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Report
on
Geological Examination and Appraisal
of the
Midlothian Township Property,
Ontario
for
Stump Mines Ltd.

1. Conclusions and Recommendations

The property of Stump Mines Ltd. in Midlothian Tp. Ontario, is underlain mainly by felsic volcanic and pyroclastic rocks intercalated with bands of serpentinized ultramafic rocks. The felsic volcanic rocks are considered to be potentially favourable hosts for deposits of Cu-Zn bearing sulphides, and the serpentinites may contain nickel sulphide mineralization of interesting nature.

Both these types of mineralization are believed to be present in an exposed mineralized zone on the southeast shore of Bray Lake in the central-western part of the property. Drilling is definitely warranted to explore for a larger body of mineralization which might be suspected, from geological information, to underlie Bray Lake immediately north of the exposed showing. A reconnaissance IP survey shows an interesting anomalous zone in this general location beneath Bray Lake, but additional detailed ground geophysical surveys are warranted, prior to drilling, to exactly locate the centres of these zones as a guide to drilling.

A second, stronger, anomalous IP zone lies east of the former but may coincide with and be explainable by wet, magnetite-bearing serpentinite. If results of additional work on the Ni mineralization and of the additional detailed ground geophysical surveys are interesting, then a drill hole to test this zone would also be worthwhile.

Other anomalous IP zones on the property are believed to be explainable by exposed weak, disseminated, iron sulphide mineralization in felsic volcanics, by graphitic and/or pyritic sedimentary rocks and by wet magnetite-bearing serpentinites. None of these is considered to warrant drill testing unless drilling of the above, more attractive zones gives encouraging

results.

Specifically it is recommended that;

A. Additional detailed ground IP surveys jointly with ground magnetometer traverses be carried out, preparatory to drilling, in the vicinity of line 16W, north of the base line, in the vicinity of line 0+00 from 4N to 4S and in the vicinity of line 4W from 4S to 8S.

B. The property should be further explored by diamond drilling.

(i) Two holes should be drilled to test the anomalous IP zone located immediately north of the Bray Lake mineralized showing. One of these should be sited toward the western end of the zone near the known showing. The second should be located near the eastern end of the zone. Exact hole spottings should be deferred pending results of the additional ground geophysical surveys recommended under A).

(ii) One hole should probably be drilled to test the very strong, shallow IP zone east of Bray Lake and south of the Base Line; probably on line 0+00. This test might be combined in a single long hole with the recommended hole to test the east end of the "Bray Lake" zone.

C. Results of limited analytical work and microscope work on samples from the Bray Lake showing should be obtained and considered in deciding whether to drill hole (ii) above, and also in deciding whether additional drilling on other zones is warranted. This information should be available before June 30. Specifically it is hoped that this work will confirm or deny the presence of Ni sulphide mineralization.

D. The advisability of drilling on other anomalous IP zones should be reconsidered when results of all the work recommended above are available, particularly if drilling results are favourable.

2. Introduction

At the request of Mr. John Schemilt and Mr. Frank Clifton, the property of Stump Mines Ltd. north of Lloyd Lake in the central part of

*This microscope work subsequently completed, see pages 16-20 following.

Midlothian Tp., Ontario, was visited and examined geologically on June 8th and 9th, 1971. The property comprises about 3/4 of a square mile including the following mining claims;

L 279701 - 279705 incl.

L 298904 - 298913 incl.

A visit was also made to the Provincial Mining Recorder's and Resident Geologist's offices in Kirkland Lake on June 10th where all available assessment work records pertaining to the property were reviewed.

The purpose of the investigation was to carry out a geological appraisal of exploration possibilities on the property as a preparatory step toward possible future diamond drilling. Specifically it was desired to examine various mineralized showings known on the property and to evaluate their geological setting and significance. The locations of anomalous IP zones defined earlier by a McPhar Geophysics Ltd. survey were also to be examined, explanations for them sought, and their relationships to geological contacts, rock units and possible mineralization considered.

3. Location and Access

The 15 claims comprising the property now under option to Stump Mines Ltd. are located very near the centre of Midlothian Tp. and the centre of the property lies about 3/4 mile due S. of the south shore of Roche Bay on Midlothian Lake. Bray Lake, a small lake due N. of the "north-central-most arm of Lloyd Lake lies entirely within the property boundaries but in the west-central part of the property.

At the time of this visit the simplest access to the property was by float-equipped aircraft from Timmins (South Porcupine) to the north end of Lloyd Lake, a direct distance of 42 miles south southeast from Timmins.

The north end of Lloyd Lake lies along the southern boundary of the property. Alternative access by road will shortly be possible. Allied Mining Co. is carrying out exploration work for asbestos on claims adjoining the Stump property on the south. Allied is now constructing an all-weather road from Sirola Lake to its property that will pass southeastward about 1/2 mile west of the west end of the Stump property, and from which access for drilling or other purposes would be possible. Sirola Lake is now accessible by all weather road from Matachewan, a distance of 38 miles.

4. Brief History of Prior Work

The claims have been staked and restaked, and held more or less continuously for nearly 20 years by various organizations or individuals, a number of whom have carried out work on the property. This history is described fully in Ontario Department Mines Geological Report 79, and only the most pertinent of the resulting data is reviewed here. Much of the following information was extracted from files of the Mining Recorder and Resident Geologist in Kirkland Lake, and direct copies of some of this data are attached to this report as Appendices.

The earliest recorded work was by Dominion Gulf Co. in the early 1950's. Gulf flew an airborne magnetometer survey, staked claims, and explored them both for asbestos at northern Lloyd Lake and for Cu-Zn-Ni at Bray Lake on the Stump property. Gulf geologists prepared a detailed map of a previously known Cu-Zn-Ni showing on the southeast shore of Bray Lake (Appendix 1) and a geological report on the claims on which it lay (Appendix 2). Gulf also drilled a single, short hole at -60°S., directly under the showing from the shore of Bray Lake (log and section; Appendix 3). This hole intersected mineralization described as similar to that exposed in

the showing about 30 feet vertically below the latter. The hole bottomed at 133 feet, but no assays for the mineralized section from 60 to 86 feet in the hole are in the log.

The property was held in the mid 1950's by Canadian Johns Manville Ltd. which explored the claims south of Stump for asbestos. This company also had an airborne magnetometer survey of a larger area flown by Survair Ltd. of Ottawa in 1969. This is on file in Kirkland Lake but the portion covering the Stump Property is attached here as Appendix 4. No ground work was done, however, on the Stump ground itself.

In the early 1960's the property was held by C.R. Morgan, a prospector from Kirkland Lake. Morgan drilled two short EX holes from the same site on what is now claim # L279702 in the east-central part of the Stump property. The location and crude logs of these holes are appended (5) but the first was drilled north at -45° for 72 feet, the second east at -45° for 113 feet. No reason is given for the drilling but the logs suggest both holes were entirely in diabase which suggests that the holes tested a ground magnetometer anomaly. A diabase dyke is mapped directly "on-trend" with the drilling site about 1/4 mile north, hence the results are explainable and are of no consequence in evaluating the property.

The Stump claims are within a large area flown by dual EM-Mag airborne survey for Laroma Midlothian Mines by Canadian Aero Mineral Surveys in 1963. Results of this work are appended (6) including maps, notes on survey results, lists of anomalies etc. Briefly summarized, the AEM survey showed an E-trending conductive zone in the east-central and west-central portions of the Stump property that coincide well with McPhar IP zones in the same sectors. The AEM work did not show a conductive zone near the

centre of the property coincident with the Bray Lake Cu-Zn-Ni showing and a McPhar IP zone here. There was a direct magnetic correlation with the two AEM zones and the easterly one was ascribed to a conducting serpentinite zone (altered ultramafic intrusion) mapped in this part of the property.

Finally, four diamond drill holes were put down by Stairs Exploration Company in 1963, west and north-west of the Stump ground. These intersected various intertongued felsic volcanics, serpentized ultramafics and pyritic-graphitic sedimentary bands. The more northerly two holes near Mitre Lake (Appendix 7) showed marcasite-pyrite-graphite to be the explanation for EM conductors. One of the two southerly holes (Appendix 8) at the south end of Strange Lake lies nearest to the Stump property, is "on strike" with the Bray Lake Cu-Zn-Ni showing, and intersected a short interval containing weak sphalerite and chalcopyrite that assayed 0.30 oz. Ag, 0.70% Zn, 0.15% Cu, and 0.27% Ni.

Two holes reportedly (Geol. Rept. 79) drilled by Morgan west of Bray Lake are in fact the two "southerly" holes drilled by Stairs (above). These 2 Morgan holes referred to were in fact drilled 2 miles southwest of the Stump property on claim # MR1929 and have no bearing on the Stump property.

5. Location of Grid

One incidental purpose of this examination was to confirm the location of the line-cut grid over which the McPhar IP survey was carried out.

The grid is essentially in the location relative to topography shown on the McPhar 1" = 200' map (DWG IPP-4776). The E-W base line is particularly accurate as shown on this map, although all of the N-S cross lines are probably about 100 feet (75' to 125') west of their indicated locations. The

grid is thus accurate and well-cut as shown. Jean Alix's crew who contracted this work did an excellent job. The locations of anomalous IP zones are therefore essentially correct as shown on DWG IPP-4776 relative to topography. The cut lines and IP zones as located can therefore be used reliably for control of future drilling.

Incidentally, the location of the grid, as shown relative to topography on the 1" = 400' McPhar map (DWG MISC-3490) is not as accurate as on the above map. On MISC-3490 the E-W base line is correctly located at its west end but lies as much as 250' south of its plotted location toward its eastern end. Again, the N-S cross lines are about 100 ft. west of their plotted locations.

6. General Geology

The detailed geology of the Stump property is well described in O.D.M. Geol. Rept. 79 with its accompanying map (Map 2187) and is also shown in greater detail on Preliminary Geol. Map P 386. Reference should be made to these reports for complete geologic information. It was impossible, in the 2 days of field work included in this examination, to locate and check all of the outcrops shown on these maps. Nevertheless the general findings confirm the presence of the main rock types, structural setting and mineralization as previously indicated by the O.D.M. publications. Only the major aspects of general geology are therefore discussed here although the mineralized surface showings are considered in greater detail.

Only two major rock types crop out on the Stump property, although each has its minor subdivisions, and there are some other less abundant rocks presence. Generally speaking the property is underlain by a series of Archean intermediate-to-felsic volcanic extrusive rocks of typical

Keewatin type. These include massive and amygdaloidal flows, various fine to medium grained fragmentals (breccias) and some finer tuffaceous pyroclastics. These units strike nearly east-west across the property (parallel to the base line) and dip nearly vertical, but on the eastern half of the property the strike apparently swings slightly southerly to E.S.E. These rocks crop out in prominent ridges and constitute at least 95% of the exposed rocks. They are lithologically extremely favourable for the occurrence of Zn-Cu sulphide mineralization.

Apparently conformably intercalated within these rocks are layers or bands of ultramafic rocks including mainly serpentinite (serpentinized peridotite) but also some gabbros, pyroxenites and peridotites. These rocks are invariably soft due to alteration and they do not crop out except as occasional small exposures in low ground or as "thin skins" on the extreme lower and marginal edges of the ridges formed by the felsic volcanics. As a result they constitute only a few percent of exposed rocks but may be much more extensive if (as one suspects) they underlie much of the low swampy ground between "rhyolite" ridges. On the other hand outcrop examination over the Stump grid shows that there is not nearly as much outcrop of these ultramafics as shown on the O.D.M. maps (p. 386; Map 2187) and (as transferred from these maps) on the McPhar maps (DWGS. IPP-4776 and MISC 3490). This is confirmed by data shown on Appendix 1, the early Dominion Gulf Co. map, which shows only thin bands of ultramafic rock, often exposed merely as a narrow "skin" along the edge of rhyolite outcrops. Such thin bands of ultramafics do occur in the rhyolites near Bray Lake. The large outcrops of ultramafic rocks shown on the O.D.M. and McPhar maps simply do not exist on the Stump property although a large

outcrop of these rocks is present as shown on the maps north of Trap Lake.

These ultramafic rocks contain chrysotile fiber that is being explored by Allied Mining on the property to the south and also on Stump ground itself. They do not usually contain metallic sulphide minerals according to a verbal report from John Hagen, Allied's field geologist. They do contain up to 5% magnetite and give rise to strong ground and air magnetic anomalies. Thin tongues of them may be present, but not exposed, in the rhyolitic volcanics.

Other rock types include N-S trending diabase dykes that cut all rocks, Timiskaming type sediments (argillite, grey wacke, impure quartzite, graphitic schist) that crop out in the northeast of the Stump property and Gowganda conglomerate that is exposed east and southeast of Stump ground. None of these is close to, or pertinent to the anomalous IP zones or to known mineralization, except that the diabases probably cut across both. The sediments just north of Stump ground however show tops facing north, a piece of structural information that is relevant to appraisal of mineralization at Bray Lake to the south. A revised outcrop map showing the location and type of rock exposures seen during this examination is attached to this report (Appendix 9) and is intended for direct overlay to McPhar DWG IPP-4776.

7. Mineralization on the Stump Property

A. General

There is considerable metallic sulphide mineralization known on the Stump property from prior exploration. None of it is, in itself, of direct economic significance, but some of it is of interest in providing an indication of favourable conditions and/or locations for exploration. It is all

significant in appraising the potential of anomalous IP zones indicated by the McPhar survey, which was one of the main purposes of the present examination.

B. Description of Exposed Mineralization

The most important exposed mineralization is on the north facing slope of an outcrop at the southeast shore of Bray Lake. This is the showing described in Geol. Rept. 79 (p.20; see C.R. Morgan) and drilled in a single short hole by Dominion Gulf in 1953. This showing is also described in detail in the report by Parsons for Gulf (Appendix 2). This report contains an accurate and complete description of the mineralized exposure, and the reader is therefore referred to it for details.

One significant additional point is that the exposed mineralization is in the writers opinion, identical to "stratigraphic footwall" mineralization occurring as stringers and disseminations in the altered felsic volcanics immediately beneath many massive Cu-Zn sulphide bodies in the Canadian Precambrian. Similarly, the mineralization in most of the Bray Lake showing occurs as stringers and disseminations of sphalerite pyrrhotite chalcopyrite and pyrite in an altered, intermediate-to-felsic volcanic breccia.

This suggests that the exposed mineralization might underlie (stratigraphically) a massive sulphide body and makes it imperative to know in which direction the lavas at Bray Lake are "facing" - i.e. are tops to the north, or south? Herein lies the possible significance of the top determination in the Timiskaming sediments about 1/2 mile NE of the showing. Here, tops face north, and unless there is a major fold axis between this place and the Bray Lake showing, (not indicated on existing maps) they would

also face north at Bray Lake. This, in turn, means that if a massive body is present stratigraphically above the exposed mineralization it would lie to the north - i.e. beneath Bray Lake. The hole drilled by Dominion Gulf had no chance of locating such a body because it collared at the lake shore and drilled southward beneath the exposed mineralization. Under these circumstances drilling is definitely warranted to test northward beneath Bray Lake for a few hundred feet, immediately north of the exposed mineralization on the shore. The added presence of an anomalous IP zone (discussed below) in this location provides even greater urgency to the merit of such exploration.

Another general area of mineralization is present in the rhyolitic volcanics on the eastern part of the Stump property. This mineralization is noted on earlier ODM and McPhar maps in the general region south of the Base Line and on cross lines 12E and 28E. In fact, mineralization is quite widespread in outcrops of rhyolitic volcanics and breccias throughout this portion of the property. It is sparse, ranging from 1% to 5% of the rock and consists of thin stringers and patchy disseminations of pyrrhotite and pyrite throughout the rocks. In no places was any base metal sulphide seen in it, although traces of copper stain in one or two places suggest a very minor content of chalcopyrite.

This mineralization is a generally favorable indicator, being common in rocks in the broad vicinity of many massive sulphide orebodies. It suggests that the rhyolitic volcanics on the Stump ground are a possible favourable host for such deposits, and that exploration of them is warranted. It does not however indicate any specific locations or possibilities in the writer's opinion. It does permit an explanation for anomalous IP indications in this region (discussed below).

Finally some attention and consideration is warranted to the possibility for nickel sulphide mineralization on the Stump ground. There are indications that this may be present. These include the analytically confirmed presence of Ni in the first of the two Stairs Exploration drill holes at the south end of Strange Lake, only 4000 feet WNW along strike from the Bray Lake showing on Stump ground. This analysis was of mineralized rhyolitic volcanics, hence it is unlikely that the reported Ni content was in form of an Ni-bearing silicate (as might be expected in an ultramafic rock). Thus a nickel-bearing sulphide was probably present.

The second indication is the "reported" presence of Ni in the Bray Lake showing itself (Geol. Rept. 79, p. 20). This is unconfirmed by assay in the earlier work and is puzzling insofar as the major mineralized zone is clearly a Cu-Zn type in felsic volcanics. However the extreme western end of the mineralized outcrop at Bray Lake has been "invaded" by ultramafic serpentized peridotite. This part of the exposure contains fine, sparse (1% - 2%) pyrrhotite disseminated in the serpentinite and it is quite possible that this pyrrhotite contains some Ni. Alternatively, a separate Ni sulphide (pentlandite?) may be present accompanying the pyrrhotite but megascopically invisible. Assays and microscopic work to confirm or deny this possibility are in progress. Mineralization of this general character is being explored elsewhere (Dumont Nickel) may be of economic interest, and if present on Stump ground would merit further exploration.

8. Appraisal of Anomalous IP Zones

The above data, including all of the assessment work records from prior work as well as the current geological evaluation, provide a basis for evaluating the significance of the McPhar IP anomalies. These form a

semi-continuous, slightly south of east trending zone, extending almost the entire length of the Stump property. This semi-continuous zone is subdivided in the following discussion into what the writer believes may be significantly different parts, according to his geologic interpretation.

A. Zone just north of Base Line from 20W to 4E

This is the geologically the most intriguing anomalous IP zone and merits highest rating for future exploration. It lies just north of the Bray Lake Cu-Zn showing and on lines 20W and 16W it underlies Bray Lake either partly or wholly. In view of the comments made concerning the Bray Lake showing this zone and its eastward extension from 16W to 4E merits drill testing. It is possible in the writer's view that the geophysical indications arise from wet, magnetite-bearing serpentinite beneath Bray Lake and the low ground immediately ESE of Bray Lake, but there is no rock exposure to confirm or deny this possibility. Thus, all factors considered, the zone should be tested in at least two locations by drilling.

Some additional detailed geophysical work (IP) is warranted before drilling, to pin point the location and "depth to centres" of anomalous IP zones. This will serve as a guide to selection of drill sites and shorten the drilling footage required to test the zones. Some ground magnetometer profiles should be run when the detailed IP work is carried out simply to provide additional cheap information on the nature of the anomalous zones (mag coincidence or not; and strength of mag field).

Suggested locations for both drilling and additional Mag-IP work are somewhere in the western end of the zone (lines 20W, 16W and 12W) and at the eastern end of the zone (line 0+00).

B. Parallel Zones S. of Base Line from 0+00 to 16E

These IP indications are perhaps the strongest and shallowest on the property, hence are of definite PHYSICAL attraction. Geologically they are "suspect" for they co-incide closely with the edge of a broad, low swampy area between ridges of rhyolitic volcanics. One of these ridges (on the south) has a thin skin of serpentinite in two places (line 4W at about 3S and line 16E at about 10S). This makes it probable, in the writers opinion, that the low ground and its bordering anomalous IP zones are underlain and explained by wet, magnetite-bearing serpentinite.

Nevertheless, the geophysical anomaly alone is sufficiently strong to be seriously considered for drill testing. Moreover, if analyses and microscopic work prove the presence of Ni sulphide mineralization (which results should be known before drilling commences) then this possibility would definitely be of greater geological attraction and would certainly warrant drilling.

The suggested location for testing this zone is on line 0+00 at its extreme western end (north side of parallel zones). Here a single, long hole might be sufficient to test both zone a) (discussed above) and this zone (b). The minor additional detailed IP and ground mag on line 0+00 already suggested above would be preliminary to such drilling.

C. Parallel Zones, S. of Base Line from 16E to 28E

These zones, shown by McPhar as continuous with zones b) above are much weaker anomalies and have a different trend than zones b). They co-incide closely on the ground with the broad area of disseminated pyrrhotite-pyrite mineralization described above. This mineralization is not of specific interest and provides, in the writers opinion, an adequate explanation

of the anomalous indications. No drill test is therefore warranted in this area unless results of drilling under a) & b) above are encouraging in which case additional detailed ground Mag and IP would be required for re-consideration of possibilities in this area.

D. Zones north of Base-Line, 24W to 30W

These two zones probably coincide with the margins of an eastward extension of a known large body of serpentinite outcropping north of Trap Lake. As such they are not considered to be of prime interest for drilling unless the zone discussed above under b) should prove to be of interest. In this case further work, initially ground IP-Mag and later drilling might be warranted.

E. Single Indication at 4S on line 4W

A single IP anomaly not recorded on adjacent lines is located here apparently within an area of rhyolitic volcanics. Additional detailed IP and ground mag are warranted to confirm and exactly locate this anomaly. This work can be done while the other ground geophysical work preparatory for drilling is under way. The anomaly should be re-evaluated when the additional data is on hand.

F. Zones in the NE of the property

Two weakly anomalous IP zones were indicated well north of the Base Line in the east of the property. They lie within the area underlain by Timiskaming type sedimentary rocks and are probably due to graphitic and/or weakly pyritic sediments. They are considered to be of no further interest.

G. An airborne EM survey by Texas Gulf Sulfur Co. reportedly recorded a high priority conductive zone in a location shown on Appendix 10 that must lie near the intersection of IP zones discussed under A and B above. This

would be near the Base Line around 0+00 to 4E. This zone is unconfirmed but unexplained by the current examination, but if present, lends added attraction to a future drill test in this area of the two IP zones as discussed above.

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June 22/71.

ADDENDUM

9. Microscopic Examination

A. Conclusion and Recommendations

Microscopic work shows that pentlandite, a nickel sulphide, is present in specimens of both disseminated pyrrhotite and stringer sphalerite-pyrite-chalcopyrite from the Bray Lake showing. It is therefore recommended that the anomalous IP zone discussed under recommendation B(ii) of the prior report be tested with at least one and perhaps two drill holes. Exact locations of these holes should be chosen after results of the detailed ground geophysical work are available.

B. General Description

As recommended (Recommendation C) in a slightly earlier report dated June 22, 1971, two polished thin sections of rock from the Bray Lake Cu-Zn-Ni showing were prepared and examined at the University of Western Ontario on June 24/71. The first of these contained megascopic sphalerite mineralization occurring as stringers in a dacitic breccia from the central part of the mineralized outcrop, and the second from the western side of the showing, contained visible disseminated pyrrhotite mineralization in serpentized peridotite. The microscope work on both samples generally confirms the observations made megascopically in hand specimen and on the outcrop, but also reveals the presence of other metallic sulphide minerals that are of interest in regard to further exploration of the property and particularly in respect to recommendation B(ii) of the earlier report.

Microscopic work shows that sphalerite is the most abundant sulphide mineral in the first specimen and is medium-grained, intergrown with silicates along pronounced stringers or sealed fractures, and is notably pure

and free of inclusions of other sulphides. Pyrite accompanies the sphalerite but is less abundant, occasionally forming rims that partly or completely surround sphalerite grains, but usually occurring as separate distinct grains. Chalcopyrite is present as rare, separate grains or as portions of "composite grains" with sphalerite but not as unmixed intergrowths within sphalerite.

Separate small "clots" or "patches" within the rock between the sphalerite-pyrite-chalcopyrite stringers contain heavy disseminations of pyrrhotite. Intergrown within the pyrrhotite flame-like or irregular shaped inclusions is pentlandite, a Ni-Fe sulphide and it occasionally forms separate grains, but again always in association with the pyrrhotite.

Under the reflecting microscope the second specimen is seen to contain disseminated pyrrhotite which, as in the first specimen, again encloses pentlandite inclusions. Chalcopyrite is rare, but present and very rare grains of sphalerite are also disseminated in the rock. There may also be a few grains of chromite.

In thin section the second specimen is (as indicated by megascopic examination) a serpentinite; probably a nearly completely serpentized peridotite. Fine serpentine, mainly the variety antigorite, constitutes over 90% of the rock. The first specimen, however, is apparently not the "straight forward" dacite breccia suspected from field examination. This rock contains a complex suite of mafic silicates including a coarse pyroxene - probably augite - abundant tremolite, some serpentine and minor chlorite along with fine carbonate and free quartz. The pyroxene and tremolite are intimately intergrown with the sphalerite-pyrite along the sulphide-rich stringer whereas the intervening groundmass is mainly fine serpentine-chlorite-quartz-carbonate aggregate. The origin of this rock

is complex. It is probable in view of the field relationship that it represents a near-contact, reaction zone between the prevalent intermediate volcanics and the "tongue" of serpentinite that intrudes them at the west end of the mineralized outcrop. Additional specimens of similar mineralization from other places on the same outcrop are being prepared for microscopic study and should aid in verifying this tentative conclusion.

C. Interpretation and Possible Significance

The presence of a nickel-bearing sulphide mineral (pentlandite) in both specimens, is in the writers opinion, an interesting, significant, and potentially important discovery. It confirms the suspected presence of such a mineral discussed in the earlier report, as suggested by the reported Ni assays in the Bray Lake showing (O.D.M. Geol. Rept. 79) and by results in the Stair's drill hole ML-1-66 at the south end of Strange Lake 4000 feet WNW of the showing. The presence of pentlandite establishes that these earlier-reported Ni assays are not due to "silicate Ni" (Ni contained in silicate crystal structures such as olivene or serpentine). This is potentially important because "silicate Ni" is generally not recoverable therefore not of commercial value, whereas pentlandite ("sulphide Ni") is recoverable and economically important.

From the exploration standpoint the presence of pentlandite in both specimens enhances possibilities and potential of the property. It establishes that nickel sulphide mineralization has been generated near the contacts, between the ultramafic and rhyolitic volcanic rocks. Presumably the nickel-bearing ultramafics were "sulfurized" at the time of their emplacement against the Zn-Fe-sulphide bearing volcanics. This prevented Ni from entering the silicate crystal structure (olivene-serpentine), its

normal habitat, and instead "fixed" Ni as a sulphide mineral. The process has definite "ore-making" possibilities and the extent to which it has taken place on the Stump property definitely merits further exploration.

Specifically it is possible that the very strong, shallow IP anomalies discussed under recommendation B(ii) of the earlier report and tentatively recommended for drill testing might be due to Ni mineralization of the type discussed above. These anomalous zones lie along the suspected contacts of an ultramafic body, close to rhyolitic volcanics that do contain sparse visible iron sulphides. This environment could give rise to Ni-sulphide mineralization in attractive amounts. Hence, this IP zone should now definitely be scheduled for drill testing, probably by two holes rather than a single hole, after detailed ground Geophysical surveys have pinpointed the most favourable drilling locations.



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June 25/71



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Drilling Recommendation
Stump Mines Ltd.
Midlothian Township Property
Ontario
July 15/71

1. Introduction

This recommendation for diamond drilling is intended as an appendix to an earlier report on the Midlothian Tp. property of Stump Mines by the writer dated June 25/71. In the earlier report diamond drilling was recommended, but was to be preceded by additional detailed ground geophysical surveys to outline anomalous 1 P and magnetic zones and to select exact locations for drill holes. This geophysical work has now been completed, a report on results is being prepared by McPhar Geophysics Ltd., but field data was reviewed by the writer in conjunction with McPhar geophysicists and officers of Stump Mines Ltd. on July 13, 1971. As a result of this review, five specific drill hole locations were selected to test various interesting geophysical anomalies on the Stump property.

2. Recommended Diamond Drilling

Accordingly, it is recommended that the following holes be drilled to explore these anomalies for base metal mineralization.

<u>GRID LINE</u>	<u>LOCATION</u>	<u>BEARING</u>	<u>INCLINATION</u>	<u>LENGTH</u>
298913 12+00 E	1+50 S	south	-45°	350'
298912 4+00 W	1+50 S	south	-45°	500'
29890720+00 W	2+75 N	north	-45°	400'
298912 0+00	2+50 S	north	-45°	350'
2989120+00	0+00	north	-45°	<u>400'</u>
Total - 5 holes				2,000'

There is no preferred order for drilling these holes but it is suggested that the first three listed be drilled, in any sequence, before the last two listed.

3. Estimated Cost

The overall cost for diamond drilling, including geological logging, supervision, and splitting and assaying of core is estimated at \$15.00 per foot, roughly broken down as follows

drilling (Per ft.)	\$6.00
moves "	\$2.50
supervision "	\$1.50
geological "	\$2.00
assaying etc."	\$1.50
contingency "	<u>\$1.50</u>
	\$15.00

For the entire recommended program of 2,000 feet in 5 holes the total cost should therefore be about \$30,000, and provision should be made for this amount.



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REPORT ON
INDUCED POLARIZATION
AND RESISTIVITY SURVEY
OF THE
LLOYD LAKE PROPERTY
MIDLOTHIAN TOWNSHIP
LARDER LAKE MINING DIVISION, ONTARIO
FOR
STUMP MINES LIMITED

1. INTRODUCTION

At the request of Stump Mines Limited, we have carried out a combined Induced Polarization and Resistivity survey of their Lloyd Lake Property in Midlothian Township, Larder Lake M. D. The property consists of 15 claims in the centre of the township and is about 40 miles south of Timmins.

Two types of mineralization are present in the area: 1) pyrite-pyrrhotite with traces of copper and nickel associated with a series of basic intrusives; and 2) pyrite-sphalerite-chalcopyrite associated with felsic flows and fragmentals. The purpose of the IP survey was to test both rock types for concentrations of metallic minerals. Field work was carried out during the last part of March and the first part of April, 1971 using a McPhar variable frequency IP system. The survey covered the following claims, all believed to be owned or held under option by Stump Mines Limited.

List of Claims :

298904	298911
298905	298912
298906	298913
298907	279701
298908	279702
298909	279703
298910	279704
279705	

2. PRESENTATION OF RESULTS

The Induced Polarization and Resistivity results are shown on the following data plots in the manner described in the notes preceding this report.

<u>Line</u>	<u>Electrode Intervals</u>	<u>Dwg. No.</u>
32E	200 feet	IP 5460-1
28E	200 feet	IP 5460-2
24E	200 feet	IP 5460-3
20E	200 feet	IP 5460-4
16E	200 feet	IP 5460-5
12E	200 feet	IP 5460-6
8E	200 feet	IP 5460-7
4E	200 feet	IP 5460-8
0	200 feet	IP 5460-9
4W	200 feet	IP 5460-10
8W	200 feet	IP 5460-11
12W	200 feet	IP 5460-12
	100 feet	IP 5460-13

<u>Line</u>	<u>Electrode Intervals</u>	<u>Dwg. No.</u>
16W	200 feet	IP 5460-14
20W	200 feet	IP 5460-15
	100 feet	IP 5460-16
24W	200 feet	IP 5460-17
28W	200 feet	IP 5460-18
	100 feet	IP 5460-19
32W	200 feet	IP 5460-20
36W	200 feet	IP 5460-21

Enclosed with this report is Dwg. I. P. P. 4776, a plan map of the Lloyd Lake Property at a scale of 1" = 200'. The definite, probable and possible Induced Polarization anomalies are indicated by bars, in the manner shown on the legend, on this plan map as well as on the data plots. These bars represent the surface projection of the anomalous zones as interpreted from the location of the transmitter and receiver electrodes when the anomalous values were measured.

Since the Induced Polarization measurement is essentially an averaging process, as are all potential methods, it is frequently difficult to exactly pinpoint the source of an anomaly. Certainly, no anomaly can be located with more accuracy than the electrode interval length; i. e. when using 200' electrode intervals the position of a narrow sulphide body can only be determined to lie between two stations 200' apart. In order to definitely locate, and fully evaluate, a narrow, shallow source it is necessary to use shorter electrode intervals. In order to locate sources at some depth, larger electrode intervals must be used, with a corresponding increase in the uncertainties of location. Therefore, while

the centre of the indicated anomaly probably corresponds fairly well with source, the length of the indicated anomaly along the line should not be taken to represent the exact edges of the anomalous material.

Also enclosed is Dwg. Misc. 3490 at a scale of 1" = 400', showing the IP results in relation to the published geological maps, although the exact location of the picket lines has not been determined.

3. DISCUSSION OF RESULTS

Line 32E

A definite anomaly of moderate magnitude is centred at station 4S on this line; the pattern is asymmetrical, suggesting a dipping source with the dip probably to the north. According to Ontario Department of Mines maps #2187, Halliday and Midlothian Townships, and P-386, Midlothian Township, this part of the grid is underlain by rhyolite.

Line 28E

Anomalous IP effects were measured from 2S to at least 8S. The pattern suggests either two sources centred at 3S and 7S (Zone A-1 and Zone A-2 on Dwg. I.P.P. 4776) or a single, broad source of variable metallic mineral content. Detailing with 100-foot electrode intervals may be required to resolve this ambiguity. In either case, the anomalous effects occur adjacent to an outcrop of rhyolite rather than within the peridotite.

Line 24E

Similar results were obtained on this line but the south part of the zone appears to coincide with the rhyolite-peridotite contact and a sulphide

occurrence. In addition there is a probable deep source at 1N within the rhyolite and there are weak effects at 7N and 13N within the extensive band of clastic sediments.

Line 20E

Zone A is broader here and may contain three separate sources, although the southernmost one is incomplete. For the most part the anomalous effects correlate fairly well with the south band of peridotite.

Line 16E

On this line there are anomalous effects from station 1S to 9S, coincident with the peridotite. There appears to be a wide zone of weak mineralization with more concentrated sections at 4S and 8S (Zone A-1 and Zone A-2).

Line 12E

Similar results were obtained here, but the anomalies are much stronger and appear to extend north of the peridotite into the felsic pyroclastic rocks. Detailing with 100-foot electrode intervals and geological mapping are warranted to locate the source, or sources, more accurately in view of the proximity to a pyrite-pyrrhotite-chalcopyrite showing.

Line 8E

The strong anomaly designated as Zone A-1 occurs immediately west of an outcrop of rhyolite breccia and a sulphide showing.

Line 4E

Zone A-2 is not as apparent on this line but Zone A-1 is strong and shallow with the centre between 0 and 2S.

Line 0

Here again there appear to be two sources present. The southern feature correlates with Zone A-1 and the peridotite; the northern one corresponds with a band of rhyolite breccia and is identified as Zone B.

Line 4W

Zone B is stronger on this line and the source is clearly at depth (i.e. 100' to 200').

The definite anomaly at 4S may represent a continuation of Zone A-1 offset to the south by cross-faulting, or a separate feature at the south contact of the peridotite. Intermediate lines may have to be surveyed at 2+00W and 6+00W to further evaluate this anomaly.

The probable deep anomaly centred at 8N appears to correlate with the north band of peridotite,

Line 8W

On this line there is only one definite anomaly, indicating a strong narrow source with some depth to the top.

Line 12W

Zone B is centred at 4N and correlates in part with a small outcrop of rhyolite breccia. This feature was detailed using 100-foot electrode intervals and the results indicate a broad variable source with stronger sections at 3N to 4N and at 6N.

Line 16W

This line is of particular interest as it passes beside a sulphide

showing containing chalcopyrite and sphalerite in a sheared rhyolite agglomerate-breccia. A low magnitude but definite anomaly was found opposite the showing and therefore the strong anomalies on the adjacent lines are of considerable interest.

Line 20W

The results with 200-foot electrode intervals indicate a broad complex zone between 2N and 8N. The detail results show a definite anomaly at 4N to 5N, on strike with the Cu-Zn showing, and a weaker anomaly at the north shore of Bray Lake.

Line 24W

Here there is a strong, deep anomaly centred at 2N but it is not clear whether this represents an offset extension of Zone B or a separate zone.

Line 28W

A similar pattern was obtained on this line but the main anomaly is incomplete. Detailing with 100-foot electrode intervals located a shallow, narrow source at 1N to 2N within a broad zone of low resistivity extending from 1S to 8N. This low resistivity band probably reflects a change in rock type (i. e. a porous volcanoclastic rock or altered peridotite).

Line 32W

Similar results were obtained on this traverse.

4. SUMMARY AND RECOMMENDATIONS

Definite anomalies were located on every line on the Stump Mines

property, although they vary considerably in magnitude and character. In a general way the anomalies can be correlated into a single broad zone having a general east-west strike, but with several folds or offsets. If this were the case, then the results would appear to reflect a lithologic unit containing metallic mineralization, such as a pyrite-graphite zone in a tuff or slate. However, the published geological maps of the area clearly show that the anomalies cross rock type boundaries (i.e. rhyolite, rhyolite breccia and peridotite).

Furthermore the anomalies can be correlated into at least three separate zones of limited length as shown on Dwg. I.P.P. 4776 and some of them coincide with known sulphide occurrences.

Zone A-1 occurs roughly along the north contact of the main body of peridotite but apparently correlates with outcrops of rhyolite, rhyolite breccia and peridotite. According to O.D.M. Geological Report #79, one of these exposures consists of pyrite, pyrrhotite and minor chalcopyrite in rhyolite to dacite flows and breccias.

Zone A-2 appears to correlate with the main peridotite intrusive, except possibly on Line 28E.

For the most part Zone B correlates with a narrow band of rhyolite breccia and agglomerate, including the Cu-Zn showing on the south shore of Bray Lake. (A similar showing is reported just west of Trap Lake).

On the basis of the IP results, all three zones warrant drilling and in view of their size, one hole each will probably not suffice. Before planning a drill program the southern part of the grid should be carefully examined by a senior geologist in order to relate the known outcrops more accurately to the cut grid and to search for additional outcrops in the vicinity of the main anomalies.

In addition to the three main zones there are several other anomalies on the grid and some of these can be correlated into zones. For the most part these features are weak and not of prime interest at this time.

McPHAR GEOPHYSICS LIMITED

Robert A. Bell

Robert A. Bell,
Geologist

Philip G. Hallof

Philip G. Hallof,
Geophysicist

Dated: May 25, 1971

ASSESSMENT DETAILS

PROPERTY: Lloyd Lake Property
MINING DIVISION: Larder Lake
SPONSOR: Stump Mines Limited
PROVINCE: Ontario
LOCATION: Midlothian Township
TYPE OF SURVEY: Induced Polarization
OPERATING MAN DAYS: 95
DATE STARTED: March 15, 1971
EQUIVALENT 8 HR. MAN DAYS: 142.5
DATE FINISHED: April 21, 1971
CONSULTING MAN DAYS: 4
NUMBER OF STATIONS: 377
DRAUGHTING MAN DAYS: 7
NUMBER OF READINGS: 3300
TOTAL MAN DAYS: 153.5
MILES OF LINE SURVEYED: 12.6

CONSULTANTS:

Robert A. Bell, 50 Hemford Crescent, Don Mills, Ontario
Phillip G. Hallof, 5 Minorca Place, Don Mills, Ontario

FIELD TECHNICIANS:

R. Fernholm, Halleybury, Ontario
R. Bellanger, 64 Montcalm Avenue, Toronto 10, Ontario
Extra Labour:
M. Lavoie, R.R.#2, Airport Road, Timmins, Ontario
Chas. J. Charbonneau, 61 Pine Street N., Timmins, Ontario
George Hicks, 38 2nd Avenue, Schumacher, Ontario
Terry Dunne, 35 2nd Avenue, Schumacher, Ontario

DRAUGHTSMEN:

Ken Kingsbury, 58 Oak Avenue, Richvale, Ontario
B. Marr, 19 Kenowen Court, Toronto 16, Ontario
N. Lade, 1355 Lakefield Street, Oshawa, Ontario

McPHAR GEOPHYSICS LIMITED

Robert A. Bell
Robert A. Bell,
Geologist

Dated: May 25, 1971

ASSESSMENT DETAILS

PROPERTY: Lloyd Lake Property

MINING DIVISION: Larder Lake

SPONSOR: Stump Mines Limited

PROVINCE: Ontario

LOCATION: Midlothian Township

TYPE OF SURVEY: Induced Polarization

LINE CUTTING MAN DAYS: 27

DATE STARTED: February 16, 1971

TOTAL MAN DAYS: 27

DATE FINISHED: February 24, 1971

TOTAL MILES OF LINE: 11.8

LINE CUT BY McPHAR: Yes

LINE CUTTER:

Jean Alix Co. Ltd., P.O. Box 910, Val d'Or, Quebec.

McPHAR GEOPHYSICS LIMITED

Robert A. Bell

Robert A. Bell,
Geologist

Dated: May 25, 1971



STUMP MINES LTD. (N.P.L.)

PROSPECTUS

NAME AND INCORPORATION PARTICULARS

The full name of the Corporation is Stump Mines Ltd. (N.P.L.) (hereinafter sometimes referred to as the "Corporation" or "Stump") with registered office at Suite 1700, 777 Hornby Street, Vancouver, B.C., and executive offices at 400 Three Calgary Place, 355 Fourth Avenue, S.W., Calgary, Alberta, and Suite 1102, 347 Bay Street, Toronto, Ontario. The Corporation was incorporated under the name "Stump Mines Ltd. (N.P.L.)" as a specially limited private company on the 4th day of September, 1964, under The Companies Act of British Columbia by Memorandum of Association and converted into a public Corporation on the 28th day of December, 1964. There has been no amendment to the Memorandum of Association. The Articles of Association were amended on the 22nd day of December, 1964, so as to exclude therefrom such provisions as were inconsistent with the constitution of a public Corporation.

BUSINESS HISTORY AND PROPERTIES

The Corporation was incorporated to engage in the acquisition, exploration, development and operation of mines, mineral lands and deposits.

Midlothian Township

By Agreement dated as of January 1st, 1971 between the Corporation and Norman C. Lawson, 566 Bartleman Avenue, Timmins, Ontario, (hereinafter referred to as the "Optionor"), the Corporation received the right to acquire 15 unpatented mining claims located in Midlothian Township, Larder Lake Mining Division, Province of Ontario, more particularly described as L279701 - 05 inclusive; and L298904 - 13 inclusive. The cost of these claims to the Vendor was \$600.00 being the staking costs.

The consideration for the aforesaid option is as follows:

\$4,000.00 upon execution of the Agreement, which has been paid;

\$2,000.00 by July 1st, 1971, which has been paid;

\$5,000.00 by January 1st, 1972;

\$15,000.00 by July 1st, 1972.

The claims are in good standing until at least September 18th, 1971. The Corporation undertakes to maintain the claims in good standing during the term of this Agreement.

The claims are situated at the centre of Midlothian Township in the Larder Lake Mining Division, about 100 miles due north of Sudbury and 40 miles south-southeast of Timmins. Access to the property is by charter aircraft to Lloyd Lake or by road. A bush road leads west from Highway 566, 14 miles northwest of Matachewan; after about 12 miles a second road leads south for 8 miles to Sirola Lake from which a road has recently been completed about 3 miles to Lloyd Lake passing about one-half mile west of the west end of the Corporation's property.

The claims have been staked and restaked, and held more or less continuously for nearly twenty years by various organizations or individuals, a number of whom have carried out work on the property and only the most pertinent of the resulting data is reviewed.

The earliest recorded work was by Dominion Gulf Co. in the early 1950's. Gulf flew an airborne magnetometer survey, staked claims, and explored them both for asbestos at Northern Lloyd Lake and for Cu-Zn-Ni at Bray Lake on the Corporation's property. Gulf also drilled a single short hole which bottomed at 133 feet however no assays for the mineralized section from 60 to 86 feet in the hole are in the log.

The property was held in the mid 1950's by Canadian Johns Manville Limited which explored the claims south of the Corporation's properties for asbestos. They also had an airborne magnetometer survey of a large area flown but no ground work was done on these claims.

The claims are within a large area flown by dual EM-Mag airborne survey for Laroma Midlothian Mines in 1963. Briefly summarized, the AEM survey showed an E Trending conductive zone in the east-central and west-central portions of the Corporation's property that coincides well with the recently completed I.P. survey zones in the same sectors.

A brief geological examination of the claims was made in 1970 by Messrs. Robert A. Bell, Ph.D., Geologist, and John M. Kirkwood, Geologist. The property is of interest because of the presence of several sulphide occurrences and the purpose of the investigation was to examine the showings, assess their possible importance and determine if further work was warranted. Messrs. Bell and Kirkwood stated that the showings themselves were not of direct economic importance but they may be indicative of a generally mineralized contact zone.

During the latter part of March and the first part of April, 1971, the Corporation carried out a combined Induced Polarization (I.P.) and Resistivity Survey of the claims as had been recommended by Messrs. Bell and Kirkwood at an approximate cost of \$11,721.00. Definite anomalies were located on every line on the properties although they vary considerably in magnitude and character. The anomalies can be correlated into at least three separate zones of limited lengths and some of them coincide with known sulphide occurrences. On the basis of the results of the aforesaid survey, all three zones warrant drilling and in view of their size, one hole each will probably not suffice. It was recommended that before planning a drilling program the southern part of the grid should be carefully examined by a senior geologist in order to relate the known outcrops more accurately to the cut grid and to search for additional outcrop in the vicinity of the main anomalies.

The foregoing is a summary of the results and recommendations as set out in the report, dated May 25th, 1971, by Robert A. Bell, Ph.D., Geologist, which report is available for inspection on the public file of the Ontario Securities Commission.

In accordance with the aforesaid recommendation, Dr. R.W. Hutchinson, Consulting Geologist, visited and examined geologically the property on June 8th and 9th, 1971. Also all available assessment work records pertaining to the property at the Provincial Mining Recorder's Office and resident Geologist's office in Kirkland Lake were reviewed.

It was recommended that additional detailed ground I.P. surveys jointly with ground magnetometer traverses be carried out to outline anomalous I.P. and magnetic zones and to select exact locations for drill holes.

The aforesaid summary and recommendation was contained in the report of Dr. Hutchinson, dated June 25th, 1971, a copy of which is on public file at the Ontario Securities Commission.

The aforesaid additional detailed ground geophysical surveys completed Phase I at a cost of approximately \$2,000.00 and the results were reviewed by Dr. Hutchinson in conjunction with Dr. Bell and Officers of the Corporation. As a result of this review, five specific drill hole locations have been selected to test various interesting geophysical anomalies. The recommended drilling will total two thousand feet at an estimated cost of \$30,000.00, being Phase II of the programme.

The aforesaid is a summary of the recommendations of Dr. R.W. Hutchinson as contained in his report of July 15th, 1971, a copy of which is available on the public file of the Ontario Securities Commission.

The exploration programme currently underway is an exploratory search for ore, the properties are without a known body of commercial ore.

There is no underground or surface plant and equipment on the aforesaid claims.

The Company is advised that no person or Company shall receive an interest in the vendor consideration to be received by Norman C. Lawson and that the claims were acquired for the staking costs thereof.

Sturgeon Lake

By Agreement dated as of December 16th, 1970, in consideration of the sum of \$5,000.00 which has been paid, the Corporation received from Scandia Mining and Exploration Ltd., Suite 1005, Place Cremazie, 50 Cremazie Boulevard West, Montreal, Quebec (hereinafter referred to as "Scandia"), an option to acquire an interest in 11 unpatented mining claims in the Sturgeon Lake Area, Province of Ontario, being more particularly described as Nos. PA 250000 to 250005 inclusive, and PA 250830 to 250834 inclusive. Claims PA 250000 to 005 inclusive are in good standing until December 15th, 1972 and PA 250830 to 834 inclusive are in good standing until November 2nd, 1973.

The said Option may be exercised on or before December 16th, 1973, by notice of exercise thereof addressed to Scandia as above.

In order to keep the said Option in good standing, the Corporation shall pay the sum of \$150,000.00 together with exploration work as follows:

A. The aforesaid sum of \$5,000.00 which has been paid; the further sum of \$15,000.00 payable by December 16th, 1971; the further sum of \$30,000.00 by December 16th, 1972; and the remaining \$100,000.00 by December 16th, 1973;

B. The Corporation has agreed to complete a minimum of 800 feet of diamond drilling by March 16th, 1971, which was done (further particulars hereinafter set out) and to carry out other recommended exploration work in accordance with sound Canadian mining practice.

In order to exercise the option the Corporation shall cause a new Company to be formed at its expense and the aforesaid mining properties shall be transferred to the new Company. The new Company shall have an authorized capital of 5,000,000 shares and Scandia will receive 450,000 pooled shares and 50,000 free treasury shares of the vendor consideration. In addition if the claims are brought into production Scandia will receive 10¢ per ton of ore for the first 25 years of production. The Corporation shall have the rights of first refusal to purchase all or any part of the unissued shares of the new Company and shall receive the remainder of the allowable vendor consideration.

This is an Option Agreement only and the Corporation may at any time abandon the said option by giving written notice by registered mail to that effect to Scandia not less than 60 days before the upcoming renewal date of the said option. The Agreement is subject to filing of a notice with the Quebec and Ontario Securities Commissions and the Canadian Stock Exchange. The Corporation is advised that Scandia has filed notice with the Quebec Securities Commission and Canadian Stock Exchange.

The claims are contiguous and adjoin on the west side of Abitibi block No. 7 on which Mattagami Lake Mines Limited has discovered a large copper-zinc-silver ore body. The claims are approximately 5 miles Southwest of the Mattagami discovery. The claims are approximately 6 miles east of Highway #599, and are accessible by all-terrain vehicle 1-1/2 miles from an all-weather road running along the south shore of Sturgeon Lake which connects on Highway #599.

Scandia Mining and Exploration Limited carried out geophysical surveys, including electromagnetic and magnetic, on these claims and also completed an induced polarization and resistivity survey in late October and November, 1970 on claims 250,004, 250,005 and 250,830 to 834 inclusive, to search for concentrations of metallic mineralization at an approximate cost of \$6,000.00. The geophysical results indicate an anomalous zone trending East-Northeast across the property for a distance of 2,200 feet, still open in both directions.

In March 1971 the Corporation completed about 900 feet of diamond drilling in two holes at a cost of approximately \$9,578.00 and failed to find any mineralization of economic importance. The Corporation does not intend to do any further exploration work at this time pending results of work being done on neighbouring properties. The Corporation may renegotiate this transaction prior to the option payment of December 16th, 1971.

The exploration programme undertaken was an exploratory search for ore, the properties are without a known body of commercial ore.

The costs of the claims to the Optionor was \$2,250.00 and 6,000 treasury shares of Scandia.

There is no underground or surface plant and equipment on the aforesaid claims.

The following hold a greater than 5% interest in Scandia Mining and Exploration Limited:

Mr. Bjarne Kvendbo, President of Scandia Mining and Exploration Limited, and Kippen & Company Incorporated, 1155 Dorchester West, Montreal, Quebec.

Working Option - Baldwin Township, Sudbury Mining Division

By Agreement dated the 31st day of August, 1970 between the Corporation and R.C.C.G. Syndicate, Suite 2315, Simpson Tower, 401 Bay Street, Toronto, Ontario, hereinafter referred to as the "Syndicate", the Corporation received the right to acquire an undivided 75% interest in a group of 26 unpatented mineral claims located in Baldwin Township, Sudbury Mining Division, Province of Ontario, more particularly described as Claims Nos: - S156106 - 7 inclusive, S156064 - 73 inclusive, S156288 - 97 inclusive and S209884 - 87 inclusive for the following consideration and upon the following terms:

1. The expenditure by the Corporation of not less than \$40,000.00 on explorational work on the claims during Stage 1 ending one year from the date of execution of the aforesaid agreement being September 30th, 1970;

2. During Stage 1 the Corporation may notify the Syndicate that it wishes to extend its rights to carry out exploration and development until September 30th, 1972, and failing receipt of such notice this Agreement shall forthwith terminate. If the Corporation elects to carry out further exploration and development, and shall have expended the \$40,000.00 as required aforesaid, and shall have paid to the Syndicate \$12,000.00 in reimbursement of monies expended by the Syndicate for staking and exploration work, hereinafter referred to, the right to explore the claims shall be extended for the period from the end of Stage 1 until September 30th, 1972, being Stage 2, and the Corporation shall retain the right by expending during Stage 2 not less than \$100,000.00 (which amount shall include the \$12,000.00 paid to the Syndicate);

3. During Stage 2 and having expended not less than a total of \$140,000.00, the Corporation may extend its rights until September 30th, 1973, being Stage 3, by undertaking to expend not less than \$250,000.00 on exploration and development.

Any amount expended by the Corporation for exploration and development in excess of the amounts mentioned during any of the Stages shall be credited to the amount required to be expended during the following Stage.

Upon written notice the Corporation may at any time during the currency hereof:

(a) surrender its rights and terminate the aforesaid Agreement; or

(b) elect to bring the claims into production whereupon any expenditures required to be made during any Stage hereof may be expended to this end and upon bringing the claims into production the Corporation shall have earned an undivided 75% non-assessable interest in the claims.

If the Corporation elects to bring the claims into production it shall itself be responsible for the provisions of all working capital and other funds required from time to time, and all monies required to bring the claims into production as reasonably expeditiously as possible following such election, and at a milling rate of not less than 50 tons of ore per day. Capital required for plant additions and expansions which the Corporation deems should be undertaken shall also be the sole responsibility of the Corporation. Mining and milling operations so long as such operations are being carried on at a profit as determined by a Statement of Profit and Loss prepared by its auditors shall not be discontinued and if the operations are at any time discontinued, they shall be recommended as soon as it is possible to carry on such operations at a profit as determined by a pro-forma Statement of Profit and Loss prepared by the auditors of the Corporation. The aforesaid obligations shall arise immediately upon the Corporation notifying the Syndicate that it has elected to bring the claims into production.

The Corporation shall be repaid from the net profit, as defined, all monies expended by the Corporation on the claims prior to bringing and to bring same into production. For such purpose monies expended by the Corporation shall be deemed to comprise all exploration and development expenditures incurred by it and all additional monies expended to bring the claims into production. Thereafter the net profits from production shall belong 75% to the Corporation and 25% to the Syndicate.

During the currency of this Agreement any mining claims staked or otherwise acquired by the Corporation or the Syndicate within two miles of any of the claims shall be deemed to form a part of the claims to be dealt with under the provisions

of this Agreement provided that if the Corporation does not elect to bring the claims into production the Syndicate and the Corporation each have a 50% interest in said claims so staked or otherwise acquired.

The claims are located in the Southeastern corner of Baldwin Township, Sudbury Mining Division, Province of Ontario, thirty six miles west of the City of Sudbury, the base of the world's largest nickel - producing area, along Trans-Canada Highway No. 17. The Highway crosses East-West along the central part of the claims. The nearest village is McKerrow which is 2.2 miles to the West on the Highway. The Canadian Pacific Railway line, Sudbury to Sault Ste. Marie, traverses the property on the South side of the Highway.

Sulphides were found on the claims many years ago and shallow pits were put down on a number of gossan zones. The property was reported on by B.M. Arnott, P.Eng., under date of October 20th, 1969, who completed on behalf of the Syndicate a detailed magnetometer and electromagnetic survey over parts of claims S156064, S156065, S156067 and S156106, covering a rectangular area roughly 1800 feet by 1800 feet. This survey is just North of the Highway and North of the Power Line. There are no records of any previous geophysical prospecting or other systematic work ever having been done on these claims.

The Corporation completed a deep hole of 1,006 feet without encountering any significant mineralization. No further work has been done on these claims and none is contemplated at this time. Exploration costs to date on these claims amount to \$13,417.00.

The Agreement with R.C.C.G. Syndicate is in effect until September 30th, 1971. The Corporation may renegotiate this transaction before the expiry date.

The cost of the claims to the Optionors was approximately \$2,000.00 being the costs of staking.

There is no underground or surface plant and equipment on the aforesaid claims.

Persons and Companies holding a greater than 5% interest in the R.C.C.G. Syndicate are as follows:

Chesapeake Limited, Suite 2314, 401 Bay Street, Toronto, Ontario;
Frank T. Clifton, 126 St. Leonard Avenue, Toronto, Ontario;
Diana L. Goad, Trustee, 34 Bayview Wood, Toronto, Ontario; and
Ernest J. Rivers, 32 Hill Crescent, Scarborough, Ontario.

James B. Goad, 474 Russell Hill Road, Toronto, Ontario is the sole owner of Chesapeake Limited.

Diana L. Goad is the wife of J. Lawrence Goad Jr., President of St. Lawrence Securities Limited, the Underwriter-Optionee.

Stump - Silver Key Properties

The Corporation acquired 58 claims in the Ross River Area located in the Watson Lake Mining Division, Yukon Territory, more particularly described as follows:

Eva 1 to 24 inclusive;
Tip 1 to 15 inclusive and 24 to 26 inclusive; and
Marion 1 to 16 inclusive.

The Eva claims were acquired from Mrs. Norman Andrews, Ross River Post Office, Yukon Territory, December 9th, 1965, for the total consideration of \$2,000.00, which has been paid,

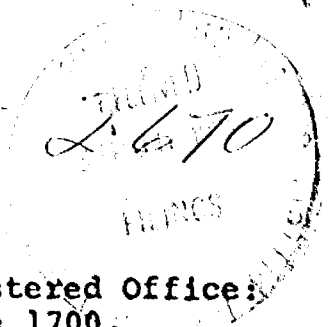
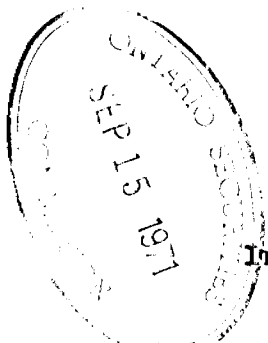
STATEMENT OF DEFERRED EXPLORATION AND DEVELOPMENT EXPENDITURES

	As at	Year Ended December 31,					Five Months	Total	Five Month
	December 31, 1965	1966	1967	1968	1969	1970	Ended May 31, 1971		Ended May 31, 1971 (Unaudited)
EXPLORATION									
Wages, camp operating and other	\$ 629	8,382	21,627	149,972	45,848	2,979	-	229,437	646
Drilling cost and contract work	-	-	13,922	196,855	27,137	6,907	9,578	254,399	-
Engineering fees and expenses	-	3,976	4,411	37,997	11,171	1,722	5,024	64,301	-
Survey costs	-	5,309	254	42,071	-	-	11,716	59,350	-
Equipment rental	-	-	7,975	90,350	25,222	(10,598)	-	112,949	(12,897)
Tools and supplies	-	-	-	47,109	(1,655)	-	-	45,444	-
Equipment, fuel and maintenance	-	-	-	42,770	10,240	73	-	53,083	-
Freight, trucking and transportation	-	-	-	32,426	9,515	1,849	-	43,790	-
Option payments	-	-	-	-	-	9,000	-	9,000	-
General	-	-	-	-	-	124	-	124	-
	<u>629</u>	<u>17,667</u>	<u>48,189</u>	<u>639,550</u>	<u>127,468</u>	<u>12,056</u>	<u>26,318</u>	<u>871,877</u>	<u>(12,251)</u>
GENERAL AND ADMINISTRATIVE									
Travel	-	2,207	2,592	29,952	10,654	854	-	46,259	109
Office supplies and expenses	-	2,315	5,230	10,662	4,532	43	22	22,804	-
Consulting fees and other	-	-	-	14,500	2,000	1,372	-	17,872	-
Administrative	-	-	-	10,000	-	-	-	10,000	-
	-	<u>4,522</u>	<u>7,822</u>	<u>65,114</u>	<u>17,186</u>	<u>2,269</u>	<u>22</u>	<u>96,935</u>	<u>109</u>
FEDERAL GRANT ASSISTANCE	-	-	-	(34,040)	(20,731)	-	-	(54,771)	-
TOTAL	<u>\$ 629</u>	<u>22,189</u>	<u>56,011</u>	<u>670,624</u>	<u>123,923</u>	<u>14,325</u>	<u>26,340</u>	<u>914,041</u>	<u>(12,142)</u>
Ketza River project	\$ 629	22,189	56,011	670,624	123,923	(5,080)	-	868,296	(12,142)
Baldwin Township project	-	-	-	-	-	10,405	3,012	13,417	-
Sturgeon Lake project	-	-	-	-	-	5,000	11,607	16,607	-
Larder Lake project	-	-	-	-	-	4,000	11,721	15,721	-
	<u>\$ 629</u>	<u>22,189</u>	<u>56,011</u>	<u>670,624</u>	<u>123,923</u>	<u>14,325</u>	<u>26,340</u>	<u>914,041</u>	<u>(12,142)</u>

PROSPECTUS

STUMP MINES LTD. (N.P.L.)

Incorporated in British Columbia



Executive Offices:

400 Three Calgary Place,
355 Fourth Avenue, S.W.,
Calgary, Alberta.

Suite 1102,
347 Bay Street,
Toronto, Ontario.

Registered Office:

Suite 1700,
777 Hornby Street,
Vancouver, British Columbia

Transfer Agent and Registrar: Canada Trust Company, 901 West Pender Street, Vancouver, B.C., and 110 Yonge Street, Toronto, Ontario.

Underwriter-Optionee:

St. Lawrence Securities Limited,
Suite 2315, Simpson Tower,
401 Bay Street,
Toronto, Ontario.

Promoter:

New York Oils Limited, (N.P.L.)
400 Three Calgary Place,
355 Fourth Avenue, S.W.,
Calgary, Alberta.

NEW ISSUE

<u>No. of Shares</u>	<u>Price per Share</u>	<u>Net Amount to be received by the Company</u>	<u>Maximum Offering Price to Public</u>
200,000 underwritten	15¢	\$ 30,000.00	\$37,500.00 (18-3/4¢ per share)
200,000 optioned	20¢	\$ 40,000.00	\$50,000.00 (25¢ per share)
200,000 optioned	50¢	\$100,000.00	\$125,000.00 (62-1/2¢ per share)
200,000 optioned	75¢	\$150,000.00	\$187,500.00 (93-3/4¢ per share)
200,000 optioned	\$1.00	\$200,000.00	\$250,000.00 (\$1.25 per share)

The Underwriter-Optionee may be said to realize a gross profit in an amount equal to the difference between the sale price to the public over the price paid for such shares.

The shares of the Company offered to the public hereby will be offered in such amounts and at such prices as may from time to time be determined by the Underwriter-Optionee subject to the maximum offering price as set out above. An independent over-the-counter market presently exists in the Province of Ontario and the market price as of August 31, 1971, was 18¢ per share.

PURPOSE OF ISSUE

The proceeds to be received from the underwritten shares will be used by the Company to implement the recommended program of exploration and development of the properties in Midlothian Township, Larder Lake Mining Division, Province of Ontario as more particularly set out under the headings "Business and Property and Use of Proceeds".

THESE SECURITIES ARE SPECULATIVE

NO SECURITIES COMMISSION OR OTHER SIMILAR AUTHORITY IN CANADA HAS IN ANY WAY PASSED UPON THE MERITS OF THE SECURITIES OFFERED HEREUNDER AND ANY REPRESENTATION TO THE CONTRARY IS AN OFFENCE.

Prospectus dated August 31st, 1971.

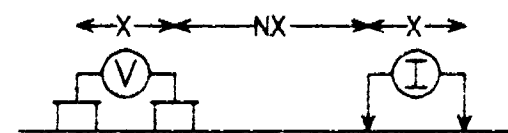
STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.

LARDER LAKE M.O., ONTARIO

LINE NO. - 32E

ELECTRODE CONFIGURATION



PLOTTING POINT → X X = 200'

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
 PROBABLE
 POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: APR 1971

APPROVED: _____

DATE: May 20/71

NOTE: CONTOURS AT LOGARITHMIC INTERVALS
 1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

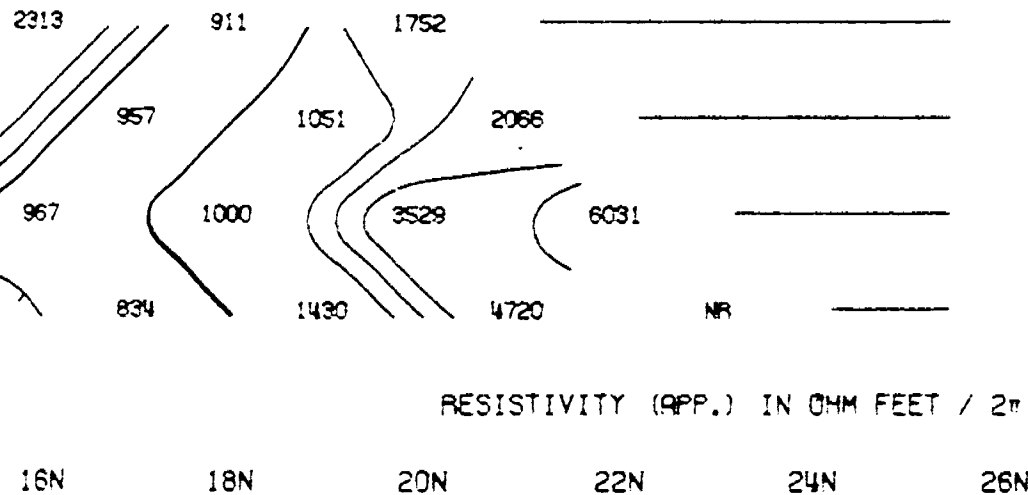
INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER

N - 5
 N - 4
 N - 3
 N - 2
 N - 1

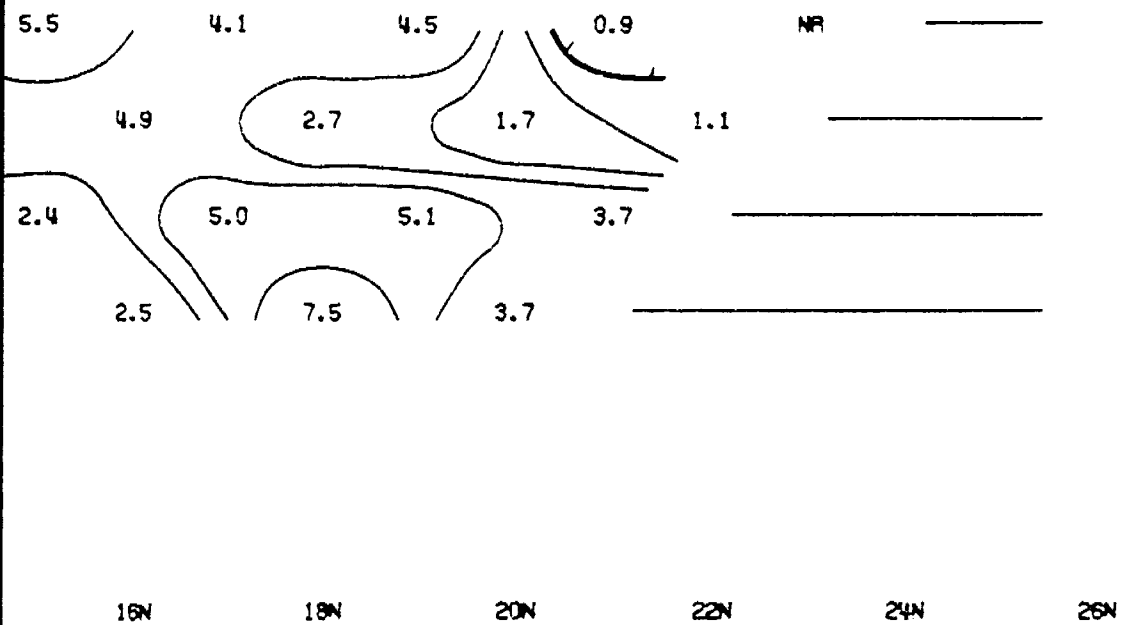
N - 1
 N - 2
 N - 3
 N - 4
 N - 5

N - 1
 N - 2
 N - 3
 N - 4
 N - 5

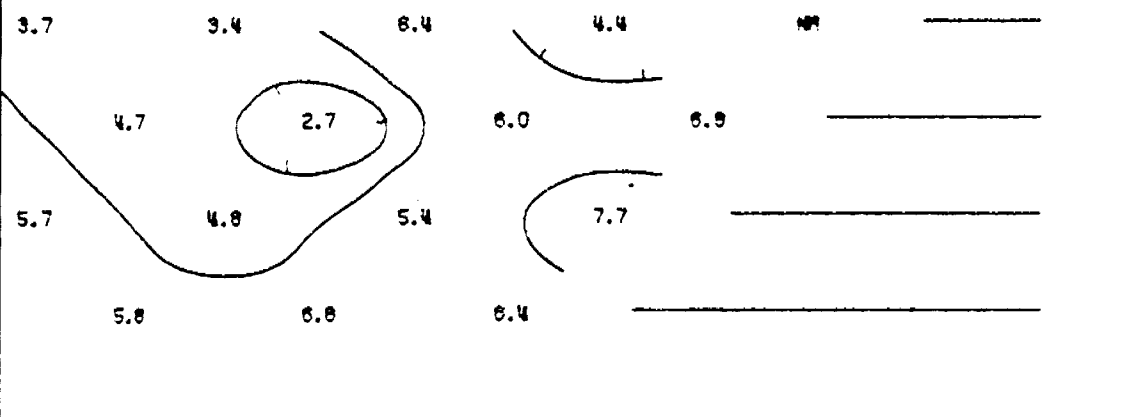


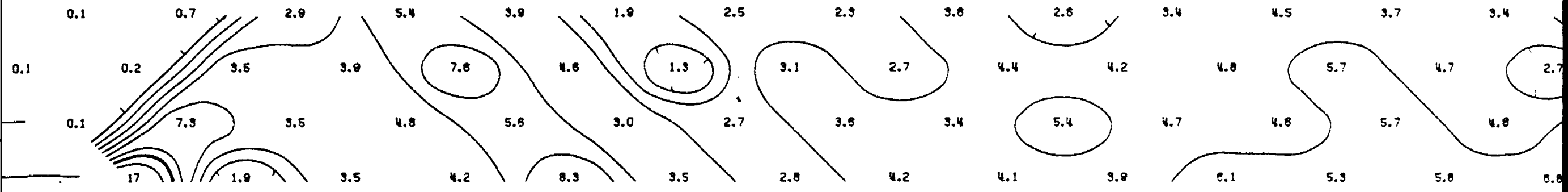
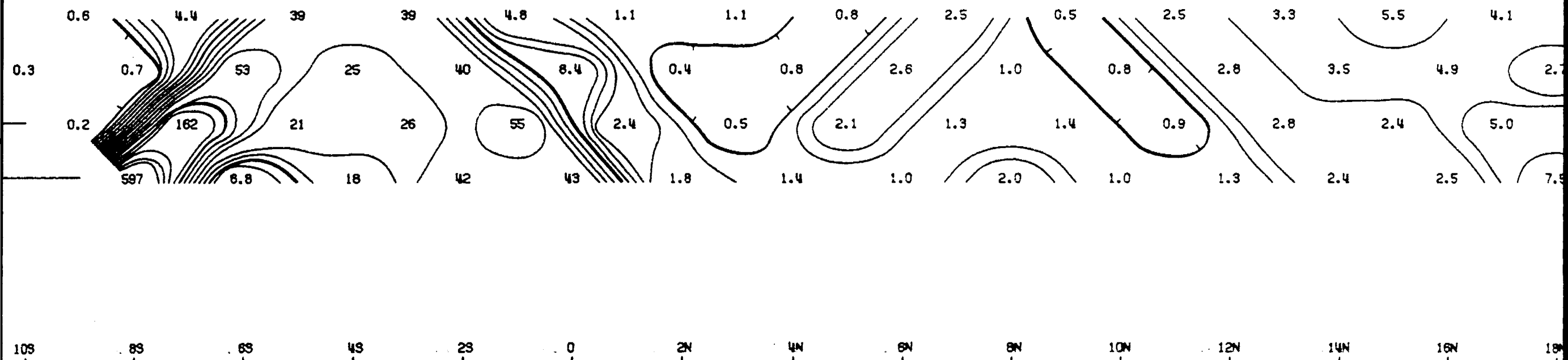
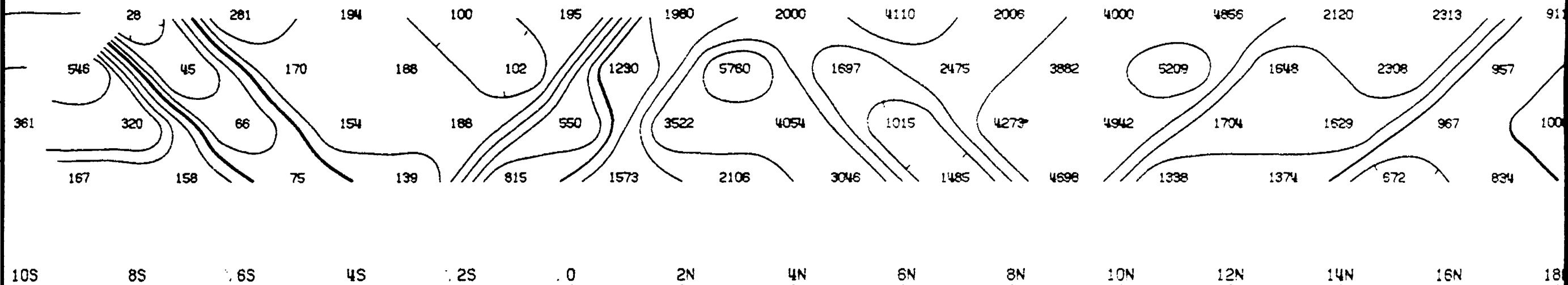
RESISTIVITY (APP.) IN OHM FEET / 2 π

METAL FACTOR (APP.)



FREQUENCY EFFECT (APP.) IN %





N - 5

N - 4

N - 3

N - 2

N - 1

NR

RESISTIVITY (APP.) IN OHM FEET / 2π

165

145

125

105

85

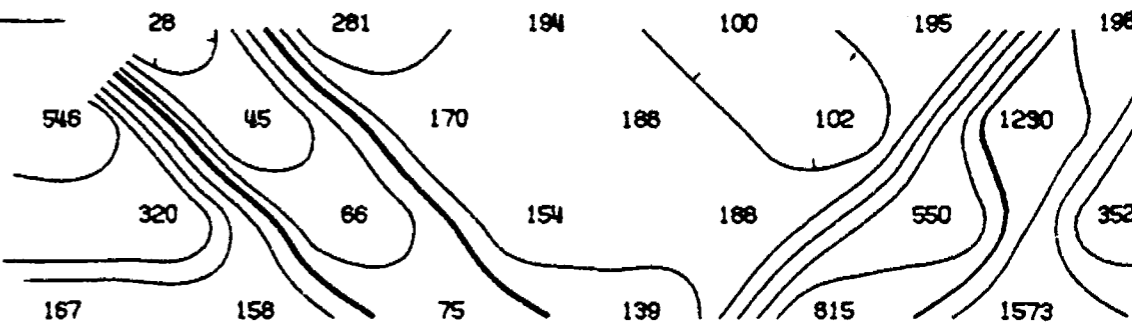
65

45

25

0

20



METAL FACTOR (APP.)

N - 1

NR

N - 2

0.3

N - 3

N - 4

N - 5

165

145

125

105

85

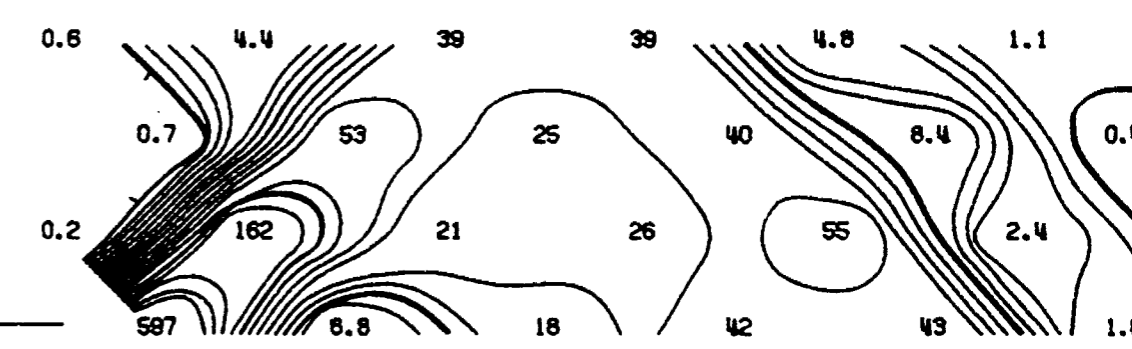
65

45

25

0

20



FREQUENCY EFFECT (APP.) IN %

N - 1

NR

N - 2

0.1

N - 3

N - 4

N - 5

165

145

125

105

85

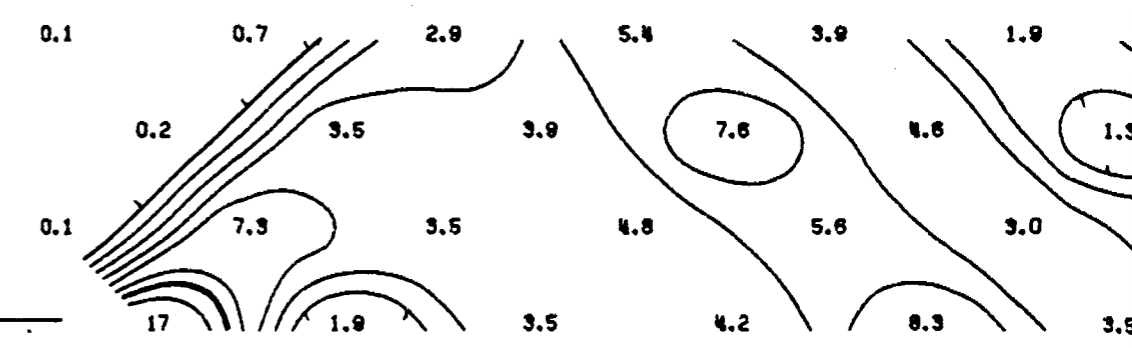
65

45

25

0

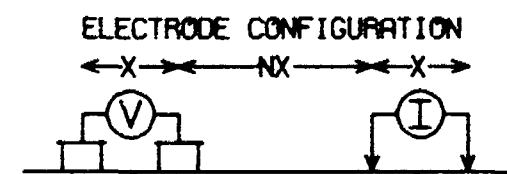
20



STUMP MINES LIMITED




LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO. - 28E



PLOTTING POINT → X X = 200'

SURFACE PROJECTION OF ANOMALOUS ZONES

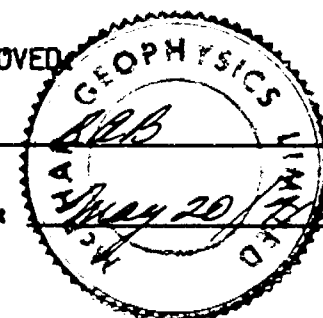
DEFINITE 
PROBABLE 
POSSIBLE 

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: APR 1971

APPROVED: _____

DATE: _____

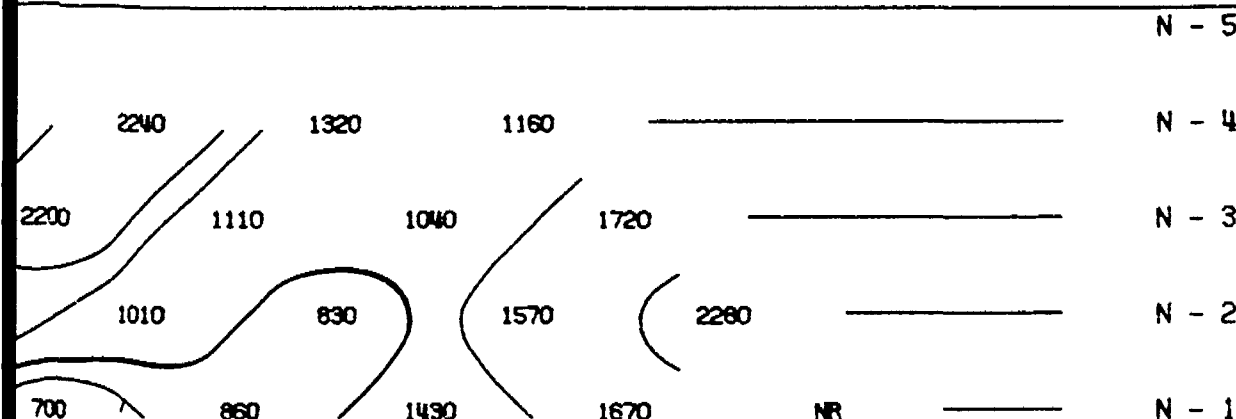


NOTE: CONTOURS AT LOGARITHMIC INTERVALS 1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

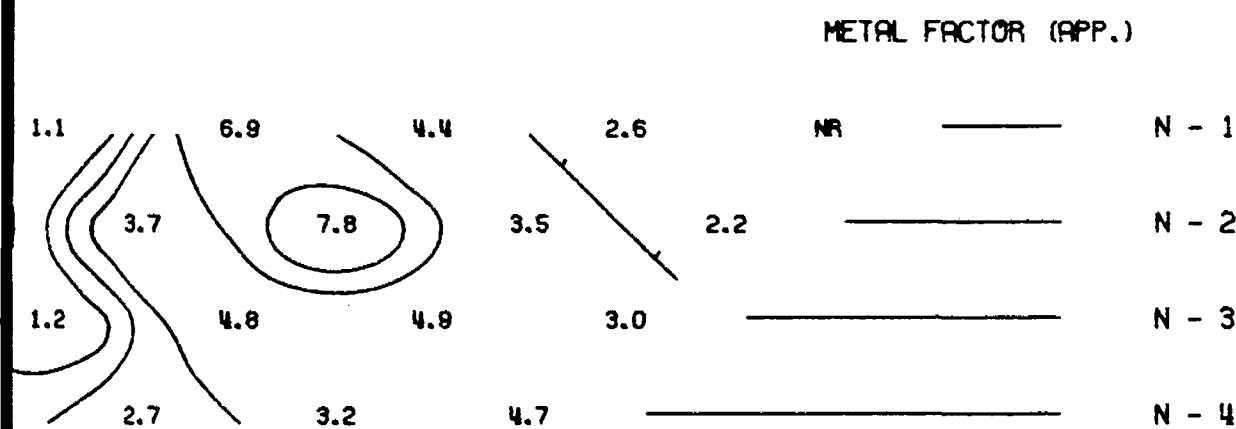
INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER



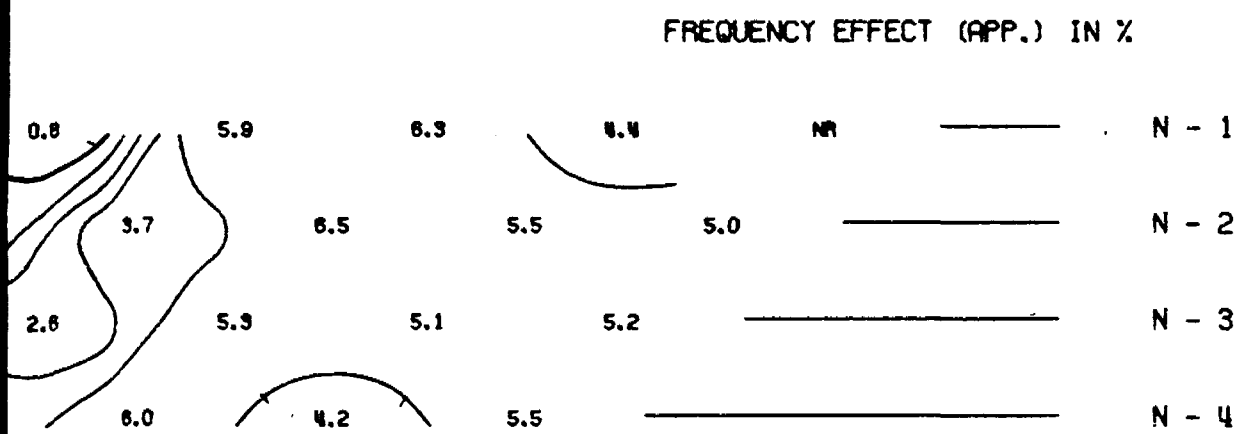
RESISTIVITY (APP.) IN OHM FEET / 2π

16N 18N 20N 22N 24N 26N



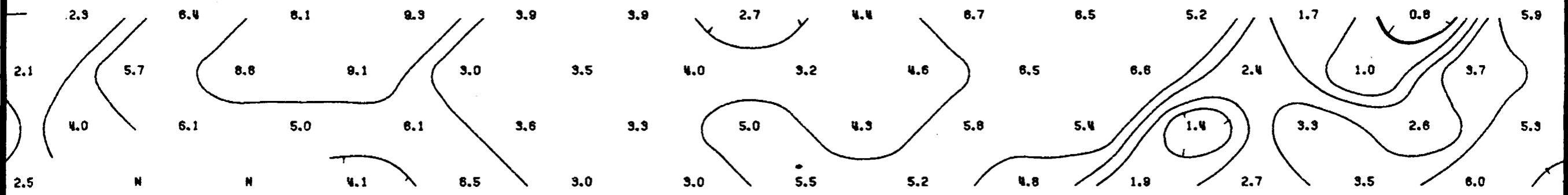
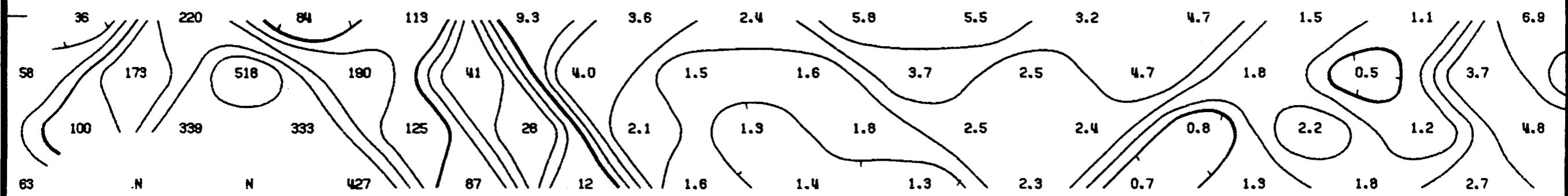
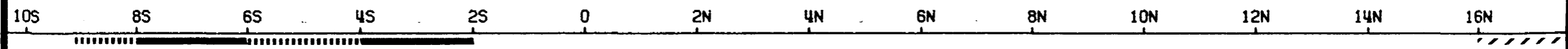
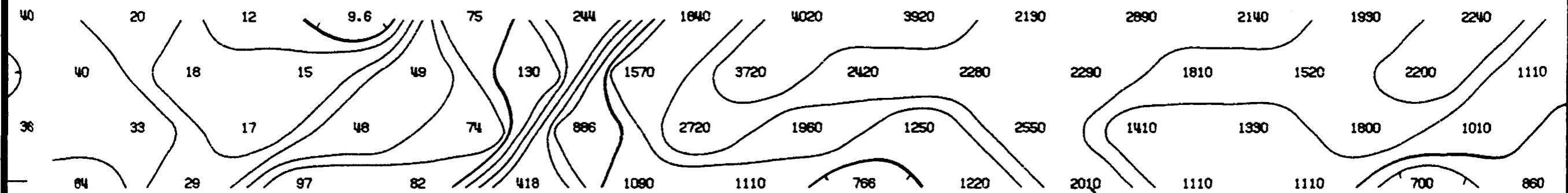
METAL FACTOR (APP.)

16N 18N 20N 22N 24N 26N



FREQUENCY EFFECT (APP.) IN %

16N 18N 20N 22N 24N 26N



N - 5

N - 4

N - 3

N - 2

N - 1

NR

40

20

12

9.6

75

244

1844

24

40

18

15

49

130

1570

36

33

17

48

74

886

2724

64

29

97

82

418

1080

RESISTIVITY (APP.) IN OHM FEET / 2π

16S

14S

12S

10S

8S

6S

4S

2S

0

2

METAL FACTOR (APP.)

N - 1

N - 2

N - 3

N - 4

N - 5

NR

36

220

84

119

9.3

3.6

58

173

518

190

41

4.0

1.5

58

100

339

333

125

28

2.1

63

N

N

427

87

12

1.6

16S

14S

12S

10S

8S

6S

4S

2S

0

2

FREQUENCY EFFECT (APP.) IN %

N - 1

N - 2

N - 3

N - 4

N - 5

NR

2.9

6.4

8.1

9.9

3.9

3.9

2.1

5.7

8.8

9.1

3.0

3.5

4.0

1.4

4.0

6.1

5.0

6.1

3.6

3.9

2.5

N

N

4.1

6.5

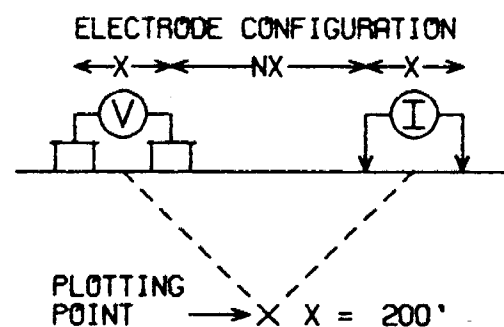
3.0

3.0

STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO. - 24E



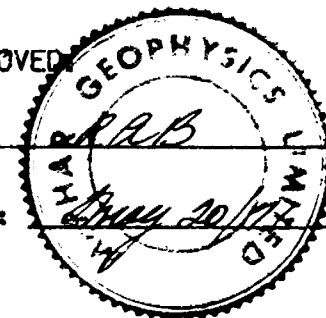
SURFACE PROJECTION
OF ANOMALOUS ZONES

DEFINITE **————**
PROBABLE **|||||**
POSSIBLE **////**

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: APR 1971

APPROVED



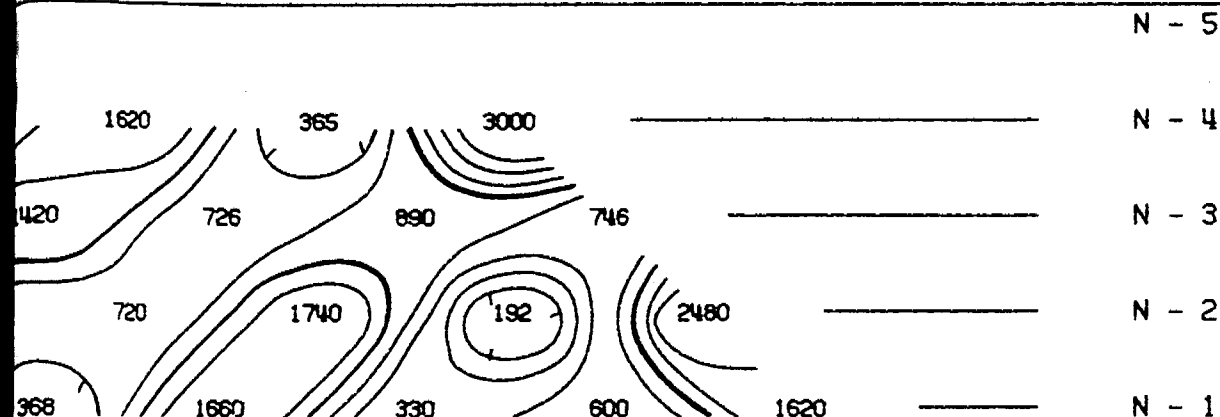
DATE: APR 20 1971

NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

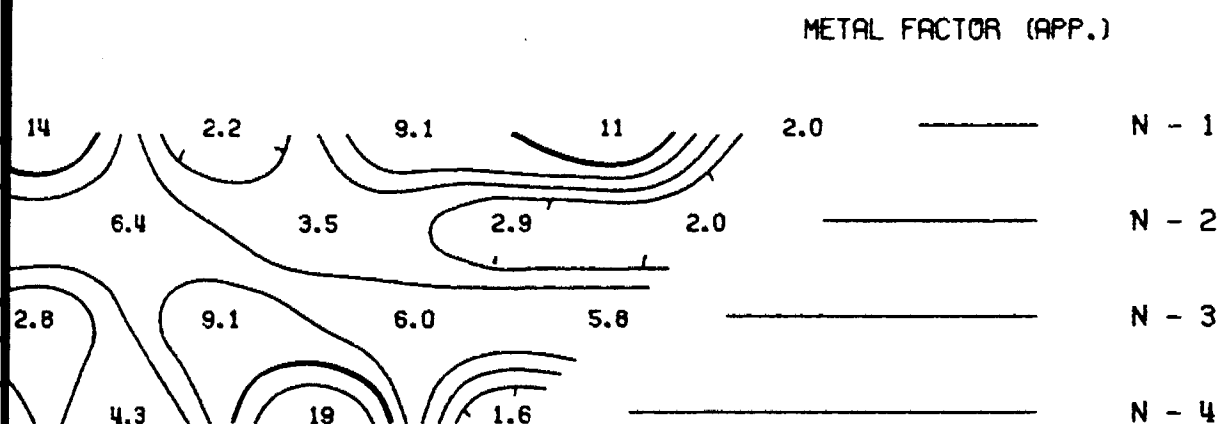
INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER



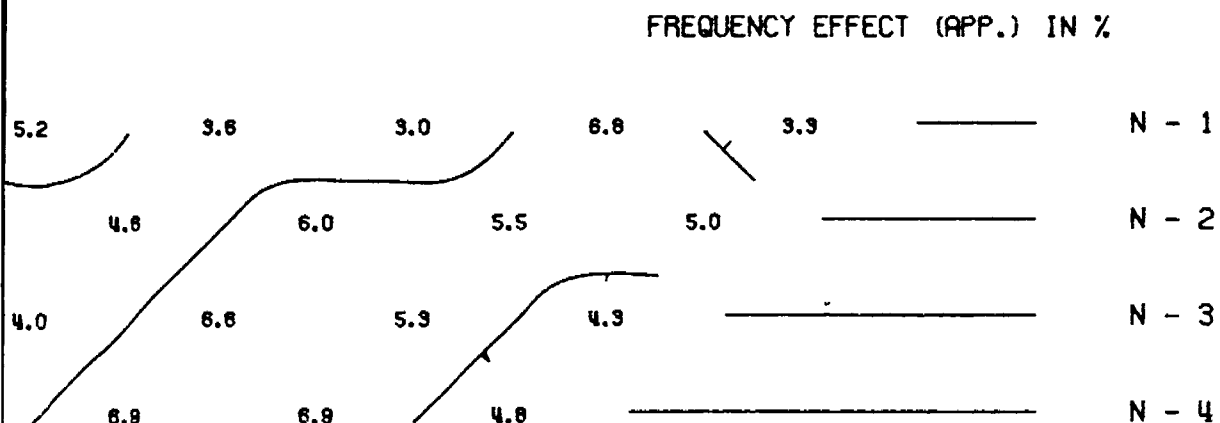
RESISTIVITY (APP.) IN OHM FEET / 2π

14N 16N 18N 20N 22N 24N



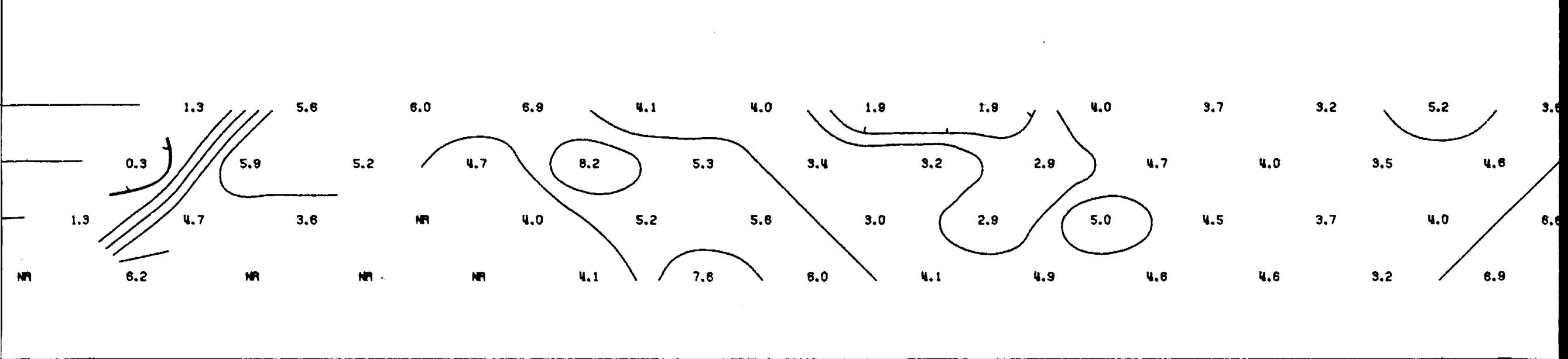
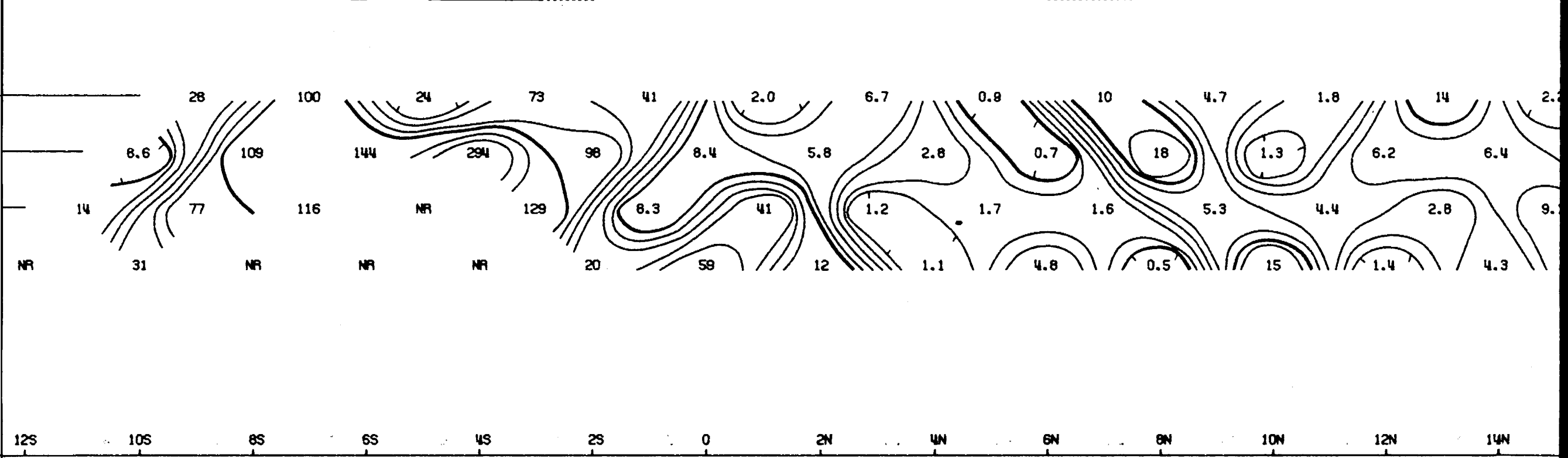
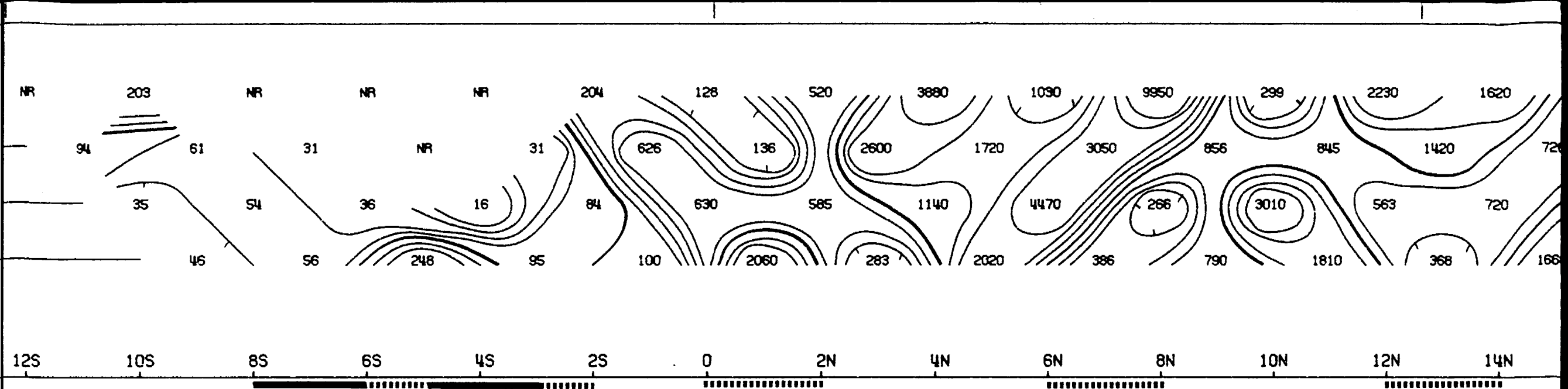
METAL FACTOR (APP.)

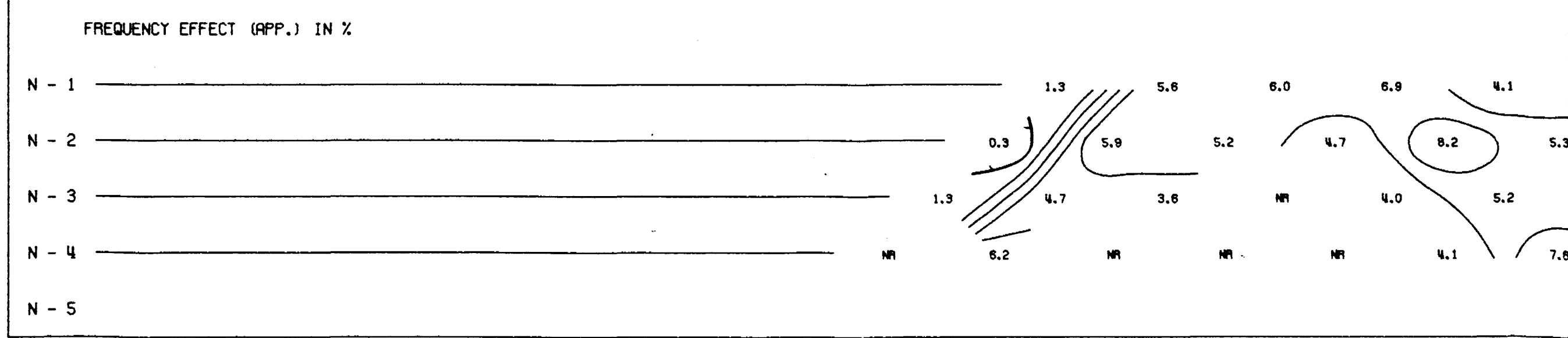
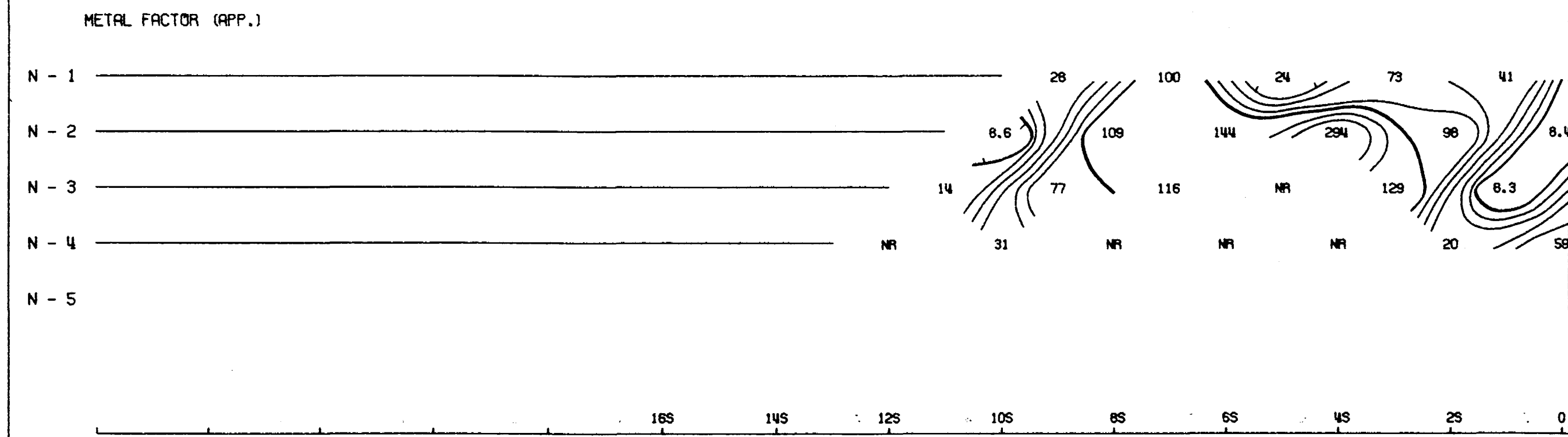
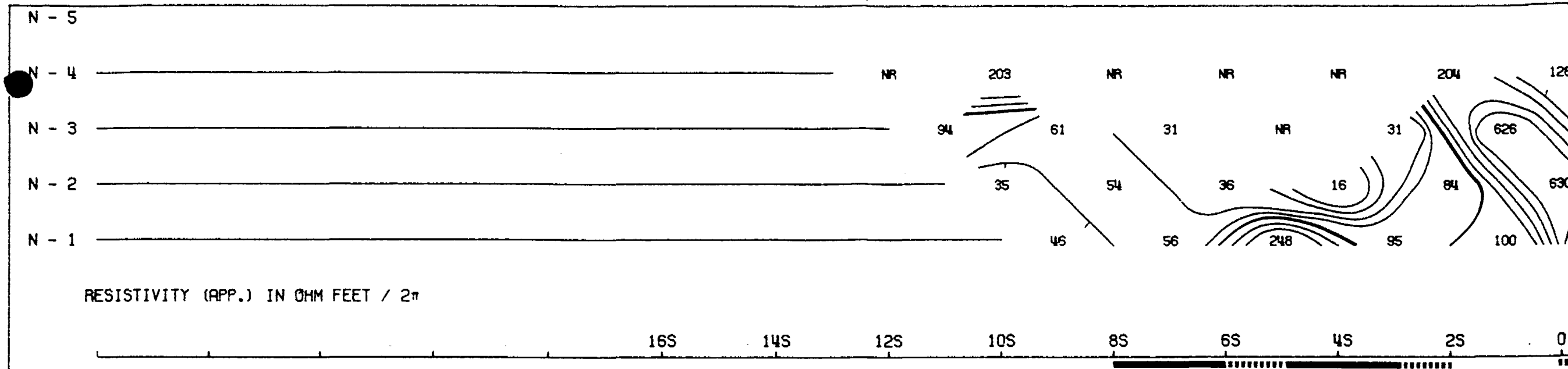
14N 16N 18N 20N 22N 24N



FREQUENCY EFFECT (APP.) IN %

14N 16N 18N 20N 22N 24N

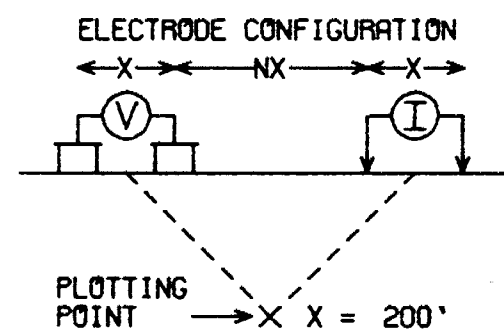




STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO.- 20E



SURFACE PROJECTION
OF ANOMALOUS ZONES

DEFINITE
 PROBABLE
 POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: APR 1971

APPROVED:



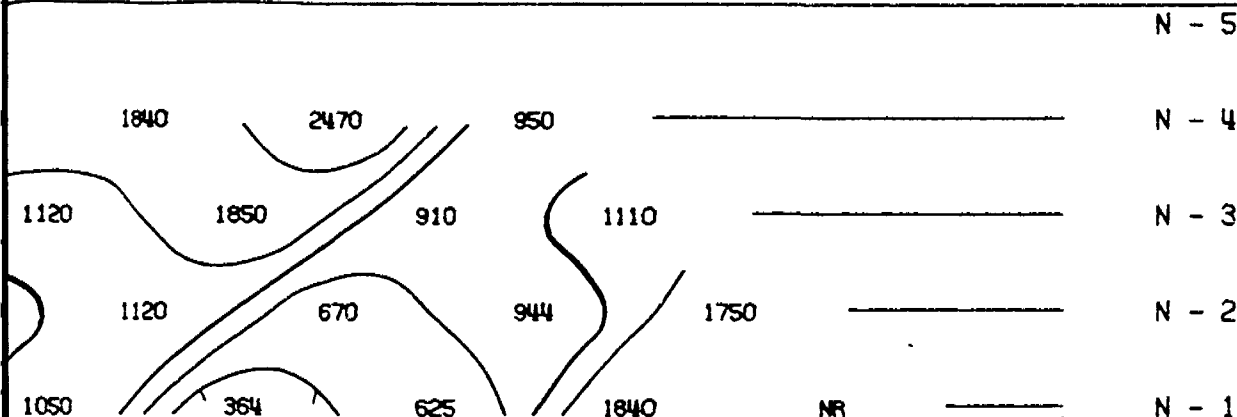
DATE:

NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

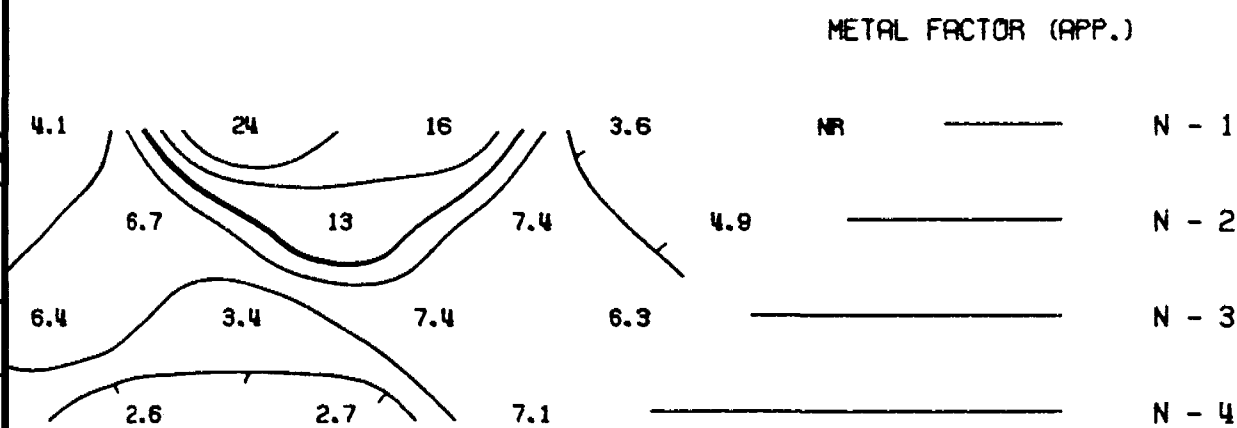
INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER



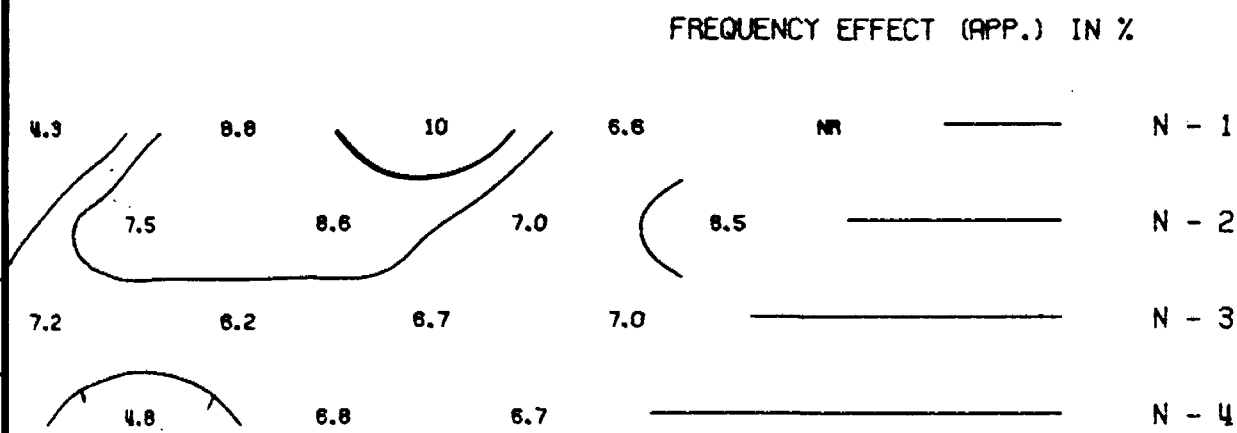
RESISTIVITY (APP.) IN OHM FEET / 2π

16N 18N 20N 22N 24N 26N



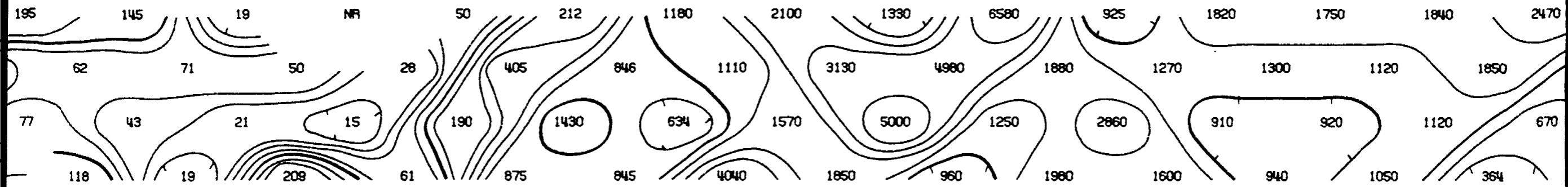
METAL FACTOR (APP.)

16N 18N 20N 22N 24N 26N

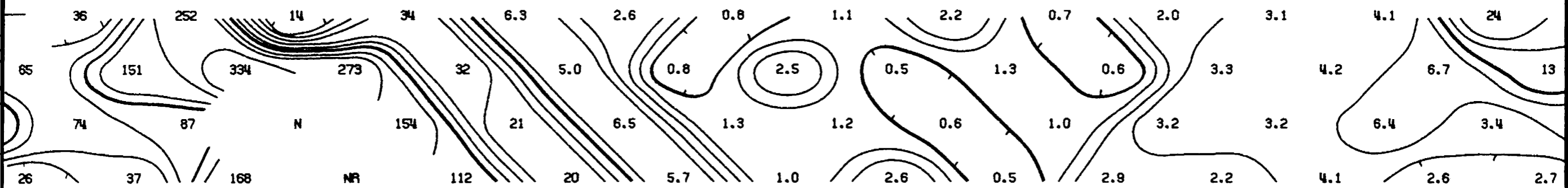


FREQUENCY EFFECT (APP.) IN %

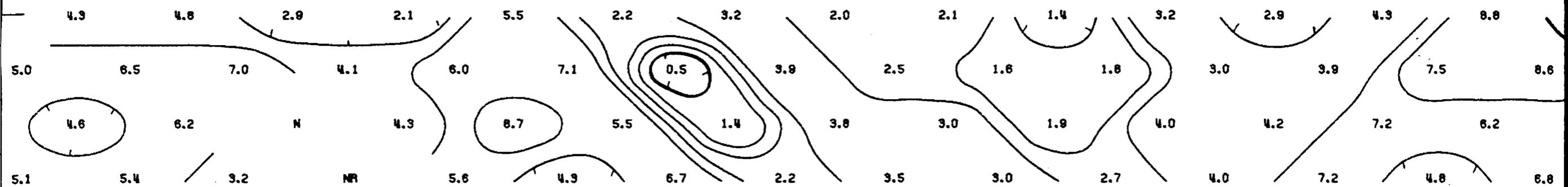
16N 18N 20N 22N 24N 26N



10S 8S 6S 4S 2S 0 2N 4N 6N 8N 10N 12N 14N 16N 18N



10S 8S 6S 4S 2S 0 2N 4N 6N 8N 10N 12N 14N 16N 18N



N - 5

N - 4

N - 3

N - 2

N - 1

NR

195

145

19

NR

50

212

118

30

62

71

50

28

405

846

77

43

21

15

190

1430

63

118

19

208

61

875

845

RESISTIVITY (APP.) IN OHM FEET / 2π

165

145

125

105

85

65

45

25

0

25

METAL FACTOR (APP.)

N - 1

N - 2

N - 3

N - 4

N - 5

NR

36

252

14

34

6.3

2.6

65

151

334

273

32

5.0

0.8

177

74

87

N

154

21

6.5

NR

26

37

168

NR

112

20

5.7

165

145

125

105

85

65

45

25

0

25

FREQUENCY EFFECT (APP.) IN %

N - 1

N - 2

N - 3

N - 4

N - 5

NR

4.9

4.8

2.9

2.1

5.5

2.2

5.0

6.5

7.0

4.1

6.0

7.1

0.9

5.3

4.6

6.2

N

4.3

8.7

5.5

NR

5.1

5.4

3.2

NR

5.6

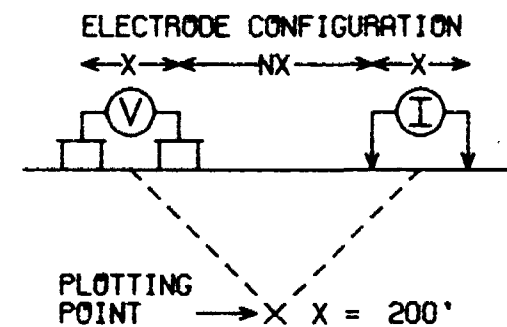
4.9

6.7




STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO.- 16E



SURFACE PROJECTION
OF ANOMALOUS ZONES

DEFINITE 
PROBABLE 
POSSIBLE 

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: APR 1971

APPROVED



DATE: May 20/71

NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER

N - 5

N - 4

N - 3

N - 2

N - 1

N - 1

N - 2

N - 3

N - 4

N - 5

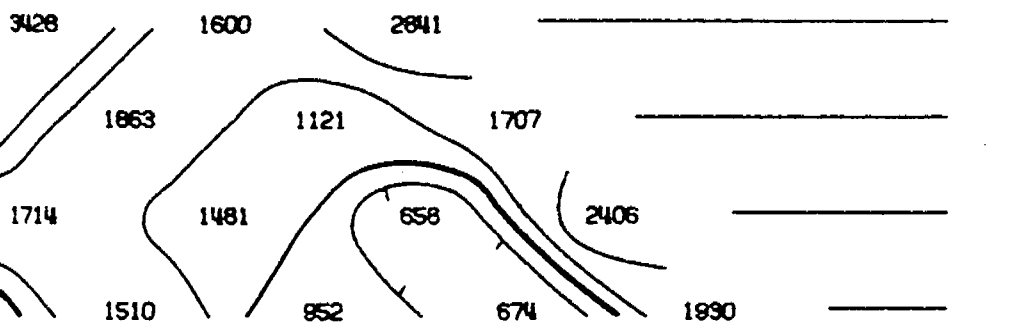
N - 1

N - 2

N - 3

N - 4

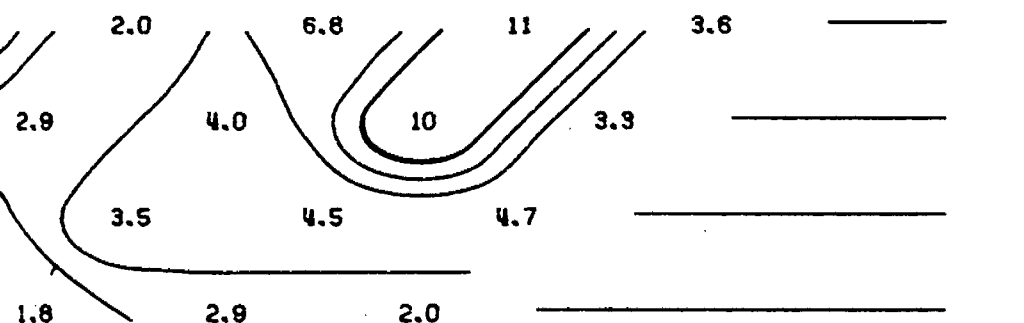
N - 5



RESISTIVITY (APP.) IN OHM FEET / 2m

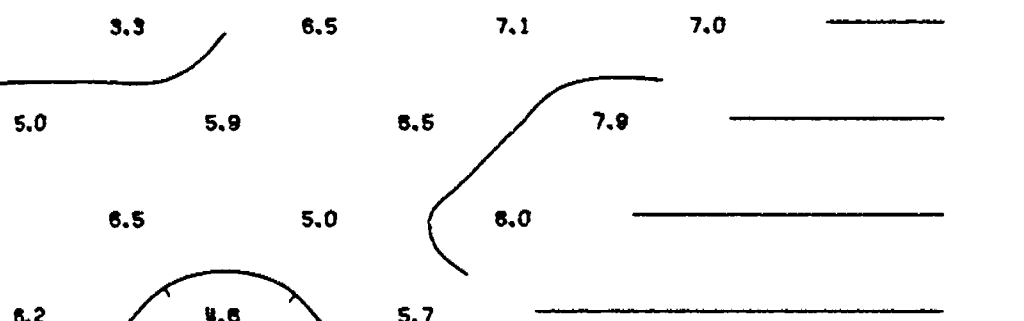
14N 16N 18N 20N 22N 24N

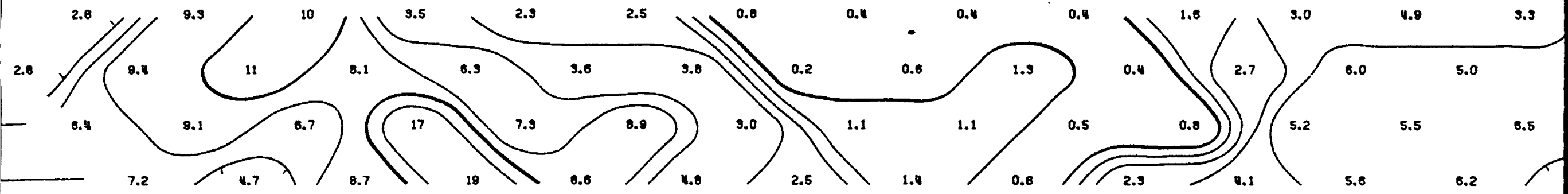
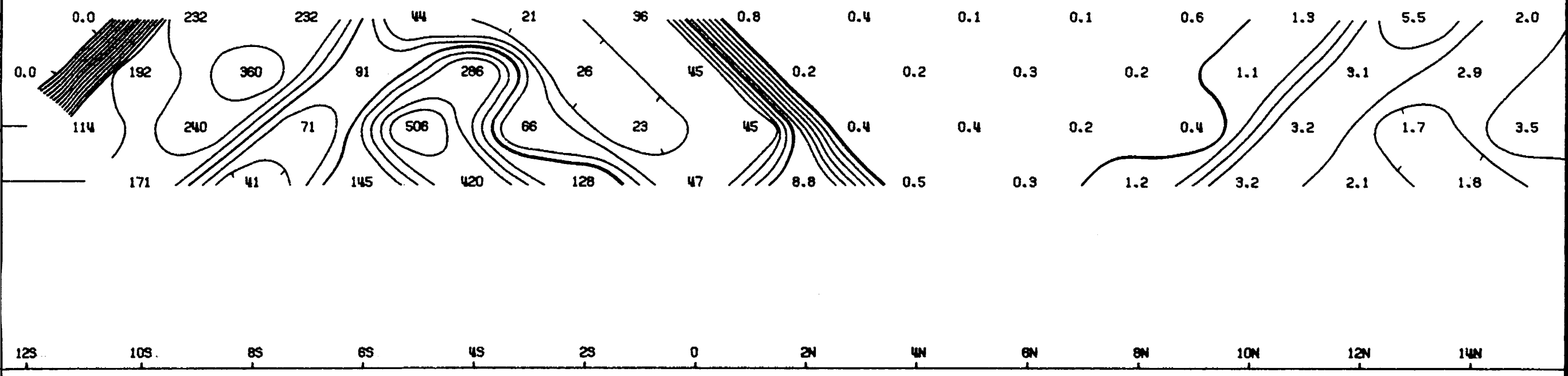
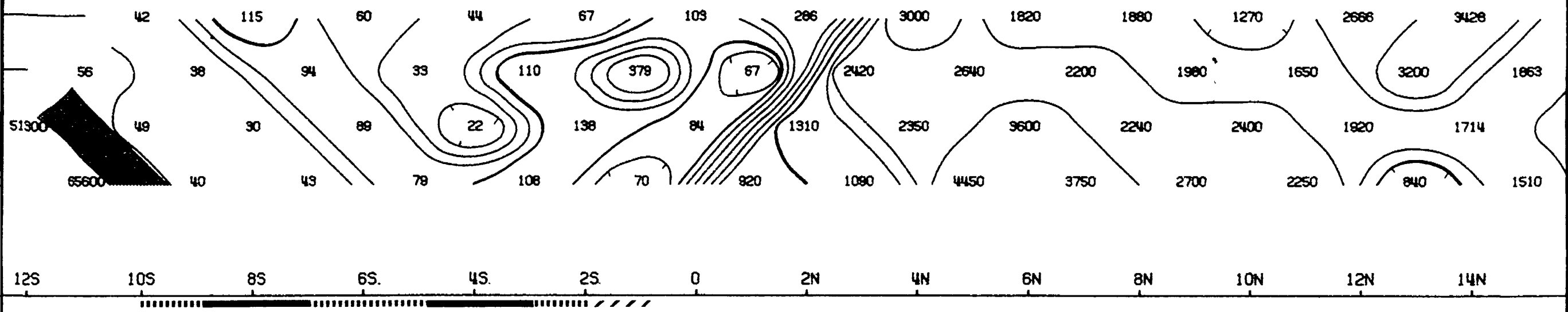
METAL FACTOR (APP.)



14N 16N 18N 20N 22N 24N

FREQUENCY EFFECT (APP.) IN %





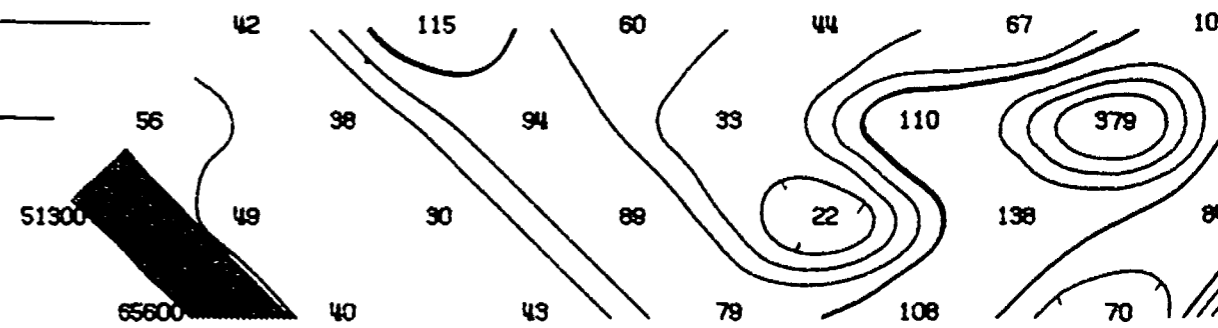
N - 5

N - 4

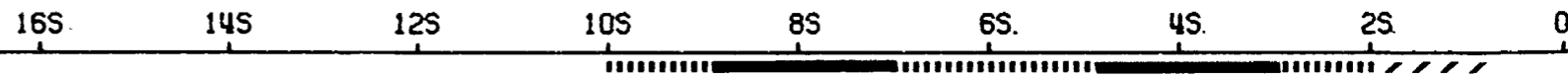
N - 3

N - 2

N - 1



RESISTIVITY (APP.) IN OHM FEET / 2π



METAL FACTOR (APP.)

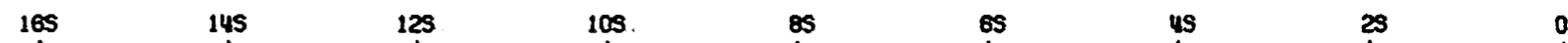
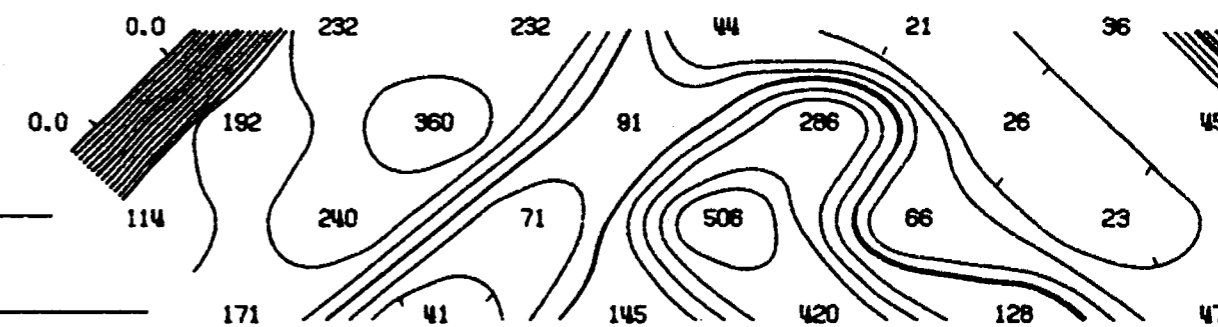
N - 1

N - 2

N - 3

N - 4

N - 5



FREQUENCY EFFECT (APP.) IN %

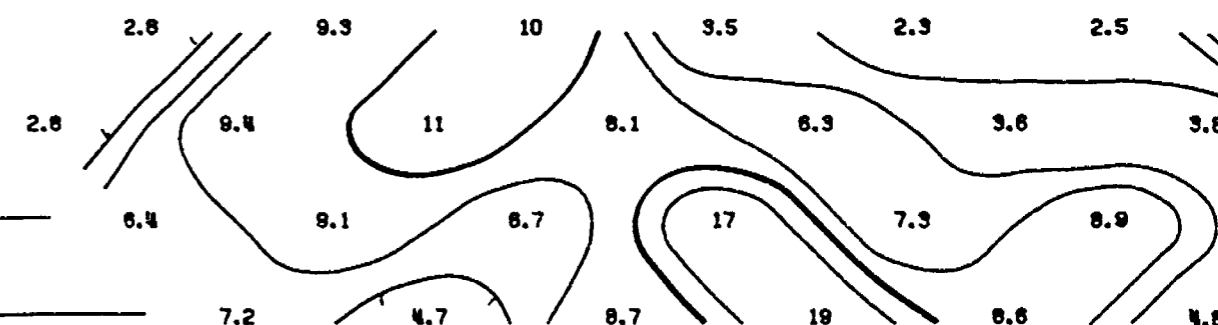
N - 1

N - 2

N - 3

N - 4

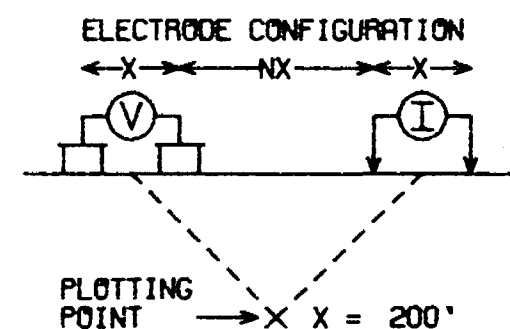
N - 5



STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO. - 12E



SURFACE PROJECTION
OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: APR 1971

APPROVED:

DATE:



NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/85 COMPUTER AND A CALCOMP PLOTTER

N - 5

N - 4

N - 3

N - 2

N - 1

N - 1

N - 2

N - 3

N - 4

N - 5

N - 1

N - 2

N - 3

N - 4

N - 5

RESISTIVITY (APP.) IN OHM FEET / 2π

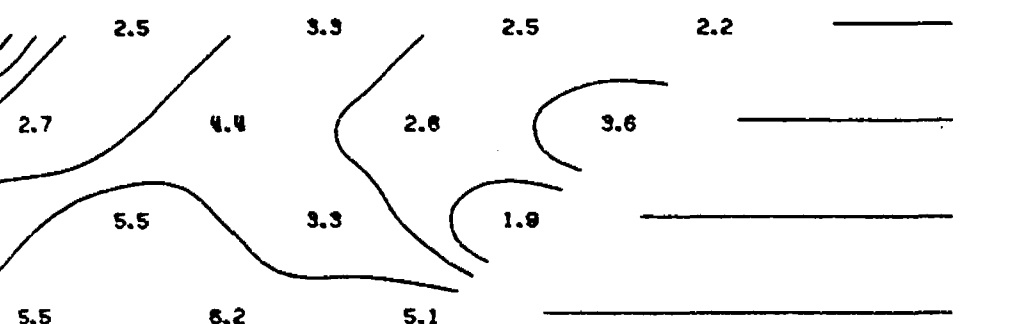
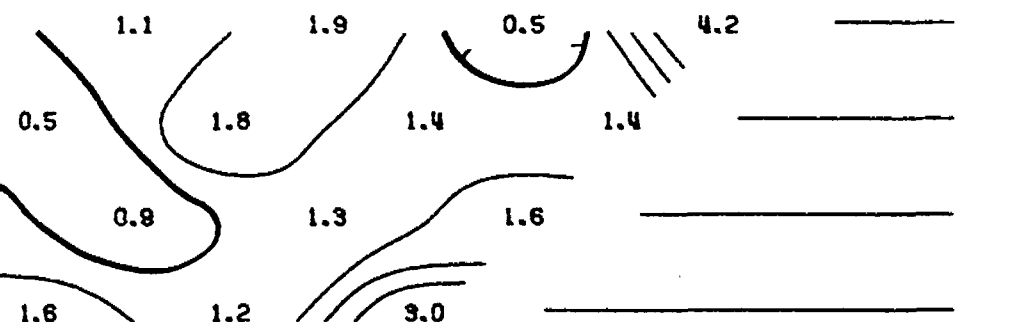
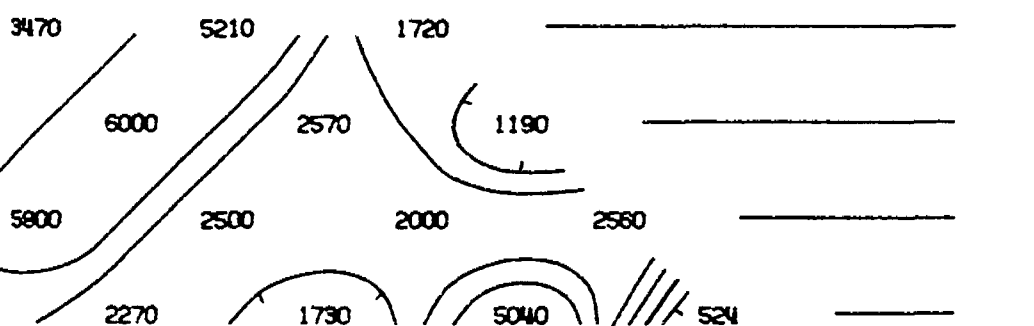
14N 16N 18N 20N 22N 24N

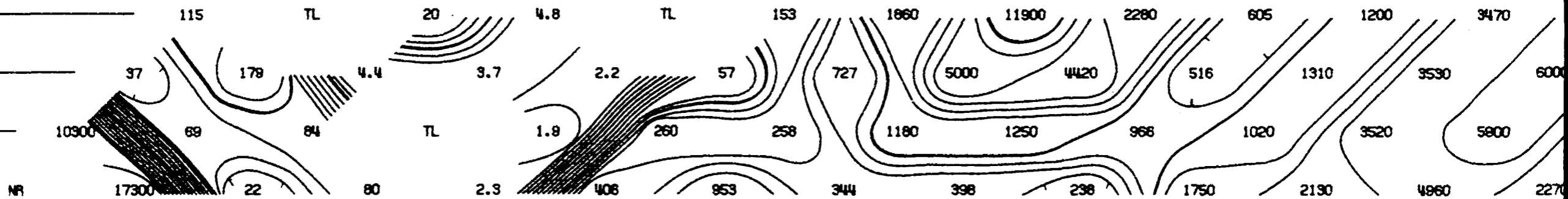
METAL FACTOR (APP.)

14N 16N 18N 20N 22N 24N

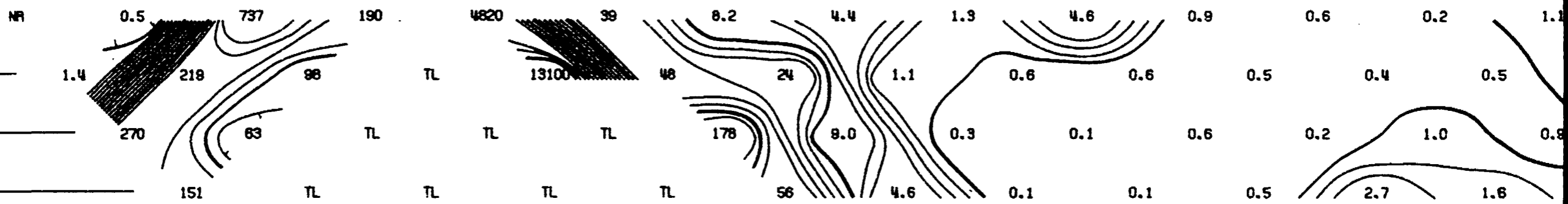
FREQUENCY EFFECT (APP.) IN %

14N 16N 18N 20N 22N 24N

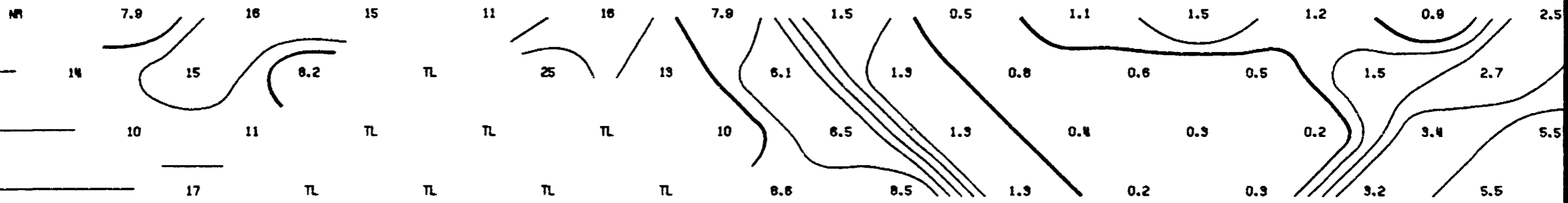




12S 10S 8S 6S 4S 2S 0 2N 4N 6N 8N 10N 12N 14N



12S 10S 8S 6S 4S 2S 0 2N 4N 6N 8N 10N 12N 14N



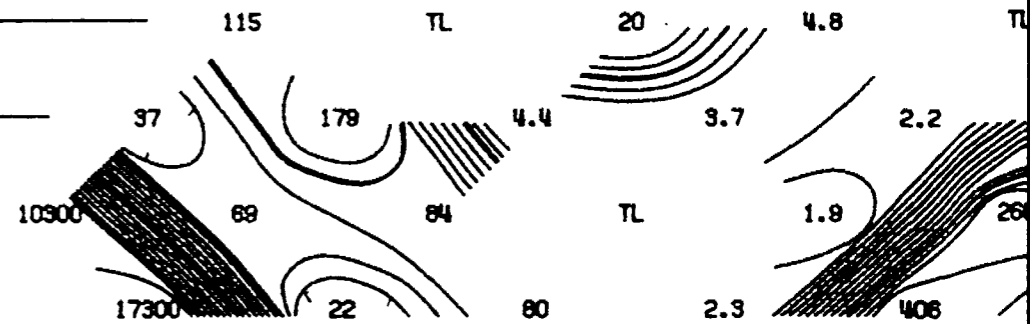
N - 5

N - 4

N - 3

N - 2

N - 1



RESISTIVITY (APP.) IN OHM FEET / 2π

165 145 125 105 85 65 45 25 0

METAL FACTOR (APP.)

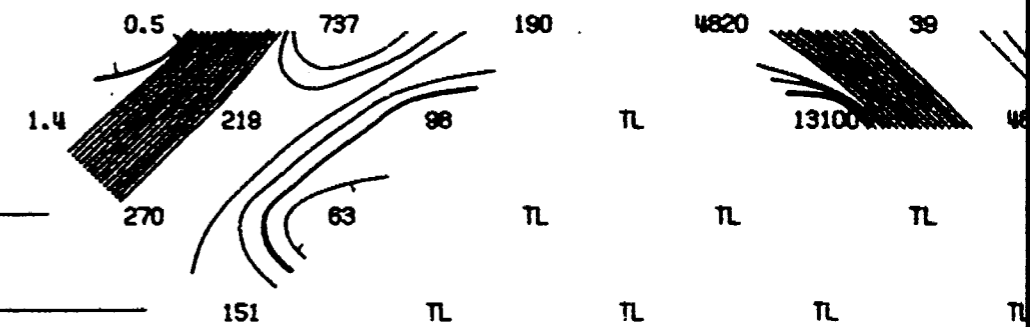
N - 1

N - 2

N - 3

N - 4

N - 5



165 145 125 105 85 65 45 25 0

FREQUENCY EFFECT (APP.) IN %

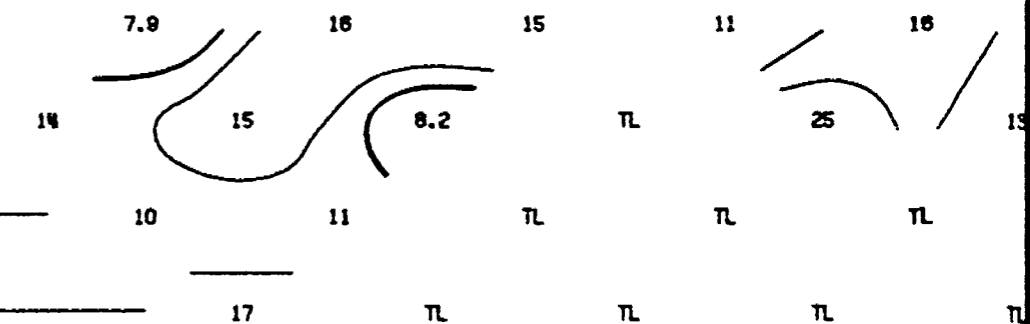
N - 1

N - 2

N - 3

N - 4

N - 5

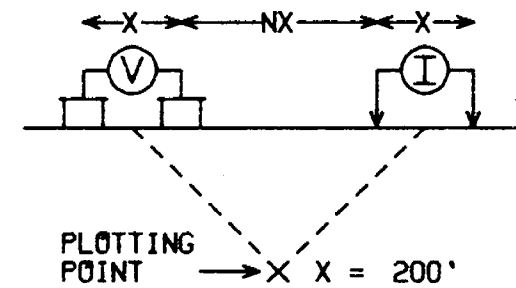


STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO. - 8E

ELECTRODE CONFIGURATION



SURFACE PROJECTION
OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: APR 1971

APPROVED: _____

DATE: May 20/71

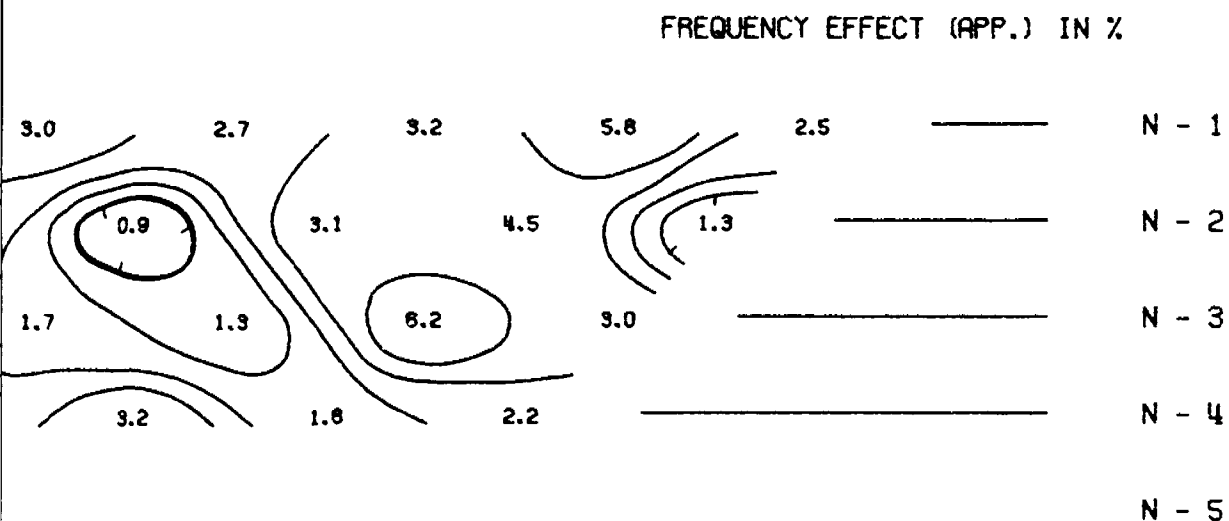
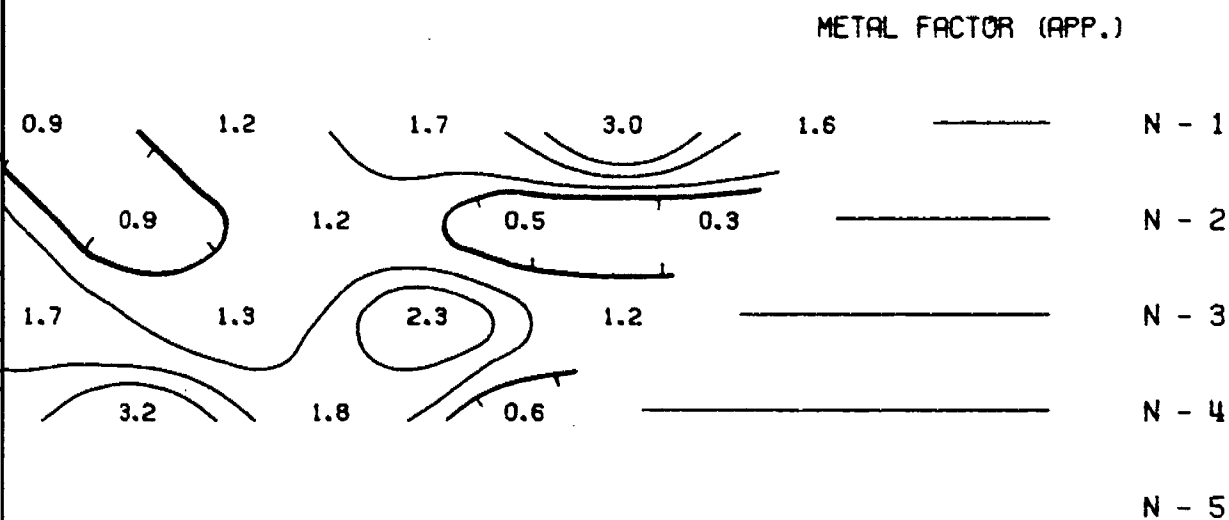
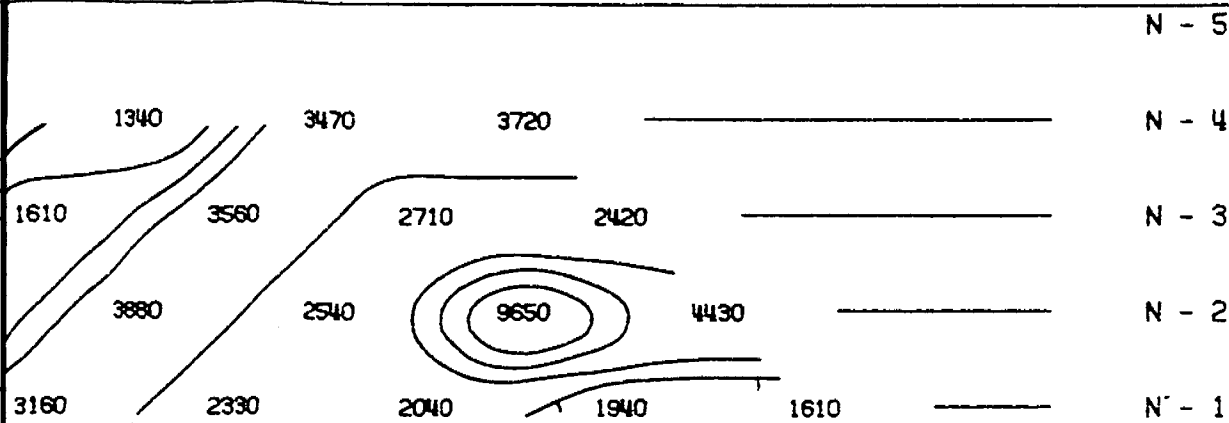


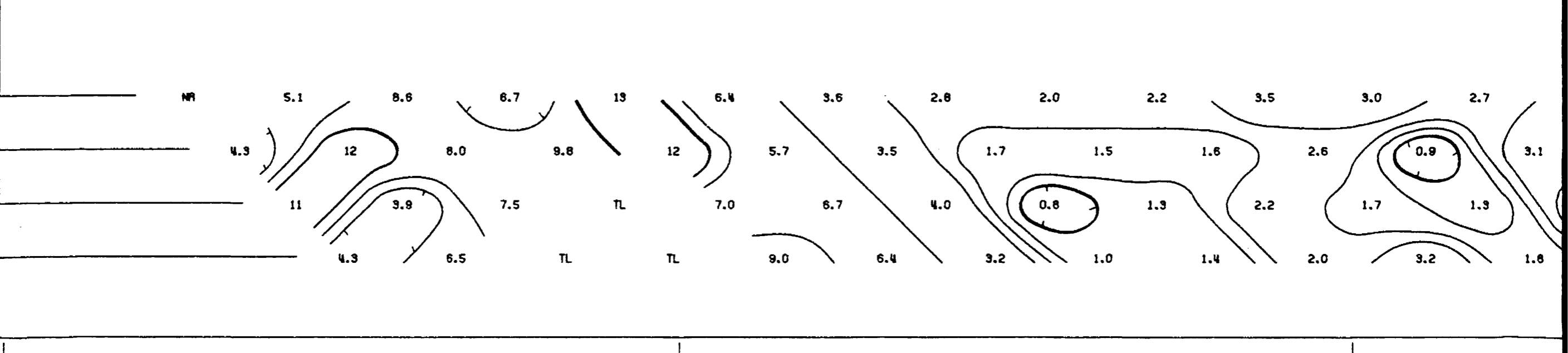
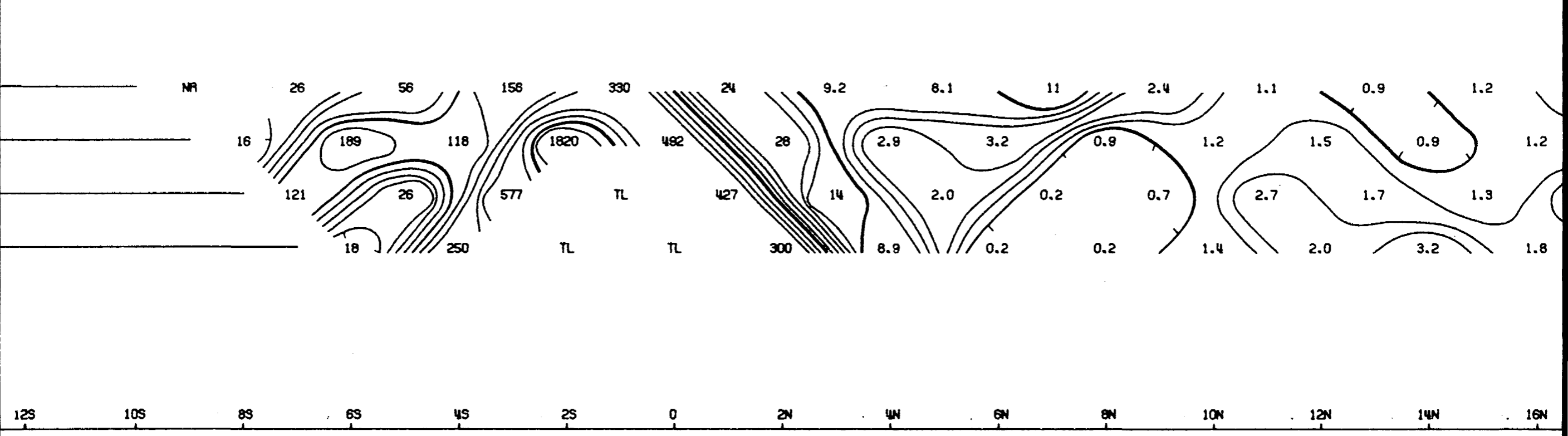
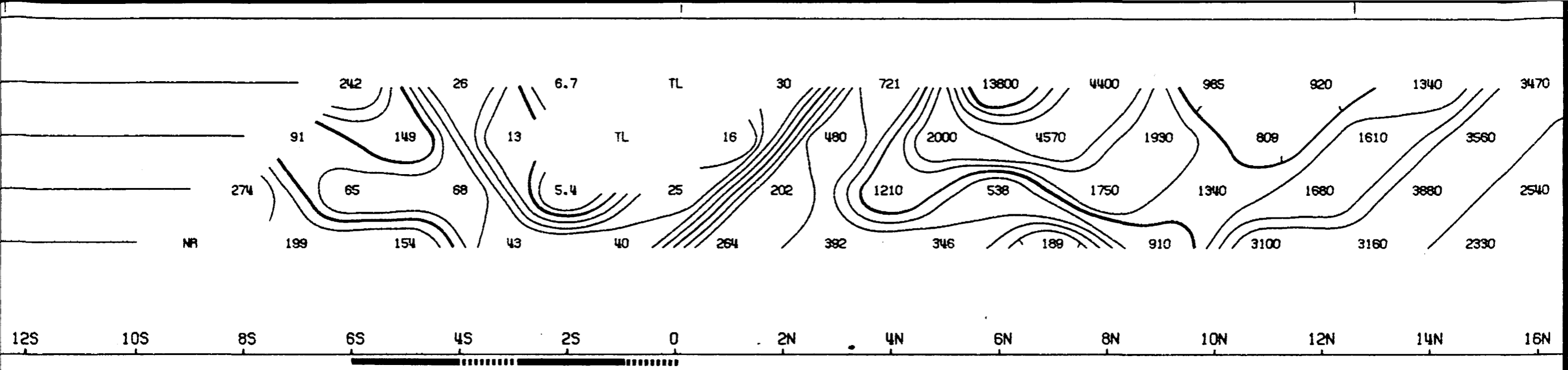
NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER





N - 5

N - 4

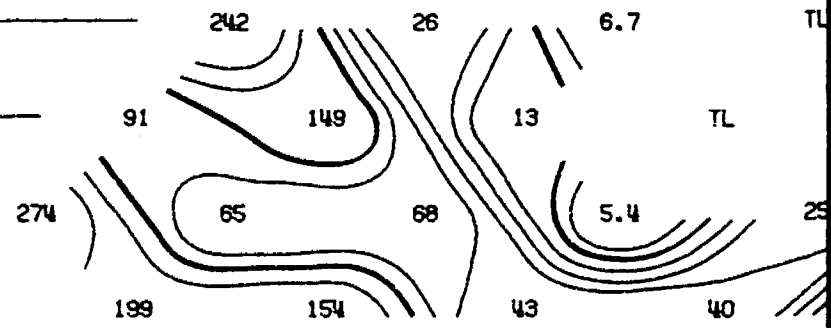
N - 3

N - 2

N - 1

RESISTIVITY (APP.) IN OHM FEET / 2π

125 105 85 65 45 25 0



METAL FACTOR (APP.)

N - 1

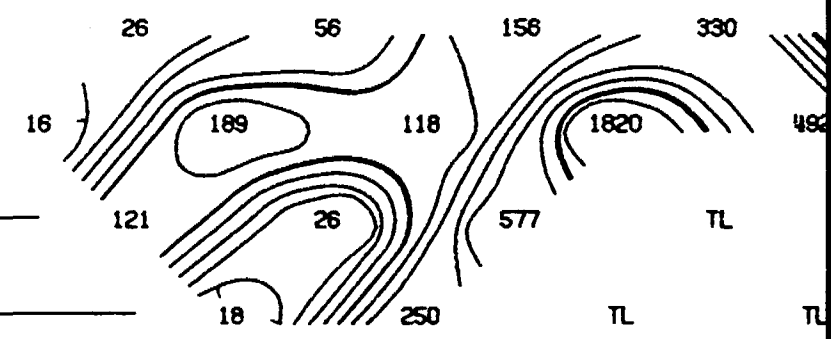
N - 2

N - 3

N - 4

N - 5

125 105 85 65 45 25 0



FREQUENCY EFFECT (APP.) IN %

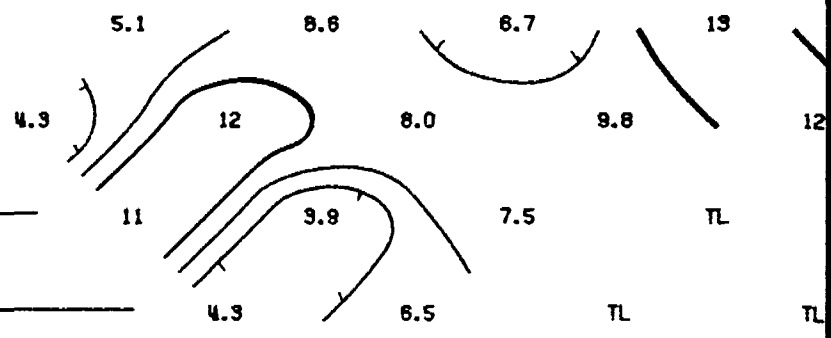
N - 1

N - 2

N - 3

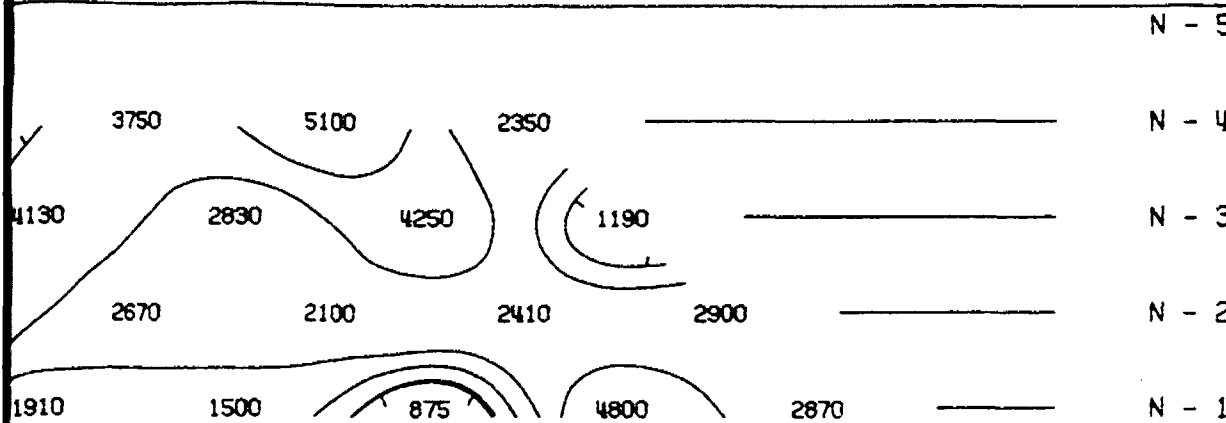
N - 4

N - 5



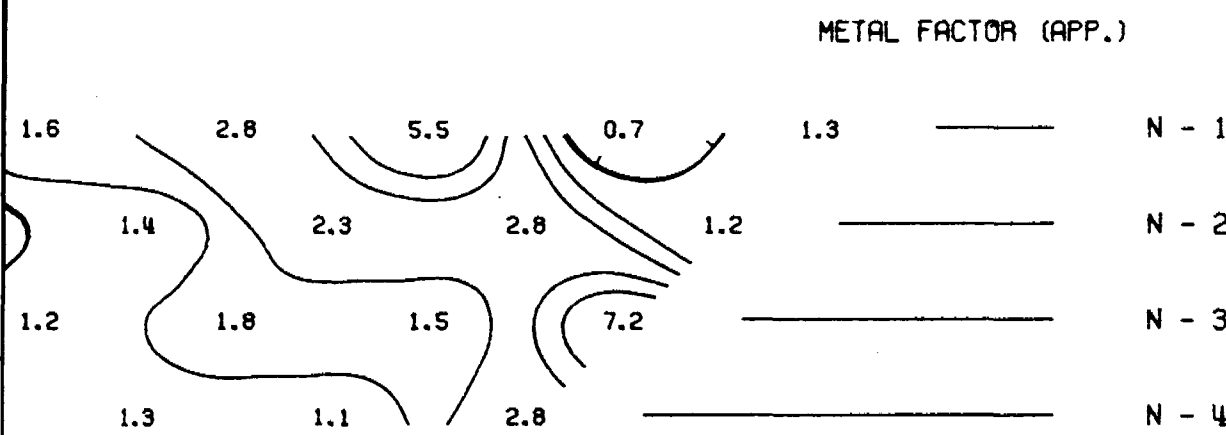
STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.O., ONTARIO



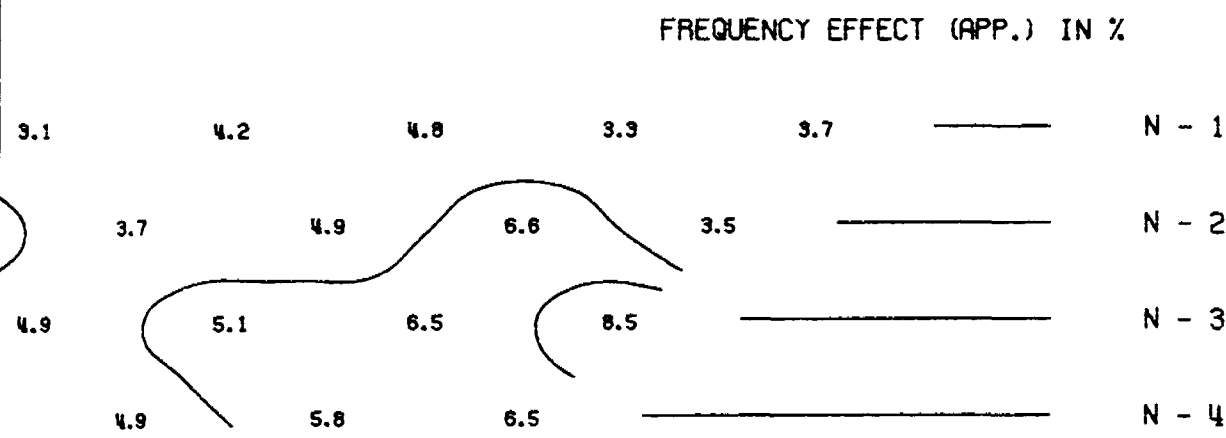
RESISTIVITY (APP.) IN OHM FEET / 2π

14N 16N 18N 20N 22N 24N



METAL FACTOR (APP.)

14N 16N 18N 20N 22N 24N

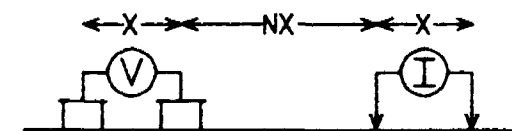


FREQUENCY EFFECT (APP.) IN %

14N 16N 18N 20N 22N 24N

LINE NO. - 4E

ELECTRODE CONFIGURATION



PLOTTING POINT → X X = 200'

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE **—————**
PROBABLE **|||||**
POSSIBLE **////**

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: APR 1971

APPROVED: *Rab*

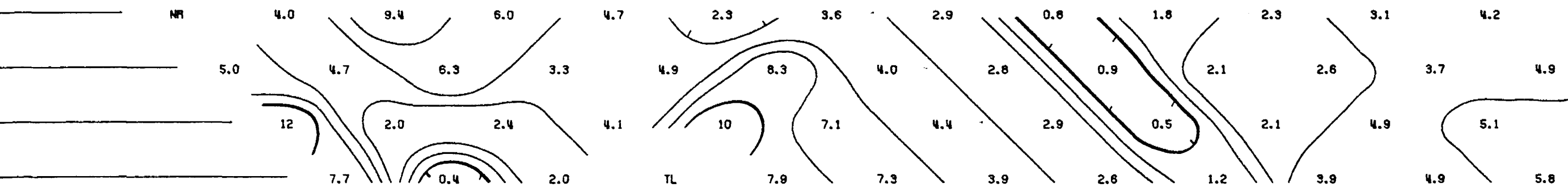
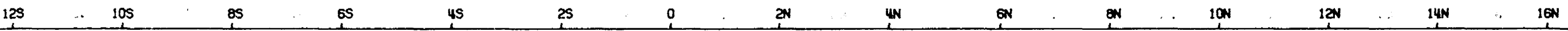
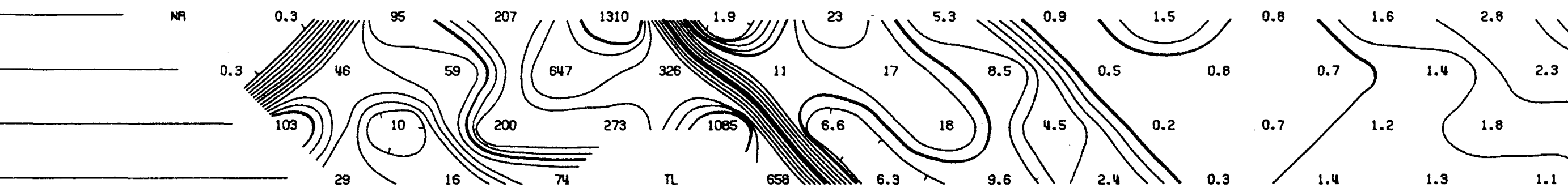
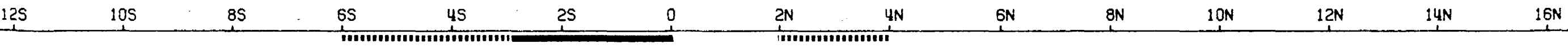
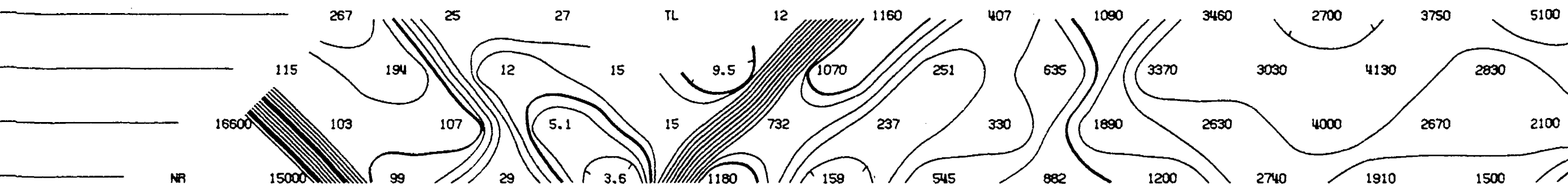
DATE: MAY 20 1971

NOTE: CONTOURS AT LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER



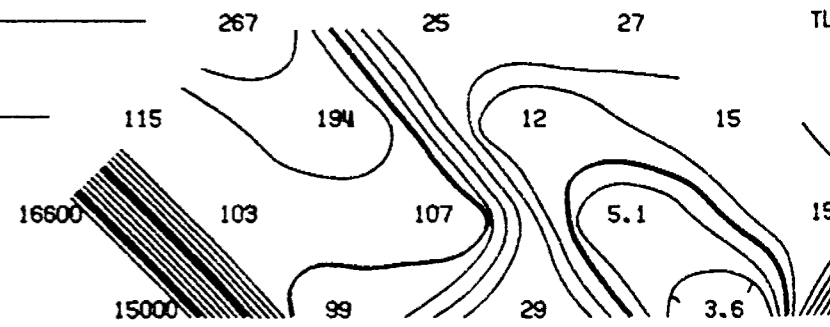
N - 5

N - 4

N - 3

N - 2

N - 1



RESISTIVITY (APP.) IN OHM FEET / 2π

125 105 85 65 45 25 0

METAL FACTOR (APP.)

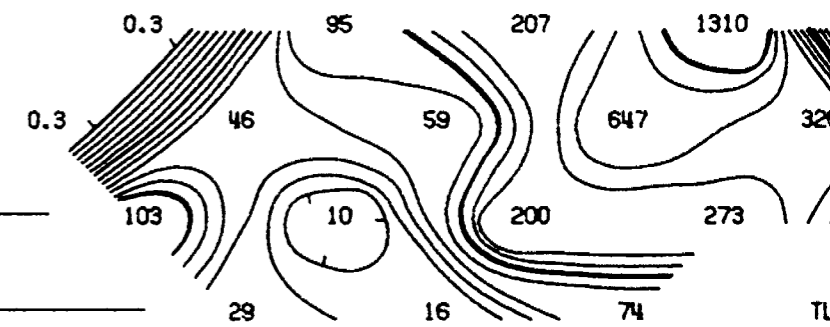
N - 1

N - 2

N - 3

N - 4

N - 5



125 105 85 65 45 25 0

FREQUENCY EFFECT (APP.) IN %

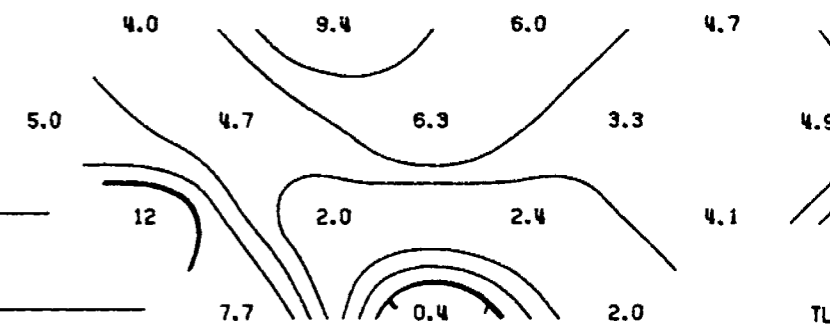
N - 1

N - 2

N - 3

N - 4

N - 5

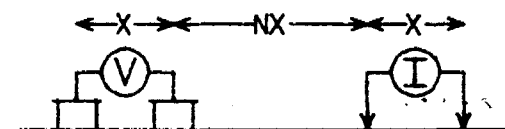


STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO. - 0

ELECTRODE CONFIGURATION



PLOTTING POINT → X X = 200'

SURFACE PROJECTION
OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: APR 1971

APPROVED: _____

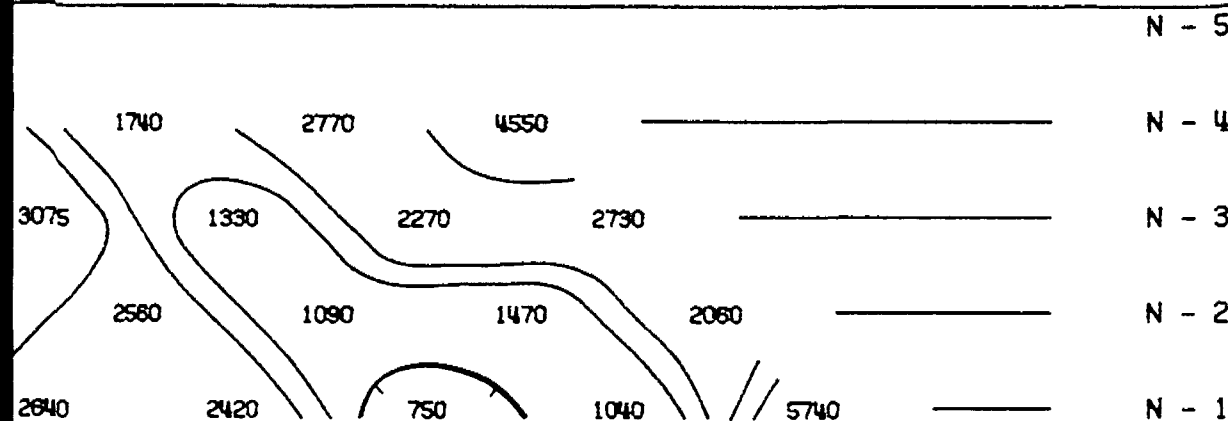
DATE: MAY 20 1971

NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

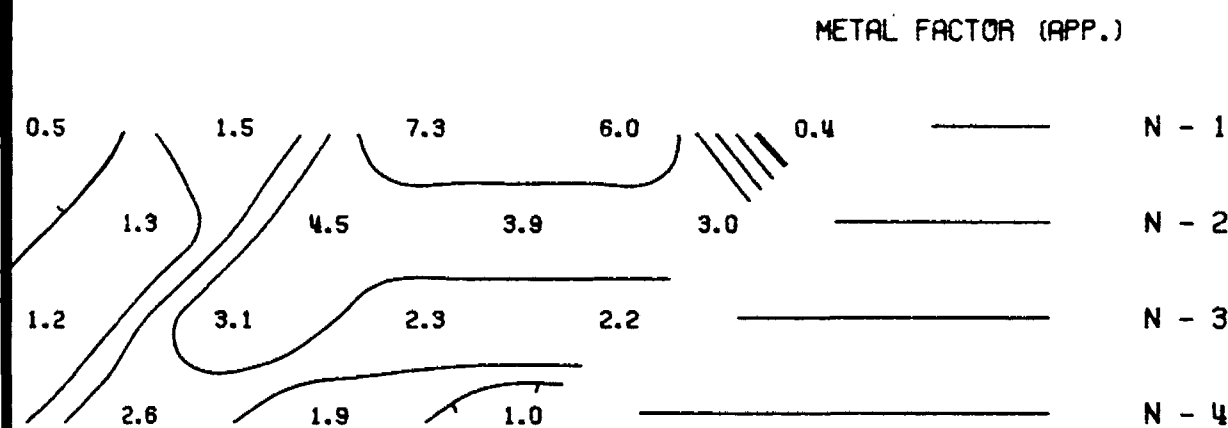
INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER



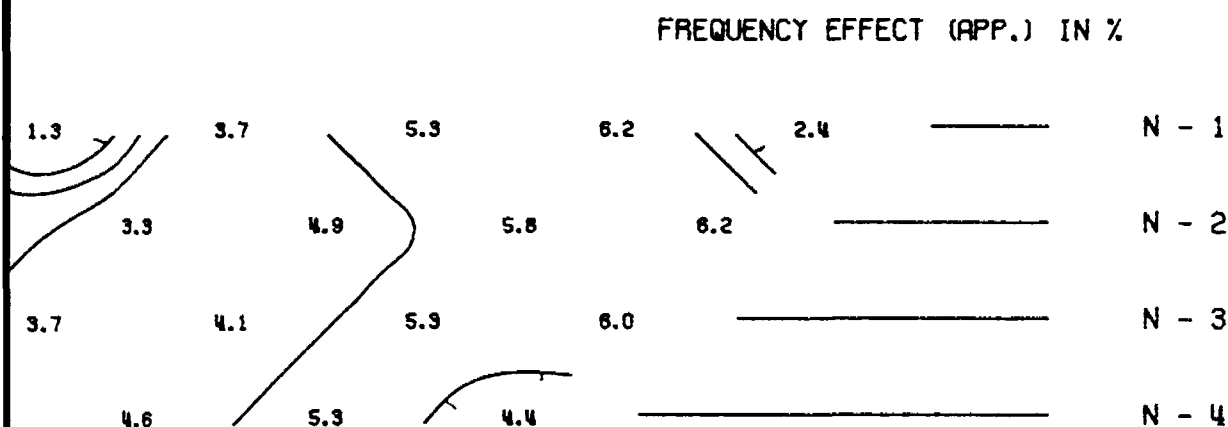
RESISTIVITY (APP.) IN OHM FEET / 2π

14N 16N 18N 20N 22N 24N



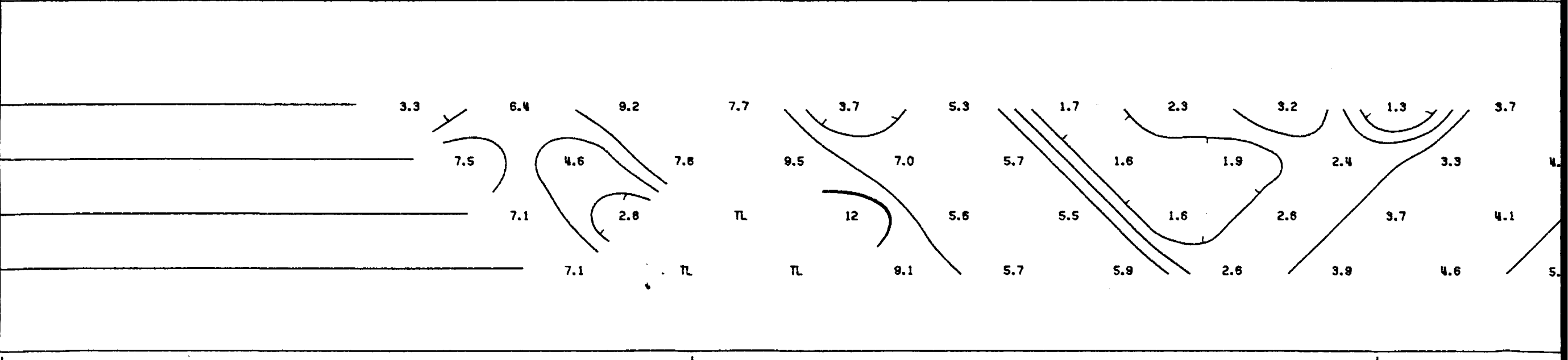
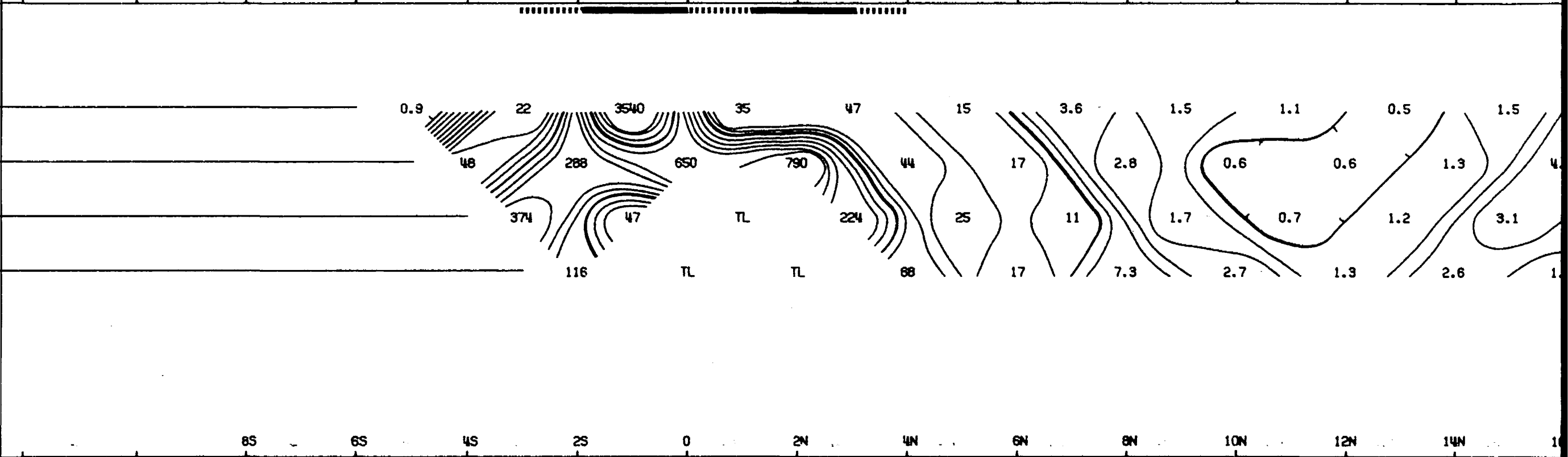
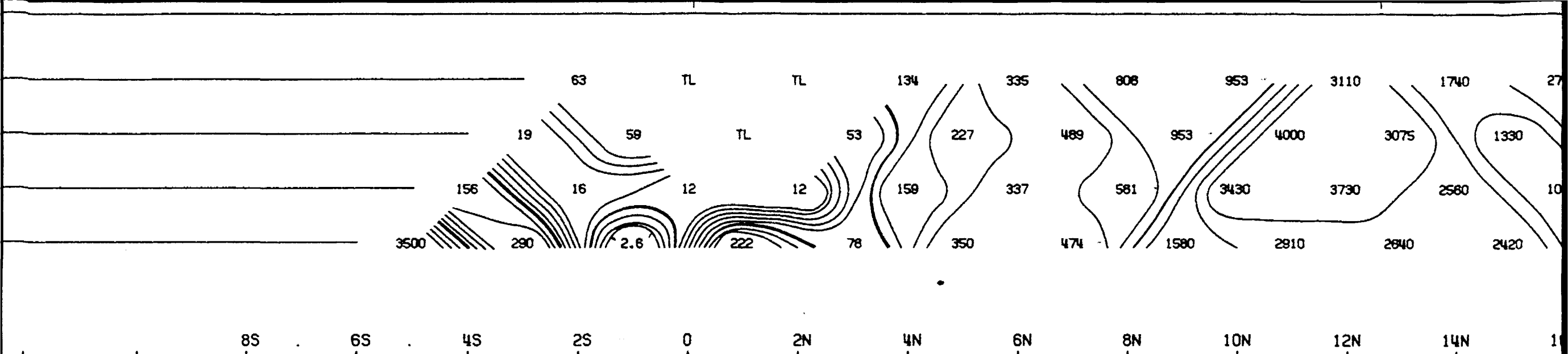
METAL FACTOR (APP.)

14N 16N 18N 20N 22N 24N



FREQUENCY EFFECT (APP.) IN %

14N 16N 18N 20N 22N 24N



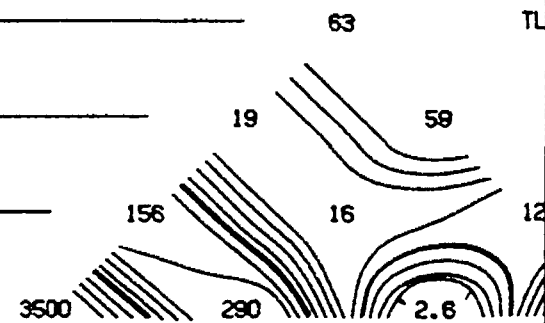
N - 5

N - 4

N - 3

N - 2

N - 1



RESISTIVITY (APP.) IN OHM FEET / 2π

85 65 45 25 0

METAL FACTOR (APP.)

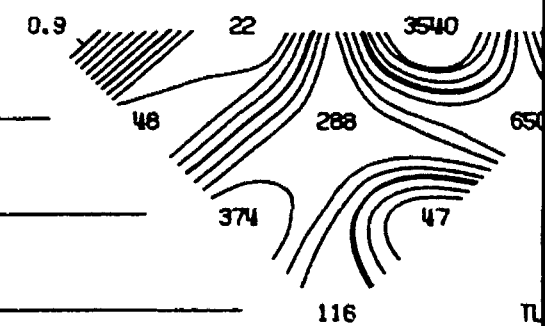
N - 1

N - 2

N - 3

N - 4

N - 5



85 65 45 25 0

FREQUENCY EFFECT (APP.) IN %

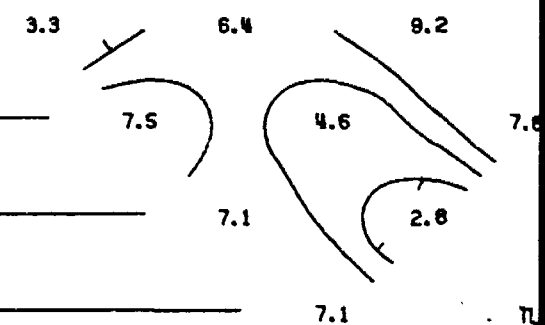
N - 1

N - 2

N - 3

N - 4

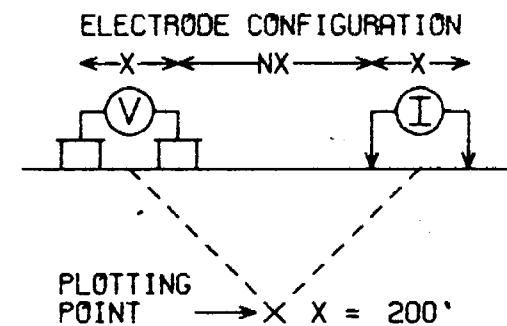
N - 5



STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO. - 4W



SURFACE PROJECTION
OF ANOMALOUS ZONES

DEFINITE **—————**
PROBABLE **.....**
POSSIBLE **//////**

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: APR 1971

APPROVED: _____

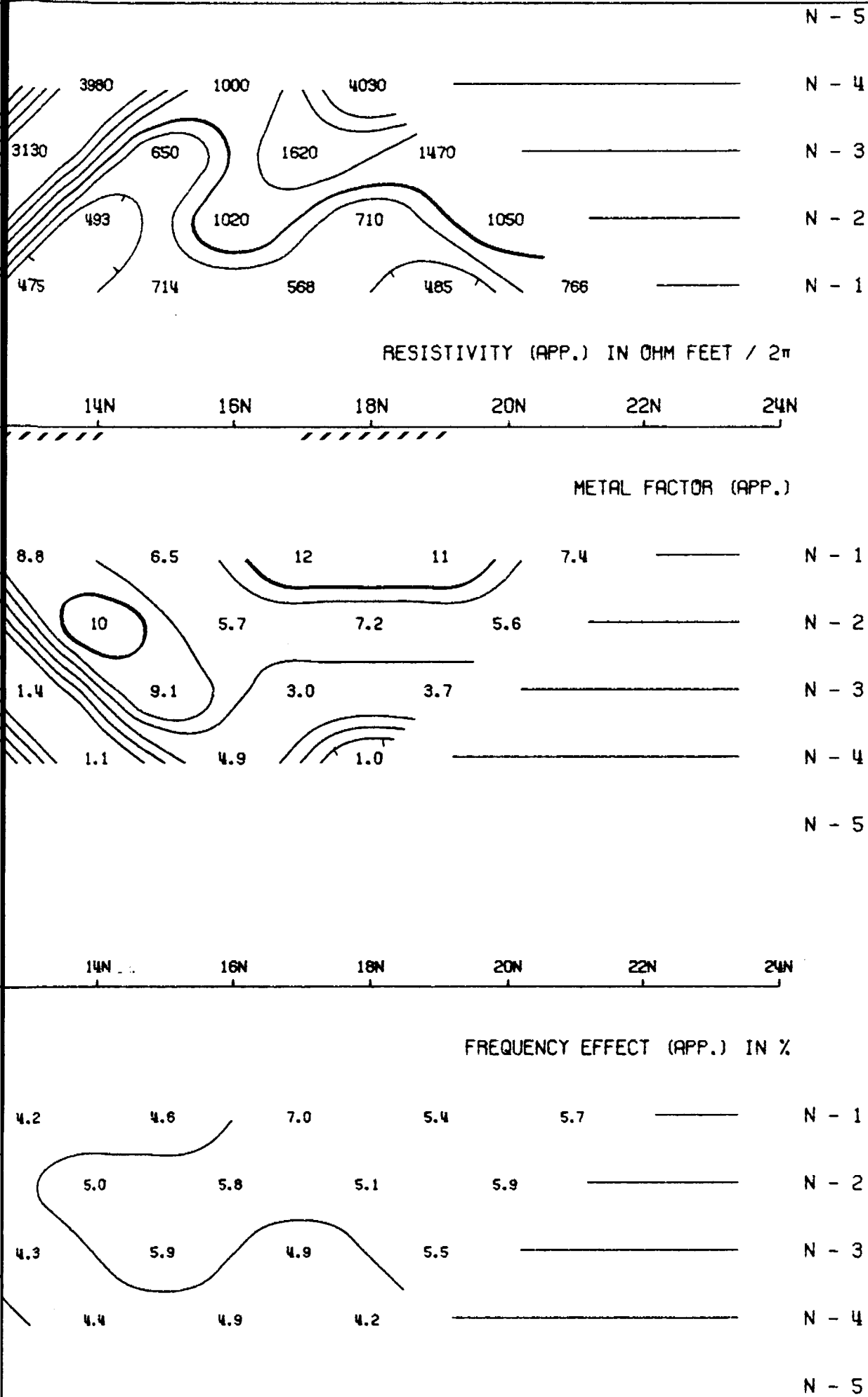
DATE: May 20 1971

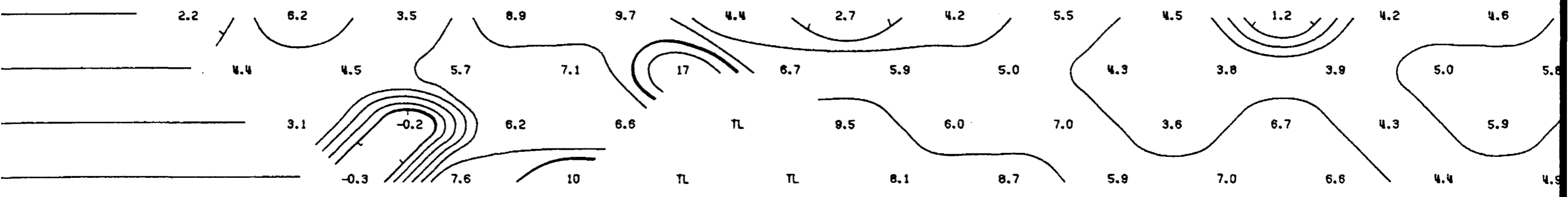
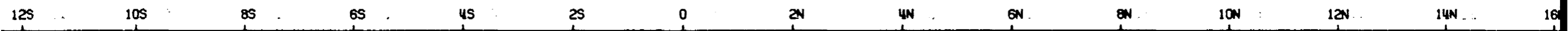
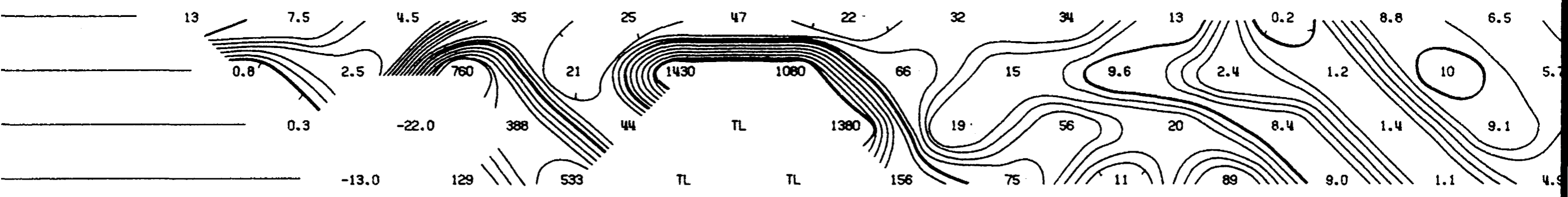
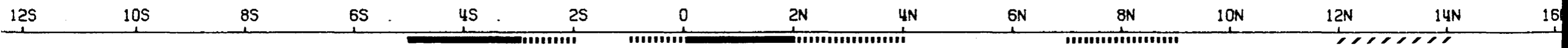
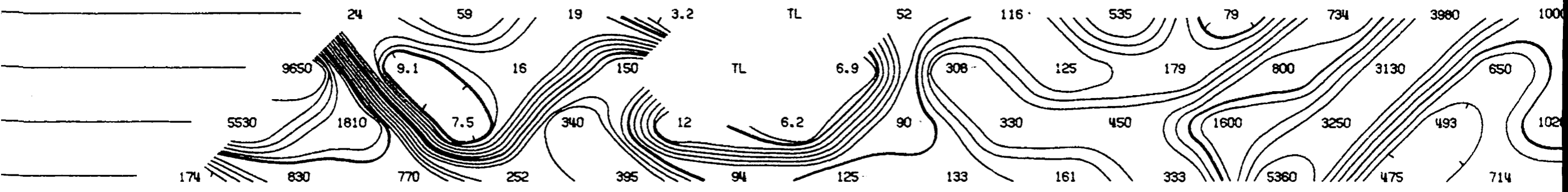
NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

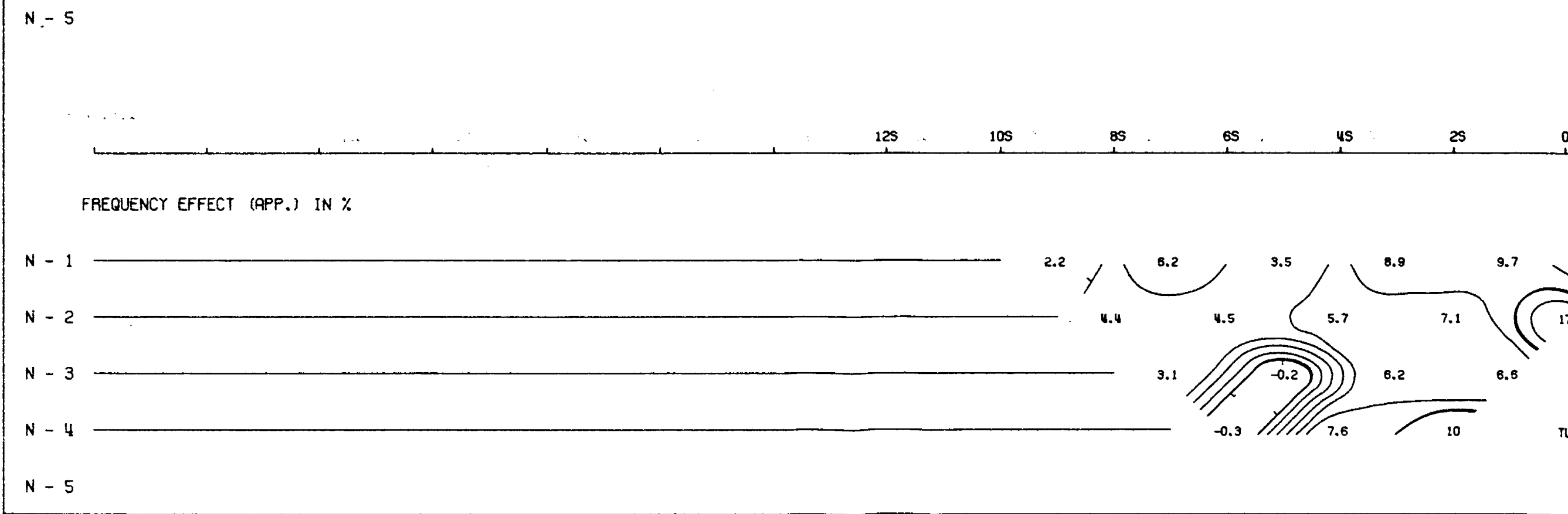
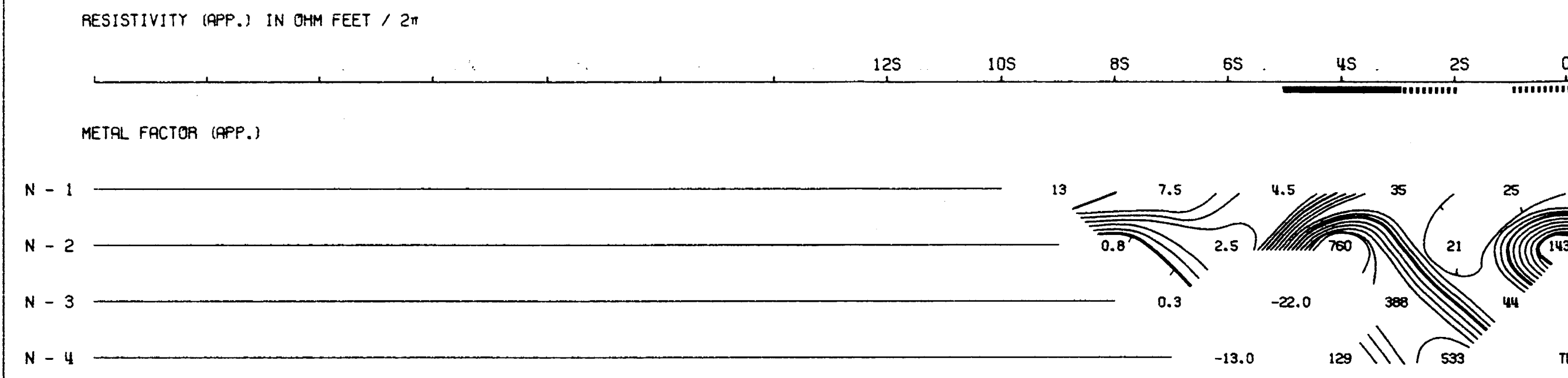
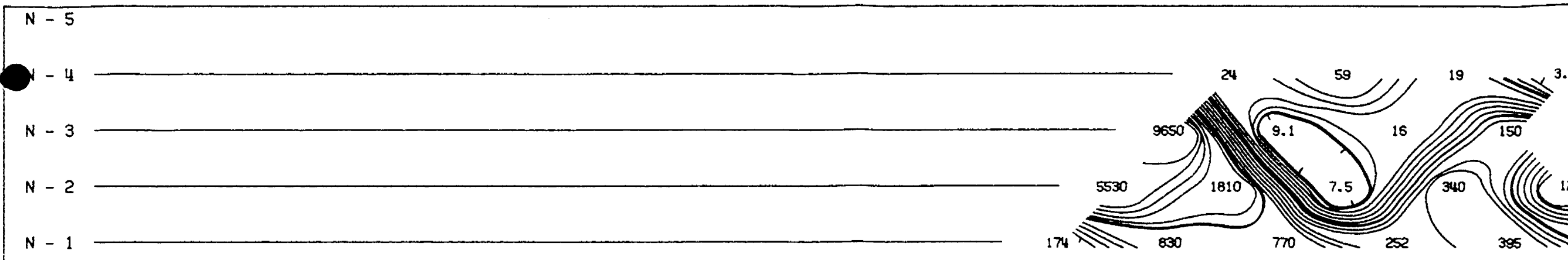
McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER







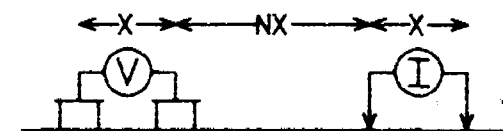
STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.

LARDER LAKE M.D., ONTARIO

LINE NO. - 8W

ELECTRODE CONFIGURATION



PLOTTING POINT → X X = 200'

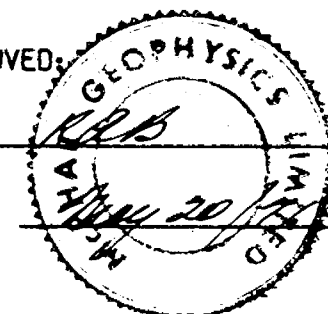
SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
 PROBABLE
 POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: APR 1971

APPROVED:



DATE:

NOTE: CONTOURS AT LOGARITHMIC INTERVALS 1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER

N - 5

N - 4

N - 3

N - 2

N - 1

N - 1

N - 2

N - 3

N - 4

N - 5

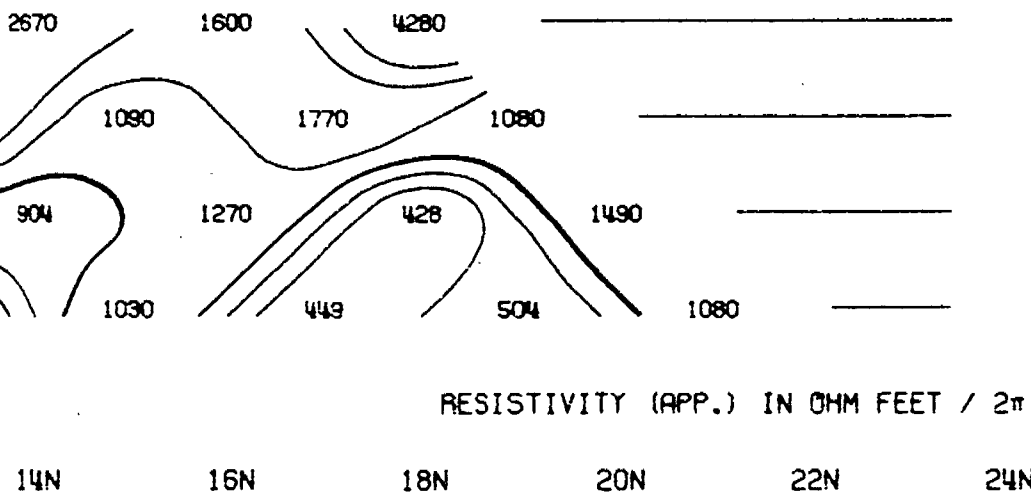
N - 1

N - 2

N - 3

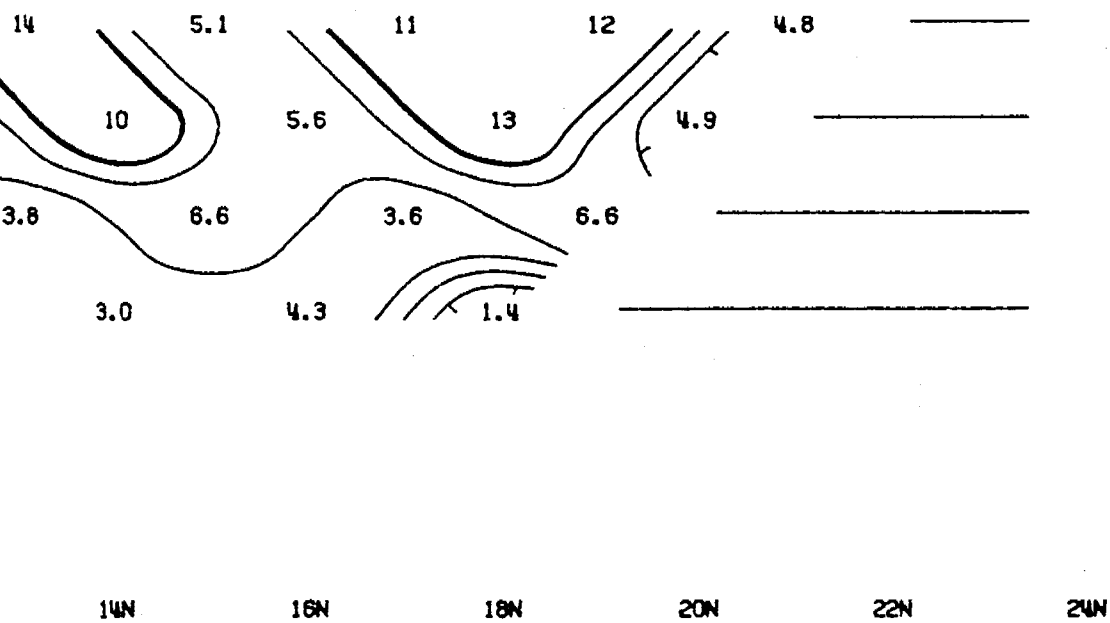
N - 4

N - 5

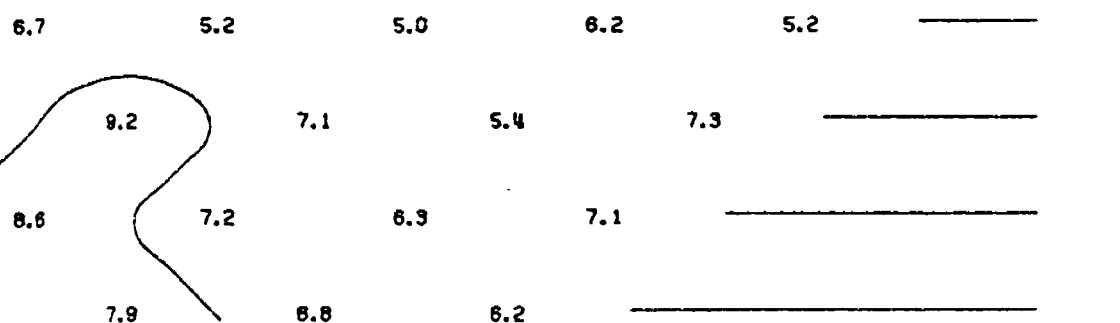


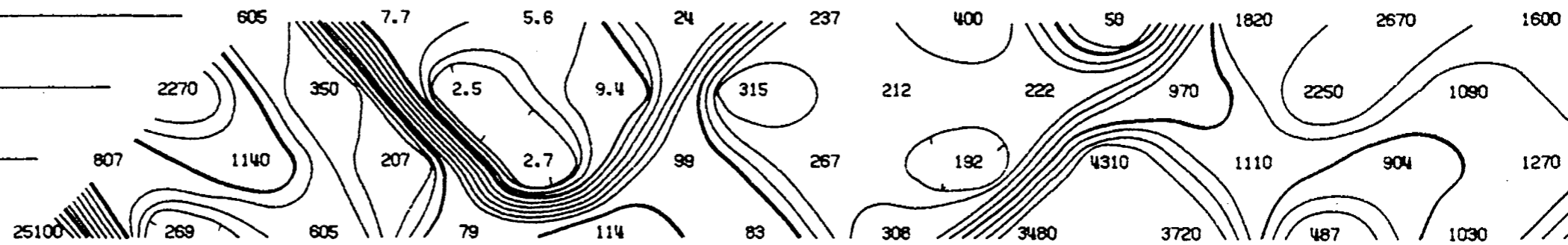
RESISTIVITY (APP.) IN OHM FEET / 2π

METAL FACTOR (APP.)

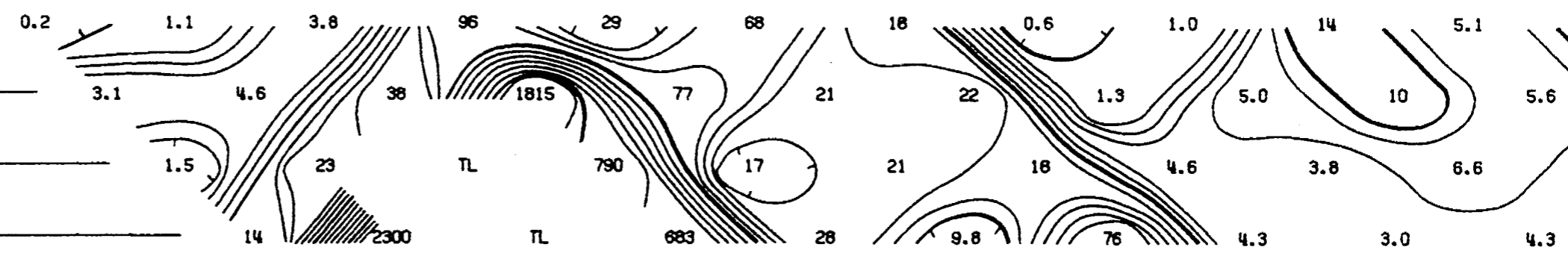


FREQUENCY EFFECT (APP.) IN %

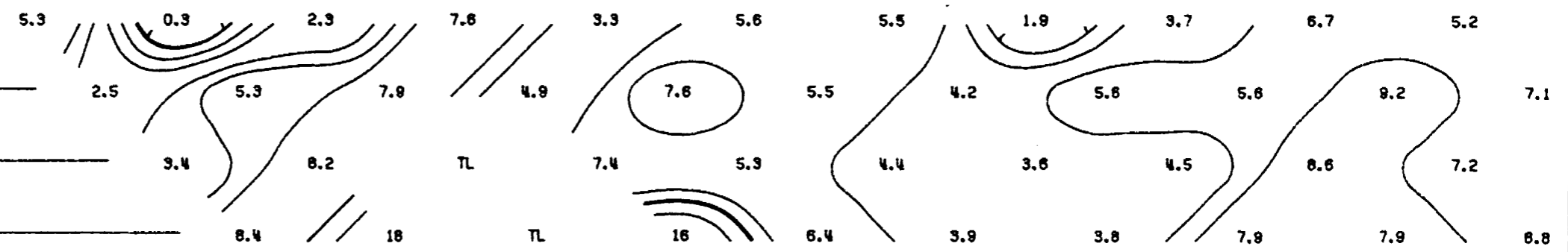




8S 6S 4S 2S 0 2N 4N 6N 8N 10N 12N 14N 16N



8S 6S 4S 2S 0 2N 4N 6N 8N 10N 12N 14N 16N



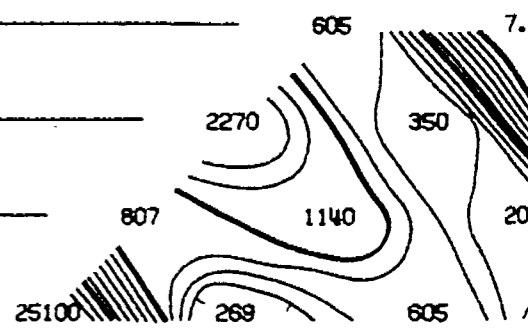
N - 5

N - 4

N - 3

N - 2

N - 1



RESISTIVITY (APP.) IN OHM FEET / 2π

8S 6S 4S 2S 0

METAL FACTOR (APP.)

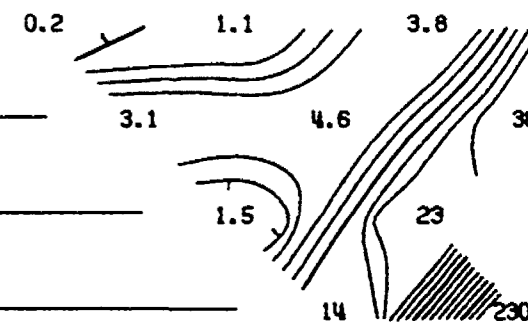
N - 1

N - 2

N - 3

N - 4

N - 5



8S 6S 4S 2S 0

FREQUENCY EFFECT (APP.) IN %

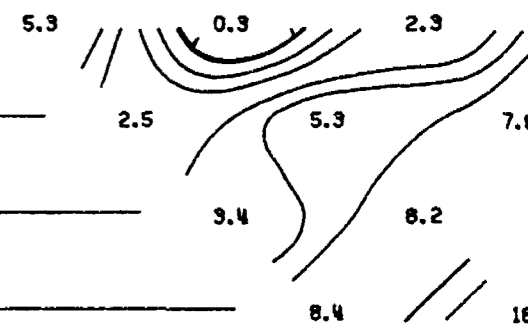
N - 1

N - 2

N - 3

N - 4

N - 5

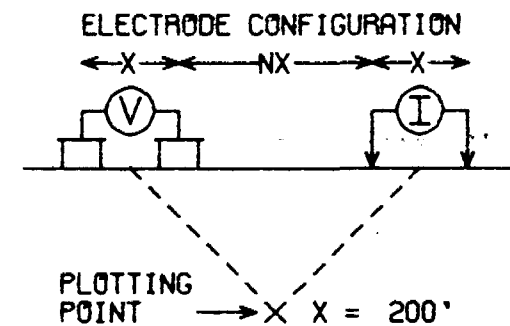


8.4 18

STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO.- 12W



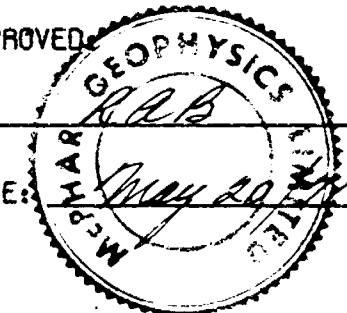
SURFACE PROJECTION
OF ANOMALOUS ZONES

DEFINITE
 PROBABLE
 POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: MAR 1971

APPROVED:



DATE: May 20 1971

NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER

N - 5

N - 4

N - 3

N - 2

N - 1

N - 1

N - 2

N - 3

N - 4

N - 5

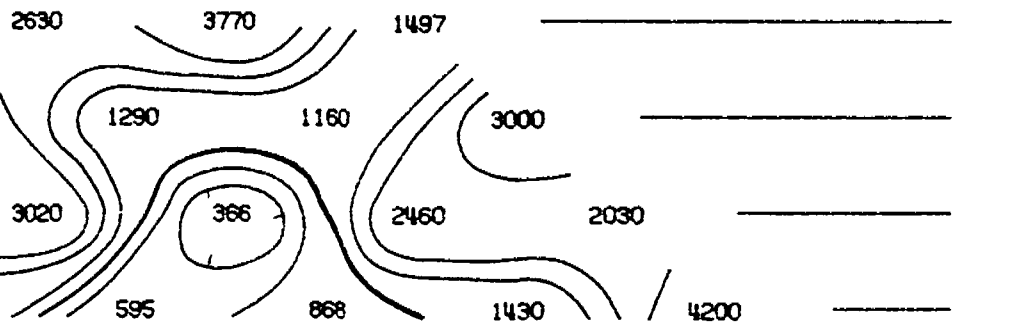
N - 1

N - 2

N - 3

N - 4

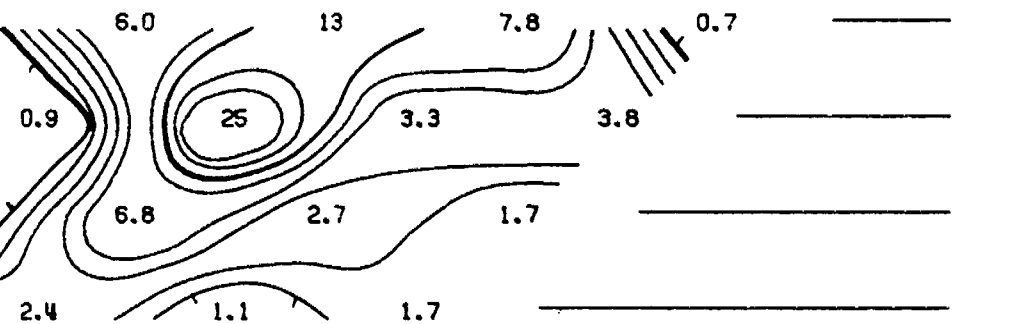
N - 5



RESISTIVITY (APP.) IN OHM FEET / 2π

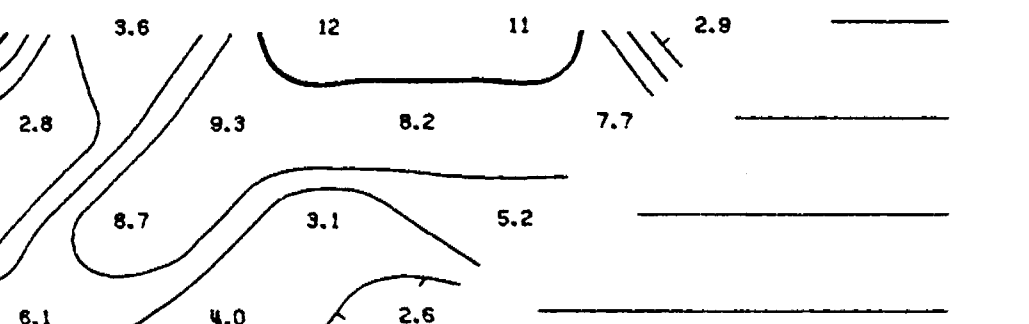
14N 16N 18N 20N 22N 24N

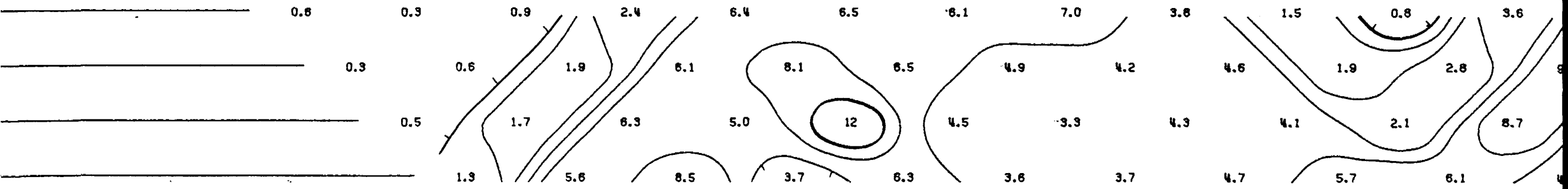
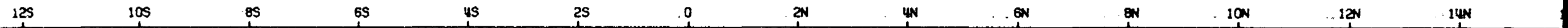
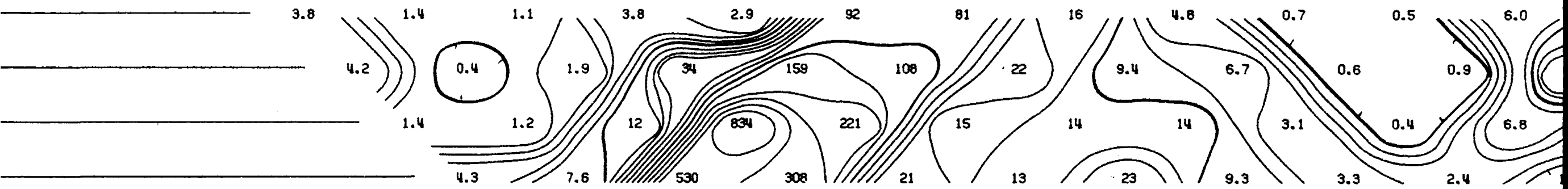
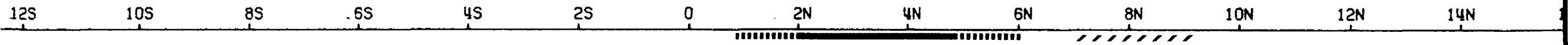
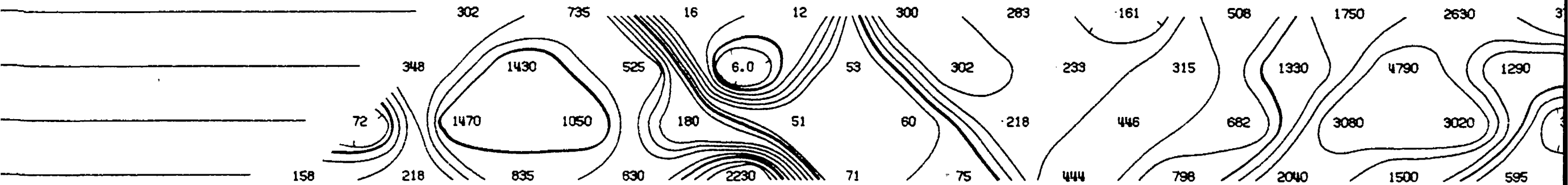
METAL FACTOR (APP.)



14N 16N 18N 20N 22N 24N

FREQUENCY EFFECT (APP.) IN %





N - 5

N - 4

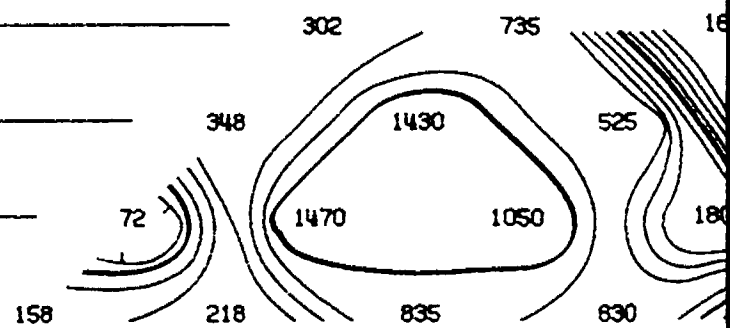
N - 3

N - 2

N - 1

RESISTIVITY (APP.) IN OHM FEET / 2π

12S 10S 8S 6S 4S 2S 0



METAL FACTOR (APP.)

N - 1

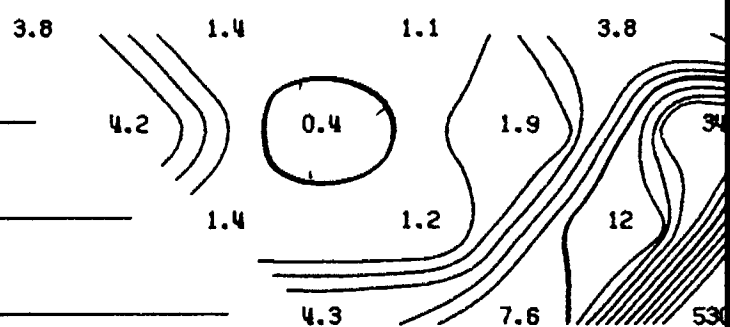
N - 2

N - 3

N - 4

N - 5

12S 10S 8S 6S 4S 2S 0



FREQUENCY EFFECT (APP.) IN %

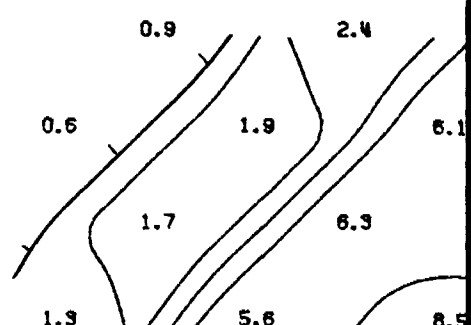
N - 1

N - 2

N - 3

N - 4

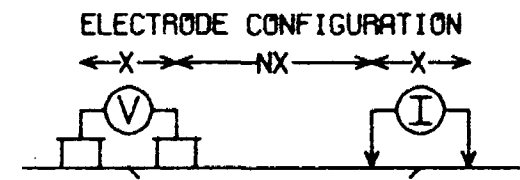
N - 5



STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO. - 12W



PLOTTING POINT → X X = 100'

SURFACE PROJECTION OF ANOMALOUS ZONES

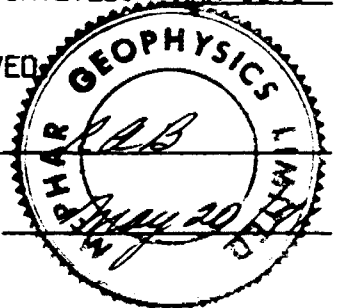
DEFINITE
 PROBABLE
 POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: MAR 1971

APPROVED: _____

DATE: _____

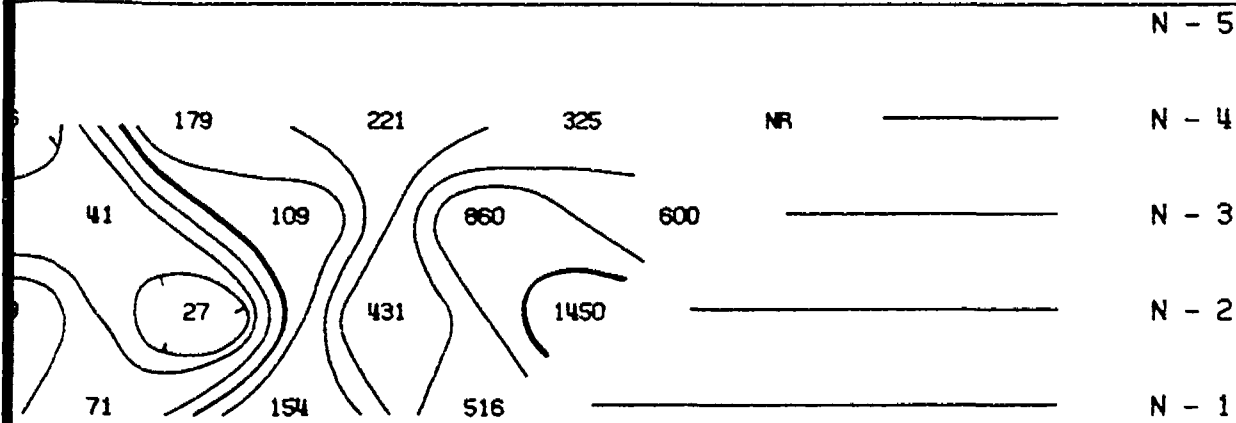


NOTE: CONTOURS AT LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

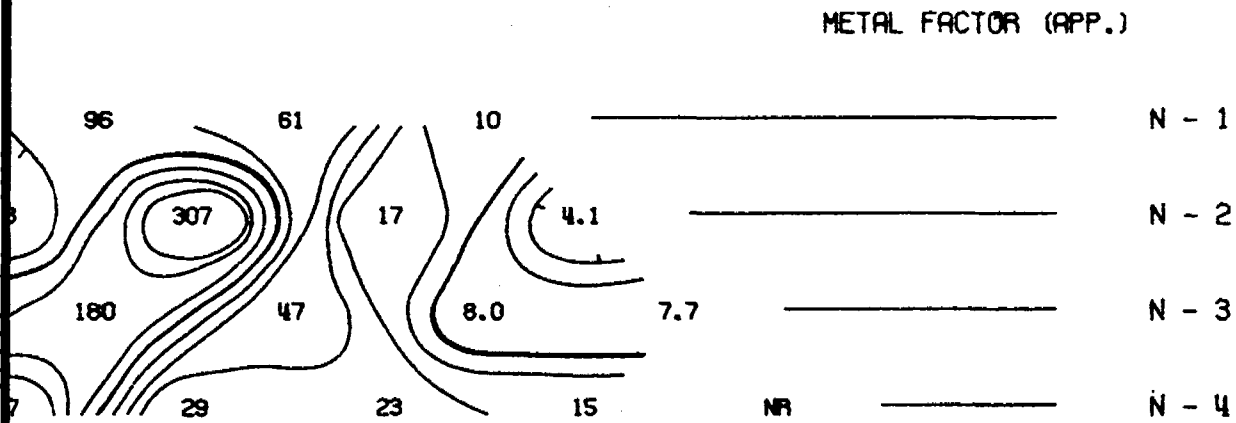
McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

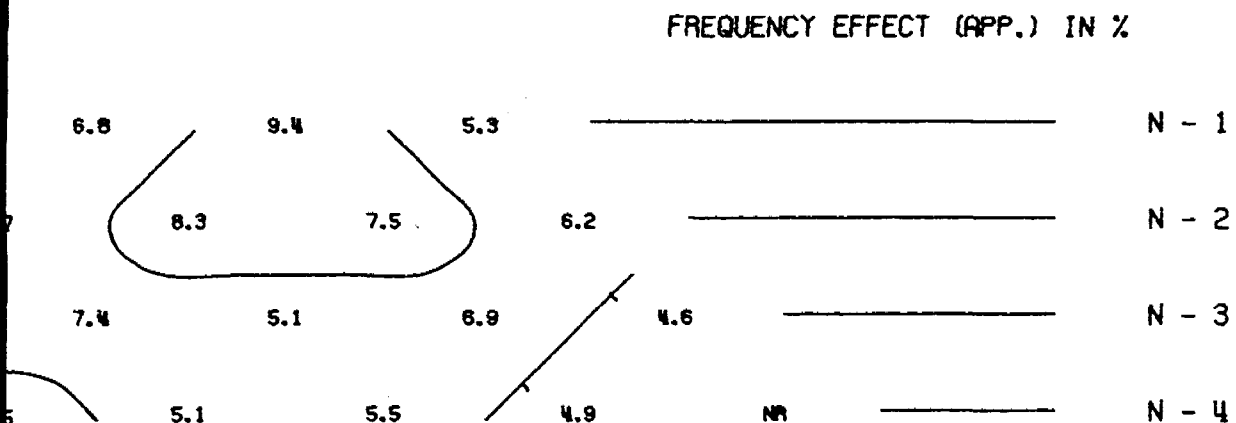
NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER



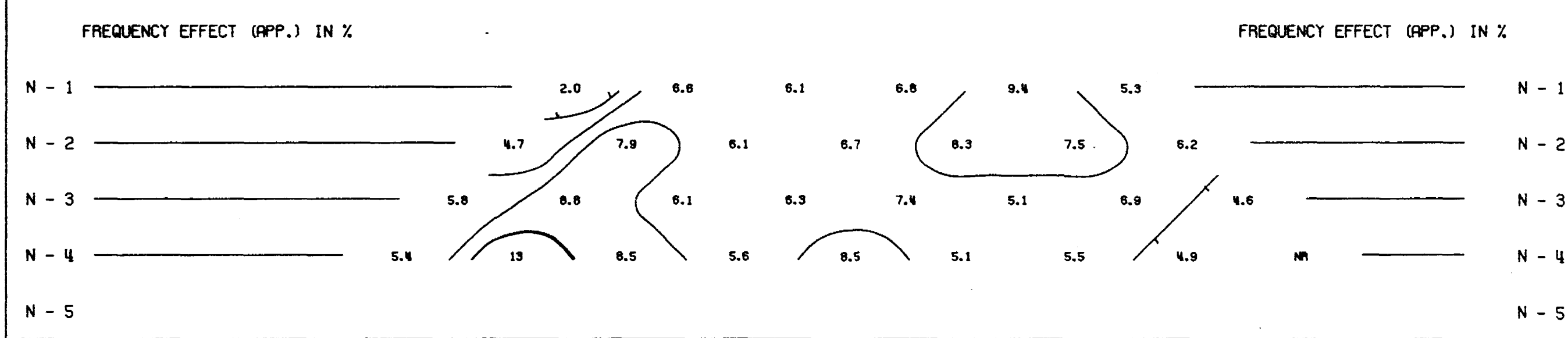
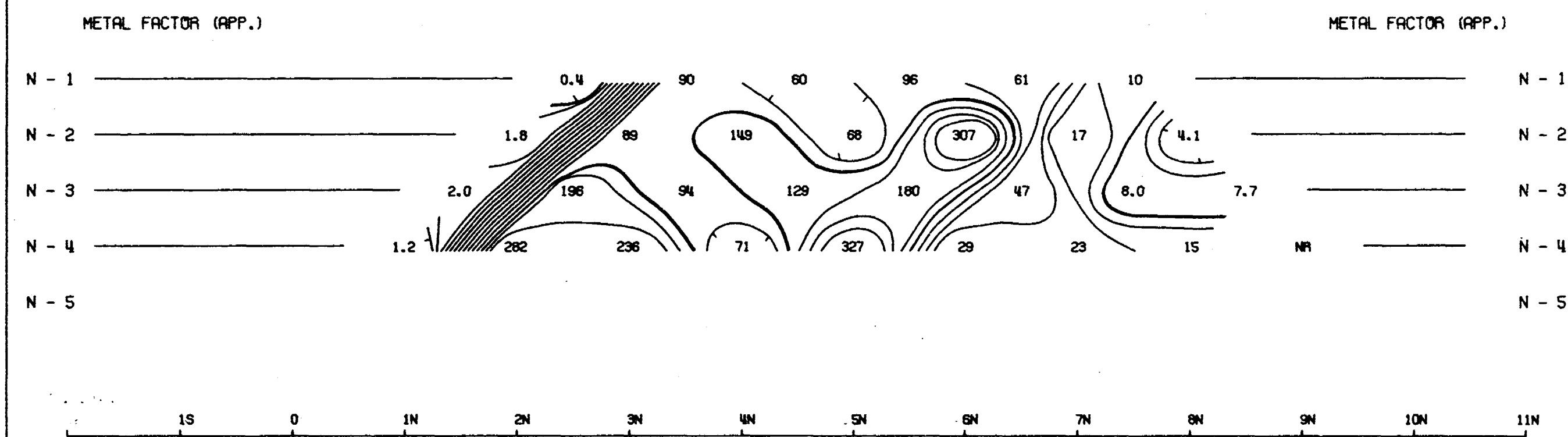
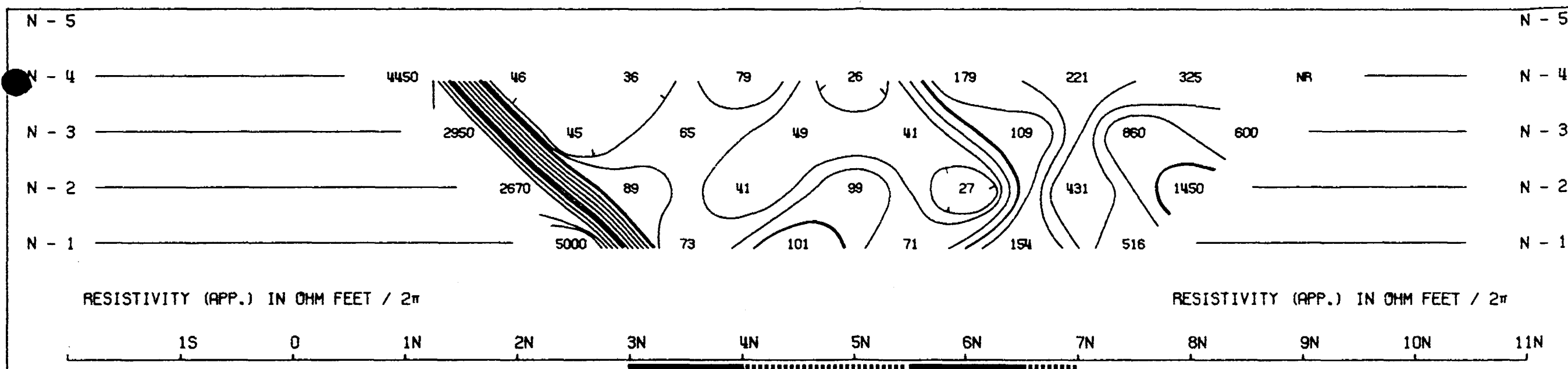
6N 7N 8N 9N 10N 11N



6N 7N 8N 9N 10N 11N



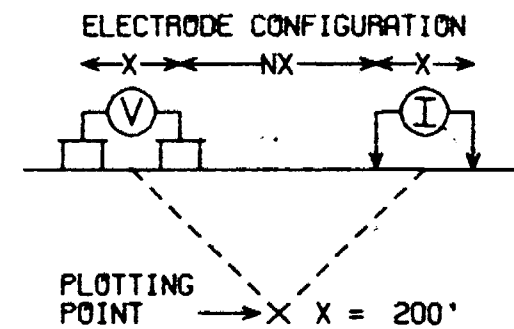
6N 7N 8N 9N 10N 11N



STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO.- 16W



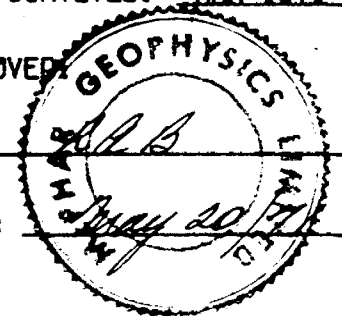
SURFACE PROJECTION
OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: MAR 1971

APPROVED



DATE: May 20/71

NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER

N - 5

N - 4

N - 3

N - 2

N - 1

N - 1

N - 2

N - 3

N - 4

N - 5

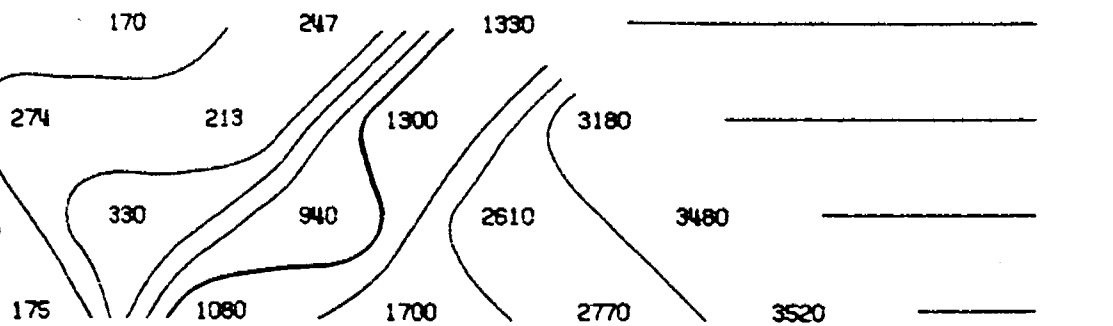
N - 1

N - 2

N - 3

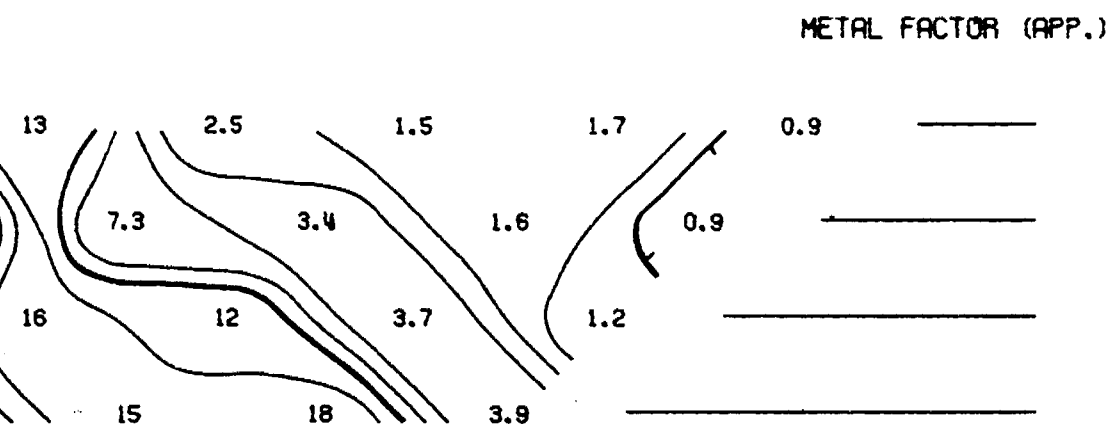
N - 4

N - 5



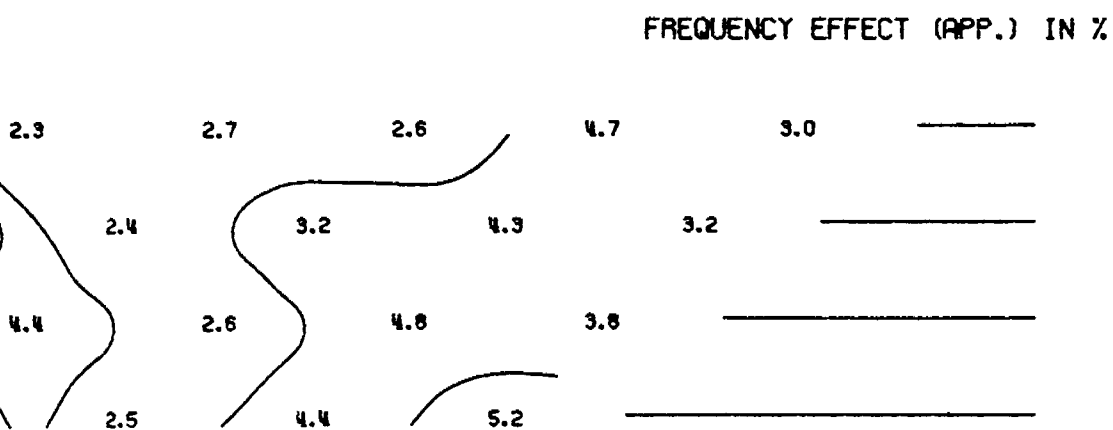
RESISTIVITY (APP.) IN OHM FEET / 2π

8N 10N 12N 14N 16N 18N

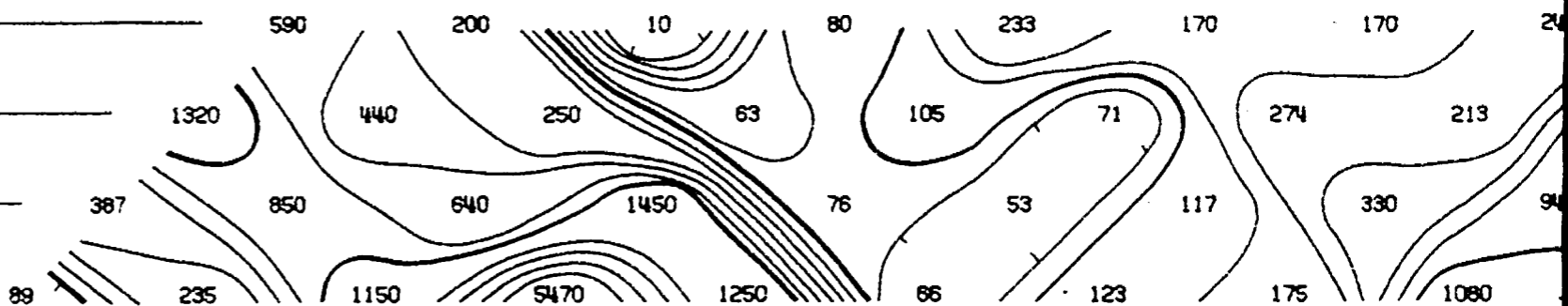


METAL FACTOR (APP.)

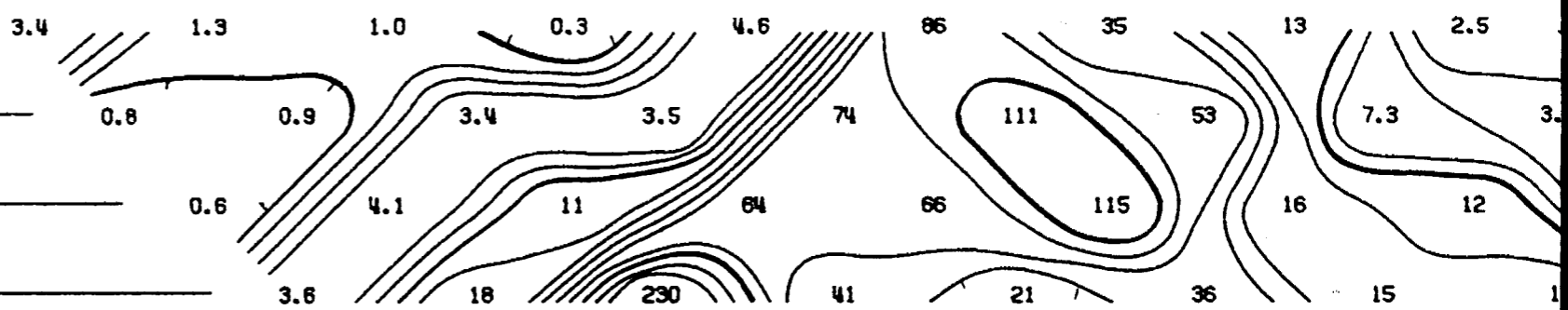
8N 10N 12N 14N 16N 18N



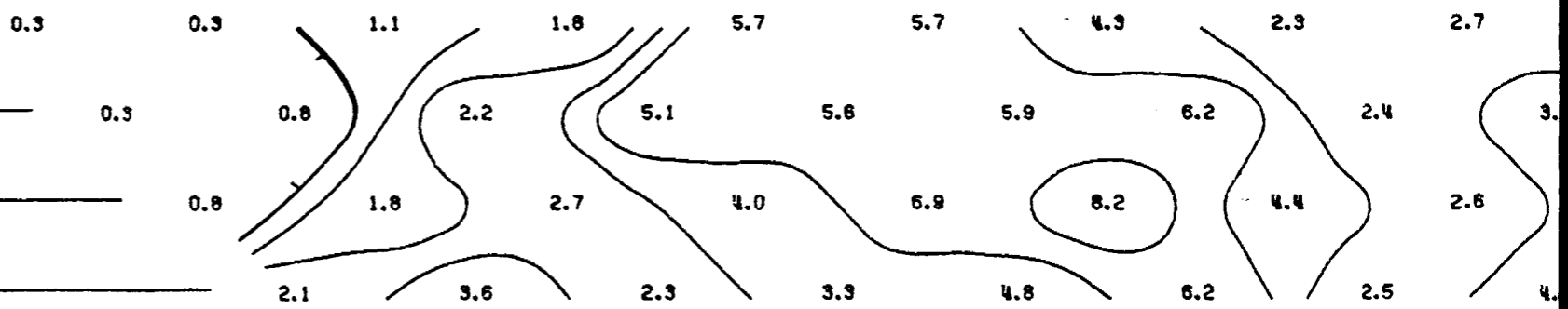
FREQUENCY EFFECT (APP.) IN %



10S 8S 6S 4S 2S 0 2N 4N 6N 8N 10



10S 8S 6S 4S 2S 0 2N 4N 6N 8N 10



N - 5

N - 4

N - 3

N - 2

N - 1

RESISTIVITY (APP.) IN OHM FEET / 2π

10S

8S

6S

387
89

METAL FACTOR (APP.)

N - 1

N - 2

N - 3

N - 4

N - 5

10S

8S

6S

3.4
0.8

FREQUENCY EFFECT (APP.) IN %

N - 1

N - 2

N - 3

N - 4

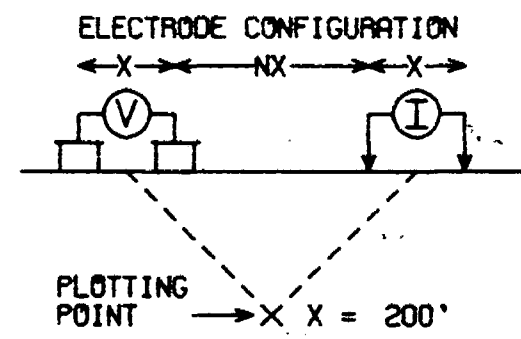
N - 5

0.3
0.3

STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO. - 20W



SURFACE PROJECTION
OF ANOMALOUS ZONES

DEFINITE

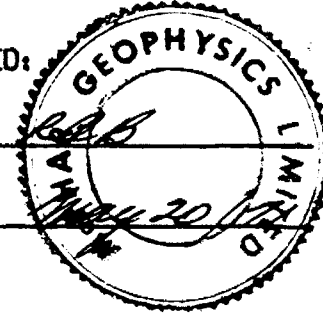
PROBABLE

POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: MAR 1971

APPROVED: _____



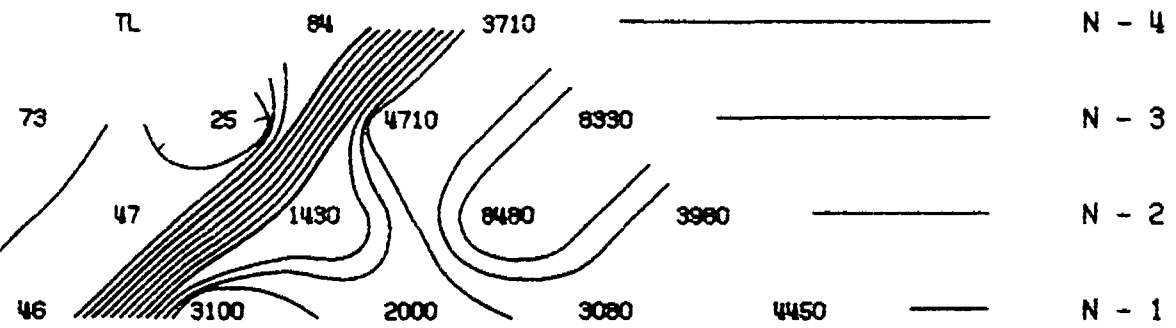
DATE: _____

NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

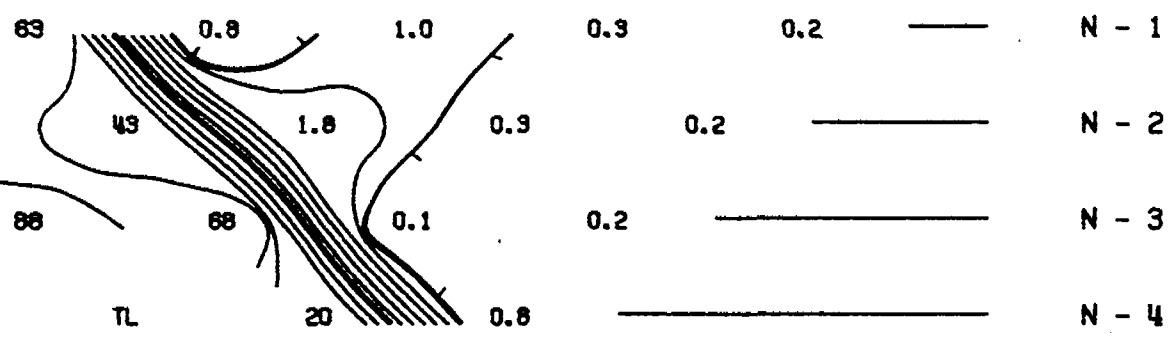
McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

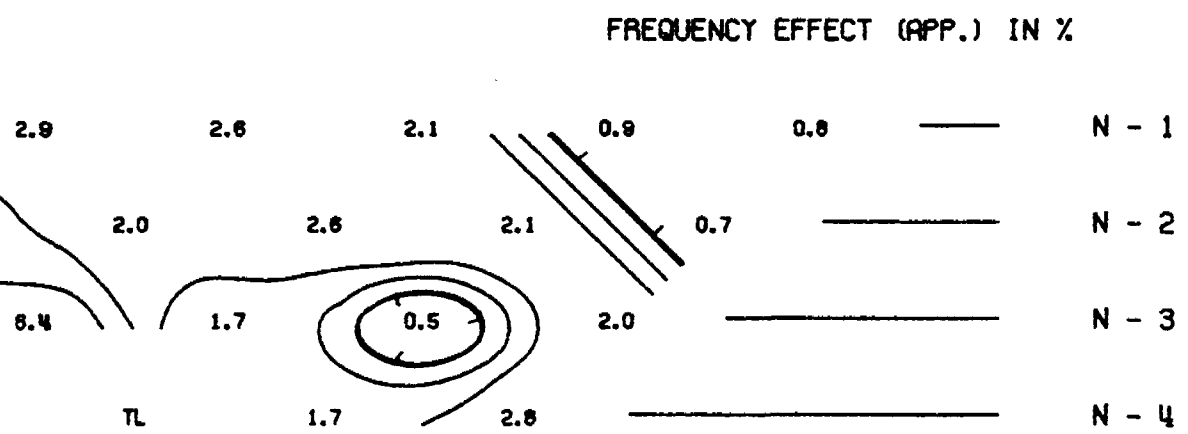
NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER



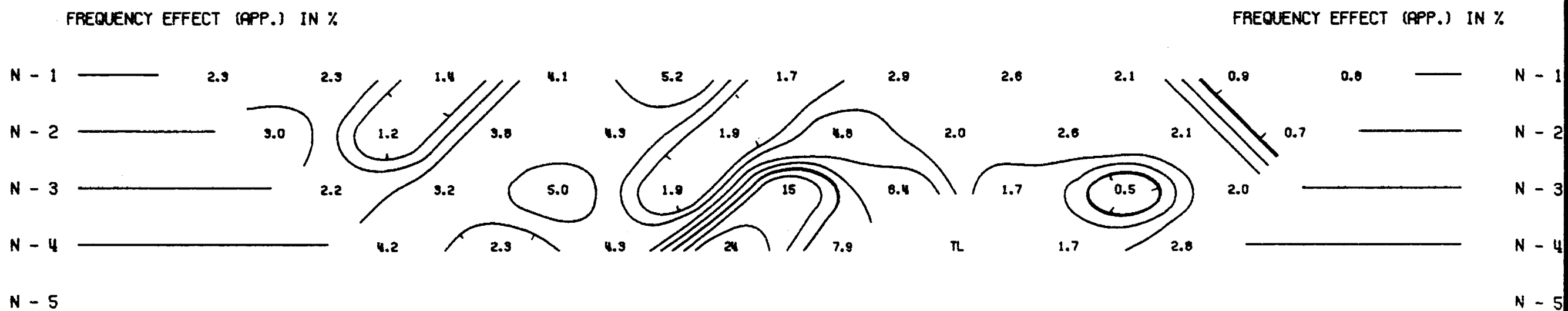
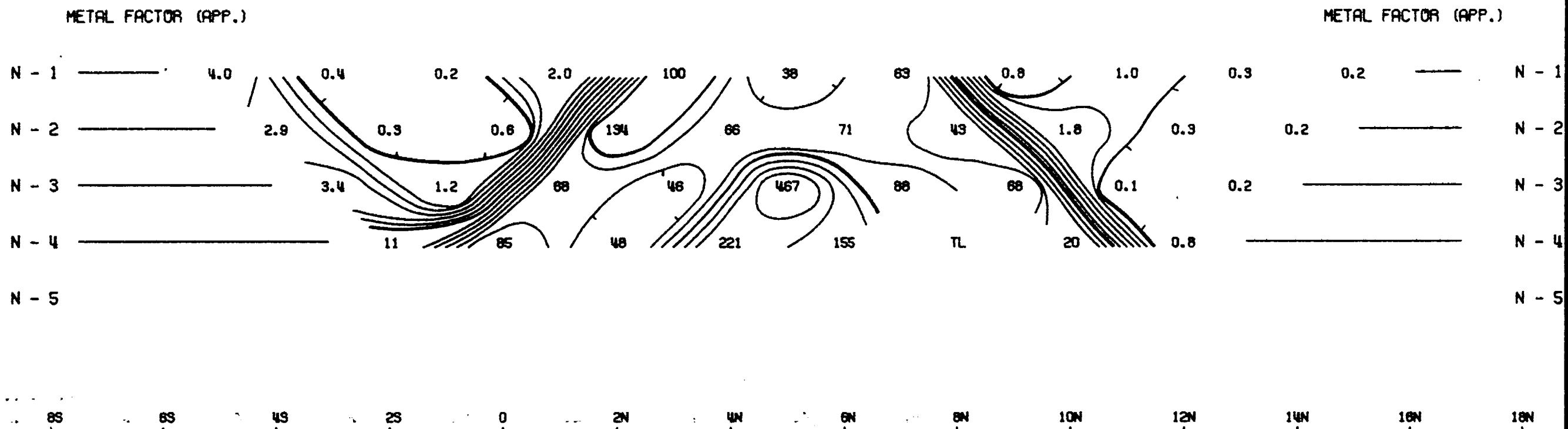
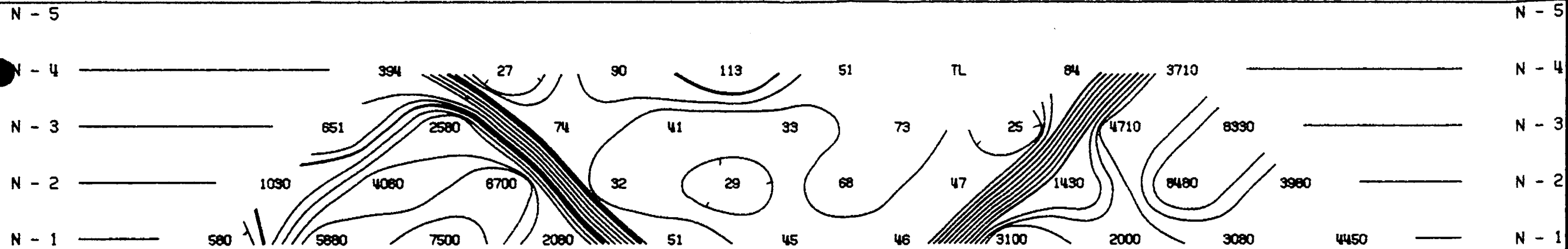
RESISTIVITY (APP.) IN OHM FEET / 2π



METAL FACTOR (APP.)



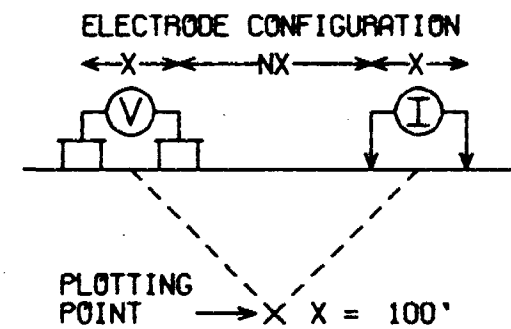
FREQUENCY EFFECT (APP.) IN %



STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO. - 20W



SURFACE PROJECTION
OF ANOMALOUS ZONES

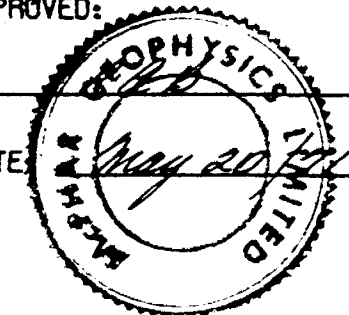
DEFINITE
PROBABLE
POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: MAR 1971

APPROVED:

DATE: *May 20 1971*



McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER

N - 5

N - 4

N - 3

N - 2

N - 1

N - 1

N - 2

N - 3

N - 4

N - 5

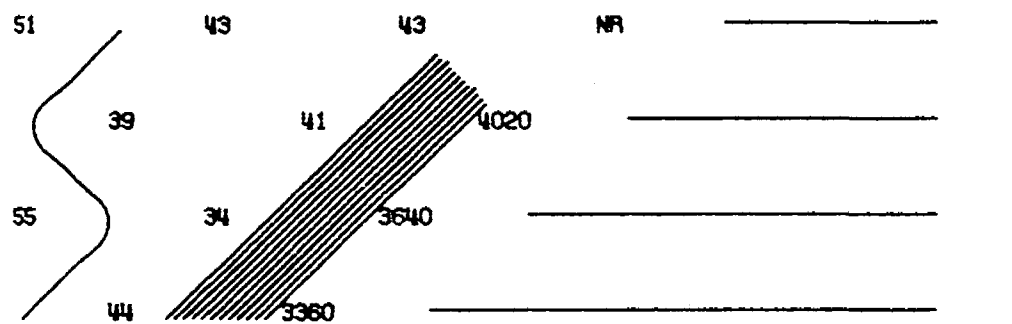
N - 1

N - 2

N - 3

N - 4

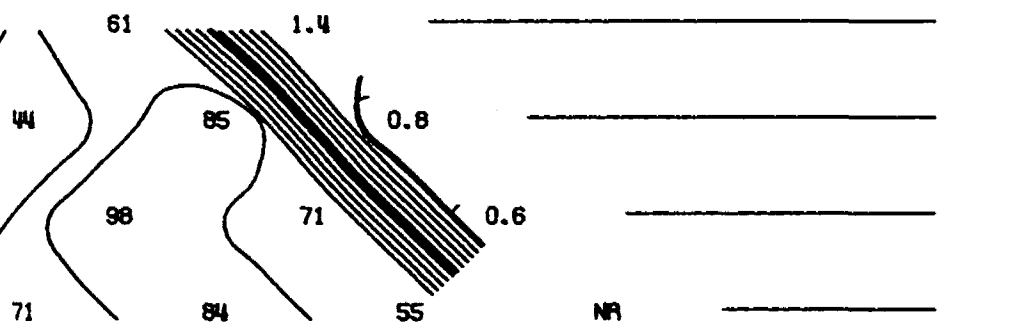
N - 5



RESISTIVITY (APP.) IN OHM FEET / 2π

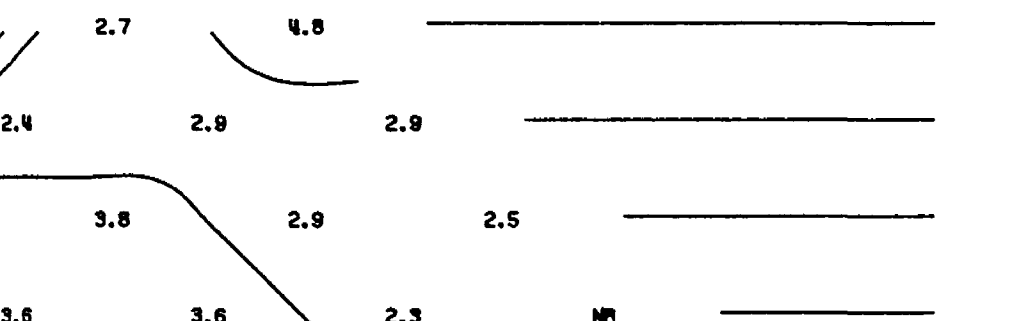
7N 8N 9N 10N 11N 12N

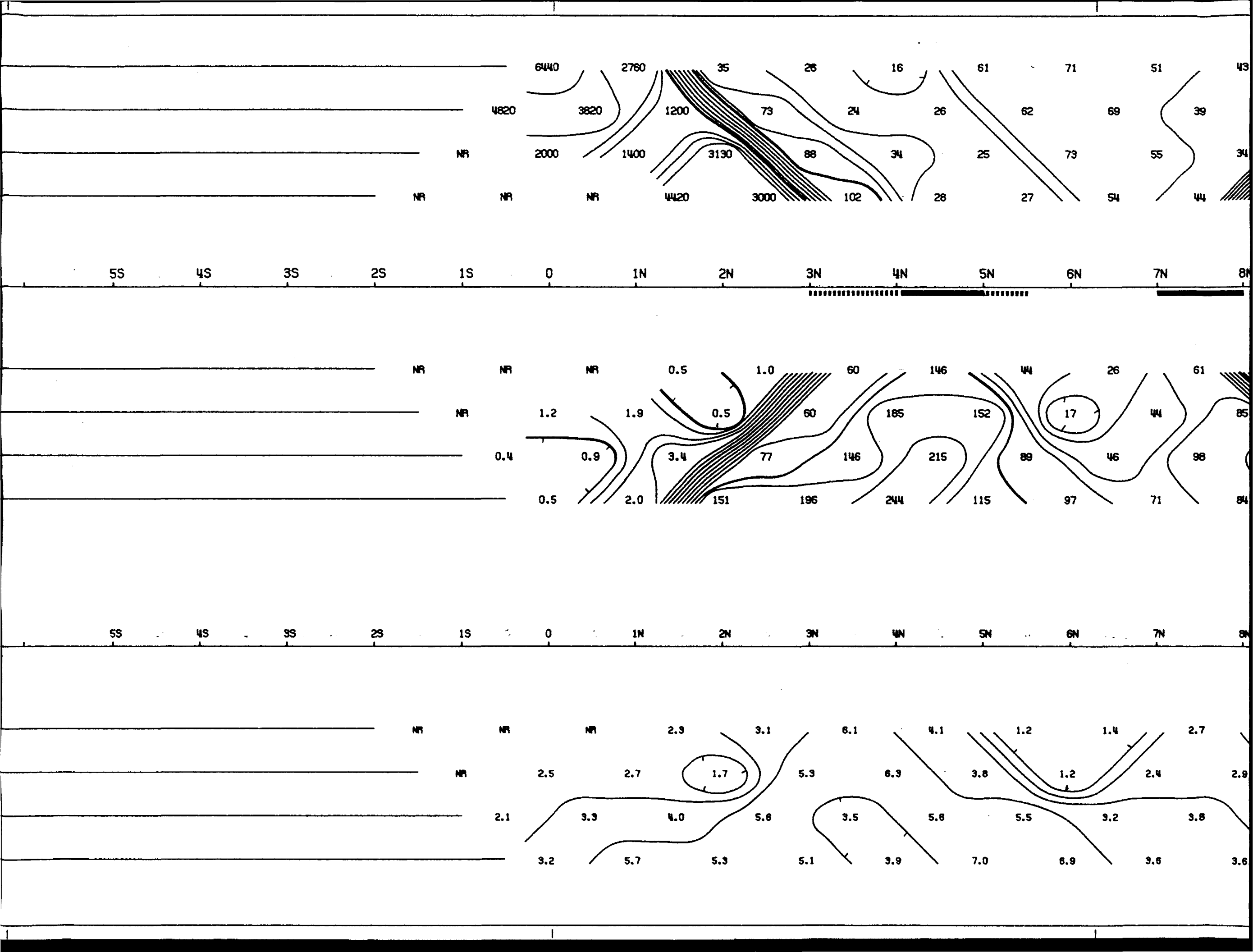
METAL FACTOR (APP.)

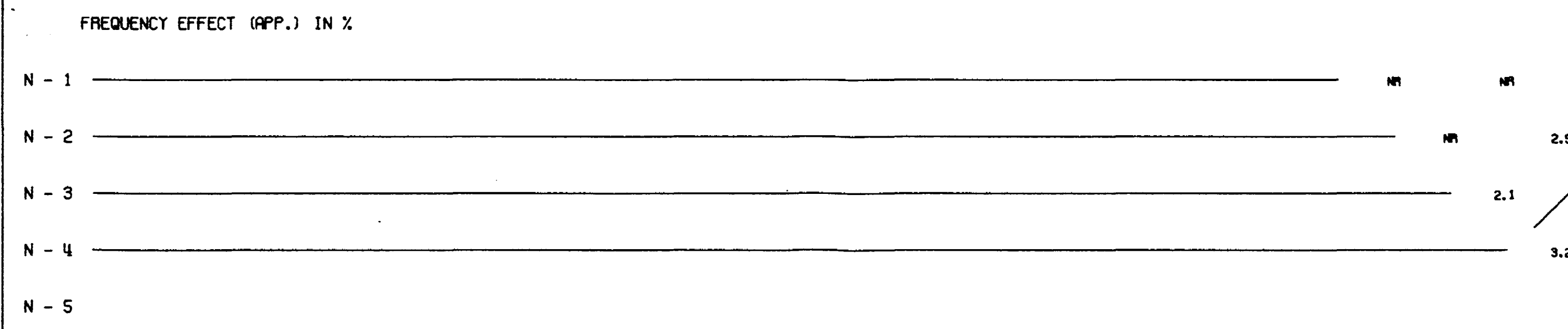
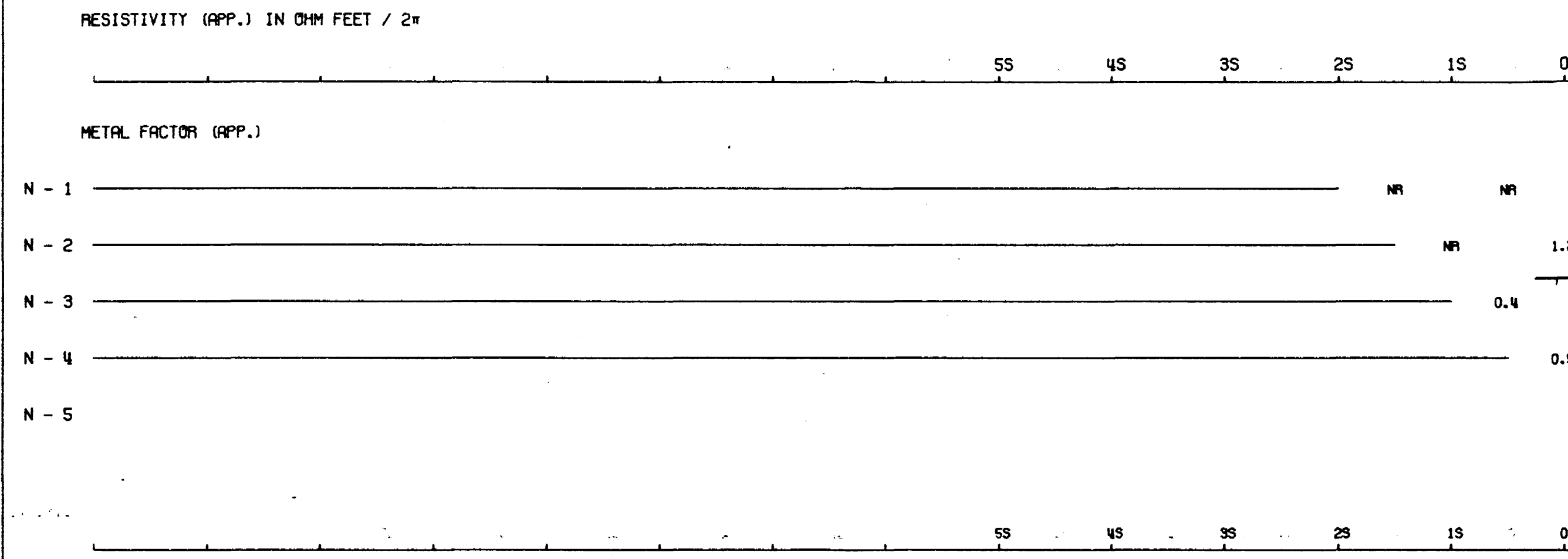
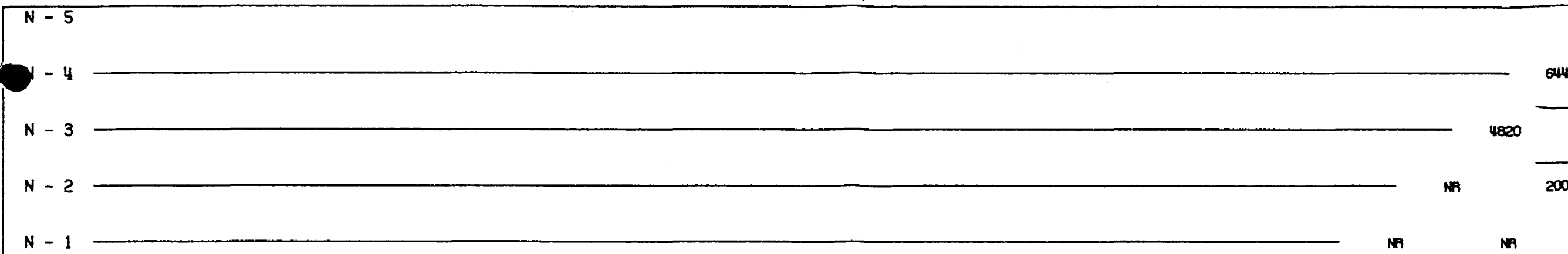


7N 8N 9N 10N 11N 12N

FREQUENCY EFFECT (APP.) IN %



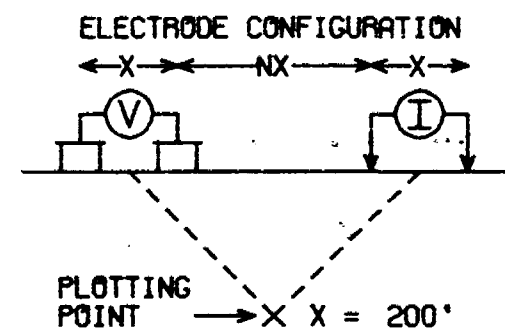




STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO.- 24H



SURFACE PROJECTION
OF ANOMALOUS ZONES

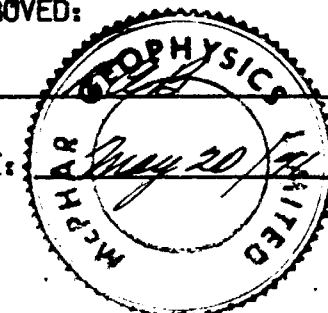
DEFINITE
 PROBABLE
 POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: MAR 1971

APPROVED:

DATE:

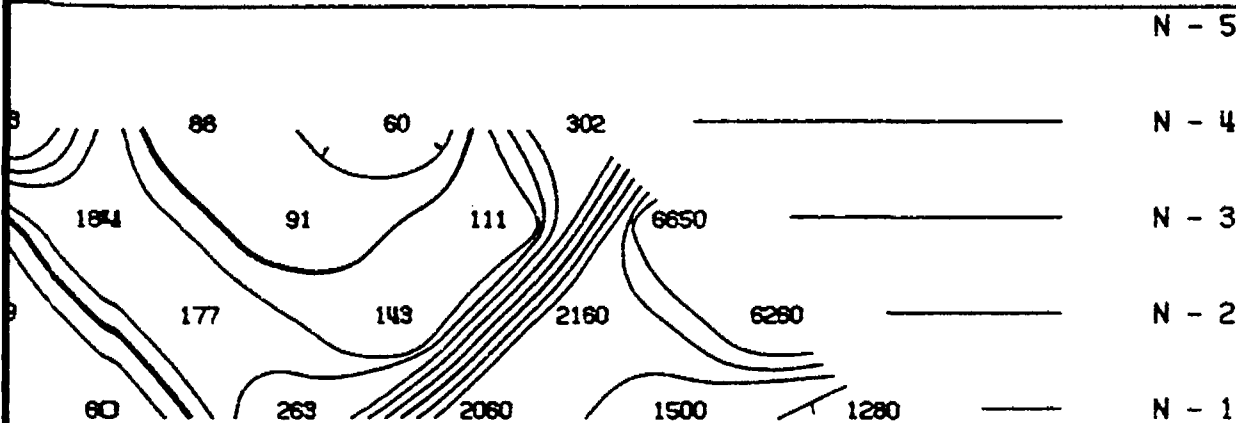


NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

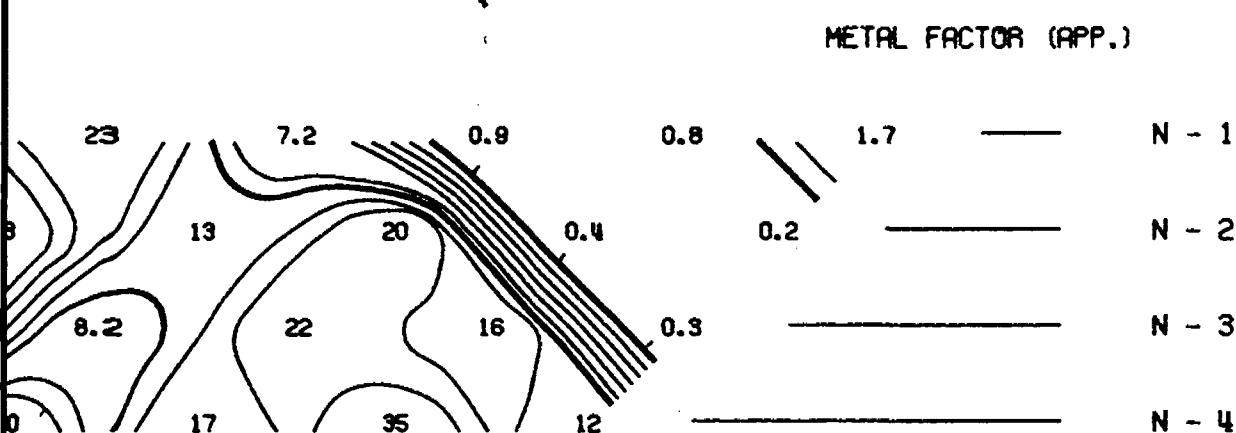
INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER



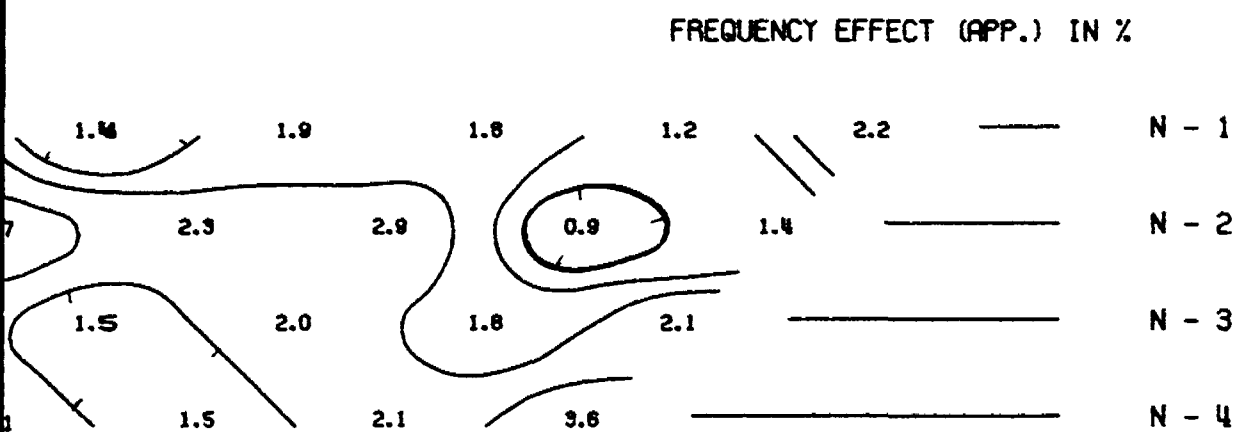
RESISTIVITY (APP.) IN OHM FEET / 2π

8N 10N 12N 14N 16N 18N



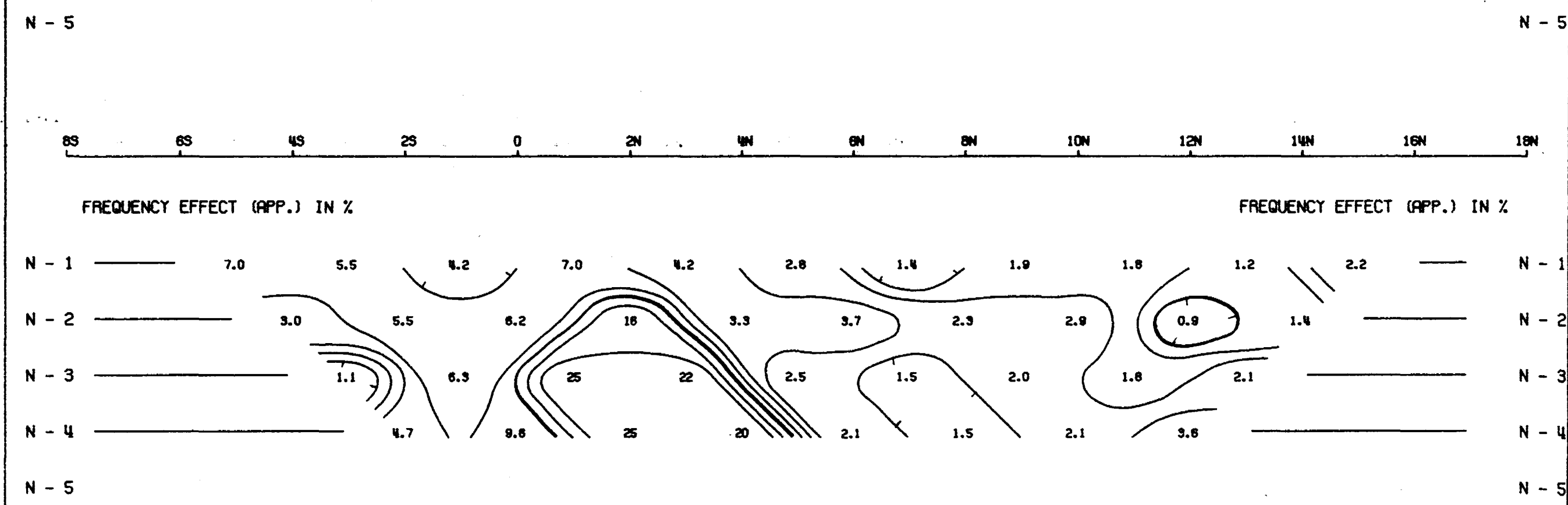
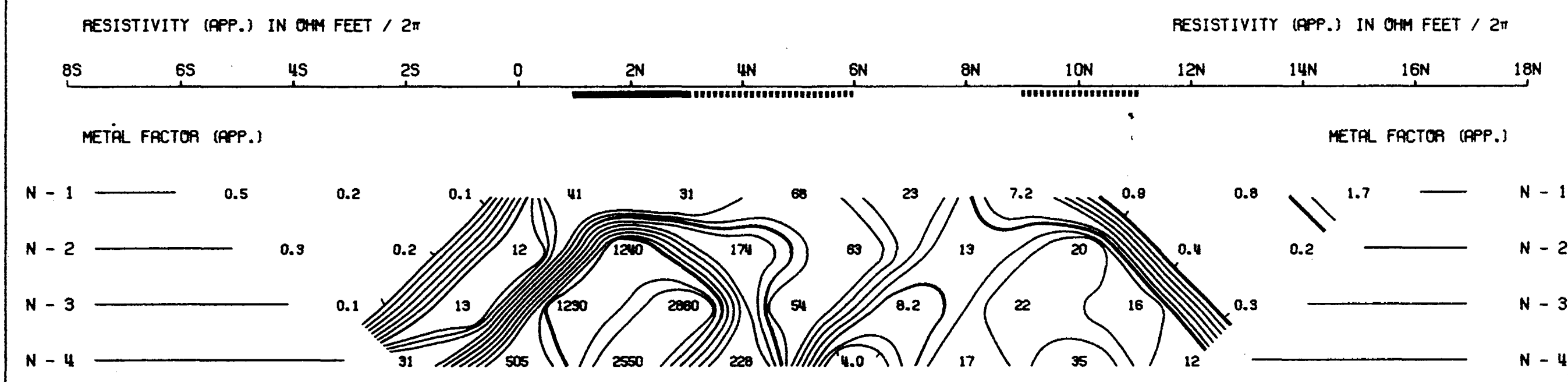
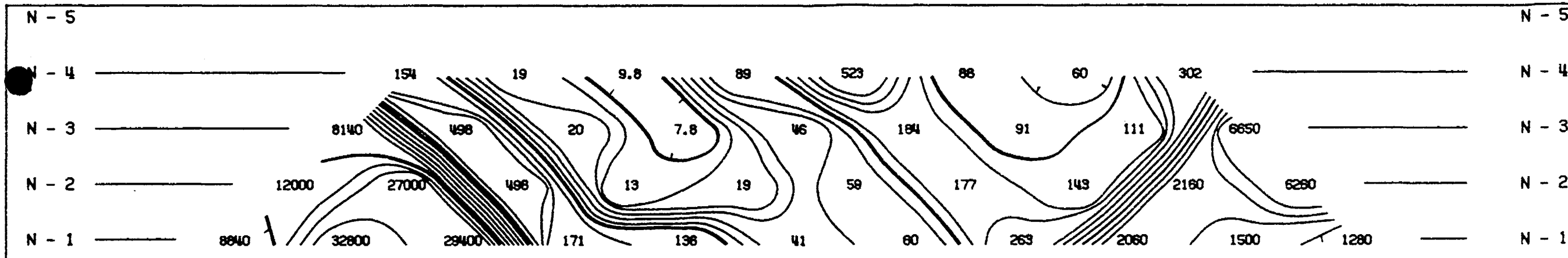
METAL FACTOR (APP.)

8N 10N 12N 14N 16N 18N



FREQUENCY EFFECT (APP.) IN %

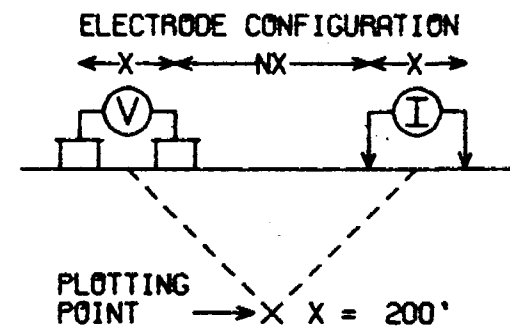
8N 10N 12N 14N 16N 18N



STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO. - 28W



SURFACE PROJECTION
OF ANOMALOUS ZONES

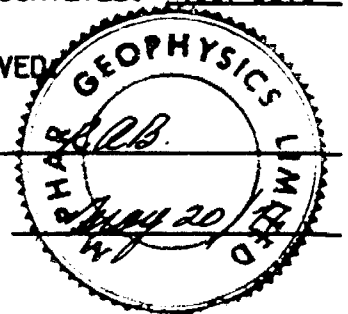
DEFINITE
PROBABLE
POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: MAR 1971

APPROVED: _____

DATE: _____

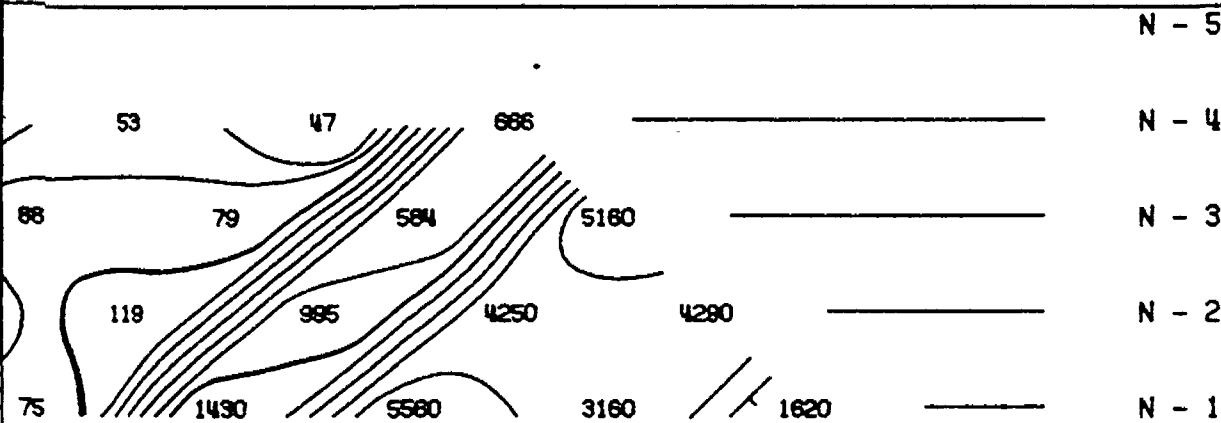


NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

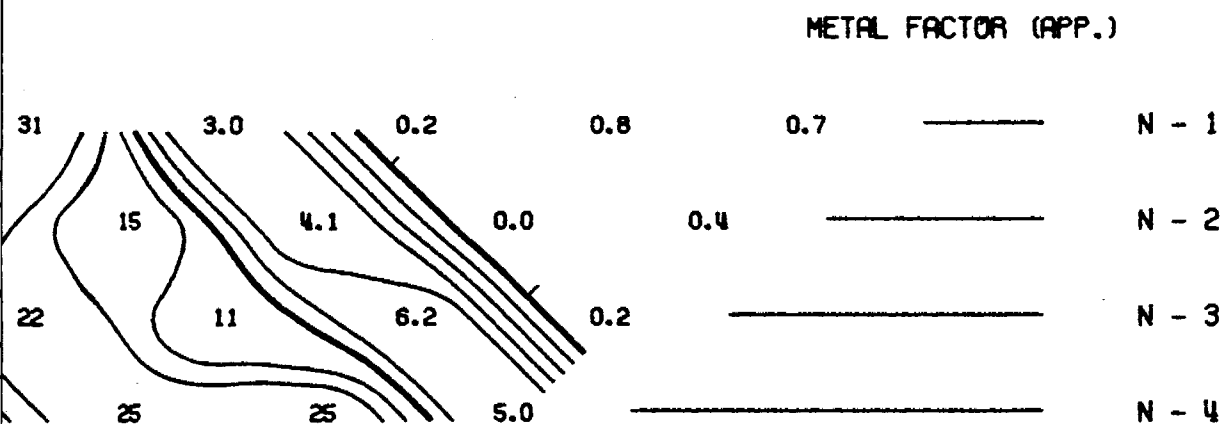
INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER



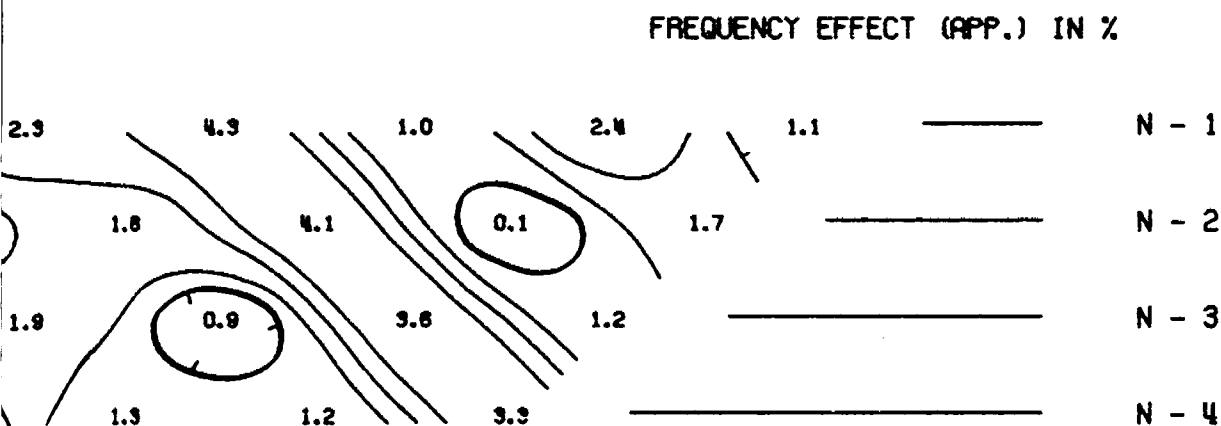
RESISTIVITY (APP.) IN OHM FEET / 2π

8N 10N 12N 14N 16N 18N



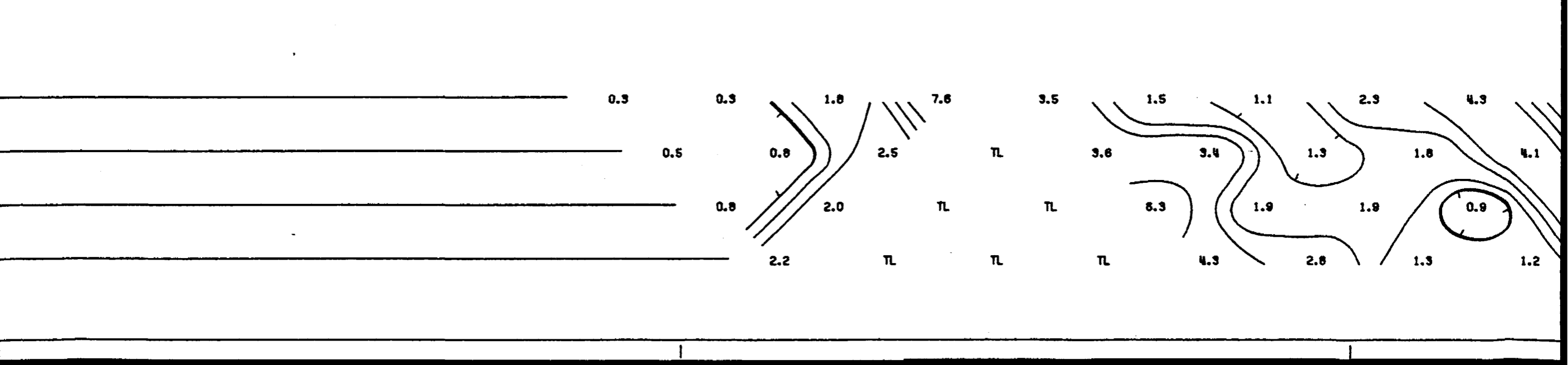
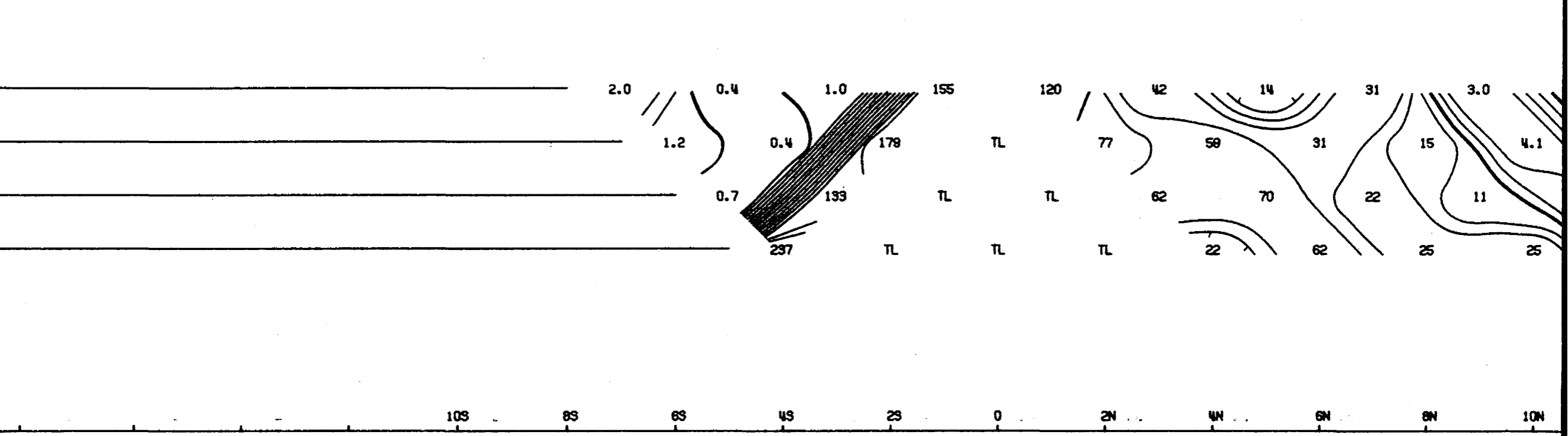
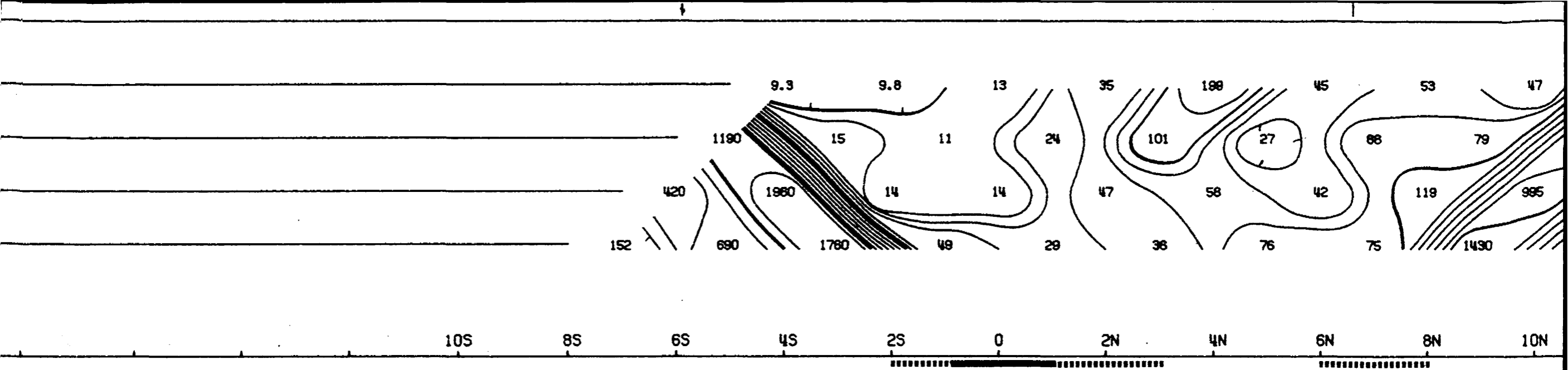
METAL FACTOR (APP.)

8N 10N 12N 14N 16N 18N



FREQUENCY EFFECT (APP.) IN %

8N 10N 12N 14N 16N 18N



N - 5

N - 4

N - 3

N - 2

N - 1

RESISTIVITY (APP.) IN OHM FEET / 2π

105

85

152

METAL FACTOR (APP.)

N - 1

N - 2

N - 3

N - 4

N - 5

2.0

1.2

105

85

FREQUENCY EFFECT (APP.) IN %

N - 1

N - 2

N - 3

N - 4

N - 5

0.3

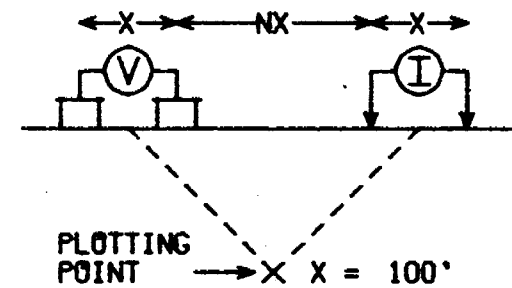
0.5

STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO. - 28W

ELECTRODE CONFIGURATION



SURFACE PROJECTION
OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: MAR 1971

APPROVED:

DATE:



NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER

N - 5

N - 4

N - 3

N - 2

N - 1

N - 1

N - 2

N - 3

N - 4

N - 5

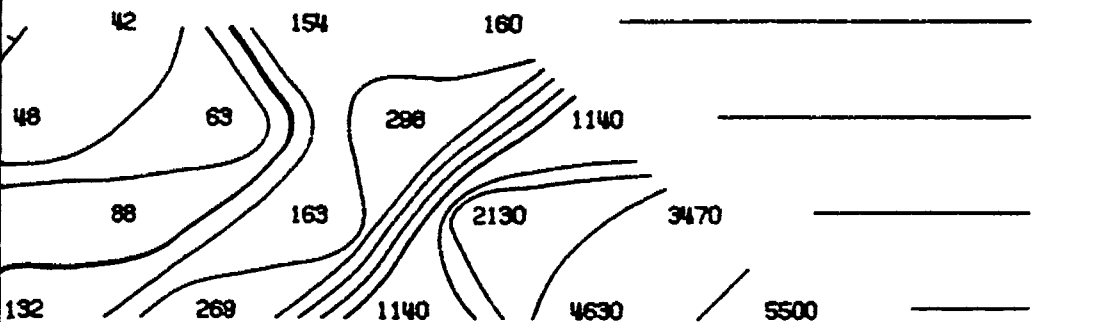
N - 1

N - 2

N - 3

N - 4

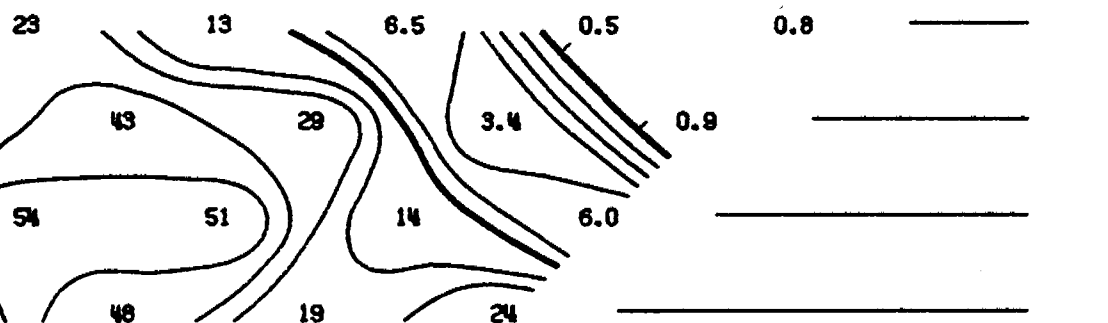
N - 5



RESISTIVITY (APP.) IN OHM FEET / 2π

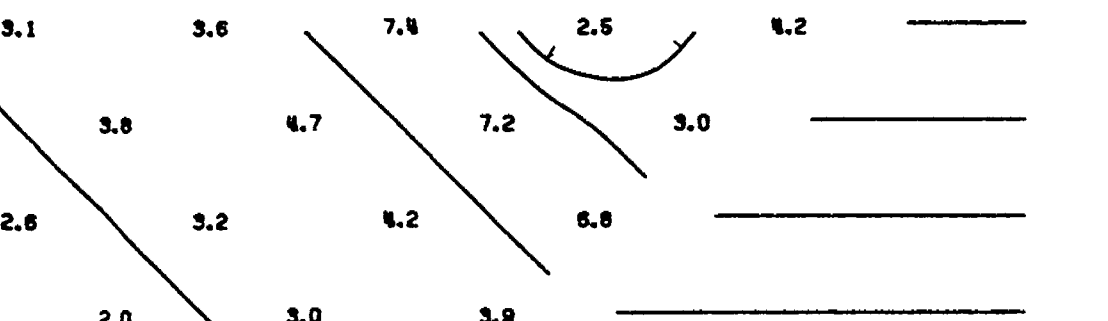
7N 8N 9N 10N 11N 12N

METAL FACTOR (APP.)

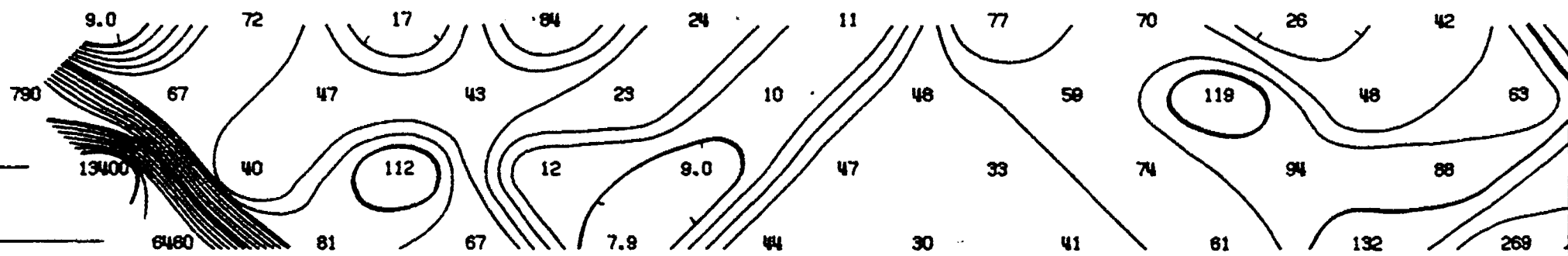


7N 8N 9N 10N 11N 12N

FREQUENCY EFFECT (APP.) IN %



NR



5S

4S

3S

2S

1S

0

1N

2N

3N

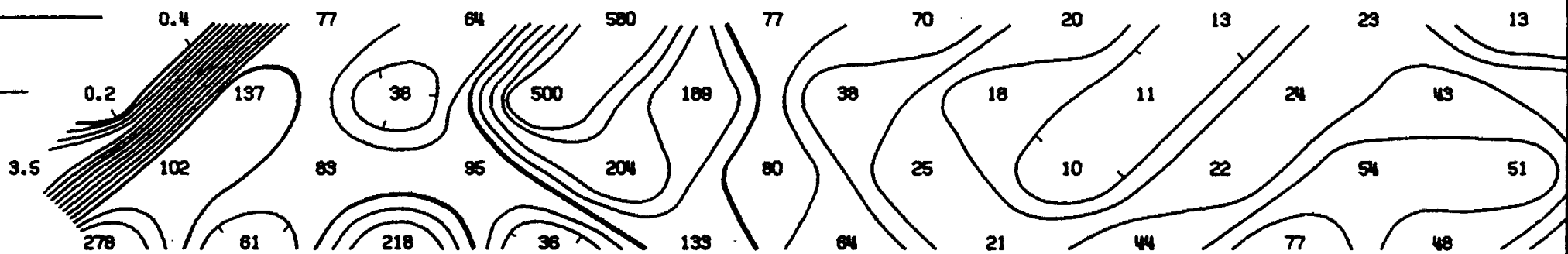
4N

5N

6N

7N

NR



5S

4S

3S

2S

1S

0

1N

2N

3N

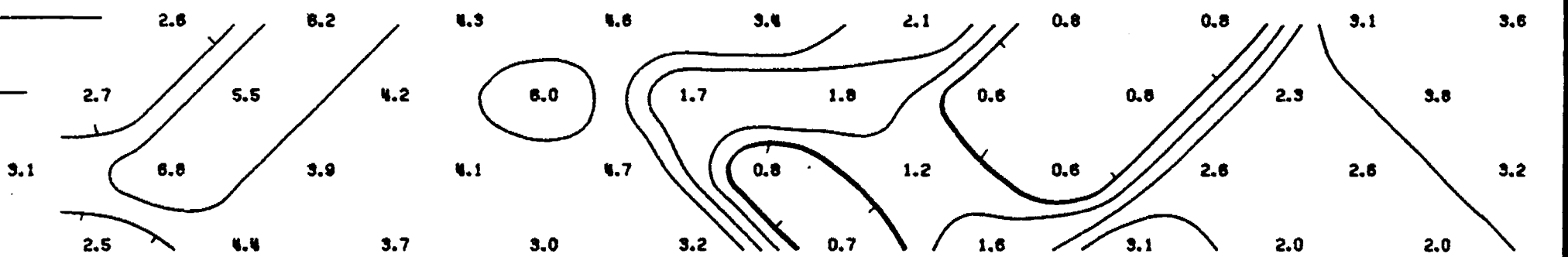
4N

5N

6N

7N

NR



5S

4S

3S

2S

1S

0

1N

2N

3N

4N

5N

6N

7N

N - 5

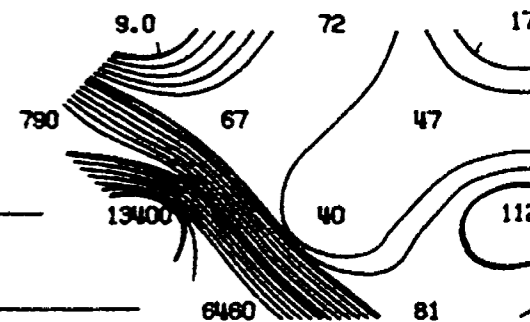
N - 4

N - 3

N - 2

N - 1

NR



RESISTIVITY (APP.) IN OHM FEET / 2π

55 45 35 25 15 0

METAL FACTOR (APP.)

N - 1

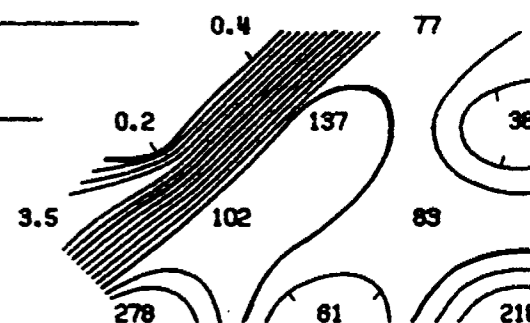
N - 2

N - 3

N - 4

N - 5

NR



55 45 35 25 15 0

FREQUENCY EFFECT (APP.) IN %

N - 1

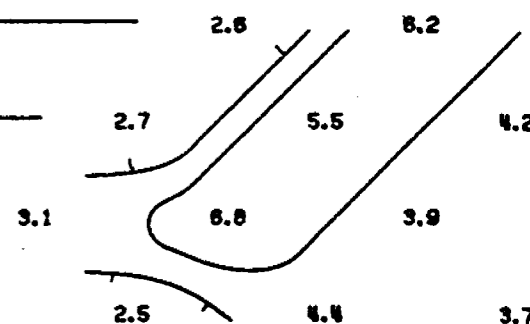
N - 2

N - 3

N - 4

N - 5

NR



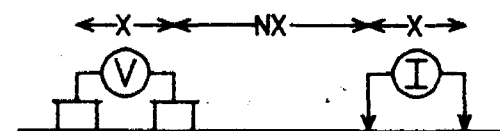
STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.

LARDER LAKE M.D., ONTARIO

LINE NO. - 32W

ELECTRODE CONFIGURATION



PLOTTING POINT → X X = 200'

SURFACE PROJECTION OF ANOMALOUS ZONES

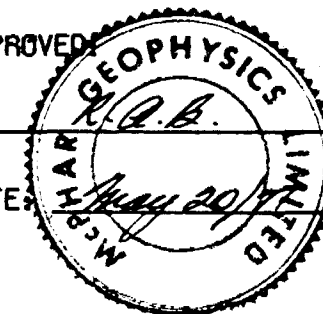
DEFINITE
 PROBABLE
 POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: MAR 1971

APPROVED

DATE



NOTE: CONTOURS AT LOGARITHMIC INTERVALS
 1.-1.5-2.-3.-5.-7.5-10

McPHAR GEOPHYSICS

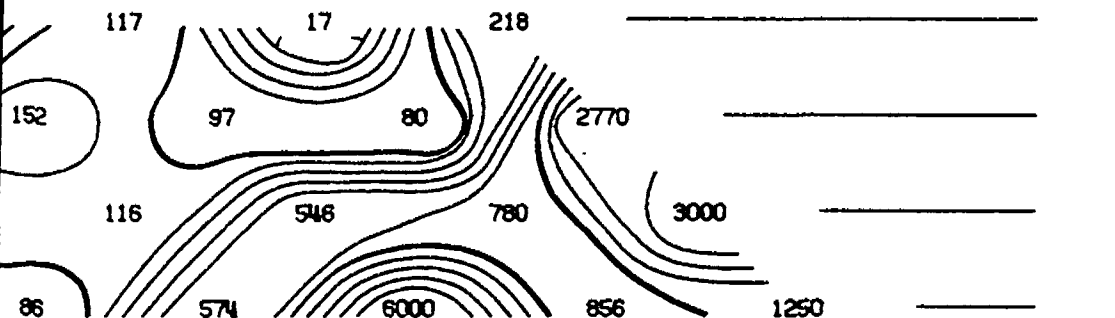
INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER

N - 5
 N - 4
 N - 3
 N - 2
 N - 1

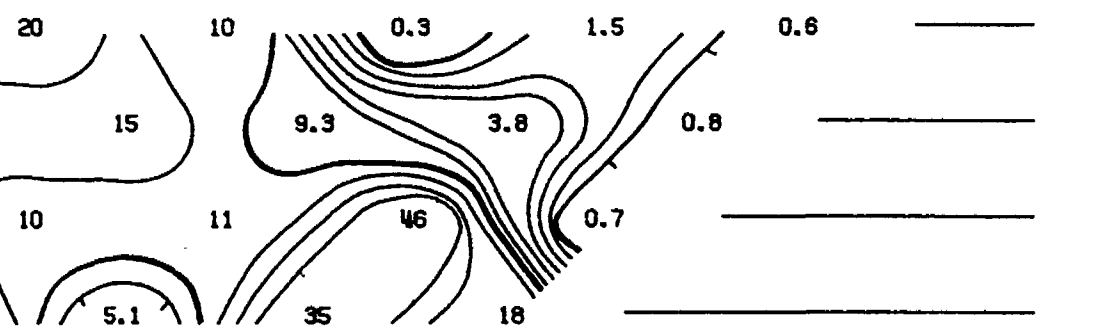
N - 1
 N - 2
 N - 3
 N - 4
 N - 5

N - 1
 N - 2
 N - 3
 N - 4
 N - 5



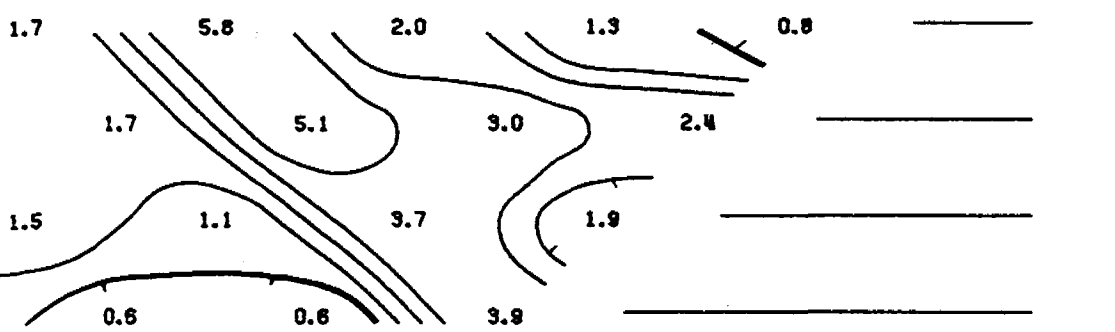
RESISTIVITY (APP.) IN OHM FEET / 2π

8N 10N 12N 14N 16N 18N



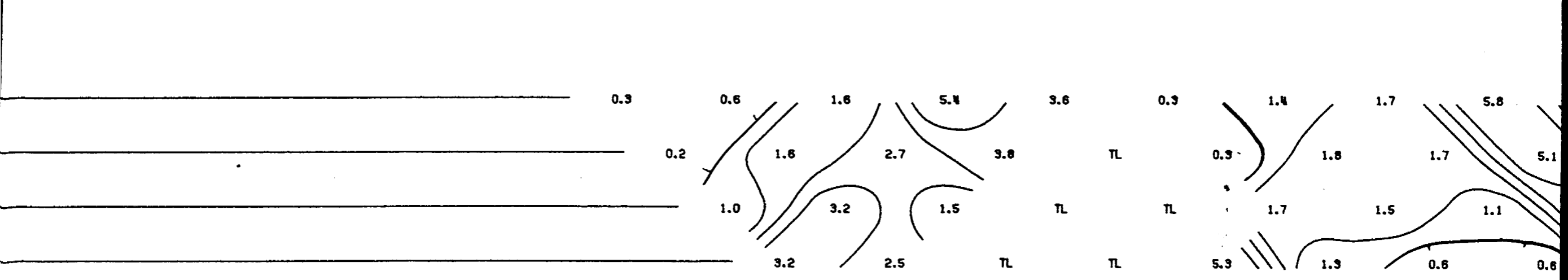
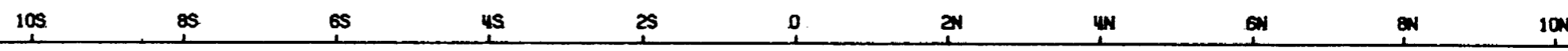
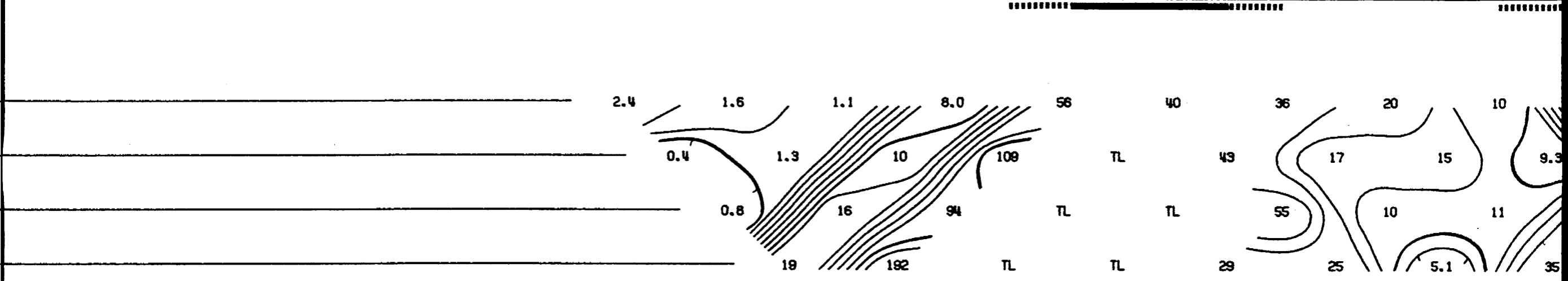
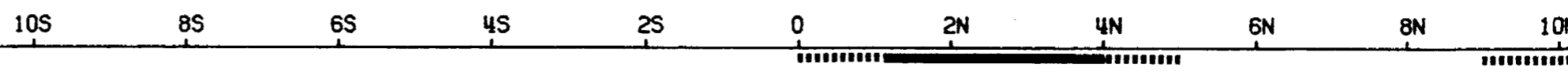
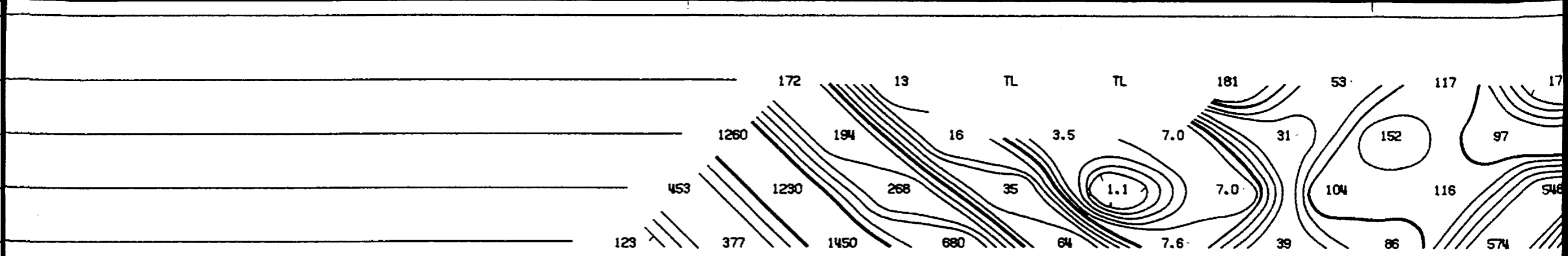
METAL FACTOR (APP.)

8N 10N 12N 14N 16N 18N



FREQUENCY EFFECT (APP.) IN %

8N 10N 12N 14N 16N 18N



N - 5

N - 4

N - 3

N - 2

N - 1

RESISTIVITY (APP.) IN OHM FEET / 2π

10S

8S

6S

123

453

METAL FACTOR (APP.)

N - 1

N - 2

N - 3

N - 4

N - 5

10S

8S

6S

2.4

0.4

FREQUENCY EFFECT (APP.) IN %

N - 1

N - 2

N - 3

N - 4

N - 5

0.3

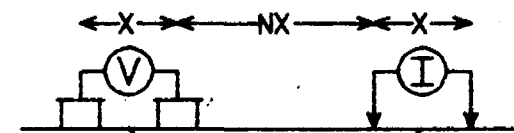
0.2

STUMP MINES LIMITED

LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.
LARDER LAKE M.D., ONTARIO

LINE NO.- 36W

ELECTRODE CONFIGURATION



PLOTTING POINT → X X = 200'

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
 PROBABLE
 POSSIBLE

FREQUENCIES: 0.31-5.0 HZ

DATE SURVEYED: MAR 1971

APPROVED:

NOTE: CONTOURS AT LOGARITHMIC INTERVALS
1.-1.5-2.-3.-5.-7.5-10

DATE: MAR 20 1971

McPHAR GEOPHYSICS

INDUCED POLARIZATION AND RESISTIVITY SURVEY

NOTE: THIS PLOT WAS PRODUCED WITH AN IBM 360/65 COMPUTER AND A CALCOMP PLOTTER

N - 5

N - 4

N - 3

N - 2

N - 1

N - 1

N - 2

N - 3

N - 4

N - 5

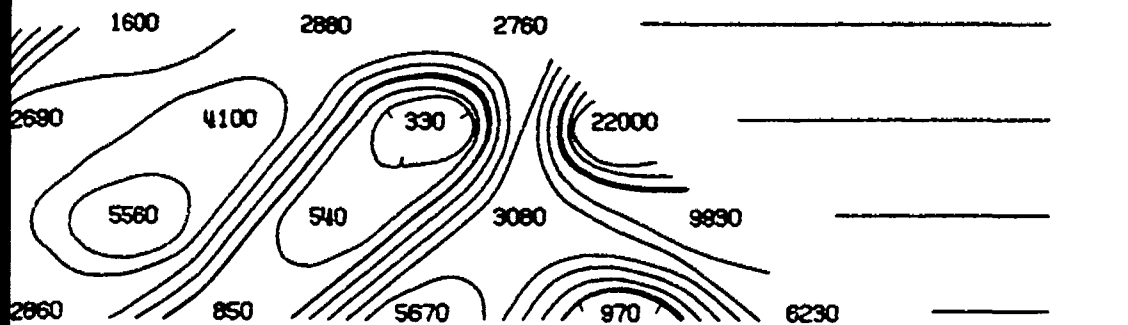
N - 1

N - 2

N - 3

N - 4

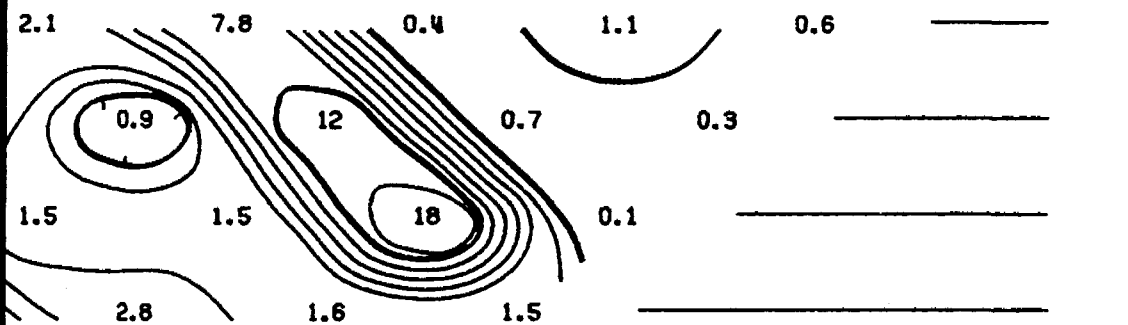
N - 5



RESISTIVITY (APP.) IN OHM FEET / 2^m

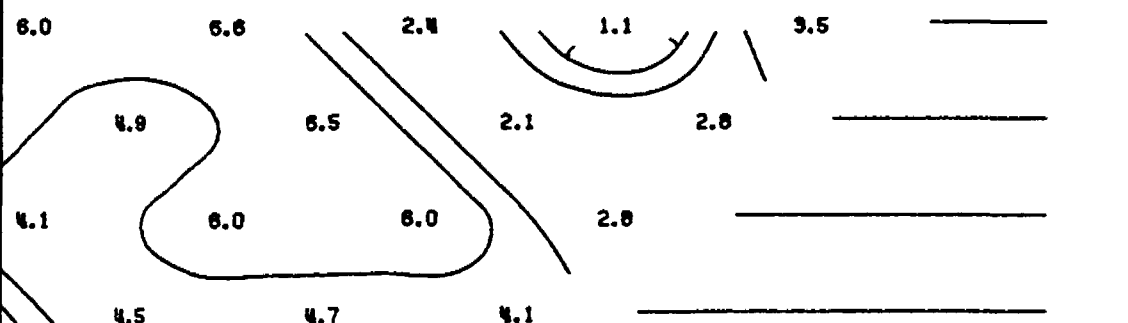
12N 14N 16N 18N 20N 22N

METAL FACTOR (APP.)

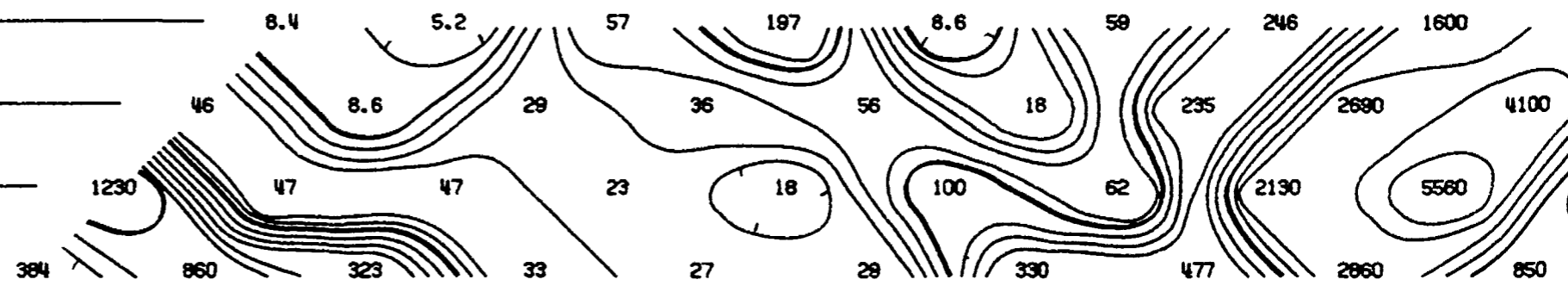


12N 14N 16N 18N 20N 22N

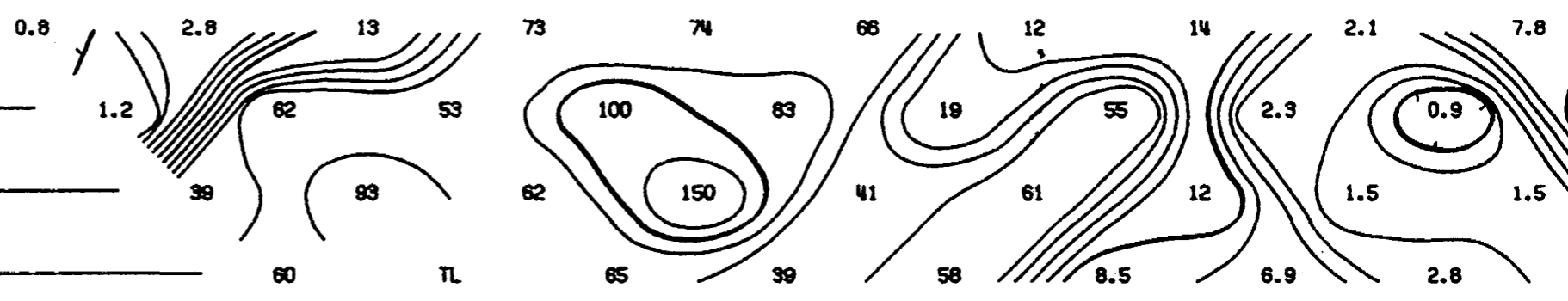
FREQUENCY EFFECT (APP.) IN %



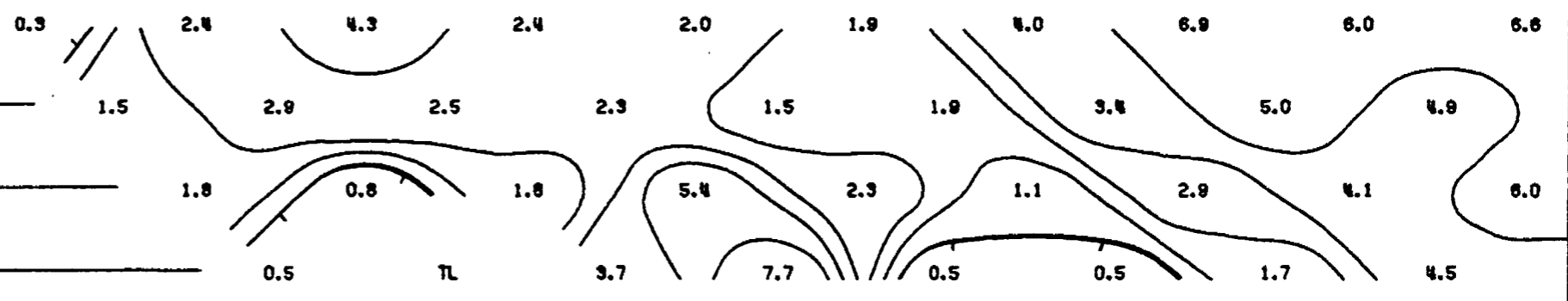
12N 14N 16N 18N 20N 22N



8S 6S 4S 2S 0 2N 4N 6N 8N 10N 12N



8S 6S 4S 2S 0 2N 4N 6N 8N 10N 12N



N - 5

N - 4

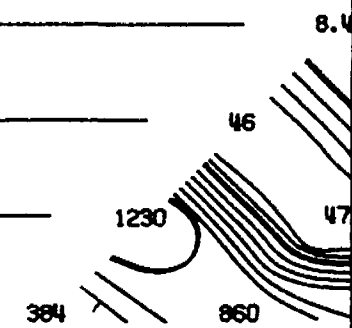
N - 3

N - 2

N - 1

RESISTIVITY (APP.) IN OHM FEET / 2π

85 65 45 25



METAL FACTOR (APP.)

N - 1

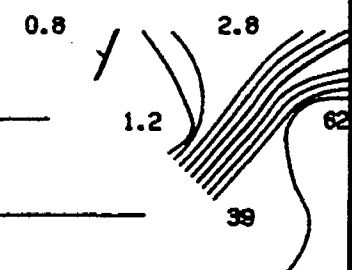
N - 2

N - 3

N - 4

N - 5

85 65 45 25



FREQUENCY EFFECT (APP.) IN %

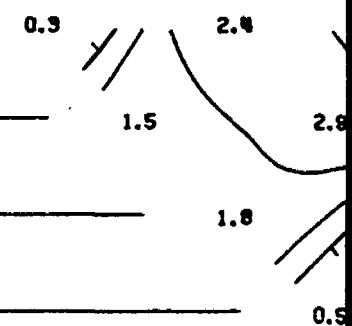
N - 1

N - 2

N - 3

N - 4

N - 5



MONTROSE TWP. (M.237)

THE TOWNSHIP OF
OF

MIDLOTHIAN

claim map.
DISTRICT OF
TIMISKAMING

LARDER LAKE
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
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	—

NOTES

400' surface rights reservation around all lakes and rivers.

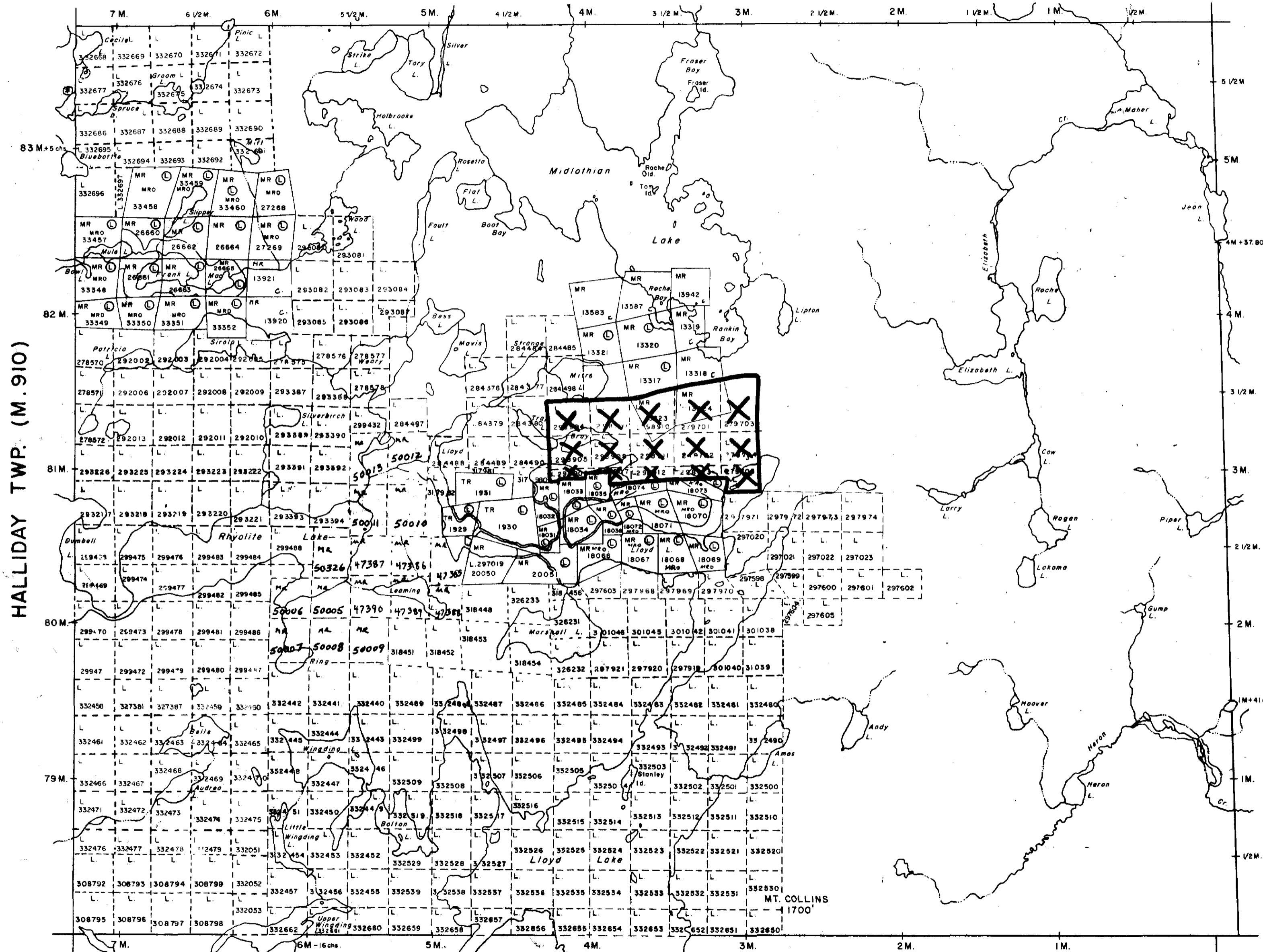
DATE OF ISSUE

NOV 17 1971

ONT. DEPT. OF MINES
AND NORTHERN AFFAIRS

PLAN NO. **M.235**

ONTARIO
DEPARTMENT OF MINES
AND NORTHERN AFFAIRS



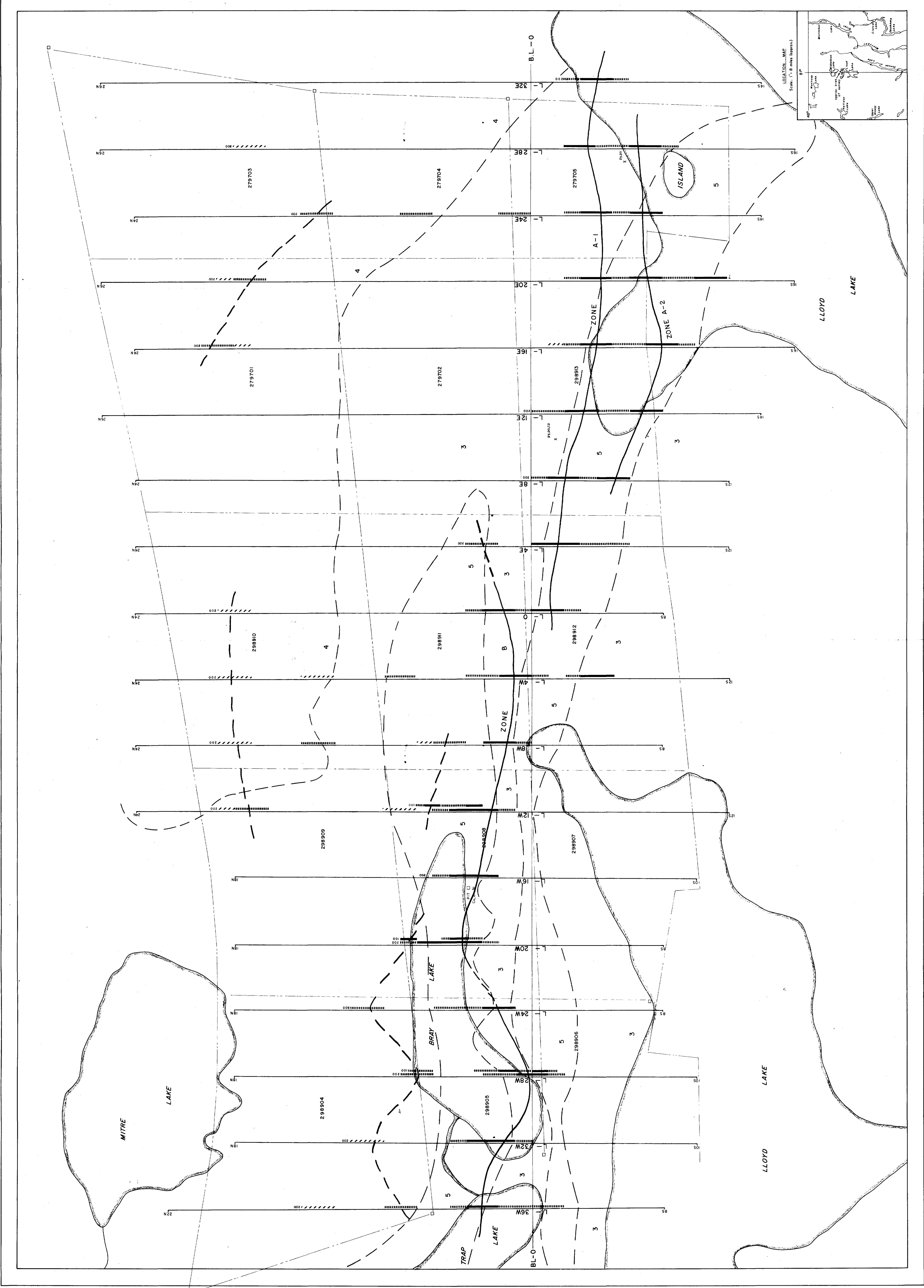
HALLIDAY TWP. (M.910)

DOON TWP. (M.217)

RAYMOND TWP. (M.244)



McPHAR GEOPHYSICS
 INDUCED POLARIZATION AND RESISTIVITY SURVEY
 PLAN MAP



STUMP MINES LIMITED
 LLOYD LAKE PROPERTY, MIDLOTHIAN TWP,
 LARDER LAKE M.D., ONTARIO
 SCALE
 ONE INCH EQUALS TWO HUNDRED FEET

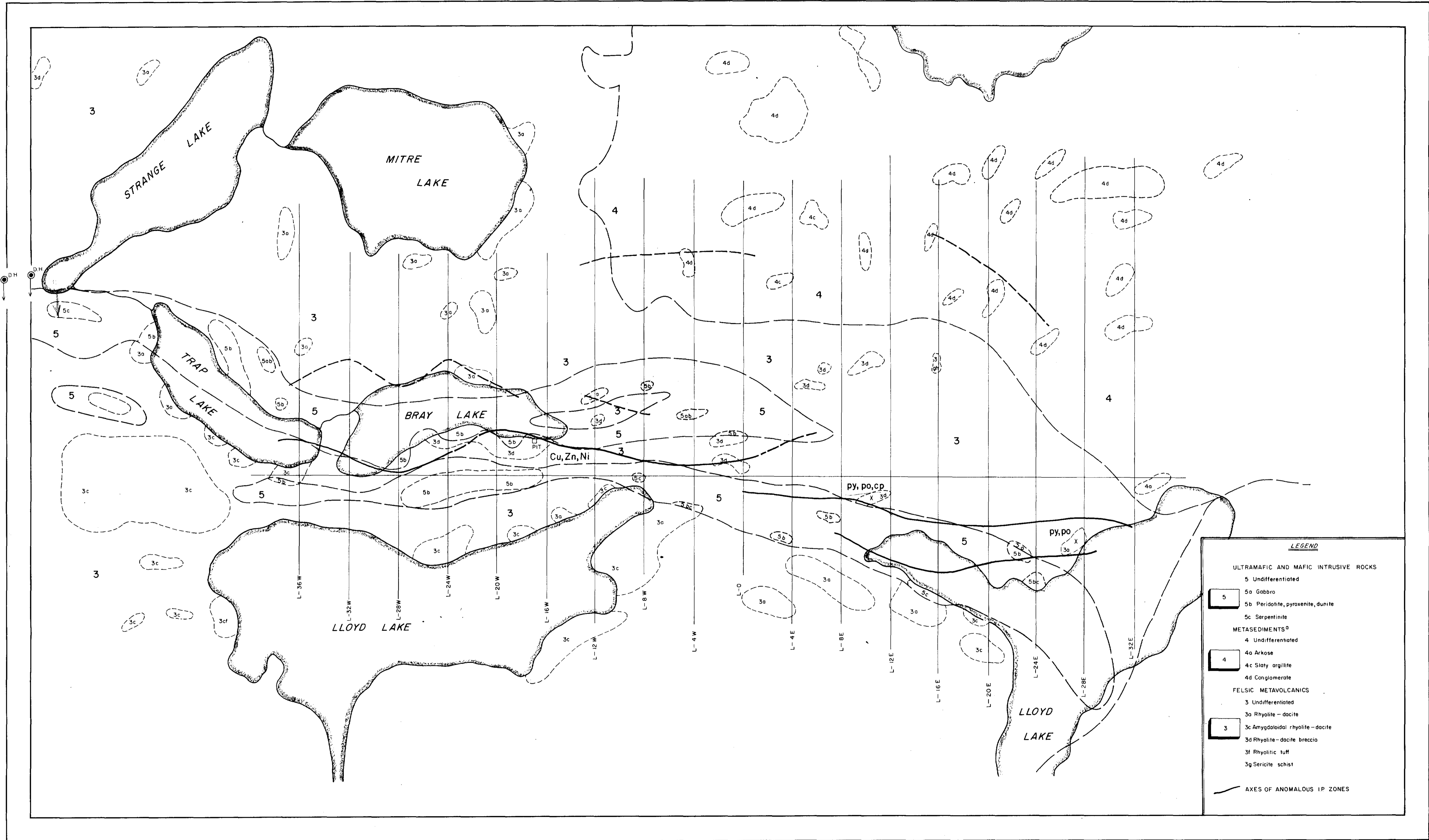
SURFACE PROJECTION
 OF ANOMALOUS ZONES
 POSSIBLE
 POSSIBLE
 Number of the end of anomaly
 indicates staked used.

LEGEND
 RHYOLITE, BRECCIA, ETC.
 CLASTIC SEDIMENTS
 GABBRO, PEGMATITE

AXES OF ANOMALOUS IP ZONES

McPHAR GEOPHYSICS

GEOLOGY
PLAN MAP



LEGEND

ULTRAMAFIC AND MAFIC INTRUSIVE ROCKS	
5	Undifferentiated
5a	Gabbro
5b	Peridotite, pyroxenite, dunite
5c	Serpentinite
METASEDIMENTS ^o	
4	Undifferentiated
4a	Arkose
4c	Slaty argillite
4d	Conglomerate
FELSIC METAVOLCANICS	
3	Undifferentiated
3a	Rhyolite - dacite
3c	Amygdaloidal rhyolite - dacite
3d	Rhyolite - dacite breccia
3f	Rhyolitic tuff
3g	Sericite schist
— AXES OF ANOMALOUS IP ZONES	

STUMP MINES LIMITED
LLOYD LAKE PROPERTY, MIDLOTHIAN TWP.,
LARDER LAKE M.D., ONTARIO

SCALE
ONE INCH EQUALS FOUR HUNDRED FEET

NOTE: GEOLOGY FROM O.D.M. MAP No. P 386

