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APPENDICES

LIST OF ILLUSTRATIONS

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A GEOLOGICAL, GEOPHYSICAL, AND GEOCHEMICAL REPORT

ON THE

ALLIE GROUP

OMINECA MINING DIVISION

54° 127° NW

30 MILES SOUTHWEST OF SMITHERS, B.C.

93 L / 12 W

FOR

EVERGREEN EXPLORATIONS LTD.

AND

PACIFIC PETROLEUMS LTD.

BY

R. E. CHAPLIN, P.ENG.

AND

R. W. WOOLVERTON, P.ENG.

BETWEEN

JULY 11th., and SEPTEMBER 24th., 1969

November 28th., 1969 Vancouver, B.C.

APPENDIX I

AIRBORNE MAG - EM PROFILES

LOCATION MAP

ALLIE CLAIMS

" = 4 miles

INTRODUCTION

LOCATION

The forty-four Allie claims are on the north side of Telkwa Pass ...ut 30 miles southwest of Smithers, B.C. at longitude 127° 49' and ...ude 54° 34'. Normal access is by helicopter from the Okanagan base ...t Smithers. Logging roads from Terrace have been extended up the ...Ketz River to within five miles of the property. However, there is ...,500 foot elevation difference between the end of the road and the property. An access road from the logging road could be built to the property although the first few miles would be through heavy timber.

The claim group is between 4,000 and 5,000 feet above sea level and ...partly below and partly above tree line. Local topography is not ...icularly rugged. However there are nearby 8,000 foot peaks with spectacular hanging glaciers. The Telkwa Pass is a marked topographic feature of the area. It cuts through the Hazelton mountains forming a minimum 2,000 foot valley immediately adjacent to the claim group. Limonite Creek drains the Telkwa Pass Valley.

HISTORY

The three deposits of limonite (transported gossans) first drew attention just after the turn of the century when it appeared likely the railroad to the coast would be routed through Telkwa Pass. One gossan is still crown granted. These claims are immediately south of the Allie Group and are controlled by Terrace interests. The deposits continued to attract attention as late as 1957 when Showano Iron Mines drilled 27 holes, presumably in the crown granted gossan.

In 1962, Noranda Exploration optioned claims covering the upper gossan. A short drill hole north of the upper gossan failed to locate its source. The coincident Mo and Cu silts in the streams draining the general area attracted the attention of a Kennco backed syndicate in 1965. Apparently, Falconbridge also investigated the area in 1968.

The Allie Group of 44 claims was staked by Evergreen Explorations Ltd., on April 18, 1969 and recorded on the 2nd., of May. They were optioned by Pacific Petroleums Ltd., in July.

1969 PROGRAM

The presence of two extensive transported gossans on the Allie claims indicate a sheared or faulted sulfide source. Obviously, the sulfide source can be either:

1) massive sulfides, possibly with associated economic metals or
2) disseminated sulfides, particularly pyrite, associated with a "porphyry environment" or
3) indigenous pyrite of no economic significance related to the contact of the Howson Batholith.

In order to determine the nature of the source of the gossans, an eight-mile grid was cut with lines spaced 400 feet apart. This grid was soil sampled and geologically mapped. Radem, magnetometer, and Induced Polarization surveys were conducted. An airborne magnetometer and electromagnetic survey was carried out to check for possible near surface porphyry environments.

The I.P. survey was supervised and interpreted by R. E. Chaplin, P.Eng., of Professional Geologic Services of Vancouver, B.C. The airborne field work was done by Lockwood Survey Corporation Limited of Toronto.

All other work was done by Evergreen Explorations Ltd., of Burnaby under the supervision of R. W. Woolverton, P.Eng.

GEOLOGY

REGIONAL GEOLOGY

The area of interest is near the western contact of the Howson Batholith, an Upper Cretaceous to Lower Tertiary granite pluton some ten miles long. This batholith intrudes Jurassic and Cretaceous volcanic, pyroclastic, and sedimentary rocks of the Hazelton Group along the eastern flank of the Coast Crystalline Belt. Recent work has shown that the younger stocks and batholiths such as the Howson pluton are closely related in time and space to the "porphyry" mineralization of the district. The Serb Creek molybdenum deposit is adjacent to the Howson Batholith and about six miles north-east of the Allie Property

LOCAL GEOLOGY

GENERAL

The local geology is generalized on the Smithers - Fort St. James G.S.C. Map 971A.

The oldest rocks in the area are a series of andesitic flows belonging to the Hazelton Group. A septa or re-entrant of these rocks underlies the central portion of the Allie claim group. Granite and granodiorite of the Howson Batholith outcrop both east and west of this septa.

Either a small irregular stock or a dyke swarm of biotite felspar porphyrite intrudes the volcanic septa at its eastern contact with the granodiorite. Notably acid porphyry intrusives with secondary biotite

are characteristically associated with the porphyry Cu Mo mineralization of the Smithers-Babine area.

Numerous dykes, both pre and post porphyrite, cut the volcanics and granodiorite. The pre-porphyrite dykes include quartz porphyry and possibly diorite. Some of the quartz porphyry dykes are highly sericitized. The diorite dyke, a major 100 to 200 foot wide feature, trends north south and is highly magnetic. As outlined by the airborne magnetic survey, the dyke is over two miles long. Post porphyrite dykes include andesite porphyry and gabbro.

ROCK TYPES

Andesite:

The central part of the Allie claims is underlain by green to purple andesite flows. These rocks appear to be the oldest mapped and probably belong to the Jurassic-Cretaceous Hazelton Group. On the Allie property they have been fractured and altered by the adjacent intrusive activity. The resulting septa has been pervasively chloritized. Both stringers and clots of chlorite were noted. The andesites are both magnetic and non-magnetic. Pyrite is fairly widespread.

Several areas of quartz-sericite alteration were noted near the western flank of the septa. Some of these may be altered dykes intruding the andesite. However, one of the zones (8N25W) is more likely an alteration of fractures in the andesite. Pyritization also accompanies the alteration. Significantly, an adjacent I.P. anomaly was outlined at depth.

Granodiorite:

There are two varieties of the main intrusive rock. The granodiorite underlying the western edge of the map area appears slightly more siliceous

and less mafic than the granodiorite underlying the eastern third of the grid. Insufficient regional mapping was done to determine whether the two areas are part of the same intrusive mass. It is assumed that they are and that the compositional differences are due to local variations.

In general, the granodiorite is medium-grained although fine-grained to aplitic phases were noted. The primary biotite is usually partly chloritized, however, fresh secondary biotite was noted in several areas, and is attributed to adjacent unexposed biotite felspar porphyrite dykes. Some specimens of the granodiorite are non-magnetic while others contain visible disseminated magnetite. Minor pyrite was noted throughout the intrusive areas with occasional specks of chalcopyrite. There are also granodiorite dykes which cut the andesite flows.

Diorite:

A highly magnetic diorite intrusive zone cuts across the property from north to south. It is outlined remarkably well by both the airborne and ground magnetics. Its width varies from about 50 to 100 feet. Where it is exposed in the creek near the zero north line there are several parallel vertical dykes each 4 or 5 feet wide. The diorite's relation in time to the mineralization and alteration is uncertain. Because it is pyritized it is probably pre-porphyrite.

The diorite is medium-grained and equigranular with an abundance of biotite making the rock quite dark. However, it has a very fresh appearance except for the presence of pyrite. Where the mafics have been slightly chloritized, the presence of secondary biotite is suggested. Magnetite is disseminated throughout the rock unit. Interestingly, the magnetite did not give an I.P. response.

Quartz Porphyry:

Quartz porphyry dykes cut both the granodiorite and the andesite flows but were not observed cutting the biotite porphyrite stock. Several intensely quartz-sericitized zones in the andesite flows are believed to be altered quartz porphyry dykes.

The quartz porphyry dykes are very light-colored and fine-grained. The groundmass is often aplitic. The quartz eyes usually measure only a few millimeters but give the rock an obvious porphyritic texture. The fractures in one specimen were coated with magnetite.

Biotite Felspar Porphyrite:

This unit is believed to be the source rock of the porphyry environment. It is a deceptively fresh rock composed primarily of felspar phenocrysts in a siliceous aphanitic groundmass. The secondary biotite crystals are unaltered and usually perfectly shaped. Only the occasional chloritized grain of primary biotite emphasizes the altered nature of this rock unit.

The biotite felspar porphyrite is concentrated in the area of the upper gossan and Noranda's drill hole. It forms either a small stock or dyke swarm in an irregularly circular area about 2,000 feet across. The southern extent of the porphyrite complex was not established.

Several dykes of porphyrite cut the andesite flows north of camp near the falls. One small dyke was noted cutting the granodiorite at 16N/18E. Interestingly, weak secondary biotite was present as well as a rock geochem copper high but the phenomenon was restricted to one grid station.

Alteration and Mineralization:

Both the granodiorite and the volcanic septa have been propylitized resulting in widespread chlorite and epidote. This type of alteration is

often associated with porphyry mineralization. However, it is also commonly developed along intrusive contacts and other geologic environments of uneconomic interest so that, by itself, it is of little interest.

The biotization of the felspar porphyry dyke swarm or stock is economically the most significant alteration present. As noted previously, biotite felspar porphyrite (i.e. biotized felspar porphyry) is characteristically associated with all the known porphyry copper-molybdenum deposits of the Smithers-Babine area. Secondary biotite was noted in granodiorite at 8S/8E, 4N/17?E and 8N/15W (a granodiorite dyke cutting the andesite flows) where it is assumed it is related to nearby unexposed porphyrite. Significantly, there are I.P. anomalies at depth at both 8S/8E and 8N/15W. Possible incipient secondary biotite was observed in several specimens of the andesite flows but, in general, the biotization is restricted to the felspar porphyry complex and adjacent granodiorite.

Quartz sericite alteration is present primarily as an alteration of quartz porphyry dykes cutting the volcanic septa. This type of alteration is also commonly associated with porphyry deposits of the area. It is therefore interesting to note that the concentration of quartz sericitized dykes is in the general vicinity of the buried northwest limb of the I.P. halo.

Mineralization within the grid area is dramatically emphasized by the two transported gossans. The upper gossan is oval-shaped and about 300 feet by 400 feet, whereas the lower gossan on Many Bear Creek is only about 200 feet wide but extends for upwards of 1,000 feet along the Creek Very little vegetation is present over these large rusty areas which are

reportedly about 10 feet thick.

Ground water is still precipitating iron oxide at both the upper and lower gossans. The lower gossan could be attributed to leaching of pyrite present in the numerous shear zones observed for about 2,000 feet along the creek above the gossan. However, the upper gossan does not have an obvious source. It is, however, adjacent to the I.P. zone and the proposed drill site within the porphyrite complex.

Pyrite is fairly widespread especially within the volcanic septa and is probably responsible for most of the I.P. halo. Chalcopyrite was noted at several locations in the granodiorite, mainly associated with quartz stringers. As noted above, there are numerous pyritic shear structures along the creek from about 8N/20W to about 16N/4W. Four grab samples each over about 4 or 5 feet were collected from a few of these shears. The results ranged from 0.17% Cu to 0.03%. Silver values ranged from trace to 0.3 ounces per ton.

Late Dykes:

Post mineral dykes include andesite porphyry, felspar porphyry and gabbro (basalt). These dykes cut both the granodiorite and the volcanic septa of andesitic flows. However, there is a definite concentration of late dykes in a "swarm" in the granodiorite on the east side of the grid.

Although most of the dykes noted above appear to be definitely late, the felspar porphyry dykes may be related to the porphyrite complex. Similarly, the basalt may be a segregation or fine-grained phase of the diorite.

GEOCHEMISTRY

SOIL SURVEY

SAMPLING PROCEDURE AND ANALYSIS

Soil samples were collected at every 200-foot station on the grid, which has a line spacing of 400 feet. The samples were taken from the "B" horizon using a grub hoe. Where soil samples were unobtainable or of poor quality, rock samples from either outcrop or float were collected. These rock samples were crushed and then treated the same as soils. Unfortunately, high rain fall made it impossible to silt sample the swollen streams.

The samples were shipped to the Barringer Research Laboratory in Vancouver where they were analyzed for total Cu and Mo. The results are plotted on Map #2 which accompanies this report.

RESULTS

Using the standard frequency distribution method, background values of 50 ppm. for copper and 2 ppm. for molybdenum were obtained. Thus, over 100 ppm. for Cu and 4 ppm. for Mo can be considered anomalous.

Several anomalous zones were outlined by the survey as shown on Map #2. However, only two of these anomalies are considered to be areas of interest. One of these areas starts near camp at 8N/4W and extends irregularly to the southeast to 8S/4E. This anomaly appears to be mainly within the porphyrite complex. It is also adjacent to the I.P. feature which would be tested by one of the proposed drill holes. It is anomalous in both copper and molybdenum and is adjacent to the upper gossan so that it may reflect the sulfide source of the limonite.

The other significant coincident Mo - Cu high is at 4N/22W and may be part of a discontinuous zone which extends to 16N/14W. This zone is adjacent and downhill from the mag.-I.P. complex which is centered at about 8N/16W.

A third zone of possible importance is suggested near the northwest corner of the grid. This area should be investigated if future work is encouraging.

Several Cu high rock samples were collected near the eastern edge of the grid. They are probably related to areas of porphyrite dyke intrusion into the granodiorite. Notably, two of these anomalous rock samples were obtained near observed biotization of either granodiorite or felspar porphyry.

GEOPHYSICS

RADEM SURVEY

The Radem unit used in the survey is a one-man EM radio receiver utilizing the 12 to 24 kilocycle United States Naval Communications Broadcast Stations. It was built by Crone Geophysics Limited, 979 Lakeshore Road East, Port Credit, Ontario. The instrument utilizes higher than normal EM frequencies and is capable of detecting disseminated sulfides. However, due to the high frequency, it is affected by clay and conductive overburden.

SURVEY AND RESULTS

Readings were taken facing westerly using the Cutler Maine station (17.8 Kc) at stations along the grid lines. The results are plotted on Map #3 which accompanies this report.

The most obvious conductor is at 4S/3W and is coincident with the southeast border of the upper gossan. However, oxides are generally poor conductors so that it probably is not caused by the gossan. The conductor is coincident with the eastern edge of the general I.P. zone, however, it is restricted to only one line.

A lineal feature of the Radem map starts at 8S/14W and continues through to 4N/9W. It parallels the magnetic dyke (diorite) and may be a reflection of it. However, it is partly coincident with the surface I.P. trend in that area.

Three areas of possible injected sulphide and probable fracturing are outlined. The first area (8N/24W) is coincident with an I.P. low but

adjacent to the mag.-I.P. -geochem anomaly in the northwest part of the grid. The second area (8N/6W) is adjacent to exposures of widespread shearing. Rock samples from this area assayed 0.17% Cu in one 5-foot grab sample. The third area is within the granodiorite and may be caused by fracturing associated with the numerous dykes.

In summary, a few areas of possible interest were outlined but, in general, the Radem survey results are inconclusive.

AIRBORNE MAG - EM SURVEY

EQUIPMENT, SURVEY, AND DATA REDUCTION

On July 23rd., and 30th., a 76-line mile airborne magnetic and electromagnetic survey of about 25 square miles was completed. The survey area included the Allie Group of mineral claims as shown on Map #5 in the pocket. The equipment and crew were supplied by Lockwood Survey Corporation Limited of Toronto.

Readings of the in and out of phase components of the resultant electromagnetic field plus the vertical magnetic intensity were taken from an FH-1100 helicopter platform. The equipment included a 4300 c.p.s. electromagnetic system and a Gulf Mark III magnetometer. The receiver coils and magnetometer head were carried in a 30-foot bird suspended beneath the helicopter on a 100-foot cable. Flying height was maintained at about 220 feet above the ground and the bird travelled at about 100 feet above the ground. Terrain clearance was measured by a Bonzar radio altimeter and recorded on the E.M. tapes. A Gulf recorder was used for the magnetometer and the EM system was linked to a Taylor recorder in which the conductors were recorded in positive values.

Flight lines were oriented east-west where possible. The lines were approximately one-quarter of a mile apart. However, the steep terrain made both line direction and terrain clearance difficult to maintain. Because the survey area is largely mountainous, the flight lines were "broken off" when the helicopter was unable to continue climbing up the mountainside. Often, the new line, started after the aircraft had regained a safe flying speed, was not coincident with the old one at the "break off" point. However, a continuous film record was kept of the flight lines so that they were easily plotted.

The picking of the 35mm. film for location points and the data reduction was done by Versatile Drafting Ltd., 448 Seymour Street, Vancouver, B.C. The data was drafted at 1" = ¼ mile and is included as Map #5 with this report.

RESULTS

The E.M. background or noise level is minimal because of the lack of conductive overburden in the mountainous terrain. All the conductors were therefore fairly distinctly indicated on the tapes, which are included as Appendix I of this report.

Seven conductors were outlined by the survey. Two are weak conductors (number one and seven) and probably reflect structural conductivity such as faults. The remaining five conductors appear to be due to injected magnetite or sheared magnetic dykes.

Anomaly number one gave a 10 ppm. response on both the in phase and out of phase components. It is on the flank of a moderately broad 200 gamma magnetic high. This is a weak conductor of secondary importance.

Number two anomaly is a 75 ppm. negative in phase and zero to 5 ppm. positive out of phase EM response coincident with a 300 gamma magnetic fluctuation. It is probably caused by conductive injected magnetite or a sheared and therefore conductive dyke. This type of response is often obtained near porphyry environments, where it is due to injected magnetite.

Anomalies 3, 4, 5, and 6 are very similar to anomaly 2 and also probably reflect conductive magnetic areas.

Anomaly number seven gave a 20 ppm. positive response on the in phase component with no out of phase response. However, it is adjacent to an 80 gamma peak on a broader 200 gamma mag. high. This conductor is of secondary importance.

INDUCED POLARIZATION SURVEY

GENERAL I.P. PROCEDURE

Five men were employed on a 400-foot spread, dipole-dipole survey to 4 and 5 separations, using a Geoscience Incorporated frequency domain induced polarization (I.P.) unit powered by a 1500-watt generator.

Except for local talus conditions, generally adequate currents were obtained to operate a 3.0 - 0.1 cycles per second frequency range of signals to measure the percent frequency effects (P.F.E.'s). Apparent resistivity (ρ) calculations were made in ohm-meters. Potential electrodes consisted of porous pots containing super saturated copper sulphate solution. Drift conditions were minimal and uncertain P.F.E.'s are shown with a range of possible values. Daily receiver to transmitter P.F.E. calibration checks were made to insure reasonable P.F.E. accuracy.

It is suggested that explosives be used in this area for current electrode preparation if further I.P. surveys are to be carried out.

The following personnel worked on the survey:

R. E. Chaplin, P.Eng.,

R. Currie, M.Sc.,

R. O'Brien

D. Gillespie

K. Dyke

Note: R. Chaplin and R. Currie worked as the I.P. Contractor and the remaining personnel were supplied by the client (Evergreen Explorations Ltd.)

SURVEY RESULTS

Induced polarization data is presented on ten maps and four profiles including P.F.E. and apparent resistivity line profiles and plans for each electrode separation. The n = 1 plans may be used to relate any other surface data to the P.F.E. and resistivity features. Two P.F.E. backgrounds occur namely, 3.0, or less, in the eastern portion of the survey area, and a 5.0 or less, in the western and central portions. Percent frequency effects greater than six are considered anomalous in this survey.

Apparent resistivity maps show a central zone of intermediate-high values in ohm-meters with associated lower P.F.E.'s. Away from the central resistivity zone, the P.F.E.'s generally increase with somewhat decreasing resistivity.

The apparent resistivity data appears to be of use in relating to the geology.

CONCLUSIONS

The anomalous P.F.E.'s are probably caused by a dispersion of mostly disseminated iron in altered volcanic rocks.

A buried "porphyry copper" type deposit may exist at a depth of several hundred feet below surface, within the I.P. complex. No economic amounts of copper or molybdenum are apparent on the topographic surface.

The area of greatest interest is where anomalous P.F.E.'s are adjacent to (or within) the proposed zone of younger porphyry dyke concentrations. Deep drilling will be required to test the geological-geophysical targets.

MAGNETOMETER SURVEY

EQUIPMENT AND SURVEY

Readings were taken every two hundred feet along the grid lines using a sharp MF-1 Fluxgate vertical component magnetometer. Readings were adjusted for daily fluctuations by tying into the base station twice daily.

RESULTS

Similar to the airborne survey results the magnetic diorite dyke is the strongest feature outlined by the ground magnetics as shown on Map #4 which accompanies this report. The numerous magnetic dykes cutting the granodiorite east of the base line are also clearly outlined by the survey.

Two magnetic features on Map #4 are significant. Firstly, the surface extent of the porphyrite complex appears to be coincident with a mag. low. Secondly, the northernmost proposed drill hole is coincident with a major mag. high. The small mag. high near the southern hole is adjacent to the magnetic diorite dyke and is probably a reflection of it.

In general, the mag. survey reflects the known geology, only the mag. high near the proposed northern drill hole is unexplainable in terms of known geology.

CONCLUSIONS

The Allie claims are underlain by granodiorites of the Tertiary Howson Batholith. Within the intrusive is a septa of volcanics. Later intrusions include a wide variety of dykes and an irregular body of biotite felspar porphyrite.

The biotization, sericitization and silicification of the younger acid intrusive rocks strongly indicate the existence of a porphyry environment. Coincident Cu and Mo soil anomalies emphasize the possible economic significance of the environment. During seven field seasons in the Smithers Babine Lake camp, the writer has never been involved with a coincident Cu-Mo geochemical anomaly that was not related to porphyry mineralization. However, the discontinuous nature of the soil anomalies indicates spotty and weak sources such as mineralized dykes which could, however, be fringe showings related to more intense mineralization at depth.

The induced polarization survey outlined a probable zone of sulphides around part of the porphyrite stock. This is probably a typical iron rim of pyrite which is present around many porphyry deposits. Most of the indicated iron rim appears to be several hundred feet below surface. This is substantiated by the lack of conductors on either the radem or airborne E.M.. It also explains the discontinuous nature of the soil anomalies.

It therefore appears likely that a porphyry environment containing copper and molybdenum is present on the Allie Group. However, most of the mineralization is deep-seated.

Respectfully submitted,

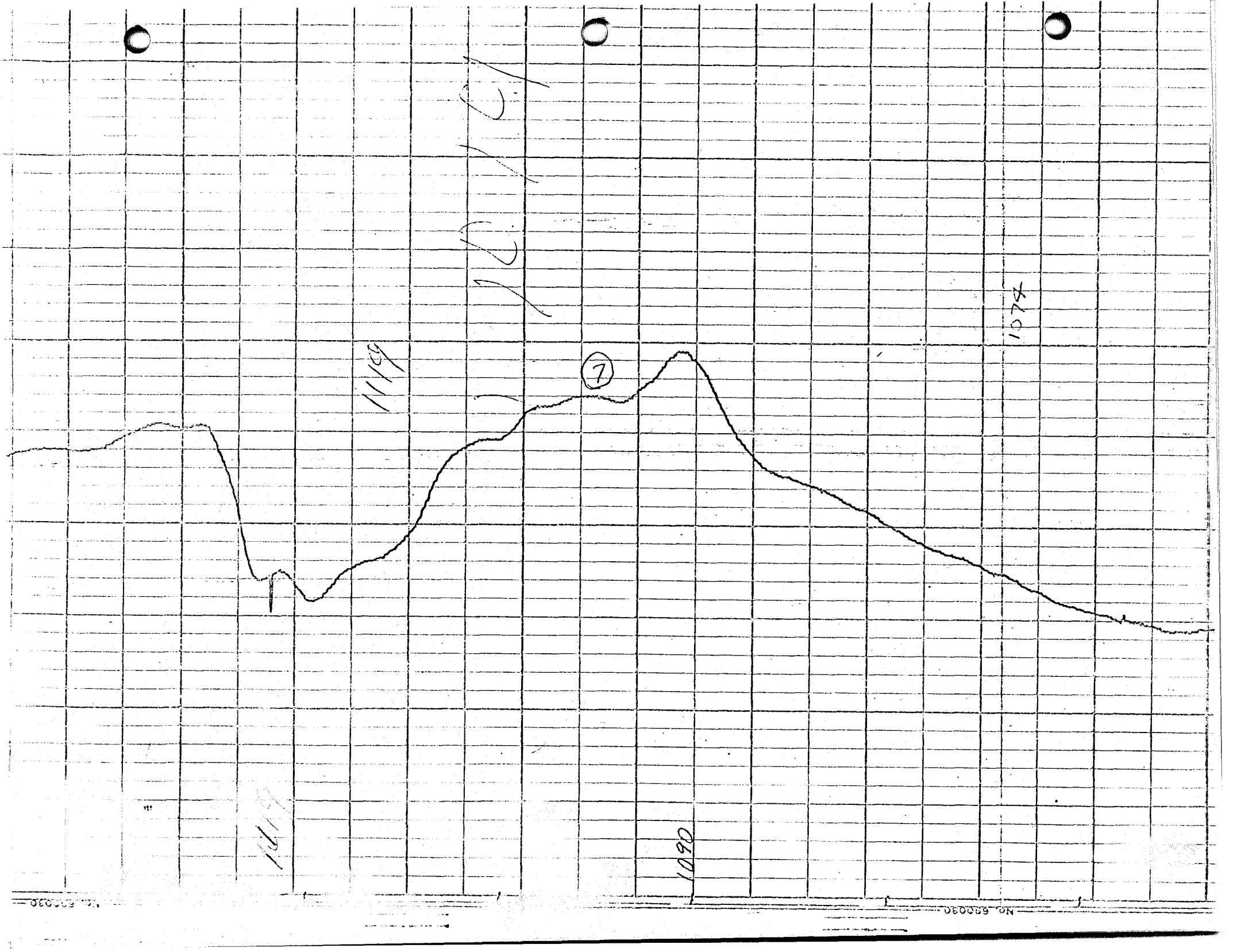
R. E. Chaplin, P.Eng.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
ROBERT E. CHAPLIN

R. W. Woolverton, P.Eng.

APPENDIX II

ROCK SPECIMEN NOTES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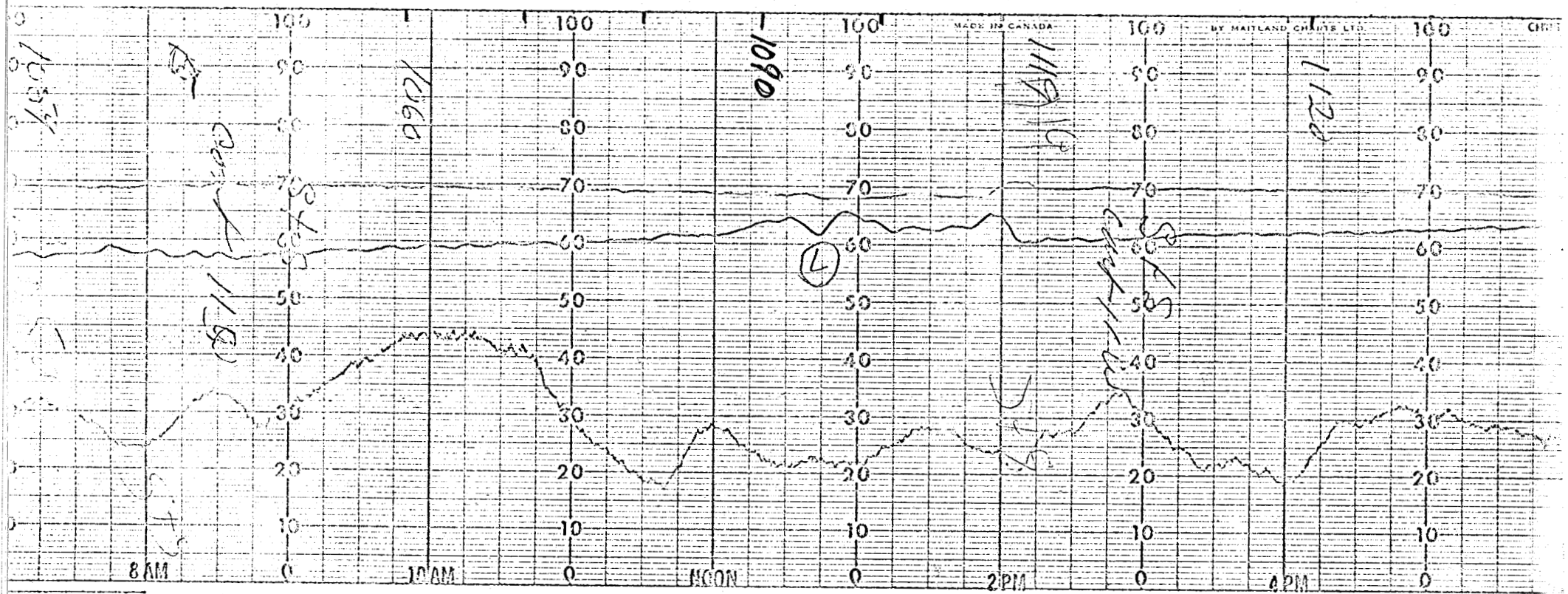
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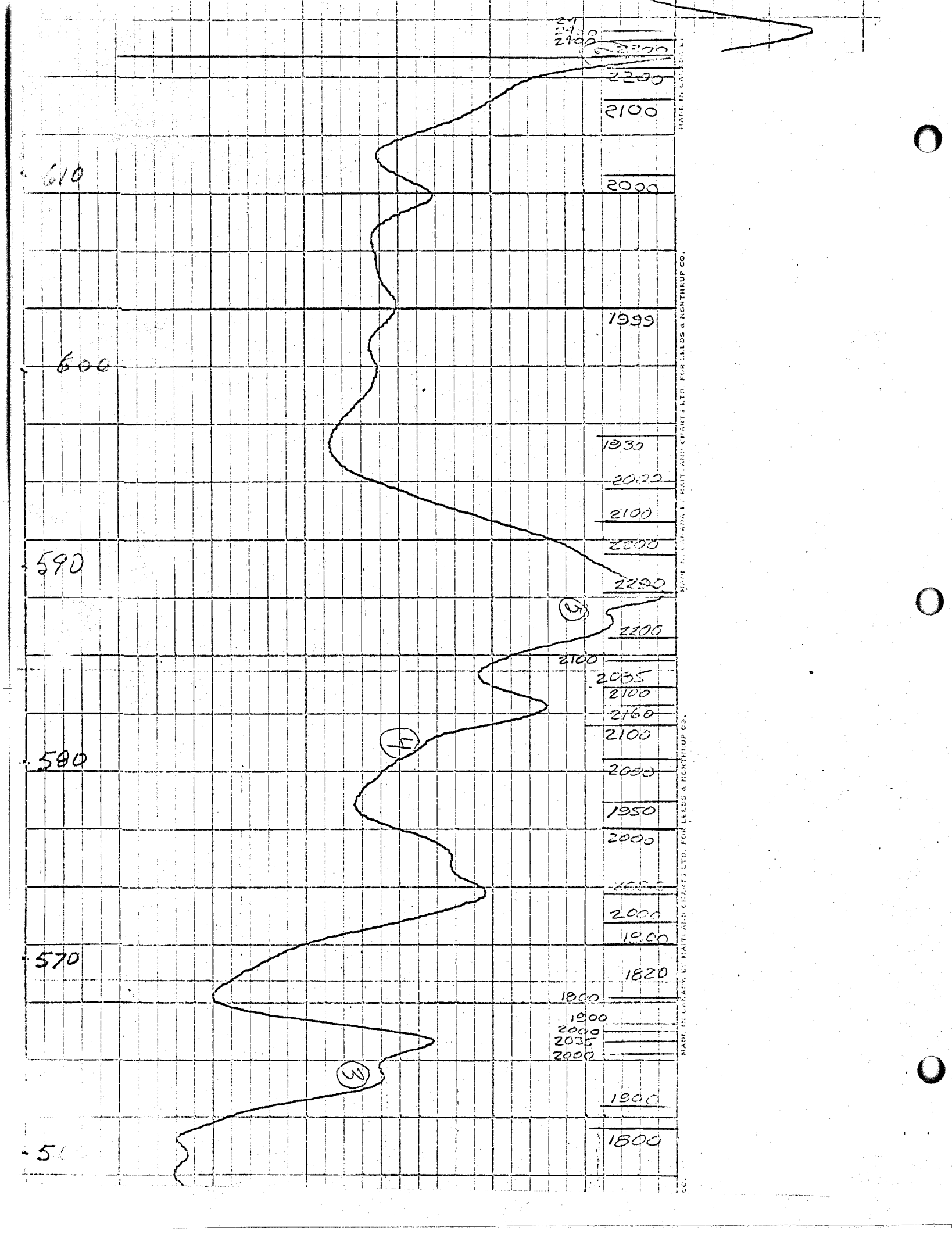
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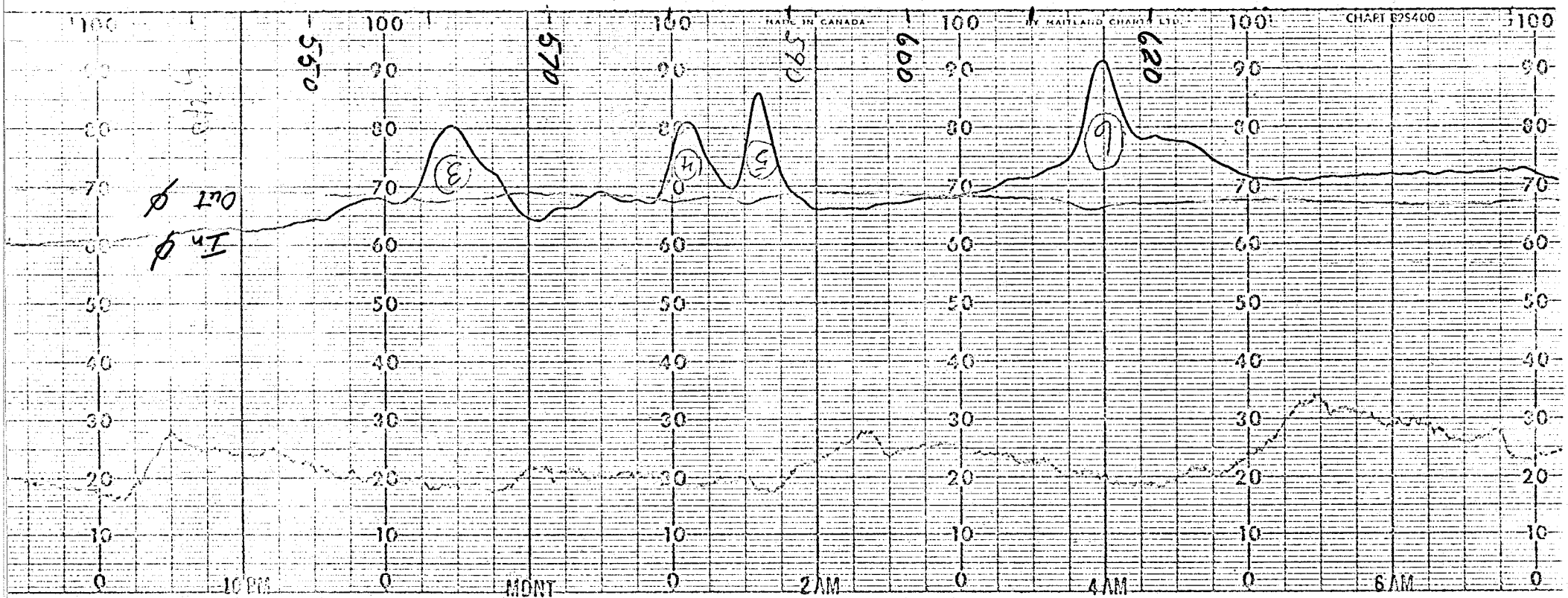
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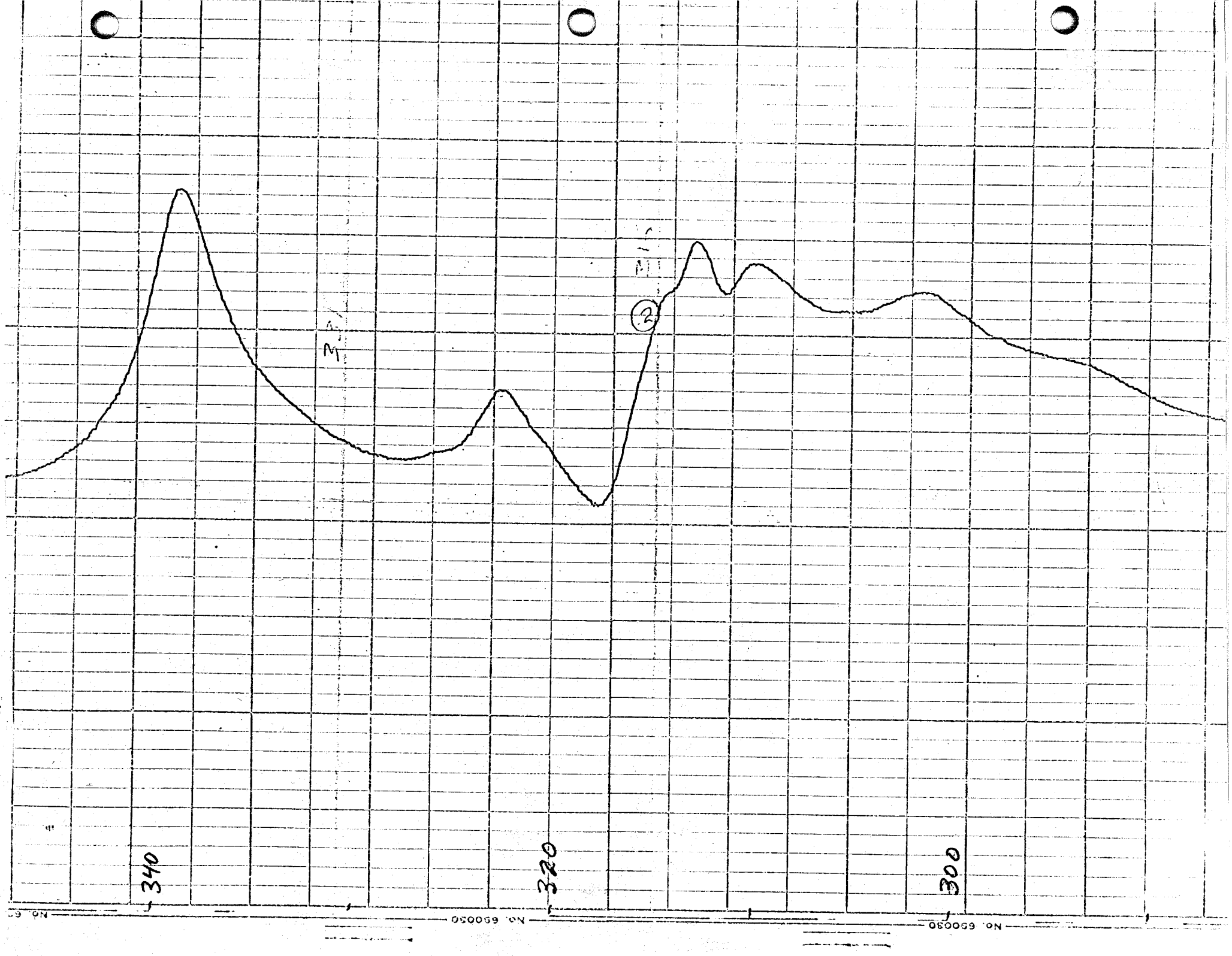
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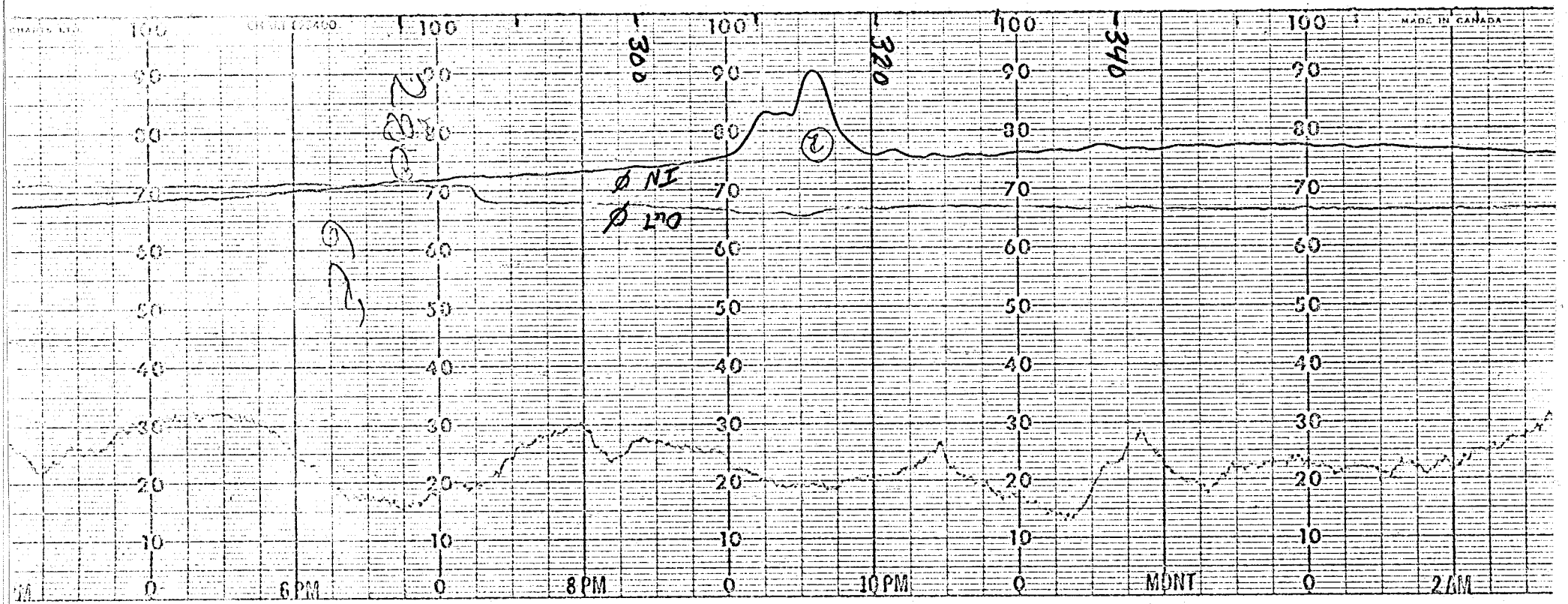
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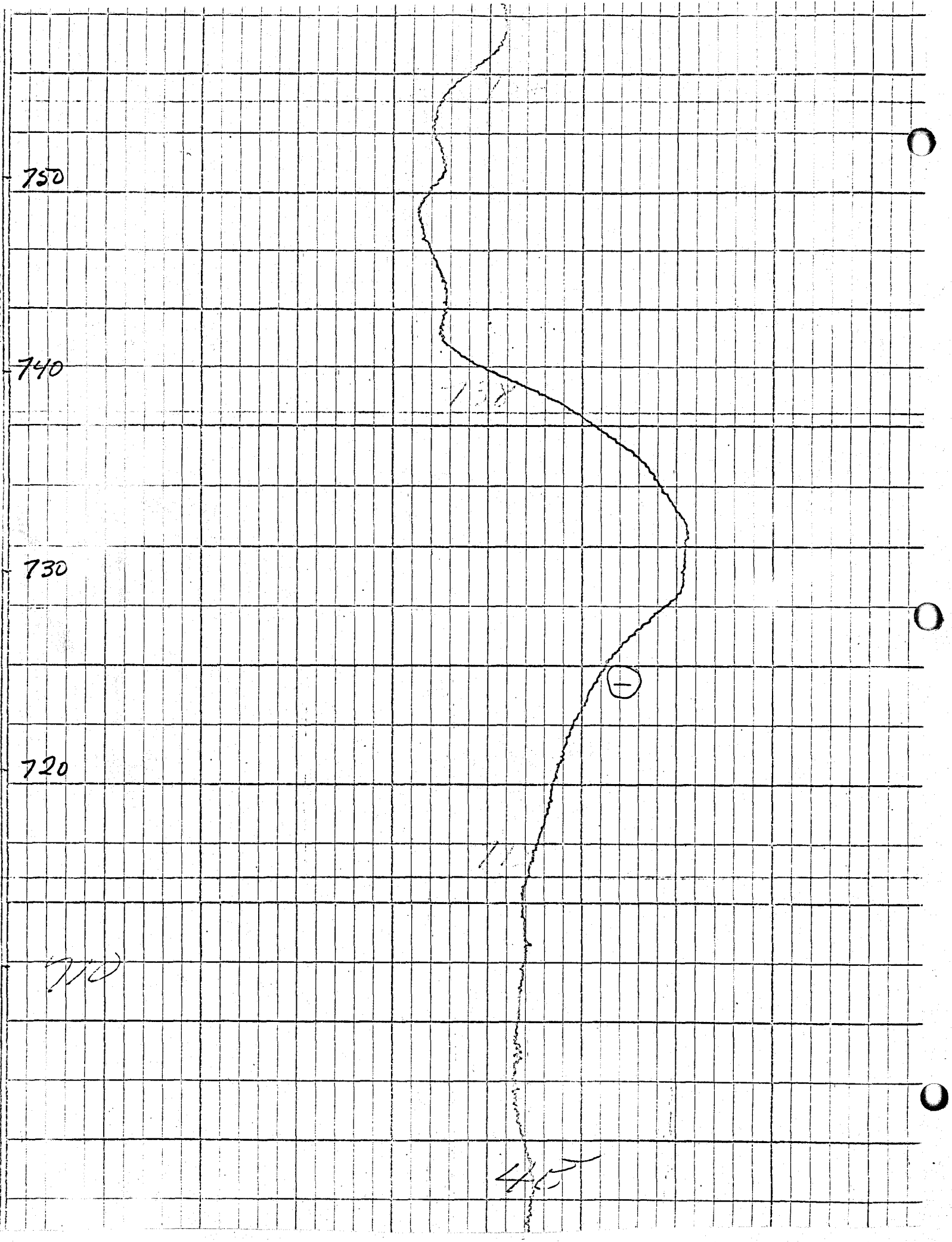
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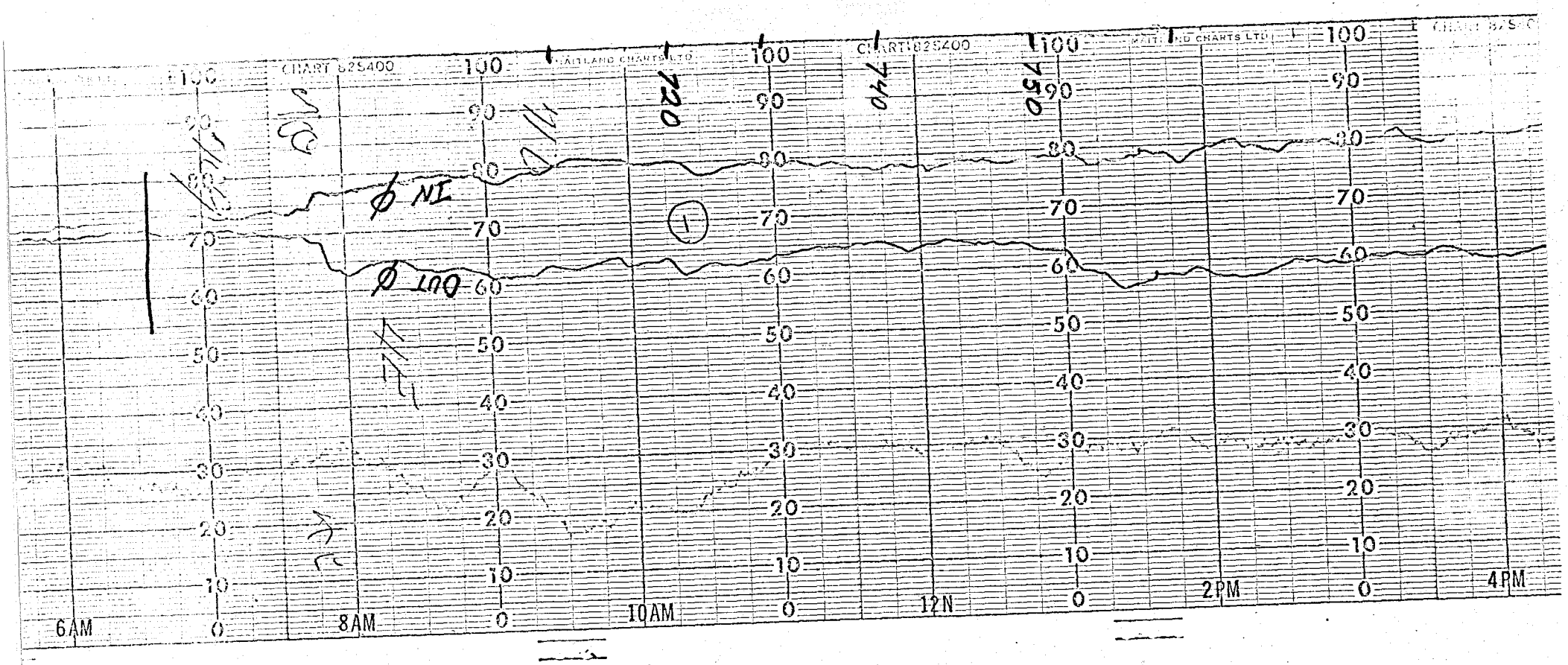
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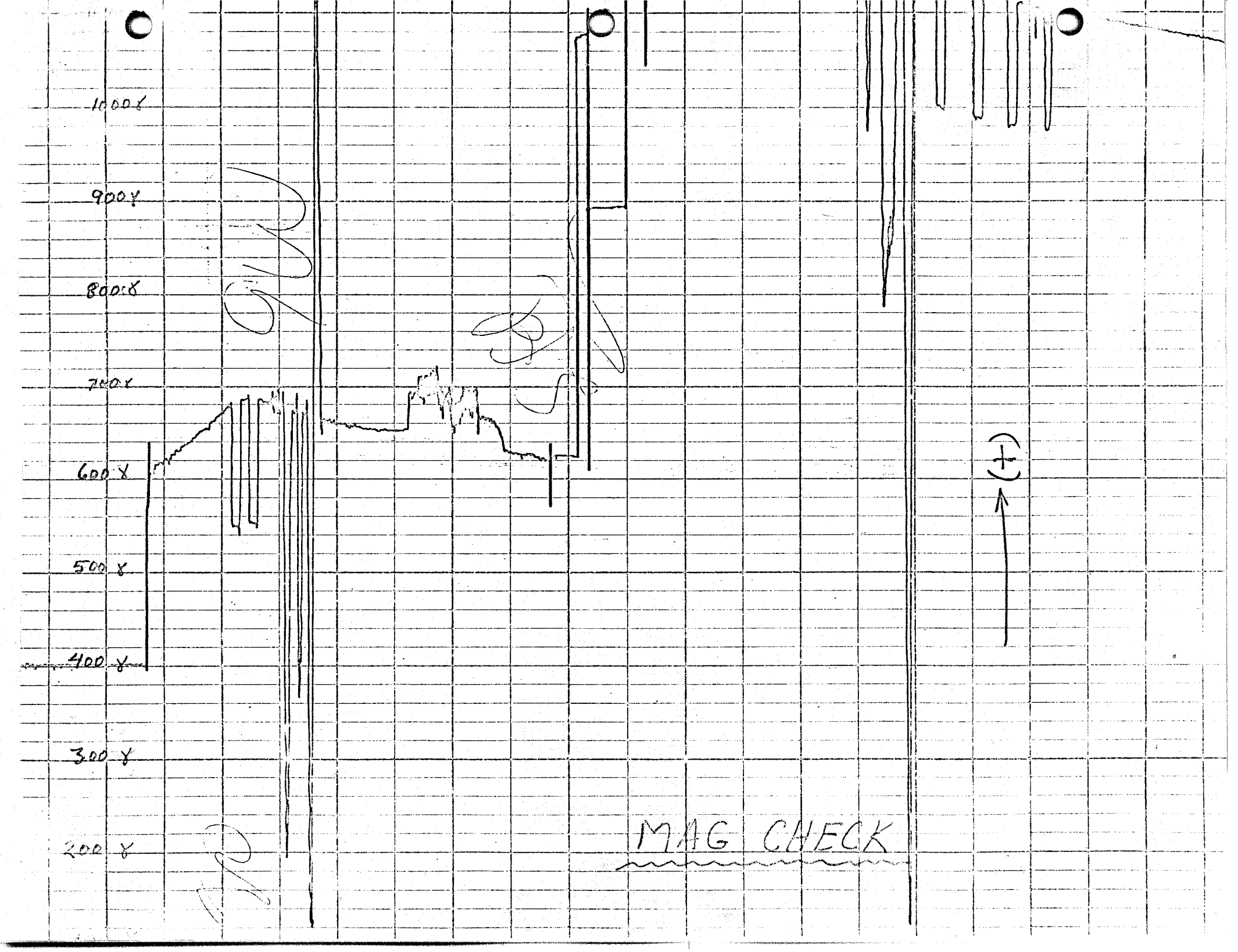
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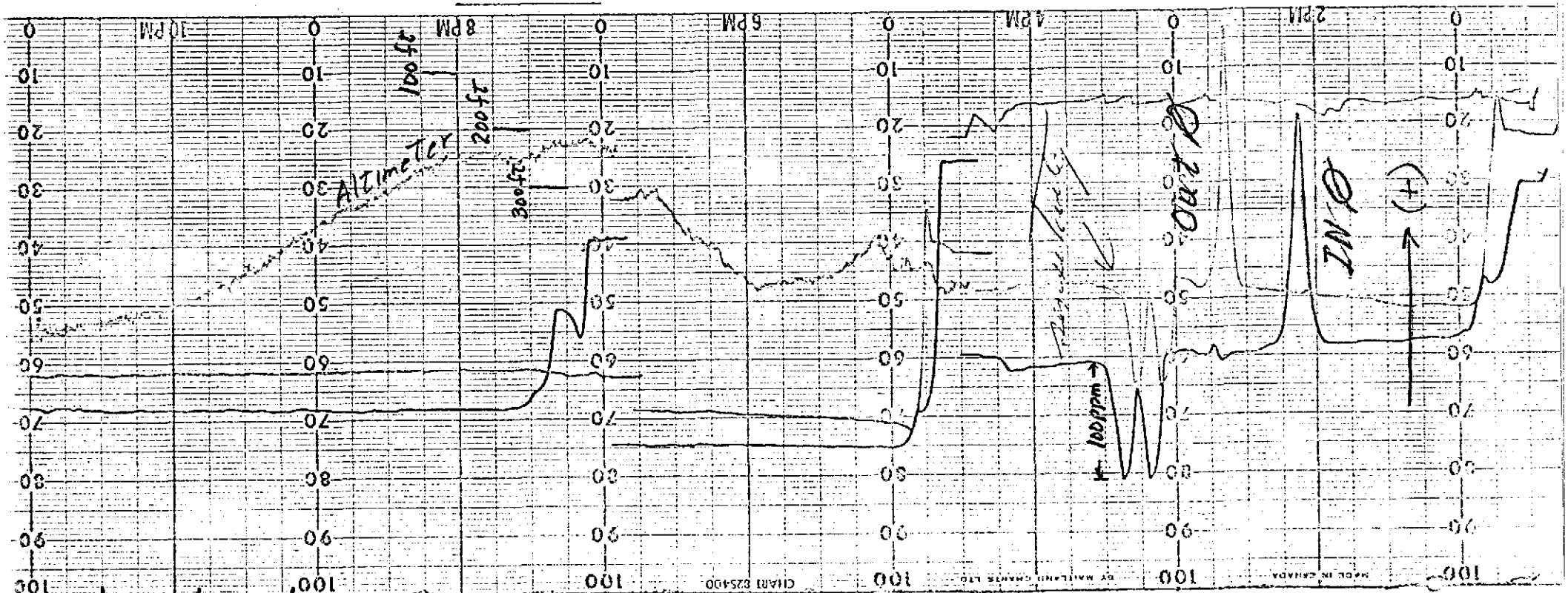


fiducial marks

EM CHECK

APPENDIX III

ROCK ASSAY RESULTS

12N/29W

Quartz sericite - original rock possibly quartz porphyry, non-magnetic.

Andesite - chloritized and pyritized, non-magnetic.

Specks of heavy pyrite in (?), non-magnetic.

16N/5W

A. Biotite felspar porphyrite - glassy matrix, slightly magnetic, secondary biotite, non-magnetic.

Granodiorite - chloritized, secondary K spar (?), non-magnetic.

Andesite - magnetic greenstone.

Quartz sericite with fair pyrite.

16N/5W

B. Diorite dyke - very fine-grained, chloritized mafics.

Andesite - with chlorite clots.

Granodiorite - chlorite clots near contact.

12N/10E

Andesite dykes - variable magnetite, some chlorite.

Felspar porphyry - dark matrix, chlorite clots.

8N/25W

Andesite - variably pyritized and quartz sericitized, variably magnetic.

Andesite (?) porphyry---- fair-sized felspar phenocrysts, chloritized.

9N/OW

Quartz porphyry - looks like aplite except for quartz eyes, tan-colored - relatively fine grained, non-magnetic.

Greenstone - clots of chlorite, non-magnetic.

Granodiorite - non-magnetic.

16N/18E

Biotite porphyrite - only little secondary biotite, weakly magnetic, coincident rock geochem.

Granodiorite - chloritized, non-magnetic.

Greenstone dykes - both magnetic and non-magnetic - disseminated pyrite, chloritized, non-magnetic.

8N/8E

Andesite dykes - magnetic, dark, look like very fine-grained diorite.

Felspar porphyry dyke - biotite well-chloritized, non-magnetic.

8N/16E

Quartz veinlet-quartz sericite heavy along side, biotite.

Biotite felspar porphyrite -- very slight secondary biotite, moderate chloritized mafics, weakly magnetic.

Granodiorite - magnetic, chloritized, disseminated magnetite.

Andesite dykes - dark, variably magnetic, may have incipient secondary biotite.

16N/6E

Granodiorite - coarse-grained, chloritized fractures, moderately magnetic.

Basalt - magnetic, chlorite on fractures.

Andesite - both look like very fine-grained diorite, only one magnetic.

Fine-grained granodiorite - magnetic, aplite (?), mafics only partly chloritized.

Andesite (diorite) - greenish (chloritized), non-magnetic, specks chalcopyrite.

4N/17E

Andesite porphyry-magnetic, traces pyrite, weak chlorite clots.

Granodiorite - fine-grained, chloritized, secondary biotite, non-magnetic.

8N/43W

Granodiorite - chloritized mafics, - a more acid-looking rock (more quartz, less mafics) than the granodiorite to east - slightly magnetic

Specularite 1 n (?)

Granodiorite - fine-grained, fair quartz, minor pyrite, few chloritized mafics

8N/15W

Granodiorite - fine-grained, heavy biotite (primary slightly chloritized, fresh secondary) magnetic, minor pyrite.

Diorite - mafics slightly chloritized, minor pyrite, magnetic, secondary biotite, trace pyrite.

Greenstone -

A) with chlorite clots, slightly magnetic, fine-grained, dark green.
B) coarse-grained, may be fine-grained diorite, highly magnetic, dark.

8N/9W

Granodiorite - secondary biotite, fine-grained, disseminated pyrite and chalcopyrite, could be unporphyritic biotite porphyrite, secondary felspar (?) magnetic.

ROCK SPECIMEN NOTES

8S/8E

Granodiorite - magnetite, both fresh and chloirized biotite, medium-grained, traces pyrite, secondary biotite.

ON/10W

Biotite felspar porphyrite, slightly magnetic, fine-grained siliceous groundmass.

Diorite - fine-grained, magnetic, minor pyrite, heavy biotite.

12S/20W

Quartz sericite dyke--almost solid quartz and sericite, aplite (?).

Andesite flows - green to purple, chlorite.

ON/24W

Well-chloritized andesite, minor pyrite.

ON/10E

Granodiorite - non-magnetic, chloritized fractures, biotite all chloritized.

Gabbro- magnetic, black, very fine-grained, quartz veinlets with chalcopyrite along edge.

Felspar porphyry dyke (?), chloritized, aphanitic groundmass.

ON/3E

Granodiorite (?)-very little chloritized biotite, sericitized slightly, generally bleached.

4N/44W

Quartz porphyry (felsite?), magnetite in fractures, very minor chlorite.

Granodiorite-speck chalcopyrite, mafics entirely chloritized, lots of silica, little mafics, non-magnetic.

APPENDIX IV

GEOCHEMICAL ANALYTICAL PROCEDURE

Evergreen Explorations Ltd.,

5424 Halifax Street

Burnaby 2, B.C.

Certificate of Assay

WARNOCK HERSEY INTERNATIONAL LIMITED

COAST ELDRIDGE PROFESSIONAL SERVICES DIVISION

125 EAST 4TH AVE. VANCOUVER 10, B.C., CANADA

PHONE: (604) 876-41
TELEX: 04-50353
CABLE ADDRESS: ELDRICO

FILE NO. 460-A-8872

DATE October 14, 1969

We Hereby Certify that the following are the results of assays made by us upon submitted ORE samples

MARKED	GOLD		SILVER	Copper (Cu)					
	OUNCES PER TON	VALUE PER TON	OUNCES PER TON	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
		$							
S-1 X - 10872	Trace	-	0.3	0.17					
S-2 X - 10873	Trace	-	0.1	0.04					
S-3 X - 10874	0.005	0.18	0.1	0.03					
S-4 X - 10875	Trace	-	Trace	0.04					

Note. Rejects retained one week.
Pulps retained one month.
Pulps and rejects may be stored for a maximum of one year by special arrangement.

Unless it is specifically stated otherwise, gold and silver values reported on these sheets have not been adjusted to compensate for losses and gain inherent in the fire assay process.

Gold calculated at $ ..... per ounce

H. Thayer

..... Provincial

APPENDIX V

RADEM SPECIFICATIONS

FIGURE 2.

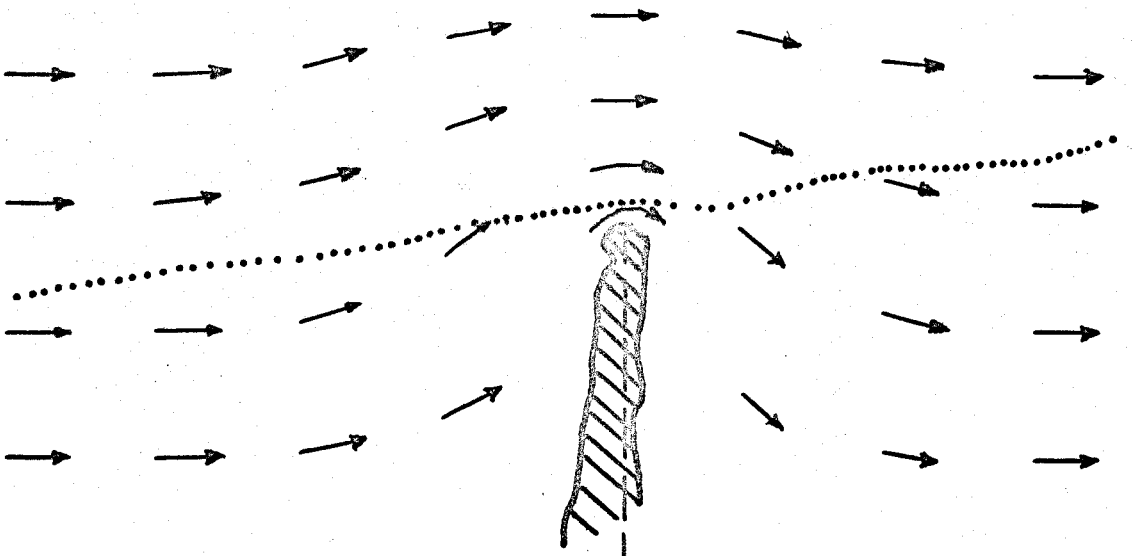
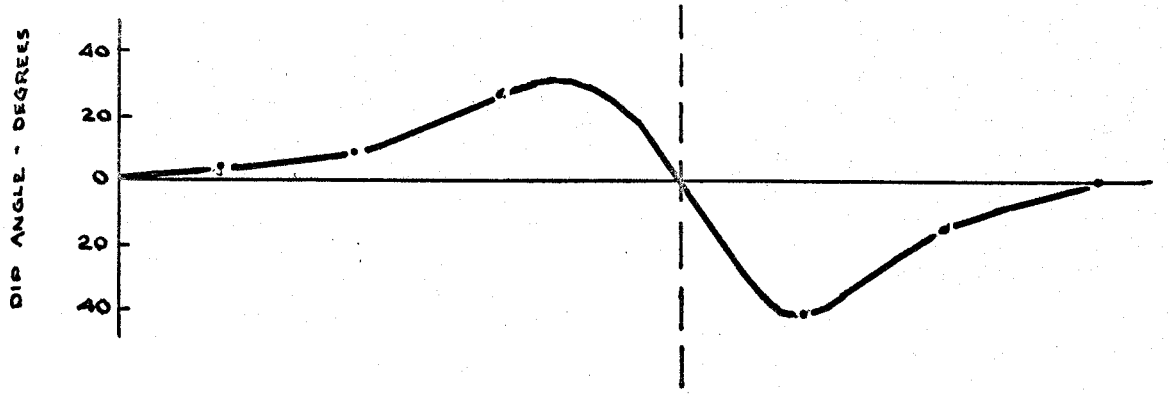


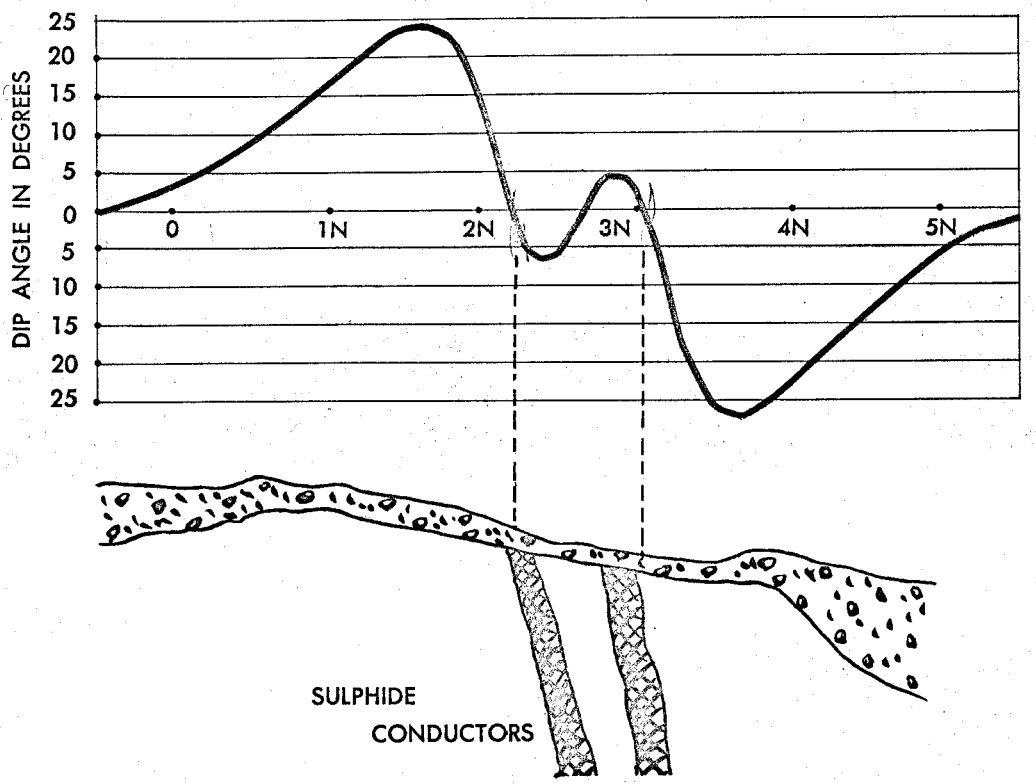
FIGURE 3.



THE VERY LOW FREQUENCY RADIO TRANSMITTING STATIONS

The purpose of these stations is to broadcast over large distances navigational and other information for use by ships and submarines. Numerous stations are situated around the globe and a considerable number are in the process of construction. Operational stations are located at Cutler Maine, Annapolis Maryland, Fort Collins Colorado, Seattle Washington, Balboa Panama, Rugby England, Lualualei Hawaii, Guam and N.W. Cape Australia. The frequency range used varies between 12 and 24 KC's and is thus 10 times higher than the normal frequencies used in mineral prospecting. This results in the RADEM method being more sensitive to lower conductivity and smaller sized bodies than normal EM equipment.

Example of a RADEM traverse over a Banded Conductor in the Timmins area of Ontario.



SPECIFICATIONS

READOUT — Dip angle of resultant VLF magnetic field component from an inclinometer of ± ½ degree sensitivity

NULL INDICATOR — Both audio (loudspeaker) and visual by means of an averaging field strength meter

TUNING — Preset switch tuning

BATTERIES — 2 of 9 volt Eveready # 216, independent test indicators

STATIONS — Standard 5 stations — Cutler, Maine 17.8; Seattle, Wash. 18.6; Ft. Collins, Colorado 20.0; Annapolis, Md. 21.4; Balboa, Panama 24.0 KCs.

— Optional — N.W. Cape, Australia 15.5; Lualualei, Hawaii 23.4; Rugby, England 16.0 KCs.
Other stations as they become operational

WEIGHT — Receiver — 4 lb. Leather Case — 2 lb. Shipping Weight — 15 lb.

PRICE — $2,250.00 Canadian

RENTAL — $150.00 per month

CRONE GEOPHYSICS LIMITED

979 LAKESHORE ROAD E.
PORT CREDIT, ONTARIO

TELEPHONE 274-3704

CASE HISTORY # 1 March 1, 1968

Two Radem (VLF Radio EM) Traverses in the Timmins Area, Ontario.

The use of the VLF radio transmitters as an EM primary field source is not new, but rather one of the oldest and earliest (1929) EM methods. The recent revival of this method is due to the greatly increased power and reliability of the transmitter stations. The method still has, however, its original advantages and limitations. If used properly it can be very effective; if pushed beyond its basic limitations disappointing results will be obtained. The following two profiles illustrate this point.

The first profile, over the Canadian Jamieson Mine near Timmins, illustrates the ability of the method to detect the three in echelon ore bodies. This is rather remarkable from three aspects: 1) no other EM method (horizontal loop, vertical loop - fixed and broadside, or JEM) was capable of detecting even one of these ore lenses; 2) the traverse crossed the yard of a producing mine, thus operating in an area of high hydro noise; 3) the dip angles obtained were very large, +30° to -30°.

The ore lenses are excellent conductors, but were not detected by previous EM surveys, due to their being discontinuous and of limited size.

The second profile, also from the Timmins area, is a traverse over a strong conductor buried below 75 ft. of clay and sand overburden. The RADEM profile fails to detect the conductor which is clearly outlined by the dual frequency vertical loop survey. (Note: The ratio of low frequency, 480 cps, to high frequency, 1800 cps, is unity.) This illustrates the inability of the VLF - EM method to penetrate the overburden. The VLF - EM method will produce large tilt angles from the clay bed itself. These large angles will occur towards the edge of the clay bed and thus complicate interpretation in these areas.

Conclusion: The VLF - EM method is a highly effective and rapid reconnaisance tool. It is limited by its high frequency and the inability to interpret from the results the conductivity and shape of the conductor. Until more experience is gained, this method should be used in shallow (less than 30 ft.) overburden areas.

J. Duncan Crone

J. Duncan Crone,
Geophysicist.

CASE HISTORY # 1

RADEM PROFILES OVER CANADIAN JAMIESON MINE, TIMMINS, ONTARIO.

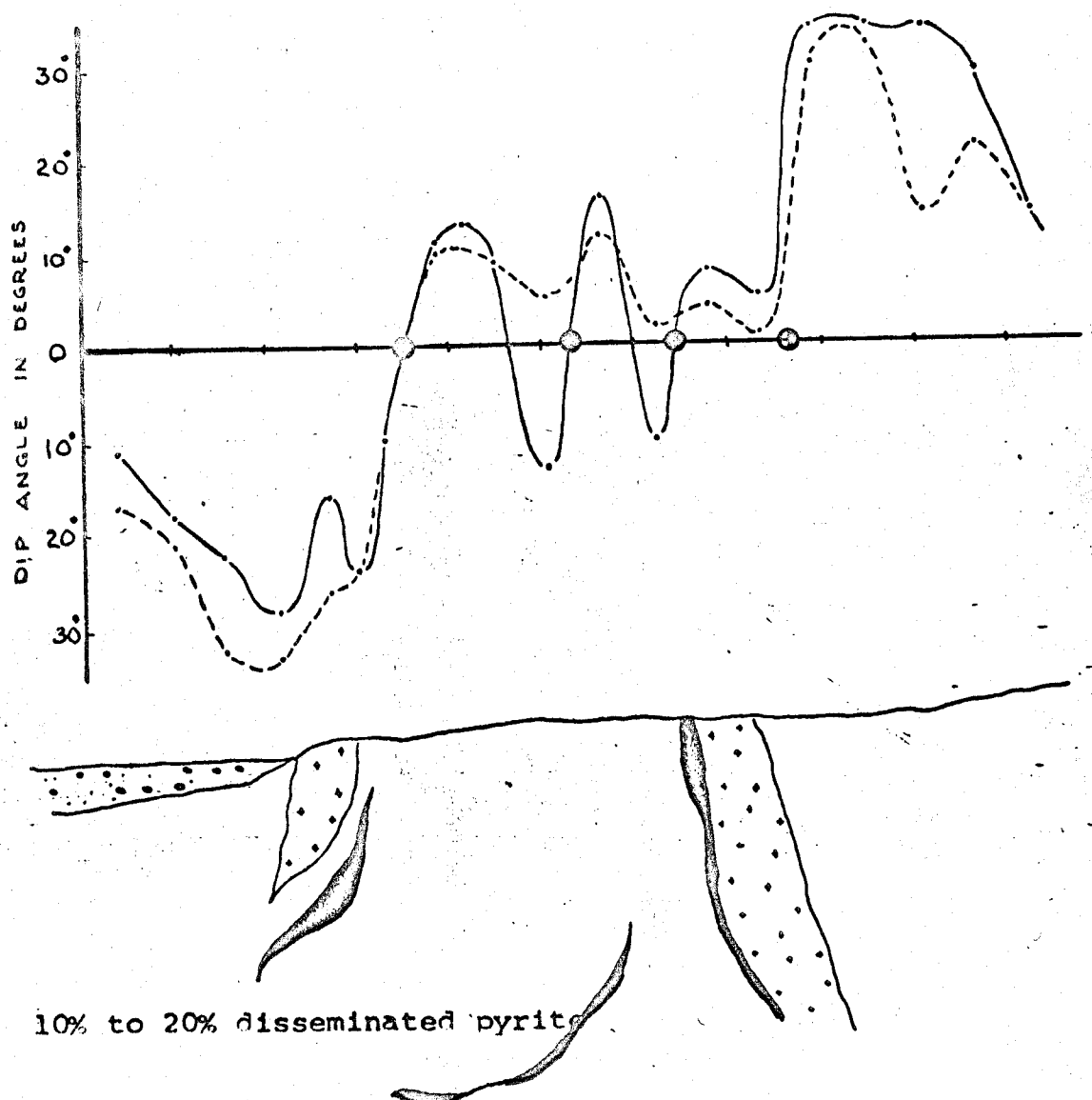
Scale 1" = 20°; 1" = 200'

—·—·— Annapolis 21.4 kcs

- - - - - - Panama 24.0 kcs

—○— True Cross-Over

—◎— Indicated Cross-Over



10% to 20% disseminated pyrite

Massive Sulphides

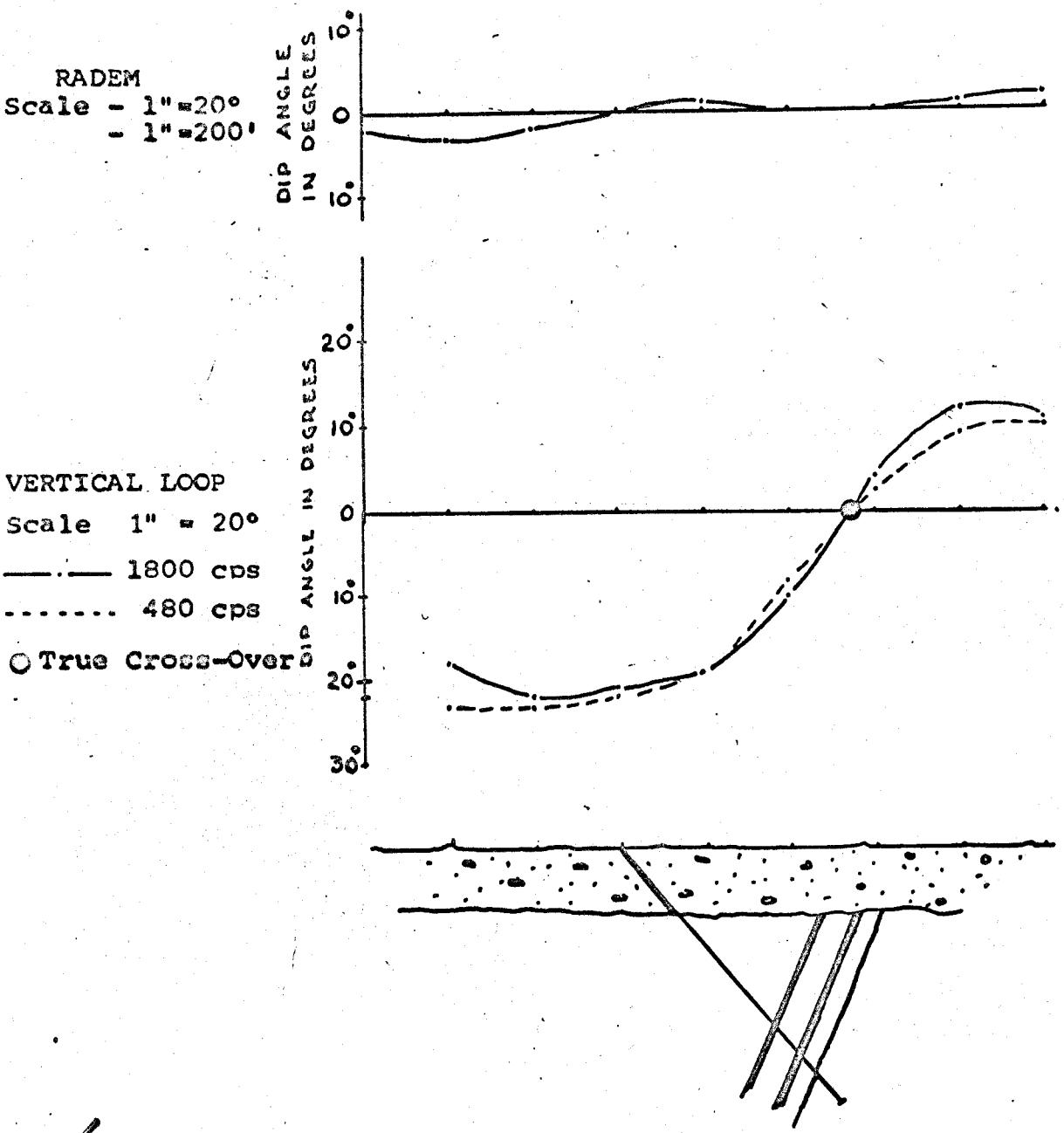
Sizes of ore lenses - 105,000, 135,000 and 280,000 tons

Only one of the ore lenses outcrops

Overburden is shallow over mineralized area.

CASE HISTORY # 1

RADEM AND DUAL FREQUENCY VERTICAL LOOP TRAVERSES OVER AN EXCELLENT CONDUCTOR BURIED AT MODERATE DEPTH (75'), TULLY TOWNSHIP, TIMMINS, ONTARIO.



Graphitic conductor with 10% pyrite

Depth of overburden = 75'

Overburden extends for at least one mile in all directions

BARRINGER RESEARCH INC.

304 CARLINGVIEW DRIVE
REXDALE, ONTARIO, CANADA
PHONE: 416-677-2491
CABLE: BARESEARCH

December 8th, 1969

Evergreen Explorations Limited
635-789 W. Pender Street
Vancouver 1, B.C.

Attention: Mr. Woolverton

Dear Sir:

Our laboratory procedures for your samples are as follows:-

Total Copper (soils) - a portion of -80M material is digested in concentrated perchloric acid, diluted with water and analysed by atomic absorption.

HCl copper (stream sed.) - same as above but using a dilute solution of hydrochloric acid.

Total Molybdenum - a -80M portion of sample is fused with a carbonate flux and the molybdenum is colorimetrically determined using zinc dithiol.

Total copper was done on the "Donna" and "Red Top" projects and both total copper and moly on the "Allie". Our reports 168-B (for total copper) and 161-B (for HCl copper) had no project no. specified on the work order form received from you.

Should you require any further information, please do not hesitate to contact me.

Yours sincerely
BARRINGER RESEARCH LIMITED

Y. M. Hazeldene

Yvonne Hazeldene
Chief Analyst
Department of Geochemistry

YH:lh

SUMMARY OF EXPENSES

PER PRECEDING INVOICES

INVOICE # 1	$3,163.59
INVOICE # 2	$4,644.75
INVOICE # 3	$6,593.33
INVOICE # 4	$7,041.21
TOTAL TO BE APPLIED AS ASSESSMENT	$21,442.88

DECLARATION OF PROJECT CHARGES

The undersigned consider the preceding invoices applicable as assessment work.

R.E. CHAPLIN, P.ENG.

R.W. WOOLVERTON, P.ENG.

Evergreen Explorations Ltd.

- R. WOOLVERTON
  GEOLOGIST, P.ENG.
- R. C. O'BRIEN
  FIELD SUPERVISOR
- JOHN C. OSWALD & CO., C.A.'s
  ACCOUNTANTS:

635 - 789 W. PENDER ST.
VANCOUVER 1, B.C., CANADA

CONTRACT EXPLORATION

- 5424 HALIFAX ST., BURNABY 2, B.C., CANADA, PHONE - 299-6998
- P.O. BOX 604, SMITHERS, B.C., CANADA PHONE - 847-3523

December 10, 1969

Pacific Petroleums Ltd.
P O. Box 6666
Calgary 2, Alberta

Attention: Dr. C.E. Cleveland

INVOICE #4 (Allie Project)

CHARGES FOR OCTOBER AND NOVEMBER:

Personnal		
Geologist	9 days @ $100	$ 900.00
Field accomodation	3 days @ $15	45.00
Disbursements		
Report Xerox's	136 copies @ 10¢	13.60
Helicopters		1,250.00
I.P. Survey		2,300.00
Geochem analysis		754.90
Assays		37.80
Drafting and printing		621.28 *
Meals and accomodation (September)		352.00 *
Groceries, expendable hardware and supplies		231.09 *
Airfare		100.00
Long distance telephone		15.10
Accounting		300.00
		6,920.77
* Plus 10% on $1,204.37		120.44
		$7,041.21

E & O E

John C Oswald & Co.
Accountants

RRR noted

Declared before me at the City
of Vancouver, in the
Province of British Columbia, this 16
day of April 1970, A.D.

R. Woolbutt

Julie Turner

A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia,

Sub-mining Recorder

Allie
Evergreen Explorations Ltd.

• R. WOOLVERTON
GEOLOGIST, P.ENG.
• R. C. O'BRIEN
FIELD SUPERVISOR
• JOHN C. OSWALD & CO., C.A.'s
ACCOUNTANTS:
635 - 789 W. PENDER ST.
VANCOUVER 1, B.C., CANADA

CONTRACT EXPLORATION

• 5424 HALIFAX ST., BURNABY 2, B.C., CANADA, PHONE - 299-6998
• P.O. BOX 604, SMITHERS, B.C., CANADA PHONE - 847-3523

October 14, 1969

Pacific Petroleums Ltd.
P. O. Box 6666
Calgary 2, Alberta

Attention: Dr. C.E. Cleveland

INVOICE #3 - (Allie Project)

CHARGES FOR SEPTEMBER -

Personnel	No. of men days	Rate	
Geology and supervision	11	$100	$1,100.00
Operators	19	40	760.00
Helpers	9	25	225.00
Equipment			
Truck	18 days @ $20		360.00
Field and field office	min. per mo.		200.00
Radio telephone			150.00
Parcoll housing unit	½ mo.		150.00
76 Line miles of helicopter mag E.M. at $45 per line mile field cost			3,420.00
Disbursements -			
Long distance telephone			8.30
Freight			18.05
Printing etc.			47.25*
Accounting			150.00
			$5,588.60
Plus 10% on $47.25*			4.73
			$5,593.33

E. & O. E.

John C Oswald & Co.

Declared before me at the City
of Vancouver, in the
Province of British Columbia, this 16
day of April 1970, A.D.

R. Woolworth

Julie Turner

A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.
Sub-mining Recorder

• R[illegible]RTON
GEO[illegible] P.ENG.
• R[illegible]IEN
F[illegible] SUPERVISOR
• J[illegible]OSWALD & CO., C.A.'s
ACCOU[illegible]TS:
635 [illegible] PENDER ST.
VANCO[illegible]I, B.C., CANADA

CONTRACT EXPLORATION

• 5424 HALIFAX ST., BURNABY 2, B.C., CANADA, PHONE - 299-6998
• P.O. BOX 604, SMITHERS, B.C., CANADA PHONE - 847-[illegible]523

September 15, 1969

Pac[illegible]ic Petroleums Ltd.
P. [illegible]. Box [illegible]666
C[illegible]gary 2, Alberta

Attention: Dr. C. E. Cleveland

INVOICE #2 (Allie Project)

CHARGES FOR AUGUST -

Personnel -	No. of man days	Rate	
Supervision	5	$100.	
Operators	34	40.	
Equipment -			
Truck - 16 days @ $20. per day			[illegible]
Field and field office - Min. per mo.			2[illegible]
Magnetometer - Min. per mo.			250.[illegible]
Radio telephone			[illegible].00
Radem unit			[illegible].00 *
Disbursements -			
Groceries and accomodation			497.
Expendable hardware and supplies			109. [illegible] *
Drafting, printing, etc.			282.[illegible] *
Long distance telephone			12.80
Helicopter			522.90
Air and bus fares			74.00
Freight			11.60
Accounting			100.00
			4,540.80
Plus 10% on $1,039.50 *			103.95
			$4,644.75

E. & O. E.

John C. Oswald & Co.
Accountants

Declared before me at the City
of Vancouver, in the
Province of British Columbia, this 16
day of April 1970, A.D.

R. Woobert

Julie Turner

A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

Sub-mining Recorder

APPENDIX VI

DECLARATION OF EXPENDITURES

Declared before me at the City
of Vancouver, in the
Province of British Columbia, this 16
day of April 1970, A.D.

R. Woolverton

Jill Jensen

A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.
Sub-mining Recorder

Evergreen Explorations Ltd.

- R. WOOLVERTON
  GEOLOGIST
- R. C. O'BRIEN
  FIELD SUPERVISOR
- JOHN C. OSWALD and COMPANY
  ACCOUNTANT
  635 - 789 W. PENDER ST.
  VANCOUVER 1, B.C., CANADA

CONTRACT EXPLORATION

- 5424 HALIFAX ST., BURNABY 2, B.C., CANADA, PHONE - 299-6998
- P.O. BOX 604, SMITHERS, B.C., CANADA PHONE - 847-3523

August 15, 1969

Pacific Petroleums Ltd.
P. O. Box 6666
Calgary 2, Alberta

INVOICE (Allie Project)

CHARGES FOR JULY –	No. of Man days	Rate	
Personnel –			
Supervision	5	$100.00	$ 500.00
Assistants	2	25.00	50.00
Drafting	1	25.00	25.00
Equipment –			
Truck – 5 days @ $20.00 per day			100.00
Field and field office			25.00
Accomodation, at Smithers, B. C.			120.00
Disbursements –			
Outside contract – line cutting 8 miles @ 125.00 per mile			1,000.00
Helicopter			281.25
Mapping			765.01
Telephone			49.55
Supplies			225.25 *
			3,141.06
Plus 10% on $225.25 *			22.53
			3,163.59
Less received on account, August 14th			10,000.00
Credit balance forward, August 15th			$ 6,836.41

E & O E

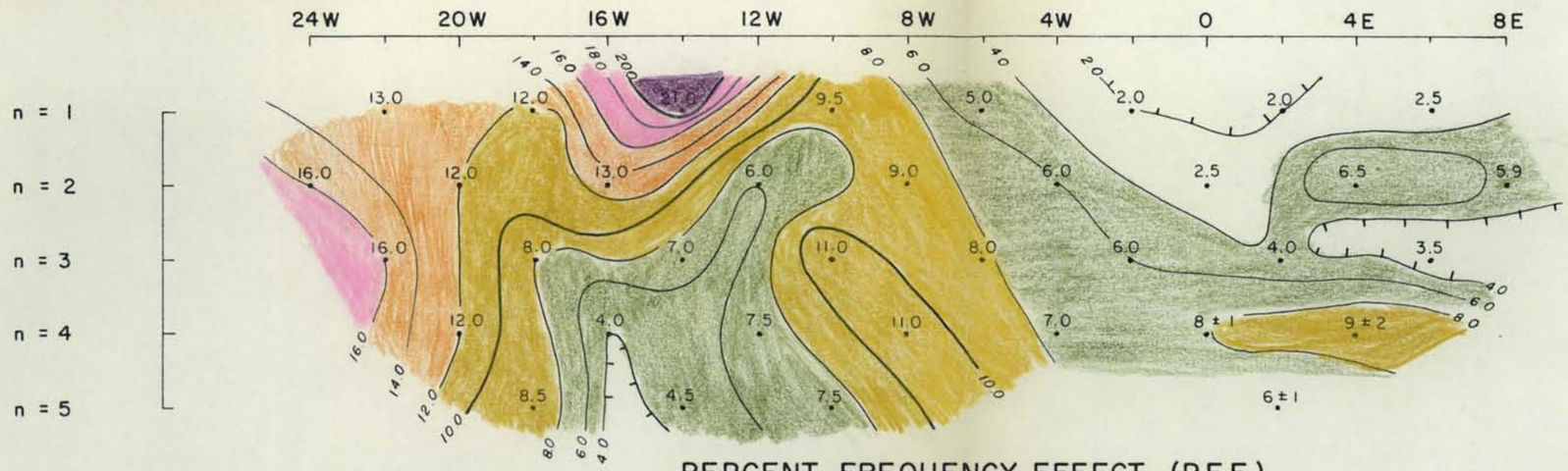
John C. Oswald & Co.
Accountants

Declared before me at the City
of Vancouver, in the
Province of British Columbia, this 16
day of April 1970, A.D.

R. Woolwatt

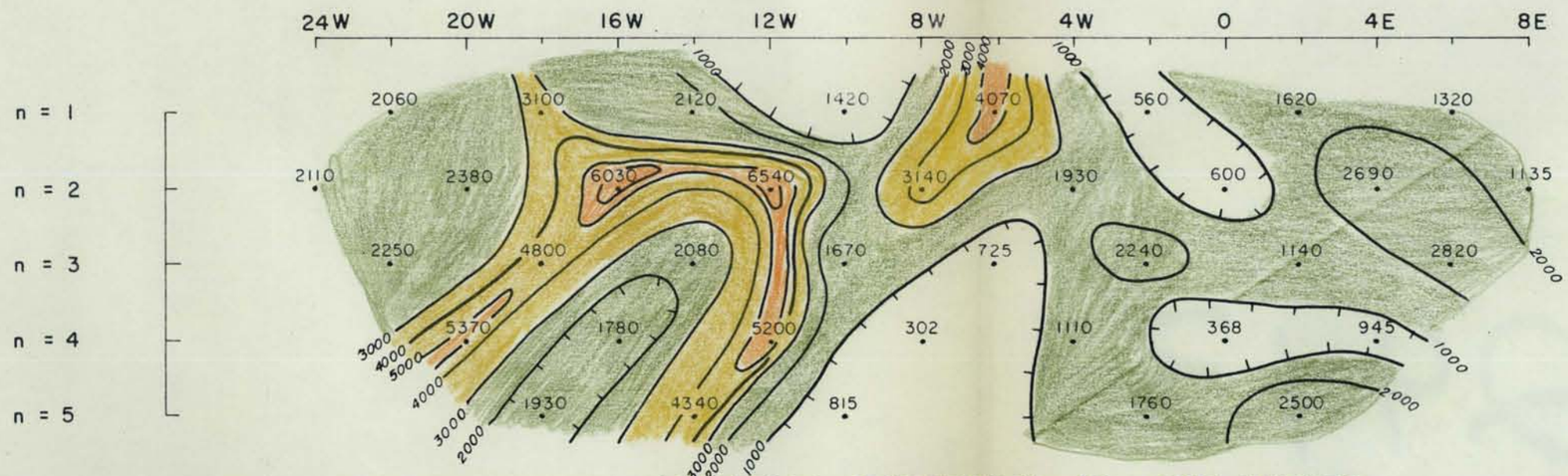
Jill Jurnau
A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

Sub-mining Recorder



PERCENT FREQUENCY EFFECT (P.F.E.)

3.0 - 0.1 CYCLES / SEC.



APPARENT RESISTIVITY IN OHM-METRES

TO ACCOMPANY A REPORT BY R.E. CHAPLIN, P. ENG.
DATED SEPT, 23 1969

SURVEY BY PROFESSIONAL GEOLOGIC SERVICES LTD.

2413

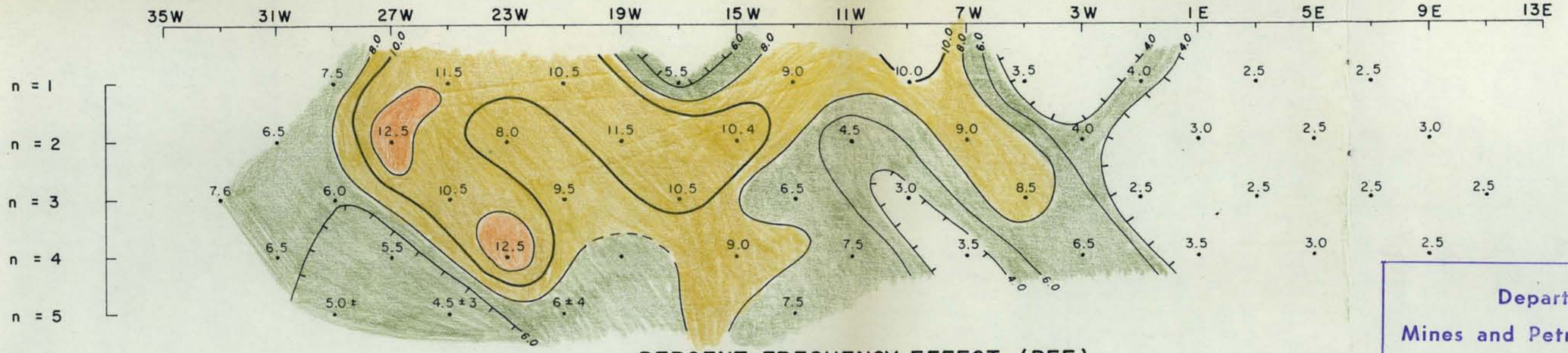
EVERGREEN EXPLORATIONS LTD.
PACIFIC PETROLEUM LTD. OPTION

ALLIE CLAIM GROUP

INDUCED POLARIZATION SURVEY
PROFILE : LINE 8 S

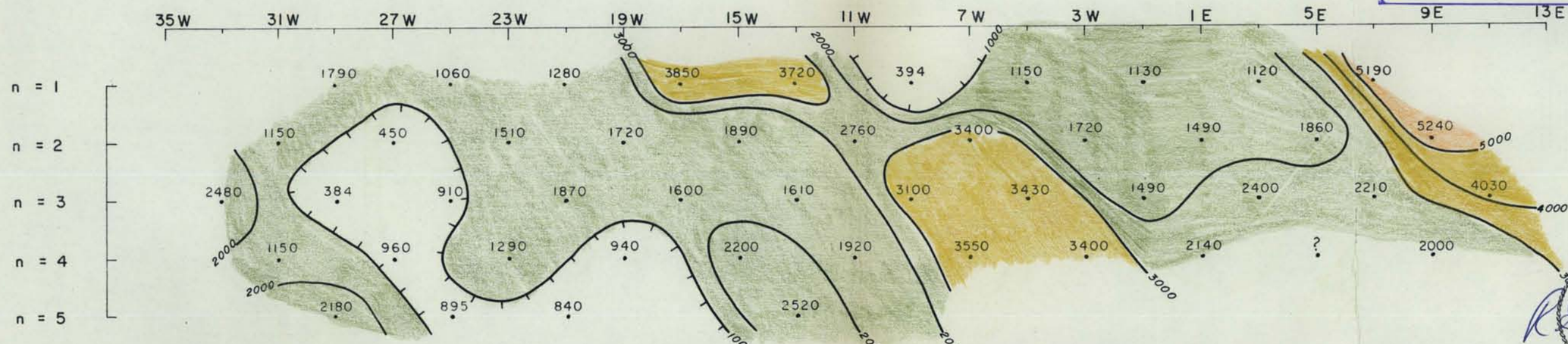
OMINECA MINING DIVISION B.C.

SCALE=1" = 400'



PERCENT FREQUENCY EFFECT (P.F.E.)

3.0 - 0.1 CYCLES / SEC.



APPARENT RESISTIVITY IN OHM-METRES

2413

EVERGREEN EXPLORATIONS LTD.
PACIFIC PETROLEUM LTD. OPTION

ALLIE CLAIM GROUP

INDUCED POLARIZATION SURVEY

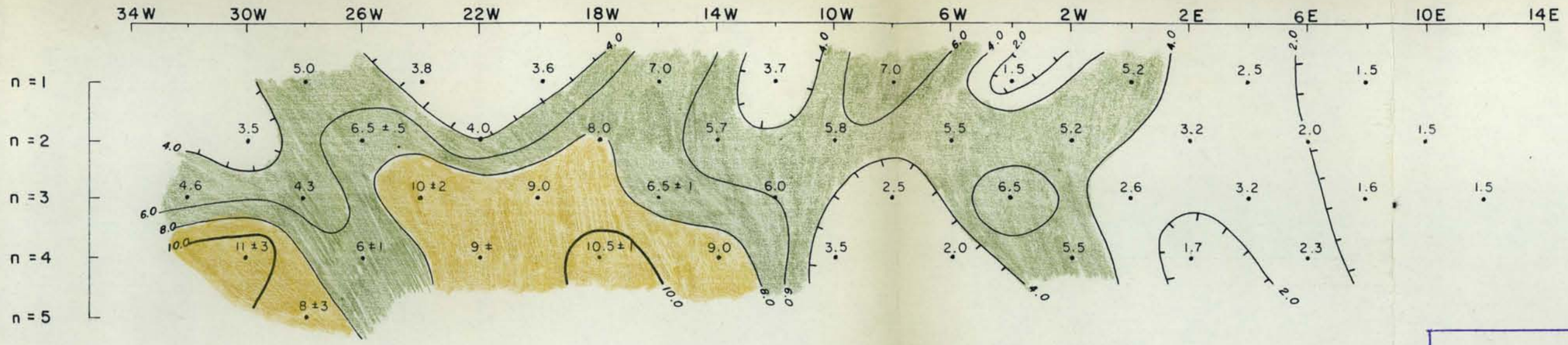
PROFILE : LINE 0

OMINECA MINING DIVISION B.C.

SCALE 1" = 400'

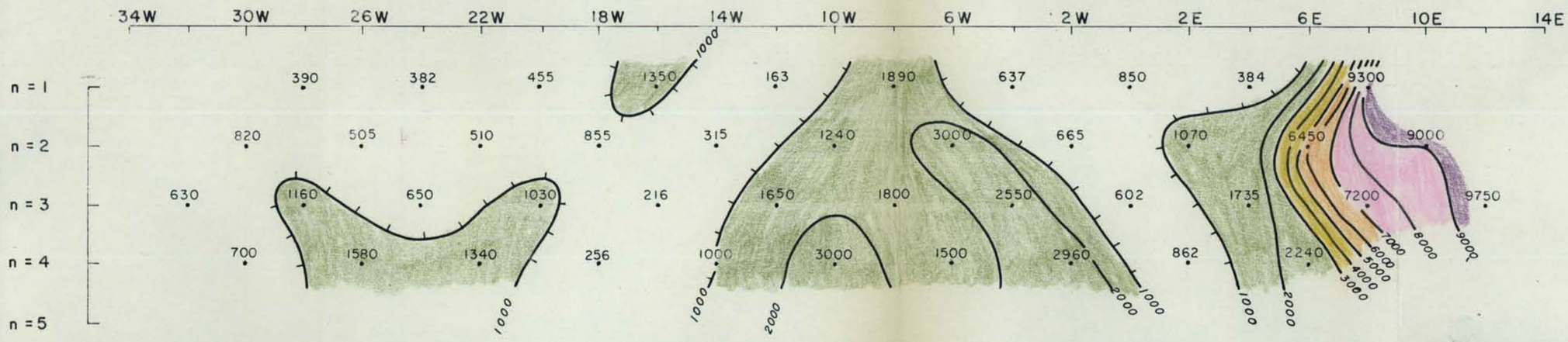
TO ACCOMPANY A REPORT BY R. E. CHAPLIN, P. ENG.
DATED SEPT. 22 1969

SURVEY BY PROFESSIONAL GEOLOGIC SERVICES LTD.



PERCENT FREQUENCY EFFECT (P.F.E.)

3.0 - 0.1 CYCLES / SEC.



APPARENT RESISTIVITY IN OHM-METRES

TO ACCOMPANY A REPORT BY R.E. CHAPLIN, P. ENG.
DATED SEPT, 20 1969

SURVEY BY PROFESSIONAL GEOLOGIC SERVICES LTD.

EVERGREEN EXPLORATIONS LTD.
PACIFIC PETROLEUM LTD. OPTION

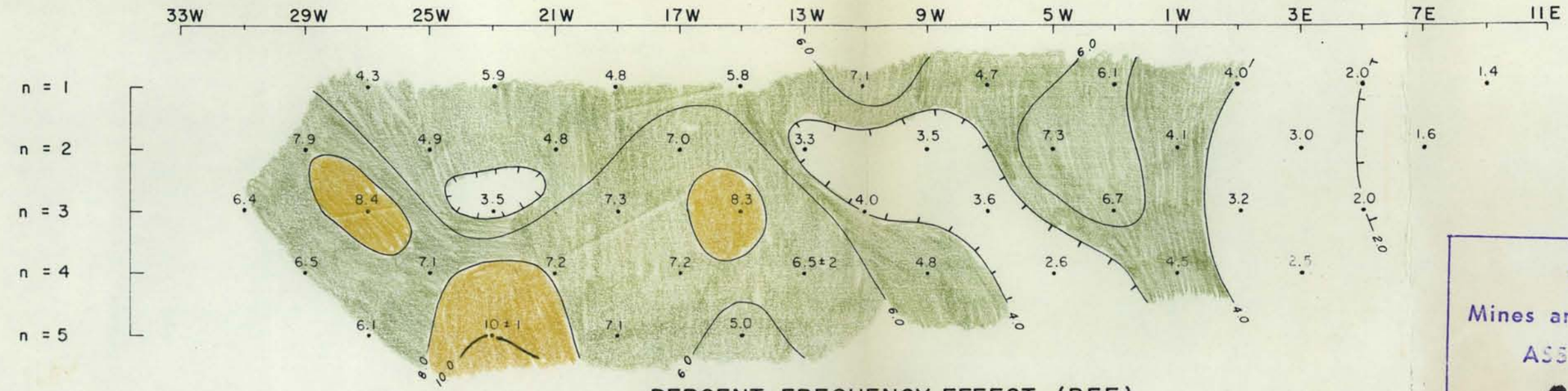
ALLIE CLAIM GROUP

INDUCED POLARIZATION SURVEY

PROFILE : LINE 8N

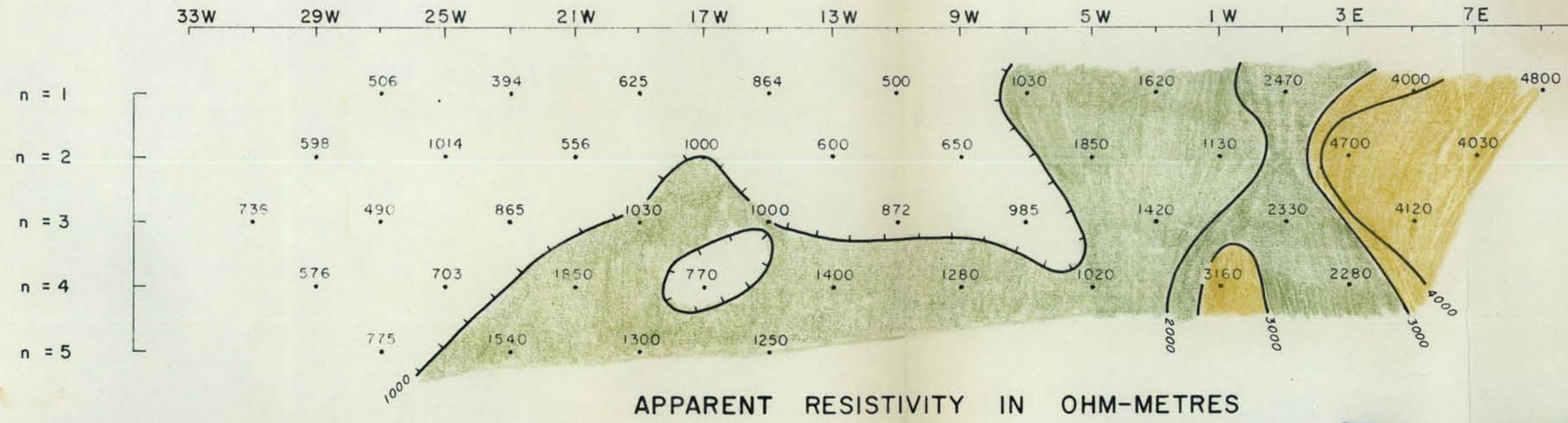
OMINECA MINING DIVISION B.C.

SCALE 1" = 400'



PERCENT FREQUENCY EFFECT (P.F.E.)

3.0 - 0.1 CYCLES / SEC.



APPARENT RESISTIVITY IN OHM-METRES

2413

TO ACCOMPANY A REPORT BY R. E. CHAPLIN, P. ENG.
DATED SEPT, 21 1969

SURVEY BY PROFESSIONAL GEOLOGIC SERVICES LTD.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2413 MAP #5

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
ROBERT E. CHAPLIN

EVERGREEN EXPLORATIONS LTD.
PACIFIC PETROLEUM LTD. OPTION

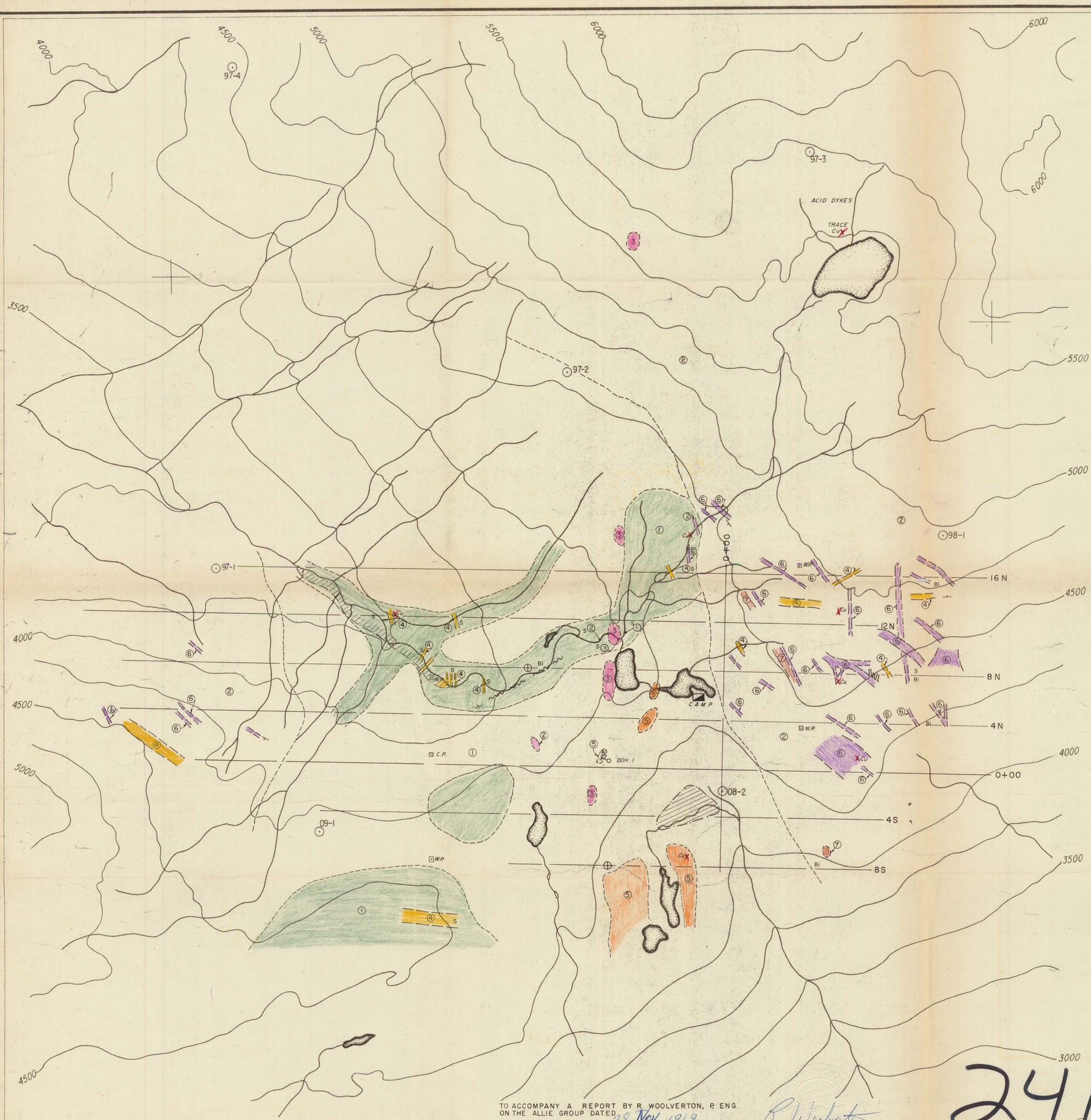
ALLIE CLAIM GROUP

INDUCED POLARIZATION SURVEY

PROFILE : LINE 16N

OMINECA MINING DIVISION B.C.

SCALE 1" = 400'



LEGEND:

- (7) GABBRO AND BASALT
- (6) ANDESITE AND ANDESITE PORPHRY DYKES
- (5) BIOTITE FELDSPAR PORPHYRITE
- (4) QUARTZ PORPHRY WITH SOME SERICITIZATION
- (3) DIORITE
- (2) GRANODIORITE
- (1) ANDESITE AND ANDESITE PORPHYRY FLOWS
- ⊕ PROPOSED DRILL HOLES

SYMBOLS

- Geologic contact, defined
- Geologic contact, assumed
- Outcrop
- Gossan
- Fault
- Strike and dip
- Cu Copper mineralization
- Bi Biotized
- S Sericitized
- W.P. C.P. Claim post — witness post

EVERGREEN EXPLORATIONS LTD.
PACIFIC PETROLEUM LTD. OPTION
ALLIE CLAIM GROUP

GEOLOGY MAP

SCALE: 1" = 400'

SURVEY BY: EVERGREEN EXPLORATIONS LTD.,
SMITHERS, B.C.
AUGUST, 1969

TO ACCOMPANY A REPORT BY R. WOOLVERTON, P. ENG.
ON THE ALLIE GROUP DATED 28 Nov 1969

R. Woolverton

2413

MAP No. 1

LEGEND

Mo. IN P.P.M.
Cu. IN P.P.M.
2 65

MOLYBDENITE
> 4 ANOMOLOUS
4 B< 4 BACKGROUND

COPPER
> 100 ANOMOLOUS
100B <100 BACKGROUND

PROPOSED DRILL HOLES

SYMBOLS

△ ROCK CHIP SAMPLE LOCATION – IN PLACE.
△ ROCK CHIP SAMPLE LOCATION – IN TALUS.
○ SOIL SAMPLE LOCATION.

EVERGREEN EXPLORATIONS LTD.

PACIFIC PETROLEUM LTD. OPTION

ALLIE CLAIM GROUP

GEOCHEMICAL SURVEY
TOTAL Cu & Mo IN P.P.M.

SCALE: 1" = 400'

SURVEY BY: EVERGREEN EXPLORATIONS LTD.,
SMITHERS, B.C.
AUGUST, 1969

TO ACCOMPANY A REPORT BY R. WOOLVERTON, P. ENG.
ON THE ALLIE GROUP DATED
28 Nov 1969 R. Woolverton

MAP No. 2

2413

LEGEND

+40°
0°
-40°

CONDUCTOR

POSSIBLE SULFIDE ZONES

PROPOSED DRILL HOLES

TO ACCOMPANY A REPORT BY R. WOOLVERTON, P. ENG.
ON THE ALLIE GROUP DATED 28 Nov 1969

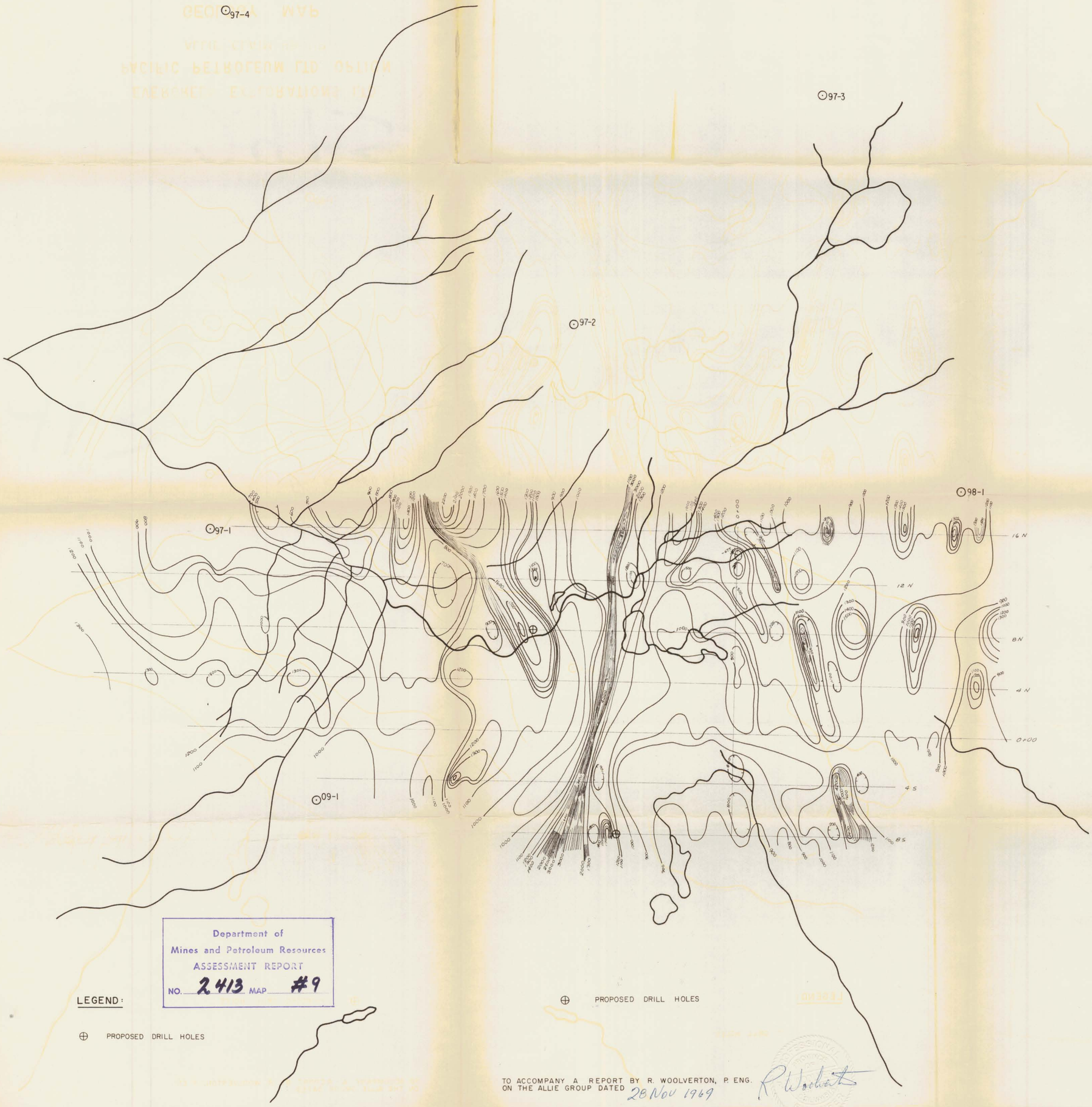
R. Woolverton

EVERGREEN EXPLORATIONS LTD.
PACIFIC PETROLEUM LTD. OPTION
ALLIE CLAIM GROUP
RADEM SURVEY

SCALE 1" = 400'

SURVEY BY EVERGREEN EXPLORATIONS LTD.
SMITHERS, B. C.
AUGUST, 1969.

MAP No. 3



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2413 MAP #9

LEGEND:

⊕ PROPOSED DRILL HOLES

⊕ PROPOSED DRILL HOLES

TO ACCOMPANY A REPORT BY R. WOOLVERTON, P. ENG.
ON THE ALLIE GROUP DATED 28 Nov 1969

R. Woolverton

2413

EVERGREEN EXPLORATIONS LTD.

PACIFIC PETROLEUM LTD. OPTION

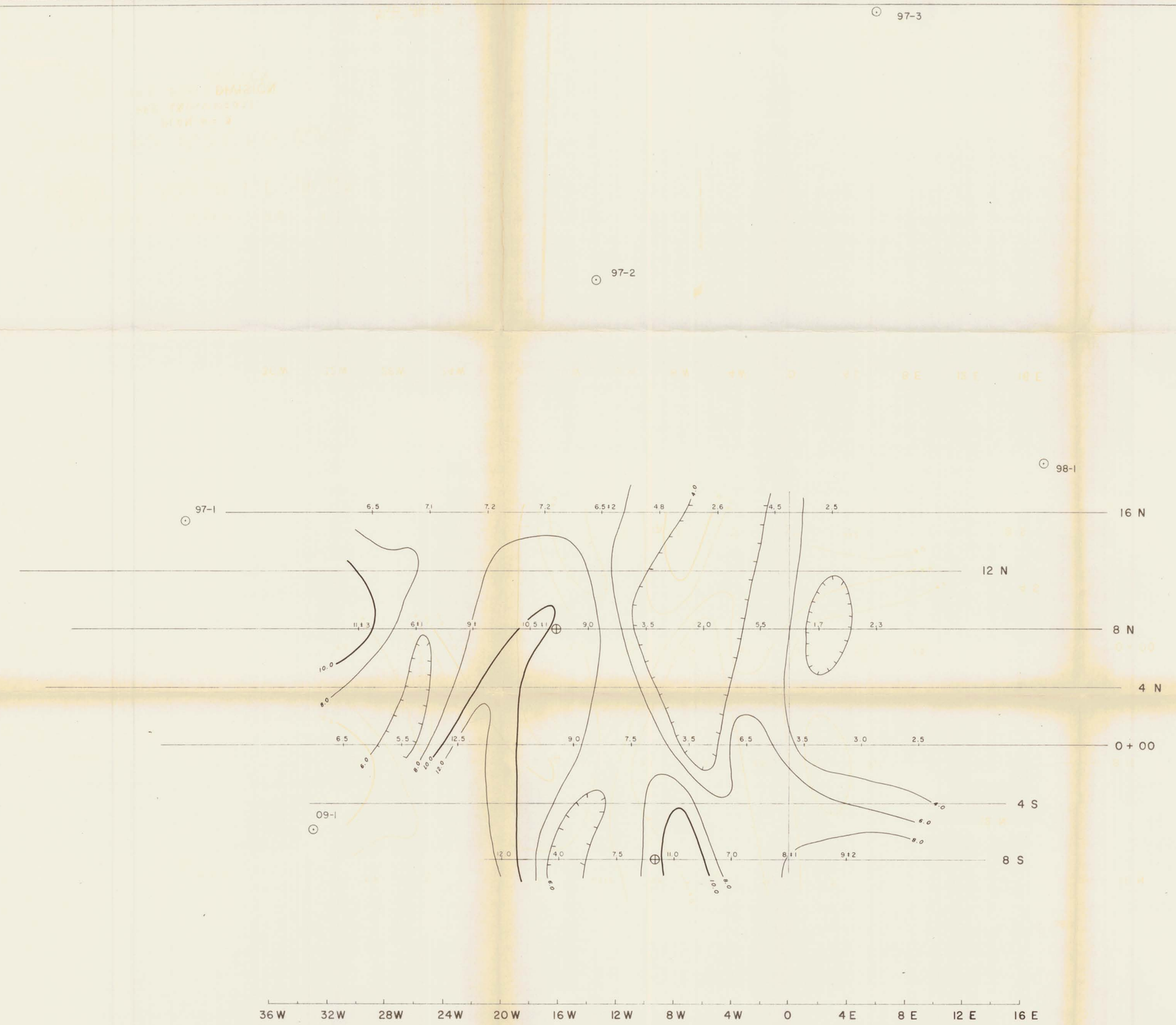
ALLIE CLAIM GROUP

MAGNETOMETER MAP

SCALE: 1" = 400'

SURVEY BY EVERGREEN EXPLORATIONS LTD,
SMITHERS, B.C.
JULY, 1969

MAP No. 4



⊕ PROPOSED DRILL HOLES

TO ACCOMPANY A REPORT BY R.E. CHAPLIN, P.ENG.
DATED SEPT. ~~23~~ Nov 26 1969

SURVEY BY PROFESSIONAL GEOLOGIC SERVICES LTD.

2413

EVERGREEN EXPLORATIONS LTD.

PACIFIC PETROLEUM LTD. OPTION

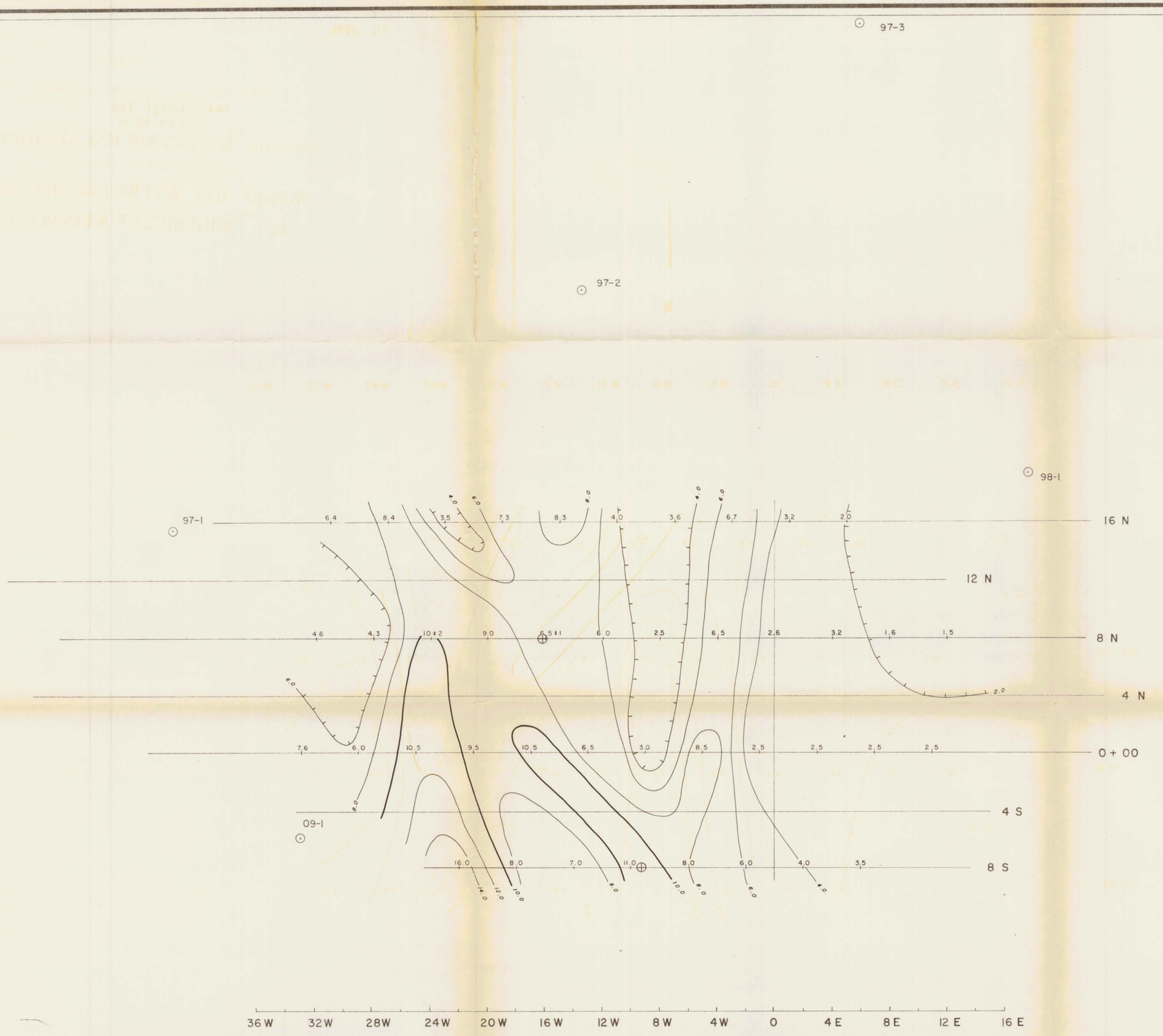
ALLIE CLAIM GROUP

INDUCED POLARIZATION SURVEY

PLAN: n = 4
P.F.E. (3.0-0.1 c.p.s.)
OMINECA MINING DIVISION B.C.

SCALE : 1" = 400'

MAP No. 9



⊕ PROPOSED DRILL HOLES

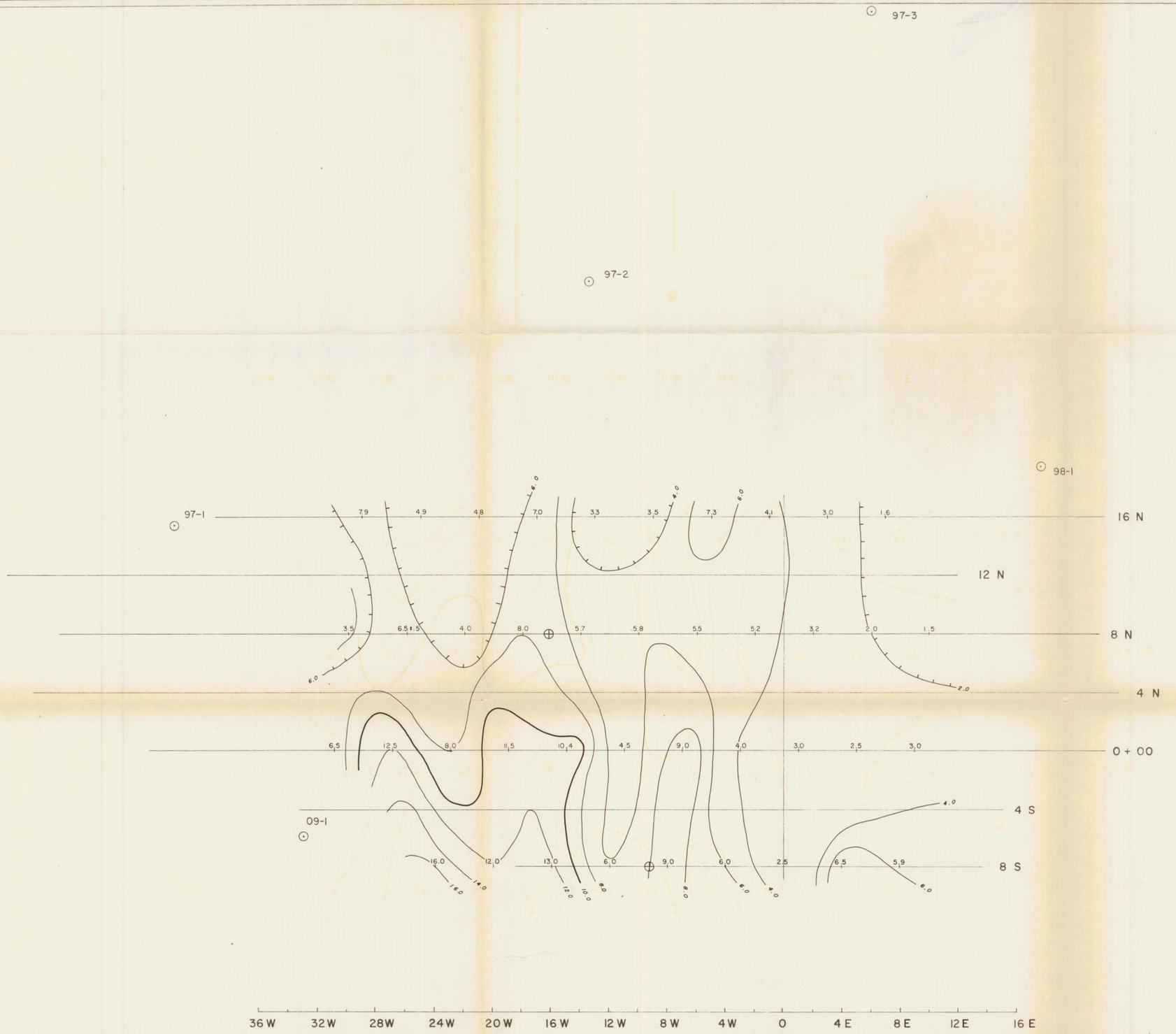
TO ACCOMPANY A REPORT BY R.E. CHAPLIN, P ENG.
DATED ~~SEPT. 23~~ Nov 28 1969

SURVEY BY PROFESSIONAL GEOLOGIC SERVICES LTD.

2413

EVERGREEN EXPLORATIONS LTD.
PACIFIC PETROLEUM LTD. OPTION
ALLIE CLAIM GROUP
INDUCED POLARIZATION SURVEY
PLAN: n = 3
P.F.E (3.0 - 0.1 c.p.s.)
OMINECA MINING DIVISION B.C.
SCALE : 1" = 400'

MAP No. 8



⊕ PROPOSED DRILL HOLES

TO ACCOMPANY A REPORT BY R.E. CHAPLIN, P.ENG.
DATED ~~SEPT. 23~~ Nov. 28 1969

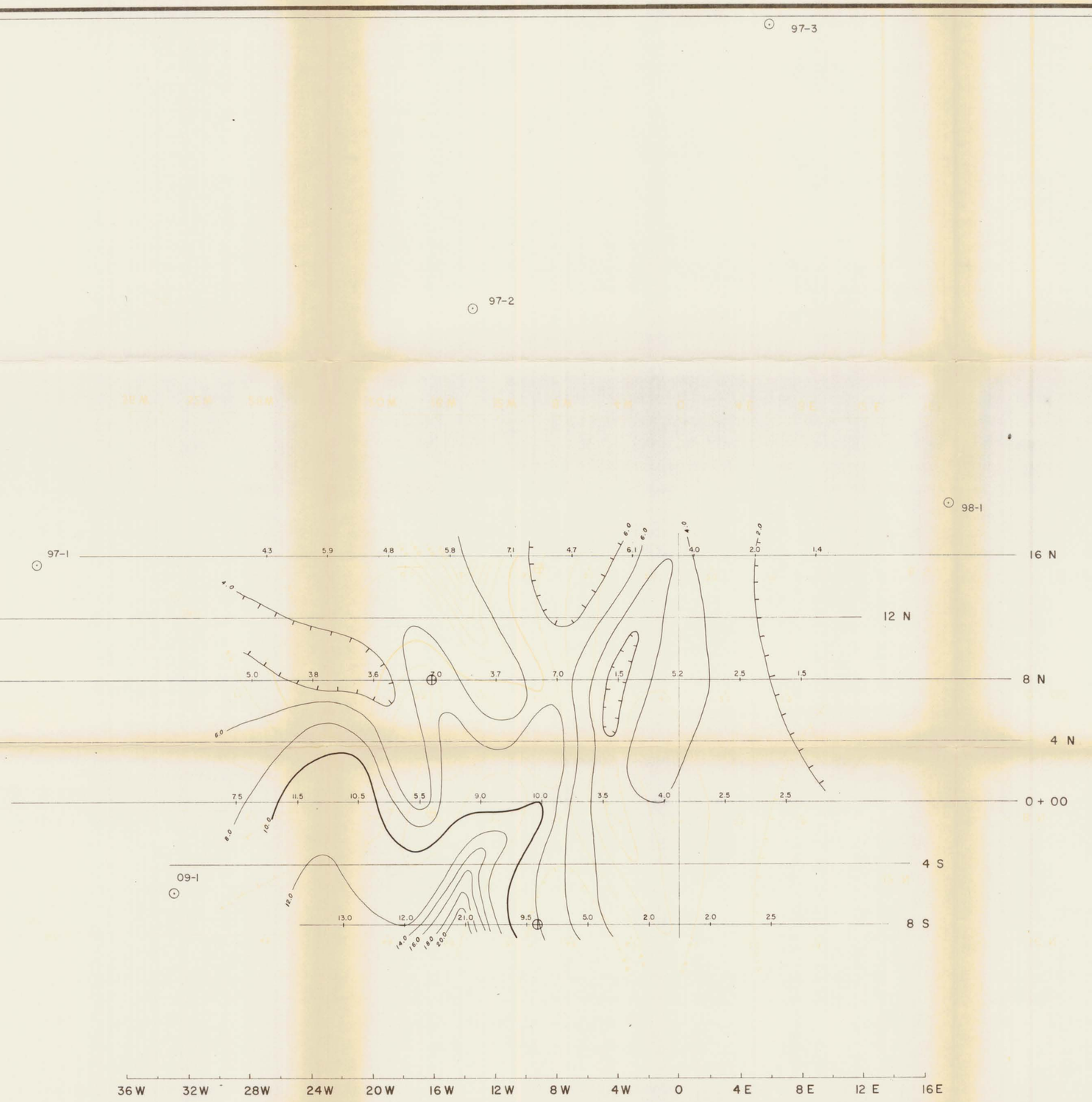
SURVEY BY PROFESSIONAL GEOLOGIC SERVICES LTD.

2413

PROFESSIONAL ENGINEER
ROBERT E. CHAPLIN
No. 7
PROV. OF B.C.

EVERGREEN EXPLORATIONS LTD.
PACIFIC PETROLEUM LTD. OPTION
ALLIE CLAIM GROUP
INDUCED POLARIZATION SURVEY
PLAN: n = 2
P.F.E. (3.0 - 0.1 c.p.s.)
OMINECA MINING DIVISION B.C.
SCALE : 1" = 400'

MAP No. 7



⊕ PROPOSED DRILL HOLES

TO ACCOMPANY A REPORT BY R.E. CHAPLIN, P. ENG.
DATED ~~SEPT. 23~~ Nov 26 1969

SURVEY BY PROFESSIONAL GEOLOGIC SERVICES LTD.

2413

EVERGREEN EXPLORATIONS LTD.

PACIFIC PETROLEUM LTD. OPTION

ALLIE CLAIM GROUP

INDUCED POLARIZATION SURVEY

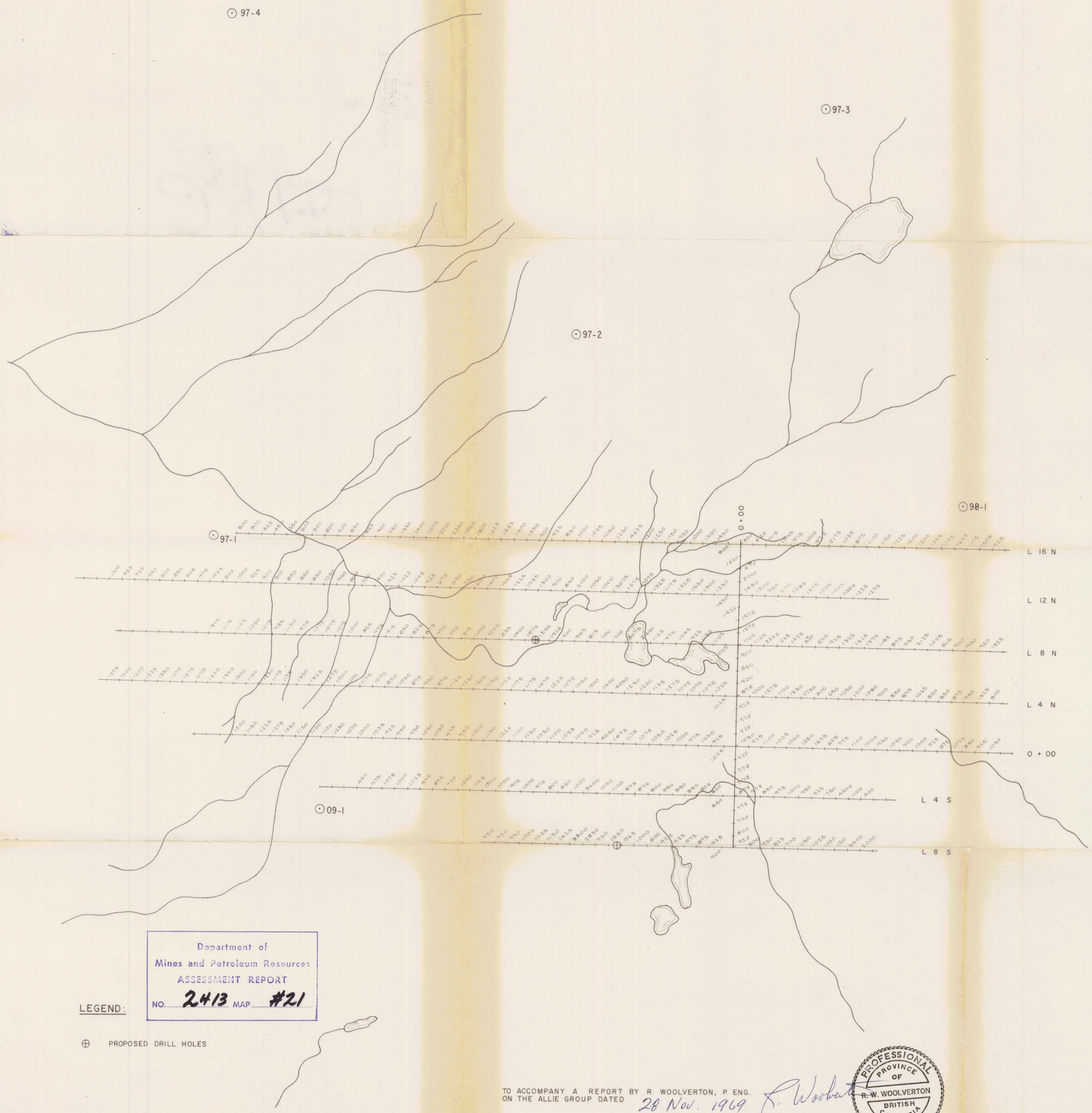
PLAN: n = 1

P.F.E. (3.0-0.1 c.p.s.)

OMINECA MINING DIVISION B.C.

SCALE : 1" = 400'

MAP No. 6



LEGEND:

⊕ PROPOSED DRILL HOLES

TO ACCOMPANY A REPORT BY R. WOOLVERTON, P. ENG.
ON THE ALLIE GROUP DATED 28 Nov. 1969

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
R. W. WOOLVERTON

2413

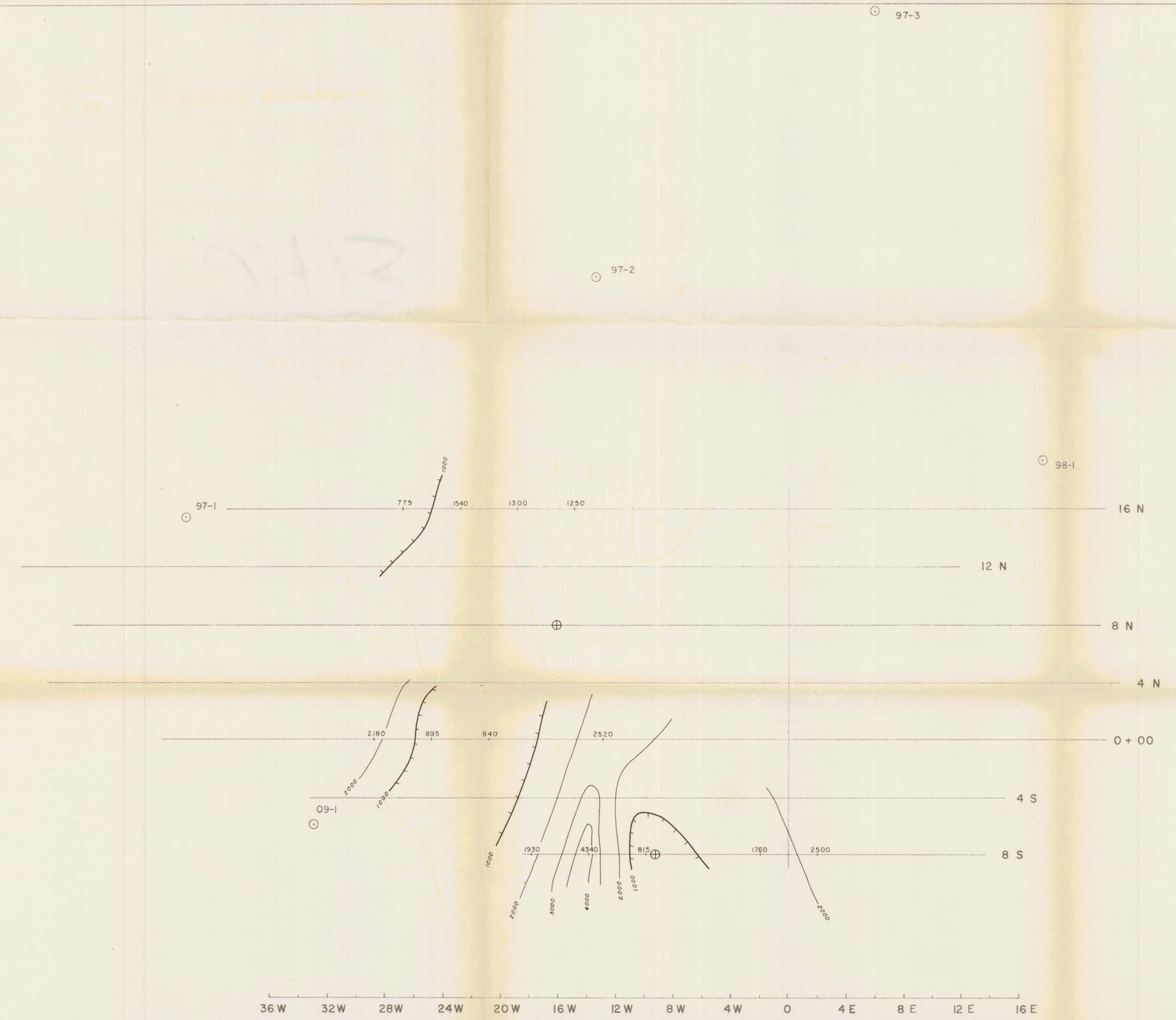
EVERGREEN EXPLORATIONS LTD.
PACIFIC PETROLEUM LTD. OPTION
ALLIE CLAIM GROUP

MAGNETOMETER MAP

SCALE: 1" = 400'

SURVEY BY EVERGREEN EXPLORATIONS LTD.
SMITHERS, B.C.
JULY, 1969

MAP No. 16



⊕ PROPOSED DRILL HOLES

TO ACCOMPANY A REPORT BY R.E. CHAPLIN, P.ENG.
DATED ~~SEPT. 23~~ Nov 28 1969

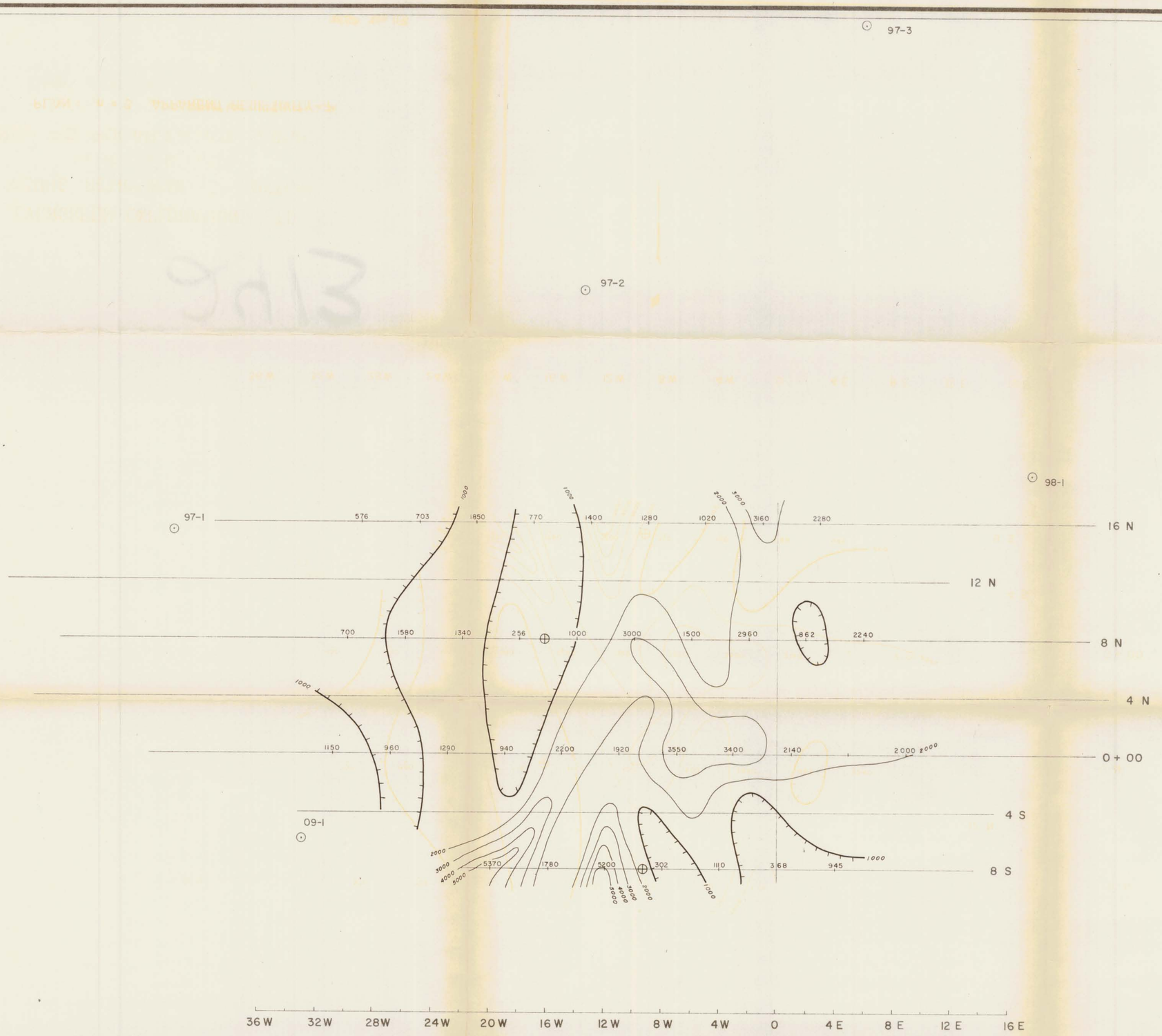
SURVEY BY PROFESSIONAL GEOLOGIC SERVICES LTD

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2413 MAP #20

2413

EVERGREEN EXPLORATIONS LTD.
PACIFIC PETROLEUM LTD. OPTION
ALLIE CLAIM GROUP
INDUCED POLARIZATION SURVEY
PLAN : n = 5 APPARENT RESISTIVITY - P
OMINECA MINING DIVISION B.C.
SCALE : 1" = 400'

MAP No. 15



⊕ PROPOSED DRILL HOLES

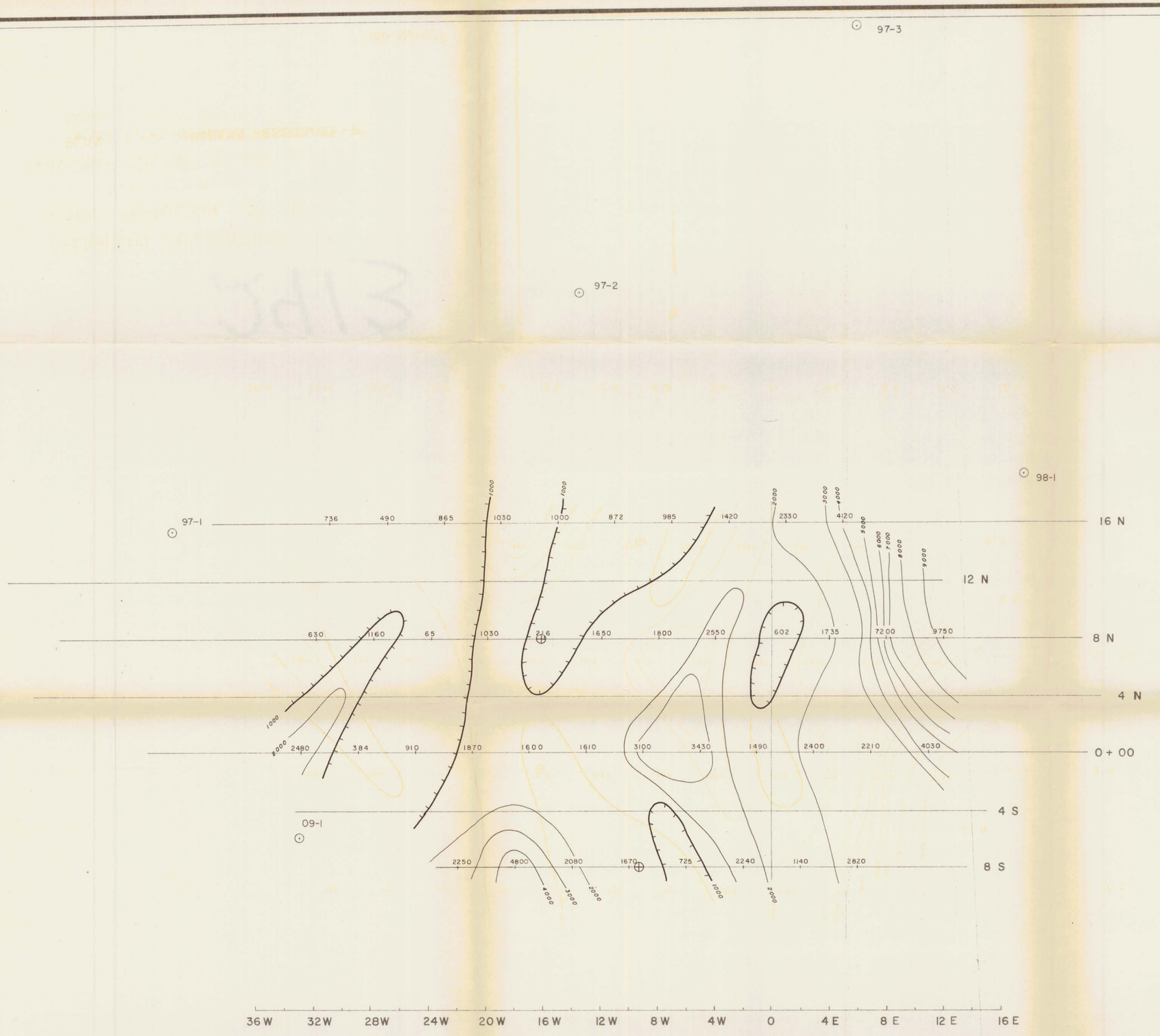
TO ACCOMPANY A REPORT BY R.E. CHAPLIN, P.ENG.
DATED ~~SEPT. 23~~ Nov 28 1969

SURVEY BY PROFESSIONAL GEOLOGIC SERVICES LTD.

2413

EVERGREEN EXPLORATIONS LTD.
PACIFIC PETROLEUM LTD. OPTION
ALLIE CLAIM GROUP
INDUCED POLARIZATION SURVEY
PLAN : n = 4 APPARENT RESISTIVITY - P
OMINECA MINING DIVISION B.C.
SCALE : 1" = 400'

MAP No. 14



⊕ PROPOSED DRILL HOLES

SURVEY BY PROFESSIONAL GEOLOGIC SERVICES LTD.

TO ACCOMPANY A REPORT BY R.E. CHAPLIN, P.ENG.
DATED ~~SEPT. 23~~ Nov 28 1969

2413

EVERGREEN EXPLORATIONS LTD.

PACIFIC PETROLEUM LTD. OPTION

ALLIE CLAIM GROUP

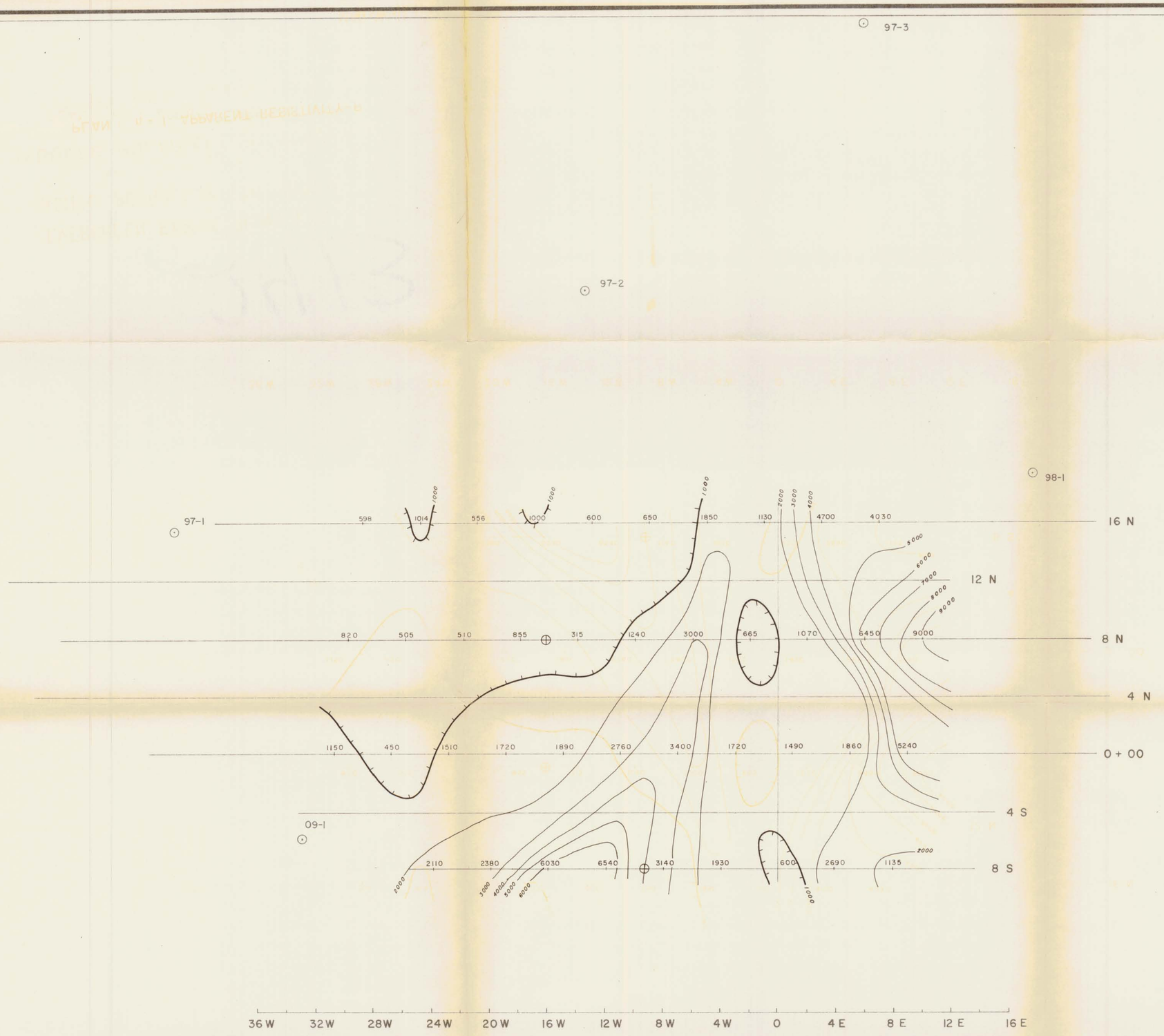
INDUCED POLARIZATION SURVEY

PLAN : n = 3 APPARENT RESISTIVITY - P

OMINECA MINING DIVISION B.C.

SCALE : 1" = 400'

MAP No. 13



⊕ PROPOSED DRILL HOLE

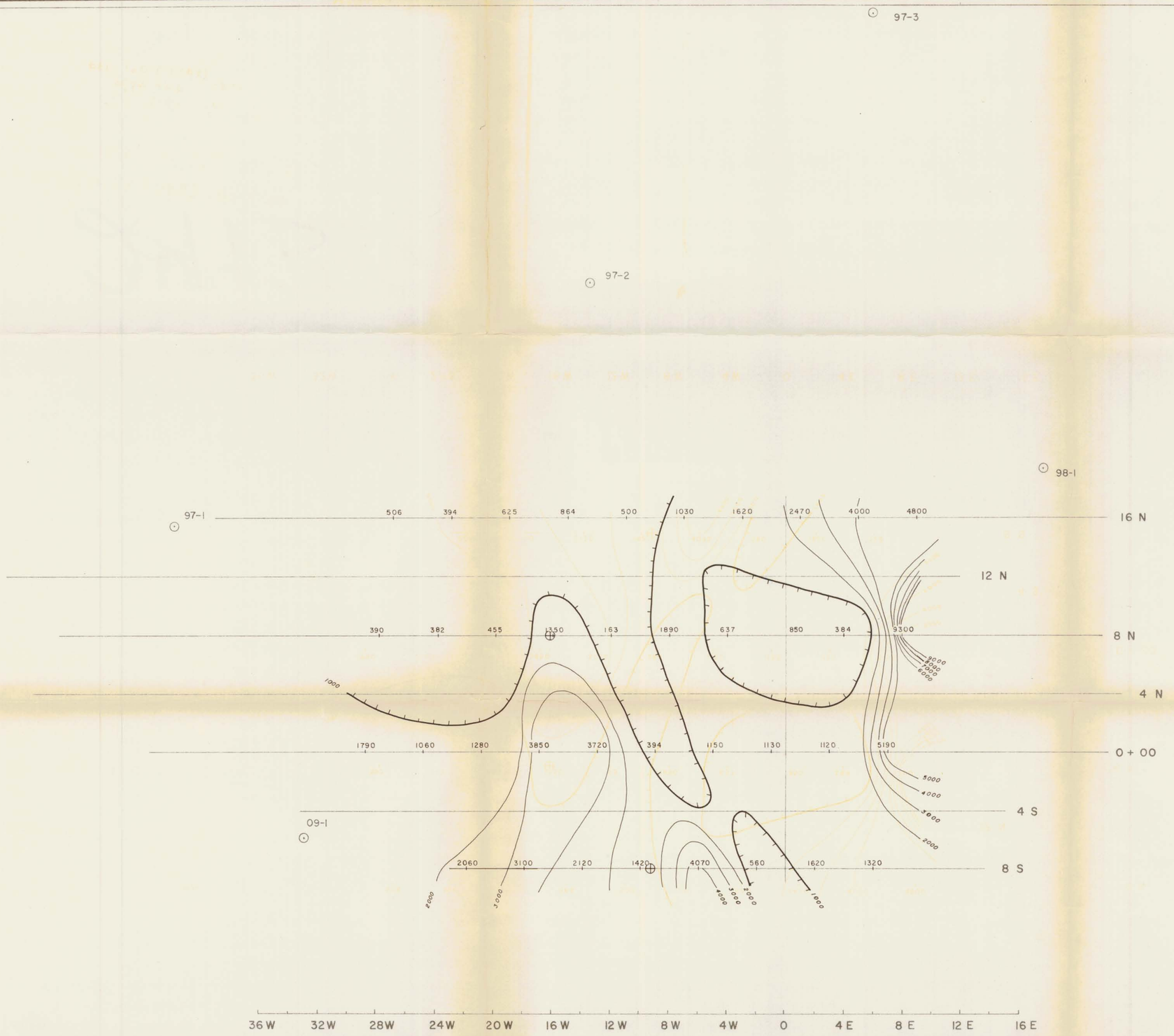
TO ACCOMPANY A REPORT BY R.E. CHAPLIN, P.ENG.
DATED ~~SEPT. 23~~ NOV 28 1969

SURVEY BY PROFESSIONAL GEOLOGIC SERVICES LTD

2413

EVERGREEN EXPLORATIONS LTD.
PACIFIC PETROLEUM LTD. OPTION
ALLIE CLAIM GROUP
INDUCED POLARIZATION SURVEY
PLAN : n = 2 APPARENT RESISTIVITY - P
OMINECA MINING DIVISION B.C.
SCALE : 1" = 400'

MAP No. 12



⊕ PROPOSED DRILL HOLES

TO ACCOMPANY A REPORT BY R.E. CHAPLIN, P.ENG.
DATED ~~SEPT. 23~~ Nov 28 1969

SURVEY BY PROFESSIONAL GEOLOGIC SERVICES LTD.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA

2413

EVERGREEN EXPLORATIONS LTD.

PACIFIC PETROLEUM LTD. OPTION

ALLIE CLAIM GROUP

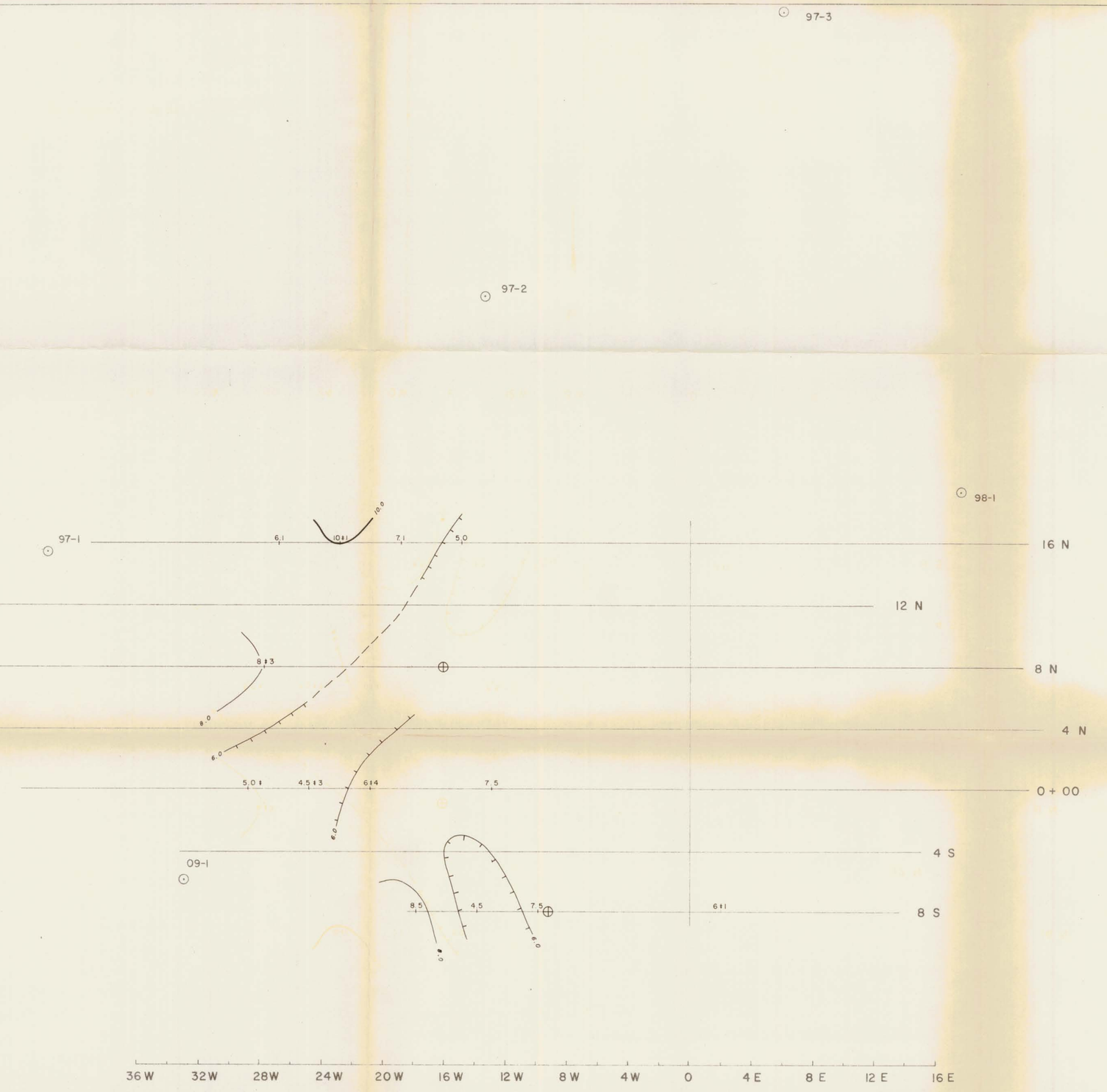
INDUCED POLARIZATION SURVEY

PLAN : n = 1 APPARENT RESISTIVITY-P

OMINECA MINING DIVISION B.C.

SCALE : 1" = 400'

MAP No. 11



⊕ PROPOSED DRILL HOLES

TO ACCOMPANY A REPORT BY R.E. CHAPLIN, P.ENG.
DATED ~~SEPT. 23~~ NOV 28 1969

SURVEY BY PROFESSIONAL GEOLOGIC SERVICES LTD.

2413

EVERGREEN EXPLORATIONS LTD.

PACIFIC PETROLEUM LTD. OPTION

ALLIE CLAIM GROUP

INDUCED POLARIZATION SURVEY

PLAN: n = 5
P.F.E. (3.0-0.1 c.p.s.)
OMINECA MINING DIVISION B.C.

SCALE : 1" = 400'

MAP No. 10

2413

EVERGREEN EXPLORATIONS LTD.

PACIFIC PETROLEUM LTD. OPTION

ALLIE CLAIM GROUP

HELICOPTER MAGNETIC AND ELECTRO MAGNETIC SURVEYS

SCALE: 1" = 1000'

SURVEY BY: EVERGREEN EXPLORATIONS LTD., SMITHERS, B.C.
AUGUST, 1969

CONDUCTORS

- PRIME CONDUCTORS
- SECONDARY CONDUCTORS
- SURFICIAL OR FORMATIONAL CONDUCTORS

LEGEND

- FLIGHT LINES AND PHOTO IDENTITY POINTS (PICKED) (ASSUMED)
- 200 GAMMA CONTOUR INTERVALS
- MAGNETIC DEPRESSION

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2413 MAP #10

TO ACCOMPANY A REPORT BY R. WOOLVERTON, P.ENG.
ON THE ALLIE GROUP DATED 28 NOV. 1969

R. Woolverton

MAP No. 5