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REPORT ON
GEOLOGICAL SURVEY
DIANA EXPLORATIONS LTD. (N. P. L.)
GILLIES LIMIT
TEMISKAMING MINING DIVISION
ONTARIO

BY

A. C. A. HOWE & ASSOCIATES LTD.

A. C. A. HOWE, P. ENG.

TORONTO, ONTARIO
REPORT NO. 44

DECEMBER 30, 1966

INTRODUCTION

During November, 1966, a control system of base and picket lines was cut at 100' intervals on claim T 57712 in Block 8 and claims T 54722 and T 58248 in Block 2, Gillies Limit, Ontario. These claims are held by Diana Explorations Ltd.,

The claims were subsequently mapped geologically. Overburden exists over 70% of the area. In the outcrop areas it is very light.

A hydro-electric power transmission line and a compressed air line traverse claim T 57712.

Good roads and trails make the property readily accessible.

GENERAL GEOLOGY

Most of the property is composed of Nipissing diabase sill rocks. In the extreme south east corner of claim T 58248 the top contact of the sill is observed striking northeast and Keewatin lava rocks overlie the sill. The bottom contact of the sill strikes north-south and is located about the centre of claim T 57712, and is underlain on the west by Cobalt Series conglomerates. The sill is approximately 1100' thick and dips easterly across the property.

STRUCTURAL GEOLOGY

Jointing in the Nipissing diabase sill rocks is in several directions, the most numerous, persistent and prominent being northeast/southwest, and the second in noticeability being southeast/northwest. There is a defined pattern of low ground and swamp areas in a northeast/southwest direction and a less defined pattern exists in a northwest/southeast direction.

Prominant fracturing in the Cobalt Series conglomerates is in an east north east direction.

ECONOMIC GEOLOGY

In the central part of claim T 54722 a 12" - 24" wide quartz-carbonate vein striking east-west and dipping -30° south occupies a flat fault. Galena was observed in this vein. The vein has been extensively trenched and a 25' adit has been driven across the east end of it.

In the north west corner of claim T 58248 a 2" - 8" wide calcite vein containing chalcopyrite strikes northeast and dips -25° southeast. Half way south in the east part of the same claim a 2" wide quartz-carbonate vein striking south south east was observed.

In the northwest part of claim T 57712 an east-west striking calcite vein has been trenched.

All of the above veins occur in the Nipissing diabase sill rocks.

In the Cobalt Series conglomerates several narrow fractures and veins have been investigated by trenching.

SUMMARY AND CONCLUSIONS

The vein exposures observed have had sufficient surface work done on them and have proved to be unrewarding. Therefore, new exploration work is necessary.

The property encompasses a section of the New Lake Diabase Basin including a lower contact horizon with Cobalt Series sediments. Since 80% of the silver production from the Cobalt camp has come from such a horizon, the possibilities of finding silver on this property are good.

The direction of the prominent faulting is the same as the fault filling silver ore veins at the Hiho Silver Mines and the Glen Lake Silver Mines to the north.

Subsidiary vertical ore veins may be associated with the flat fault vein in the north part of the property. A similar situation existed in the Penn Canadian Mine next to Glen Lake Silver Mines to the north of this property. At the Penn property silver ore occurred in vertical subsidiary veins 20' above the flat fault and 20' below the flat fault, and both in the diabase and sediments.

RECOMMENDATIONS

1. Conduct a research program to compile all information on the surrounding neighbouring ground to attempt to project favourable guides to ore onto this property. The information should be available from the files of the Ontario Department of Mines, and also records of the adjoining companies.

2. Conduct a geochemical soil survey of the overburdened areas, sampling both A and B horizons and using silver and arsenic as indicator elements.

3. Conduct a rock chip survey of the outcropped areas using silver and arsenic as indicator elements.

The rock chip survey would not be able to be correlated with the soil survey and each would have to be interpreted on a separate basis. However, the two surveys together, combined with the results of the recent geological survey, and the information obtained from neighbouring properties, should provide targets for subsequent diamond drilling.

COSTS

The estimated costs are:

1. Research program	\$ 750.00
2. Geochemical soil survey in areas of overburden	1,500.00
3. Rock chip survey in areas of outcrop	<u>1,500.00</u>
TOTAL	<u><u>\$3,750.00</u></u>

In our previous report of August 24, 1966, the following were also recommended:

Induced polarization survey	\$7,000.00
Diamond drilling, 2000 ft. at \$5.00/ft.	<u>10,000.00</u>
TOTAL	<u>\$17,000.00</u>

These recommendations are still valid, however the amount of I. P. work required may be reduced, based on the results of the research work and rock chip survey outlined above.

Respectfully submitted,

A. C. A. HOWE & ASSOCIATES LTD.,



A. C. A. Howe, P. Eng.

DATED at Toronto, Ontario, this 30th day of December, 1966.

THE TOWNSHIP OF
GILLIES LIMIT
(NORTH PART)
DISTRICT OF
TIMISKAMING
TIMISKAMING
MINING DIVISION

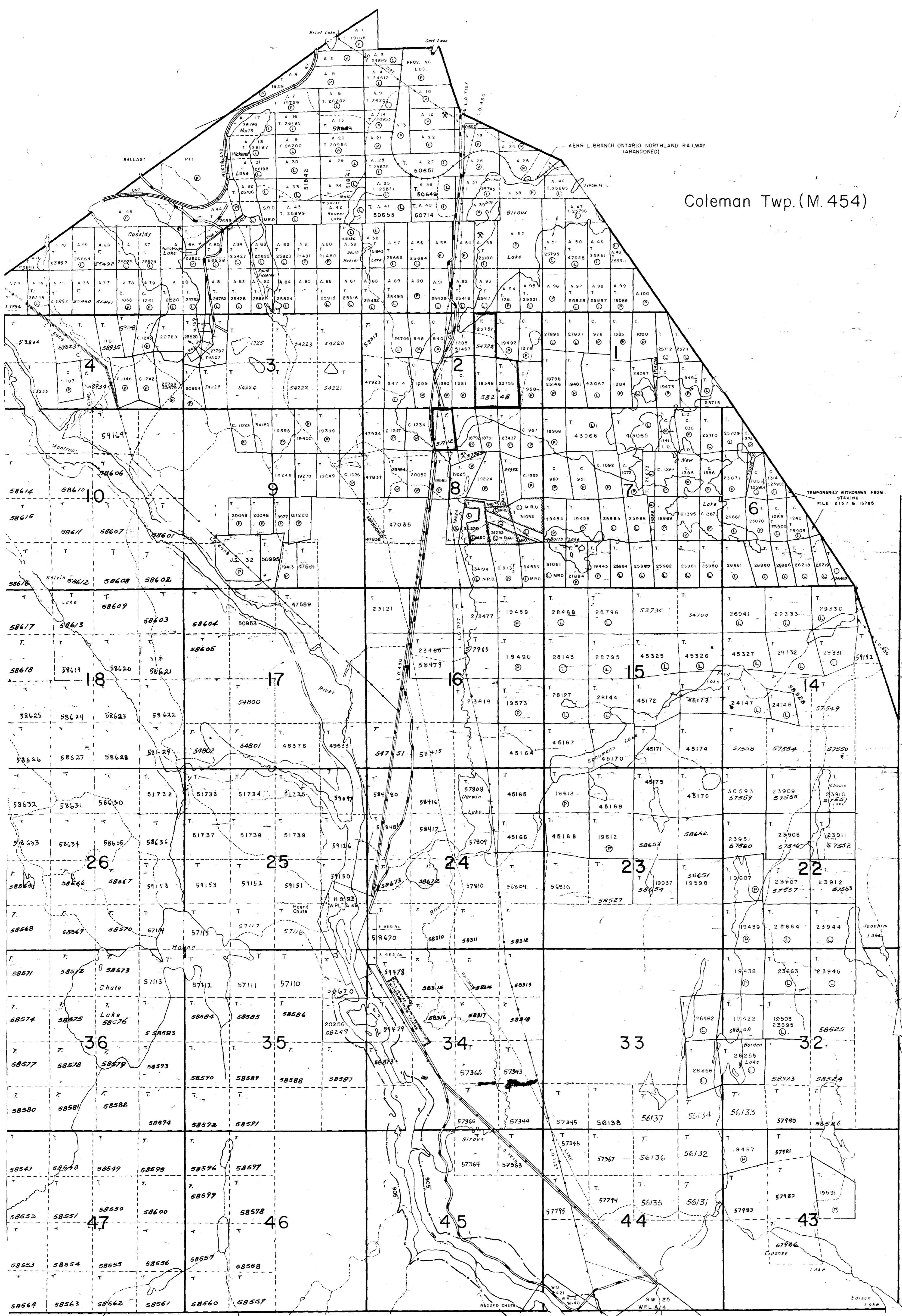
SCALE: 1 INCH = 20 CHAINS

LEGEND

- PATENTED LAND
- CROWN LAND SALE
- LEASES
- LOCATED LAND
- LICENSE OF OCCUPATION
- MINING RIGHTS ONLY
- SURFACE RIGHTS ONLY
- ROADS
- IMPROVED ROADS
- KINGS HIGHWAYS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKEG
- MINES

NOTES

- 400' Surface Rights Reservation Around All Lakes And Rivers.
- Mining Claims Accepted Subject To Sec 53 Of The Mining Act Excepting Claims Staked In Any Of The "A" Mining Locations.
- L.O. 7151 Covers Flooding Rights On Montreal River Lying Northerly Of And Upstream From The Dam At Hound Chute To Contour 910'. H.E.P.C. File: 1164 Vol. 2.
- L.O. 7558 Covers Flooding Rights On Montreal River Upstream From The Upper Notch Power Site To Contour Elevation 785.5'. H.E.P.C. File: 20994 Vol. 3.
- This Twp Lies Within The TIMISKAMING PROVINCIAL FOREST.
- RESERVE FLOODING RIGHTS TO THE P.C. PROPOSED TO CONTOUR 906.8 S.C.



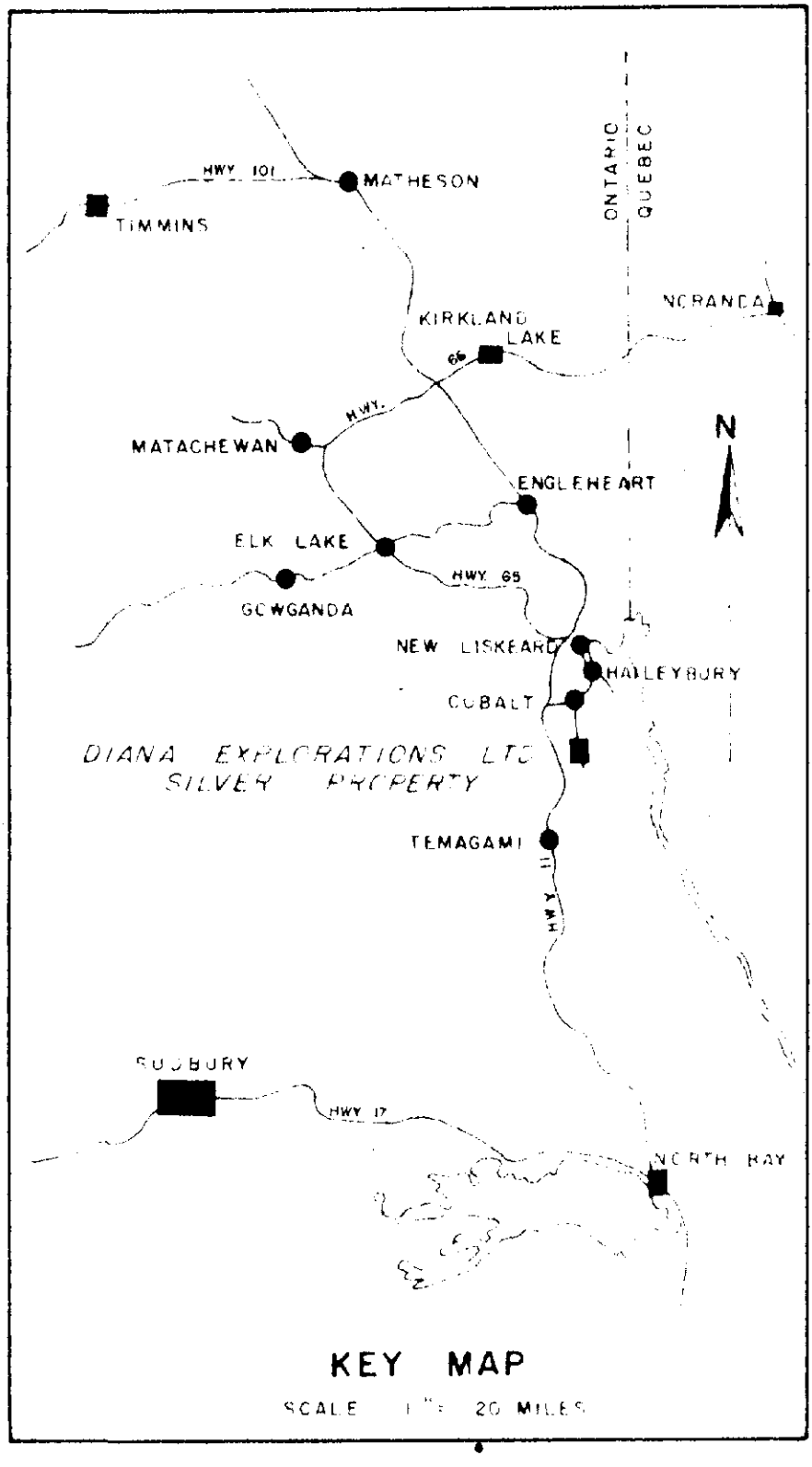
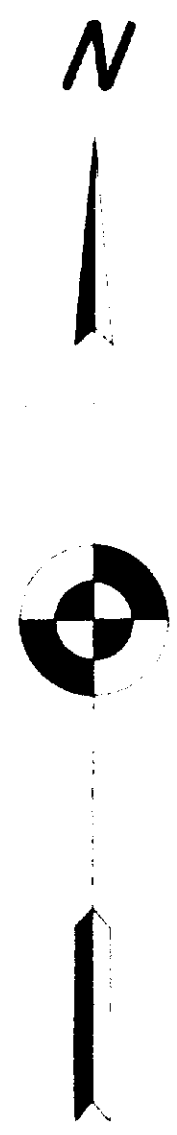
Coleman Twp. (M. 454)

Lorrain Twp. (M. 536)

West of Gillies Limit (M. 483)

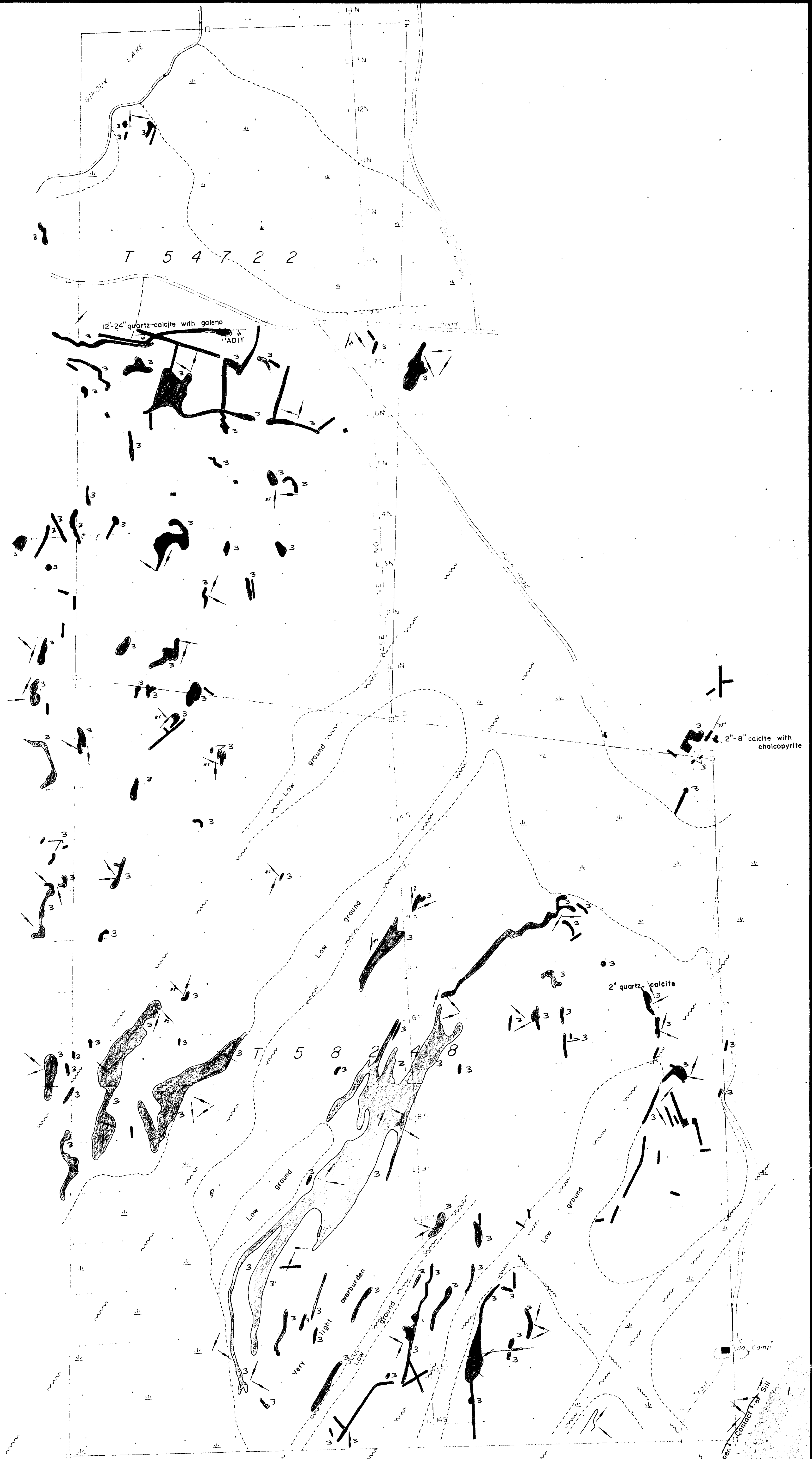
PLAN NO.-M. 4
DEPARTMENT OF
-ONTARIO





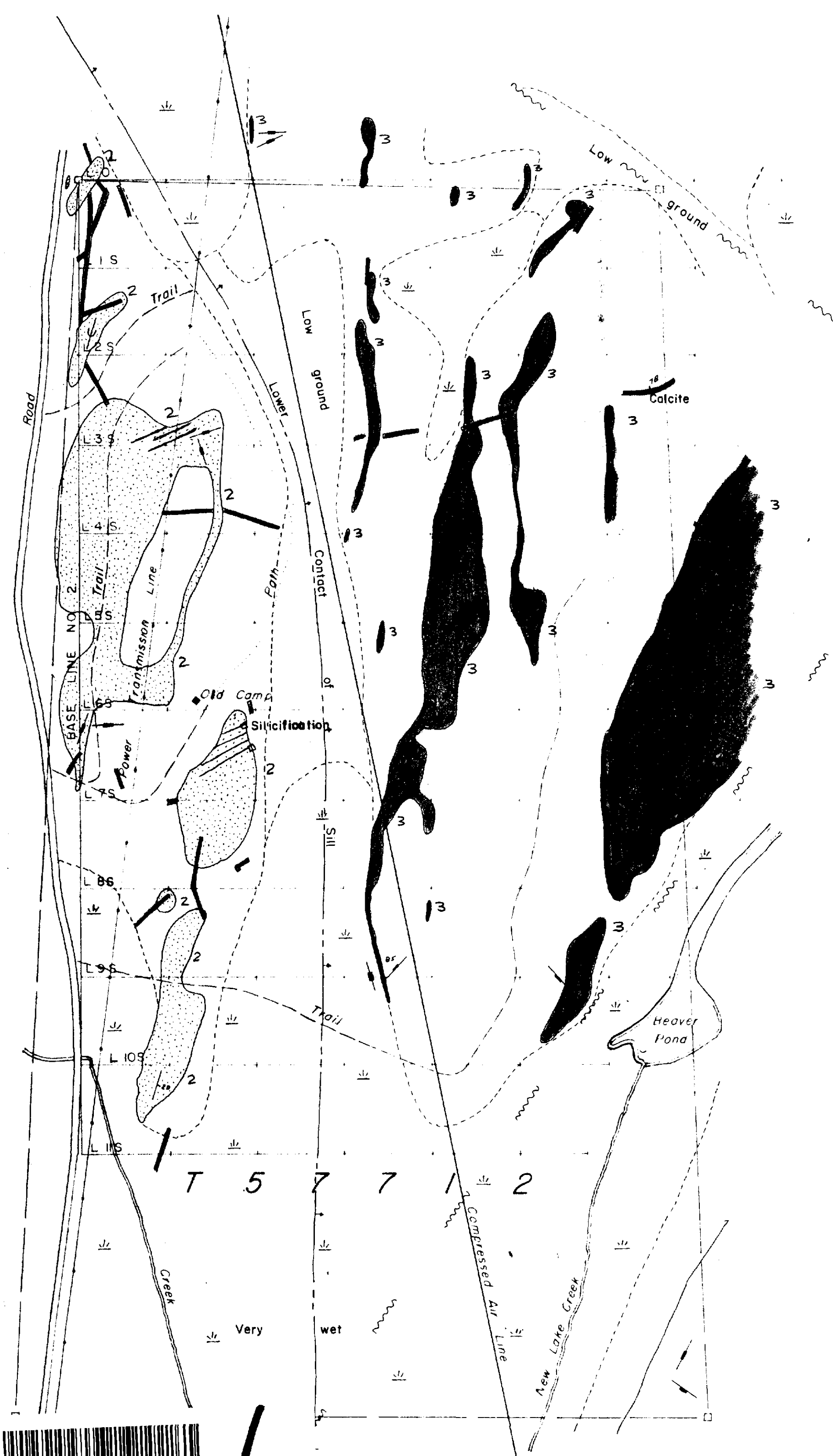
LEGEND

- Vein
- Nipissing diabase
- Cobalt Series conglomerate
- Keewatin lavas
- Pit
- Jointing
- Strike and dip
- Outcrop
- Swamp
- Geological contact
- Fault assumed
- Base & picket line



BLOCK 2

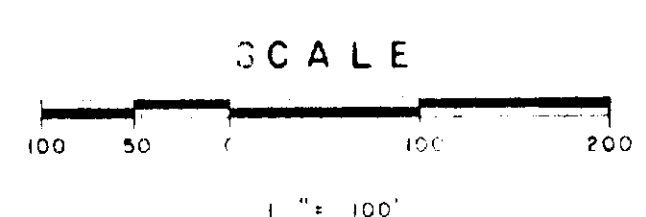
BLOCK 8



GEOLOGY MAP
SILVER PROPERTY
DIANA EXPLORATIONS LTD.

GILLIES LIMIT
 TEMISKAMING MINING DIVISION
 ONTARIO

NOV. 30, 1966.



Jack G. Willars B.A.Sc., P.Eng.

