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REPORT ON

ELECTRICAL RESISTIVITY SURVEY OVER PART OF PROPERTY OF OBABIKA MINES LIMITED, BELFAST TOWNSHIP, ONTARIO.

Prepared by:

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63.804

Obabika Mines Limited,
Suite 902,
159 Bay Street,
Toronto, Ontario.

Gentlemen:

An electrical resistivity survey was conducted over part of a large group of claims held by Obabika Mines Limited, located in Belfast Township, Ontario.

The survey was under the supervision of A.B.Fleming M.E., and was carried out during the period of March 5th to April 10th 1956. The results are depicted on the three maps accompanying this report.

Summary and Reccommendations.

The electrical resistivity survey was carried out over two sections, identified as the South-East section and the Allan Lake section. The South-East section indicated five zones of good conductivity, these anomalous zones are identified on the accompanying map by letters 'A' 'B' 'C' 'D' and 'E'. Of these the 'A' zone appears to be the most significant. The readings obtained over these zones are in the range of the expected mineralized and graphitic zones.

Due to the fact that the strike of the rock formations in the Allan Lake section was not known, it was decided to conduct the survey first over an East-West grid then over a North-South grid.

Six conducting zones were found on the East-West grid and a similar number of zones were indicated when the same section was surveyed using the North-South grid.

Two of these zones designated by letters 'M' and 'N' on the accompanying maps were found by both surveys. A good conducting zone 'J' was found along with three other anomalies 'O' 'P' and 'Q' on the East-West grid. The North-South grid also gave four other anomalies as indicated by the letters 'R' 'S' 'T' and 'U' on the accompanying map.

It is possible that all these zones are zones of shearing and are related to the various faults which cross the property.

The copper showings which are found on the property are associated with a quartz vein which in places is 40 feet thick. This association of the quartz and the mineralization would account for the fact that the readings obtained during the survey are not exceptionally low. It will be noticed that the showings were all found to be in zones of good conductivity, hence it is possible to assume that similar readings obtained may be indicative of mineralization.

The following is recommended:-

South-East Section.

It is recommended that a limited amount of surface work, in the form of geological mapping and trenching be carried out in the area of the anomalous zones. Should this additional work still show the zones to be of interest, then it is recommended that the diamond

drilling programme as indicated on the accompanying map be carried out.

Allan Lake Section.

It is proposed that the showings be investigated by diamond drilling, then anomalies 'J' 'M' and 'N' be drilled. The locations of these drill holes are shown on the accompanying plans. It is further recommended that:-

Diamond Drill Hole No.1., be drilled west for a length of 300 feet at 45°.

Diamond Drill Hole No.2., be drilled west for a length of 450 feet at 45°.

Diamond Drill Hole No.3., be drilled east for a length of 450 feet at 45°.

Diamond Drill Hole No.4., be drilled west for a length of 450 feet at 45°.

This involves a total of 1,650 feet of diamond drilling.

Should these zones prove to be of interest, then of course, the other anomalies both in the Allan Lake Section and the South-East would warrant investigation.

Property, Location and Access.

The property of Obabika Mines Limited consists of a group of thirty six claims, located in the eastern part of the Belfast Township, Ontario.

The claims covered by the survey are in two seperate areas identified as follows:-

Southeast Section Claims	36946 - 49 inclusive
	36529 & 36514
	36731 - 40 inclusive
Allan Lake Section Claims.	36522, 36523, 36546, 36545 and 36534
	and parts of claims 36547 and 36530,
	36533, 36544 and 36524.

Access to the property may be made by plane from Temagami in about thirty minutes flying time. It can also be reached by boat by way of Temagami Lake then by trail to Allan Lake.

Topography.

This area like the majority of Temagami is very rugged. The relief is due chiefly to remnants of a great diabase sill that at one time covered the whole area. Erosion has left in places some unscalable cliffs scores of feet high and rugged hills that rise several hundred feet above the lakes.

Where the older rocks have been exposed through erosian the relief is low and there are numerous lakes.

General Geology.

The general area of the Obabika Mines Limited group of claims has not been included in any reports by the Ontario Department of Mines. However, the area to the South, the Afton-Scholes Townships were examined by E.S.Moore in 1936. This report appears in the Annual Report of the Ontario Department of Mines Vol:45 part 4 p.p. 38-48.

It is possible that the area discussed in this report is underlain by a diabase sill remnant, this rock is believed to be of the late Precambrian age. The other most abundant surface rock is the Cobalt sedementary series, which consists of conglomerate, greywacke and quartzite. In general, both the diabase sill and the Cobalt sediment lie with a dip of about 30°.

On the property discussed in this report, copper showings are to be found on claim 36546. These showings are at or adjacent to the footwall contact of a quartz vein which runs in a North-East direction. These are two phases of the quartz, one is dark in colour and the other is clear white. It is possible that the mineralization has come in with the latter or that the vein at least has acted as a contact.

Whilst the copper showings did not run to ore grade in all the showings, it is possible that an ore zone may be located in the area.

Interpretation of the Geophysical Survey.

The results of the electrical resistivity survey over part of the group of claims held by Obabika Mines Limited are depicted on plans 1, 2, and 3 accompanying this report. Two seperate groups were covered by the survey, the results of Area 'A' are shown on Plan 1 and the results of Area 'B' on Plans 2 and 3.

The electrical resistivity readings are expressed in ohm centimeters and are plotted as such on the maps.

Results of South-East Section.

From the contour pattern of the resistivity survey results, it will be noted that a number of conducting zones are indicated. They are identified on the accompanying map by the letters 'A' 'B' 'C' 'D' and 'E'.

The main anomalous zones show a somewhat higher order of conductivity than is observed over the immediate adjacent areas. The 'A' zone appears to be the most important of this section of the property. Readings in the range of 42 to 85 x 10^3 ohm centimeters have been obtained on line 20 North and 93 x 10^3 ohm centimeters have been obtained on line 8 North. The axis of conductivity strikes in a North-Easterly direction, this appears to be the general strike of the quartz vein which is associated with the chalcopyrite.

Anomaly 'B' is associated with a copper showing, readings in the order of 82 x 10^3 ohm centimeters were obtained on line 64 North. Anomaly 'B' is rather short in lateral extent.

The 'C' anomaly is located on the base line across lines 0 and 4 North.

Two other minor anomalies, designated on the accompanying map by the letters 'D' and 'E' have readings that can be compared with those found over the showing located on line 64 North. It is therefore possible that these anomalies be associated with mineralization.

Results obtained on the Allan Lake Section.

The main copper showings of the Obabika Mines Limited are located on claim 36546 which is in the vicinity of Allan Lake.

In order to explore the possibilities of these showings, an area of ½ a square mile was surveyed by the electrical resistivity method.

As the strike of the formations was not accurately known it was decided to carry out the survey in two directions. First the lines were cut in a North-South direction and surveyed, then lines were cut in an East-West direction and surveyed.

The contour pattern obtained from the results of the East-West survey, shows the rock strike to be in a Northerly direction, whereas the other survey shows an East-West strike. The readings obtained when the electrical resistivity survey was conducted over the East-West lines are more varied than the readings obtained from the North South grid. Lines which run parallel to the formations will tend to give readings which are very much the same. Therefore it is postulated that the strike in this area is in a direction slightly East of North.

East-West Grid.

The main anomalous zones show a somewhat higher order of conductivity than is observed over the immediately adjacent areas and are identified on the accompanying plan as the 'J' 'M' 'N' 'O' 'P' and 'Q'

Of the conducting zone mentioned the 'J' 'M' and 'N' zones appear to be the most significant as a possible location for mineralization. Anomalies 'J' and 'M' are probably part of the same

shear zone, also anomalies 'O' and 'P' are indications of shearing. It will be noted that the showings of chalcopyrite are located on the main anomaly 'J' just South of the base line on line 24 North.

It should also be noted that the showings do not coincide with the best conducting areas indicated by the resistivity survey. It is therefore possible that the readings obtained on L 36 N from 75 - 175 feet West of the base line, and on the 'M' and 'N' anomalies are indicative of mineralization. Part of the 'J' zone and the 'M' anomaly are located in lakes, therefore it is possible that these areas of good conductivity are due to topographic effects.

The 'O' 'P' and 'Q' anomalies are not as strong conductions as the 'J' 'M' and 'N'

North-South Grid.

The results obtained from the electrical resistivity survey with the lines cut in a North-South direction gave two zones of good conductivity 'M' and 'N' that coincided with the zones 'M' and 'N' located when the line grid was in an East-West direction.

Four other conducting zones were found during this survey, these are designated on the accompanying map 'R' 'S' 'T' and 'U'. Of these the 'R' and 'S' anomalies are by far the most significant, and may be due to mineralization. The 'R' and 'S' anomalies may be part of a shear zone which lies in an East-West direction approximately 200 feet North of the base line.

In conclusion, it should be remembered that electrical survey methods have no means of identifying the possible mineralization

in the anomalous zones, they can only point out the best conducting areas. These areas of high conductivity creating the anomalies can be due to sulphide bodies, graphite, shears and fractures. The intensity of such anomalies varies with content and depth.

Respectfully submitted,

E B Nicholls

E. B. Nicholls B.Sc. A.Int.P.
Geophysicist.

Toronto, Ontario,
June 7th, 1956

C E R T I F I C A T E

I, E. B. Nicholls, certify:

a) That I am a geophysicist, residing at 39 Addison Cresent, Don Mills, Ontario.

b) That I am a graduate of the University of London, London, England, with the degree of B.Sc and am a member of the Institute of Physics, London, England.

c) That I do not have, nor do I expect to receive either directly or indirectly, any interest in the property or securities of Obabika Mines Limited.

d) That the data for my report on the property of Obabika Mines Limited is based on the examination of the results of a geophysical survey carried out on March 5th to April 10th 1956 inclusive and also maps and reports of the Ontario Department of Mines.

June 7th, 1956

E. B. Nicholls. B.Sc A.Inst.P.

Details of Geophysical Survey Work done under contract for Obabika Mines Limited.

Mining Claims included by the Survey: T36514
T36529
T36731 to T36740, inc.
T36946 to T36949, inc.

Number of Claims: 16

Type of Survey: Resistivity

Dates upon which Field Work Done: March 16 to April 10, 1956.

Number of Stations Established: 1572

Number of Miles of Lines Cut: 16.64

Chief Line Cutter: Marcel Larouche

Man-Days Line Cutting:		Actual:	57	Claimed:	80
Instrument Operator:	A. B. Fleming				
Man-Days Surveying:		Actual:	37½	Claimed:	150
Consultants:	E. B. Nicholls, Geophysicist				
	Man-Days:	Actual:	4	Claimed:	16
	A. B. Fleming				
	Man-Days:	Actual:	2	Claimed:	8
Draftsmen:	A. B. Fleming				
	Man-Days:	Actual:	15	Claimed:	60
Typing:	Man-Days:	Actual:	1	Claimed:	4

Total Man-Days Claimed: 318

Reported by:

A. B. Fleming, M.E.

Details of Geophysical Survey Work done under contract for Obabika Mines Limited.

Mining Claims included by the Survey: T36520
T36522 to T36524, inc.
T36530
T36533 to T36535, inc.
T36544 to T36548, inc.

Number of Claims: 12

Type of Survey: Resistivity

Dates upon which Field Work Done: March 5 to March 22, 1956.

Number of Stations Established: 1400

Number of Miles of Lines Cut: 13.24

Chief Line Cutter: Marcel Larouche

Man-Days Line Cutting:		Actual:	49	Claimed:	60
Instrument Operator:	A. B. Fleming				
Man-Days Surveying:		Actual:	27	Claimed:	108
Consultants:	E. B. Nicholls, Geophysicist				
	Man-Days:	Actual:	3	Claimed:	12
	A. B. Fleming				
	Man-Days:	Actual:	3	Claimed:	12
Draftsmen:	A. B. Fleming				
	Man-Days:	Actual:	17	Claimed:	68
Typing:	Man-Days:	Actual:	1	Claimed:	4
Total Man-Days Claimed:					264

Reported by:

A. B. Fleming

A. B. Fleming, M.E.

Twp

Le Roche

Twp

BELFAST

DISTRICT OF
NIPISSING

TIMISKAMING
MINING DIVISION

SCALE: 1-INCH=40 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C.

Twp.

Joan

NOTES

400' Reserve to Dept of Lands & Forests shown thus

This Twp lies in the

TIMAGAMI PROVINCIAL FOREST

Islands in Lake Timagami not open for staking.

Areas covered by resistivity Survey.

Obabika Lake

Obabika Inlet

Lower Bass Lake

Lower Bass Lake

41116NE0015 0013A1 BELFAST

900

1M 2M 3M 4M 5M

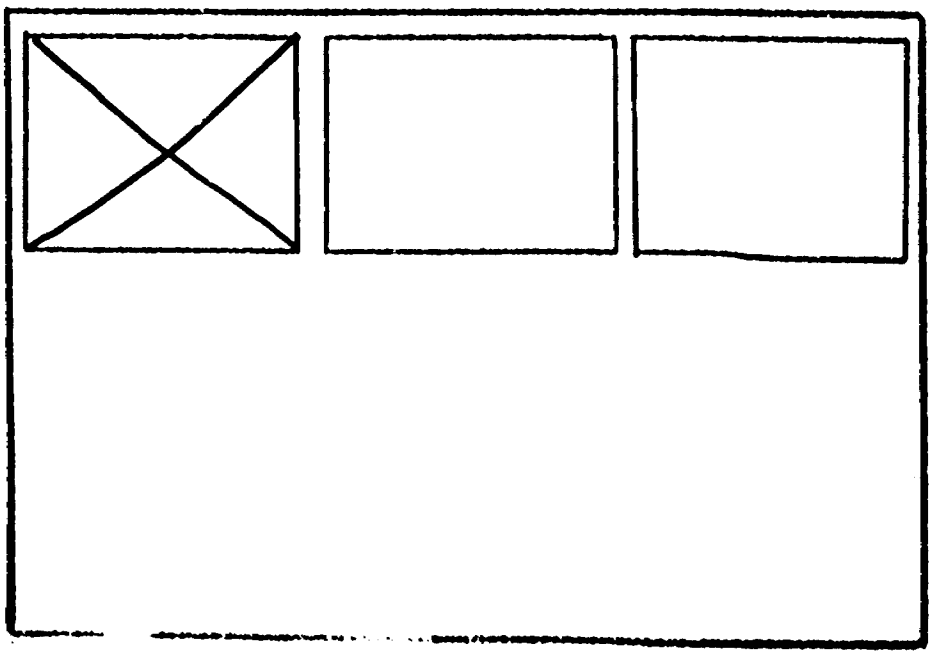
Scholes Twp

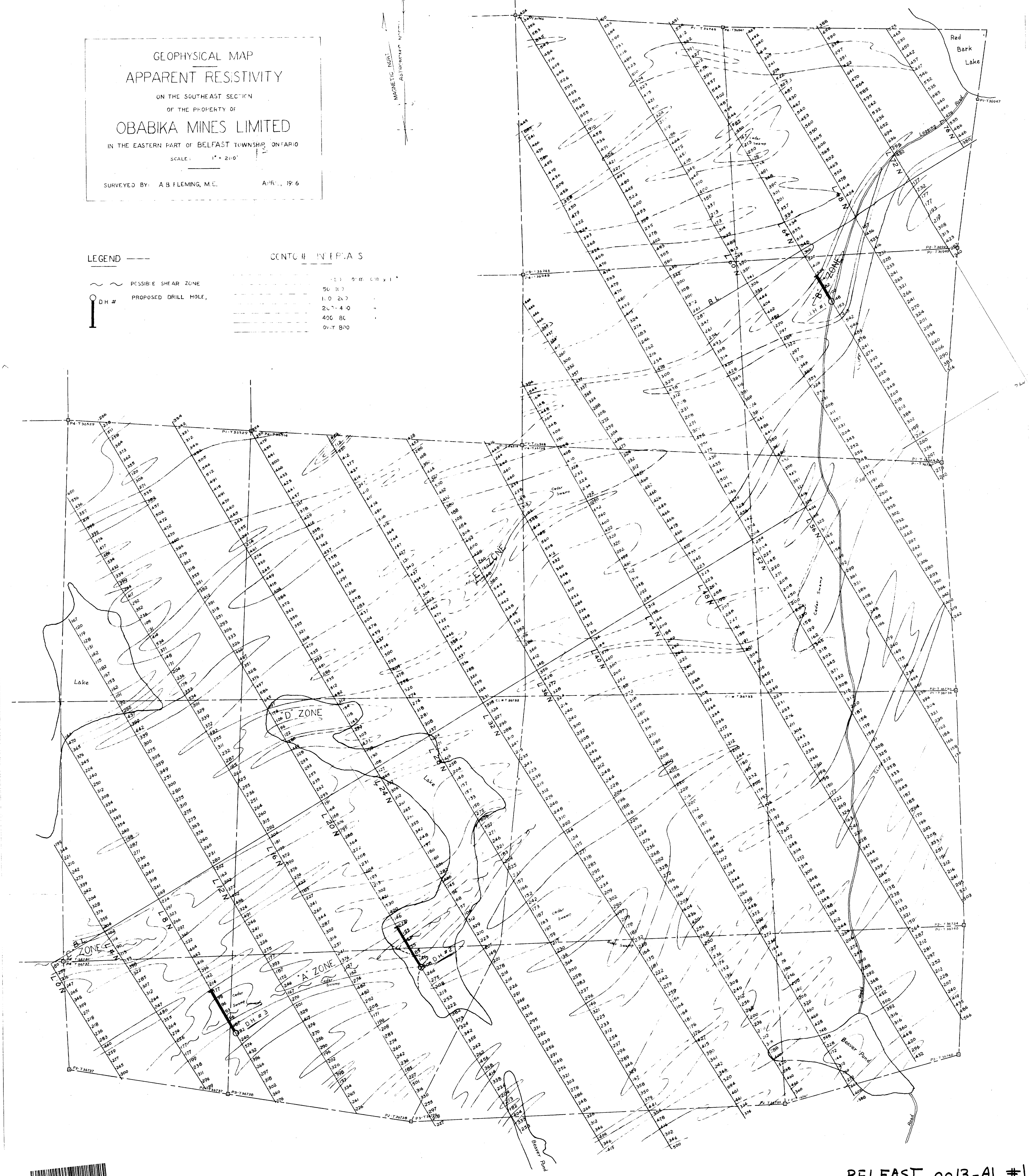
PLAN NO. M-414

SEE ACCOMPANYING MAP(S) IDENTIFIED AS

BELFAST_0013-A1 #1

LOCATED IN THE MAP CHANNEL IN THE FOLLOWING SEQUENCE (X)





41116NE0015 0013A1 BELFAST

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BELFAST-0013-A1 #1