5984 Part 1

CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

GEOLOGY, GEOCHEMISTRY AND GEOPHYSICS OF THE QUIL CLAIM GROUP

QUIL

Claim Sheet No. 92-I-2/E
Latitude: 50°02'
Longitude: 120°31'

Nicola Mining Division
British Columbia

92I/2E

Claims:
Quil 1-19, Numbers 60152-60167, 60131-60133

by:
Johannes R. Hill, B.Sc.

Covering Work Completed During the Period
May 16th to June 10th, 1976

CONTENTS

CONTENTS

SUMMARY

The Quil Claim Group consists of the Quil 1-19 claims located approximately 13 air miles (21 km) southeast of Merritt, British Columbia. The Quil 1-16 claims were staked as a result of the Nicky Project stream sediment geochemical program completed during the summer of 1974. This was followed by detailed geological mapping at a scale 1" - 400'(1 cm - 48 m) plus soil, stream and rock geochemical sampling surveys completed on the claim group during the summer of 1975. Favourable results produced from the 1975 survey led to the initiation of a follow-up soil and rock geochemistry survey, detailed geological mapping at 1" - 400' (1 cm -48 m), and a ground magnetometer and I.P. survey on the newly acquired Quil 17-19 claims plus portions of Quil 3, 5 and 7.

The major rock type exposed within the claim group is a porphyritic quartz monzonite of the Quilchena Pluton which has intruded volcanics and sediments of the Nicola Group, Upper Triassic in age. The Quilchena Pluton is considered a subsidiary stock of the Pennask Batholith which has been dated at approximately Jurassic. Compositionally, the quartz monzonite is fairly uniform with the exception of a more biotite(mafic)-rich, sulphide-poor unit underlying the northern sections of Quil 17. This unit can also be distinguished magnetically.

The pluton as it is exposed on the eastern side of Quilchena Creek, displays alteration and mineralization zones characteristic of a copper porphyry environment.

Intense hydrothermal alteration penecontemporaneous with emplacement resulted in the development of 1) a definite inner potassic zone of alteration characterized by microveinlet fillings of quartz and K-feldspar plus sulphide mineralization; 2) extreme kaolinization of the plagioclase characteristic of argillic alteration present within the centre of the potassic zone and extending outwardly somewhat; and 3) an outer zone of epidote veining which is present but poorly defined as a propylitic zone. Mineralization zones follow a similar pattern with outwardly extending regions of characteristic mineral occurrences. An inner zone of Mo + Cp + Py (centre of the potassic zone) is followed by just Cp + Py which grades into an outer zone where only Py is visible.

A normal fault system approximately paralleling the Quilchena Creek has downfaulted a major part of the Quilchena Pluton to the west and during Tertiary times was responsible for producing a graben structure which collected erosional material from the pluton. This resulted in the deposition and formation of a sandstone and conglomerate unit which is believed to be the basal member of the Coldwater Beds dated Tertiary. It is, therefore, assumed that the entire mineralization and alteration system that could be distinguished within the footwall block to the east has been preserved at depth below the sandstone and conglomerate in the hanging wall block west of the Quilchena Creek.

Both the copper and molybdenum soil geochemistry contours outline well defined moderate level anomalies. The major anomaly for both metals is dumb-bell shaped, lying

within an area extending from the centre of Quil 18 to the north of Quil 19 with a width of 1600 ft. (480 m). The anomaly lies within the potassic zone of alteration and as such corresponds to areas where mineralization was noted on the surface within the quartz-K-feldspar vein system. In general, these results duplicate findings from the 1975 geochemical survey.

A limited induced polarization survey carried out over a portion of the grid showed a good correspondence to areas of mapped sulphide occurrences and to the major copper and molybdenum soil anomaly. The magnetometer survey completed over the entire grid revealed the presence of two magnetically different rock units underlying the area. To the east of the creek at the centre of the claim group, a low magnetic response corresponds to the sulphide-rich mineralized zones within the intrusive. A high magnetic response is obtained from the biotite-rich phase of the intrusive which approximately surrounds the sulphide zones on the east side of the fault and overlies them on the downfaulted (west) side.

In order to test this zonal configuration theory, it is proposed that a diamond drilling program be initiated on the property. At least four holes should be drilled; two on the eastern bank of the Quilchena valley to determine the lateral zonal sequence in the footwall block, and two holes on the western bank to determine the vertical succession of rock units and mineralized zones in the hanging wall block.

INTRODUCTION

The Quil 1-16 Claims were staked as a result of the Nicky Project stream sediment geochemical program completed during the summer of 1974. Staking was done under contract by Eastern Associates Reg'd of Whitehorse, Y.T., on October 24, 1974.

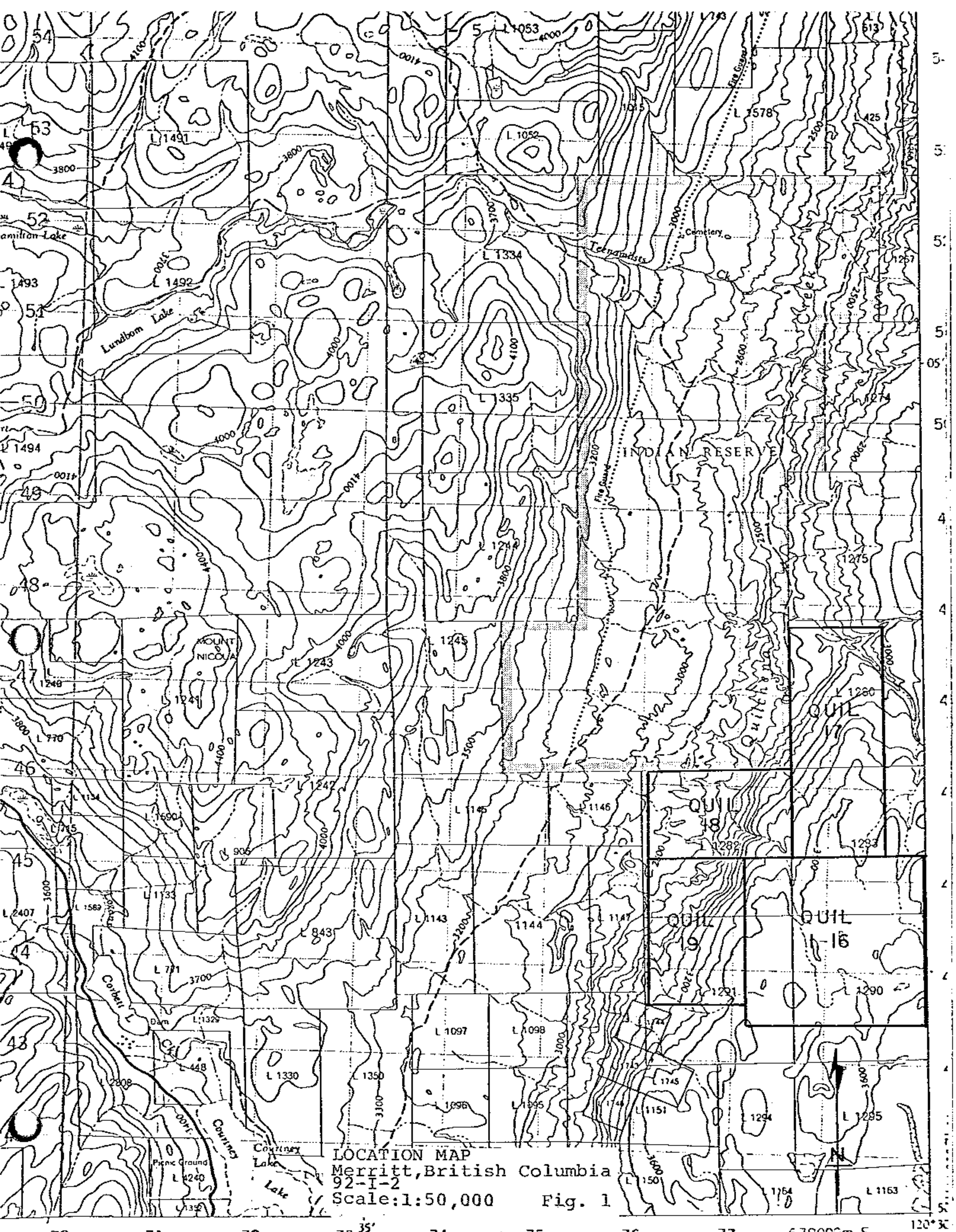
Quil 17-19 Claims were staked in September, 1975 by M.P. Henrick for Canadian Occidental Petroleum Ltd., as a result of detailed soil, stream and rock geochemical sampling programs carried out during the summer of 1975 which produced favourable results.

This report will describe the geology of the claim area and the results obtained from a soil geochemical survey as well as the results of a magnetometer and induced polarization survey completed by Peter E. Walcott & Associates during the summer of 1976.

LOCATION AND ACCESS

The claim group is recorded on claim maps 92-I-2/E in the Nicola Mining Division, British Columbia. The property is located about 13 air miles (21 km) southeast of Merritt, British Columbia (Fig. 1.)

The claims are located on Douglas Lake Cattle Co. Ltd. property and permission to work was obtained from E.N. Woolliams, Manager at Douglas Lake. Access is obtained via public road along the Quilchena valley through I.R. #7, the turnoff for which is at the village of Quilchena, 13 miles



LOCATION MAP
Merritt, British Columbia
92-I-2
Scale: 1:50,000 Fig. 1

5984

(21 km.) east of Merritt on Hwy. 5. Access may also be obtained via the Douglas Lake Cattle Co. access road, the turnoff for which is 12 miles (19 km.) south of Merritt on Highway No. 5 at Courtney Lake. Probably the best access, however, is via Lundbom Lake along an excellent gravel road leading to the new high tension powerline and then taking an old track through I.R. #7 to the property.

VEGETATION

Along the bottom of the Quilchena valley, where water is abundant, vegetation is rich and thick consisting of groves of birch and poplar, alder shrubs and thorny bushes. Along the sides of the valley and on top of the eastern plateau, there is little but open grassland, sage brush and prickly pear cacti. Small groves of poplar and pine grow in gullies cutting the banks of the Quilchena valley together with isolated ponderosa pines.

PREVIOUS WORK

The entire area including the Quil property was extensively staked and re-staked in the 1950's, '60's and '70's. Most of the assessment reports were never filed and only some of the claim data is retained in the Nicola mine recorder's office in Merritt.

In 1966, an induced polarization test survey was carried out by Canadian Aero Mineral Surveys Ltd. for Aden Mines Ltd. over part of the "Aden Group" located on Quilchena Creek (Assessment Report 1034). The survey primarily concerns the area to the north and west of the Quil claims but overlaps in the northwest corner.

In 1968, Amax optioned the property from Aden Mines and carried out a ground magnetometric survey over some of the property.

In 1969 and 1970, Bethlehem Copper Corp. Ltd. drilled a number of percussion and diamond drill holes mainly on the valley bottom and on the western bank. No results were filed. However, it is known that drilling conditions were very difficult due to the thick overburden and heavy fracturing of the bedrock. As a result, the holes averaged only 200'-300' (60-90 m.) in depth.

Trenching is common but scattered throughout the entire area. On the Quil property, about 6 individual trenches were located cutting into the bedrock and ranging in length from 100-500 ft. (30-150 m.).

During the summer of 1975, Canadian Occidental Petroleum Ltd., Minerals Division, completed geological mapping and a soil, stream and rock geochemical sampling program covering the entire Quil 1-16 group and parts of the Quil 17-19 group. The results are contained in a report by B.W. Kotila dated September 25, 1975. The soil geochemistry survey outlined one main copper and molybdenum anomaly approximately parallel to the long axis of the Quilchena pluton and corresponding to

observed economic mineralization. This work formed the basis for justifying continued exploration on the Quil property.

WORK COMPLETED

Line Cutting

A total of 189,900 ft. (57,920 m.) of lines were picketed by personnel of Canadian Occidental Petroleum Ltd., Minerals Division over a 12-day period from May 16 to May 27, 1976. This included 1 baseline, 2 tie lines, and 2 sets of 400' (120 m.) grid lines made up of 21-3500'(1,070 m.) lines and 18-5000'(1525 m.) grid lines. This represents 36 miles (58 km.) of line cut by Canadian Occidental Petroleum Ltd. over the whole of the Quil 17-19 claims and portions of Quil 3, 5 and 7.

Geological Mapping

The Quil property was mapped by J.R. Hill under the supervision of R.H. Wallis in 12 days from May 20 to June 4. The entire grid as well as rock and surficial units to the NW of the grid were mapped at the scale of 1"-400' (1 cm. - 48 m.) (see Plans 1 & 2).

Geochemical Survey

Geochemical sampling was completed by R. Beacom, M. Blais, P. Bresee, W. Holmstead, G. Smith, R. Smith and G. Tanton under the supervision of C.F. Gleeson. Soil samples over the entire grid were collected in a 4-day period from May 29 to June 1. Rock chip samples were collected for analysis during the geological mapping program. A total

of 908 soil samples from the grid, 92 samples from the soil pits and 26 rock chip samples were analyzed for copper and molybdenum. A total of 2052 determinations were completed.

Geophysical Survey

Between May 23 and June 10, 1976, Peter E. Wolcott & Associates Ltd. carried out a limited induced polarization (I.P.) survey and a ground magnetometric survey over the entire grid (see "A Report on Geophysical Surveys on Quil Claims" by Peter E. Wolcott, P.Eng., dated July, 1976). A total of 35 line miles (56 km.) of magnetometer and 6.5 line miles (10.5 km.) of I.P. survey were completed.

Names and Addresses of Personnel

R. Beacom	Canadian Occidental Petroleum Minerals Division 801-161 Eglinton Ave., Toronto, Ont., M4P 1J5	Jr. Assistant
M. Blais	"	" "
P. Bresee	"	" "
J.R. Hill, B.Sc.	"	Party Chief
W. Holmstead	"	Jr. Assistant
G. Smith	"	" "
R. Smith	"	" "
G. Tanton	"	Sr. Assistant
R.H. Wallis,Ph.D.,P.Eng.	"	Chief Geologist
C.F. Gleeson, Ph.D.,P.Eng.	764 Belfast Rd., Ottawa, Ont., K1G 0Z5	Geochemist Consultant
P.E. Walcott, P.Eng.	Peter E. Walcott & Assoc. 605 Rutland Court, Coquitlam, B.C.	Geophysicist
C. Broomfield	"	Geophysical Operator
P. Charlie	"	"

PHYSIOGRAPHY

The claim area is located within the Interior Plateau. The area consists of a gently rolling terrain covered in the most part by drumlinized till. Quilchena Creek, the main drainage of the area, flows to the north into Nicola Lake, approximately bisecting the Quil 18 and 19 claims. The relief becomes steep as the land drops from the plateau into the Quilchena valley. On the plateau, the drainage consists of shallow, meandering, intermittent streams and sloughs. Gorges of 100-200 feet (30-60 m.) in depth were developed on these streams at the break in slope.

SURFICIAL GEOLOGY

Observing evidence from the last glacial phase, it is apparent that the Quilchena valley was filled by a relatively immobile ice mass, melting and depositing ice-contact material consisting of finely bedded gravels, sand, silt and clay plus till. No deposits which can be considered truly lacustrine in origin were found in the claim area. However, this does not exclude their occurrence elsewhere in the Quilchena valley. The fact that the glacial deposits were found in many places to overly a perfectly preserved regolith of the intrusive unit lends evidence that little scouring action by the glacier resulted from its presence in the valley.

Glacial overburden varies from 0-200' with major thicknesses occurring on the west side of the valley. This

side of the valley is noticeably less steep than the east side, and displays a topography similar to kame and kettle. The surficial material consists of finely to thickly bedded clay, silt, sand, and gravel which also tends to support the idea of an ice contact environment of origin rather than lacustrine. The eastern side of the valley is, on the other hand, much more steep and is cut by numerous very deep gorges. Finely layered sand, silt and clay, still ice contact in origin, was found from the river bottom up to a height of 50' along the eastern sides.

Above this slope on the plateau level, there are numerous drumlinoid features, many of which are closely underlain by the intrusive. These features may, therefore, be ridges of bedrock and as such could be remnants of the paleotopographic surface. However, many are definitely true drumlins with a glacial origin.

Along both sides of the valley, are a series of terraces (Plan 1) which represent either ancient ice levels or the eroded shorelines of glacial meltwater lakes lying on top of the ice mass. The terraces on the east side are continuous for about 3 miles, then become indistinct leading one to believe they are a local phenomenon.

BEDROCK GEOLOGY

Introduction

A porphyritic intrusive unit, quartz monzonitic in composition, is the major rock type exposed in the claim area,

outcropping in bluffs and cliffs on the east side of the Quilchena River and on the eastern plateau. The intrusive is a subsidiary stock of the Pennask Batholith and is here called the Quilchena Pluton. The Pennask Batholith is believed to be Jurassic in age. Alteration and mineralization zones typical of a copper porphyry environment can be defined within the Quilchena Pluton.

Outcrops of a conglomerate and sandstone unit derived from the erosion of the Quilchena Pluton, the Pennask Batholith and Nicola volcanics occur on the west side of the valley, outside the claim area. These sediments are the basal units of the Coldwater Beds and are considered to be Tertiary in age. They underlie a basalt flow of presumed Pleistocene age (see Cockfield, 1948)*.

General Geology

Porphyritic quartz monzonite of the Quilchena Pluton was emplaced during Jurassic times. It has been eroded since Jurassic to present times, resulting in a very rugged paleo-erosional surface with a great amount of relief. This is seen in outcrops at the bottom of the Quilchena valley where the contact between the pluton and glacial sediments is very irregular. Remnants of this post-Jurassic peneplanation which are topographically higher than the general level are seen in the "tor-like" outcrops which rise above the glaciated plateau region.

A regolith layer was developed over much of the exposed pluton during post-Jurassic times and was not removed by the glacier when it filled the valley. In some outcrops, however, especially in the bifurcating gorge in Quil #17,

*W.E.Cockfield,G.S.C.Memoir 249, 1948

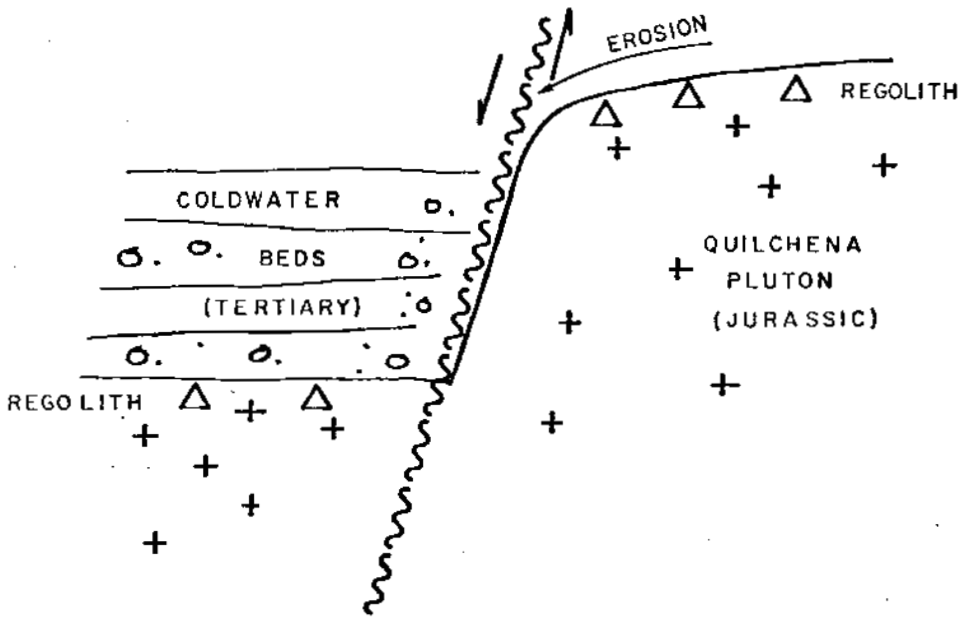
no regolith layer was seen separating the quartz monzonite from glacial sands and gravel.

Sometime during post-Jurassic, probably Tertiary, a graben structure was formed in the vicinity of the present day Quilchena valley. This resulted in the development of a basin which collected erosional material from the pluton and led to the deposition of the sedimentary unit of the Coldwater Beds, presumed to be Tertiary, as exposed at various sites along the valley (Fig. 2). Erosional deepening of the Quilchena valley plus further downfaulting must have occurred post-Tertiary to place the sandstone at the same elevational level as the Jurassic pluton (Fig. 3). It must be emphasized, however, that the present day position of the Quilchena valley does not correspond exactly to the position of the fault. Instead, the offset is accomplished by a series of en echelon normal faults striking slightly east of north and paralleling the valley. This would account for the presence of outcrops of the Tertiary beds on the eastern side of the Quilchena valley to the north of claims (Figs. 4,4a).

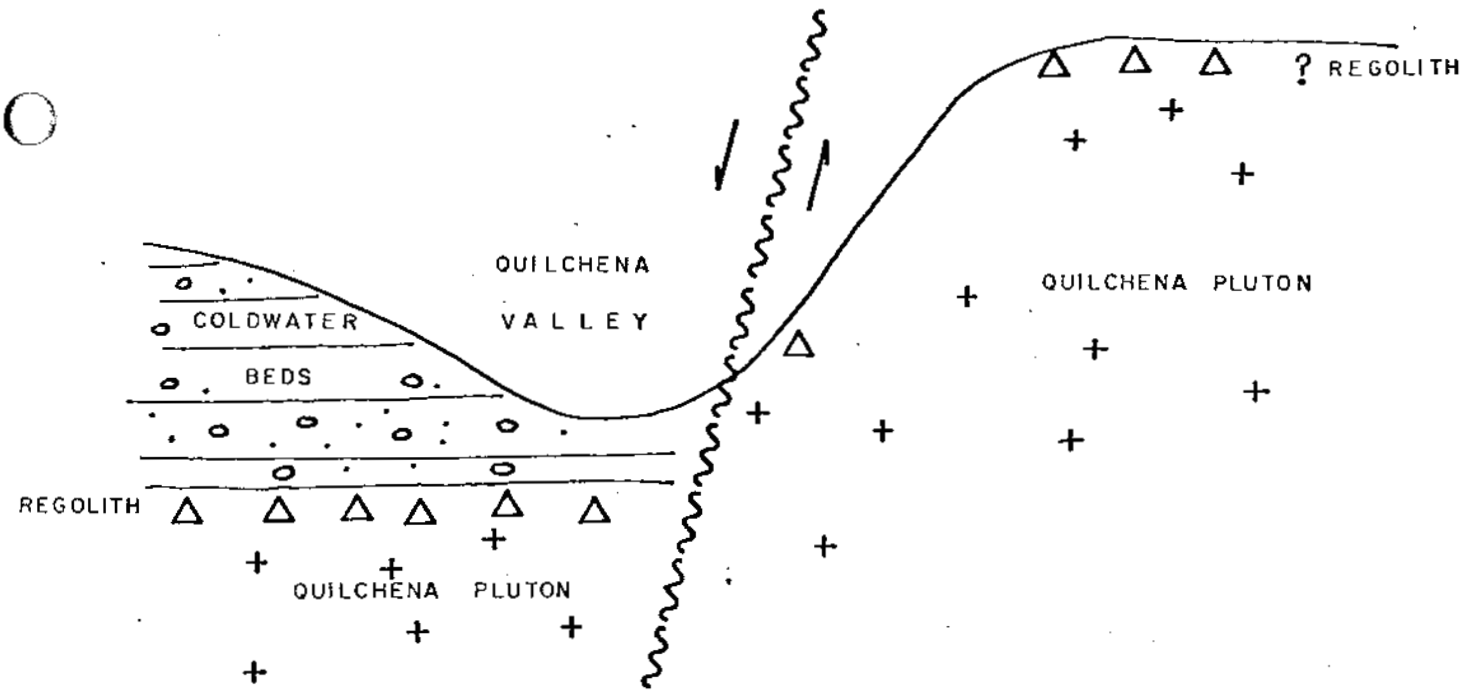
Description of the Units

Quartz Monzonite Porphyry (Quilchena Pluton)

Compositionally, the unit is quite uniform throughout exposures in the claim area. It consists of quartz phenocrysts 2-5 mm in size, ranging in abundance 3-10% in a fine to medium grained quartz-feldspar matrix. The matrix consists mainly of plagioclase with some K-feldspar, and displays varying grain size from 0.5 mm to 2.0 mm (seriate texture). The quartz phenocrysts and quartz and feldspar crystals in the matrix are

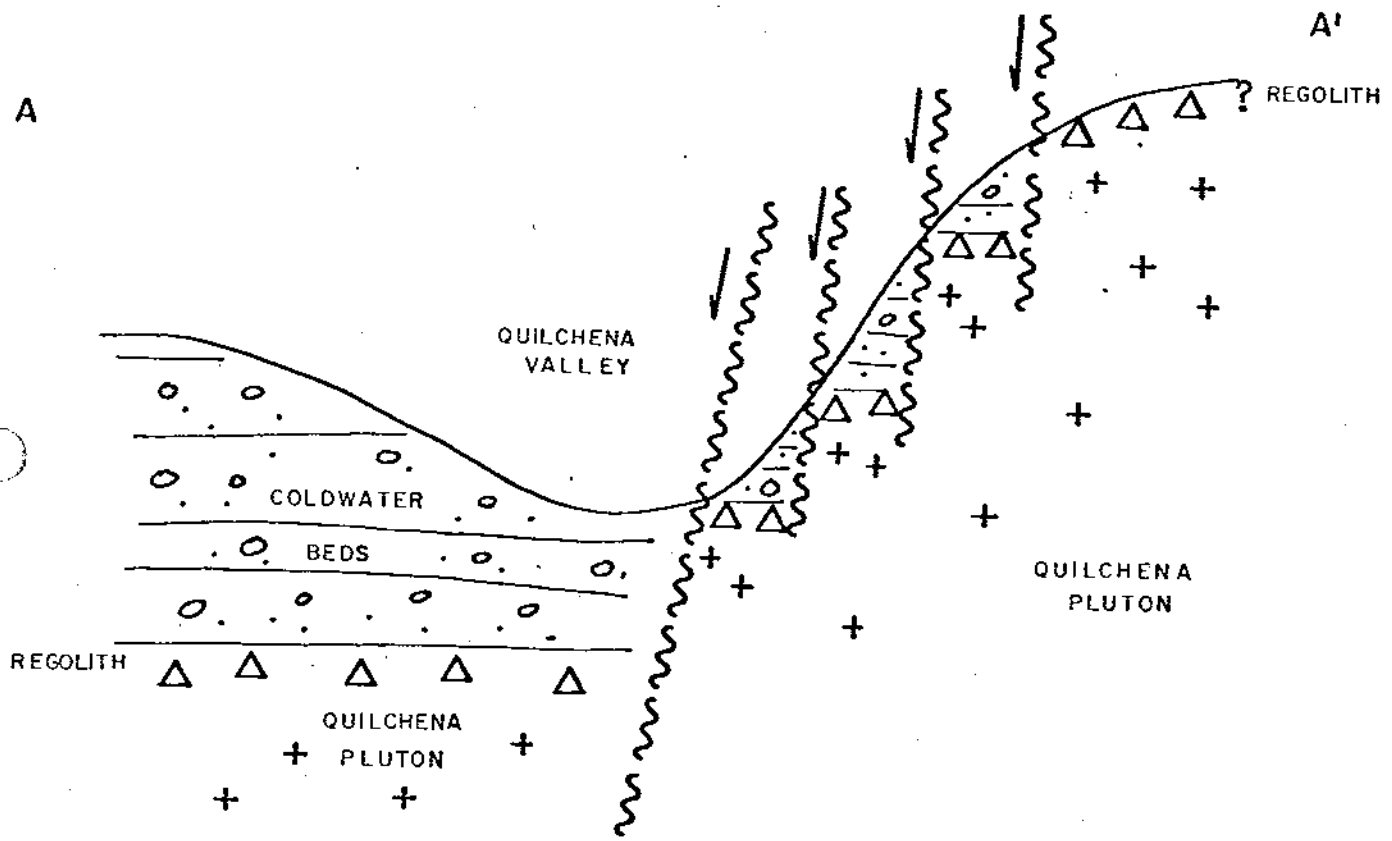


Formation of graben structure followed by deposition of Coldwater Sandstone Fig. 2



Generalized schematic cross-section of Quilchena valley at present day Fig. 3

#5984

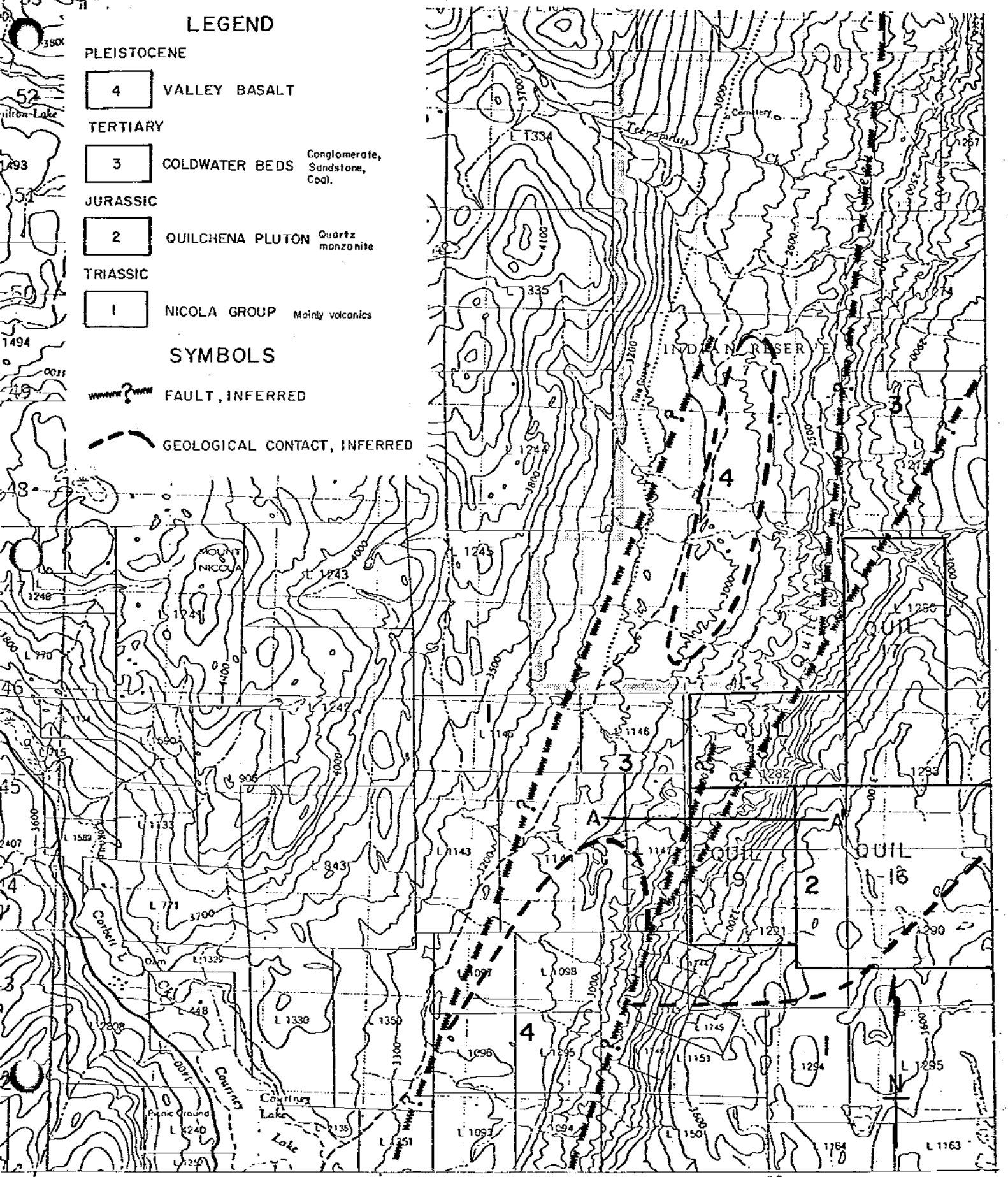


Schematic structural cross-section (along I48S) showing en echelon fault system

Fig. 4

#5984

Fig.4a - Geological Sketch Map of Quil Claims & Surrounding Region (inferred after geological mapping programs, 1975, 1976; and after Cockfield, 1948)



#5984

generally euhedral to subhedral in form. The biotite is generally fresh but may be slightly altered to chlorite. Outcrops of the intrusive north of L12N are characterized by up to 10% biotite and minor amphiboles in the matrix and as such could be considered a mappable unit distinct from the sulphide rich zone of the pluton. One exposure of quartz monzonite containing plagioclase phenocrysts up to 1.5 cm. in size was observed but otherwise plagioclase does not occur as phenocrysts. Compositional variations in the quartz monzonite were generally random with exception to the biotite-rich unit to the north.

Alteration includes kaolinization of the plagioclase characteristic of the argillic zone in a copper porphyry environment, epidote-filled veins which are characteristic of an outer propylitic zone, and quartz-K-spar veins cutting the intrusive which are characteristic of an inner potassic zone of alteration. No sericitic alteration of the plagioclase was observed.

Outcrops of the intrusive north of L12N, are characterized by up to 10% biotite and minor amphiboles in the matrix and as such could be considered the oxide facies of the intrusive as opposed to the mineralized sulphide facies.

Sandstone and Conglomerate (Coldwater Beds)

The sediments are exposed in a series of very small, highly weathered and fractured occurrences along the western bank of the Quilchena Creek about 150 ft. (45 m.) above the valley bottom. They vary from a medium grained sandstone to a pebbly conglomerate, arkosic in composition, with the grains and pebbles subangular to subrounded.

Components of the sandstone are locally derived, mainly from the quartz monzonite intrusive with the occasional pebble from the Nicola volcanics. The unit originated from local weathering of the Quilchena Pluton as the east side of the valley was uplifted, and the erosional material deposited in the basin to the west,

Alteration

The quartz monzonite porphyry has been subjected to intense hydrothermal alteration with a definite potassic zone developed, overlapped by what could be considered an argillic zone of alteration. An outer zone of epidote veining is present but poorly defined as a propylitic zone (Plan 2).

The inner potassic zone is exposed in the central area of the claim by the very deep-cutting gorge extending from the top of the eastern plateau to the Quilchena River. The centre of the zone is characterized by microveinlet fillings of quartz and K-spar, 2-10 mm wide, that occur as closely spaced sets. A maximum of 3 conjunctive sets of veins each set with a maximum of 6 veins/ft. (18 veins/m) represents the more highly altered centre of this zone which extends over an approximate 2400' (800 m) wide area. A gradational change

outwards from the centre displays a decrease in the number of sets of veins and a decrease in their density/ft. Also associated with the centre of the potassic zone is a high degree of alteration of plagioclase to kaolin characteristic of argillic alteration. The high degree of kaolinization extends to the south and out of the zone of intense quartz-K-spar veining, therefore tending to suggest that it is an individual zone of alteration. The major kaolinized zone is 800' (270 m) wide.

On the very outside of the highly altered zones, 4500' (1500 m) from the centre, the only evidence of alteration is in the presence of occasional epidote filled veins. No distinct or mappable zone is defined, however, it is quite possible that the epidote veining does represent an outer, poorly defined propylitic zone of alteration.

Economic Geology

The economic mineralization on the property occurs mainly as Cp + Mo + Py + Qtz + K-spar in veins and is thus concentrated in the inner potassic zone of alteration. Molybdenite occurs only in the innermost 800' (270 m) zone while Cp + Qtz + K-spar has a much more widespread distribution within approximately 2400' (800 m) radius around the central area. Pyrite occurs throughout the entire intrusive unit in the form of disseminations and as fracture fillings, usually weathered to limonite. Malachite and azurite were located on joint planes surrounding the veins. The deepest exposures of the porphyry occurred in the main tributary which also corresponds to the highest concentration of Cp and Mo. Thus there appears to be an increase in economic mineralization with depth.

SOIL GEOCHEMISTRY

Introduction

Four major physiographic regions can be identified within the Quil property, each region displaying its characteristic type and thickness of soil development.

To the west of the Quilchena Creek, stratified clay, silt, sand and gravel make up what can best be described as kame and kettle type topography. Recent alluvial deposits are found on the valley bottom, while on the steep eastern bank, there is evidence of much slope instability in the form of slump features and poorly developed soil horizons. The plateau region consists primarily of drumlinized till and rill deposits.

Soil Profiles

Nine soil pits were dug and sampled to determine the variation in the distribution of metal values in the various soil horizons. Their locations are shown on Plan 1. Soil pits SP-1 and SP-8 (Figs. 5 & 12) were located on the valley bottom in alluvial material. Soil pits SP-2 and SP-7 (Figs. 6 & 11) were located on ridges near the valley bottom, probably morainal in origin. Soil pits SP-3, SP-4 and SP-5(Figs.7,8&9)were dug progressively upslope on the eastern bank of the Quilchena valley. Soil pit SP-6 (Fig. 10) was located on a gravel fan-type deposit at the valley bottom. Soil pit SP-9 (Fig. 13) was located on the more gently rolling, western side of the valley.

The soil development on the Quil property is dependent upon the relief. On the steep eastern side good horizon development is seen in pits located on the horizontal terraces. Elsewhere on the slope, the "A" horizon can reach thicknesses as great as 4 ft. (1.2m.) with no evidence of a "B" or "C" horizon. This particular soil can probably be classed as a chernozem.

The drumlinized till located on the nearly horizontal plateau has a well developed soil profile. The "A" and "B" horizons are of variable thickness depending upon whether the sample was taken from the crest or the trough of the drumlin. At the crest, the soil horizons were relatively thin with a dramatic thickening towards the base.

Horizon development in stratified glacial material on the western side of the valley is characterized by a poorly formed "A" horizon mainly due to the lack of a vegetation cover, especially grass. However, the "B" horizon is thick and well developed.

Calcium carbonate deposits were observed in two of the soil pits. This caliche represents a chemical change with the deposition of cations and thus stops the upward motion of mineralized solutions. The carbonate deposits occur at the "B"/"C" contact which in most cases corresponds to the area of highest geochemical response.

The copper profile through the soil pit sections generally displays an increase in ppm value from a low in the "A" horizon increasing to the "B"/"C" contact, and then tailing off, with local variations throughout. It is interesting to note that in some of the pit profiles, the copper curve shows

FIG. 5 : PROFILE OF SOIL PIT SP-1

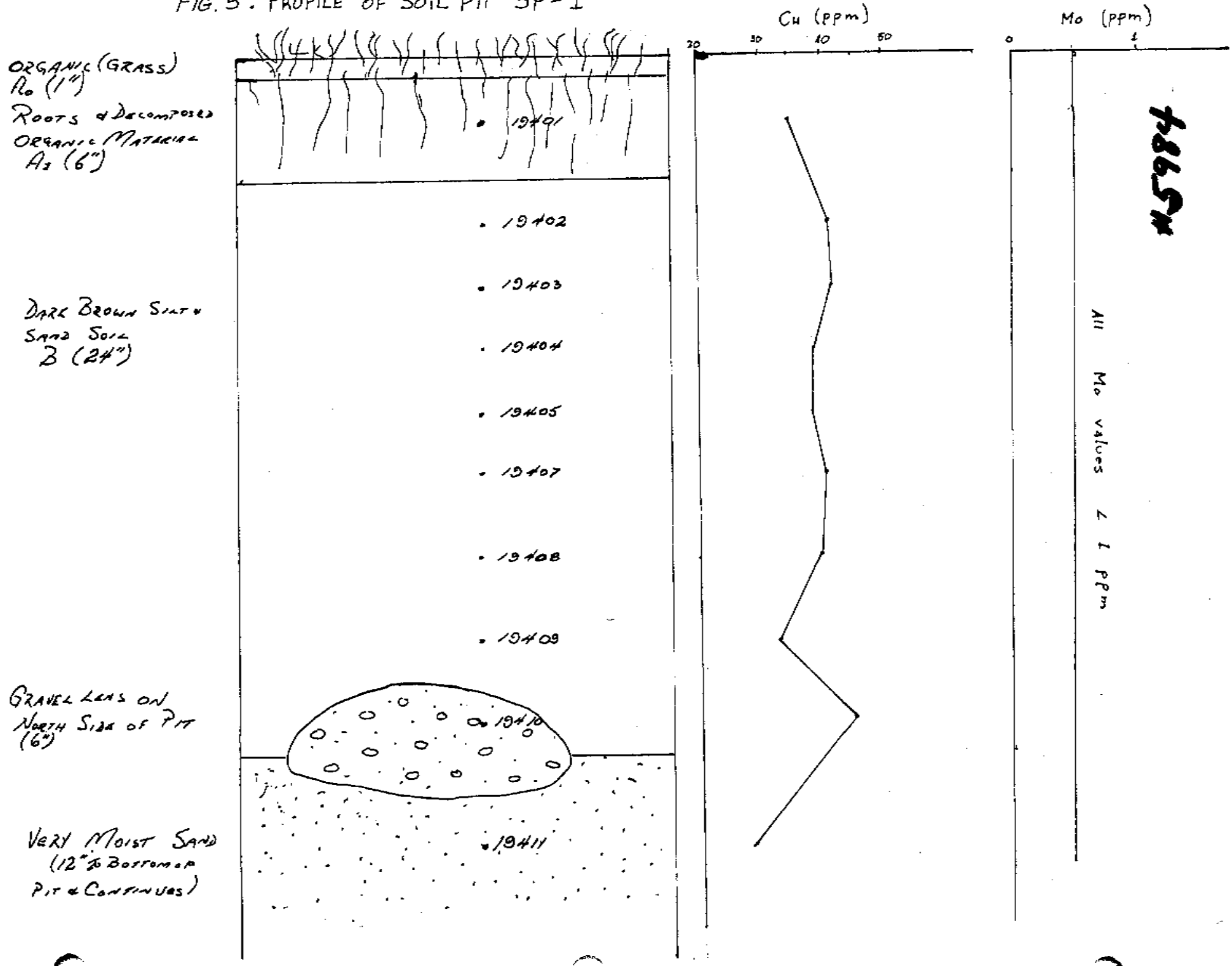


FIG. 6 : PROFILE OF SOIL PIT SP-2

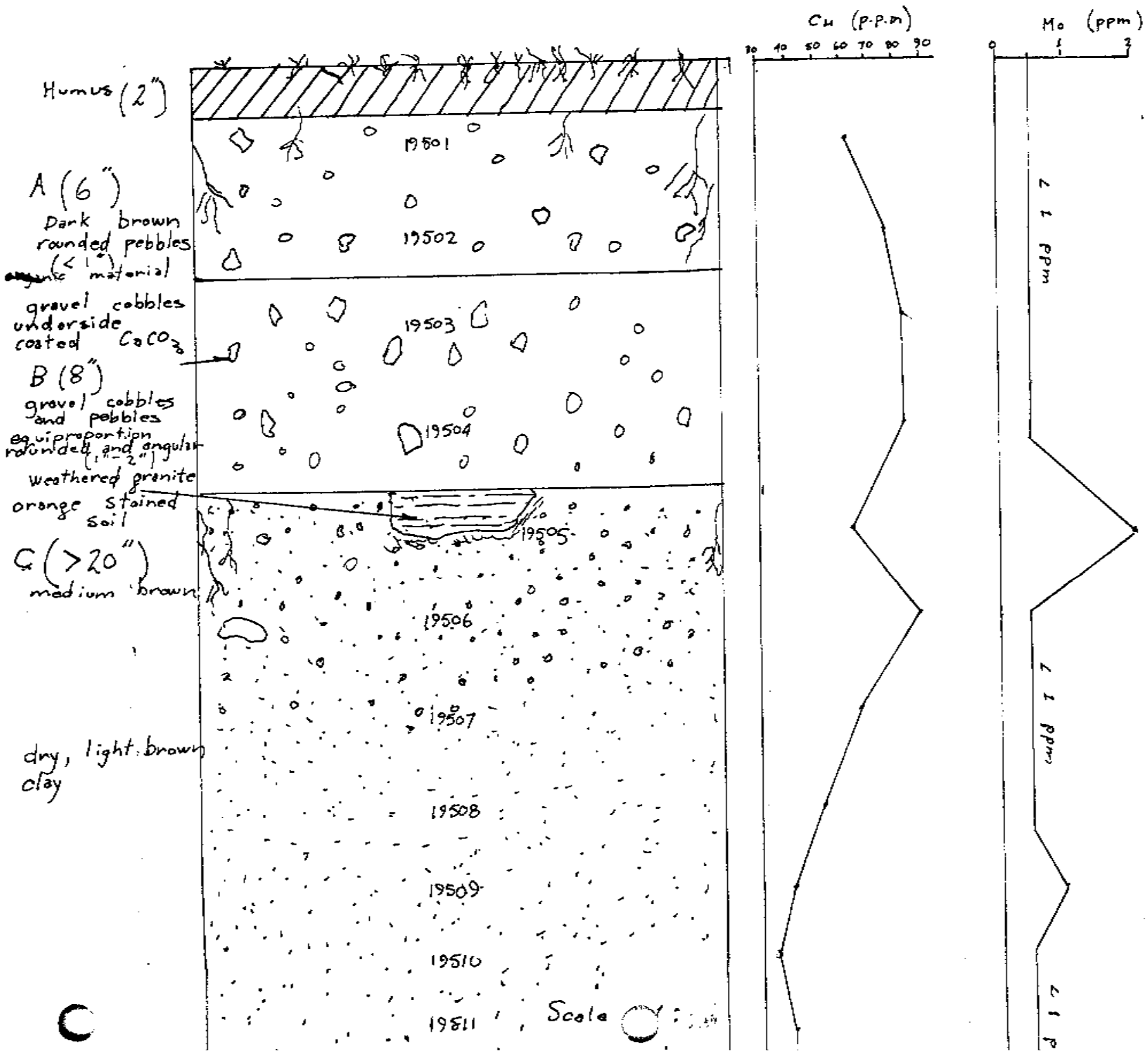


FIG. 7: PROFILE OF SOIL PIT SP-3

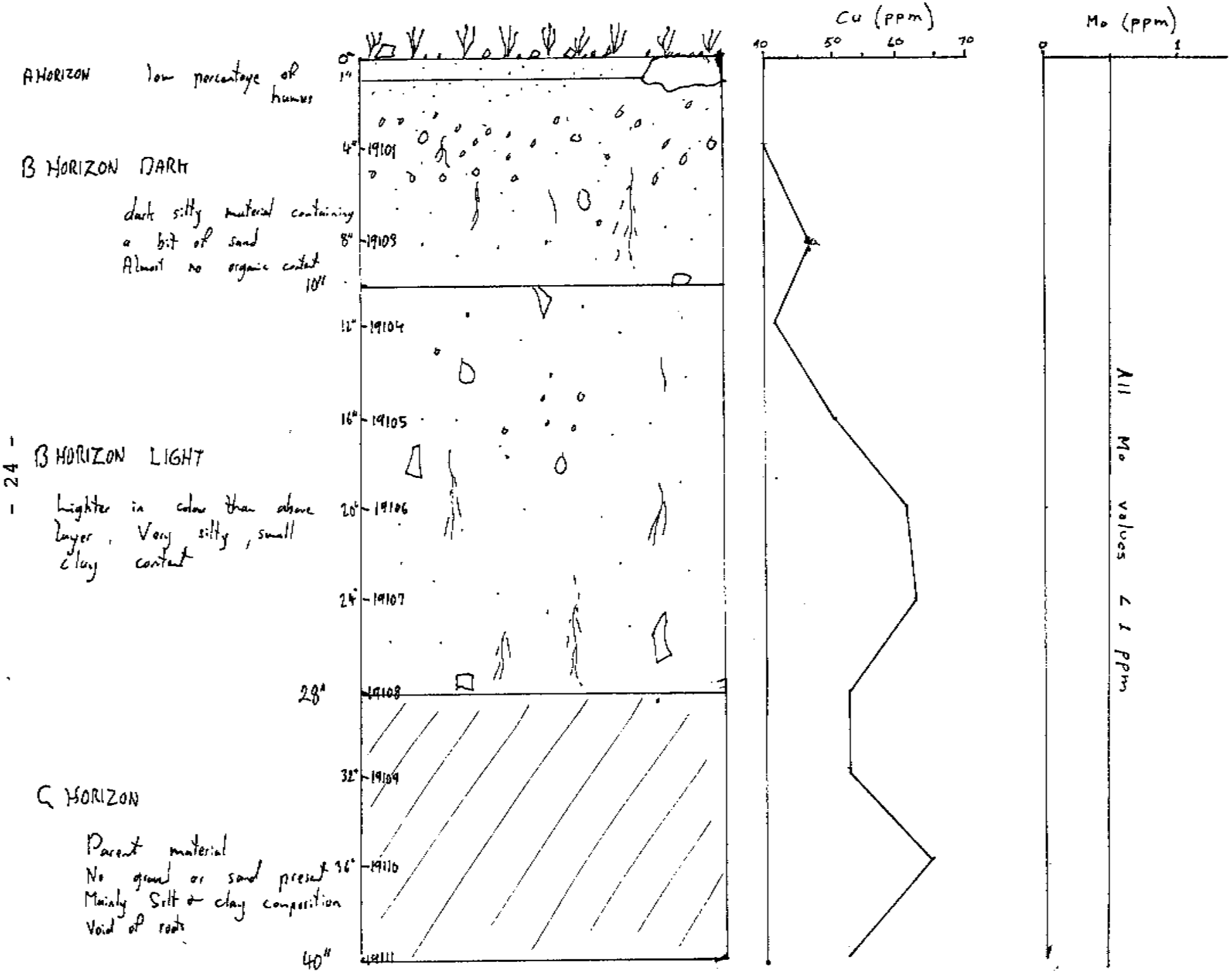


FIG. 8: PROFILE OF SOIL PIT SP-4

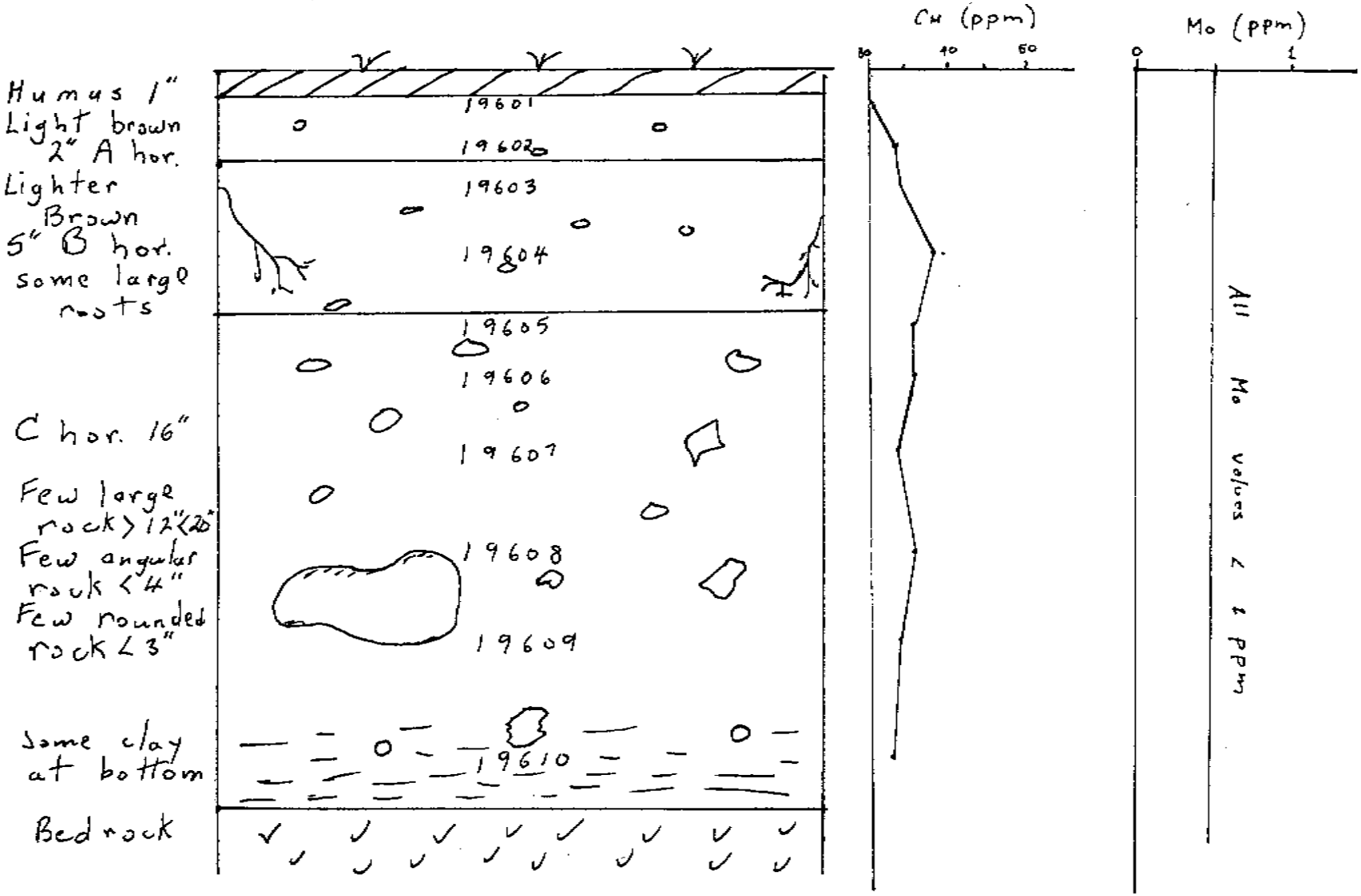
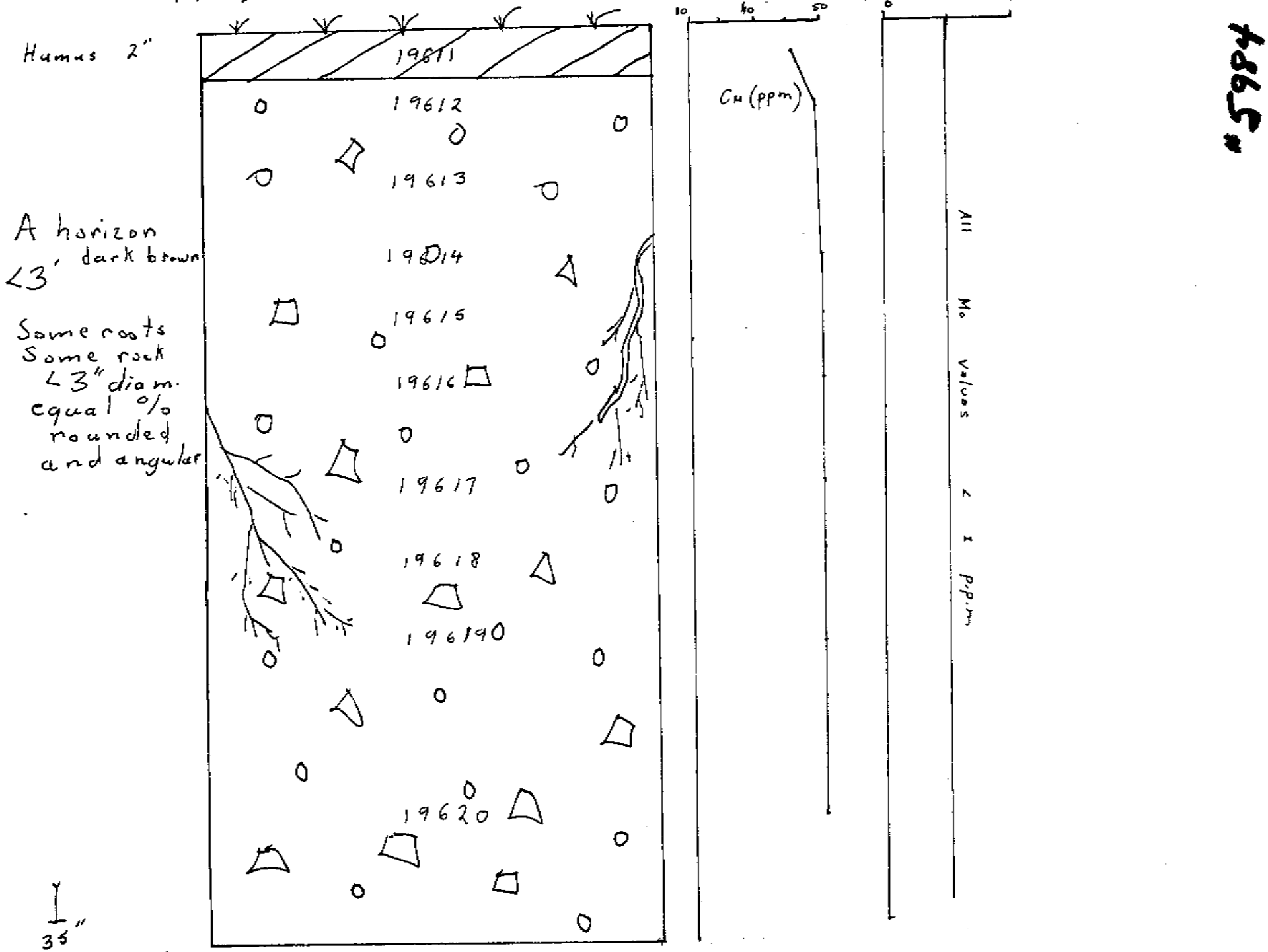
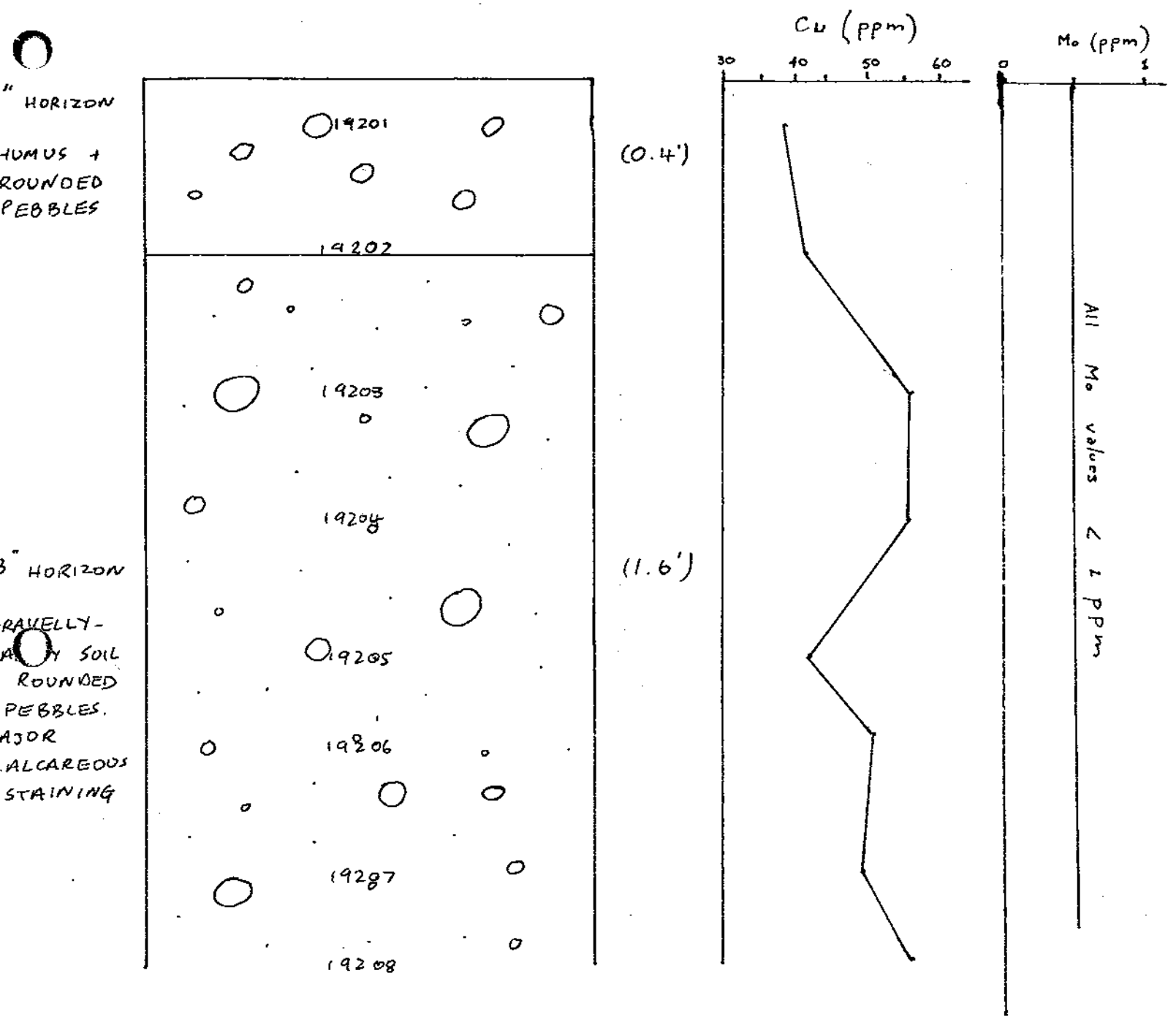


FIG. 9 : PROFILE OF SOIL PIT SP-5



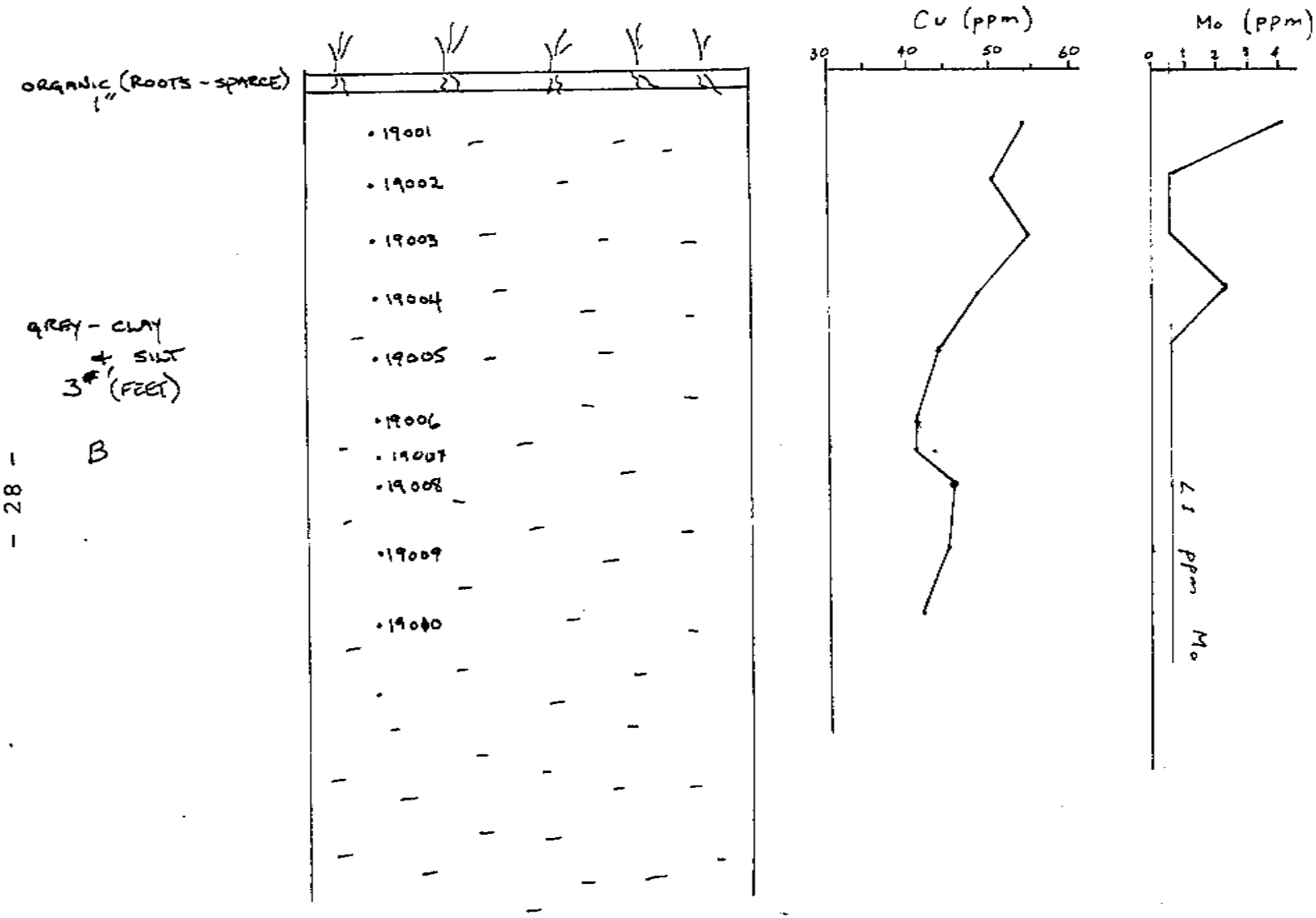
#5994

FIG. 10: PROFILE OF SOIL PIT SP-6



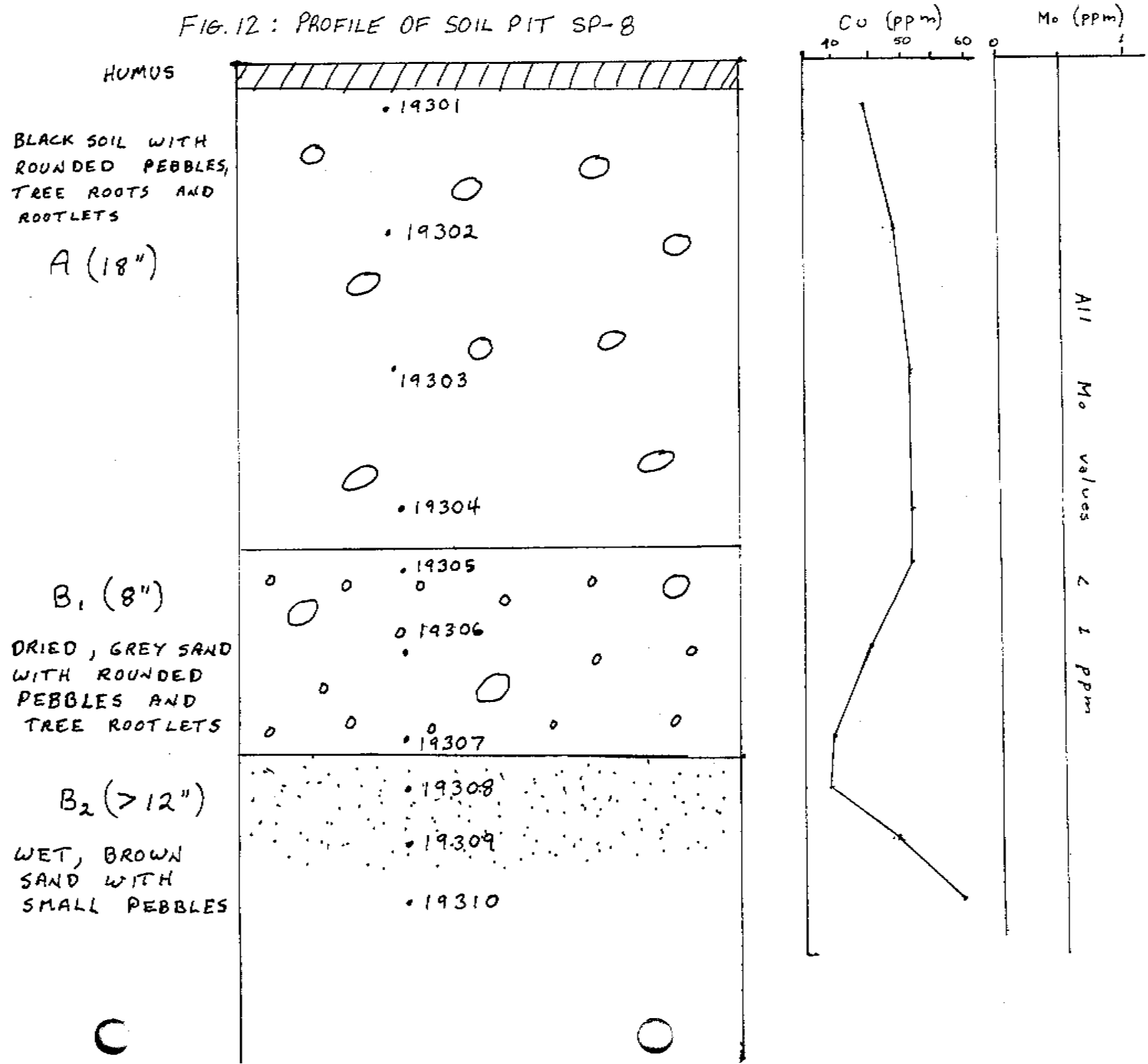
5784

FIG. 11 : PROFILE OF SOIL PIT SP-7



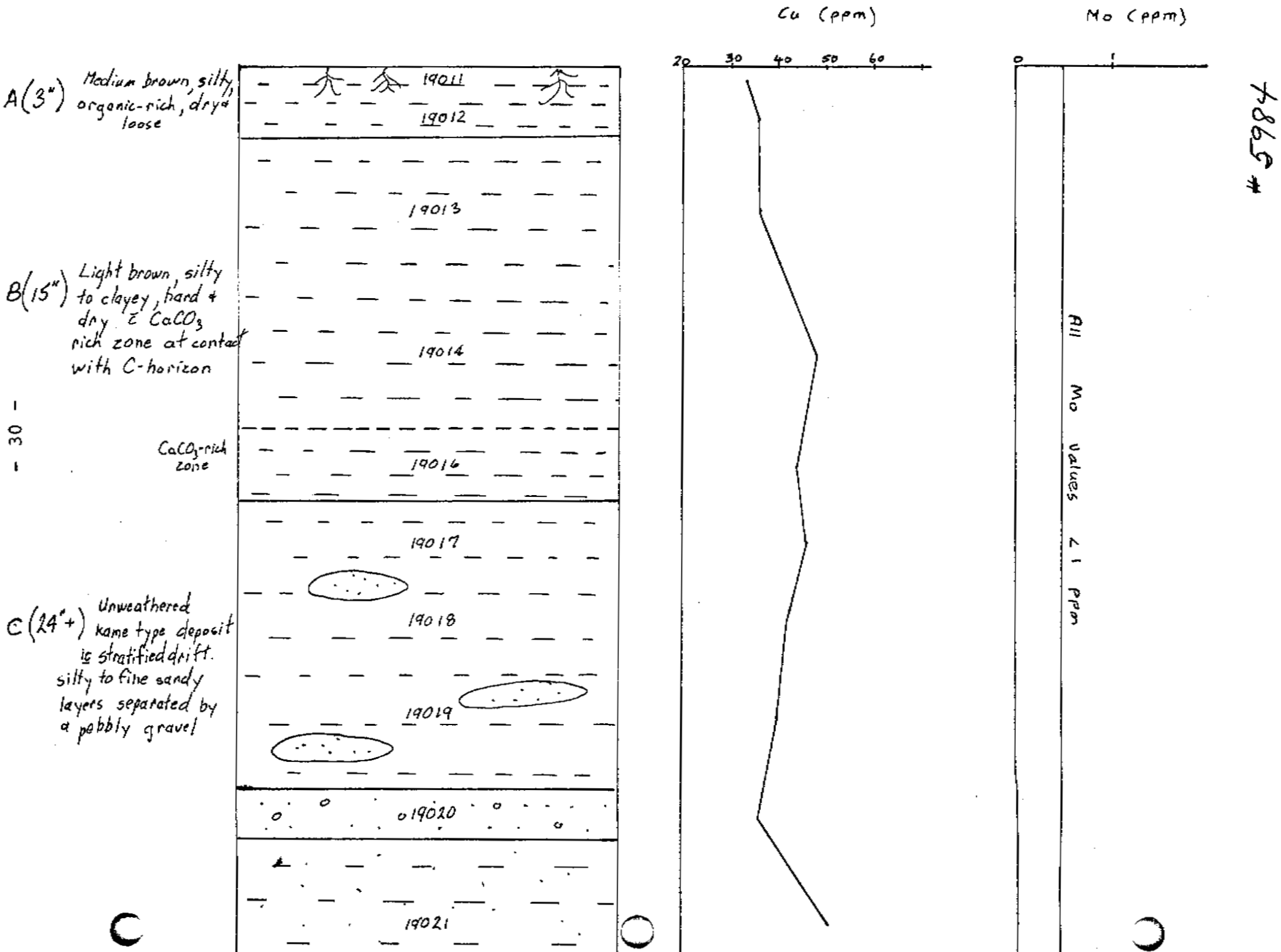
#5984

FIG. 12 : PROFILE OF SOIL PIT SP-8



4869

FIG. 13: PROFILE OF SOIL PIT SP-9



a slight increase approximately 6" (15 cm) into the "C" horizon. The molybdenum values are generally <1 ppm throughout the section and on the whole do not corroborate the Cu profiles. It must be noted, however, that all of the copper and molybdenum variations through the sections are on the order of 10-20% of the mean value which is the same as the normal reproducibility variation in geochemical analysis. Similarly, the pits were all located in areas which proved to be non-anomalous according to the soil sampling survey. Therefore, the copper and molybdenum profiles obtained from these pits may not be as meaningful as profiles obtained from pits located in anomalous areas.

The majority of the samples for the soil geochemistry survey were from 6-8" (16-20 cm) below the surface, which generally is just within the "B" horizon. However, where the "A" horizon is very thick, it is obvious that the "B" horizon would not have been reached, and thus it was impossible throughout the survey to maintain a uniform representative geochemical response unless sampling techniques were similarly varied, i.e. using an auger to insure that sufficient depth was obtained.

Sampling Procedure

The claim area was covered by a grid of picketed lines which were 400 feet (120 m) apart and samples were taken every 200 feet (60 m) along the lines.

All soil samples collected were placed in special heavy-duty high wet-strength kraft envelopes, semi-dried in the field and then sent to Chemex Labs Ltd. in Vancouver for analyses.

Lab Procedures for Handling, Preparation and Analyses of Geochemical Materials

Sample Preparation:

1. Samples are sorted numerically or in grid sequence and recorded on lab work sheets.
2. Soil and silt materials are air dried at 80°C. Drying time = 12-16 hours.
3. Screen samples and retain all -80 mesh material.
4. AA determinations carried out on a Tectron AA5 or AA6.

Sample Digestion, Chemical Preparation and Analyses

1. For analyses of Cu and Mo a 0.5 gm. sample of -80 mesh material is weighted into 22 x 175 mm. test tubes. Detection limits 1 ppm or less.
2. Add 3 ml. 70% $HClO_4$ and 2 mls. concentrated HNO_3 to sample. Slowly heat to 203°C. Digestion time = 2-3 hours.
3. Add demineralized water to 25 ml. volume, mix thoroughly, settle and analyse samples by standard atomic absorption procedures.

Standard Samples

The reproducibility and quality of the analytical procedure was checked by the addition of a known standard sample. The standard was included in the batch of regular samples, about one in every 30 to 40 samples.

The analytical results for the standard series and the reproducibility about the mean are listed below as Table 1, and graphically represented in Figure 14.

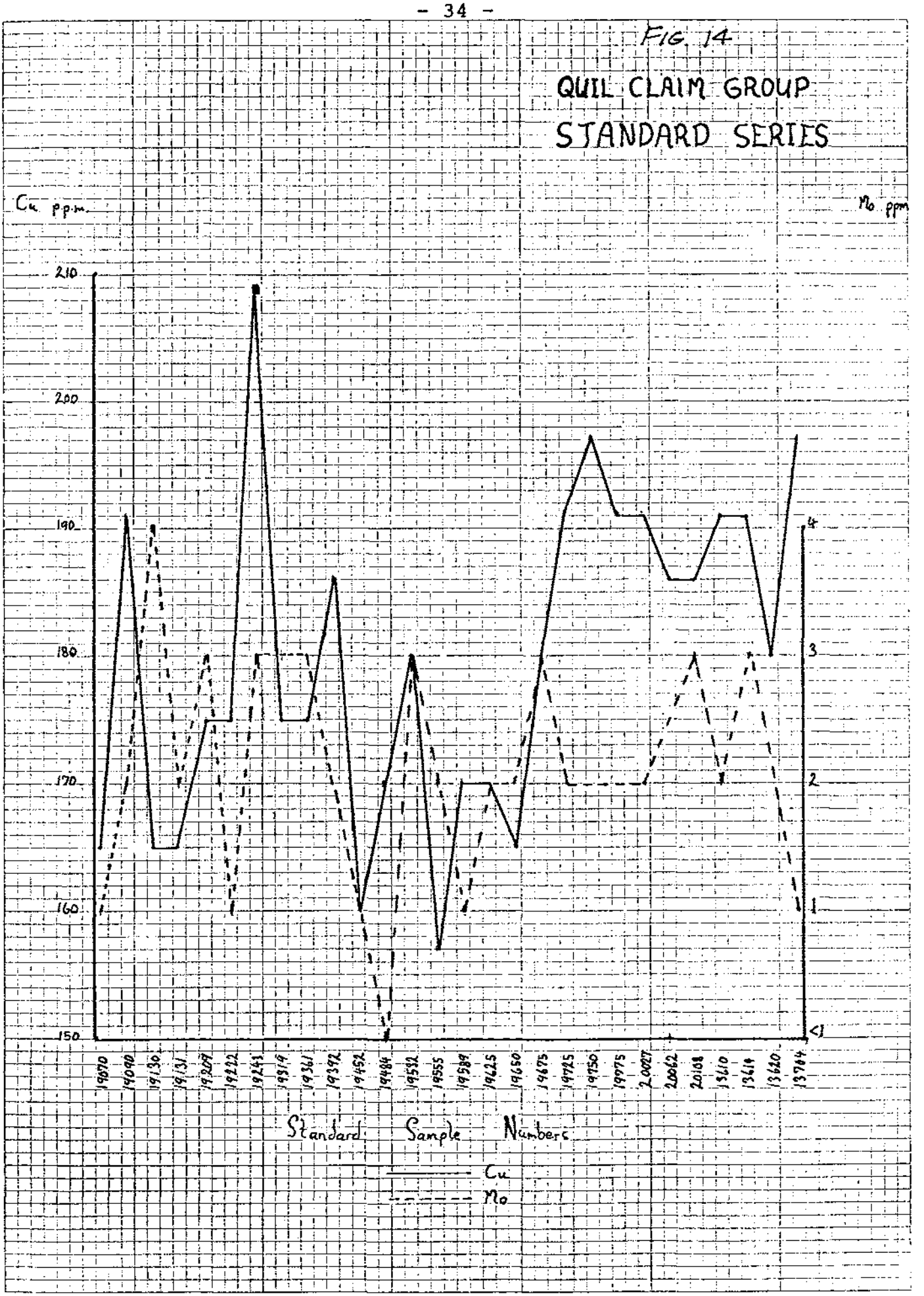
Table 1

Reproducibility of Standard Samples

Standard Number	Cu Value ppm	Cu % diff. from mean	Mo Value ppm	Mo % diff. from mean
19070	165	-5.4	1	-50
19090	191	9.5	2	00
19130	165	-5.4	4	100
19131	165	-5.4	2	00
19209	175	0.3	3	50
19222	175	0.3	1	-50
19243	209	20.0	3	50
19319	175	0.3	3	50
19361	175	0.3	3	50
19392	186	6.7	2	0
19452	160	-8.3	1	-50
19484	170	-2.5	<1	-60?
19532	180	3.2	3	50
19555	157	-10.0	2	00
19589	170	-2.5	1	-50
19625	170	-2.5	2	00
19650	165	-5.4	2	00
19675	180	3.2	3	50
19725	191	9.5	2	00
19750	197	13.0	2	00
19775	191	9.5	2	00
20027	191	9.5	2	00
20062	186	6.7	<1	-60?
20108	186	6.7	3	50
13610	191	9.5	2	00
13614	191	9.5	3	50
13620	180	3.2	2	00
13704	197	13.0	1	-50
Mean	174.4	6.7 (avg.)	2	31.1 (avg.)

FIG 14

QUIL CLAIM GROUP
STANDARD SERIES



The acceptibility for variation within the standard was assigned at 10% of the mean value, when the mean is 50 ppm Cu or greater, and 30% for a mean from 1-10 ppm Mo. For copper, the percentage difference from the mean is well within this range. For molybdenum due to the very low mean value, the percent deviation of 31.1% from the mean is adequately in the correct range. Thus, it is assumed that the geochemical samples are also within this range, and consistently represent their true metal content.

Statistical Treatment of Results

To determine the mean and anomalous values, the element values obtained from the laboratory (Table 3 in the Appendix to this report) were grouped into fixed ranges (Tables 5 and 6 in the Appendix). A histogram of the frequency distribution for copper (Fig. 15) was constructed. An arbitrary best fit curve was drawn through the majority of the data. The highest normal value was defined as the cut-off for the anomalous values. Anomalous copper values start at 86 ppm.

The non-anomalous values (normal population) were then re-plotted as a cumulative frequency graph (Fig. 16). The 97% cumulative frequency level defines the threshold value. Values between the threshold and the 100% level were defined as being probably anomalous. The mean of the normal population was defined as the median value. The probably anomalous values for copper range from 66-85 ppm and the mean is 41 ppm.

The molybdenum data was handled in a slightly different manner due to the large number of <1 ppm values. All of the molybdenum values are listed as Table 6 and are plotted as a

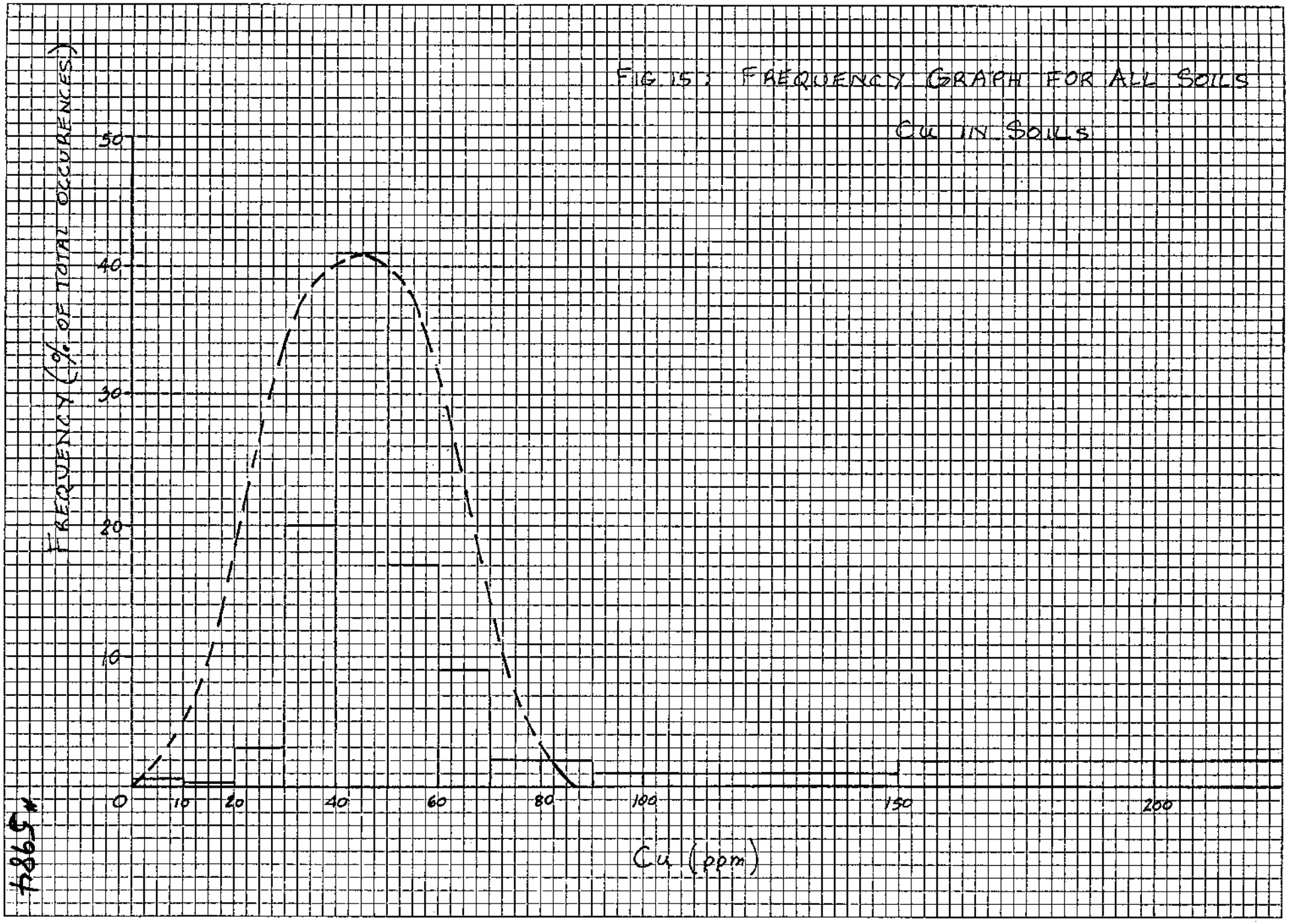


FIG. 15: FREQUENCY GRAPH FOR ALL SOILS

Cu IN SOILS

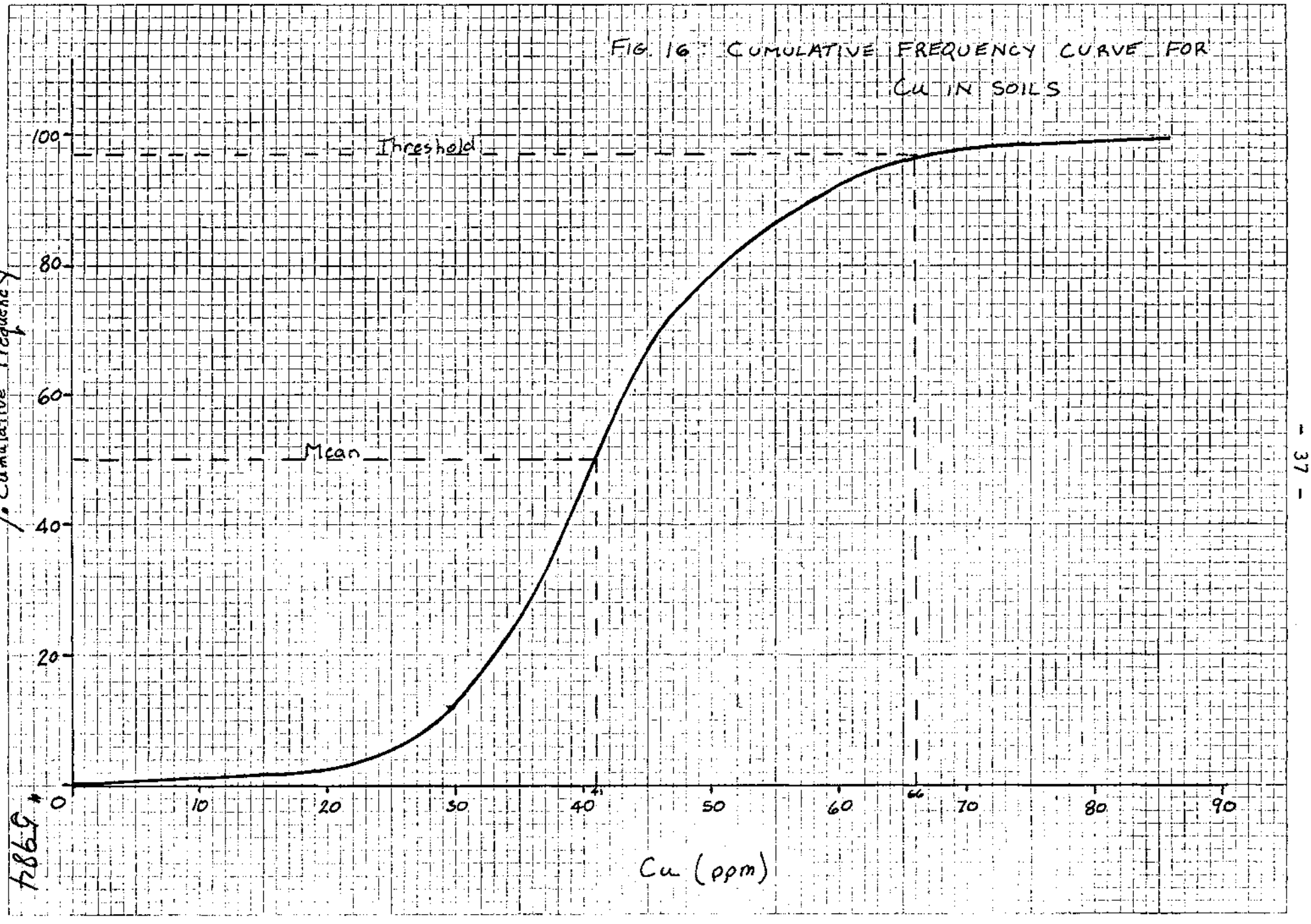


FIG. 16: CUMULATIVE FREQUENCY CURVE FOR Cu IN SOILS
Threshold
Mean
% Cumulative Frequency
100
80
60
40
20
0
10
20
30
40
50
60
70
80
90
Cu (ppm)
7869

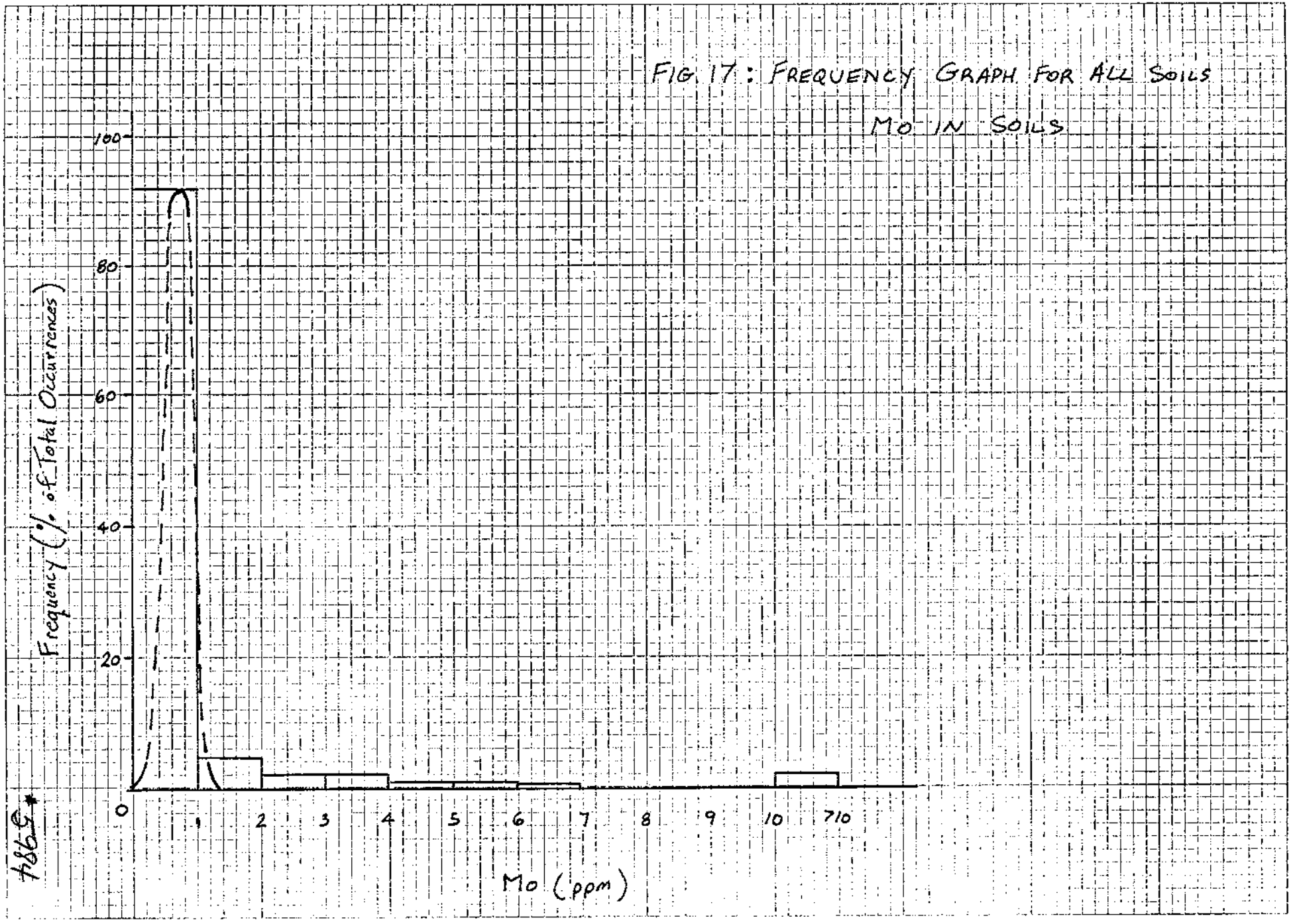


FIG. 17 : FREQUENCY GRAPH FOR ALL SOILS
Mo IN SOILS
Frequency (% of Total Occurrences)
100
80
60
40
20
0
1
2
3
4
5
6
7
8
9
10
710
Mo (ppm)

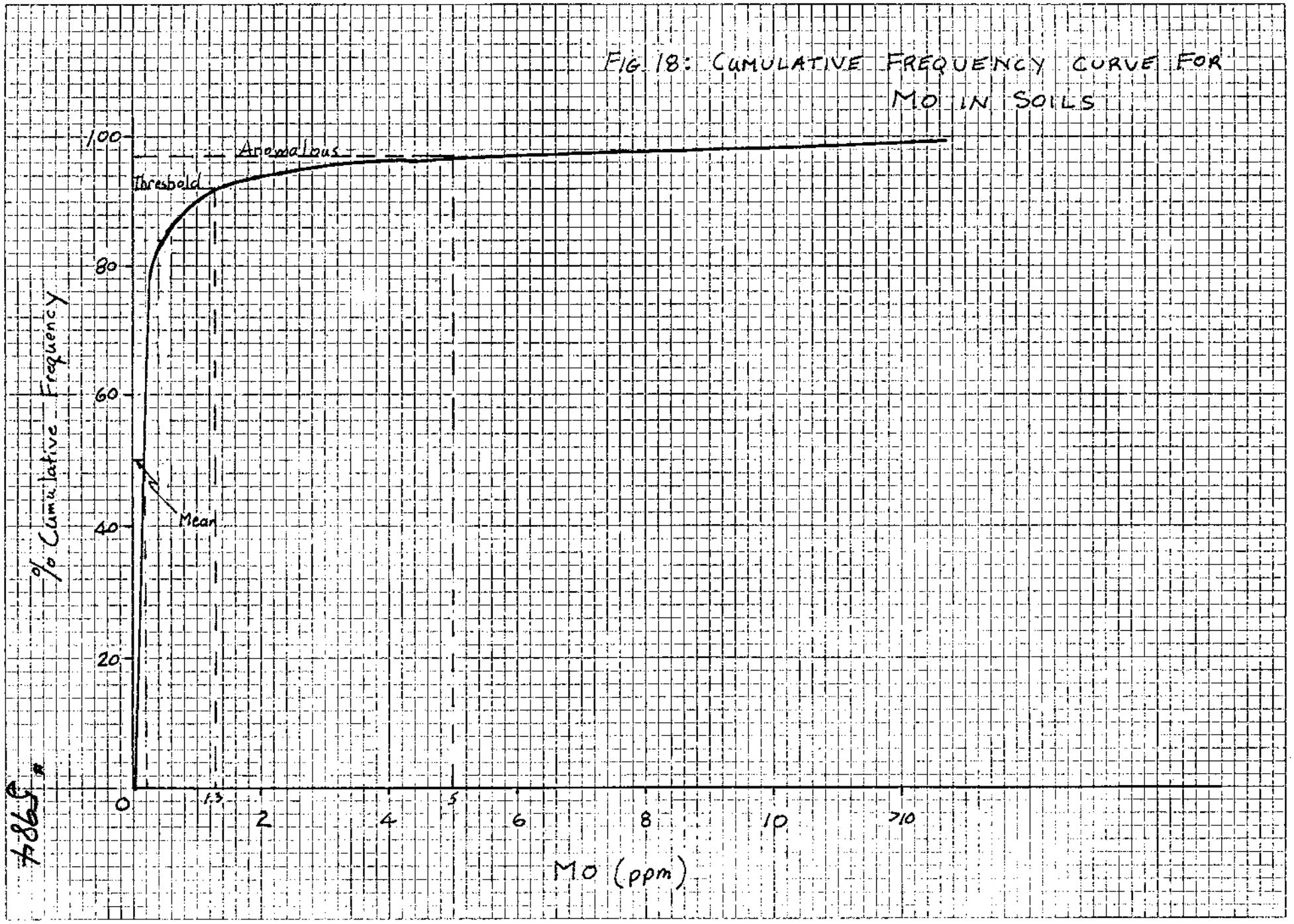


FIG 18: CUMULATIVE FREQUENCY CURVE FOR MO IN SOILS

cumulative frequency (Fig. 18). The 92% level was defined as the threshold and the 97% level was defined as anomalous. Probably anomalous values range from 1-4 ppm and anomalous samples are 5 ppm and greater. The mean is <1 ppm.

Results of the Soil Geochemistry

The laboratory results are plotted on the soil geochemistry map (Plan 3). A partially filled quadrant represents a probably anomalous sample while a completely filled quadrant represents an anomalous value. Contour maps were constructed to better delineate the areas of interest. Copper (Plan 4) has a contour interval of 80-100-150-200-250-300-350^{+} ppm while molybdenum (Plan 5) has a contour interval of 2-4-6-8-10-12^{+} ppm.

Summary of Anomalies

Both the copper and molybdenum contours outline well defined, moderate level anomalies. The copper contours (Plan 4) based on the 80 ppm level trend dominant NE, with sub-dominant trends to NW and N. These trends correlate with the observed quartz-K-feldspar fracture directions. The major anomaly is dumb-bell shaped from L08S to L52S with a width of 1600 feet (480 m.) cut off at Quilchena Creek alluvium. The most significant area is the north half of the dumb-bell, an area of 2500 x 1200 ft. (750 x 360 m.) above the 350 ppm Cu contour. The molybdenum contours (Plan 5) display exactly the same picture as copper using the 6 ppm level. The same trends are outlined, i.e. dominant NE, plus sub-dominant NW and N as well as the same major dumb-bell shaped anomaly at L08S to L48S. The north half of the anomaly is again the most significant

being 2200 ft. x 1400 ft. (660 x 420 m.) at the 10 ppm level.

The majority of the anomalous zones correspond to areas where mineralization was noted in nearby outcrops of the intrusive unit. The major dumb-bell shaped anomaly as previously mentioned lies within the potassic zone of alteration as defined by geological mapping. The potassic zone is characterized by visible molybdenite and chalcopyrite within quartz-K-spar vein sets. Other minor anomalies with the exception of the far southern one near lines 56 and 60S, generally correspond to zones of visible chalcopyrite and/or malachite. All of the soil anomalies tail off downslope from mineralized outcrops and are virtually sliced off at the crest of the eastern slope which marks the limit of major areas of outcrop. It also marks the break in slope from the thickly overburdened plateau region to the more thinly covered, and geochemically active eastern slope. However, it is noted that the soil anomalies do not extend the whole length of the eastern slope but are closed off just north of the major gorge leading into the Quilchena Creek. Thus, it follows that a steep and geochemically active eastern slope does not necessarily produce anomalous soil geochemistry values.

ROCK GEOCHEMISTRY

Rock chip samples were collected randomly along the grid during the geological mapping program. A total of 26 chip samples were collected from the intrusive outcrops on the property, and all were analyzed for copper and molybdenum. The results are listed in the Appendix as Table 4 and are plotted on the rock geochemistry map (Plan 6).

The values are scattered but in general, high molybdenum and copper values correspond to the zone of visible copper and molybdenum as defined on the geological map (Plan 2). There appears to be no relationship between copper and molybdenum values in any one chip sample. Copper values range from 4 ppm to 960 ppm with an average of 130 ppm; while molybdenum values range from <1 to 62 ppm with an average of 17 ppm.

Statistical treatment of the rock geochemistry results are tabulated in Table 7. The frequency distribution curve for copper (Fig. 19). defines a cut-off point of 42 ppm. Thus, values of 42 ppm Cu or greater are considered anomalous. The frequency distribution curve for molybdenum (Fig. 20) defines a cut-off of 28 ppm Mo for the anomalous values.

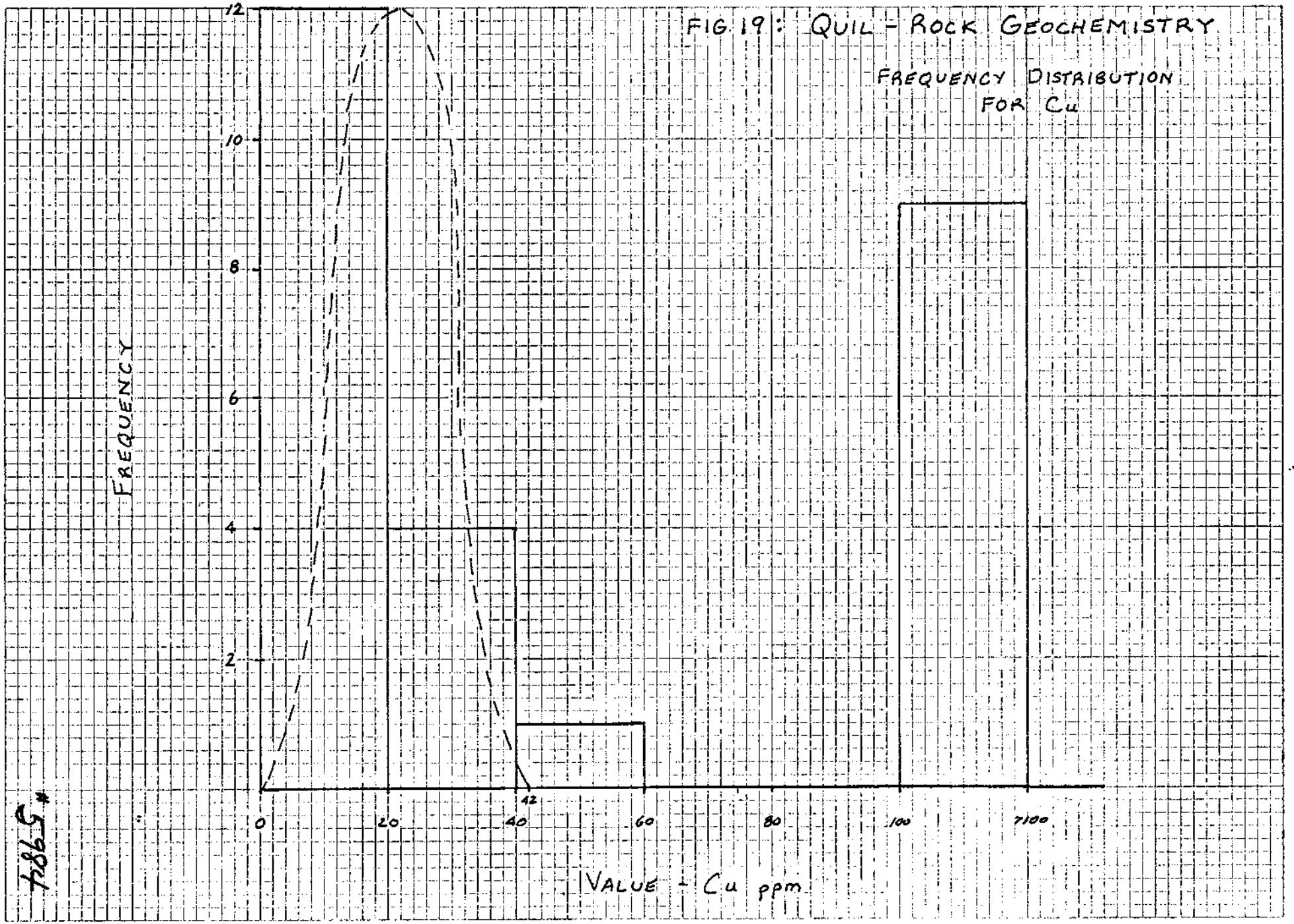
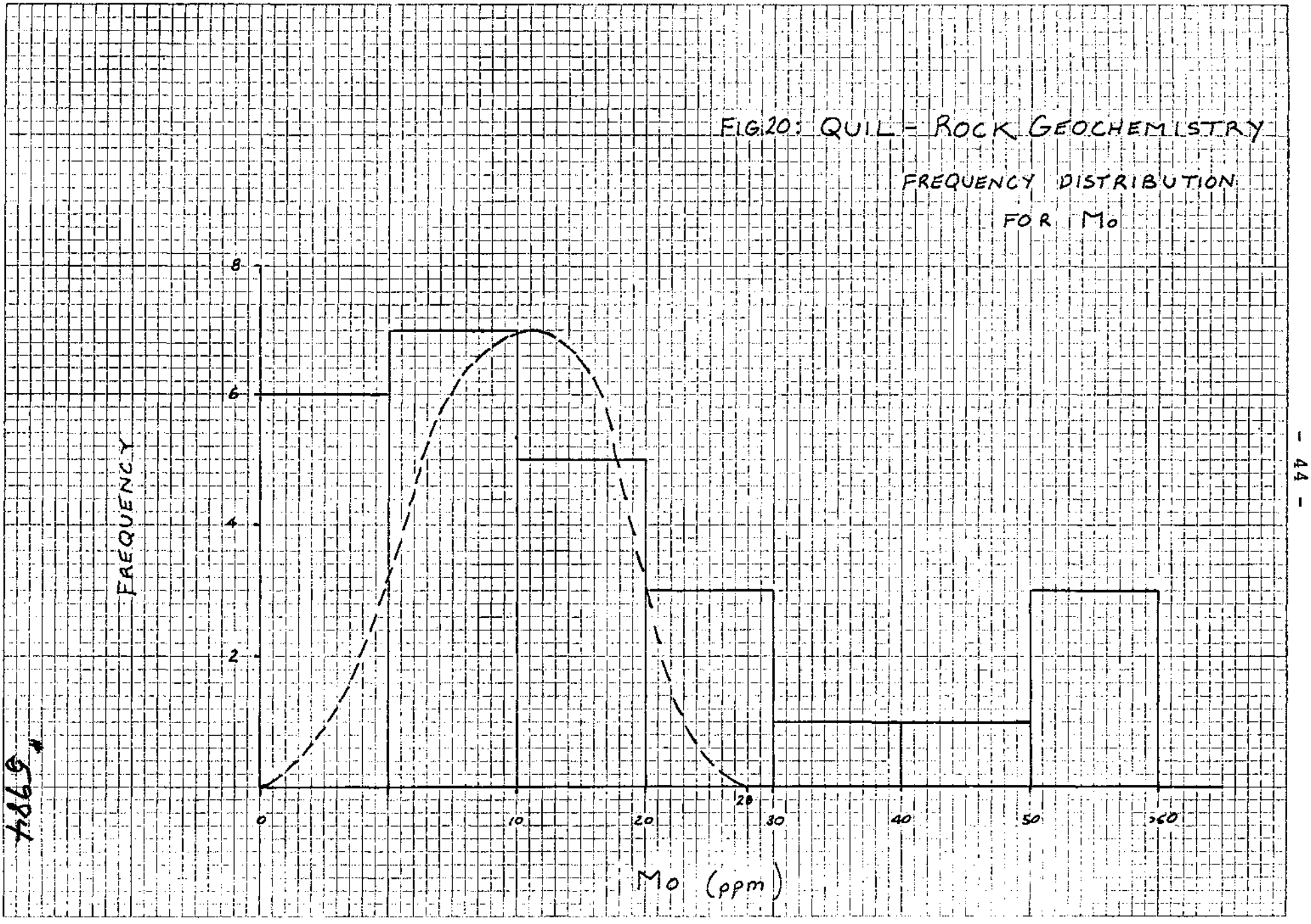


FIG 19 : QUIL - ROCK GEOCHEMISTRY
FREQUENCY DISTRIBUTION FOR Cu
FREQUENCY
12
10
8
6
4
2
0
20
40
42
60
80
100
7100
VALUE - Cu ppm

FIG 20: QUIL - ROCK GEOCHEMISTRY

FREQUENCY DISTRIBUTION FOR Mo



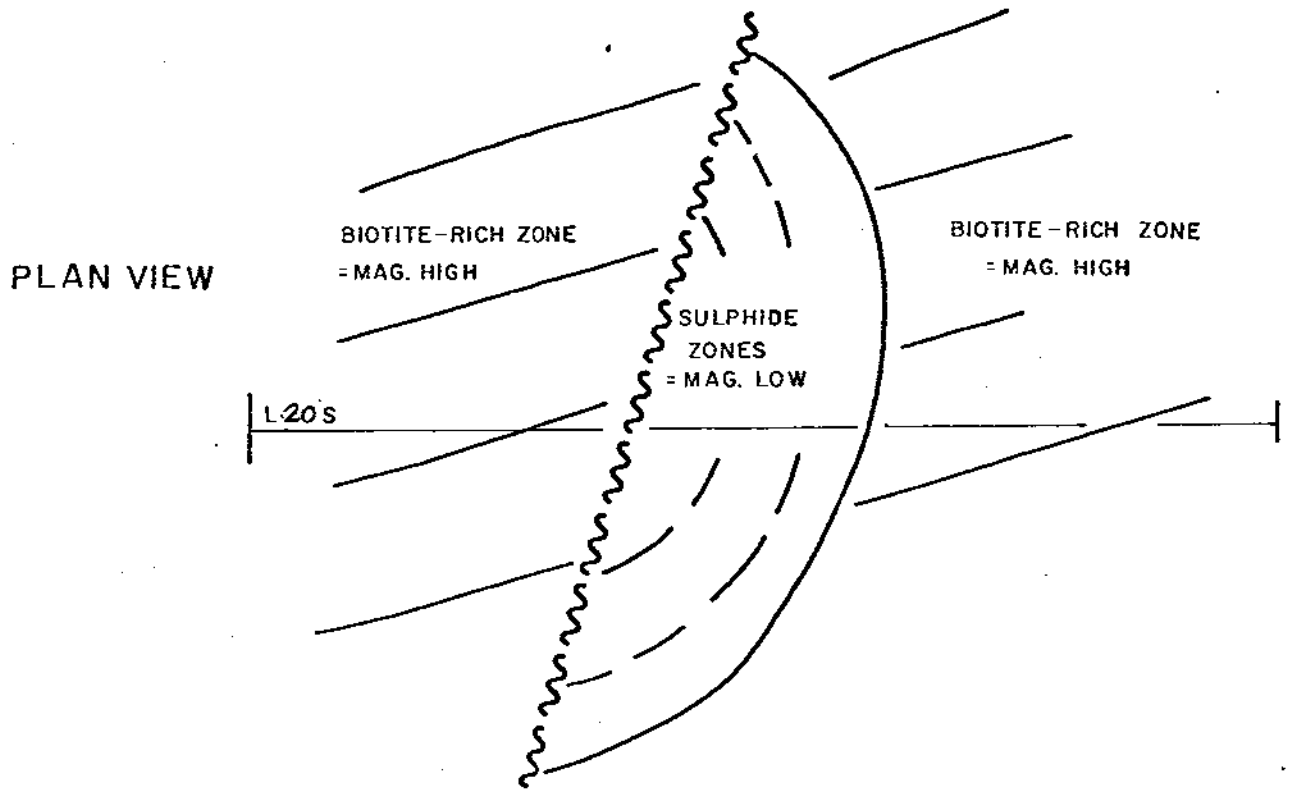
4869

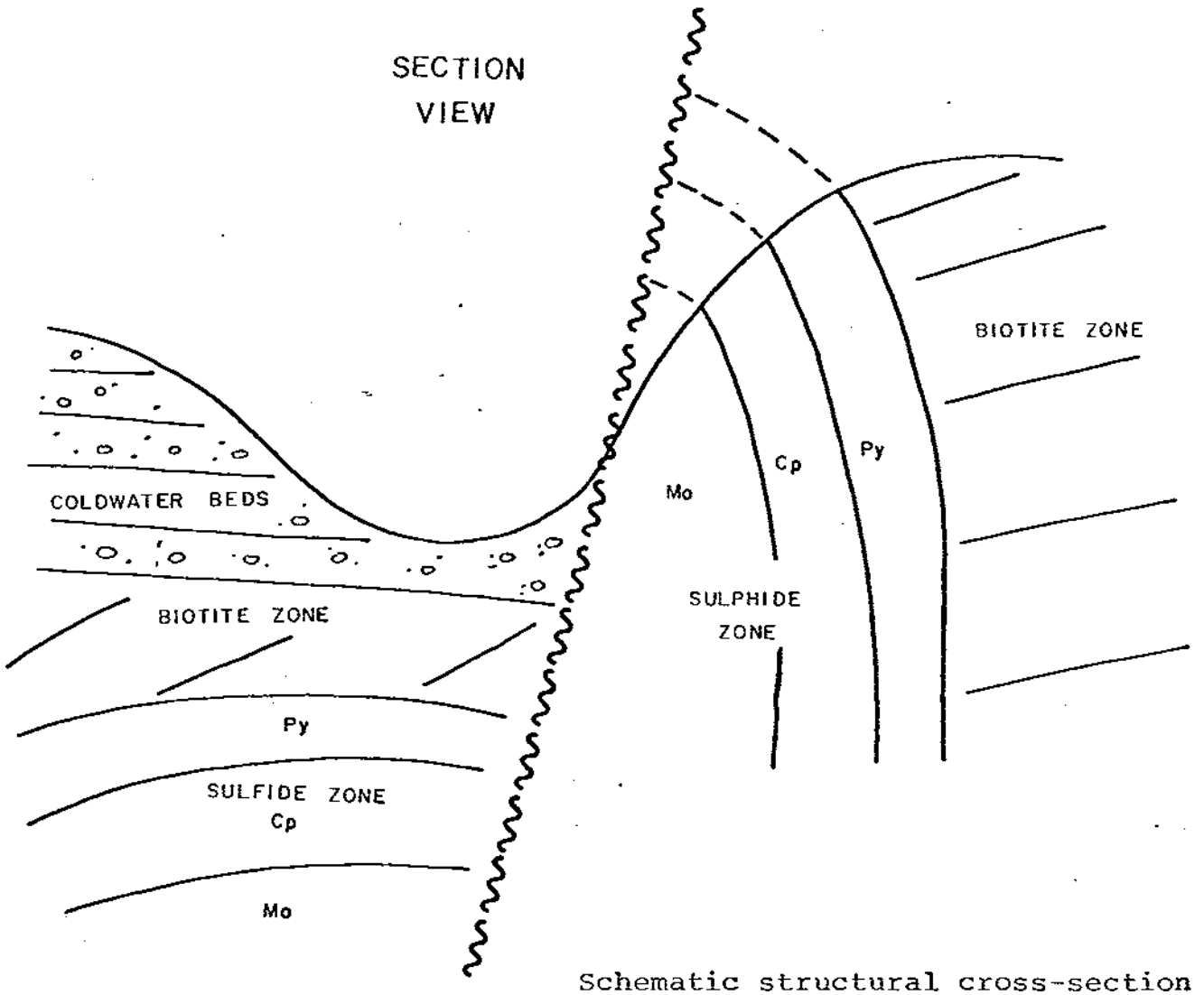
GEOPHYSICS

A detailed description of the ground magnetometer and I.P. surveys carried out on the Quil property by P.E. Walcott & Associates is contained in his report dated July, 1976.

The magnetometer results indicate that the area surveyed is underlain by two magnetically different rock units. The contact between the two is somewhat ill-defined and could be offset to the east by a fault in the vicinity of Line O. It is suggested that the magnetic unit with the higher response corresponds to the Nicola volcanics. However, results from the geological mapping program indicate that this magnetic unit is in fact the more biotite-rich phase of the Quilchena Pluton. This is evident in the northern section of the grid where the magnetic response was high and outcrops of the mafic-rich zone of the intrusive were common. On the western side of the Quilchena Creek valley, there is a similar high magnetic response which again could correspond to the biotite phase of the intrusive lying below the Tertiary sandstone.

Two anomalous zones of apparent chargeability can be discerned from the induced polarization survey. Both correspond well to areas of mapped sulphide occurrences and the larger and more westerly one coincides with that of the copper soil anomaly. A comparison of the contours of apparent chargeability for n=1 and n=2 also tends to indicate that the sulphide zones as mapped on the surface dip steeply to the east.





#5984

Schematic structural cross-section
(inferred from geophysics)

Fig. 21

The structural trends of the rock units as inferred from the geophysics can be schematically shown as in Fig. 21

A comparison of the I.P. and magnetometer surveys carried out in 1966 and 1968 with the survey just completed shows a fair degree of correlation between the two sets of data. The zone of high chargeability just above the NW corner of the Quil 1-16 claims defined by the 1966 survey (see Quil Claims Compilation Map, January, 1976) corresponds exactly to the major zone of high chargeability picked up by the 1976 survey. A smaller zone to the NE is similarly duplicated but with a minor offset probably due to errors in field location. A magnetometer low defined by the 1968 survey as lying in the central portion of the property (see Quil Claims Compilation Map, January, 1976) was similarly reproduced by the 1976 survey but as a much more intensive low with a sharply defined contact along the Quilchena valley and to the north but open-ended to the south.

CONCLUSIONS

The major rocktype exposed in the claim area is a porphyritic intrusive unit, quartz monzonitic in composition and Jurassic in age, here called the Quilchena Pluton. It is a subsidiary stock of the Pennask Batholith. Alteration and mineralization zones characteristic of a copper porphyry environment can be defined within this unit. The alteration

zones roughly extending outward from the centre of the property are as follows: an inner potassic zone characterized by sets of quartz-K-feldspar veins, overlapped by an argillic zone in which the plagioclase has undergone kaolinization, and an outer propylitic zone in which there is a minor epidote veining. Mineralization zones follow a similar pattern with outwardly extending zones of occurrence characterized by an inner zone of Mo + Cp + Py, followed by just Cp + Py, and an outer zone where only Py is visible in the outcrops. The entire system appears to be cut off on the west by a normal fault system approximately corresponding to the Quilchena Creek, but probably is preserved at depth in the hanging wall block.

Four major physiographic regions can be identified within the Quil property and each displays a characteristic soil class and thickness. In most cases the "B" horizon could be sampled for geochemical analysis. However, the thickness of the "A" horizon increased greatly on the eastern slopes of the Quilchena valley and thus, it was impossible to reach the "B" horizon using normal sampling methods.

Both the copper and molybdenum soil geochemistry contours outline well defined, moderate level anomalies. The major anomaly is dumb-bell shaped from L08S to L52S with a width of 1600 feet (480 m.) cut off at the Quilchena Creek alluvium. This major anomaly lies within the potassic zone of alteration and as such corresponds to areas where mineralization was noted on the surface within the quartz-K-feldspar

vein systems. In general, these results duplicate findings from the 1975 geochemical survey.

A limited induced polarization survey carried out by Peter E. Walcott & Associates over a portion of the grid showed a good correspondence to areas of mapped sulphide occurrences, and to the major copper soil anomaly. The magnetometer survey completed over the entire grid by Peter E. Walcott & Associates revealed the presence of two magnetically different rock units. These are assumed to correspond to (a) the biotite-rich zone of the intrusive as identified in the northern section of the grid and displaying a high magnetic response and (b) the sulphide-rich zones of the intrusive displaying a lower magnetic response.

RECOMMENDATIONS

In order to adequately test for the presence of economic mineralization with depth, it is proposed that a diamond drilling program be initiated on the Quil property. One or two holes should be drilled at an angle of 60° into the intrusive on the east side of the Quilchena Creek (see Plan 7) to determine the extent of sulphide mineralization with depth, especially the extent of the Mo zone as diagramed in Fig. 21. At the same time, one or two holes should be collared vertically approximately 500 ft. (150 m) west of the Quilchena Creek (see Plan 7) to determine whether the entire zonal pattern of the intrusive unit as exposed on the eastern side of the fault, is in fact preserved at depth, overlain by the Coldwater Beds in the footwall block. At the completion of the program, it is hoped that a better understanding of the area's economic potential will come to light which will determine the future of exploration activity on the Quil Claim Group. In the mean time, it is recommended that the Quil 1-19 claims be kept in good standing.

Respectfully submitted,

J.R. Hill, B.Sc.

TORONTO

September 17, 1976

REGISTERED PROFESSIONAL ENGINEER
R. H. WALLIS
PROVINCE OF ONTARIO

APPENDIX I

LABORATORY GEOCHEMICAL RESULTS

Table 2 - Soil Geochemistry Values -Pits

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 36884

INVOICE NO. 16643

RECEIVED May 19/76

ANALYSED May 21/76

TO: Canadian Occidental Petroleum Ltd.,
801 - 161 Eglinton Ave. East
Toronto, Ont.

ATTN: Quil cc: Penticton

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19001	54	4
19002	50	< 1
19003	54	< 1
19004	48	2
19005	44	< 1
19006	42	< 1
19007	42	< 1
19008	46	< 1
19009	44	< 1
19010	42	< 1
19101	40	< 1
19102	333	5
19103	46	< 1
19104	42	< 1
19105	50	< 1
19106	62	< 1
19107	63	< 1
19108	52	< 1
19109	51	< 1
19110	63	< 1
19111	51	< 1
19201	38	< 1
19202	42	<1
19203	56	< 1
19204	56	< 1
19205	42	< 1
19206	51	< 1
19207	48	< 1
19208	56	< 1
19301	44	< 1
19302	48	< 1
19303	50	< 1
19304	50	< 1
19305	50	< 1
19306	44	< 1
19307	38	< 1
19308	36	< 1
19309	48	< 1
19310	58	< 1
19401	34	< 1
Std.	70	26

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: H. Swaite

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 36885

INVOICE NO. 16643

RECEIVED May 19/76

ANALYSED May 21/76

TO: Canadian Occidental Petroleum Ltd.,
801 - 161 Eglinton Ave. East
Toronto, Ont,

ATTN: Quil cc: Penticton

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19402	40	< 1
19403	41	< 1
19404	38	< 1
19405	38	< 1
19406	333	6
19407	41	< 1
19408	40	< 1
19409	33	< 1
19410	44	< 1
19411	28	< 1
19501	62	< 1
19502	78	< 1
19503	82	< 1
19504	82	< 1
19505	62	2
19506	88	< 1
19507	60	< 1
19508	50	< 1
19509	40	1
19510	36	< 1
19511	40	< 1
19512	40	< 1
19601	31	< 1
19602	33	< 1
19603	34	< 1
19604	38	< 1
19605	36	< 1
19606	36	< 1
19607	34	< 1
19608	36	< 1
19609	34	< 1
19610	33	< 1
19611	46	< 1
19612	48	< 1
19613	48	< 1
19614	50	< 1
19615	50	< 1
19617	50	< 1
19618	50	< 1
19619	50	< 1
Std.	70	25

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: B. Stewart

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 36886

INVOICE NO. 16643

RECEIVED May 19/76

ANALYSED May 21/76

TO: Canadian Occidental Petroleum Ltd.,
801 - 161 Eglinton Ave. East
Toronto, Ont.

ATTN: Quil cc: Penticton

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19520	58	<1

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: B.L. Stewart

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 36899

INVOICE NO. 16699

RECEIVED May 24/76

ANALYSED May 27/76

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

ATTN: "QUIL"

cc: J. Hill

SAMPLE NO. :	ppm Copper		ppm Molybdenum
19011	33	<	1
19012	36	<	1
19013	36	<	1
19014	48	<	1
19015	363		4
19016	44	<	1
19017	46	<	1
19018	42	<	1
19019	40	<	1
19020	36	<	1
19021	51	<	1

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: B. Fenniti

Table 3

Soil Geochemistry Values
Grid

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37061

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

INVOICE NO. 16774

RECEIVED June 1/76

ANALYSED June 3/76

ATTN: CC: J. Hill

QUIL PROJECT

SAMPLE NO. :	PPM Copper	PPM Molybdenum
13603	34	< 1
13604	51	< 1
13605	41	< 1
13606	46	< 1
13607	40	< 1
13608	41	< 1
19022	42	< 1
19023	44	< 1
19024	50	< 1
19025	66	< 1
19026	42	< 1
19027	62	< 1
19028	41	< 1
19029	48	< 1
19030	38	< 1
19031	40	< 1
19032	46	< 1
19033	40	< 1
19034	38	< 1
19035	30	< 1
19036	209	16
19037	197	11
19038	161	19
19039	66	3
19040	41	< 1
19041	56	< 1
19042	60	< 1
19043	63	3
19044	44	< 1
19045	66	< 1
19046	42	< 1
19047	51	< 1
19048	46	< 1
19049	52	< 1
19050	58	1
19051	56	< 1
19052	50	< 1
19053	56	< 1
19054	26	< 1
19055	40	< 1
STD.	98	9

CERTIFIED BY:

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37062
INVOICE NO. 16774
RECEIVED June 1/76
ANALYSED June 3/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

ATTN: QUIL PROJECT
cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19056	46	< 1
19057	48	< 1
19058	42	< 1
19059	41	< 1
19060	46	< 1
19061	50	< 1
19062	42	< 1
19063	48	< 1
19064	44	< 1
19065	41	< 1
19066	46	< 1
19067	41	< 1
19068	46	< 1
19069	46	< 1
19070	165	1
19071	46	< 1
19072	44	< 1
19073	50	< 1
19074	28	< 1
19075	50	< 1
19076	51	< 1
19077	42	< 1
19078	42	< 1
19079	70	< 1
19080	48	< 1
19081	46	< 1
19082	38	< 1
19112	50	< 1
19113	42	< 1
19114	42	< 1
19115	56	< 1
19116	46	< 1
19117	34	< 1
19118	40	< 1
19119	72	< 1
19120	38	< 1
19121	72	< 1
19122	48	< 1
19123	88	4
19124	62	< 1
STD.	98	9

CTA MEMBER CANADIAN TESTING

CERTIFIED BY: B. Stewart

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37063
INVOICE NO. 16774
RECEIVED June 1/76
ANALYSED June 3/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

QUIL PROJECT

ATTN: cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19125	175	3
19126	262	13
19127	92	3
19128	48	< 1
19129	40	< 1
19130	165	< 1
19131	165	2
19132	51	< 1
19133	76	< 1
19134	41	< 1
19135	51	< 1
19136	31	< 1
19137	26	< 1
19138	36	< 1
19139	38	< 1
19140	38	< 1
19141	40	< 1
19142	50	< 1
19143	41	< 1
19144	41	< 1
19145	40	< 1
19146	40	< 1
19147	41	< 1
19148	46	< 1
19149	38	< 1
19150	40	< 1
19151	46	< 1
19152	42	< 1
19153	44	< 1
19154	36	< 1
19155	34	< 1
19156	40	< 1
19157	46	< 1
19158	42	< 1
19159	48	< 1
19160	48	< 1
19161	48	< 1
19162	50	< 1
19163	51	< 1
19164	56	< 1
STD.	98	9

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: P. Gravelle

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37064
INVOICE NO. 16774
RECEIVED June 1/76
ANALYSED June 3/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

ATTN: QUIL PROJECT
cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19165	46	< 1
19166	50	< 1
19167	38	< 1
19168	33	< 1
19169	31	< 1
19170	34	< 1
19171	36	< 1
19172	38	< 1
19173	46	< 1
19174	44	< 1
19175	48	< 1
19176	48	< 1
19177	41	< 1
19178	41	< 1
19179	50	< 1
19180	44	< 1
19181	42	< 1
19182	48	< 1
19184	44	< 1
19185	58	< 1
19186	28	< 1
19187	30	< 1
19188	52	< 1
19189	70	< 1
19190	84	4
19191	780	35
19192	587	33
19193	86	5
19194	68	4
19195	51	< 1
19196	30	< 1
19197	36	< 1
19198	33	< 1
19199	33	< 1
19200	54	< 1
19209	175	3
19210	82	< 1
19211	54	< 1
19212	51	< 1
19213	40	< 1
STD.	98	9

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: .....

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37065
INVOICE NO. 16774
RECEIVED June 1/76
ANALYSED June 3/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

ATTN: QUIL PROJECT
cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19214	40	< 1
19215	48	< 1
19216	56	< 1
19217	64	< 1
19218	52	< 1
19219	90	< 1
19220	58	< 1
19221	52	< 1
19222	175	1
19223	66	< 1
19224	68	< 1
19225	80	1
19226	106	< 1
19227	54	< 1
19228	48	1
19229	41	< 1
19230	68	< 1
19231	66	< 1
19232	50	< 1
19233	66	1
19234	50	< 1
19235	54	< 1
19236	90	8
19237	51	< 1
19238	64	< 1
19311	54	< 1
19312	60	< 1
19313	46	< 1
19314	46	< 1
19315	51	< 1
19316	51	< 1
19317	54	< 1
19318	51	< 1
19319	175	3
19320	63	< 1
19321	66	< 1
19322	70	< 1
19323	74	< 1
19324	66	< 1
19325	76	< 1
STD.	96	9

CTA MEMBER CANADIAN TESTING

CERTIFIED BY: B. Lewis

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37066
INVOICE NO. 16774
RECEIVED June 1/76
ANALYSED June 3/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

ATTN: QUIL PROJECT
cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19326	86	< 1
19327	50	< 1
19328	46	< 1
19329	48	< 1
19330	60	< 1
19331	56	< 1
19332	50	< 1
19333	62	< 1
19334	52	< 1
19335	70	< 1
19336	94	3
19337	126	6
19338	33	< 1
19339	51	< 1
19340	40	< 1
10341	46	< 1
19342	50	< 1
*19343	46	< 1
19345	31	< 1
19346	40	< 1
19347	60	1
19348	34	< 1
19349	28	< 1
19350	46	< 1
19351	58	< 1
19352	68	< 1
19353	118	< 1
19354	78	2
19355	50	1
39356	48	< 1
19357	63	< 1
19358	62	9
19359	36	< 1
19360	52	< 1
19361	175	3
19362	48	< 1
19363	34	< 1
19364	48	< 1
19365	48	< 1
*19344	38	< 1
STD.	98	9

CTA MEMBER CANADIAN TESTING

CERTIFIED BY: B.E. Swaite

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37067
INVOICE NO. 16774
RECEIVED June 1/76
ANALYSED June 3/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

ATTN: Quil Project
cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19366	42	< 1
19367	40	< 1
19368	41	< 1
19369	44	< 1
19370	50	< 1
19371	63	< 1
19372	62	< 1
19373	80	< 1
19374	128	13
19375	209	6
19376	62	< 1
19377	48	< 1
19378	209	13
19379	42	< 1
19380	42	< 1
19381	52	< 1
19382	44	< 1
19383	62	< 1
19384	46	< 1
19385	52	< 1
19386	31	< 1
19387	44	< 1
19388	42	< 1
19389	36	< 1
19390	50	< 1
19412	44	< 1
19413	40	< 1
19414	63	< 1
19415	48	< 1
19416	52	< 1
19417	48	< 1
19418	52	< 1
19419	56	< 1
19420	63	< 1
19421	68	< 1
19422	56	< 1
19423	34	< 1
19424	54	< 1
19425	60	< 1
19426	48	< 1
STD.	98	9

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: R. E. Gravelle

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37068
INVOICE NO. 16774
RECEIVED June 1/76
ANALYSED June 4/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

QUIL PROJECT

ATTN: cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19427	44	< 1
19428	54	< 1
19430	60	< 1
19431	52	6
19432	100	< 1
19433	54	< 1
19434	52	< 1
19435	78	< 1
19436	48	< 1
19437	215	18
19438	56	< 1
19439	82	2
19440	66	< 1
19441	42	< 1
19442	40	< 1
19443	33	< 1
19444	41	< 1
19445	42	< 1
19446	44	< 1
19447	33	< 1
19448	40	< 1
*19450	36	2
19451	46	3
19452	160	1
19453	31	< 1
19454	22	< 1
19455	41	< 1
19456	86	< 1
19457	286	5
19458	313	3
19459	118	1
19460	156	1
19461	175	2
19462	62	< 1
19463	46	< 1
19464	52	< 1
19465	48	< 1
19466	44	< 1
19467	42	< 1
*19449	50	< 1
STD.	100	8

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: P. Leuritz

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37069
INVOICE NO. 16774
RECEIVED June 1/76
ANALYSED June 4/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

ATTN: QUIL PROJECT

cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19468	40	< 1
19469	58	< 1
19470	62	< 1
19471	44	< 1
19472	41	< 1
19473	41	< 1
19474	33	< 1
19475	44	< 1
19476	56	< 1
19477	46	< 1
19478	44	< 1
19479	48	< 1
19480	42	< 1
19481	58	< 1
19482	170	10
19483	170	9
19484	170	< 1
19485	170	1
19486	180	5
19487	197	2
19488	235	5
19489	180	7
19490	31	< 1
19491	62	1
19492	48	< 1
19493	40	< 1
19494	34	< 1
19513	48	< 1
19514	44	< 1
19515	52	< 1
19516	44	< 1
19517	51	< 1
19518	44	< 1
19519	50	< 1
19520	51	< 1
19521	60	< 1
19522	48	< 1
19523	60	< 1
19524	51	< 1
19525	51	< 1
STD.	100	9

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: B. Sturaites

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37070
INVOICE NO. 16774
RECEIVED June 1/76
ANALYSED June 4/76

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

ATTN: QUIL PROJECT
cc: J. Hill

SAMPLE NO. :	PPM Copper		PPM Molybdenum
19526	60	<	1
19527	68	<	1
19528	63	<	1
19529	64	<	1
19530	48	<	1
19531	68	<	1
19532	180		3
19533	64	<	1
19534	72	<	1
19535	60	<	1
19536	86		2
19537	112		3
19538	58	<	1
19539	68		1
19540	46		1
19541	40	<	1
19542	36	<	1
19543	41	<	1
19544	38	<	1
19545	41	<	1
19546	33	<	1
19547	44	<	1
19548	41	<	1
19549	38	<	1
19550	41	<	1
19551	40	<	1
19552	48	<	1
19553	36	<	1
19554	42	<	1
19555	157		2
19556	104		9
19557	286		35
19558	68	<	1
19559	180		2
19560	313		5
19561	640		12
19562	74		3
19563	48	<	1
19564	62		2
19565	156		5
STD.	100		8

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: D. Swaine

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37071
INVOICE NO. 16774
RECEIVED June 1/76
ANALYSED June 4/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

ATTN: QUIL PROJECT
cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19566	60	< 1
19567	63	1
19568	46	2
19569	44	1
19570	40	< 1
19571	41	< 1
19572	41	< 1
19573	44	2
19574	63	1
19575	78	2
19576	100	3
19577	74	1
19578	66	< 1
19579	100	3
19580	840	25
19581	419	12
19582	102	1
19583	40	3
19584	24	< 1
19585	41	< 1
19586	44	< 1
19587	38	< 1
19588	26	< 1
19589	170	1
19590	31	< 1
19591	34	< 1
19592	44	< 1
19593	46	< 1
19594	51	< 1
19595	50	< 1
19596	31	< 1
19597	41	< 1
19598	50	< 1
19621	48	< 1
19622	46	< 1
19623	33	< 1
19624	41	< 1
19625	170	2
19626	52	< 1
19627	48	< 1
STD.	100	8

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: P. Stewart

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37072
INVOICE NO. 16774
RECEIVED June 1/76
ANALYSED June 4/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

ATTN: QUIL PROJECT
cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19628	56	< 1
19629	51	< 1
19630	44	< 1
19631	96	< 1
19632	88	< 1
19633	66	< 1
19634	68	< 1
19635	50	< 1
19636	56	1
19637	56	< 1
19638	63	< 1
19639	58	< 1
19640	100	5
19641	56	1
19642	62	< 1
19643	46	< 1
19644	41	< 1
19645	51	1
19646	62	2
19647	63	1
19648	62	< 1
19649	28	< 1
19650	165	2
19651	38	< 1
19652	34	< 1
19653	33	< 1
19654	38	< 1
19655	34	< 1
19656	40	< 1
19657	52	< 1
19658	24	< 1
19659	48	< 1
19660	41	< 1
19661	46	< 1
19662	40	< 1
19663	51	1
19664	197	24
19665	209	9
19669	104	4
19670	68	2
19671	51	2
STD.	98	9

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: .....

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37073
INVOICE NO. 16774
RECEIVED June 1/76
ANALYSED June 4/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

ATTN: QUIL PROJECT
cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19672	88	3
19673	48	1
19674	42	< 1
19675	180	3
19676	34	< 1
19677	42	< 1
19678	42	< 1
19679	46	< 1
19680	56	< 1
19681	54	< 1
19682	38	< 1
19683	36	< 1
19684	38	1
19685	44	< 1
19686	40	< 1
19687	41	< 1
19688	40	< 1
19689	42	< 1
19690	46	1
19691	44	< 1
19692	44	< 1
19693	42	< 1
19694	44	< 1
19695	41	< 1
19696	48	< 1
19697	44	< 1
19698	46	< 1
19699	34	< 1
19700	41	< 1
19701	40	< 1
19702	46	< 1
19703	48	< 1
19704	42	< 1
19705	38	< 1
19706	40	< 1
19707	38	< 1
19708	36	< 1
19709	44	< 1
19710	48	< 1
19711	62	< 1
STD.	100	9

CERTIFIED BY: B. Sweites

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37074
INVOICE NO. 16774
RECEIVED June 1/76
ANALYSED June 4/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

ATTN: QUIL PROJECT
cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19712	46	< 1
19713	46	< 1

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: B.E. Swaites

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37093
INVOICE NO. 16784
RECEIVED June 2/76
ANALYSED June 4/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ont.

ATTN: "Quil" cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
13609	48	< 1
13610	191	2
13611	51	< 1
13612	42	< 1
13613	50	< 1
13614	191	3
13615	36	< 1
13616	52	< 1
13617	48	< 1
13618	62	< 1
13619	54	< 1
13620	180	2
13621	58	< 1
13622	51	< 1
13623	41	< 1
13624	42	< 1
13625	56	1
13626	58	< 1
13627	78	< 1
13628	64	1
13629	46	< 1
13630	50	< 1
13631	52	< 1
13632	54	< 1
13633	48	< 1
13634	44	< 1
13635	64	< 1
13635	54	< 1
13637	66	< 1
13640	50	< 1
13641	62	< 1
13642	46	< 1
13643	60	< 1
13644	34	< 1
13645	31	< 1
13646	40	< 1
13647	41	< 1
13648	36	< 1
13649	48	< 1
13650	74	< 1
13651	51	< 1
13652	40	< 1

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: P. Kwong

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37094
INVOICE NO. 16784
RECEIVED June 2/76
ANALYSED June 4/76

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division
801 - 161 Eglinton AVe. East
ATTN: Toronto, Ont.

cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
13653	62	< 1
13654	54	< 1
13655	48	< 1
13701	50	< 1
13702	40	< 1
13703	62	< 1
13704	197	1
13705	46	< 1
13706	46	< 1
13707	33	< 1
13708	84	3
13709	28	< 1
13710	42	< 1
13711	34	< 1
13712	42	< 1
13713	40	< 1
13714	41	< 1
13715	40	< 1
13716	40	< 1
13717	41	< 1
13718	42	< 1
13719	48	< 1
13720	54	< 1
13721	44	< 1
13722	46	< 1
13723	48	< 1
13724	44	< 1
13725	48	< 1
13726	41	< 1
13727	50	< 1
19083	54	< 1
19084	31	< 1
19085	50	< 1
19086	66	1
19087	52	< 1
19088	50	< 1
19089	48	< 1
19090	191	2
19091	60	< 1
19092	56	< 1
19093	48	< 1
Std.	100	9

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: B. Grunter

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37095

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ont.

INVOICE NO. 16784

RECEIVED June 2/76

ATTN: cc: J. Hill

ANALYSED June 4/76

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19094	46	< 1
19095	46	< 1
19096	46	4
19097	42	4
19098	36	< 1
19099	46	1
19100	50	< 1
19239	36	< 1
19240	38	< 1
19241	33	< 1
19242	36	< 1
19243	209	3
19244	42	< 1
19245	52	1
19246	46	1
19247	48	< 1
19248	48	< 1
19249	50	< 1
19250	50	< 1
19251	40	< 1
19252	50	< 1
19253	52	< 1
19254	64	< 1
19255	42	< 1
19256	54	< 1
19257	60	< 1
19258	58	< 1
19259	52	< 1
19260	52	< 1
19261	52	< 1
19262	51	< 1
19263	54	< 1
19264	44	< 1
19265	50	< 1
19266	51	< 1
19267	48	< 1
19268	44	< 1
19269	46	< 1
19270	42	< 1
19271	42	< 1
Std.	102	9

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: P. Leiste

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37096

INVOICE NO. 16784

RECEIVED June 2/76

ANALYSED June 4/76

TO: Canadian Occidental Petroleum Ltd.,
Minerals Div.
801 - 161 Eglinton Ave. East
Toronto, Ont.

ATTN:

cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19272	42	< 1
19273	58	< 1
19274	42	< 1
19275	50	< 1
19276	50	< 1
19277	50	< 1
19278	40	< 1
19279	56	< 1
19280	42	< 1
19281	48	< 1
19282	44	< 1
19391	42	< 1
19392	186	2
19393	60	< 1
19394	50	< 1
19395	48	1
19396	44	< 1
19397	50	< 1
19398	48	< 1
19399	63	< 1
19400	46	< 1
19599	42	< 1
19714	38	< 1
19715	42	< 1
19716	36	< 1
19717	36	< 1
19718	36	< 1
19719	41	< 1
19720	33	< 1
19721	52	< 1
19722	38	< 1
19723	41	1
19724	34	1
19725	191	2
19726	42	< 1
19727	46	< 1
19728	48	< 1
19729	60	< 1
19730	50	< 1
19731	51	< 1
Std.	102	8

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: R. Stewart

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37097
INVOICE NO. 16784
RECEIVED June 2/76
ANALYSED June 4/76

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ont.

ATTN: cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19732	68	< 1
19733	28	< 1
19734	40	< 1
19735	No sample	
19736	44	< 1
19737	48	< 1
19738	42	< 1
19739	41	< 1
19740	33	1
19741	42	1
19742	50	< 1
19743	46	1
19744	38	2
19745	28	< 1
19746	26	1
19747	33	2
19748	41	< 1
19749	41	< 1
19750	197	2
19751	48	< 1
19752	28	< 1
19753	22	< 1
19754	33	< 1
20001	42	< 1
20002	44	< 1
20003	33	< 1
20004	50	< 1
20005	50	< 1
20006	60	< 1
20007	54	< 1
20008	68	< 1
20009	56	< 1
20010	33	< 1
20011	34	< 1
20012	63	< 1
20013	54	< 1
20014	54	< 1
20015	48	< 1
20016	52	< 1
20017	48	< 1
Std.	100	8

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: B. L. Stewart

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37098

TO: Canadian Occidental Petroleum Ltd.,
Minerals Div.
801 - 161 Eglinton Ave. East
Toronto

INVOICE NO. 16784

RECEIVED June 2/76

ANALYSED June 4/76

ATTN: cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
20018	50	< 1
20019	41	< 1
20020	58	< 1
20021	60	< 1
20022	86	< 1
20023	54	< 1
20024	66	< 1
20025	50	< 1
20026	50	< 1
20027	191	2
20028	62	< 1
20029	51	< 1
20030	46	< 1
20031	40	< 1
20032	41	< 1
20033	21	< 1
20034	46	1
20035	44	< 1
20036	38	< 1
20037	34	< 1
20038	34	< 1
20039	44	1
20040	50	1
20041	38	< 1
20042	46	< 1
20043	41	2
20101	46	< 1
20102	42	< 1
20103	42	< 1
20104	56	< 1
20105	46	< 1
20106	48	< 1
20107	48	< 1
20108	186	3
20109	60	< 1
20110	50	< 1
20111	44	< 1
20112	56	1
20113	50	< 1
20114	50	< 1
Std.	102	9

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: P. Thwaites

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37099
INVOICE NO. 16784
RECEIVED June 2/76
ANALYSED June 4/76

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ont.

ATTN: cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
20115	60	1
20116	56	< 1
20117	50	< 1
20118	56	< 1
20119	52	< 1
20120	46	< 1
20121	48	1
20122	64	< 1
20123	63	< 1
20124	54	< 1
20125	54	< 1
20126	46	< 1
20127	50	< 1
20128	56	1
20129	70	3
20130	42	< 1
20131	40	< 1
20132	66	< 1
20133	40	< 1
20134	38	1
20135	36	< 1
20136	40	< 1
20137	41	< 1
20138	44	2
20139	78	< 1
20140	46	< 1
20141	38	< 1
20142	42	< 1
20143	42	< 1
20144	36	< 1
20145	40	< 1
Std.	104	9

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: B. Fuerstenau

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37160

INVOICE NO. 16819

RECEIVED June 4/76

ANALYSED June 8/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

ATTN: cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
13658	33	< 1
13659	42	< 1
13660	30	< 1
13661	36	< 1
13662	40	< 1
13663	46	< 1
13664	42	< 1
13665	42	3
13666	41	1
13667	41	2
13668	36	< 1
13669	34	< 1
13670	48	< 1
13671	31	< 1
13672	42	< 1
13673	64	< 1
13674	48	< 1
13675	38	< 1
13676	40	< 1
13677	58	< 1
13678	64	< 1
13679	52	< 1
13681	44	< 1
13682	60	< 1
13683	44	< 1
13684	51	< 1
13685	30	< 1
13686	42	< 1
13687	54	< 1
13688	42	< 1
13689	46	< 1
13690	48	< 1
13691	42	< 1
13692	33	< 1
13693	40	< 1
13694	41	< 1
13700	42	< 1
19283	21	< 1
19284	38	< 1
19285	36	< 1
STD.	100	9

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: B. Swarbrick

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37161

INVOICE NO. 16819

RECEIVED June 1/76

ANALYSED June 8/76

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

ATTN: cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19286	51	< 1
19287	54	< 1
19288	38	< 1
19289	40	< 1
19290	No Sample	
19291	38	< 1
19292	38	< 1
19293	46	< 1
19294	56	< 1
19295	51	2
19296	40	< 1
19297	41	< 1
19298	40	< 1
19299	31	< 1
19300	26	< 1
19755	54	< 1
19756	56	< 1
19757	50	< 1
19758	46	< 1
19759	42	< 1
19760	40	< 1
19761	41	< 1
19762	46	< 1
19763	46	< 1
19764	50	< 1
19765	64	< 1
19766	48	< 1
19767	41	< 1
19768	42	< 1
19769	51	< 1
19770	44	< 1
19771	52	< 1
19772	70	< 1
19773	33	< 1
19774	36	< 1
19775	191	2
19776	62	< 1
19777	51	< 1
19778	50	< 1
19779	30	< 1
STD.	98	8

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: B. Lavanture

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37162

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

INVOICE NO. 16819

RECEIVED June 1/76

ATTN: cc: J. Hill

ANALYSED June 8/76

SAMPLE NO. :	PPM Copper	PPM Molybdenum
19780	40	< 1
19781	16	6
19782	41	< 1
19783	41	< 1
19784	42	< 1
19785	41	< 1
19786	40	< 1
19787	46	< 1
19788	42	< 1
19789	40	< 1
19790	50	< 1
19791	50	< 1
19792	51	< 1
19793	51	< 1
20044	28	< 1
20045	31	< 1
20046	40	< 1
20047	40	< 1
20048	50	< 1
20049	51	< 1
20050	46	< 1
20051	42	< 1
20052	34	< 1
20053	48	< 1
20054	40	< 1
20055	34	< 1
20056	41	< 1
20057	42	< 1
20058	38	< 1
20059	40	< 1
20060	33	< 1
20061	34	< 1
20062	185	< 1

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: J. Gwatkin

Table 4

Rock Geochemistry Values

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37162

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
801 - 161 Eglinton Ave. East
Toronto, Ontario

INVOICE NO. 16819

RECEIVED June 1/76

ANALYSED June 8/76

ATTN: cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum	
38276	13	1	Rock
38418	124	58	Rock
38419	170	47	Rock
38420	14	<1	Rock
38421	4	<1	Rock
38422	3	<1	Rock
38423	3	<1	Rock
38424	4	<1	Rock
38425	4	<1	Rock

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: .....

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 37150

TO: Canadian Occidental Petroleum Ltd.,
Minerals Div.
801 - 161 Eglinton Ave.
Toronto, Ont.

INVOICE NO. 16784

RECEIVED June 2/76

ANALYSED June 4/76

ATTN: cc: J. Hill

SAMPLE NO. :	PPM Copper	PPM Molybdenum	Rock Geochem
38401	56	4	
38402	40	4	
38403	203	52	
38404	960	6	
38405	22	1	
38406	13	11	
38407	500	62	
38408	367	20	
38409	215	31	
38410	20	30	
38411	209	16	
38412	344	21	
38413	18	10	
38414	14	11	
38415	14	10	
38416	26	30	
38417	22	14	

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: B. F. Inwite

APPENDIX II

FREQUENCY DISTRIBUTION TABLES

Table 5

Frequency Distribution for Copper in Soils

Class	Frequency	Cumulative Frequency	% Cumulative Frequency
0- 10	5	5	0.59
11- 20	3	8	0.95
21- 30	26	34	1.04
31- 40	175	209	24.85
41- 50	368	577	68.61
51- 60	155	732	87.04
61- 70	79	811	96.43
71- 80	16	827	98.34
81- 90	14	841	100.00
91-100	7		
101-150	10		
151-200	15		
>200	16		

Range = 16-840 ppm

Mean = 41 ppm

Threshold = 66 ppm

Probably Anomalous = 66-85 ppm

Anomalous = 86^{+} ppm

Table 6

Frequency Distribution for Molybdenum in Soils

Class	Frequency	Cumulative Frequency	% Cumulative Frequency
0- 1	765	765	85.96
1	48	813	91.35
2	20	833	93.60
3	17	850	95.51
4	6	856	96.18
5	7	863	96.97
6	4	867	97.42
7	1	868	97.53
8	1	869	97.64
9	4	873	98.09
10	1	874	98.20
$>10^{+}$	16	890	100.00

Range =	1-35 ppm
Mean =	<1 ppm
Threshold =	1 ppm
Probably Anomalous =	1-4 ppm
Anomalous =	5^{+} ppm

Table 7

Frequency Distribution for Copper & Molybdenum in Rocks

Cu		Mo	
Class	Frequency	Class	Frequency
1- 20	12	< 1	6
21- 40	4	1-10	7
41- 60	1	11-20	5
61- 80	0	21-30	3
81-100	0	31-40	1
>100	9	41-50	1
		> 50	3

Statement of Expenditures

QUIL Claims

1)	Salaries: J.R. Hill, Kirk Beacom, Mike Blais Peter Bresee, Wayne Holmstead, Bob Smith, Gary Smith, Gord Tanton, R.H. Wallis, A.A. Seaman 434 man days 22.65/man day	$ 9,828.26
2)	Contract Geophysics (I.P. Survey)	7,665.16
3)	Geochem - 906 samples - 1812 elements	1,860.83
4)	Reproduction - reporting, drafting	1,211.20
5)	Camp Costs (food & accommodation included)	4,328.74
6)	Consultant - C.F. Gleeson & Assoc.	1,050.00
7)	Communications	84.47
8)	Vehicle usage - 4-wheel drive auto	350.00
	Total	$26,378.66

PETER E. WALCOTT & ASSOC. LTD.

605 RUTLAND COURT, COQUITLAM, B.C. V3J 3T8 • TEL. 939-0383

INVOICE NO. 1284

Date: June 16th, 1976

Terms: NET 10 DAYS

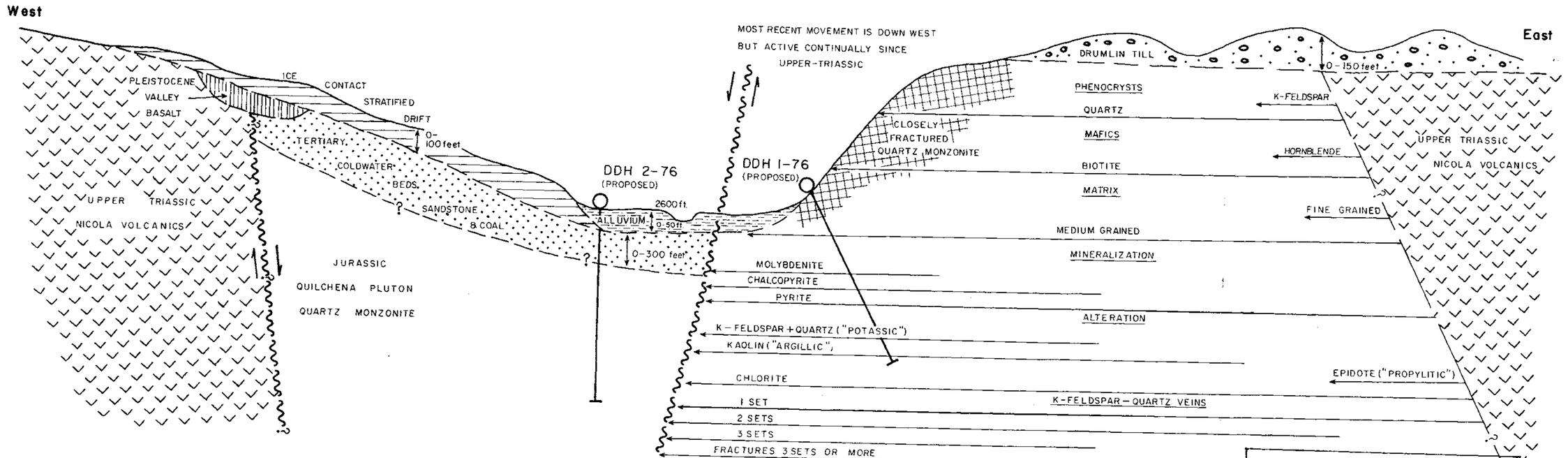
To: Canadian Occidental Petroleum Ltd.,
Minerals Division,
801 - 161 Eglinton Ave. E.,
Toronto, Ontario
M4P 1J5

Re: I.P. Survey, Quil property

1.	Travel time: 2 days Vancouver - Merritt - Vancouver		$490.00
2.	Extra travel Walcott - 1 Day		150.00
3.	Standby day - May 24th		260.00
4.	Operator & helper - May 25th		125.00
5.	I.P. Survey - 7 days + 1 1/2 days overtime at $365.00 per day		$3,102.50
6.	Helper for above at $45.00 per day		382.50
7.	35 Miles of mag surveying at $60.00 per mile (True mileage on final invoice)		2,100.00
8.	Room and board in transit and on job		197.44
9.	Taxi and plane fare		48.20
10.	Truck rental	$674.47	
	- gasoline	135.05	809.52
	(truck used by Occidental personnel for trips to Merritt, Penticton & Kamloops)		
			$7,665.16
	Less 20% to be billed on final invoice		1,533.03
			$6,132.13

PROJECT W-219

INVOICE NO. 1284



SCHEMATIC CROSS-SECTION, QUIL PROPERTY

CANADIAN OCCIDENTAL PETROLEUM LTD. MINERALS DIVISION ——— AUGUST, 1976

Part 1

PLAN 7

N

3000

Indian Reserve No.7

HYDRO LINE (Towers shown)

QUIL 17

QUIL 18

QUIL 19

QUIL 1-16

BL

TIELINE 35+00E

TIELINE 35+00E

48+00N
44
40
36
32
28
21+85
20
16
12
08
04+00N
00+00

48N
43+85N
40+10N
36+15N
32N
28N
24N
22+10N
16N
12+60N
08N
06N
00+00
03+50S
07+50S
12+15S
14+40S
20+90S
25+30S
29+30S
33+20S

00
04S
08S
12S
16S
20S
24S
28S
32S
36S
40S
44S
48S
52S
56S
60S
64S
68+00S

04+00S (04S)
08+15S (08S)
12+90S (12S)
15+00S (16S)
20+00S (20S)
22+50S (24S)
27+75S (28S)
30+03S (32S)
35+75S (36S)
37+80S (40S)
43+80S (44S)
44+95S (48S)
52+80S (52S)
55+40S (56S)
59+80S (60S)
63+50S (64S)

SP-1 SP-2 SP-3 SP-4 SP-5 SP-6 SP-7 SP-8 SP-9

Morainal Material

gravel (fan)

slump

till overlying stratified clay, silt, sand and gravel ice contact in origin

gravel (fan?)

till

bouldery gravel

finely stratified clay, silt and fine sand

till 32S

o/c

LEGEND

- Bottom of slope, direction uphill
- Crest of slope, direction downhill
- SP-3 Soil pit location
- o/c Outcrop

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5984 MAP #1

Part 1

5984 M-1

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

QUIL CLAIMS

NICOLA MINING DIVISION, BRITISH COLUMBIA — 92-I-2/E and 92-I-1/W

SURFICIAL GEOLOGY

FEET 400 0 400 800 FEET

AUG. 1976

PLAN I

SYMBOLS

Composition	Alteration	Mineralization
▲ Quartz phenocrysts >5%	○ . . . Epidote veining – Common	Cp . . . . . Chalcopyrite
△ Quartz phenocrysts <5%	○ . . . Epidote veining – Minor	Mo . . . . . Molybenite
▼ Plagioclase phenocrysts >40%	⊙ . . . Kaolinization >50%	Py . . . . . Pyrite
▽ Plagioclase phenocrysts <40%	⊙ . . . Kaolinization <50%	Mal. . . . . Malachite
■ Biotite phenocrystes >5%	● 1,2,3 Quartz–K–feldspar – Common – number of vein sets	
▨ Biotite phenocrysts <5%	● . . . Quartz–K–feldspar – Minor	
◇ Matrix medium grained		
◇ Matrix fine grained		

— N —

BASE LINE

35E TIE LINE

48N

44N (43+85N)

40N (40+10N)

36N (36+15N)

32N

28N

24N (21+85N)

20N (22+10N)

16N

12N (12+60N)

08N

06N (04+00N)

00

04S (03+50S)

08S (07+50S)

12S (12+15S)

16S (14+40S)

20S (20+90S)

24S (25+30S)

28S (29+30S)

32S (33+20S)

36S (35+75S)

40S (37+80S)

44S (43+80S)

48S (44+95S)

52S (52+80S)

56S (55+40S)

60S (59+80S)

64S (63+50S)

68S

48W TIE LINE

Indian Reserve No.7

QUIL 17

QUIL 18

QUIL 19

QUIL 1-16

2600

2800

3200

3500

HYDRO LINE (Towers shown)

Py

Py, mal.

Py, mal, Cp.

Py, Cp, mal.

mal, Py, Cp.

Py, Cp.

mal, Cp, Py, Mo.

Mo, Cp.

Cp, mal.

LEGEND

103 Outcrop (with field reference number)

Area of Talus

Trench

River (intermittent)

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

QUIL CLAIMS

NICOLA MINING DIVISION, BRITISH COLUMBIA — 92-I-2/E and 92-I-I/W

BEDROCK GEOLOGY

FEET 400 0 400 800 FEET

AUG. 1976 PLAN 2

N

3000

Indian Reserve No.7

QUIL 17

QUIL 18

QUIL 19

QUIL 1-16

HYDRO LINE
(Towers shown)

Tie Line

Base Line

TIE LINE 0+00E

48+00W

48 N

43+85N

40+10'N

36+15'N

32N

28N

24

23+10'

21+85

20

16

12+60N

08N

08

06N

04N

00

0+00

03+50S

06+00S

07+50S

08+15S

12+15S

14+40S

15+70S

17+90S

20+90S

23+30S

27+75S

30+00S

33+20S

35+75S

37+80S

43+80S

44+95S

52+80S

53+40S

59+80S

63+50S

68+00S

LEGEND

Metals	Threshold (Probably anomalous)	Anomalous
Cu ⊕ Mo Sample No.	66-85 ⊕ 1-4	86+ ● 5+

Part 1

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5984 MAP 3

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

QUIL CLAIMS

NICOLA MINING DIVISION, BRITISH COLUMBIA — 92-I-2/E and 92-I-1/W

SOIL GEOCHEMISTRY

Sample locations & values for Copper and Molybdenum

FEET 400 0 400 800 FEET

AUG. 1976

PLAN 3

N

BASE LINE

35E TIE LINE

48N
44N (43+85N)
40N (40+10N)
36N (36+15N)
32N
28N
24N (21+85N)
20N (22+10N)
16N
12N (12+60N)
08N
06N (04+00N)
00
04S (03+50S)
04S (06+00S)
08S (07+50S)
(08+15S)
12S (12+15S)
(12+90S)
16S (14+40S)
(15+00S)
20S (20+90S)
(22+50S)
24S (25+30S)
(27+75S)
28S (29+30S)
32S (30+00S)
32S (33+20S)
36S (35+75S)
40S (37+80S)
44S (43+80S)
48S (44+95S)
52S (52+80S)
56S (55+40S)
60S (59+80S)
64S (63+50S)
68S

3000
2600
3500

Indian Reserve No. 7

QUIL 17

QUIL 18

QUIL 19

QUIL 1-16

48 W TIE LINE

HYDRO LINE
(Towers shown)

LEGEND

COPPER CONTOURS (P.P.M.)

350
300
250
200
150
100
80

Part 1

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

QUIL CLAIMS

NICOLA MINING DIVISION, BRITISH COLUMBIA — 92-I-2/E and 92-I-1/W

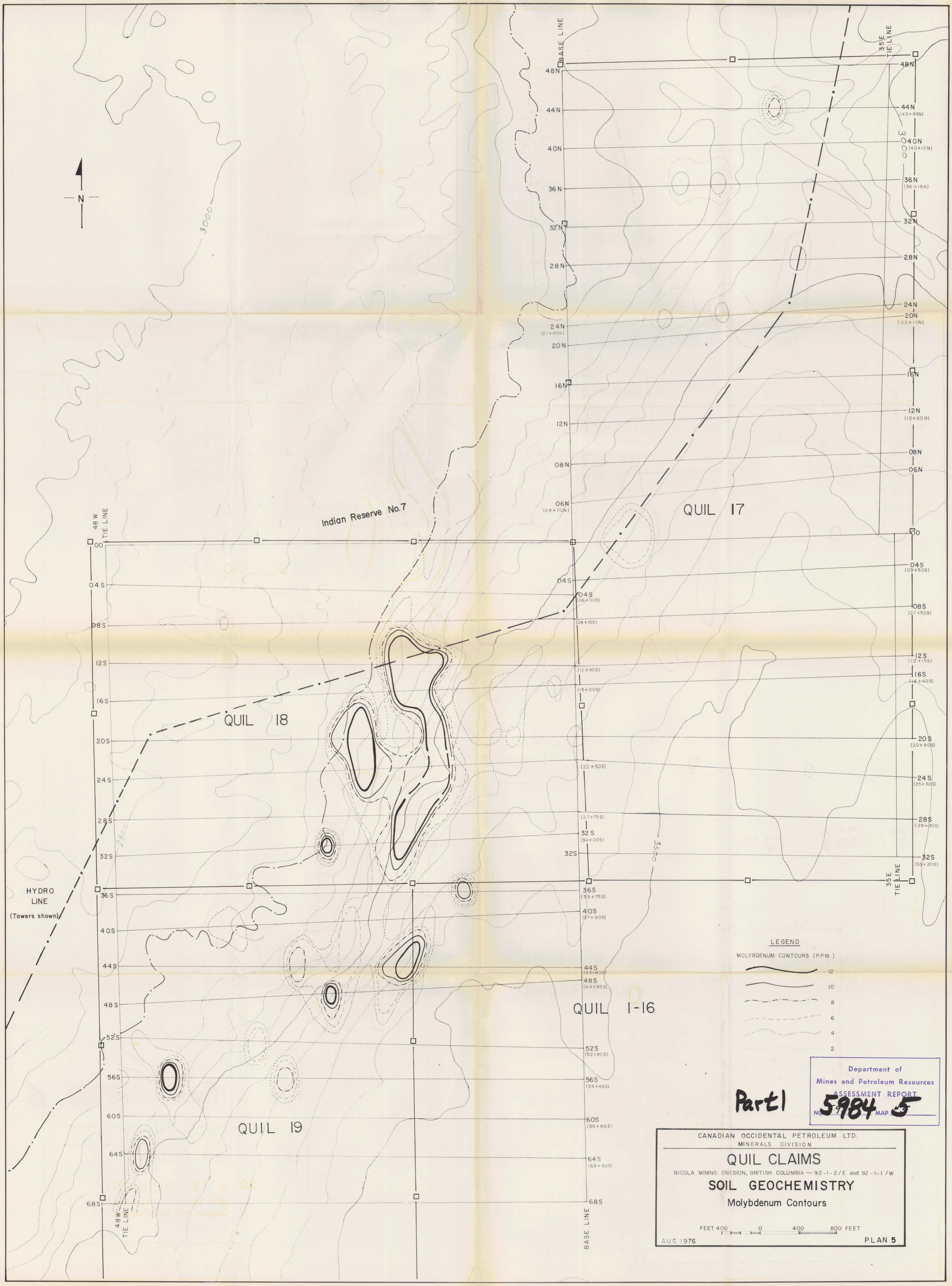
SOIL GEOCHEMISTRY

Copper Contours

FEET 400 0 400 800 FEET

AUG. 1976

PLAN 4


BASE LINE
35E TIE LINE
48N
44N (43+85N)
40N (40+10N)
36N (36+15N)
32N
28N
24N (21+85N)
20N (22+10N)
16N
12N (12+60N)
08N
06N (04+00N)
00
04S (03+50S)
04S (06+00S)
08S (07+50S)
(08+15S)
12S (12+15S)
(12+90S)
16S (14+40S)
(15+00S)
20S (20+90S)
(22+50S)
24S (25+30S)
(27+75S)
28S (29+30S)
32S (30+00S)
32S (33+20S)
36S (35+75S)
40S (37+80S)
44S (43+80S)
48S (44+95S)
52S (52+80S)
56S (55+40S)
60S (59+80S)
64S (63+50S)
68S
48W TIE LINE
Indian Reserve No.7
QUIL 17
QUIL 18
QUIL 19
QUIL 1-16
HYDRO LINE
(Towers shown)
3000
2800
3500
N
LEGEND
MOLYBDENUM CONTOURS (P.P.M.)
12
10
8
6
4
2
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5984 MAP 5
Part 1
CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION
QUIL CLAIMS
NICOLA MINING DIVISION, BRITISH COLUMBIA — 92-I-2/E and 92-I-1/W
SOIL GEOCHEMISTRY
Molybdenum Contours
FEET 400 0 400 800 FEET
AUG 1976
PLAN 5

Indian Reserve No.7

QUIL 17

QUIL 18

QUIL 19

QUIL 1-16

HYDRO LINE
(Towers shown)

TIELINE

Baseline

Tie Line

3000

3500

2800

LEGEND

Metals

Cu Mo

Sample No.

Anomalous

42+ 28+

Part 1

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

QUIL CLAIMS

NICOLA MINING DIVISION, BRITISH COLUMBIA — 92-I-2/E and 92-I-1/W

ROCK GEOCHEMISTRY

Sample locations & values for Copper and Molybdenum

FEET 400 0 400 800 FEET

AUG. 1976

PLAN 6