

52009NE0016 2.7561 FACTOR LAKE

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REPORT

ON THE

GEOLOGICAL AND GEOPHYSICAL

EXPLORATION PROGRAM

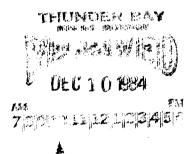
FOR

CLAYMORE RESOURCES LTD.

MAYFLOWER PROPERTY

RAINY RIVER DISTRICT

ONTARIO



RECEIVED

DEC 1 3 1984

MINING LANDS SECTION

L.D.S.Winter B.A.Sc.,M.Sc.,F.G.A.C. November 30, 1984

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52009NE0016 2.7561 FACTOR LAKE

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INTRODUCTION

Claymore Resources Ltd. holds a block of 7 claims in the Factor Lake Area, Thunder Bay Mining Division, Ontario. (Figure 1). The writer was requested to carryout an exploration program of line-cutting, geophysical surveying and geological mapping on the 7 claims. The work was done by and under the supervision of the author during the period October 21 to 29, 1984 inclusive. Statistical data with regard to the work is presented in Appendix 1 and the following report outlines the work done and the results of the exploration program.

2. SUMMARY

A grid consisting of an east-west base line and north-south picket lines at 400 ft. intervals was laid out on the property. Using this grid the property was geologically mapped and magnetometer and VLF-EM surveys were done over the property. The area about the old shaft and trenches in the northern part of claims TB475153 was mapped in detail and samples were collected for analysis.

The property lies in the Wabigoon Subprovince immediately north of the Quetico fault. The rock units which trend east-west and dip steeply are mainly metatuffs and/or metasediments containing some intercalated mafic flows. The magnetics suggest some thin ironstone units may be present within this sequence. An east-west trending diabase sill which gives a noticeable topographic ridge and magnetic anomaly is present along the south boundary of the claim block. In the northwest corner of the property a granitoid intrusive is present.

The general foliation is east-west to east-southeast and dips steeply. The metatuffs show many small scale fold structures indicating steeply plunging fold structures with the east-west axial plane foliation.

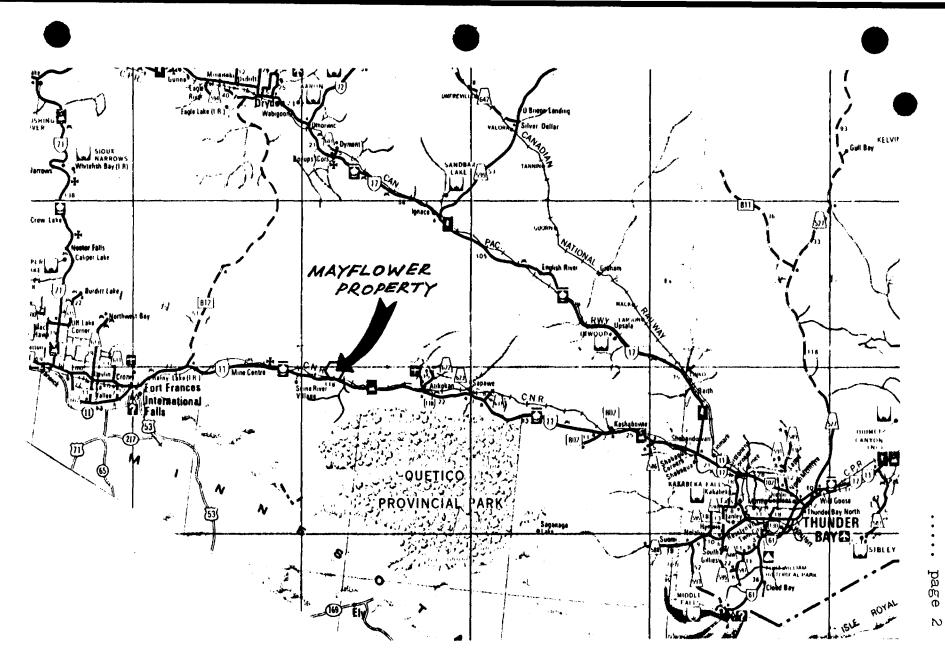


FIGURE 1

LOCATION MAP MAYFLOWER PROPERTY RAINY RIVER DISTRICT, ONTARIO

Scale: 1: 1 600 000

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The diabase sill along the southern boundary is cut by a series of interpreted northeast trending faults which are considered to subsidiary structures to the adjacent Quetico fault to the south. Evidence of late stage north-northwest trending kink folding is present.

The area of economic interest appears restricted to the northwest part of the property about the old Mayflower mine shaft and trenches . Here quartz veining. carbonate alteration and minor sulphide mineralization occurs along and adjacent to the metasediment-granite Two vein structures, one trending northeast and contact. one trending approximately east-west, are reported from the old workings. The magnetics show a weak east-west depression which suggests a continuation of the east-west structure for an additional 400 ft. to the east and it is recommended that this area be considered for further exploration. Due to the swamp in this area, geophysics followed by drilling is considered to be the most appropriate approach.

The magnetometer survey generally showed flat magnetics in the northern two thirds of the property with the exception of some discontinuous, linear magnetic anomalies which are interpreted to be ironstone units or mafic dikes or flows. One of these discontinuous anomalies extends across the property from just north of the Mayflower shaft to the eastern boundary.

Along the southern boundary of the claims a strong magnetic anomaly is coincident with outcrops of diabase. The granitoid intrusive west of the Mayflower shaft shows as a weak magnetic depression.

Both the C.N. railway line and the power line are strong E.M. conductors. Apart from these two cultural features there are 7 weak VLF conductors that trend eastwest. Two conductors are correlative with areas of increased magnetics and may be due to sulphide and/or magnetite in ironstone units. The remaining 5 conductors

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are interpreted to be due to shearing within the metatuffs.

In summary, it is considered that the main area of economic potential is about the old Mayflower shaft and the extension of the east-west vein structure to the east as suggested by the magnetic survey. In addition, the VLF conductors associated with the lin ear magnetic anomalies could be of interest and it is suggested that these areas be further prospected. Apart from some areas of weak carbonate alteration no ted on the geology maps and areas of old trenching, no other areas of potential economic interest were observed.

LSSOCIA Respectfully submitted, 1 Mar L. D. S. Winter L.D.S.Winter B.A.Sc., M.Sc., F.G.A.C. November 30, 1984 ELLOW

3. PROPERTY

3.1 LOCATION

The Claymore Resources Ltd. claims are located in the Factor Lake Area, District of Rainy River, Thunder Bay Mining Division, approximately 45 km west of Atikokan, Ontario at $92^{\circ}-07$ W longitude, $48^{\circ}-44$ N latitude. (Figure 1)

3.2 ACCESS

The south claim boundary of the property lies a few hundred feet north of provincial highway #11 which provides ready access from either Atikokan to the east or Fort Francis 105 km to the west.

The property is also crossed by the C.N. Railway line between Winnipeg and Thunder Bay.

3.3 TOPOGRAPHY AND VEGETATION

Along the northern boundary of the claim is an outcrop ridge from which the ground slopes gently to the south. Another ridge is present along the south boundary of the claims and also in the northwest corner. A creek and a series of beaver ponds and swamps extends across the claims from south east to north west and a second creek enters from the south to form a large area of swamp in the centre of the property.

The ridges are forested with spruce, and poplar with jackpine in a flat sandy area in the east-central part of the claims. The swampy areas are either open or forested with cedar.

4. PROPERTY GRID

An east-west baseline was cut and chained along the railway right-of-way and extended to the east boundary of the claims. Picket lines at 400 ft. intervals were cut and chained north and south from this base line. A tieline was cut at 13+20S between L28E and the east boundary to provide line control south of the creek and beaver ponds in the central part of the claims.

GEOLOGY

5.

5.1 REGIONAL GEOLOGY

The Mayflower property lies within the Wabigoon Subprovince of the Canadian Shield and just north of the Quetico fault, which forms the boundary with the Quetico Subprovince to the south.

The metasediments of the Quetico Subprovince consist of wackes and mudstones that suggest that these rocks are a turbidite sequence. The bedding planes strike easterly, dip steeply north and show tops to the north.

The Wabigoon Subprovince is underlain by metavolcanics, metasediments of the "Seine Series" and a younger group of metasediments. The metavolcanics are predominantly mafic to internediate in composition and consist of flows, pillowed flows, tuffs, tuff-breccias and lapilli tuffs.

The "Seine Series" sediments occur in the western part of the region and typically are arenaceous to argillaceous in composition. The younger metasediments overlie the metavolcanics and occur in the northern part of the region. These units have been subjected to medium-grade metamorphism and most primary features have been destroyed by recrystallization, dike intrusion and migmatization. Some conglomerates have been recognized as well as some ironstone units. These units may be correlative with the "Seine Series" but concrete evidence is lacking for this correlation.

Six different types of plutonic rocks ranging from felsic to mafic in composition have intruded the rocks of the Wabigoon Subprovince.

Major, east-west trending regional faults separate areas of differing structural styles. In the Wabigoon Subprovince fold patterns are complex and fragmented with five fold axial planes being recognized representing at least two periods of tectonism. The fold axial planes generally trend east-west to southeast but the intrusion of plutons and younger faults has further complicated this pattern.

5.2 PROPERTY GEOLOGY

The Mayflower property of Claymore Resources Ltd. lies within the Wabigoon Subprovince just north of the Quetico fault and is underlain predominantly by mafic to intermediate metatuffs and/or metapelites and some intercalated mafic metavolcanic flows. A diabase sill or dike parallels the volcanic stratigraphy along the south claim boundary and produces a noticeable topographic ridge as well as a distinct magnetic anomaly. In the northwest corner of claim TB475153 a felsic intrusive is present.

The metatuffs and/or metapelites are typically green in colour, thinly laminated, very fine grained units with a well pronounced east-west, steeply dipping foliation. Locally thin felsic to cherty interlaminations are present. Quartz veining, chlorite and or sericite alteration and shearing are present in some localities. Many outcrops show evidence of small scale folding or kink folding.

The magnetic survey indicated areas of elevated magnetics that are interpreted to correspond to either ironstone units or the mafic flows or sills within the metatuffs. One discontinuous anomaly of this type extends across the property just south of the baseline.

In the western part of the property most of claim TB475153 is underlain by mafic metavolcanic flows which are generally massive to slightly foliated, fine grained, and green to dark green in colour.

The diabase sill or dike south of the tie line is generally massive and medium grained with a diabasic texture. In some areas the rock appears somewhat sheared and chloritized. This unit forms a pronounced topographic ridge with steep 10 to 20 ft. cliffs on its northern edge. Of particular interest is the granitoid intrusive in the northwest corner of claim TB475153 since gold mineralization is spatially related with this unit. The rock is equigranular, medium grained, pink to brown in colour and in hand specimen is considered to range in composition from granite to granodiorite. To the east as seen in the old trenches the rock becomes porphyritic in places due to phenocrysts of quartz or these may be quartz porphyry dikes coming off the main felsic body. This felsic body is carbonatized, cut by veins and veinlets of quartz and carbonate, and contains occassional disseminated sulphides.

All units appear to have undergone several stages of deformation. The regional foliation is steeply dipping and trends east-west to east-southeast and is considered to be the earliest foliation. A number of outcrops of metatuffs show small scale fold structures with a steep plunge to the east and an approximately east-west axial plane.

Along the south boundary the geology and magnetics suggest a series of parallel northeast trending faults that offset the diabase sill in this region. It is considered that these faults are subsidiary structures to the Quetico fault to the south.

A third phase of deformation is represented by north-northwest trending kink folds which were observed in the metatuffs.

5.3 ECONOMIC GEOLOGY

The area of most economic interest on the property is along the north boundary of claim TB475153. Here a shaft was sunk in 1900 to the 100 ft. horizon and short crosscuts were driven at the 50 and 100-ft levels. Since 1900 further mine development, trenching and diamond drilling have been done in the area. Morton (1981) has described the veins as indicated by previous work as follows:

Gold mineralization occurs within vein systems cutting both the metavolcanics/metasediments and the granitic porphyry intrusion. It would appear that the two types of mineralization encountered on the site are:

- Quartz and quartz-ankerite veins which strike eastwards or northwards, cutting the metavolcanics/ metasediments. These veins carry gold and traces of tungsten mineralization in the form of scheelite.
- (ii) Stockworks of quartz-carbonate veinlets associated with carbonatization of the granitic porphyry. The veinlets also carry pyrite, chalcopyrite, sphalerite, galena, arsenopyrite and significant gold values (up to a maximum of 4 g/t Au).

The type (i) veins, where trenched at surface, have assayed up to 18.6 g/t Au. It is these type -(i) veins which form the main vein systems in depth and as such were the basis of the former mining-development/exploration activities at this locality. The two veins, the so-called Number One and Number Two veins apparently pinch and swell considerably. The Number One vein strikes east-west and is almost vertical. The vein ranges in width from 38" to 20 feet. The Number Two vein strikes northeast-southwest and averages 30" in width.

Strong carbonate alteration is noted on surface associated with the Number One vein. The magnetic survey shows a magnetic depression trending approximately eastwest from the area of the old trenches and it is considered that this is the eastward extension to at least L2OE of the Number One vein. It is considered that this feature as the eastward extension of the Number One vein is worthy of further exploration.

6. GEOPHYSICS

6.1 MAGNETOMETER SURVEY

The magnetometer survey was carried out using a Geometrics Proton Magnetometer with readings being taken along the north-south picket lines generally at 100 ft. intervals. A base station was established at the baseline and L40E with a value of 59801 nT and a second base station of 59542 nT was established at L40E at 13+00S. Secondary base stations were established on each picket line 100 ft. south of the baseline for lines 8E to 32E and along the base line from 36E to L59E. Secondary base stations were also established along the tie line on each picket line from 38E to 59E. No untoward magnetic disturbance was experienced during the survey and the readings were corrected for diurnal drift by comparison of the secondary base station readings at the beginning and end of each line-loop. The results are plotted and contoured on the Total Field Magnetics Map.

6.1.1 Results

The magnetometer survey shows flat magnetics in the northern two-thirds of the property with values ranging between 59600 nT and 59900 nT. The exceptions are an eastwest trending anomaly of approximately 200 nT just north of the baseline between lines 40E and 52E and a series of narrow magnetic highs along and just south of the baseline. These highs occur at 1+00S between 14 and 20E, 1+00S between 28E and 36E and from 4+00S on L44E to 5+00S on L59E. The cause of these anomalies is not known but is considered to be due to either mafic dikes or sills or a stratigraphic unit with a higher magnetic signature than the surrounding units.

South of the tie line along the southern edge of the property is a zone of enhanced magnetics. By comparison with the geology this area is seen to be underlain by a rock of diabasic texture and composition which is interpreted to be a diabase sill.

The magnetic low (59900nT) between lines 8E and 16E at 2+00S to 3+00S is interpreted to be caused by the granitoid intrusive mapped in this area.

6.2 RADEM VLF-EM SURVEY

The grid was also surveyed with a Crone Radem VLF

receiver along the north-south picket lines. The transmitter used was Cutler, Maine, U.S.A. (NAA-24.0 KHz) and normal accepted operational procedures were used. The dip angle was measured at 100 ft. intervals along the picket lines. The dip angles are plotted as profiles on the accompanying map. On a second map the dip angle values are also plotted and from these Fraser Filter values have been calculated and contoured.

6.2.1. Results

The VLF survey results are complicated by the presence of two strong cultural conductors across the property; the power line to the south and the C.N. railway line across the centre of the property. These conductors have not been mapped on the Dip Angle or Fraser Filter maps.

Seven weak VLF conductors were detected by the survey and are shown on the Dip Angle Map and the Fraser Filter Map. All of the conductors trend approximately east-west and are considered to represent zones of shearing and/or specific stratigraphic units within the stratigraphy. The conductors on lines 52E:1+00N to 59E:3+00N and lines 56E:6+00S and 59E:6+00S partially correspond to magnetic highs and may be due to an increased sulphide and/or magnetite content of the rocks. It is considered that these two conductors could be prospected to further evaluate their economic potential.

L.D.S.Winter B.A.Sc.,M.Sc.,F.G.A.C. November 30, 1984

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REFERENCES

1.	Assessment	Files;	Ministry	of	Natural	Resources,	Thunder
	Bay,	Ontari	Ο.				

- 2. Fumerton, S.L. and Bumgarner, E.L. (1981) Precambrian Geology of the Calm Lake Area, Rainy River District; Ont. Geol. Surv. Prel. Map. p. 2405, (Revised) Geol. Series. Scale 1:15840
- 3. Morton, R.D. 1981

Geological Report on the Mayflower Mine Property, Flanders, Ontario (unpublished report) p.4

Appendix I

Personnel Names, Addresses and Man Days

Name	Address	<u>Man-Days</u>			
Line-cutting					
F.W.Chubb	New Lowell P.O. New Lowell, Ontario LOM 1NO	6			
D. Coulter	Creemore, Ontario	6			
L.D.S.Winter	1849 Oriole Dr. Sudbury, Ontario P3E 2W5	2			
Geophysics					
F.W.Chubb		3			
L.D.S.Winter		3			
Geology					
L.D.S.Winter		4			
<u>Reports and Maps</u>		Ontario 6 e Dr. 2 htario 3 3 4 4 Dr. 2			
L.D.S.Winter		4			
P.M. Winter	1849 Oriole Dr. Sudbury, Ontario P3E 2W5	2			

PROGRAM STATISTICS

VLF-EM Survey

6.8 line-miles 370 station readings

Magnetometer Survey

6.8 line-miles 370 station readings

Geological Mapping 6.8 line-miles

Line-Cutting

8.3 line-miles cut

CERTIFICATE OF QUALIFICATION

- I, Lionel Donald Stewart Winter do hereby certify:
- 1. that I am a geologist and reside at 1849 Oriole Drive, Sudbury, Ontario,
- 2. that I am a Fellow of the Geological Association of Canada,
- 3. that I graduated from the University of Toronto in Mining Engineering in 1957 with a Bachelor of Applied Science and from McGill University Montreal in 1961 with a Master of Science (Applied) in Geology,
- 4. that I have practised my profession continuously for 25 years,
- 5. that my report, Geological and Geophysical Exploration Program for Claymore Resources Ltd, Mayflower property Ontario, November 1984 is based on field work carried out and/or supervised by me and on published and unpublished reports on the property

L.D.S.Winter B.A.Sc.,M.Sc.,F.G.A.C. November 30, 1984

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For each additional survey:	- Radiometric			475157				
using the same grid:	- Other			743658				
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	Geochemical			771831				
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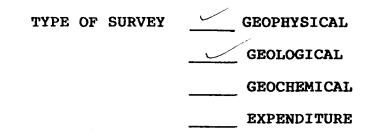
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Mining Lands Section

File No 27561

Control Sheet



MINING LANDS COMMENTS:

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Signature of Assessor

17/12/84

Date



Ministry of Natural Resources

December 10, 1984

MEMORANDUM TO:

Director Land Management Branch 6643 Whitney Block Toronto, ON M7A 1W3

Re: Reports-Geological and Geophysical

Please find enclosed reports of Claymore Resources Ltd.

b. allam

Audrey M. Hayes (Mrs.) Mining Recorder Thunder Bay Mining Division 435 James Street South Box 5000 Thunder Bay, ON P7C 5G6 Telephone: (807) 475-1311

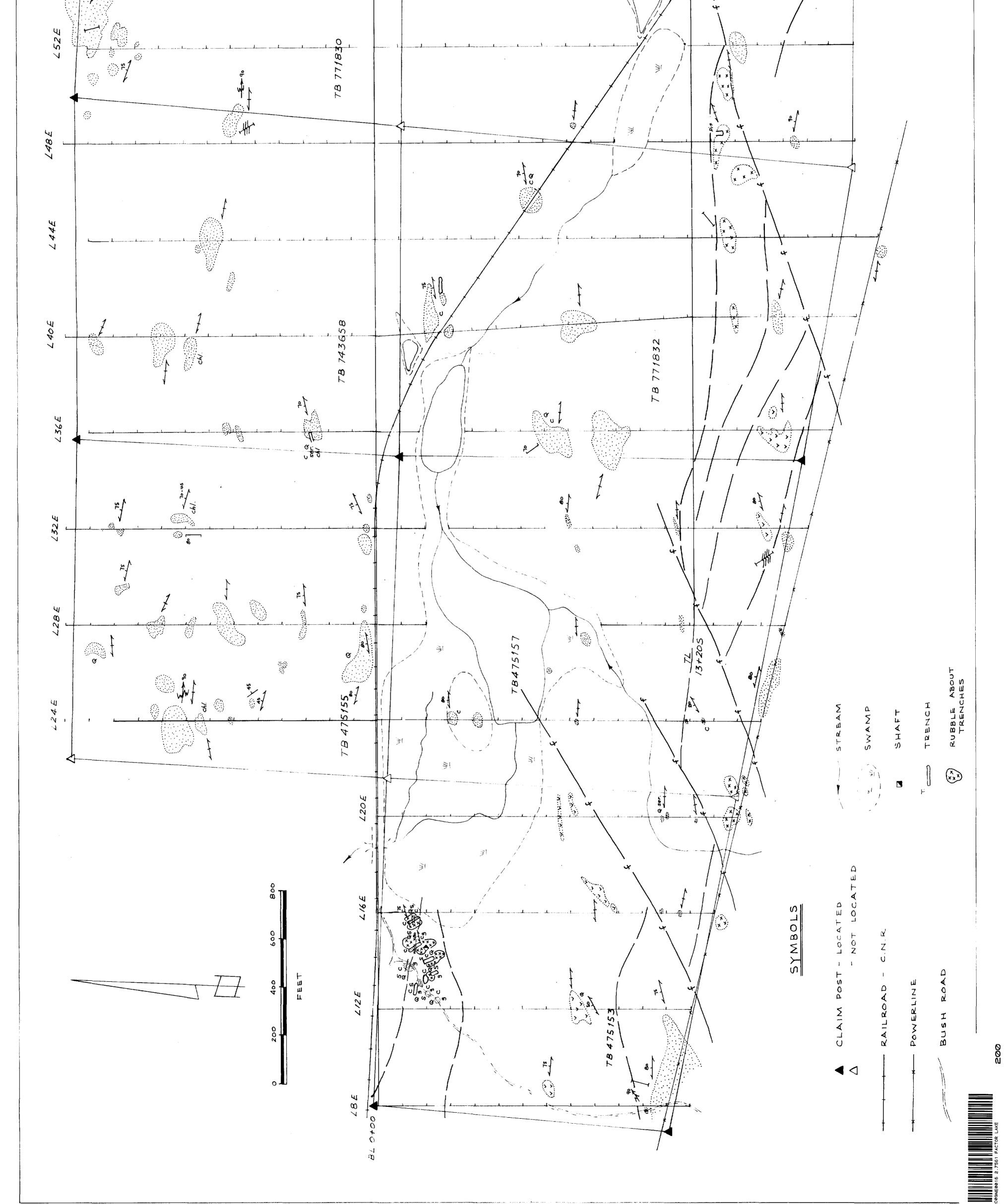
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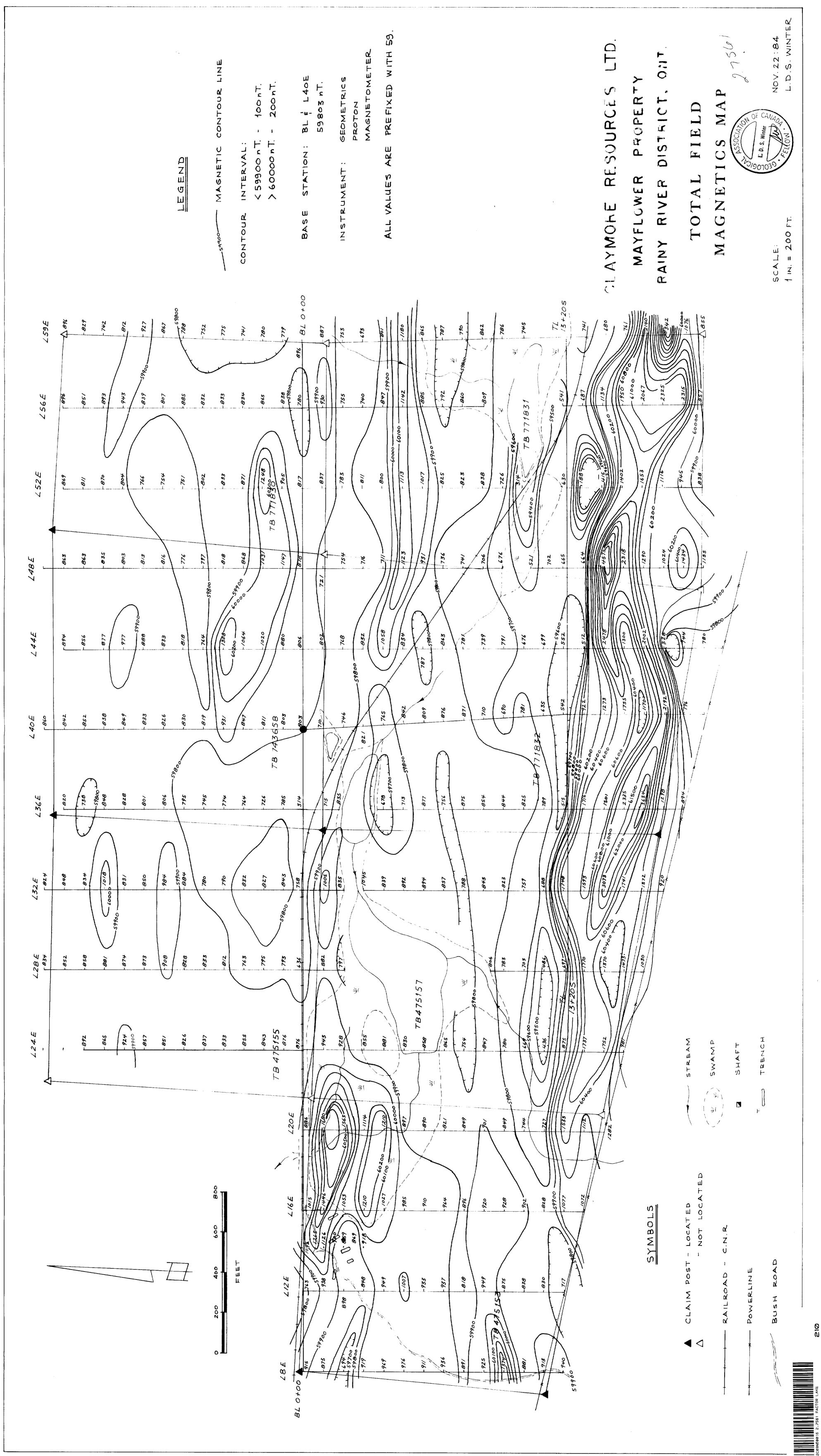
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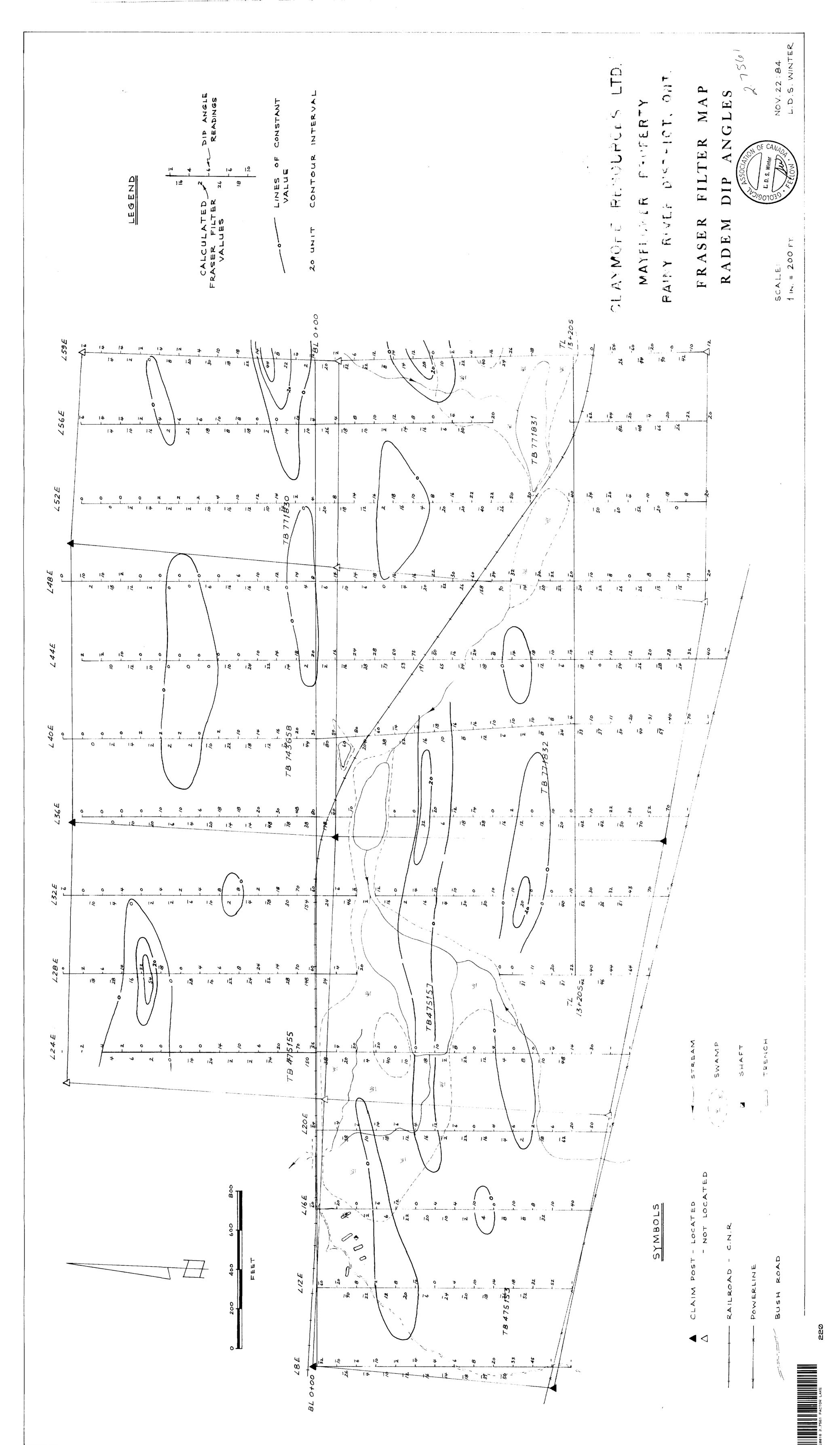
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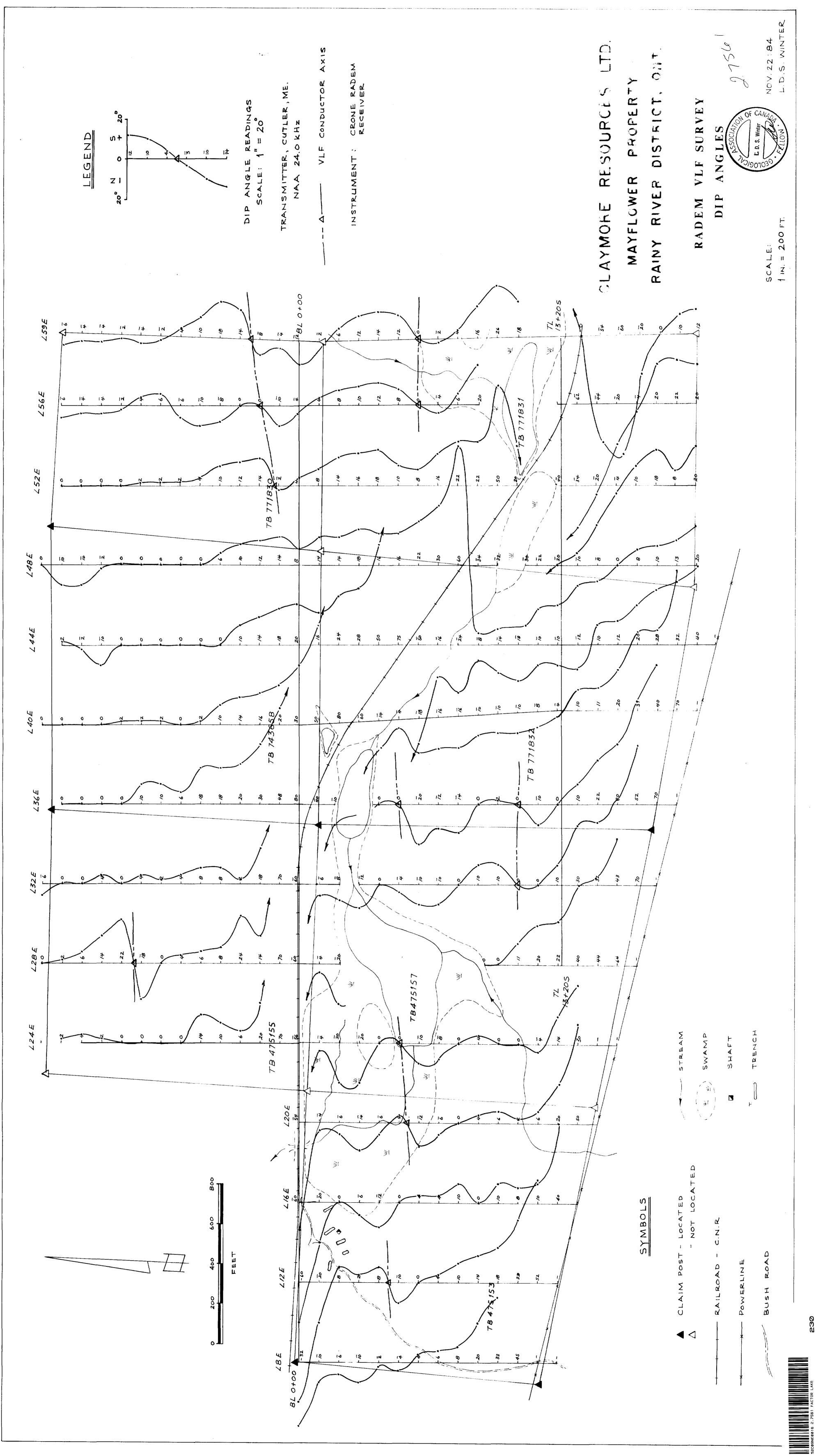
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