GEOLOGICAL AND GEOPHYSICAL
REPORT ON
BETTY LOU CLAIMS
at MERRITT B.C.
NICOLA MINING DIVISION
owner: C.C.RENNIE

September 1975

by C.C.Rennie, P.Eng.

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Appendix

Illistrations

STATEMENT OF EXPENDITURES

The following are the expenses of the survey covered in the following report. These expenses are to be applied as assessment work on the mineral claims.

Professional fees (C.C.Rennie, P.Eng., geologist)	
9 field days - July 26 to Aug 3 inclusive at $250.00/day = 2250.00	
3 days report preparation at $250.00/day = 750.00	
	$3000.00
Field assistant (H.K. Rennie, chainman)	
9 field days at $25.00/day	$225.00
Vehicle expenses - 550 miles Vancouver to site and return	$55.00
Groceries and camp supplies	$128.81
Map reproduction	$74.32
	$3483.13

C. C. Rennie

INTRODUCTION

The writer purchased the subject Betty Lou claims and fractions from Canex Placer Ltd., who were preparing to relinquish the claims, in order to interest other companies in searching for Craigmont type mineralization. It has long been recognized that there is no near surface copper mineralization on the property, and that there were no outstanding geophysical or geochemical anomalies on the claims to pursue. The high cost of drilling deep holes on geological projections only has been a deterrent to exploration in the past, but with increasing costs of logistics for more remote exploration ventures the possible cost of $200,000 to drill four sections to 600m depth is not so enormous.

The Craigmont mine will ultimately produce 800,000,000 lbs. of copper from a zone less than 1000m long, 150m wide at its widest structural spread and 500m high. The relative high grade of the undiluted ore, ranging from 1,8%Cu to 2.4%Cu, is an attractive exploration target as it will bear considerable development and mining expense if found in quantity. Furthermore, the existence of the Craigmont underground development and concentrator, an experienced mining crew in the area, and existing power, gas and transportation facilities will all be a credit to any new mineralization found in the area.

While some drilling has been done on the Betty Lou claims it has not been close enough spaced to find any 60m wide steeply dipping mineralization if such exists. Although the elevation of the Craigmont concentrator is 720m above sea level, this should not be a deterrent to search below this elevation if reasonable geological evidence is obtained to project mineralization below this level.

In light of the foregoing the writer undertook the field study and preparation of this report to excite further exploration of the Betty Lou claims.

PROPERTY AND OWNERSHIP

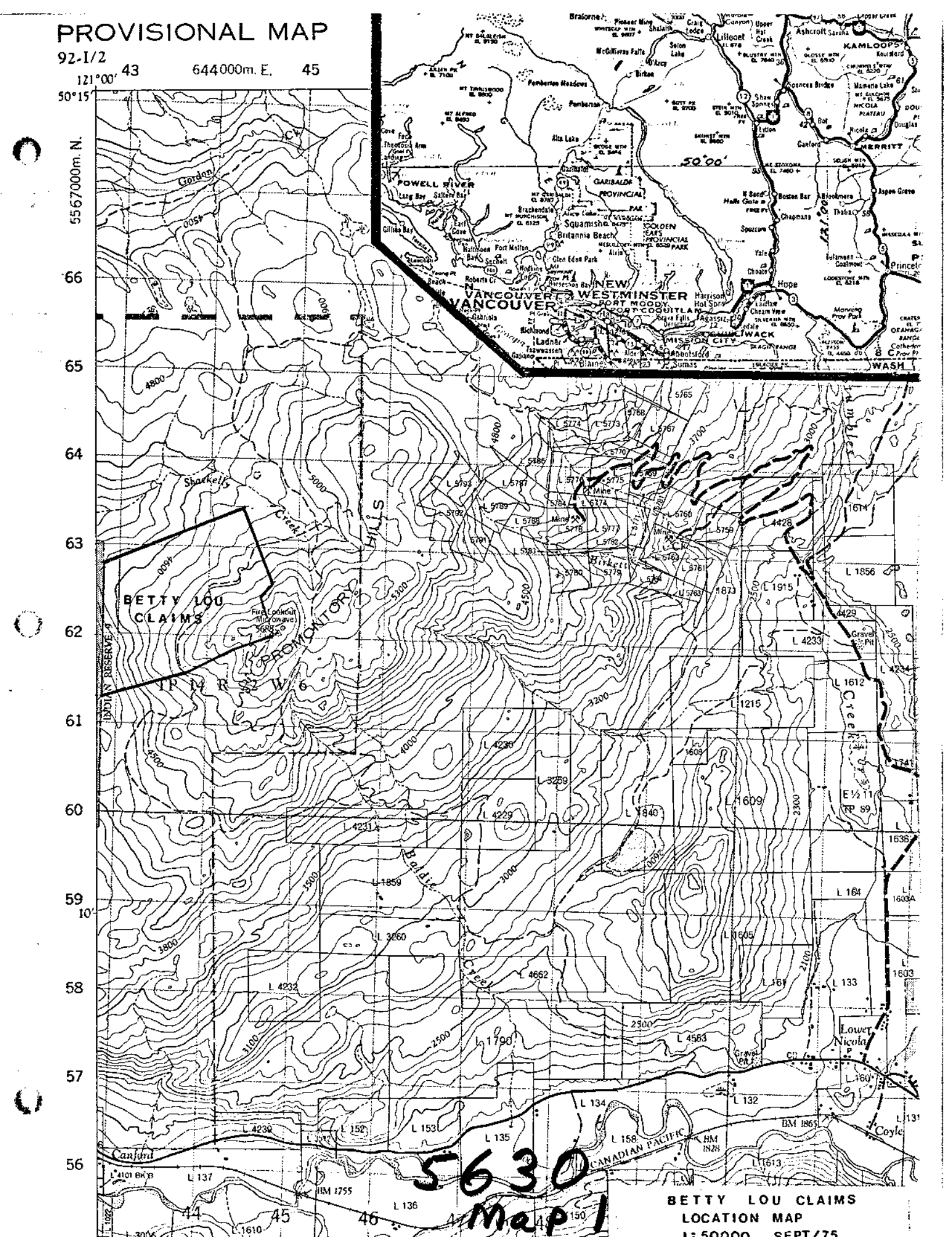
Fifteen Betty Lou claims and fractions were purchased in July 1975 by C.C.Rennie from Canex Placer Limited. Two additional 25 hectare units were staked July 26, 1975 to cover two fractions which had lapsed in June 1975. (fig.3)

The claims now held are:

Name of Claim	Record No.	Expiry Date
Betty Lou 2	5104(P)	Nov.12, 1975
Betty Lou 4	6106(P)	Nov.12, 1975
Betty Lou 6	5109(P)	Nov.12, 1975
Betty Lou 8-14 inclusive	5110-5116(P)	Nov.12, 1975
Betty Lou 1-4 Fr.inclusive	11535-11538(N)	Oct.18, 1975
Loo 8 Fr.	18954(N)	Oct.18, 1975
Betty 1&2 units	24	July 31, 1976

Name and address of the present owner are:

Clifford C. Rennie
1943 Boulevard Crescent
North Vancouver, B.C.
V7L 3Y9


PROVISIONAL MAP
92-I/2
43
644000m. E.
45
121°00'
50°15'
5567000m. N.
50°00'
BETTY LOU CLAIMS
PROMONTORY HILLS
Shackells Creek
Gordon
Baldie Creek
Birkett Creek
Canford
Coyle
Lower Nicola
CANADIAN PACIFIC
IP 14 R 52 W 6
INDIAN RESERVE
Fire Lookout Microwave 5688
BM 1755
BM 1865
BM 1828
Gravel Pit
Mine
POWELL RIVER
VANCOUVER
NEW WESTMINSTER
PORT MOODY
PORT COQUITLAM
MISSION CITY
ABBOTSFORD
HOPE
KAMLOOPS
MERRITT
LILLOOET
PEMBERTON
SQUAMISH
WHISTLER
GARIBALDI PROVINCIAL PARK
GOLDEN EARS PROVINCIAL PARK
5630
Map 1
BETTY LOU CLAIMS
LOCATION MAP
1:50000 SEPT/75

LOCATION, ACCESS & PHYSIOGRAPHY

The property is on the northwest slope of Promontory Hill, 17 km west of Merritt B.C. in the Nicola Mining Division (fig 1). Promontory Hill is the site of a forestry lookout and microwave repeater station.

The access road to Promontory Hill leaves the Merritt-Spences Bridge road approximately 13 km west of Merritt and 3 km west of Lower Nicola. This road is steep in part, climbing 1220 m in 12.9 km, but is negotiable with two wheel drive vehicles in good weather. A rather obscure access road leaving the Promontory Hill road 7.9 km from the highway leads westward around the mountain to 1510 m elevation on the Betty Lou 6 claim. This road can be driven with 2 wheel drive in good weather.

A logging road that must come up through IR 9 could provide 2 wheel drive access to the northern portions of the claims, but this road was not checked out by the writer.

Elevations range from 1734 m at the top of Promontory Hill to 1280m at the Indian Reserve No.9 boundary to the west. The claims are covered by varying stands of scattered large fir trees, closely spaced lodgepole pine, open poplar stands and occasional alpine clearings. Overburden ranges from almost none along the spine of the ridge to probably 15m depths of glacial fill on the north slopes. Water is not abundant on the claims but in August there was a small stream of 8 litres per minute along the edge of Betty Lou 6 claim, another along the north boundary and a small spring runs 8 litres per minute on the north side of Betty Lou 6 claim.

Annual precipitation is 37cm(15") with more than half of it as snow in the winter. Snow does not usually stay on the ground until December and is mostly gone from the claims by June. Temperatures range from a maximum 35°C in summer to -20°C minimum in winter.

HISTORY

The following brief history was largely compiled by R. Cannon in a recent review report for Canex.

1. 1957 - Betty Lou claims staked for Canadian Exploration Ltd to cover the extension of the Nicola-Guichon Batholith contact considered geologically favourable after the recent discovery of the Craigmont copper deposit.
2. 1958 - Road construction.
3. 1959 - Reconnaisance geological and topographic mapping by C.W.Ball. Scale 1"=400'.
4. 1959/60 - Geological mapping by B.C.Dep't of Mines. Scale 1"=1000'
5. 1960/61 - Line cutting, bulldozer lines and ten bulldozer trenches.
6. 1960/61 - Vertical Intensity magnetometer survey under the supervision of A.Allan.
7. 1961 - Reconnaisance Induced Polarization survey by Hunting Survey Corp.Ltd.
8. 1961 - Detailed Induced Polarization survey by McPhar Geophysics Ltd. on an anomalous area indicated by the Hunting reconnaisance survey.
9. 1961 - Diamond Drill Hole Can#1 183.5m,-51°N,N2°W.
10. 1962 - Planetable mapping on the north central portion of the Betty Lou claims by C.W. Ball. Scale 1"=200.
11. 1963 - Detailed Induced Polarization survey by Hunting Survey Corp.Ltd.
12. 1965 - Geological mapping on the northwest part of the Betty Lou claims by W.S.Pentland.
13. 1965 - Geochemical soil sampling program.
14. 1965 - Two diamond drill holes: Can#2,334.45m, vertical
    Can#3,192.08m, vertical

HISTORY continued

15. 1966 - Bulldozer trenches nos.11&12.
16. 1967 - Detailed Induced Polarization survey by Canex Aerial Exploration Ltd.
17. 1967 - Two diamond drill hoes Can#4, 470.12m, vertical
Can#5, 728.66m, vertical
18. 1968-1975 - No activity.
19. 1975 - July, Fifteen Betty Lou claims and Fractions purchased by C.Rennie from Canex Placer Ltd.
20. 1975 - Aug., Two 25 hectare units, (Betty 1&2) staked to cover fractions.
21. 1975 - Aug., Geological and magnetometer mapping by C.C. Rennie. Scale 1:5000

GENERAL GEOLOGY

The general Promontory Hill area is underlain by the Nicola Series rocks of Upper Triassic age, cut off to the north by the Guichon Batholith, and intruded in the southeast corner by the Coyle stock. A portion of the central area is overlain by a volcanic series shown as Kingsvale volcanics on the G.S.C. maps, but potassium-argon age dated at 47 million years and therefore correlatable with the Coldwater beds of Tertiary age. The western extension of the Nicola rocks is overlain by the Spences Bridge volcanics of Lower Cretaceous age. Recent glacial till covers parts of the area.

The Nicola rocks on the area are predominantly andesitic fragmentals and flows with intercalated feldspathic greywackes, minor argillites and relatively narrow but persistent bands of limestone. Structurally the Promontory Hill area may be anticlinal, somewhat overturned to the south, with eastward plunging drag folds on the north side of the anticlinal axis. The limestone in the Nicola Series, although less than 5% of the rock volume in the Promontory Hill area is economically important because it is the host rock for the Craigmont copper ore body to the east. The limestone has been thickened and attenuated by drag folding so that true thicknesses of the limestone bands are difficult to establish.

The Guichon Batholith to the north is a fresh hornblende granodiorite but generally has a dioritic marginal phase in the Promontory Hill area. At some points the diorite contact with the Nicola rocks is sharp but at others, and particularly where the Nicola rocks are feldspathic greywackes, the contact is gradational, resulting in the field-named rock "dioritized greywacke". Hydrothermal alteration of the batholithic rocks is slight, with fresh diorite in contact with Nicola rocks in some areas.

GENERAL GEOLOGY continued

The "Kingsvale" volcanics do not outcrop on the Betty Lou claims but cover a section between the Betty Lou claims and the Craigmont mine to the east. They are a thick pile of volcanic agglomerates with poorly stratified bentonitic conglomerates, sediments and clays containing plant remains (coal and petrified wood) toward the base. Thin basalt dykes in the western part of the Betty Lou claims may be related either to the Kingsvale or the Spences Bridge volcanics.

The Spences Bridge volcanics underly the Indian Reserve No.9 to the west and effectively mask any extension of the Nicola rocks westward.

Glacial overburden, in the form of tillite and hard clay has been derived from the batholith to the north and transported south southeast to cover most of the bedrock in the northern part of the claims; and was probably dumped from beneath the glacier as it rode up over the resistant ridge of Promontory Hill. Boulders in the tillite are up to 1 metre diameter, but mostly are 10-15cm diameter and are all granodiorite from the batholith.

LOCAL GEOLOGY

Rock Types

The local geology of Betty Lou 2, 4 and 11 claims and Loo 8 Fraction was plane table mapped by C.W. Ball in 1962 and reported April 1, 1963. At that time there were few exposures to the west due to forest and overburden cover. Logging since that time has exposed considerable bedrock in the western area in road cuts and trenches made for road fill. Unfortunately few of these exposures are continuous over much distance and therefore geological mapping must remain interpretive.

The area mapped by Ball is 50% outcrop along the spine of a westward extending ridge from the top of Promontory Hill. Rocks in this section are mainly greywackes with approximately 10% intercalated limestone and poorly outcropping argillites. This same sequence extends westward.

Along the northern portion of the claim block the few outcrops and exposures are andesitic fragmentals which would conformably overly the greywackes and limestones. These generally consist of dark fragments up to 1cm diameter in a lighter coloured tuffaceous matrix. On a weathered surface the fragments stand out giving the outcrop a rough texture. Close to the diorite the outcrops of andesitic fragmental are bleached. Occasional small patches of garnet epidote skarn alteration were seen in the volcanics.

The diorite outcropping and exposed in trenching on the Betty Lou claims is a medium grained, medium to dark grey hornblende diorite. The diorite is exposed only in the north-west corner of the claims. The near-contact portion of the diorite contains sufficient accessory magnetite to give a magnetic anomaly along the contact. The magnetite content of the granodiorite further into the interior of the batholith is variable, giving a patchy magnetic response. One fresh small diorite outcrop occurs at 1190N 1850W and is the only exposure

of a diorite dyke believed resposible for the narrow E-W elongated magnetic anomaly extending eastward from the outcrop.

The limestone of the Betty Lou claims varies in purity from a relatively pure limestone to one containing up to 50% or more fragments believed to be volcanic ash. Crystallinity of the limestone also varies from a black very fine grained limestone with occasional crystalline white veinlets to a completely recrystallized white marble with single crystals up to ½cm. The degree of recrystallization becomes greater closer to the batholith. The limestone at the collar of, and further down Can #3, on surface south of the hole collar and along the south westward extension of this limestone is all recrystallized, suggesting that it is close enough to the batholith contact to become a host rock for mineralization.

A rock outcropping from 1740W along the strike of the limestone zone has previously been desribed as a dacite and as a quartz feldspar porphyry. This rock is characterized by euhedral feldspar grains and round quartz eyes. To the west some rather massive outcrops of this rock suggest an intrusive nature but at 1740W the contacts of this rock with limestone and greywacke suggest it may be part of the Nicola Series, and may be an altered sediment. A similar rock type occurs in the bottom of both Can #2 and Can #3 drill holes and has been variously described as a porphyry and as a hornsfelsed greywacke. The exact nature of this rock can only be determined with more information on its relation to the adjacent rocks.

Structure and Faulting

As previously stated the general structure on Promontory Hill is believed to be an east plunging anticline striking roughly N70°E with the axis south of the top of Promontory Hill. The Nicola rocks on the Betty Lou claims would therefore

all be on the north limb of this anticline and the structures expressed in the rocks are drag folds on this north limb. The limestones in the sequence provide the main evidence of structure as the greywackes and andesitic fragmantals exhibit little attitude. However the limestone outcrops are not sufficiently continuous in outcrop to permit easy interpretation of the structure.

The structure illustrated on the accompanying plan (fig. 5) is a reasonable interpretation, which can be used to explain the complicated geology in the central section, the relatively uniform strike and dip of the limey rocks in the western portion, the absence of limestone outcrops in the northwest section and the location of the favourable limestone between holes Can#2 and Can#3. Minor structures are undoubtedly complicated and some must be ignored when attempting to interpret the major structure.

Minor faulting has been mapped by C.C. Ball, but none of these faults appear to have any notable displacement. Ball (1961) has previously inferred some more major faults from air photo lineation but these have not been included on the maps because there is no concrete evidence of displacement along these linears.

Alteration

The following alterations have been noted in surface rocks and diamond drill core from the Betty Lou claims:

1. Recrystallization of limestone. Complete recrystallization usually occurs within 1000m of the batholith contact.
2. Hornfelsing of greywacke.
3. Biotite development on the greywacke. This was particularly noted in Can#2 drill core, giving the

core a brown colouration.

5. Development of garnet epidote skarn. This occurs in some outcrops of greywacke and in one trench cutting the western limey rocks at 1555 N 2350 W. Garnet epidote skarn also occurs in Can #3 drill hole over 17m and in shorter sections.
6. Development of actinolite magnetite skarn. This type is the principal alteration associated with copper mineralization at Craigmont Mine and therefore the occurence of short sections of this alteration in hole Can#3 is considered very important.

Mineral Controls and Mineralization

Any consideration of economic mineralization on the Betty Lou claims must be related to the copper mineralization at Craigmont Mine, 6km to the east in an identical geological setting. The geologic controls on the copper-iron (chalcopyrite, magnetite, hematite) mineralization at Craigmont are:

1. Limestone or impure limestone host rocks. Very little ore grade mineralization occurs outside what was originally limestone before it was altered to skarn.
2. Fold structures. The fold structures at Craigmont both thicken the limestone host rock to provide a large cross section of host rock and also appear to localize the mineralization within these structures.
3. Proximity to the Guichon batholith. The Guichon batholith appears to be both the source of the copper mineralization and the temperature control for deposition of the mineralization. (The emplacement of the batholith is also probably responsible for the confining fold structures in the Nicola rocks.)

The copper iron mineralization and associated actinolite skarn is generally not right against the batholith, but is usually on top of the nearly barren garnet-epidote skarn that extends down to the diorite contact. The copper - bearing actinolite skarn will usually have a very abrupt contact with recrystallized limestone rather than a gradational contact and this abrupt termination of mineralization is an important fact to recognize when searching for Craigmont type mineralization. The mineralization can be considered an aureole extending roughly from 100 to 500m from the main batholith contact.

Irregular dykes and lenses of diorite extend along strike along the south side of Craigmont ore body at the east end and between the No.1 and north limb orebodies. These semi-detached bodies of diorite pinch out downward and appear to be partially controlled by the Nicola rock structures. They may exercise an important temperature control on mineral deposition. The diorite outcrop at 1190 N 1850 W on the Betty Lou claims suggest that similar lenses of diorite occur on the Betty Lou claims.

4. Truncation of the Nicola strata and structures by the batholith. The Nicola rocks at Craigmont are truncated on the east end at a very acute angle by the batholith and mineralization and alteration die out westward as the Nicola rocks trend away from the contact. On the Betty Lou claims the limey rocks at the western edge of the property must be truncated at depth by the southwestward striking diorite contact and the fold structure which is dipping

LOCAL GEOLOGY continued

north and plunging eastward should also be truncated at depth by the batholith.

Minor copper mineralization had been noted by C.C. Ball during his mapping but nothing with any obvious extent. One small occurence of galena and sphalerite at the top of Promontory Hill may be significant as halo mineralization, similar to the Pb-Zn halo mineralization reported at Ok Tedi copper deposit in New Guinea. No ore grade copper mineralization has been seen on surface or in the drill core on the Betty Lou claims. However the larger trace amounts of copper is hole Can#2 as compared to Can#3 suggest an increasing copper content in the rocks closer to the batholith contact.

Short sections of magnetite associated with actinolite skarn were intersected in hole Can#3. Finely disseminated magnetite is an accessory mineral in the diorite, permitting the diorite contact to be drawn along the increase in magnetic response.

Disseminated pyrite is ubiquitous in the greywacke and andesite fragmentals in sufficient quantity (2-5%) to give an I P response near surface and thereby effectively masking any response from deeper sulphide mineralization.

Any economic copper mineralization on the Betty Lou claims is expected to be found at depth, in similar skarn association and proximity to the batholith as the Craigmont orebodies.

Diamond Drilling

Five diamond drill holes (fig. 3) totalling 1908.8m, were drilled by Canex from 1961 to1967 as follows:

Can #1, -51°N, 183.5m. This hole was drilled to test an I.P. anomaly detailed by McPhar Geophysics. The hole intersected considerable limestone containing sufficient disseminated pyrite to cause the I.P. anomaly, but drilling was stopped before the proposed depth because of drilling water shortage.

LOCAL GEOLOGY continued

Can #2, vertical, 334.45m. This hole was drilled to investigate the geology in the vicinity of the drag fold structure, and to follow the limestone down dip toward the diorite contact. The hole didn't intersect much limestone and was stopped in a quartz-feldspar porphyry rock, then thought to be an intrusive, but which might in fact be a hornfelsed greywacke.

Can #3, vertical, 192.07m. This hole was drilled on the same section as Can #2 to explore the limestone to depth but was also terminated in "feldspar porphyry".

Can #4, -42°N 470.12. This hole was drilled to check an I.P. anomaly indicated by Canex geophysical crew. It intersected only greywacke with disseminated pyrite.

Can #5, vertical, 728.66m. This hole was drilled deep to check out the general geology in this area, and to search for limestone extending to depth. Disseminated pyrite was found in greywacke but the hole did not intersect any limestone. The core was becoming slightly more limey at the end of the hole, but the hole was stopped as its location at that depth was unknown and drilling was becoming expensive.

Unfortunately the drill holes were not surveyed to depth so the deviation of the holes and their relation to surface geology is not accurately known.

Interpretation of the Section Through Can #2 and Can #3 (fig.7)

Since the general attitude of the Nicola series in the vicinity of Can #2 and #3 is dipping northward the only

reasonable explanation for the absence of much limestone in Can #2 hole is for the dip of the limestone to steepen between Can #2 and Can #3 holes so that the main mass of limestone will still be beneath the bottom of Can #2 hole. The "quartz feldspar porphyry" in the middle of Can #3 would then correlate with that in the bottom of Can #2 hole and this rock type would then be part of the Nicola strata. If both holes have wandered southward, tending to turn at right angles to the strata, as could be expected then the dips as measured would actually be steeper.

The possibility of the limestone extending beneath the bottom of hole Can #2 toward the batholith is very important for ore possibilities in view of the up-dip alteration and minor magnetite content of the limestone section in Can #3 hole.

GEOPHYSICS

Previous Geophysics

As listed in the history section a complete magnetometer survey using a Hilger and Watts magnetometer was completed in 1961 and several reconnaisance and detailed induced polarization surveys were carried out from 1961 to 1967.

The magnetometer survey was carried out on lines 200ft. apart nominally with readings at 100ft. intervals. No anomalies that were considered worthy of further attention were discovered by this survey and all variations were attributed to variable magnetite content in the various rock types.

The I.P. surveys while indicating variable sulphide content were followed up by drill holes that showed sufficient disseminated pyrite in near surface rocks to explain the I.P. anomalies.

Magnetometer Resurveying and Correlation with Old Survey

In order that the magnetics could be used to assist in selecting areas deserving further drilling it was considered important that the magnetics be checked in detail in the western section of the property, both for accuracy of reading and for checking the variations relative to rock type.

The instrument used for the resurvey was a vertical Scintrex Model MFZ, serial #002188 with readability to five gammas. In the northern portion where the old bulldozed lines were easily followed the resurvey was run along the some lines using the roads and tie lines as base lines. A base station was established where lines crossed the road. Stations were chained and flagged 50m along these lines at the same time the readings were taken. Readings were taken every 25m regularly and as often as every 5m to check the abruptness of any variation. In the southwestern portion where no old lines were visible the lines were chained and flagged at 65m line spacing. The diurnal ranged from 0 to 15 gammas and the diurnal correction has been applied to the readings recorded in profile and plan.

GEOPHYSICS continued

In general the variations and anomalies of the old survey were verified by the resurvey but closer spaced readings of the resurvey enhance the variations. The real value of the resurvey was that several anomalies were checked out on the ground and either considered valid anomalies worthy of further attention or directly ascribed to rock type.

For correlating the resurvey to the old survey several old lines were plotted in profile to metric scale so that the new profiles could be overlain to establish the correlation of anomalies. Since the old survey had been recorded with mostly negative readings it was desirable to change these all to positive readings. The overlay of old and new profiles established a constant of 1550 gammas to be added to all the old readings. This correction has been applied on the magnetic plan (fig.6).

Interpretation of Profiles and Anomalies.

The 500 gamma anomaly from 2325N to 2725N on lines 2350W to 2530W is a valid anomaly since it lies south of the diorite contact as exposed in trenching and overlies the projection of the limey rocks down-dip toward the diorite contact. The half width of the anomaly suggest a depth to source of100+m. Although this anomaly is not strong it must be remembered that the airborne magnetic anomaly over the Craigmont orebody, flown at 153m (500ft.) ground clearance was only 700 gammas. Since the contact between the limey rocks and the diorite is plunging eastward while the topography is rising eastward and magnetic mineralization along the contact would be deeper eastward and the related magnetic anomaly would be expected to die rapidly eastward, as is the case. This anomaly definitely warrants drilling.

The diorite contact is indicated on the profiles and plan by a sharp increase in magnetic intensity which remains relatively high over the batholith. Similarly a sharp increase in magnetic

GEOPHYSICS continued

intensity outlines the andesitic fragmental-greywacke contact.

Rock type small high anomalies occur on line 7900W at 2485N, line 1650W at 2380N and at lines 1850W and 1750W at 1190N. The first is an outcrop of greywacke with some skarn alteration and quartz veining where the reading of 2910 gammas at 1m above the outcrop increases to 4200 gammas 15cm above the outcrop. The second is a similar altered greywacke outcrop where the 1300 gamma anomaly at 1m above the outcrop increased to 2330 gammas 15cm above the outcrop.

The third area which showed as a narrow E-W elongated high on the old survey was previously considered a possible valid anomaly. However detailed checking revealed a one by two metre outcrop of diorite, that gave a reading of 3200 gammas 1m above the outcrop and 7500 gammas 15cm above the outcrop. This whole anomaly can therefore be discounted as a non-economic geologic feature, whose only value results from indicating the presence of diorite dykes that could have an ore localizing effect at depth.

RECOMMENDED FURTHER WORK

The following progressive program of exploration is recommended for the Betty Lou claims:

1. Detailed magnetometer survey over the western anomaly to help select a drill target.
2. Close attention to local geology of the anomaly area with geologic mapping on a scale of 1:1000 so that all stratigraphic data is recorded for correlation with drill hole geology.
3. At least one diamond drill hole to 300 metre depth to check the cause of this anomaly. Results of this first drill hole will govern the amount of follow up drilling required in the anomaly area.
4. A vertical drill hole is required halfway between Can #2 and Can #3 to follow the limestone horizon down dip toward the diorite contact. This hole should be carefully surveyed for deviation. This hole is recommended in preference to deepening hole Can #2 (which may be advisable later) because it is not known whether Can #2 can be re-entered, the deviation of Can #2 is not known, and more detailed geology is required on this section for projecting the search area along strike.
5. The foregoing program should be considered the minimum for the first year's work on the property to be expanded if either drill hole intersects mineralization. If neither hole finds ore they will certainly add considerably to the geologic knowledge, permitting more accurate projections for further search.
6. Eventually the whole contact between the Can #2 - #3 section and the west boundary of the property should be drilled at 300 meter sections with two holes per section. This would involve four more sections with an estimated 1000 meters of drilling per section.

RECOMMENDED FURTHER WORK continued

This frequency of drilling should be sufficient to indicate the presence of an orebody the size of Craigmont·s No.2 orebody (300 meters long) if such an orebody exists in the area.

E. E. Reno

DECLARATION OF QUALIFICATIONS

I, CLIFFORD C. RENNIE, certify that:

1. I am a geologist, resident at 1943 Boulevard Crescent, North Vancouver, B.C.
2. I am a graduate in Geological Engineering from the University of British Columbia with the degree of B.A.Sc. and have been continuously employed as a geologist since 1950.
3. I have been a member of The Association of Professional Engineers of British Columbia since 1955.
4. I am very familiar with the geology of the mineral claims as I was senior geologist at the Craigmont mine from 1957 to 1966, and have since reviewed the geology and geophysics of these claims during my employment by Placer Development Ltd. on exploration geology.
5. I am the sole owner of the Betty Lou claims.

C.C. Rennie

C.C.Rennie P.Eng.

C.C. Rennie

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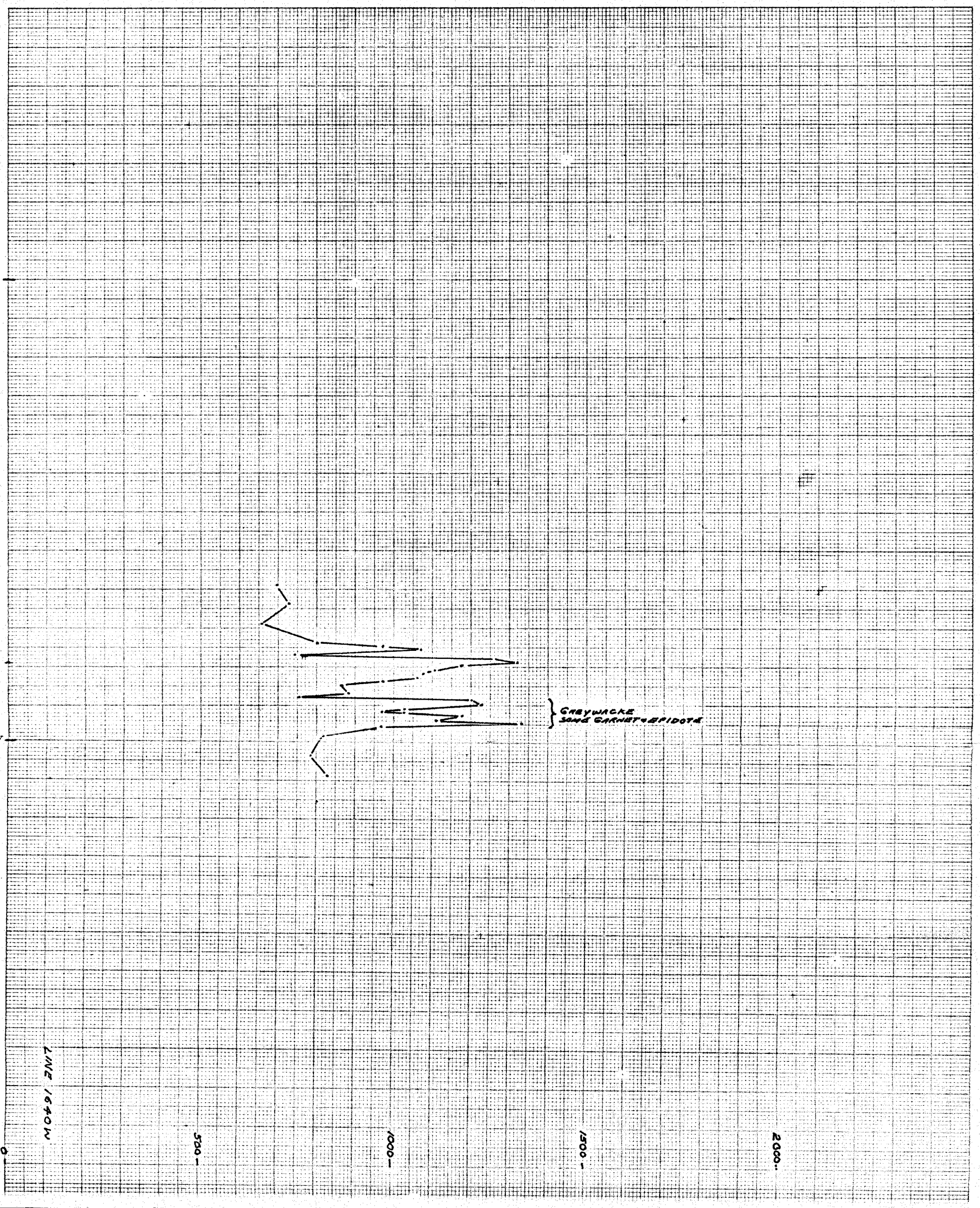
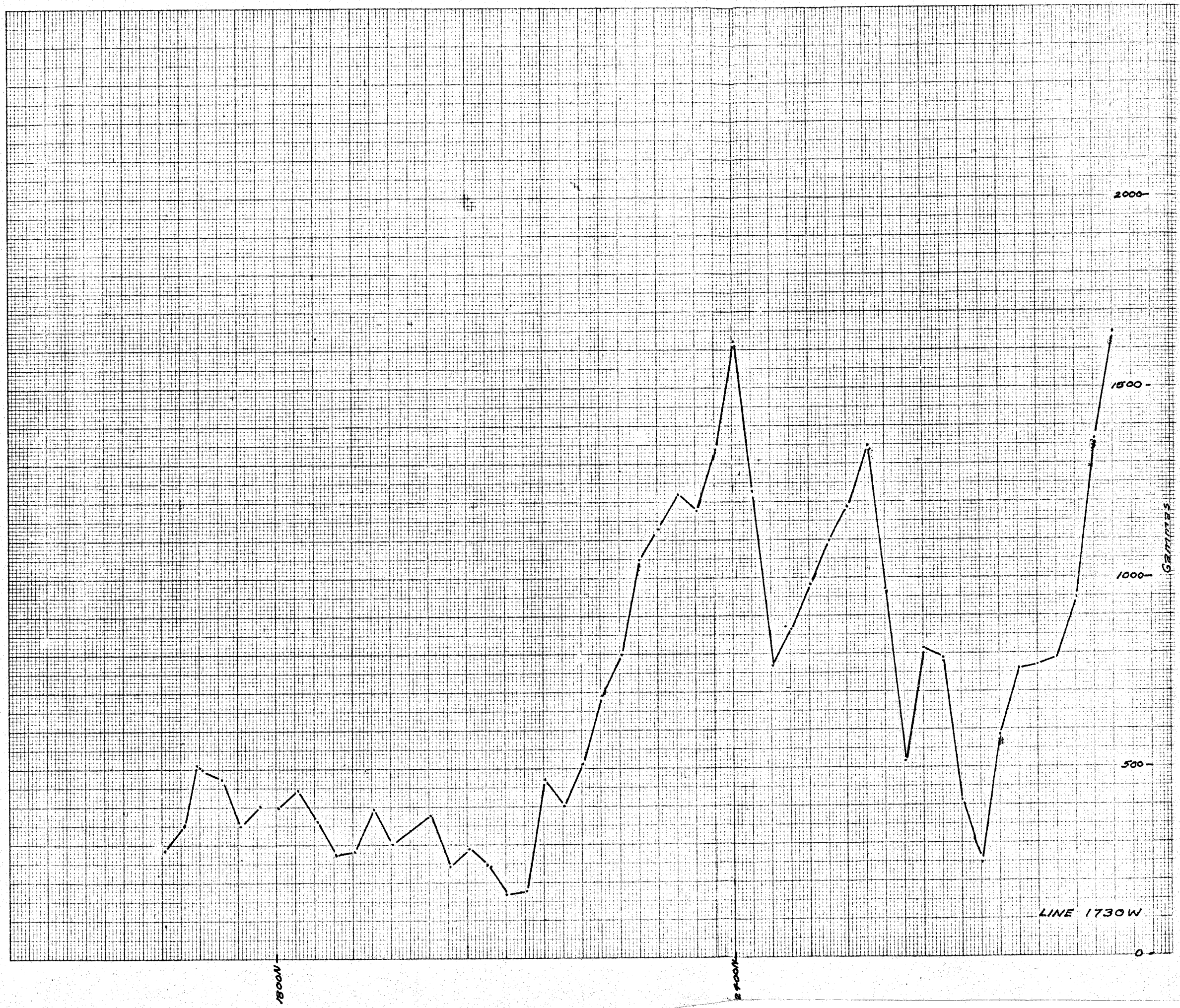
Cannon, R.W.	- Summary of the Betty Lou Claim Group, Merritt, B.C. May 21, 1975.





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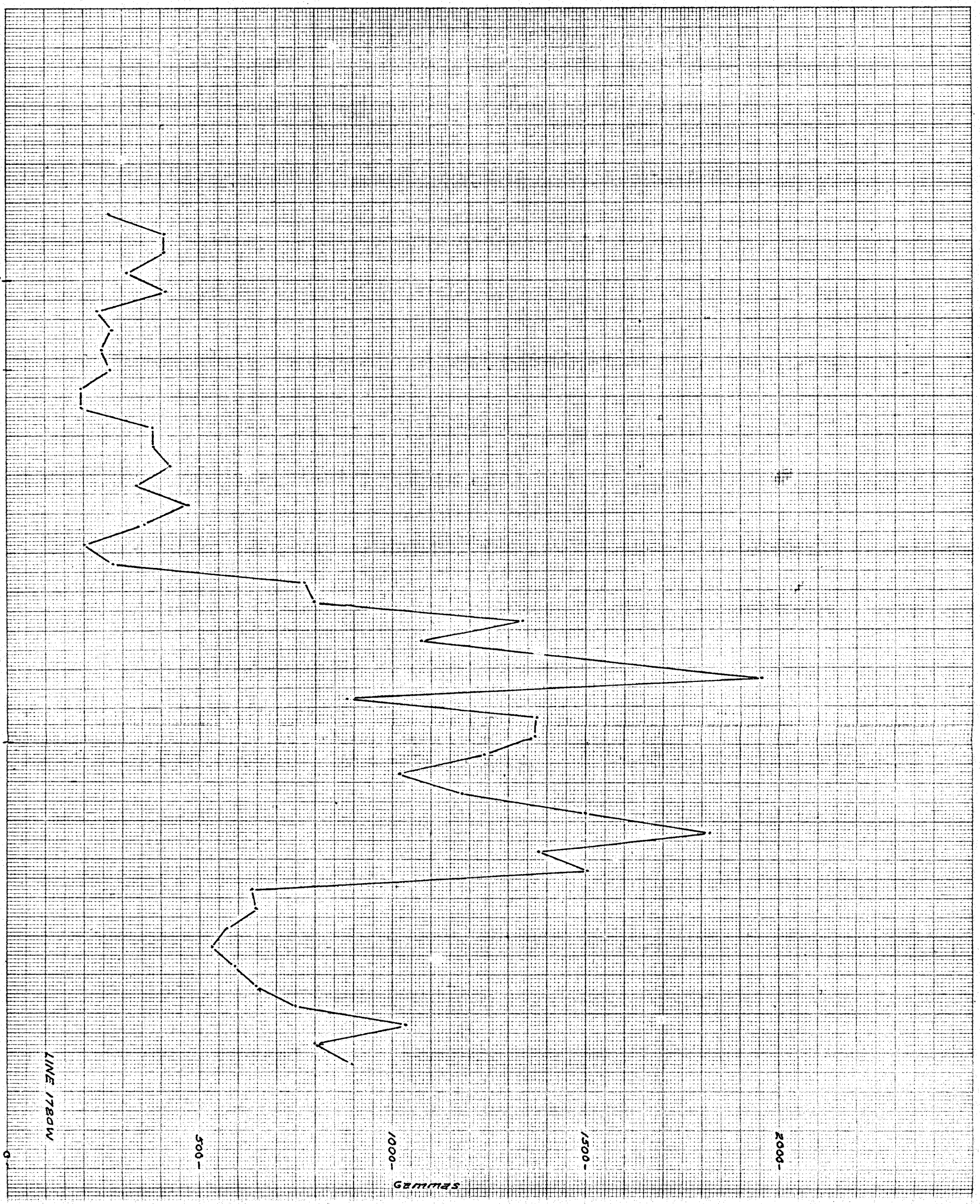
MADE IN CANADA



G-14L SQUARE 10X10 TO THE CM

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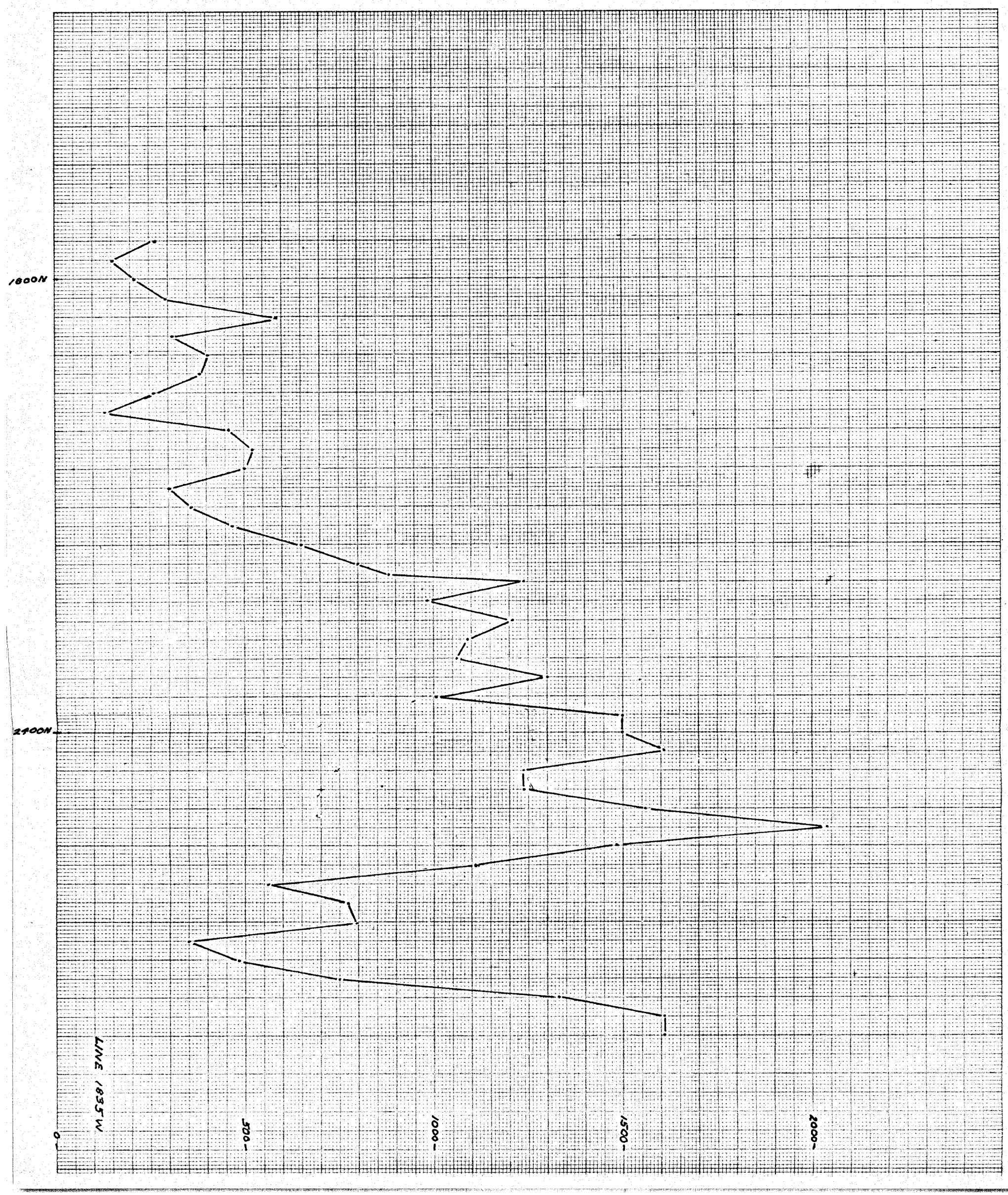

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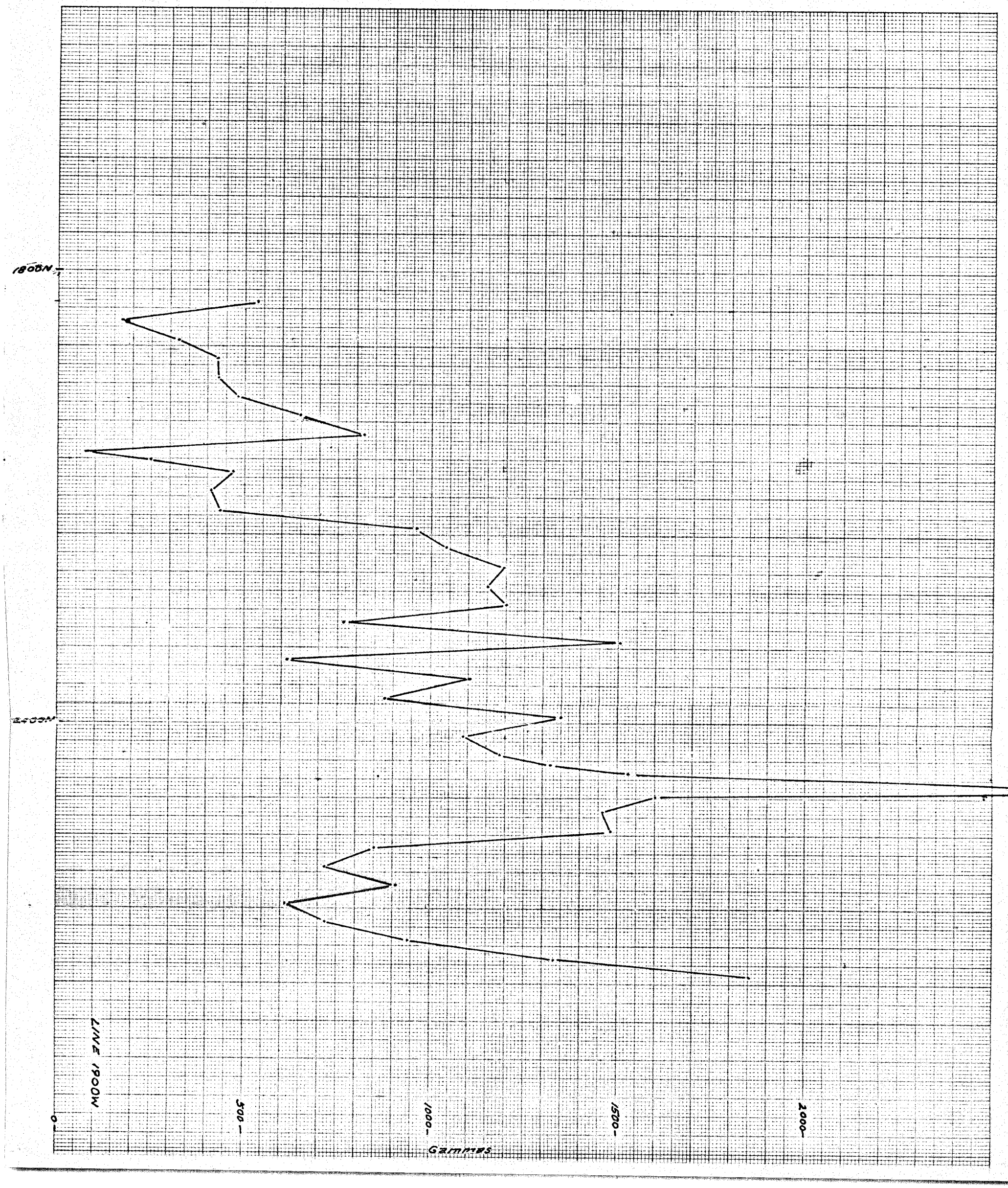

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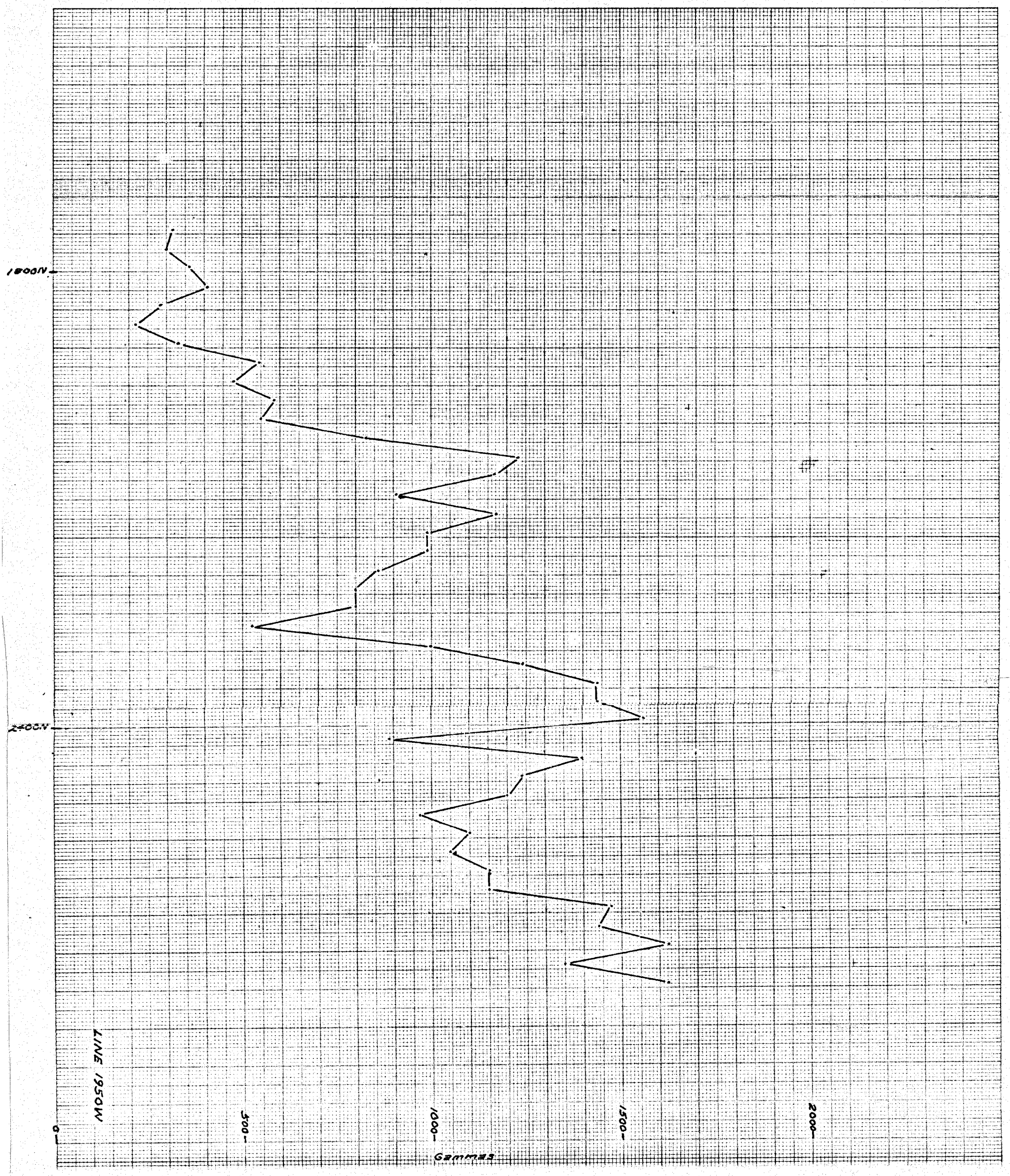
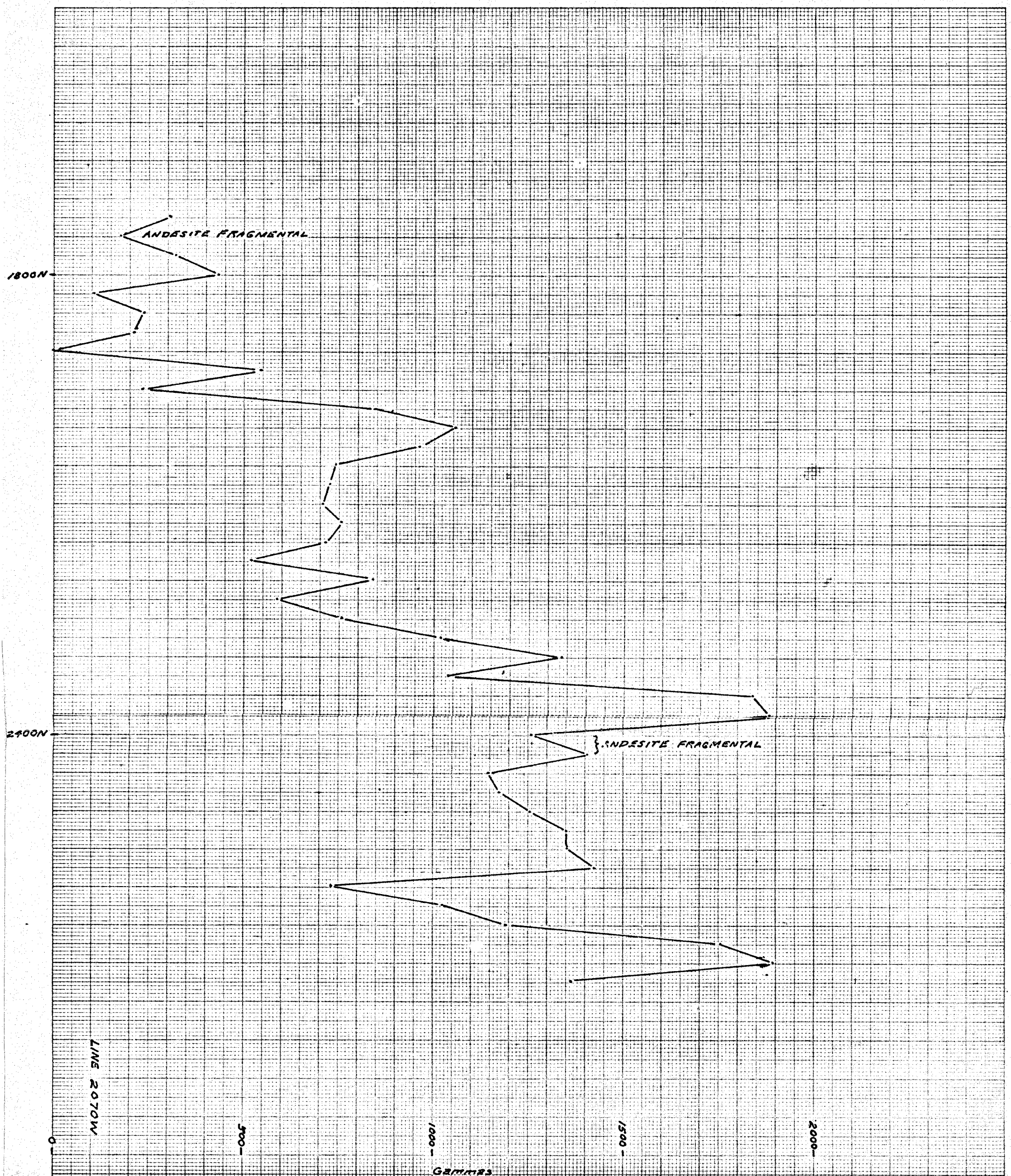
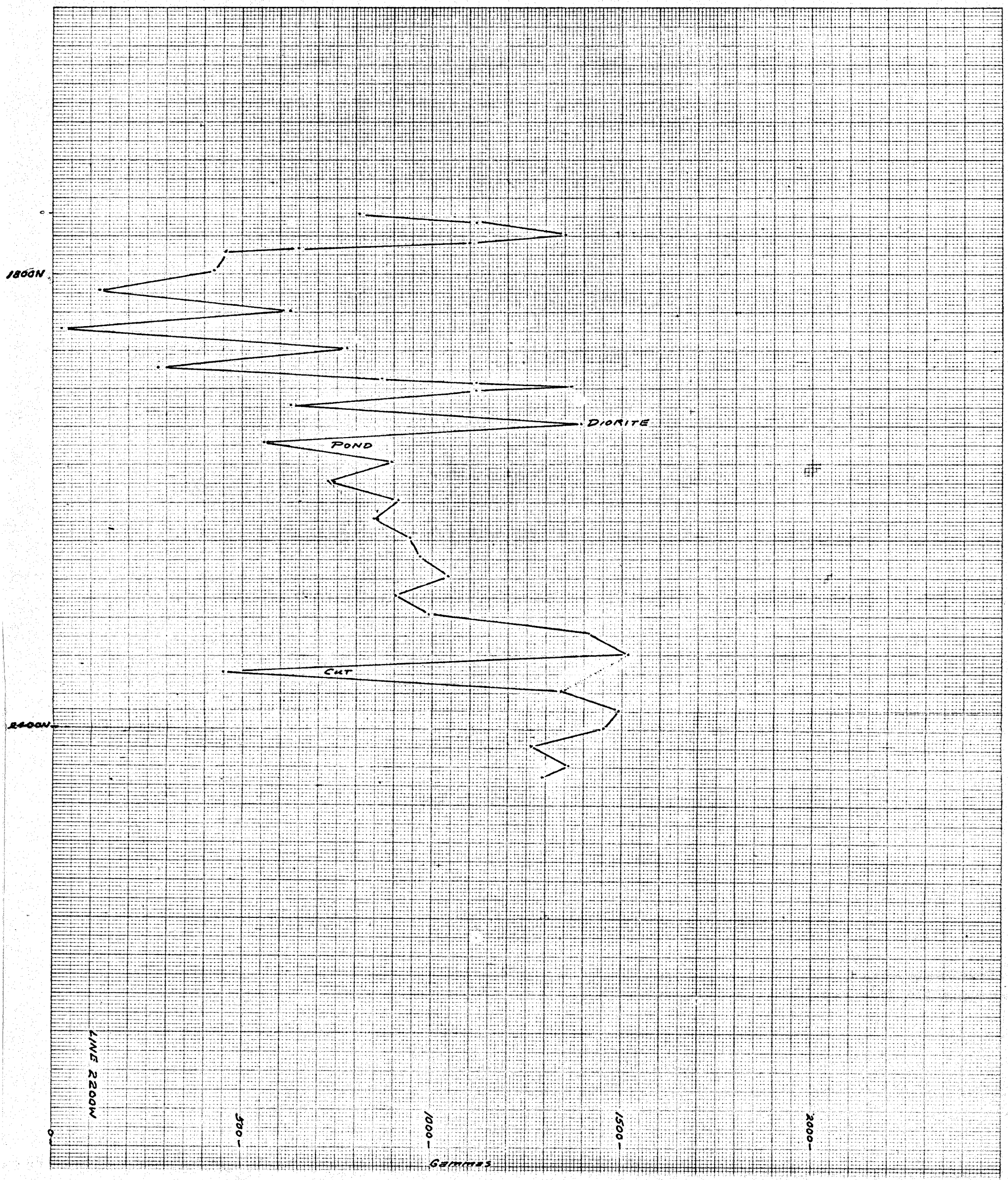
MADE IN CANADA







G-14L SQUARE 10X10 TO THE CM

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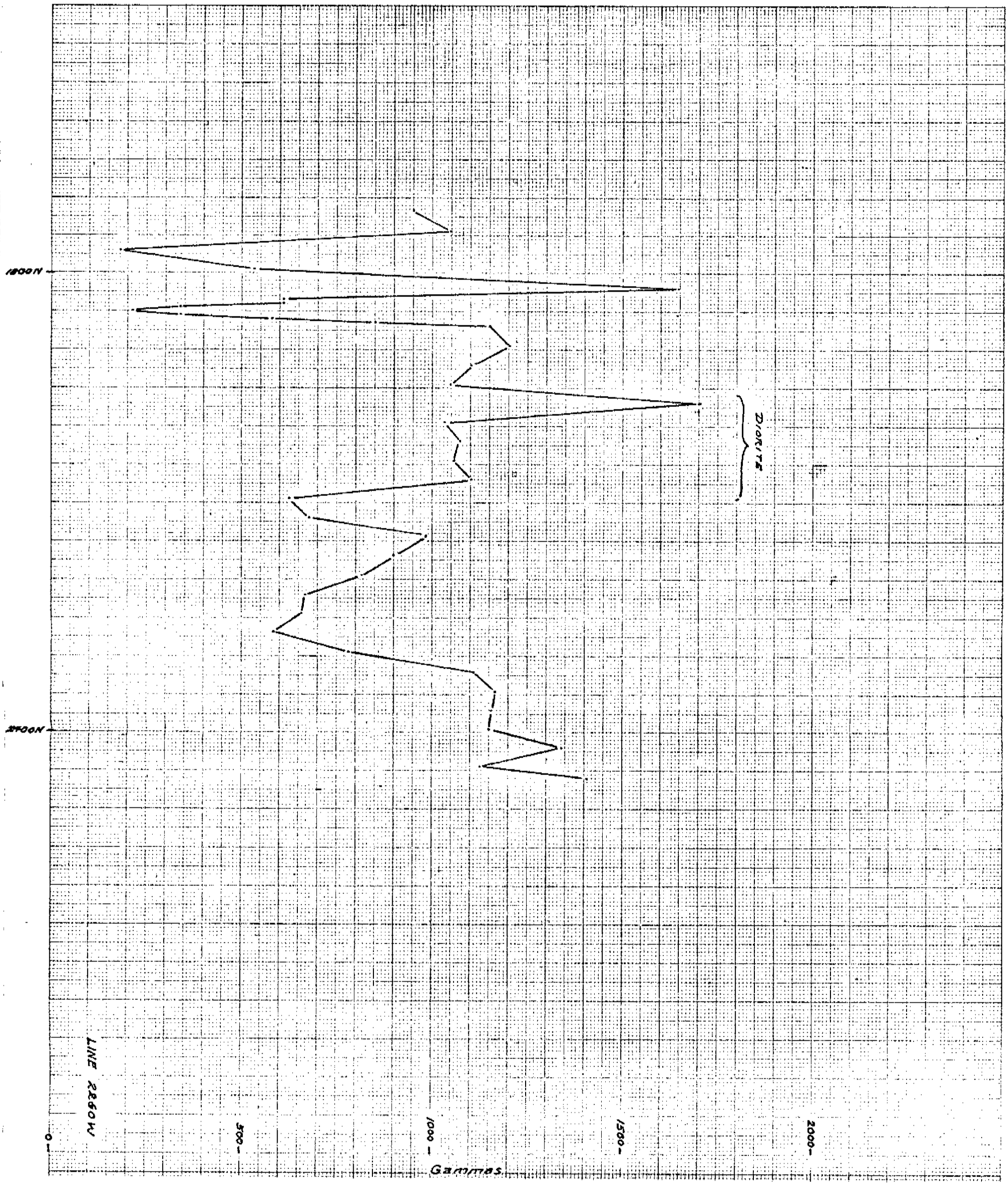
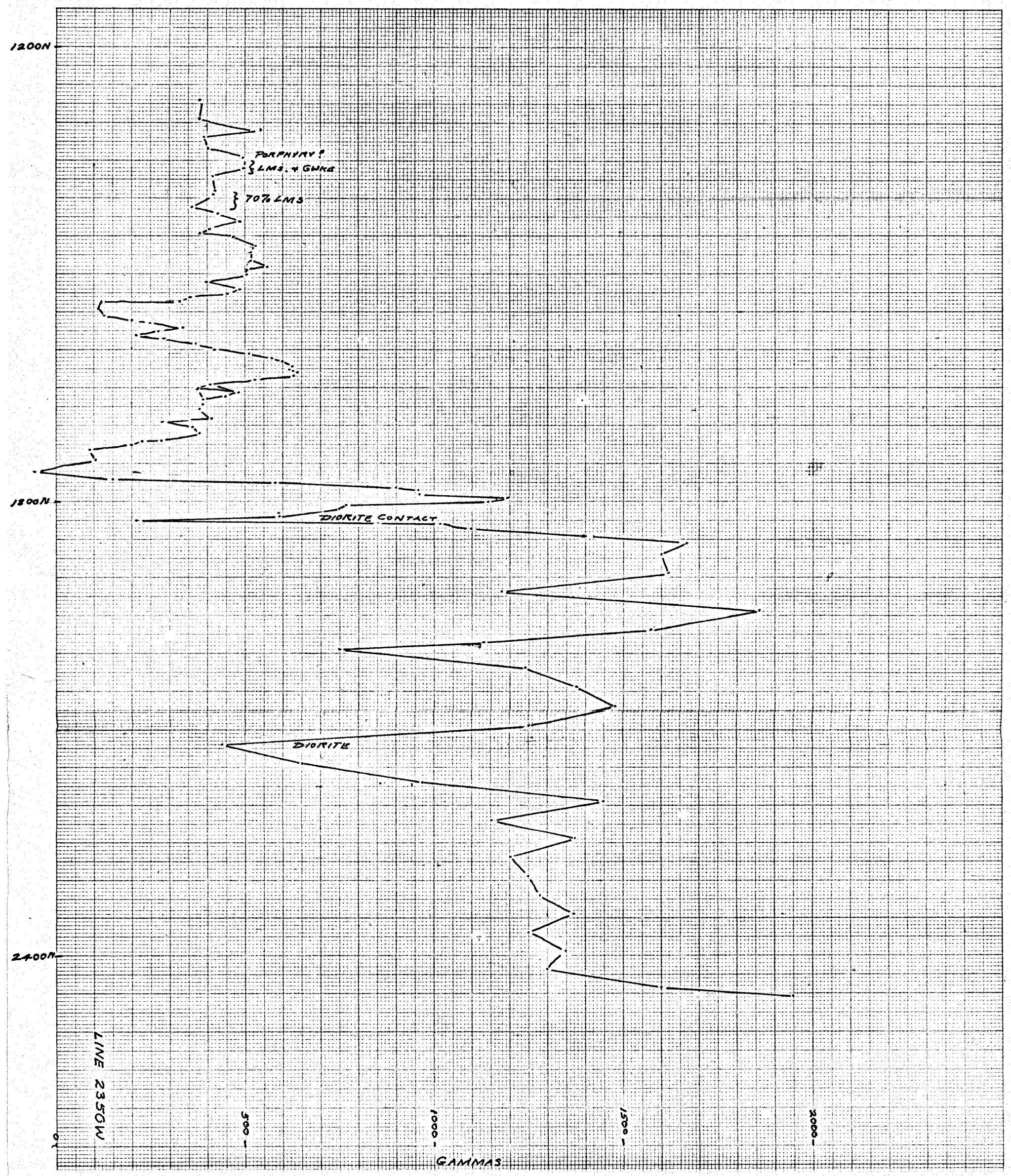
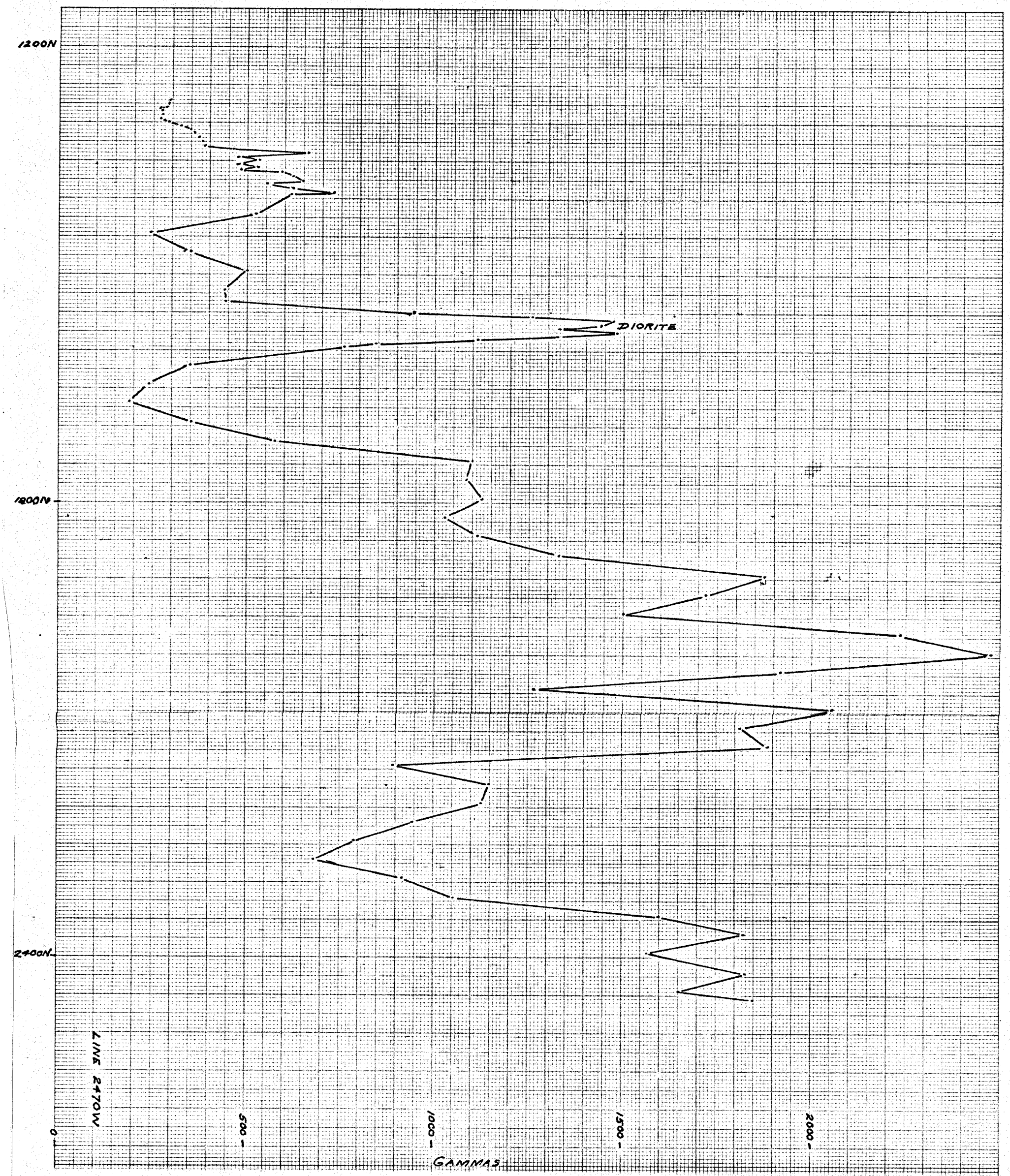
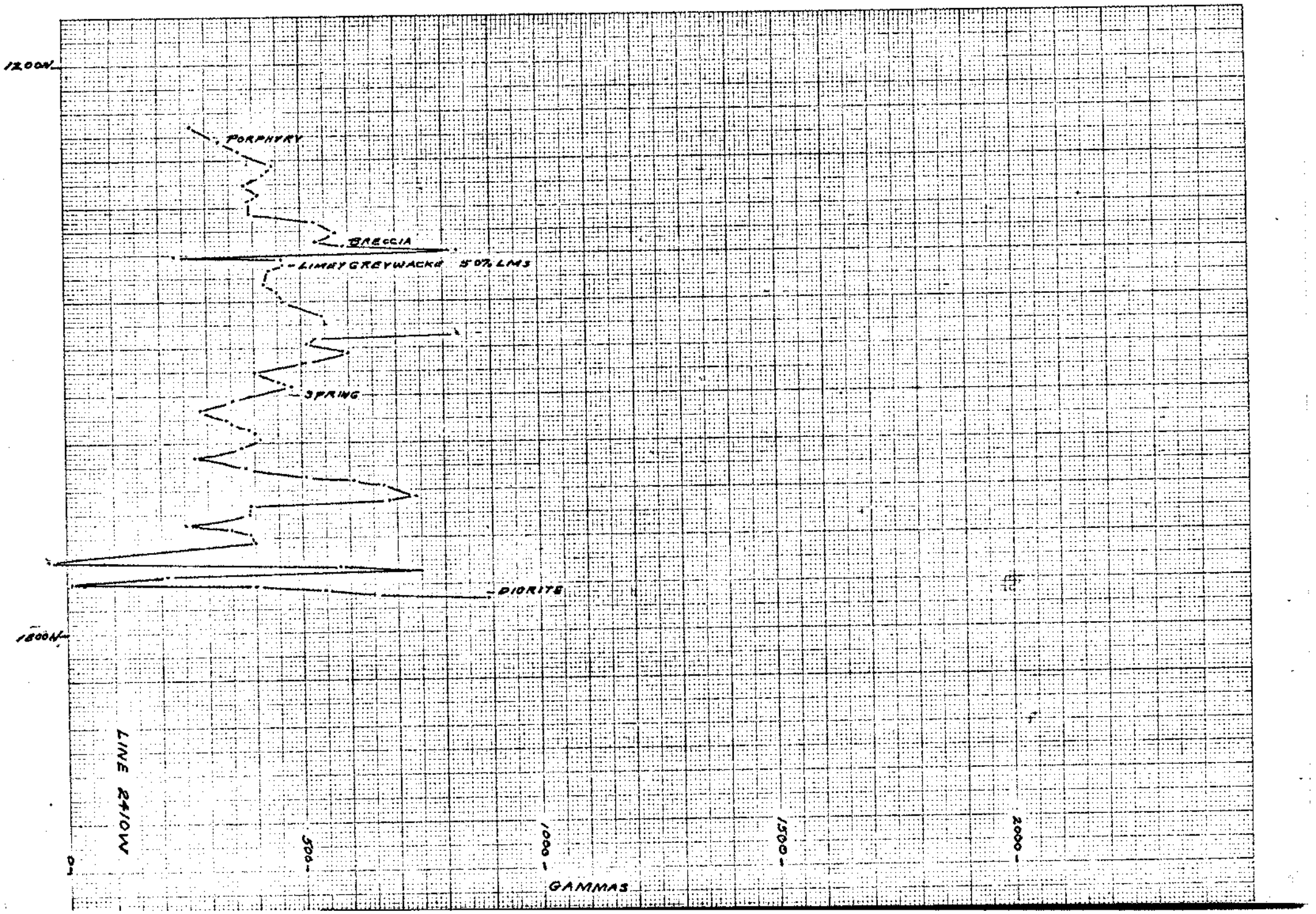
MADE IN CANADA









G-14L SQUARE 10X10 TO THE CM

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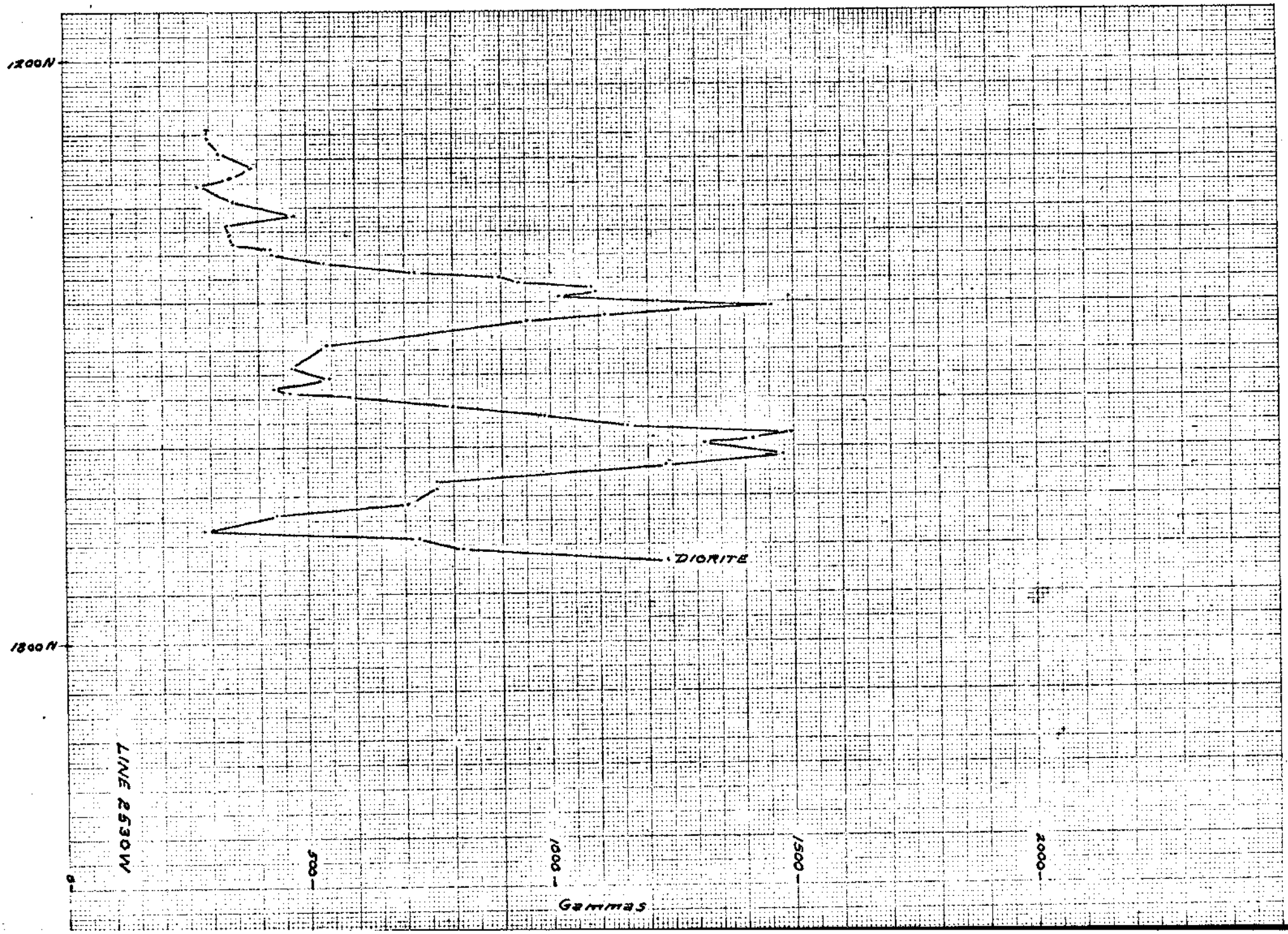

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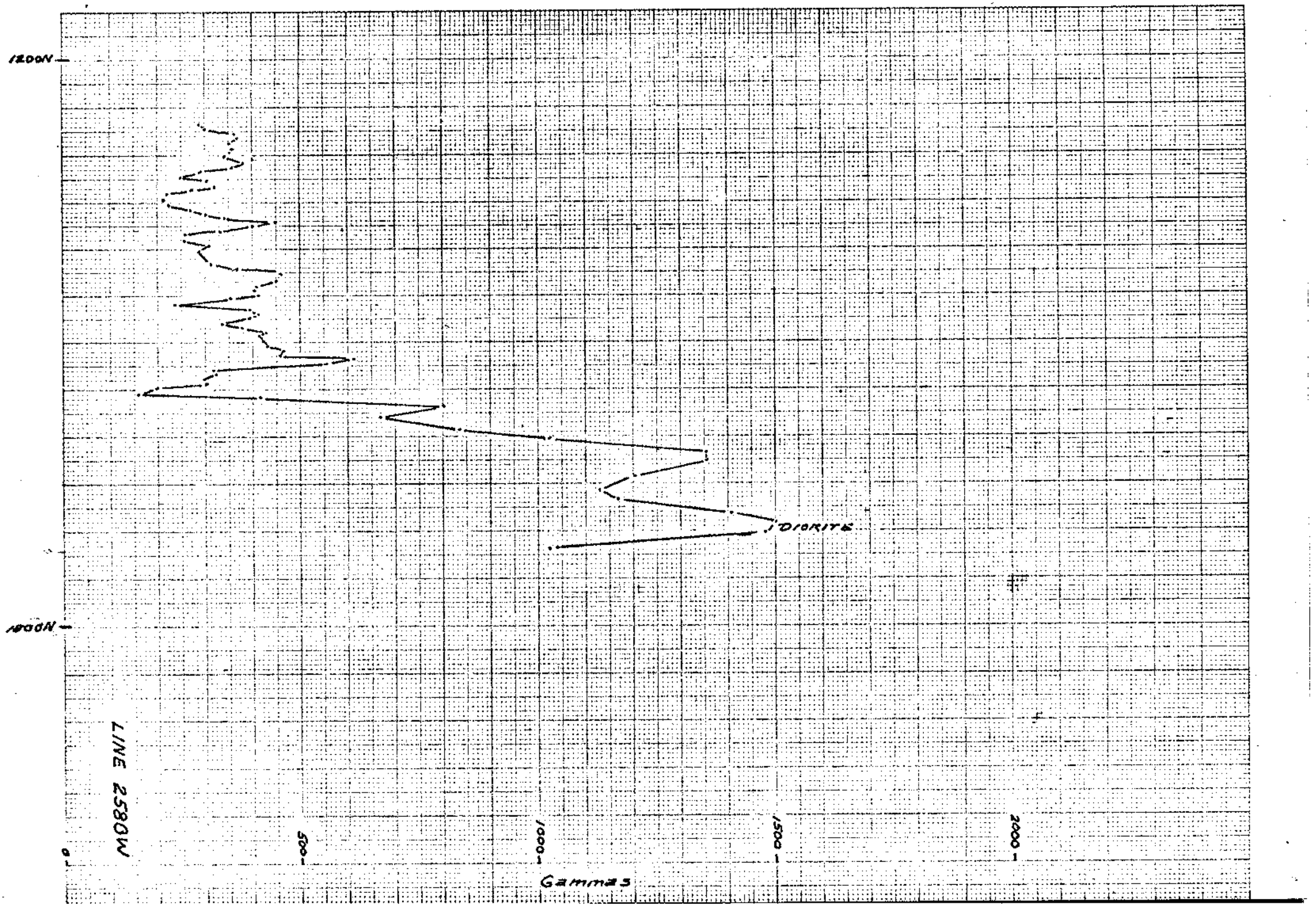
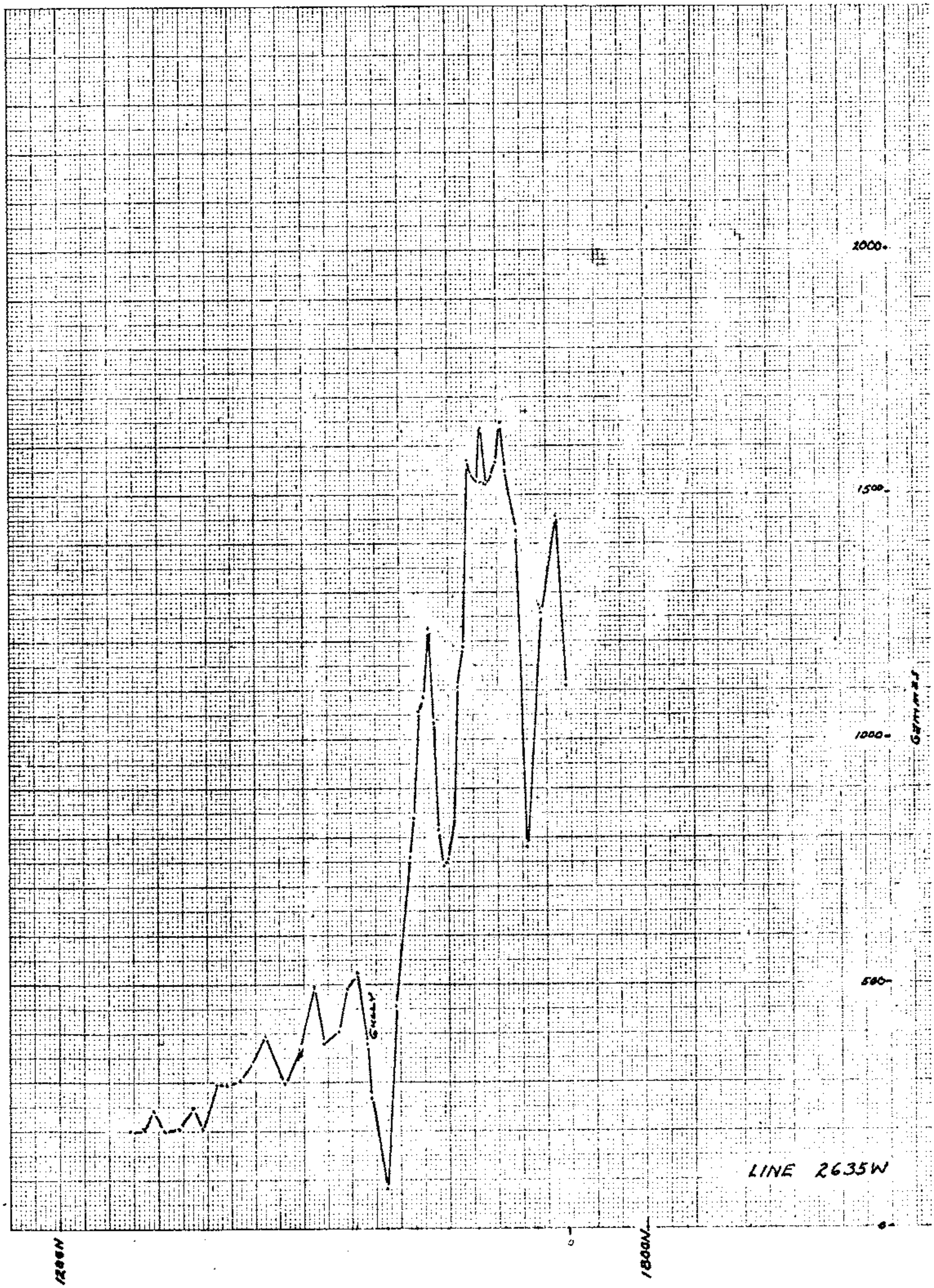
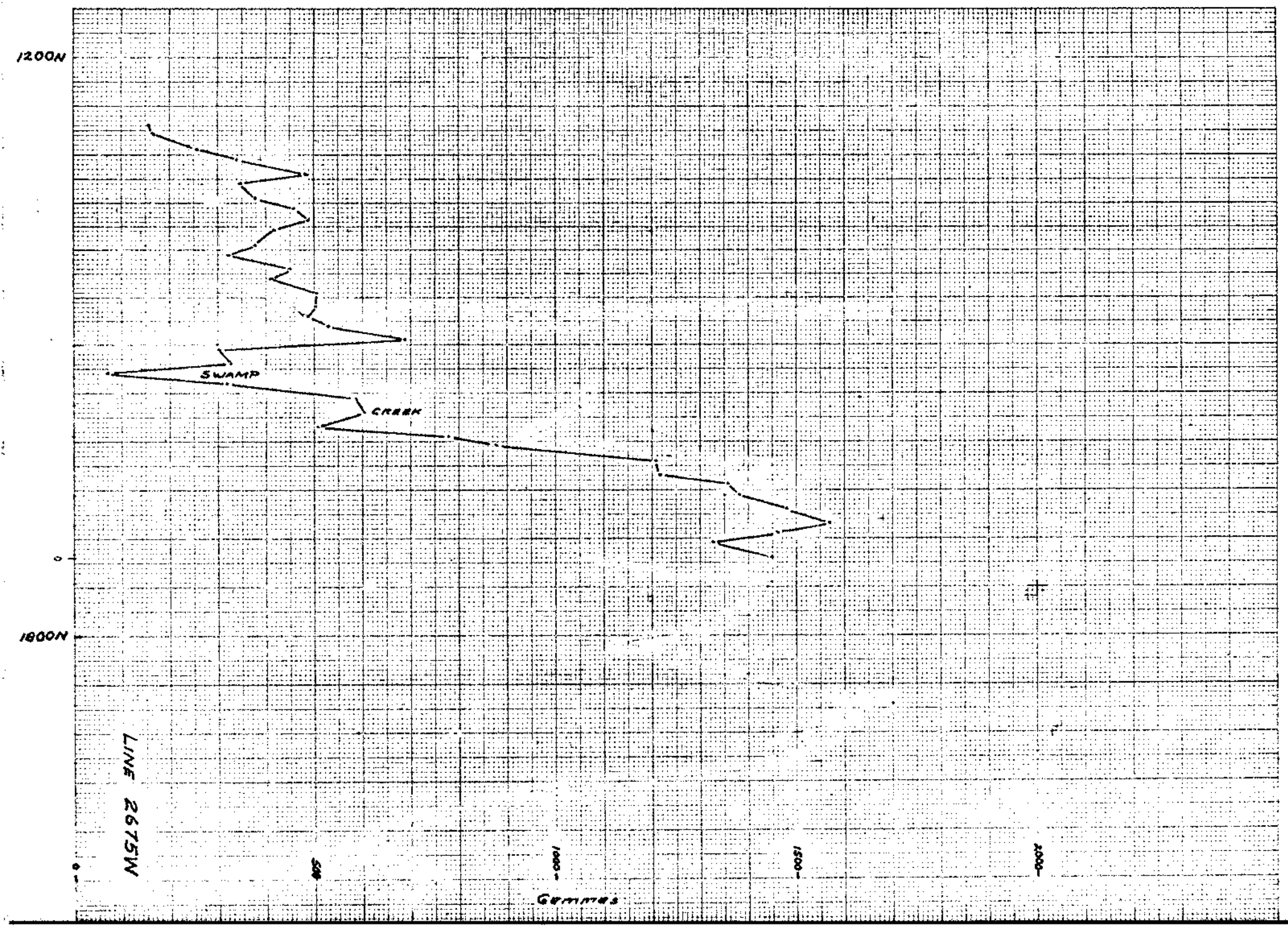
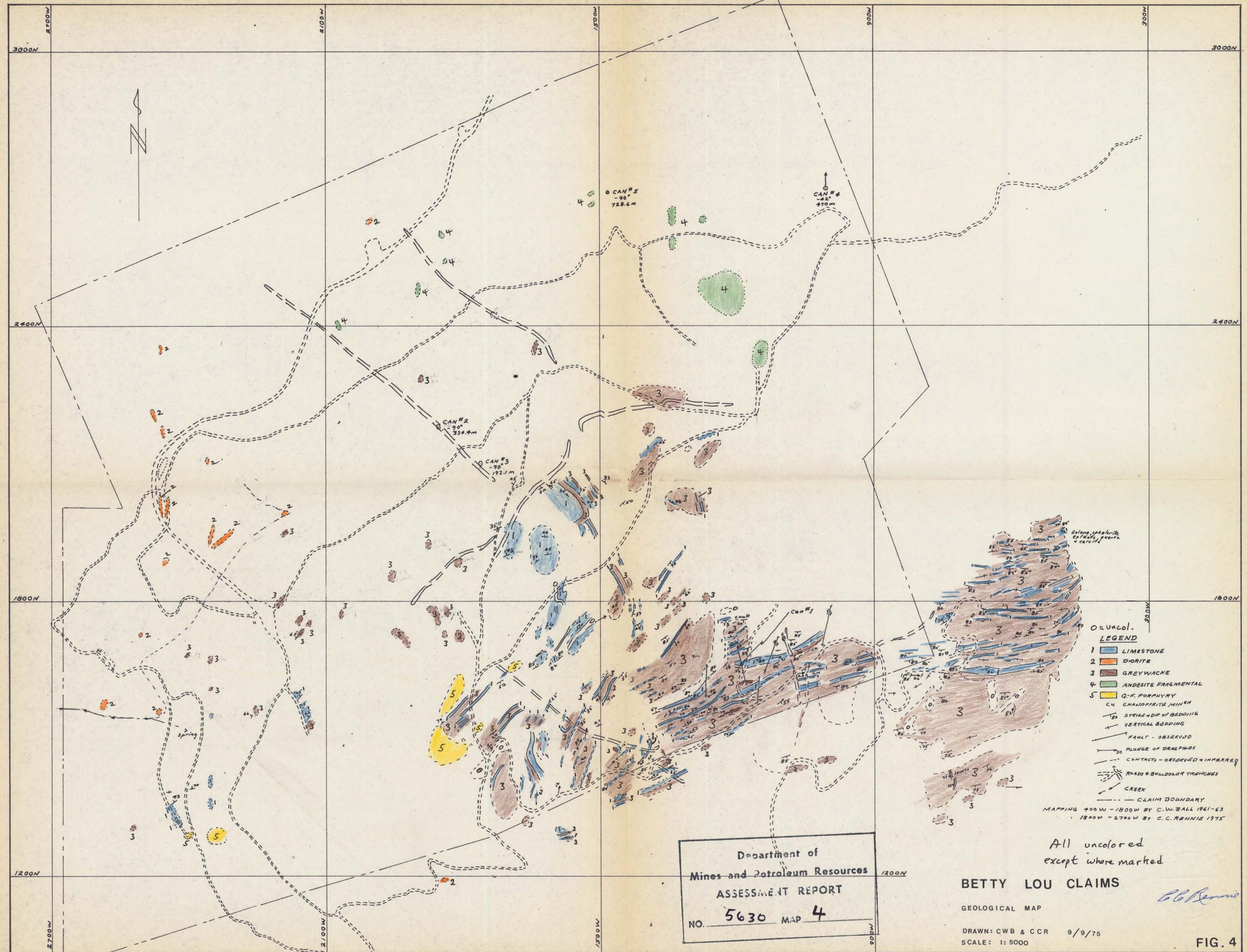








3000N
2400N
1800N
1200N
2700W
2100W
1500W
900W
300W
N
CAN#5
-90°
728.6m
CAN#4
-45°
470m
CAN#2
-90°
334.4m
CAN#3
-90°
192.1m
Can#1
Spring
Galena, sphalerite epidote, quartz + calcite
0 = uncol.
LEGEND
1 LIMESTONE
2 DIORITE
3 GREYWACKE
4 ANDESITE FRAGMENTAL
5 Q.-F. PORPHYRY
CU CHALCOPYRITE MIN^EH
STRIKE + DIP OF BEDDING
VERTICAL BEDDING
FAULT - OBSERVED
PLUNGE OF DRAGFOLDS
CONTACTS - OBSERVED + INFERRED
ROADS + BULLDOZER TRENCHES
CREEK
CLAIM BOUNDARY
MAPPING 400W - 1800W BY C.W. BALL 1961-63
1800W - 2700W BY C.C. RENNIE 1975
All uncolored
except where marked
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5630 MAP 4
BETTY LOU CLAIMS
GEOLOGICAL MAP
DRAWN: CWB & CCR 9/9/75
SCALE: 1:5000
C.C. Rennie
FIG. 4

BETTY LOU 10

BETTY LOU 12

BETTY LOU 3 FR

BETTY LOU 9

BETTY LOU 14

BETTY LOU 2 FR.

BETTY LOU 11

BETTY LOU 13

LOO 8 FR

BETTY LOU 1 FR

BETTY LOU 2

PROMONTORY HILL

BETTY 2

BETTY 1

BETTY LOU 4

I.R. 9

BETTY LOU 6

BETTY LOU 4 FR

BETTY LOU 8

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5630 MAP 3

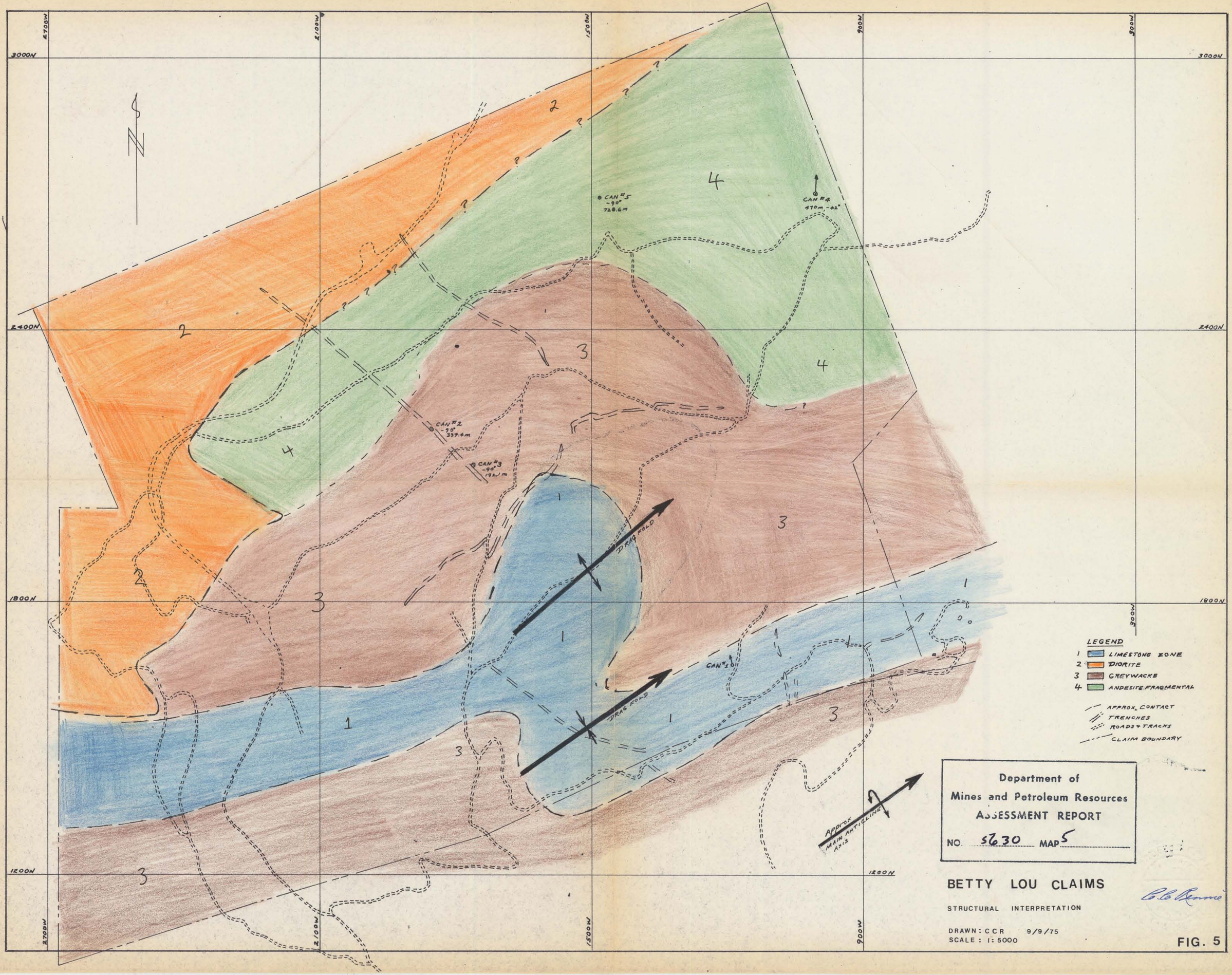
5630
Map 3

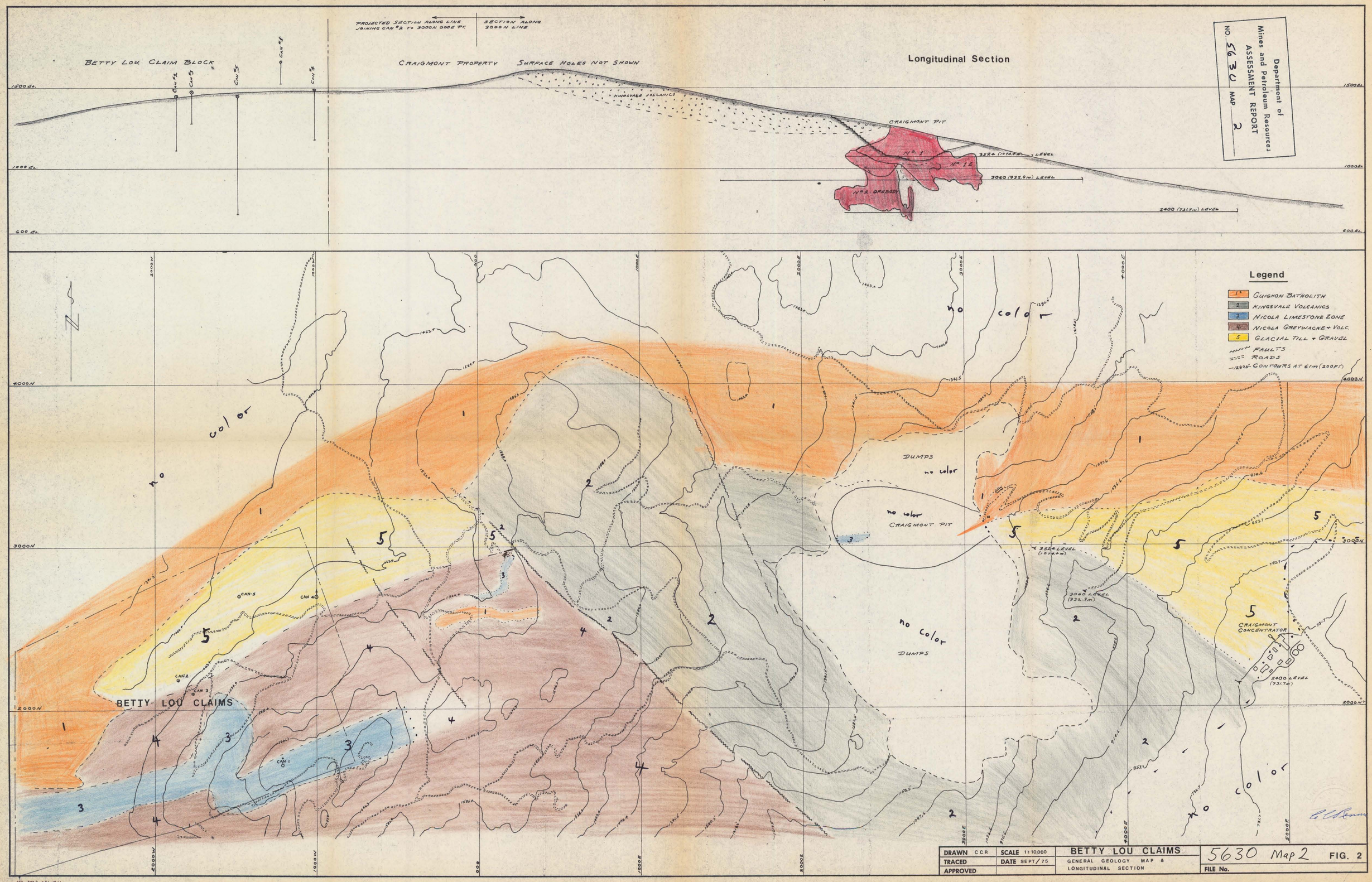
BETTY LOU CLAIMS

TOPOGRAPHY, CULTURE & CLAIMS

TRACED & REVISED: C C R 7/9/75
SCALE: 1:5000

FIG. 3


2700W
2100W
1500W
900W
300W
3000N
2400N
1800N
1200N
CAN #5
-90°
728.6m
CAN #4
470m -42°
CAN #2
-90°
337.4m
CAN #3
-90°
192.1m
DRAG FOLD
DRAG FOLD
CAN #1
APPROX. MAIN ANTICLINE AXIS
LEGEND
1 LIMESTONE ZONE
2 DIORITE
3 GREYWACKE
4 ANDESITE FRAGMENTAL
APPROX. CONTACT
TRENCHES
ROADS + TRACKS
CLAIM BOUNDARY
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5630 MAP 5
BETTY LOU CLAIMS
STRUCTURAL INTERPRETATION
DRAWN: C.C.R 9/9/75
SCALE: 1:5000
FIG. 5



DRAWN CCR	SCALE 1:10,000	BETTY LOU CLAIMS	5630 Map 2 FIG. 2
TRACED	DATE SEPT/75	GENERAL GEOLOGY MAP & LONGITUDINAL SECTION	FILE No.
APPROVED			

1500

1400

1300

1200

CAN 2

FAULTING
VIS. CHALCO
HEMATITE
MAGNETITE
BIOTITE
QTZ. VEIN
EPIDOTE
GARNET
ACT. INOLITE
TOURMALINE

CAN 3

FAULTING
HEMATITE
MAGNETITE
BIOTITE
QTZ. VEIN
EPIDOTE
GARNET
ACT. INOLITE

PPM Cu
500
1000

PPM Cu
500
1000

2100
1600

1900

Possible Increase in Alteration and Mineralization

Possibly 200m to Batholith

LEGEND

1 LIMESTONE
2 GREYWACKE
3 SILTSTONE
4 GARNET SKARN
5 EPIDOTE SKARN
6 QUARTZ FELDSPAR PORPHYRY (?)
BEDDING

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5630 MAP 7

BETTY LOU CLAIMS

SECTION OF CAN 2 & CAN 3 D.D. HOLES

DRAWN: WSP TRACED & INTERPRETED: CCR 18/9/75
SCALE: 1:1000

FIG. 7

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5630 MAP 6

2700W 2100W 1500W 900W 300E

3000N 2400N 1800N 1200N

LEGEND

A 0 - 500 γ
B 500 - 1000 γ
C + 1000 γ

ROADS
CLAIM BOUNDARY

5630

BETTY LOU CLAIMS

MAGNETIC MAP

Map 6

TRACED, REVISED & CONTOURED: C C R 9/9/75
SCALE: 1: 5000

E. C. Rennie

FIG. 6