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October 8, 1992

1992 REPORT OP- 138.

SUMMARY:

ATTACHED PLEASE FIND INDIVIDUAL REPORTS ON WORK WE PERFORMED IN CATHARINE, INGRAM, PENSE AND MULLIGAN TWPS.

THE COORDINATES GIVEN FOR EACH JOB WERE TAKEN FROM NTS 31 M/NW, NEW LISKEARD.

EACH REPORT IS COMPLETE IN ITSELF WHEN VIEWED WITH THE FINAL SUBMISSION FORM AND THE DAILY LOG.

NOT INCLUDED IS 4 DAYS WORK WE PERFORMED IN MARTER TWP. THE AREA IS IN SOFT MUSKEG AND FLOODED. GEOPHYSICAL WPRE PERFORMED BEING INCONCLUSIVE UNTIL SUCH TIME WHEN WE WORK CAN CONTINUE OUR EXPLORATION IN 1993.

WE WERE ABLE TO COMPLETE OUR INVESTIGATIONS OF SPECIFIC AREAS CATHARINE, INGRAM AND PENSE TWPS., AND CONCLUDED THAT WE HAVE NO FURTHER INTEREST IN THESE PART-ICULAR SITES..

MULLIGAN TWP. STILL HAS AN UNEXPLAINED CONDUCTOR AS WELL AS A SEPARATE MAGNETIC ANOMALY. MORE WORK WILL BE UNDERTAKEN HERE IN 1993.

F. H. Ellgring

F.H. ELLGRING P. ENG.

Final Report & Conclusions Portion of Catharine Township

PROJECT Catharine Township, Larder Lake, Mining Division, District of Timiskaming

LOCATION \$ 1/2 Lot 1 Concession VI Catharine Township 47 59 N Ly 79 46 waybre

- ACCESS Two claim lengths north of Highway 624 along the surveyed boundary line common to Skead Township on the east and Catharine Township on the west. There is also an old bush road which we slashed out in order to gain better access entering the property in its South East corner coming from Skead Twp. See also aerial photo 86-4801 (04-187).
- <u>PREVIOUS WORK</u> See MNR files at the Kirkland Lake Resident Geologist's office, # 163, 1666 & 1667. These show two different ground mag surveys, geologic mapping and a 17.8 Khz VLF electromagnetic survey. See also ODM Geologic Report No. 18 in Catharine and Marter Townships.
- **INTERPRETATION** The two magnetic surveys are in agreement in that there is a magnetic zone trending across the property from Southeast to Northwest. The magnetic zone coincides with exposed peridotite; and the VLF electromagnetic survey located several crossovers that appear to be unconnected and which have no bearing to the magnetic anomaly.

The immediate area is primarily drift covered with an exposure of peridotite on the twp boundary line.

AIRBORNE SURVEYS

The areomagnetics are shown on G.S.C. Map 47 G as well as O.G.S. Map 2274 A which in turn also shows the airborne electromagnetics of the area.

Aerial photo (86-4801) 04-187 shows several avenues of access and the type of terrain.

INTERPRETATION G.S.C. Map 47G shows this portion of the lot lies in a lower magnetic zone than the general NW-SE trending anomaly. O.G.S. Map 2274A confirms this as well as indicating there are no AEM anomalies present.

BASIS of OUR

- **INTEREST:** The presence of peridotite in a zone of fluctuating magnetics on unstaked Crown Land attracted our attention. The easy access and flat topography as well as the possibility that ground conductors might be located using some method superior to the VLF previously used, also was persuasive.
- **<u>INVESTIGATION:</u>** We set up a large loop vertical coil EM unit at several locations on this lot as shown by symbols T_1 , T_2 ... etc and read corresponding lines t_1 , t_2 , t_3 , ... etc from the related transmitter set-ups.

The distance between transmitter and receiver coils were generally 800 ft or

more, in order to obtain good depth penetration. See Map # 3 enclosed for lot boundaries, transmitter set-ups and lines read, as well as location of previously mapped out crop and mag highs.

INTERPRETATION &

<u>CONCLUSIONS:</u> Using both 1000 cycle and 300 cycle vertical loop equipment we were unable to obtain an EM crossover. The crossover point being the location of a conductor. Weak conflicting readings were obtained in the clay area along the creek and beaver pond. These we ascribed to conductive clay overburden and of no further interest.

We have no further interest here.

GEOPHYSICAL EQUIPMENT USED:

- 1. INCO EM Unit MK III Vertical Coil 1000 cycle.
- 2. INCO EM Unit MK III Vertical Coil 300 cycle.

F. H. Ellgring P. Eng.





CATHARINE TWP.

AREA

PORTION OF OY TP CLAIM MAP 0711 NE CORNER OF CATHARINE TINP. 200302 P 523048 523049 1049908 IC49907 OFIN 104998 :4690 MRO UMHU . i_t. . '.എ ---105030 878686 9791-95 52305121 523050 049906 MROY LMRO Λ Ι Ε Λ Ι Ε Υ \$2.3053 1 je. . i.) (È) AREA MRO () () MHO 523052 () () () MHO MHO OPEN Ên 4697 1185409 -5 .1 Second Second MRO MRO 523055 523054 4 RO 4100 5 *++E37-¹-714234 Ľι 1 1 112074 1 112073 1111487 1111486 O MENT ίĴ) 1. HIZYZ | 11/2078 Ð. 111616 MHO 714664 +14502 +14230 +714233 -867861 -061854 -007853 16670,4 23057 L'L'L L. 667855 ĩ X 12 L L L 0150£ 1112075 1 112075 1111489 4 Lines PIZCE MULDU 10.037 **P**. 1 1012136 11213. 1:159 -067852 I 714000-1-714665 -714663-1-714583- 714239 714232 15702 15702 യ ۰+_-|L 1.... 0 111430 1111464 1110923 1-1098. 1110919 1802!! ιŪ. 102076 110493 -mage i autasia 00 100 icor -960 714662 | 714584 | 714240 | 714231 60398 160395 035 1 16 1111492 1111491 1111463 1111482 11000 1111482 1714565 111491 1111463 1111482 11000 11067657 667850 ... 1 111-192 16 Raoir 1 184004 9 J11 71466⊬ j 7 ٤., 980-06 480++b 1111221 1111220 1 616 /395 62515 2 625151 (P)____ 1 . 193019 893618 12 -5 jt. 100407-1111222 :200 : 3 1111219 5/ /111217 1111222 :100 : 4 3 1111219 1000 625149 (1625150 1311 1002 83520 893617 . __ __`. I 11 180408 48:00 24 1.049/93 1049764 34 19765 11049768 180 ... 181223 1019762 411130 **5**-' 4 1214 B21433 B21429 B21432 B93801 िले lι 11 64976 483404 480416 1049/59 1049/66 1111224 , 1019761 تجمرا 5217 621434 821430 821431 843335 9 1944 i - i. Lι L ı ł' J4799i 048435 1 13:314 1 04662 J82371 . AD AD 584 4 855845 035799 843329 043334 857403 30236 È, P 1 1 1. L -----048486 1047992 11 1022 3 <u></u> З 2H43330 8674 via 11 645 53rde5 de81 1.046145 ٩Ô Ð; P Ð 7: 18+1 1008£ 64 .3557 8945 8 3 82 46 1 0-16-46 9674 10-16i-16 9674 39 P ЭŚ æ, Ð scientes t 049 8551 85 +8 85+7 ۲..... · 104647 1049179 1 . 6 . 4 . 149.9.1 1.24 ۰Ð. 4-1677: Ð Ċ ١ 1045 660116 (8535 -562: 8556 1049185 ₽ ٦Ľ. Ē 1349680

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Final Report & Conclusions of Work Performed in 1991 & 1992 on Claim Group 1150620 - Ingram Township

- PROJECT: Ingram Township Larder Lake Mining Division District of Timiskaming
- LOCATION: \$ 1/2 Lot 12 Concession VI Ingram Township Claim Group 1150620, East Boundary of the twp. in the North East corner. 47° 79'N by 79'35'W. approx.
- <u>ACCESS:</u> Readily accessible by township roads from Highway 11 and the nearby town of Englehart. See also Aerial Photo 86-4728 (16-213).
- <u>PREVIOUS WORK:</u> In 1991 we submitted an OPAP Report No. 402 which included this project as well as several others.
- **<u>RESULTS:</u>** We obtained medium sized EM dip angles of about 10. None of these appeared to connect up or have any continuity or repeatability. We concluded conductive overburden was producing interference and becoming responsive to our 1000 cycle frequency. Not being satisfied, we planned to return using large loop vertical coil EM of a lower frequency. See our report dated 1991 on this work, and enclosed Map # 4.

CURRENT

INVESTIGATION: In May 1992, we repeated some of the previous work of 1991, concentrating on these transmitter set-ups and corresponding lines that produced indications of a conductor.

We used 300 cycle equipment because lower frequencies do not respond to overburden as readily as do higher frequencies.

RESULTS &

<u>CONCLUSIONS:</u> Map # 5 shows the location of the work performed this year and compares directly with Map # 4 enclosed for last year.

The results obtained using the lower frequency equipment completely eliminated the previous responses thereby showing they were spurious.

We conclude there are no EM conductors present on this property and so we are dropping this 4 claim group and have no further interest here.

F.H. Elliquing P. Eng.

LEGEND - Reference Map # 4

EM Survey 51/2 Lot 12 Concession VI Ingram Township.

Scale of 1 inch to 100 metres.

Dip angle scale 1 inch to 20 degrees.

Normal crossover due to a conductor.

Transmitter location shown as T_6 from which line t_6 was reading giving a crossover labelled X_6 .

Instrument used was an INCO Mark III Vertical Loop EM Unit # 19 having a range found to be +/- 600 metres, and a frequency of 1000 hertz.

Work was performed August - September 1991.

LEGEND - Reference Map # 5

A partial repeat of the 1991 work was undertaken in 1992 using an INCO Mark IV Unit operating at 300 cycles. This unit being less sensitive to conductive overburden.







INGRAM TWP.

AREA



<u>Final Report on Investigation of Diabase Outcrop</u> Lot 2 Concession VI Pense Township

PROJECT Pense Township, Larder Lake Mining Division, Timiskaming District

LOCATION Pense Township, N 1/2 Lot 2 CONC. JI 47 5c'N by 79 37 W. approx.

ACCESS By township roads to the North East corner of Ingram Township road grades into a timber haulage road that continues into Pense Township and northward. 1.6 kilometres along this road measured from the mutual North - South boundary line between Ingram and Pense twps, is a sandy bush road, to the right.

See our Map # 6 enclosed for further directions and work undertaken. Also see our earlier report OPAP-91 (402) for work done last year. See also aerial photo 86-4728 (16-215).

- <u>CURRENT WORK</u> Map # 6 shows our chainage of 600ft into the outcrop, our baseline of 950ft over the outcrop as well as our geophysical EM transmitter locations, lines read, and frequencies used.
- **<u>GEOPHYSICS</u>** Earlier (1991) responses located by 17.8 Khz VLF and 1000 cycle vertical loop EM disappeared completely with our present survey which used 300 cycles as well as 1000 cycle. ALL READINGS WERE ESSENTIALLY ZEROES

We conclude there is no EM conductor associated with this outcrop that can be located using large loop vertical coil EM. As can be seen from Map # 6, line spacings of 500 ft and up to 800 ft were read, giving good depth penetration but negative results.

<u>GEOLOGY</u> The outcrop as mapped by us is essentially diabase that shows rapid gradations in grain size and composition ranging from diorite to diabase and basalt. Prominently included are banded xenolithic blocks generally about 6 ft in size of partly digested sediments.

The blocks are haphazardly oriented with the bands or beds spaced at about 1 inch intervals and composed of narrow 1/8 inch quartz-epidote layers.

Very minor chalcopyrite and rusty fractures were seen at the steep cliff face at 00 and also at 6E but only of minor interest.

OGS Miscellaneous Paper 69 entitled <u>Geology of the Englehart-Earlton Area</u>, and also Preliminary Map P1222 show this area to be underlain by the Coleman Member of the Huronian Group, identified as Unit 6 but with no outcrop shown. Our WORK SHOWS DIABASE UNIT 9(a) AT THIS LOCATION.

CONCLUSION

We have no further interest in this occurrence.

F.H. Ellgring P. Eng.

<u>Report On Mulligan Township</u> <u>Claim Group 1150621</u>

PROJECT Mulligan Township Larder Lake Mining Division District of Timiskaming

LOCATION Unsurveyed Township. 4 Claim block No. 1150621 situated just east of the centre of the township. $47^{\circ}52'N$ Ly. $79^{\circ}33'N$. Gippers.

By good gravel timber haulage road beginning in the North East corner of Ingram twp. continuing northeasterly through the NW corner of Pense twp. and into Mulligan twp. along the edge of Iron Lake (Jenrower Lake) and so northward.

Where this road crosses the creek from Iron Lake, a distance of 7.2 km measured on a vehicle odometre is an unused bush trail on the east side of the gravel road. This trail now used by hunters, continues south-easterly for a distance of about 1 km to the property.

See Map # 8 for access route. See also Aerial Photo No. 86-4730 (24-145).

<u>GEOLOGY</u> Mulligan twp. is unmapped however Map 2205, a compilation of Timmins - Kirkland Lake Area shows Mulligan to mainly underlain by the Coleman Member of the Gowanda Formation in the Huronian Supergroup. This member contains conglomerate, arkose, greywacke, quartzite and argillite.

> The eastern section of the twp is shown to be composed if Felsic Intrusive rocks that are granitic in nature.

AIRBORNE GEOPHYSICAL SURVEYS

ACCESS

GSC Map 1494 G, Englehart covers this township as well as a number of adjacent townships.

There appears to be a weak magnetic trend in a NW direction being the strongest at Mulligan Lake about 2 km to the SE of where we are working.

Sudbury Contact Mines completed an air mag and Air EM survey to the NW of our claim group covering this NW magnetic trend. A magnetic dyke was revealed that seems to extend SE into our claim group. They seem not to have obtained any conduction related to this dyke.

This work was submitted by them for claim assessment credits and is on file at the Mining Recorders Office in Kirkland Lake. A portion of their work accompanies the report on our work performed last year. See our report OPAP-91 (402).

GROUND EXPLORATION:

<u>AREA GEOLOGY</u> See Map # 9 and 9A enclosed for topography and area prospected. It will be noticed that only granitoid felsic rocks and sedimentary arkosic or greywacke rocks were encountered.

GROUND GEOPHYSICS:

A) EM SURVEY Our report of 1991 shows an EM ground conductor striking NW-SE through our claim group. A line spacing of 200 metres (650 feet) and 400 metres (1300 feet) were employed to locate the conductor.

> Indications are that the conductor may be at a depth of 200 feet if it is a good conductor. Otherwise it could be closer to surface and less conductive. When dealing with a deep conductor, line spacings must be increased to a maximum when using vertical coil EM in order to compare conductivities and conductor dip along the strike. At this time we do not wish to commit ourselves as to depth or dip until such time as we have used more powerful equipment and increased the line spacing even further.

> It will be noticed that the 200 metre EM dip angles are always weaker than the 400 metre EM dip angles. This is an indication of conductor depth and discounts conductor weakness. The indications being that we have a fairly good conductor at great depth. See Map # 10 enclosed.

> The EM work performed in 1992 was on a cut and chained grid system using the same baseline as in 1991 and the same 00 + 00 grid co-ordinate. This grid system gave better location control, because last years work was run by pace and compass.

Interpretation becomes questionable on lines close to the transmitter because of the small EM dip angles obtained. As previously observed, distant lines about 600 feet from transmitter show medium crossovers and lines 800 feet and 1000 feet away show increasingly larger dip angles. This is a response not indicative of a shear zone. See Maps # 11 and overlapping # 12.

Unfortunately, the 1992 work adds no new information except to point out that any EM survey of this conductor should have no lines closer than 800 feet from the transmitter and succeeding lines out to a maximum of the equipment's capabilities.

B) MAGNETIC

SURVEY See Map # 13 & 14. The magnetic survey shows that the arkosic and greywacke sediments to the west of the conductor show a magnetic background of approximately 58070 gammas where as the same sediments on the east side show a magnetic background of about 200 gammas higher.

The conductor shows no preference for the magnetic anomaly, and outcrop offers no explanation for the magnetic anomaly either.

TOPOGRAPHY AND

GEOLOGY

Topography becomes extreme at the north end of the property. This accounts for the shortness of the traverse lines. Major elevation changes would make EM readings taken here unacceptable. See Maps # 15 & 16.

The rock types associated with the conductor are sediments of the Gowanda Formation. Fractured sediments to the east of the conductor exhibit rusty fracture planes in places with pyrite introduced hydrothermally. Not enough prospecting has been done to confirm our suspicion that there is an area of a major break or fault zone.

CONCLUSIONS & RECOMMENDATIONS

The geology does not offer any explanation for the conductive anomaly or the magnetic anomaly.

The source of the magnetic anomaly could probably be ascertained with the use of a backhoe because it lies on high dry ground which is boulder strewn and very close to bedrock. Since it does not have any economic significance we do not propose to undertake an excavation program and deem it to be if no further interest.

The conductor remains unexplained. It appears to be very deep and beyond our financial means of exploration. The EM should be redone at a distance of 800 feet from the transmitter with successive 200 feet line intervals to the maximum distance capability of the instrument used. This will enlarge the picture because the work done in 1992 was no help at all for interpretation purposes. At this time this anomaly has no further interest for us expecting the conductor to be pyrite only.

We have staked another claim group to the south contiguous with this one. It is proposed to follow this conductor next year in somewhat less detail because we have reasons to believe the conductor and the mag anomaly will surface within the next kilometre or two thereby clarifying the situation and thus dictating our further interest.

F.H. Ellgring P.Eng.

MAP No. 9A

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