axis			
131.5 - 131.9	INTERFLOW SEDIMENT - very fine grained medium grey green, mod. to highly chloritic. - rusty brown at lower contact.			
131.9 - 134.7	Same as 131.0 to 131.5 Colour rusty red brown.			
134.7 - 145.0	Same as 112.0 to 117.9 Not as much pyrite mineralization varies from larger fragments (4mm) to areas of fine fragments stretched out into thin layers.			
145.0	END OF HOLE.			

Alex H. Brown



DIAMOND DRILL LOG



PROPERTY CLENOR TOWNSHIP STRATHY
ERRONS DATE JANUARY 19, 1992 PAGE: 1 OF 2
 HOLE NO. CL-91-6 DIP -83° AZMIUTH _____ LOGGED BY D. R. HAWKE
 CORE SIZE BQ TOTAL FOOTAGE 130.0 HOLE LOCATION _____
 DIP FOOTAGE AND DEGREE _____
 CASING LEFT IN HOLE: YES/NO _____ CASING FOOTAGE 8.4'
 DRILL TIME: START _____ FINISH _____ MECHANICAL TIME _____
 MISCELLANEOUS PROBLEMS _____
Keith Penner

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS	
			GOLD OZ/T	SILVER
0.0 - 8.4	OVERBURDEN			
8.4 - 15.0	BASALT, highly silicified, carb., ser. quartz stringers and foliation at az. 0-5° to c. axis.	(11.3 - 15.0)	0.016	
15.0 - 16.2	WHITE QUARTZ VEIN 3cm wide at 5° to center axis.	(15.0 - 16.2)	0.020	
16.0 - 43.9	As at 8.4-15.0 weathered along fract. Contains 1% diss. pyrite chalcopryrite.	(16.2 - 19.5)	0.008	
		(24.4 - 29.4)	0.004	
		(35.5 - 40.5)	0.006	
		(40.5 - 43.5)	0.002	
43.9 - 56.5	WHITE QUARTZ VEIN - contains numerous inclusions, highly altered wall rock, and 15-20% rusty weathering carb. - contains 1-2% diss. galena, pyrite, chalcopryrite and sphalenite, locally to 5%	(43.0 - 48.7)	0.012	
		(48.7 - 50.8)	0.006	
		(50.8 - 52.7)	0.004	
		(52.7 - 56.4)	0.014	
56.5 - 61.4	As at 8.4-15.0, contains 3-5% diss. pyrite		0.028	
61.4 - 67.4	WHITE QUARTZ VEIN, as at 43.9 to 56.5		0.008	
67.4 - 69.6	As at 8.4-15.0		0.010	
69.6 - 81.8	WHITE QUARTZ VEIN, as at 43.9-56.5 Sulphides locally to 10%	(69.6 - 75.6)	0.200	
		(75.6 - 80.8)	0.066	
		(80.8 - 81.8)	0.098	
81.8 - 87.7	As at 56.5 to 61.4		0.066	
87.7 - 94.2	WHITE QUARTZ VEIN, as at 69.6-81-8	(87.7 - 93.3)	0.798	
94.2 - 96.4	LAMPROPHYRE DIKE Dark green black, fine grained, massive contacts at 275° to c. axis.	(93.3 - 94.8)	0.146	
		(96.4 - 100.4)	0.074	
		(100.4 - 105.4)	0.004	
		(105.4 - 110.3)	0.056	
		(110.3 - 113.5)	0.018	
		(113.5 - 116.1)	0.012	
		(116.1 - 121.0)	0.004	
96.4 - 126.7	WHITE QUARTZ VIEN - contains numerous inclusions, highly altered wall rock mostly orientated at az. 0-5% to c. axis.	(121.0 - 126.6)	0.020	

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS
126.7 - 130.0	Contains 3-5% diss. pyrite, galena, chalcopyrite. BASALT? Dark green to black, fine grained, highly chloritic, sili and carb.	(126.6-130.3)	GOLD OZ/T SILV PR 0.004
130.0	END OF HOLE		

Handwritten signature: Alex H. Roman



DIAMOND DRILL LOG



PROPERTY CLENOR TOWNSHIP STRATHY

PERRONS DATE JANUARY 19, 1992 PAGE: 1 OF 1

HOLE NO. CL-91-7 DIP -43° AZMIUTH 329° LOGGED BY D. R. HAWKE

CORE SIZE BQ TOTAL FOOTAGE 144.0 HOLE LOCATION L 0+00 0+54N

DIP FOOTAGE AND DEGREE _____

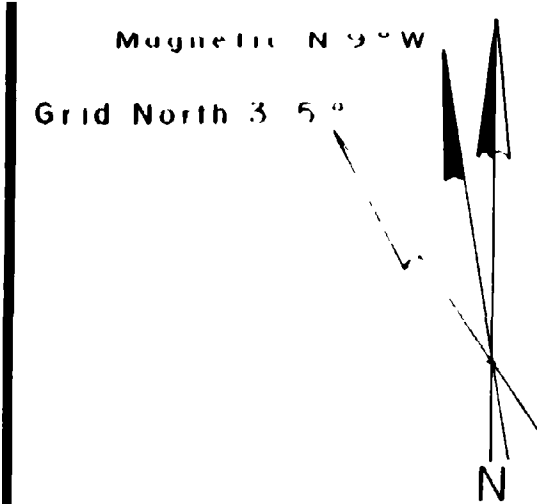
CASING LEFT IN HOLE: YES/NO _____ CASING FOOTAGE 10.6'

DRILL TIME: START _____ FINISH _____ MECHANICAL TIME _____

MISCELLANEOUS PROBLEMS _____

FOOTAGE	DESCRIPTION	ASSAYED FOR	ASSAY RESULTS
0.0 - 10.6	OVERBURDEN		GOLD OZ/T SILVER
10.6 - 107.6	BASALT - Dark green, fine grained, massive mod. chloritic and carb. 10.6 - 21.2 - highly silicified and carb. Cut by numerous irregular quartz-carb. stringers veinlets and masses at various orientations to c. axis. 61.0-61.7 - mostly quartz and carb. with about 5% diss. pyrite. Irregular contacts at az. 45° to c. axis.	(10.6 - 15.6) (15.6 - 21.5) (21.5 - 26.2) (60.6 - 61.5) (97.5 -102.2) (102.2-106.)	0.002 0.002 0.002 0.088 0.002 TRACE
107.6 - 111.8	WHITE QUARTZ VEIN Contains many ser. and chl. fragments of wall rock and 1-3% diss. pyrite.	(106.6-111.7)	0.180
111.8 - 132.5	BASALT, light green, highly altered (chl. and ser.) Contains many irregular quartz and masses of quartz and carb. Generally orientated at az. 40° to c. axis.	(111.7-116.6) (116.6-122.2) (122.2-127.1) (127.1-129.3) (129.3-132.3)	0.004 0.020 0.034 0.016 0.026
132.5 - 135.3	DIABASE DIKE Dark green, fine grained, massive contacts at az. 90° to c. axis.		
135.5 - 144.0	As at 111.8 - 132.5	(141. - 144.)	0.002
144.0	END OF HOLE.		

Handwritten signature: D. R. Hawke



SYMBOLS

- Outcrop Higher ground
- Vegetation boundary
- Cedar, spruce, balsam fir Pine
- Birch, poplar Alder Grass
- Road Creek Pond
- Trench Adit Raise
- Shaft Survey Pin
- Diamond drill holes

LEGEND

PRECAMBRIAN

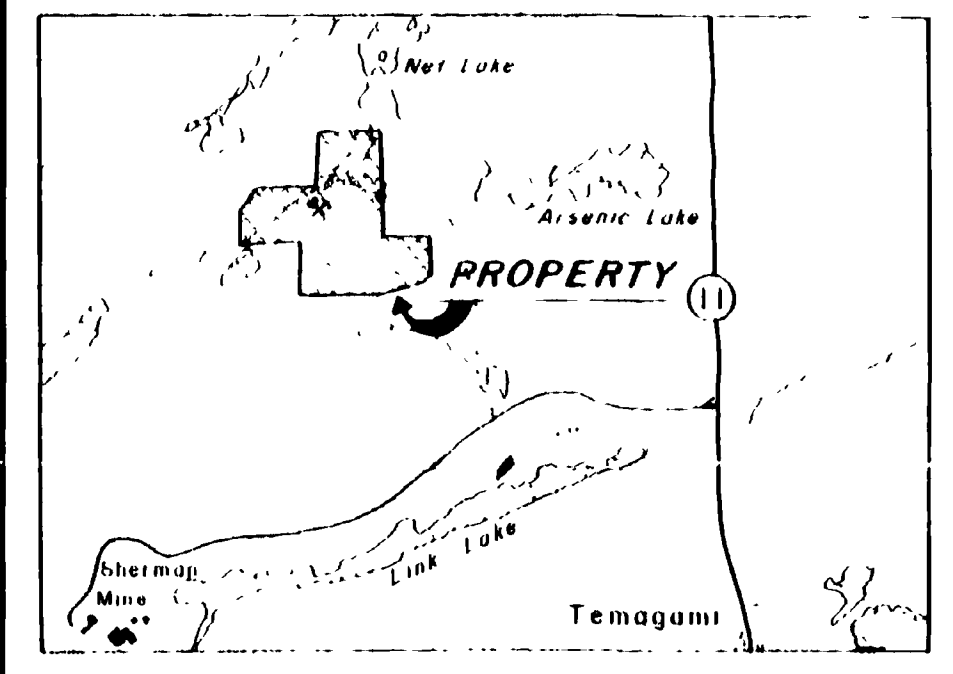
VOLCANICS

- Andesite and basalt massive to foliated
- Pillowed flows
- Iron

Report by: Alexander Perron

KEY MAP

1:50,000



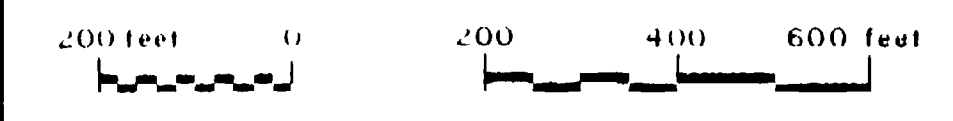
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GEOLOGICAL SURVEY

STRATH TOWNSHIP
SUDBURY MINING DIVISION
DISTRICT OF NIPISSING



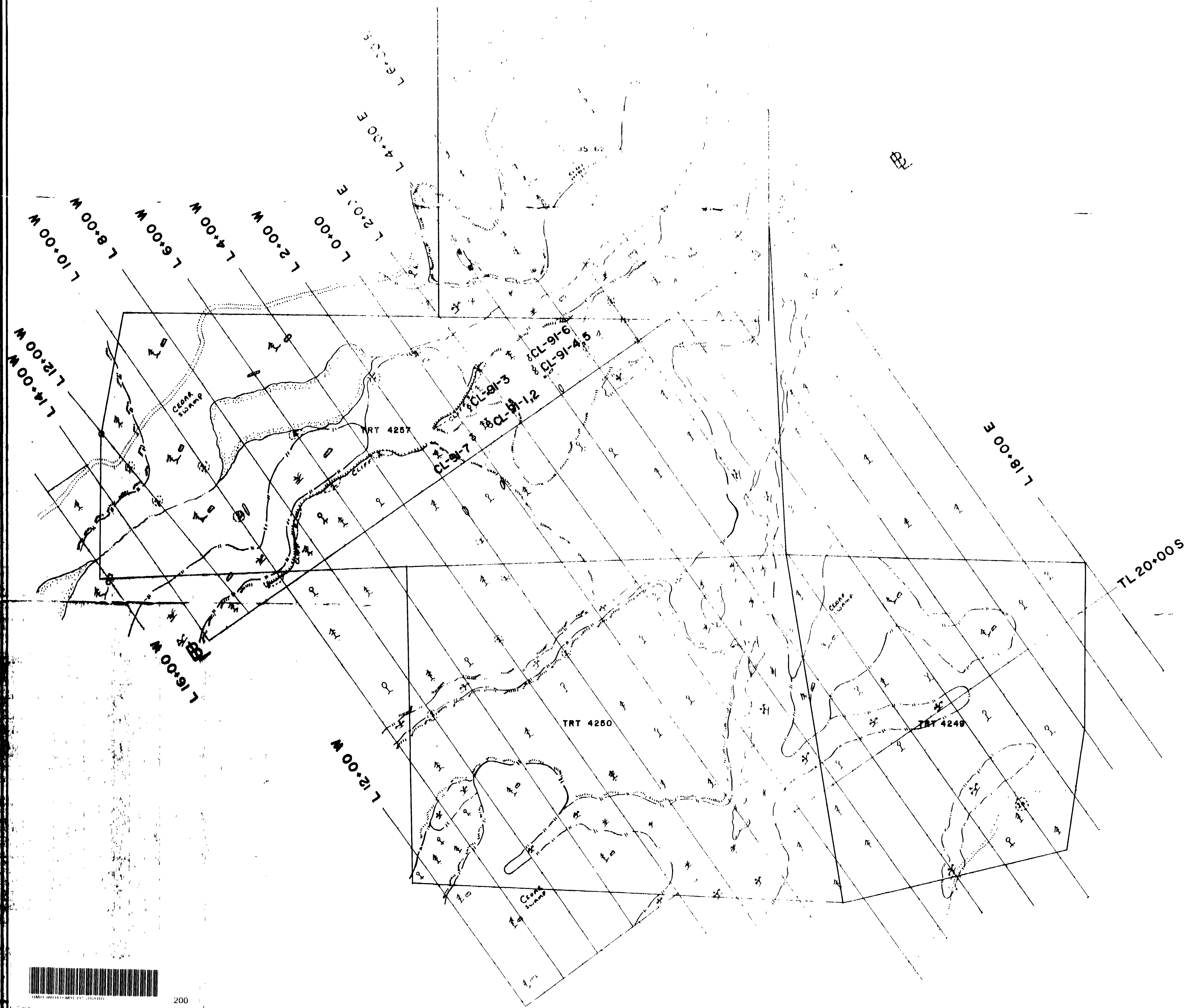
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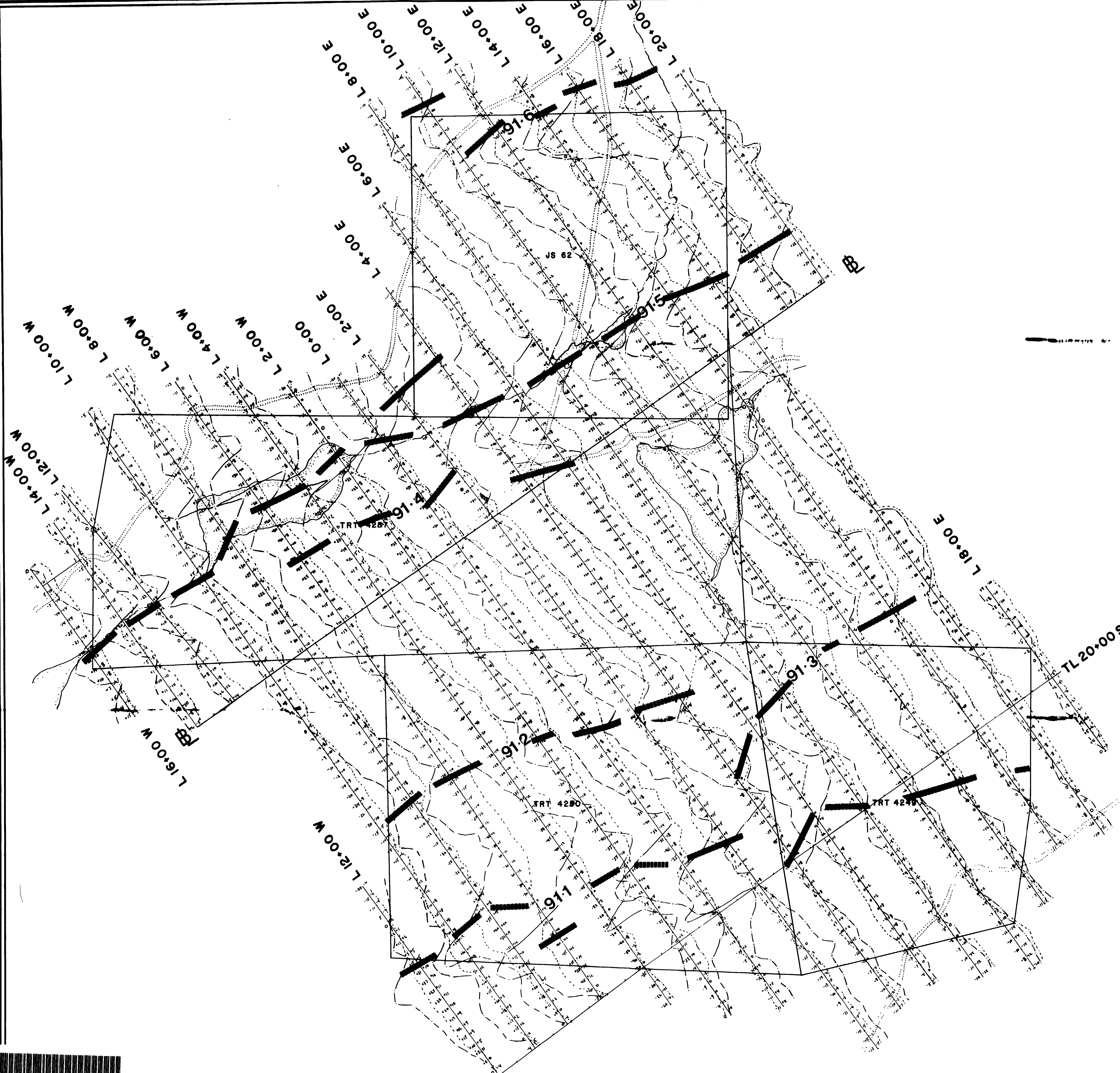
Fig. 3 *D.R. Hawke*

PERRONS

KIRKLAND LAKE CANADA

Map No. 10-1-10-10-10
Drawn by: M. J. McLeod
Date: November 1975



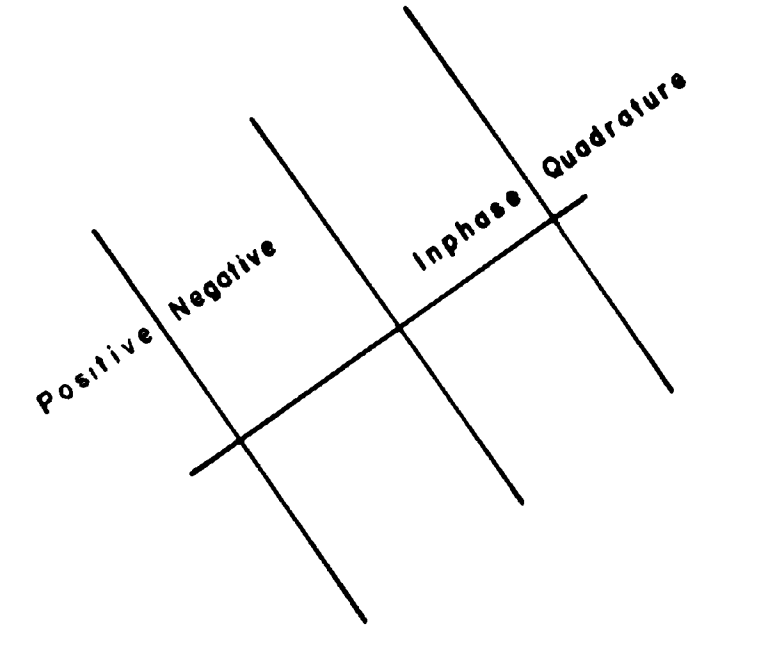


Magnetic N 9°W
Grid North 335°

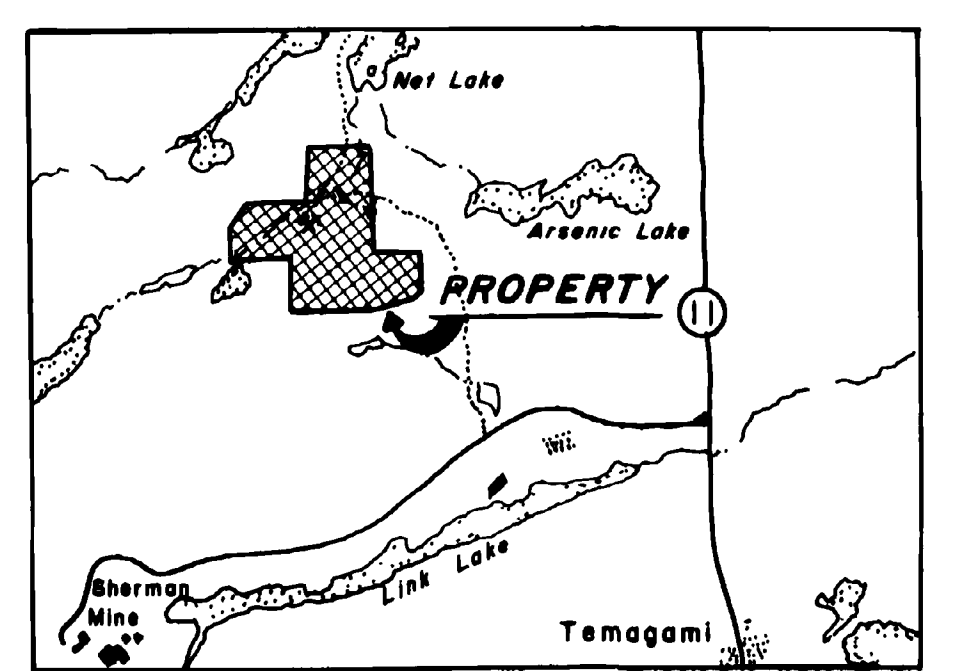
- SYMBOLS**
- Inphase
 - Quadrature
 - VLF Conductor
 - Road
 - Creek
 - Pond
 - Shaft
 - Raise
 - Survey Pin

INSTRUMENTATION

Instrument used: EDA OMNI-PLUS
Mag-VLF (VI2F)
Station used: NAA Cutler, Maine
Frequency: 24.0 kHz
Vertical scale: 1 inch = ± 40%
Plotted by: Wendy Weller
Report by: Mary Mahood-Greer



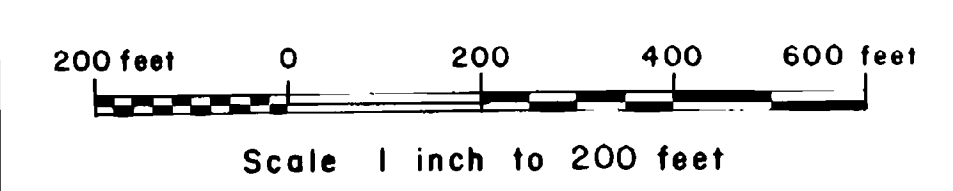
KEY MAP 1:50,000



Mary Mahood-Greer

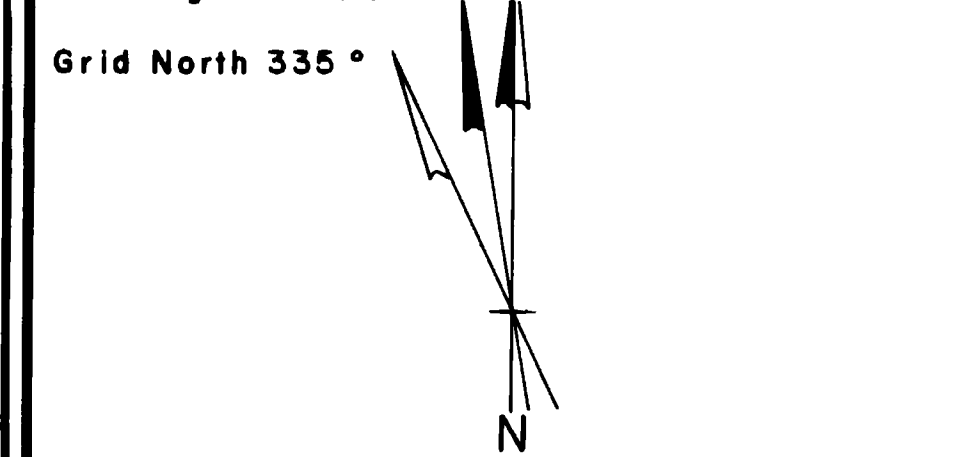
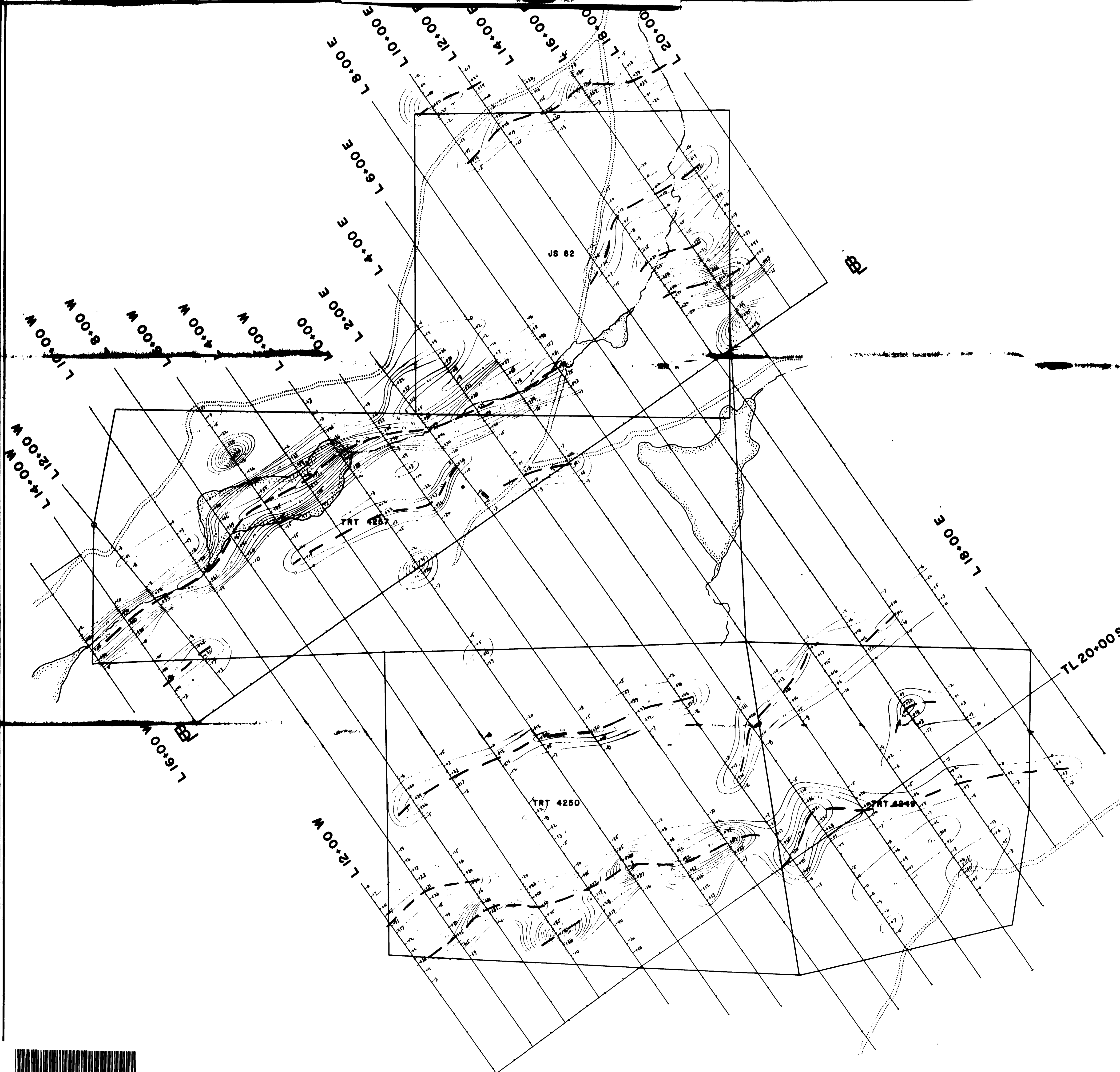
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GROUND VLF-EM SURVEY
NAA-Profiled

STRATHY TOWNSHIP
SUDBURY MINING DIVISION
DISTRICT OF NIPISSING



PERRONS
KIRKLAND LAKE CANADA
Map No. 91 Clenor EM NAA I
Drawn by Mary Mahood-Greer Date, November 1991



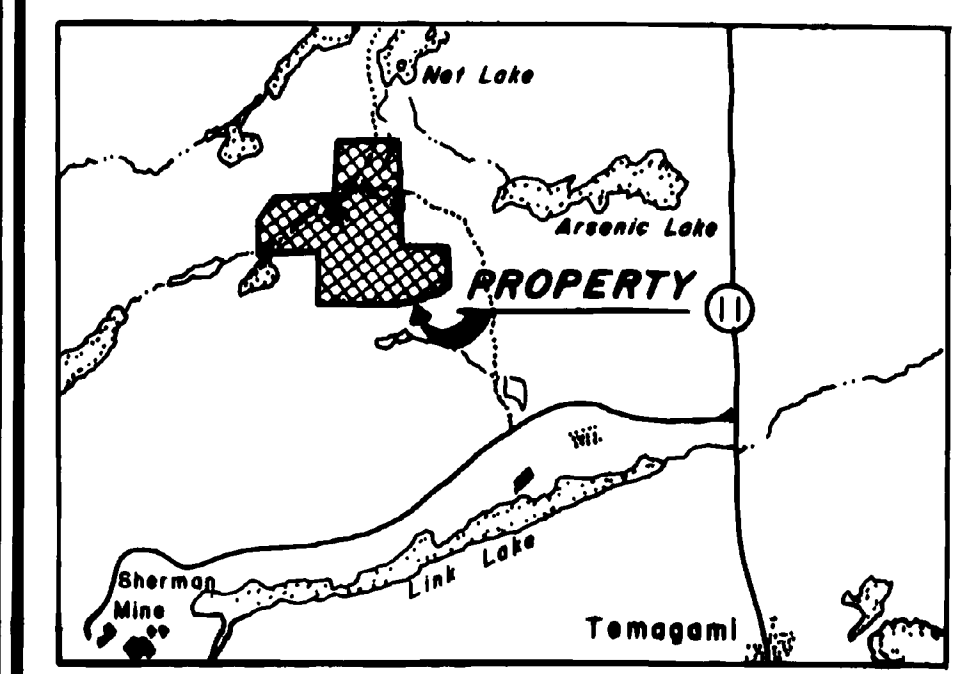


- SYMBOLS**
- Electromagnetic response
 - Fraser filter positive values
 - VLF Conductor axis
 - Creek
 - Pond
 - Road
 - Shaft
 - Raise
 - Survey Pin

INSTRUMENTATION

Station used: NAA Cutter, Maine
 Contour interval: 10 units
 Contoured by: Mary Mahood-Greer

KEY MAP 1:50,000



Mary Mahood-Greer

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GROUND VLF-EM SURVEY
NAA-Contoured

STRATHY TOWNSHIP
 SUDBURY MINING DIVISION
 DISTRICT OF NIPISSING


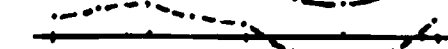







200 feet 0 200 400 600 feet
 Scale: 1 inch to 200 feet

PERRONS
 KIRKLAND LAKE CANADA

Map No. 91-Clenor EM NAA-1a
 Drawn by: Mary Mahood-Greer Date: November 1991



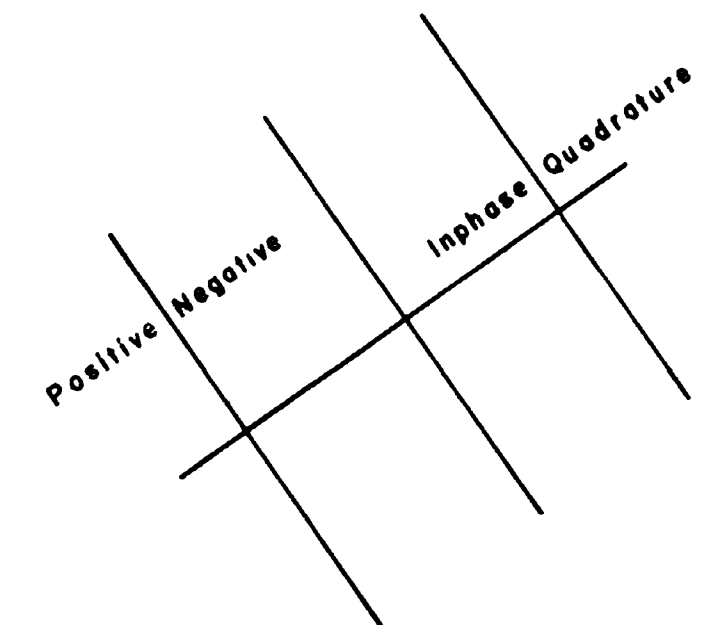
Magnetic N 9° W
Grid North 335°

- SYMBOLS**
- Inphase 
 - Quadrature 
 - VLF Conductor 
 - Road 
 - Creek 
 - Pond 
 - Shaft 
 - Raise 
 - Survey Pin 

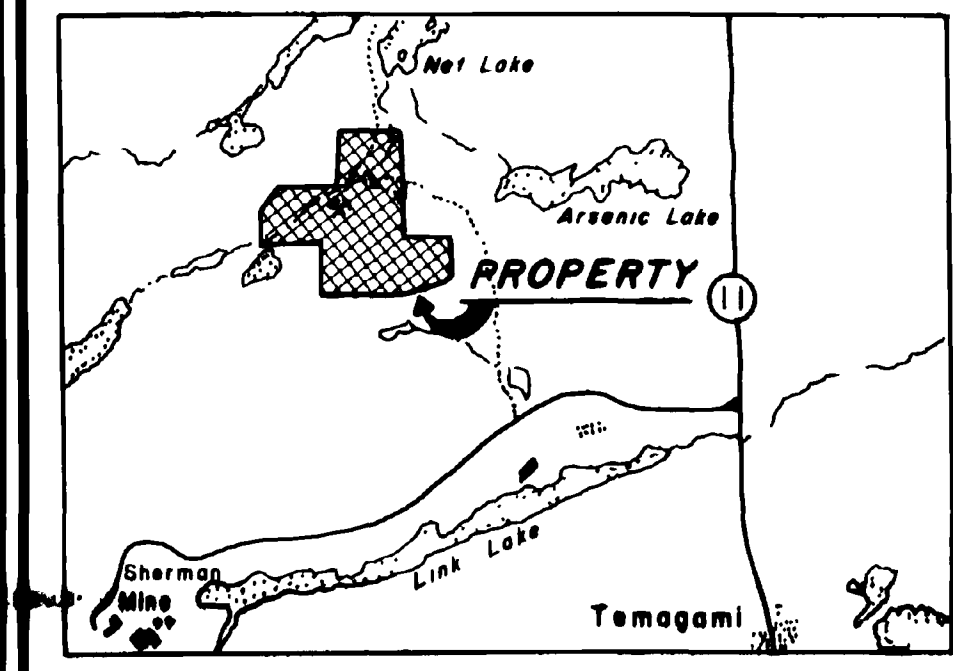
INSTRUMENTATION

Instrument used: EDA OMNI-PLUS
Mag-VLF (VI2F)
Station used: NSS Annapolis, Maryland

Frequency: 21.4 kHz
Vertical scale: 1 inch = ±40%
Plotted by: Wendy Weller
Report by: Mary Mahood-Greer



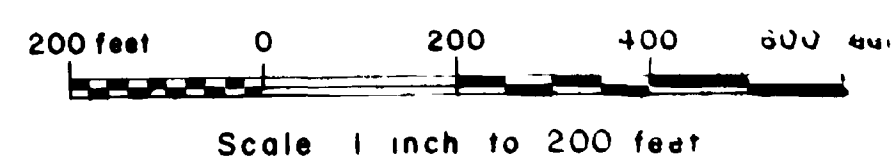
KEY MAP 1:50,000



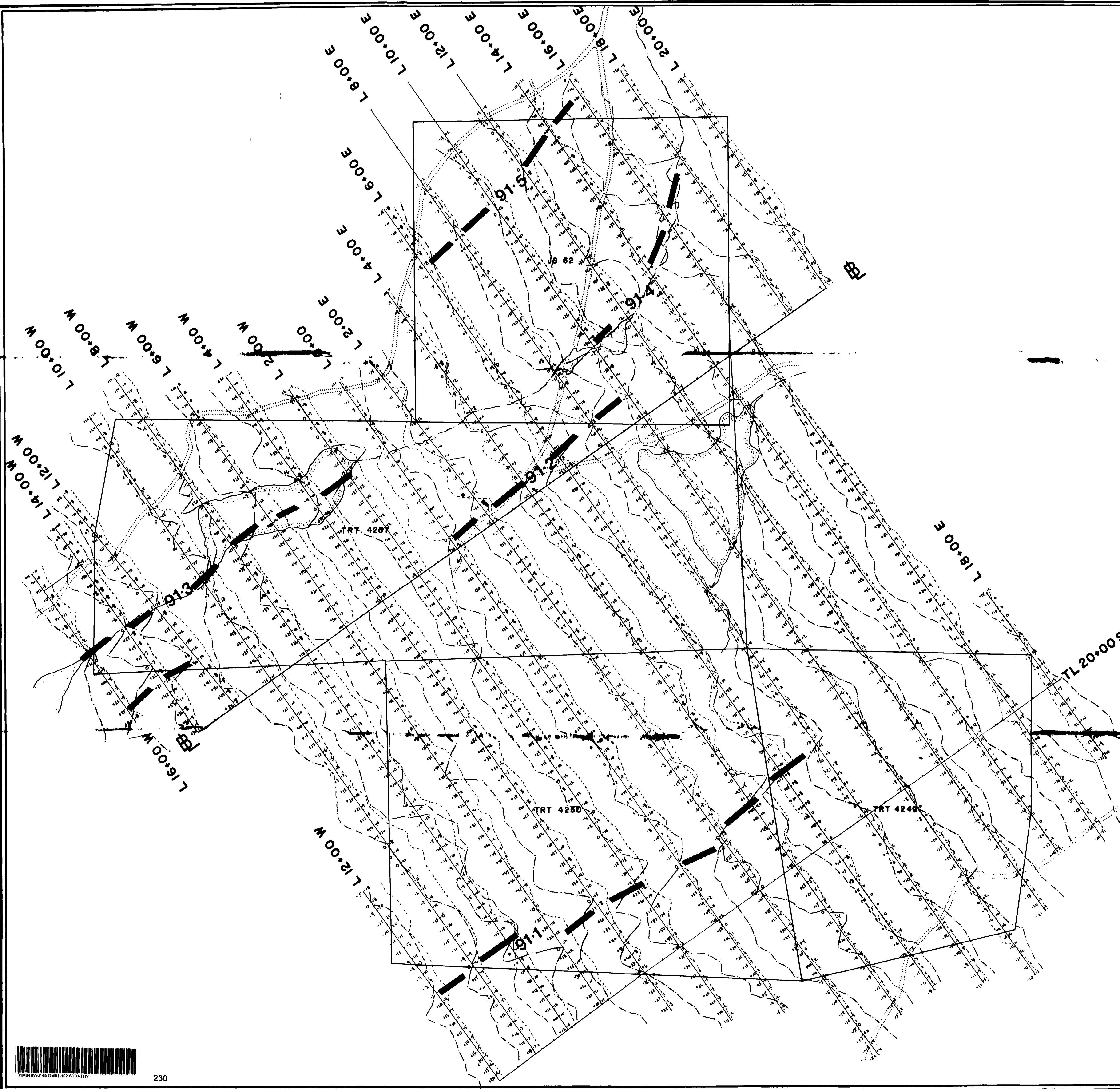
Mary Mahood-Greer

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THE CLENOR PROJECT
GROUND VLF-EM SURVEY
NSS-Profiled

STRATHY TOWNSHIP
SUBBURY MINING DIVISION
DISTRICT OF NIPISSING



PERRONS
KIRKLAND LAKE CANADA
Map No. 91 Clenor EM NSS
Drawn by Mary Mahood-Greer Date November 97



SYMBOLS

- isomagnetic contours
- Base station
- Road
- Creek ~ ~ Pond Survey pin

INSTRUMENTATION

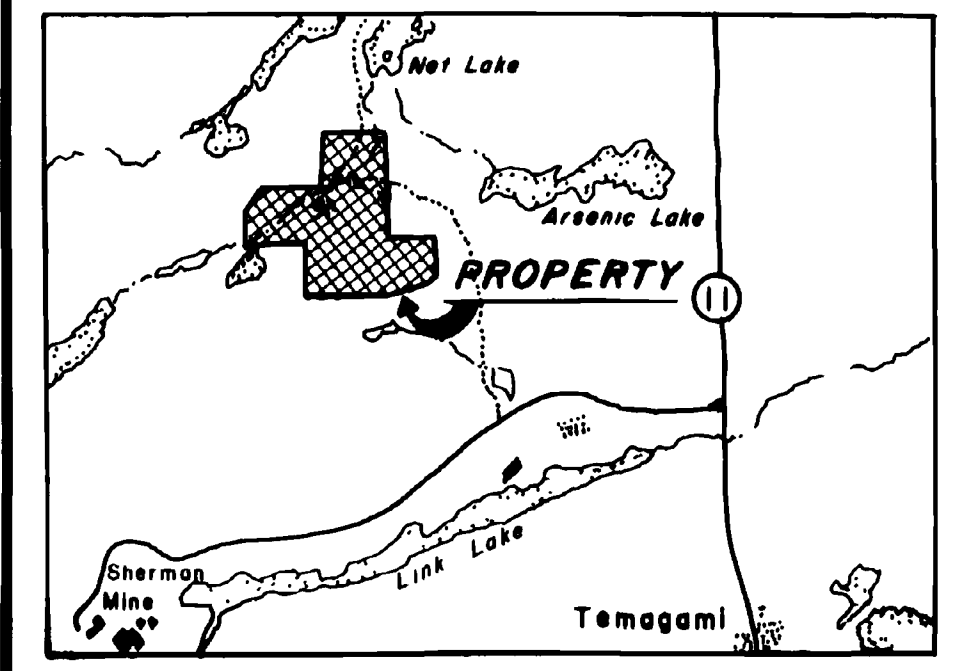
Instrument used: EDA OMNI-PLUS
 field mag & EDA 350 PPM.
 base station mag
 Base station value: 57,700 γ
 Datum subtracted: 57,000 gammas
 Contour interval: 100, 500, 1000 γ
 Contoured by: Mary Mahood-Greer
 Report by: Mary Mahood-Greer

LEGEND

	> 800 γ
	800 - 1000 γ
	1000 - 1500 γ
	1500 - 2000 γ
	2000 - 2500 γ
	2500 - 3000 γ
	3000 - 3500 γ
	3500 - 4000 γ
	4000 - 6000 γ
	< 6000 γ

KEY MAP

1:50,000

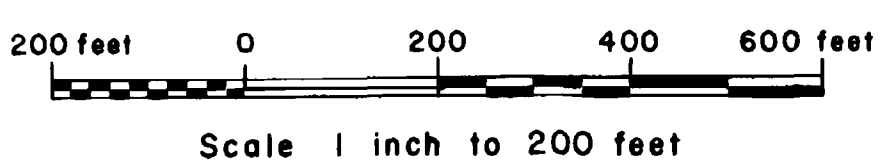


Mary Mahood-Greer

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THE CLENOR PROJECT
 GROUND MAGNETOMETER
 SURVEY

STRATHY TOWNSHIP
 SUDBURY MINING DIVISION
 DISTRICT OF NIPISSING



PERRONS
 KIRKLAND LAKE CANADA

Map No. 91 Clenor Mag 3
 Drawn by: Mary Mahood-Greer Date: November 1991

