4315

92I/9E

TITLE

A PRELIMINARY REPORT
ON THE
GEOLOGY AND GEOCHEMISTRY OF THE MOT GROUP OF CLAIMS

LOCATION

APPROXIMATELY 8 MILES SOUTHEAST BY EAST OF
KAMLOOPS, BRITISH COLUMBIA
50°38' N. LAT., 120°07' W. LONG.

AUTHOR

C. PHILLIPS PURDY, JR., S.B., P.ENG.

OWNER

COPPER RANGE EXPLORATION COMPANY, INC.

WORK PERIOD

29 March 1973 through 19 April 1973

DATE

26 MAY, 1973

A PRELIMINARY REPORT
ON THE
GEOLOGY AND GEOCHEMISTRY OF THE MOT GROUP OF CLAIMS

INTRODUCTION

In the spring of 1972, a report dated December 7, 1971 and entitled "Geochemical Report on the MOT Group" by Donald E. Hopkins was submitted for assessment work on the above group of claims. This report shows by means of rock and soil geochemistry that within this claim group there is an area of anomalous gold associated with feldspar porphyry dikes where they have intruded argillite of the Cache Creek group, now highly fractured. Because the true extent of the anomaly was by no means defined at this time, or an understanding of the geology and its relation to the mineralization obtained, it was decided for the work in 1973 to collect many more rock chip samples and to attempt the geologic definition of the potential ore zone or zones. As a consequence, this program was undertaken by the writer between March 29th and April 19th, 1973. From April 5th to April 14th, 1973, he had the help of Don Atkinson, Senior Geologist. During the period the objectives of the program were achieved, in that two and possibly three geologically and geochemically anomalous zones were outlined. The first two weeks were spent in sampling and reconnoitering and the last week was devoted to geologic mapping by the writer.

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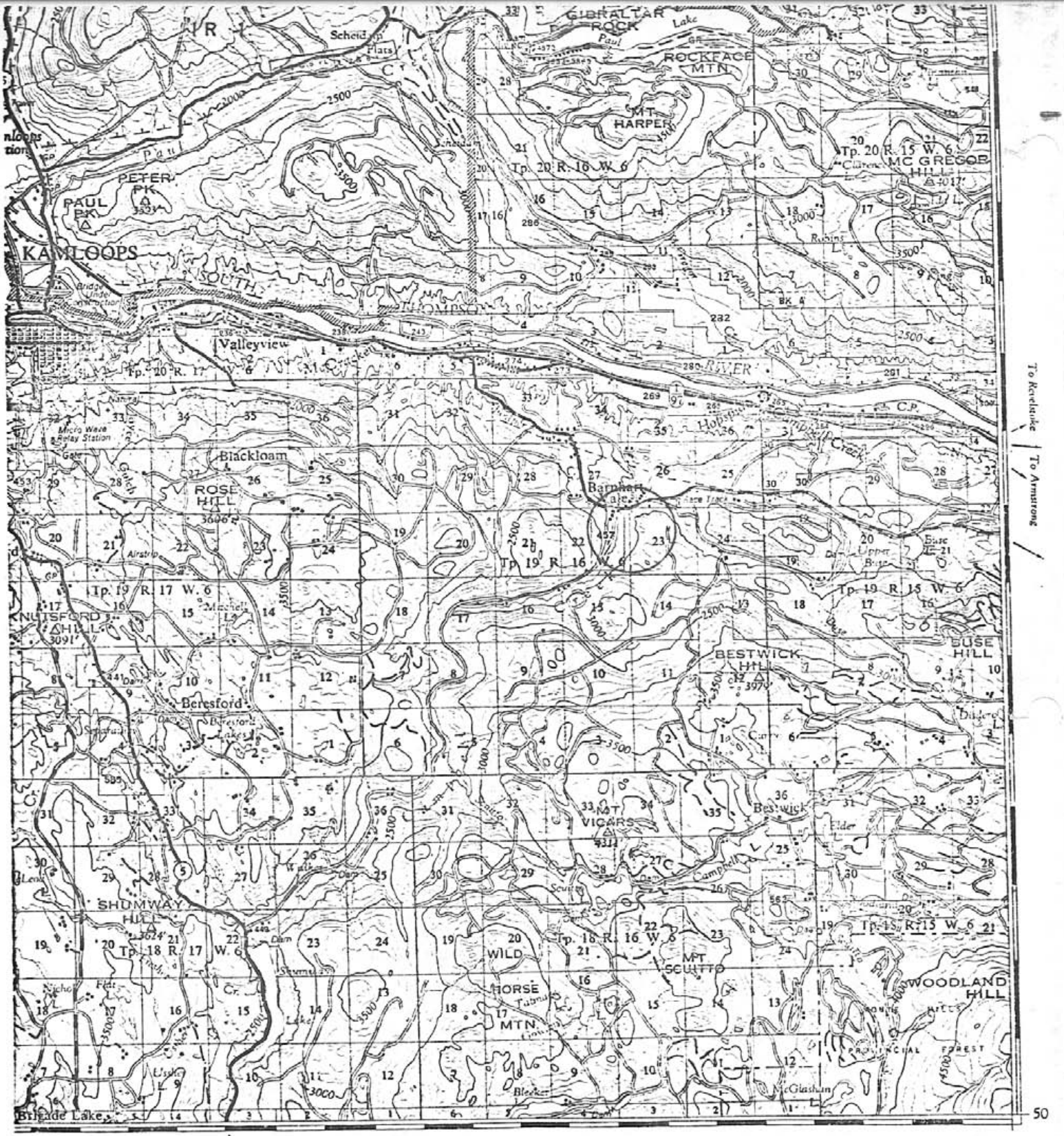
ILLUSTRATIONS



Universal Transverse Mercator Projection

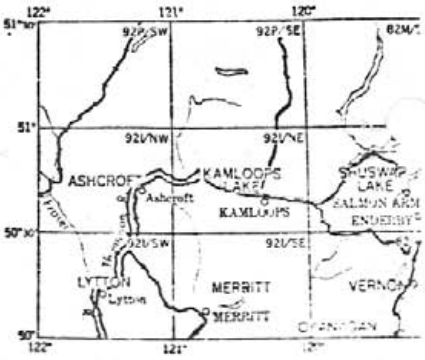
REFERENCE

- Road, Hard Surface, All Weather
- " Loose Surface, All Weather
- " Loose Surface, Less than 2 lanes
- " Four Wheel Drive
- Trail
- Railway
- Main Telephone Line
- Main Electric Power Line
- Horizontal Control Station
- Contours (Interval 100 feet) 4500 Depression
- Elevation in feet above mean sea-level ·6774'
- Intermittent Stream
- Intermittent Lake or Seasonal Inundation

○ MOT GROUP

0 1 mi.

fig. 1



LOCATION

The MOT Group is located at Barnhartvale, British Columbia, approximately eight miles southeast by east from the city of Kamloops. In fact, the Group, now consisting of 25 claims, lies within the borders of the new municipality at its southeasternmost edge. The claims are in the Kamloops Mining Division and lie at 50°38' N. Lat. and 120°07' W. Long. See figure 1 for location.

GEOLOGY

LITHOLOGY

Cache Creek Group (Permian): The principal rocks underlying the MOT claims belong to this group. In the area of the claims the principal rock type is a grey to black, thin- to medium-bedded argillite which in places contains horizons of chert. The Cache Creek rocks are all highly fractured and adjacent to faults are sheared and brecciated. The group has been well described by W. E. Cockfield (1948).

Besides the argillite and chert, three other rock types, though subordinate to the above, are nevertheless quite characteristic in the area. Two of these are a medium-grained graywacke interbedded with the argillite and rare sequences of dark dense mafic volcanics. These latter rocks, due to the lack of stratigically positioned exposures, could possibly be sills or dikes related to rocks in the Kamloops volcanic group. The third type is a dark grey to almost black limestone, interbedded with the argillite. This rock, where close to an intrusive contact, may become bleached, pyritized, and silicated. No detailed stratigraphic study of the Cache Creek rocks has been made in the claim area.

Coast Intrusions: There are a number of igneous intrusions within the claim group. All are of probable medium composition and undersaturated with respect to silica. The ages of the intrusions are unknown, but it is being assumed they are of Cretaceous age, though the youngest could be very early Tertiary.

Immediately to the west of the claim group, as shown on Plate I, is a large body of granodioritic rock designated by Cockfield (1948) as being part of his Wild Horse Mountain batholith. This rock is light-colored, medium-grained, and contains quartz and some orthoclase, though the predominate feldspar is plagioclase. The ferromagnesian minerals are biotite and hornblende with the former predominating. This rock has associated aplite dikes. The granodiorite lacks any sign such as alteration or pyritization that might link it with mineralization.

Within the claim group proper there are the following intrusions, which are hereby listed from mafic to salic. Whether or not this listing can also be construed to be from oldest to youngest is somewhat of a question, but outcrop relationships seem to indicate that the more mafic are the older.

1. Exposed in the road cut on the north side of the highway, 1000 ft. west of Barnhartvale, is a greenish-grey, fine- to medium-grained, biotite diorite intrusive. The biotite is weathering to limonite and chlorite. Metallization does not appear to be related to this rock, but it has not been sampled.

2. A rock which can be classified as a biotite feldspar porphyry is located about 1/4 mile north of the intersection of the Barnhartvale and Campbell Creek roads. This rock is chloritized and

contains fine disseminated grains of pyrite and pyrrhotite, plus small clots of molybdenite. It seems to be in the form of a small plug, but it does not show any stockwork. This plug has bleached, silicified and pyritized the argillite in its vicinity. Adjacent to the biotite porphyry on the east is a small intrusion of hematite stained and kaolinized feldspar porphyry.

Three other small outcrops of biotite feldspar porphyry were observed, but they did not show any molybdenite, nor did they seem to have as high a content of disseminated sulfides. On Plate I, two of these outcrops are shown to the north of Barnhartvale and another about a quarter mile to the south.

3. All the small intrusive dikes and plugs on Plate I except for the aforementioned intrusives, are feldspar porphyry showing hematite staining in the groundmass. The rocks are strongly fractured. The fracturing is filled with hematite and in places goethite and small amounts of black manganese oxide. Silicification is erratic and is also along the fractures lining them with druzy quartz. The feldspar phenocrysts make up 40% to 50% of the rock and are altered to white clay (kaolin?). The fine-grained to dense groundmass has also been argillized and is stained by hematite.

The contacts with argillite are sharp and the porphyry shows no appreciable textural change at the argillite contacts, indicating the intrusion came into rocks already well heated. North of the town of Barnhartvale, the dikes and plugs give every appearance of apexing within the 300-500 feet of exposed relief. The intrusions do not appear to have made an explosive or forceful entry into the argillite.

Only one of the porphyry dikes contained quartz crystals and also a few scattered books of biotite now gone to limonite. The quartz phenocrysts are subrounded and resorbed, making up not more than 3% of the rock. The resorption may indicate undersaturation with respect to water, as pressure became reduced during intrusion to a near surface environment (Noble, 1970). Undersaturation with respect to water could mean the porphyry material had a predominantly magmatic source with little if any contamination by vadose or connate water. Thus, any mineral bearing solutions associated with the dike material would have less tendency to be diluted. This dike is located on the hilltop about 1500 feet to the southeast of Barnhartvale.

Tranquille Beds: At the north end of the NNE striking fault, 1800 feet east of Barnhartvale, there is exposed on its downthrown or east side a colorful conglomerate composed of an iron-stained (yellow, brown and red) sandy matrix enclosing subrounded to angular, altered and bleached pebbles and cobbles of feldspar porphyry and argillite. The material has every appearance of being derived from the iron stained and altered areas which are the subjects of this report and lie only a few thousand feet to the west and northwest. The conglomerate bed is from five to ten feet thick and is overlain by a coarse-grained arkosic sandstone of similar appearance. This rock in turn is overlain by mafic volcanics. The strike of the conglomerate, sandstone and volcanics is N50°E and their dip is 66° southeast. The unconformity between the Cache Creek group and the Tranquille beds is well exposed in this outcrop area and dips unevenly to the east.

The Tranquille conglomerate beds are also exposed in two small outcrops in creek beds on the MOT claim #23. The matrix here is a tan

colored coarse sandstone containing pebbles and cobbles of dark grey to black argillite. This seems to indicate that the source for these conglomerates must have been very local and that the conglomerates represent deposition in small rapidly flowing streams.

Kamloops Group: This group of rocks where exposed in the claim area, principally on MOT #17 and 18, consists of flows and interbedded agglomerates of andesitic to basaltic composition. Their attitude appears similar to that of the Tranquille beds, which they immediately overlie. As a matter of interest, one of the flows is an olivine rich basalt containing about 15% to 20% olivine.

STRUCTURE

From the relatively few observations that it was possible to make on the attitude of the Cache Creek rocks, no picture of orderly folding presents itself. However, it is obvious that the rocks have been highly folded and in places contorted. In the vicinity of the intrusive porphyries, particularly north of Barnhartvale, there is some brecciation. Whether or not this can be ascribed to the intrusive activity is a puzzle because brecciation and crackling are also obviously associated with the faulting.

In the vicinity of Barnhartvale, both to the north and south, the area seems to have a northeast striking structural grain, as indicated by the trends of the larger feldspar porphyry intrusives and the trends of the two main faults.

The trend of the intrusives seems to have been guided in part by the attitude of the Cache Creek rocks, but nevertheless the local relationships are often cross-cutting, as is shown on Plate I.

There are two main faults--One of these strikes NNE across the claim group south of Barnhartvale. At its north end this fault may be studied in some detail and has already been mentioned during the description and discussion of the Tranquille beds. This fault strikes N30°E and dips steeply to the east. Actually it comprises a strong zone of brecciation, crushing, and shearing. The Cache Creek rocks where exposed on the west side in the footwall, are dark grey to black and do not particularly show any effects of mineralization. A small amount of transported brownish iron oxide may be seen along these fractures. The main mineralized area (see Plate I) is, however, in the footwall of a fault branch a few hundred feet still further to the west. The most recent movement along and within this fault zone, according to the slickensides, appears to have been essentially horizontal.

The northeast by east striking structure shown as another branch of the above fault system was not identified on the ground, but a rapid change in slope punctuated by a row of trees indicating increased wetness seems to suggest its presence. It is particularly noticeable from an aerial photograph. Indications of mineralization, as shown by Hopkins' soil geochemistry study, particularly arsenic, weaken to the south of this structure.

Some 2500 to 3000 feet to the north of the above fault's north end is the projection of a hypothetical northeast trending fault. The presence of this fault is based on strong slickenside fault surfaces parallel to its trend, lying on the north side of the road just west of Barnhartvale, and the presence of strong fracturing of similar attitude along the strike in the granodiorite to the west. This latter fracturing shows very clearly on the aerial photographs. The principal movement on this fault is probably horizontal as shown by the afore-

mentioned secondary faults. This fault may have displaced a single continuous mineralized zone, breaking it into two parts. If true, the fault could have had a left handed displacement.

The age of the faulting, based on the above described observations, is obviously post-mineral, which in turn is probably late Cretaceous or very early Tertiary.

ALTERATION AND MINERALIZATION

A brief reconnaissance of the Cache Creek rocks adjacent to the Campbell Creek drainage showed that normally they are contorted, but not badly broken, iron-stained or bleached. Thus, these three latter characteristics can be attributed to some type of abnormal geological action. As these characteristics dominate the Cache Creek rocks in the vicinity of Barnhartvale, both to the north and to the south, they could be logically attributed to the porphyry intrusions present locally in these areas. However, though the intrusions may not be responsible for much of the fracturing and brecciation in the Cache Creek rocks, they are no doubt responsible for the bleaching and pyritization of these rocks and the introduction at this time of gold, arsenic, and minor amounts of copper, the last at least minor at the present level of erosion.

As presently observed, the porphyries are concentrated in two north northeast trending areas, each measuring roughly 1000 feet x 2000 feet, one to the north and one to the southeast of Barnhartvale. The Cache Creek rocks in both areas are highly fractured and iron-stained. The bulk of the iron-staining and associated limonite is of the transported variety, perhaps goethite, whereas the indigenous iron-staining

is more closely associated with the porphyry intrusives and is largely hematite. This can be explained if it is assumed that the greater part of the fracturing and brecciation is post-intrusive and post-mineralization and that the later oxidation of the pyrite and flow of ground water redistributed and reprecipitated the iron as goethite and hematite. Assuming the pyrite contained the gold, then the gold would also have been taken into solution in these highly acidic waters, redistributed and reprecipitated according to the availability of structural openings and change in pH and oxidation state of the environment. The arsenic present, in all probability, would be less mobile, remaining more or less in the zones of original hydrothermal alteration, as it tends to co-precipitate with limonite. The gold on the other hand, traveling in the oxidizing environment as $AuCl_4^{-4}$ complex, may stay in solution until the pH rises and/or the environment becomes reducing and is thus more mobile. This can account for the finding of anomalous gold in unaltered and apparently fresh appearing Cache Creek rocks. These thoughts and observations will be discussed further under the section on geochemistry.

As a result of the above reasoning, one could assume that gold values could be either concentrated or disbursed in the weathering zone and that it is possible that if the primary gold is with pyrite and not native, it might be too low grade to be economic. However, this can only be told by more detailed subsurface sampling, a program for which will be outlined at the close of the report.

GEOCHEMISTRY

As stated in the introduction, a brief report was submitted last year covering a program of soil and bedrock geochemistry conducted on the center of the mineralized zone located on the hill to the south-east of Barnhartvale.

The soil geochemistry indicated a few values that are slightly anomalous for copper and showed a rather definite but low grade arsenic anomaly in the south half of the MOT #15 claim. Mercury values were scattered and indeterminate.

On the other hand, bedrock chip sampling gave a definite gold anomaly with somewhat more scattered anomalous values in arsenic.

Based on these results, it was decided that this year (1973) a program of bedrock sampling on the remainder of the claim group would be carried out. This year's program consisted of taking 61 samples, exclusive of MOT claim #15, as it had been previously sampled. The samples consisted of 15 to 20 pounds of bedrock surface chips taken across widths of 10-30 feet. These samples were then analyzed for gold, silver, copper, and arsenic. All samples for gold were run by normal fire assay procedure, using at least two assay tons. The arsenic was run by a wet assay method involving distillation and titration using very dilute potassium iodide solution and starch as indicators. Sensitivity of this method is down to 10 ppm. The silver and copper were determined by standard atomic absorption techniques. All the analytical work was done by Rodney Blundell of Kamloops Research and Assay Laboratory, Ltd..

The great majority of the copper analyses are between 50 and 100 ppm. Nine varied from 100-145 ppm, and of the remaining two, one

ran 593 ppm where a definite gossan about 3 feet across was sampled, and another sample of iron-stained argillite gave 160 ppm, not an usual value for this rock type. Except for the 593 ppm, none of these values can be considered anomalous for copper from bedrock within this type of argillaceous environment. However, green copper stain and a few flakes of chalcopyrite were observed in some of the pits on the upper west side of the hill to the southeast of Barnhartvale. Thus, anomalous copper values are present locally.

The silver values are quite uniform, varying from .2 to 1 ppm with .5 ppm as an average. These values are not anomalous in the black shale environment and thus are unimportant as an indicator for gold mineralization in this area.

Anomalous values for arsenic and gold are definitely present. For this geologic environment, anomalous arsenic is considered to be 100 ppm or above, and anomalous gold 340 ppb or above. These anomalous figures are based on distribution of values as derived from surface bedrock sampling done by D. E. Hopkins (1971) and the writer, plus a summary of background values for arsenic and gold as given in Hawkes and Webb (1962). The values from 60 samples collected this season for arsenic and gold have been plotted on Plate II which may be used as an overlay for Plate I. Besides plotting the values on Plate II, the two elements were plotted against one another on normal graph paper in order to see the distribution of the two elements and any relationships between them. The points plotted show a partial scattering with almost no correlation. However, it should be noted that only nine samples out of 60 contain anomalous amounts of arsenic and also contain less than anomalous amounts of gold. Thus, arsenic would seem to be at least a

crude guide to gold mineralization. Granting the above observation, the results of the graphing do, nevertheless, indicate that essentially neither the gold or arsenic values are dependent on one another, particularly at the ppb level. At the upper end of the scale, where gold values are in the parts per million range, it is probable that better than 100 ppm arsenic will almost always be present.

Thus, as above suggested, in exploring for gold, arsenic can, in perhaps many instances, be no more than the crudest of an indicator and once an area of gold mineralization has been found, such as at Barnhartvale, gold is the obvious and only practical element for which to analyze.

The reason that arsenic can only be used as a crude indicator for the presence of gold in the weathering zone is related to the difference in mobility between arsenic and gold, as already explained. Thus, the two elements quite commonly become separated and redistributed. To date, of all the surface bedrock sampling done on the property, at least 120 samples, only two have contained anomalous arsenic values in rock free of iron staining. These observations emphasize the mobility of gold and the desire of arsenic to co-precipitate with limonite and be relatively immobile .

A further important observation on the behaviour of gold in the weathering zone can be made from the bedrock geochemical survey described in Hopkins' 1971 report. A cluster of six samples analyzed for gold was taken from cuts and pits just west of the top of the hill about 1500 feet southeast of Barnhartvale. None of the other samples taken on the MOT group were from excavations. These six samples assayed 2.25, 2.175, 2.80, 106.40, 6.80, and 1.525 ppm gold, higher

than almost any of the other surface bedrock samples taken on the property. It would seem that the fact they were taken from excavations rather than immediately on the surface, may well have played an important role in raising their overall grade. For instance, gold can be washed well down into cracks and crevices because of its high specific gravity, and if the proper chemical conditions are present, it can be flushed out in solution and lost to the near surface. Thus, the necessity for excavating is an important factor to consider from the standpoint of further exploration and sampling.

CONCLUSIONS

The results of the geological and geochemical work done by Copper Range Exploration Co., Inc. to date have shown the presence of two and possibly three mineralized zones striking north northeast and containing anomalous values in gold and arsenic. From north to south these are, a zone lying one thousand feet northwest of Barnhartvale that measures approximately 1000 feet by 2000 feet, a zone lying 1000 feet southeast of Barnhartvale and measuring approximately 700 feet by 2000 feet, and a possible third zone lying 4000 feet due south of Barnhartvale measuring, as nearly as can be presently told, 500 feet by 1000 feet.

RECOMMENDATIONS

In order to outline these zones more accurately and to appraise their tonnage and grade, the following program is recommended for each of the three zones:

1. Dry percussion drilling by means of a down-the-hole rig which will drill a 5+ inch hole and return by air cuttings in the 1/4"

size range. This type of rig is commonly used for blast hole drilling in open pits. Drilling on 200-foot centers is recommended at the start and closing to 100-foot centers as necessary. All holes should be at least 100 feet deep. The price per foot would probably range from $3 to $3.50. All individual samples should be assayed for gold only on the basis of 5-foot intervals. Composite samples from each hole should be analyzed for copper and arsenic, in order that values of interest either geochemically or economically not be missed.

2. If the drilling program is successful, it is then recommended that trenching be carried out across the best parts of the mineralized zones in order to see if the values will hold up in bulk samples. Also the trenching would provide a more clear picture of the geological relationships that would be important for any deep drilling campaign, should one be warranted. This drilling would be the third stage of the development program.

C. Phillips Purdy, Jr., S.B., P.Eng.

REFERENCE SHEET

1. Cockfield, W. E. (1948), "Geology and Mineral Deposits of Nicola Map-Area, British Columbia", Memoir 249, Canadian Geological Survey.

2. Hawkes, H. E. and Webb, J. S. (1962), "Geochemistry in Mineral Exploration", Harper and Row.

3. Noble, D. C. (1970), "Significance of Phenocryst Resorption for the Intratelluric Crystallization and Eruptive History of Silicic Pyroclastic Rocks". Geological Society of America, Abstracts, Cordillera Section, p. 125.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA. } In the Matter of
TO WIT:

~~Expenditures to be applied to~~
Certificate of Work (Form B) for
the MOT Group of mining claims.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4315 MAP

I, C. Phillips Purdy, Jr.

of 120 Ivanhoe St., Denver, Colorado 80220, U.S.A.

in the Province of British Columbia, do solemnly declare that the following amounts were spent on mining claims held in the Kamloops Mining Division of Barnhartvale by Copper Range Exploration Co., Inc. between March 29th and April 20th, 1973.

C. Phillips Purdy, Jr., Regional Geologist, @ $24,000/year - 22 days @ $66	$ 1,452
Food and Lodging	481
Donald Atkinson, Senior Geologist, @ $16,000/year - 9 days @ $44	396
Food and Lodging	197
One - 4-wheel drive vehicle - 22 days (rented)	403
Rock analyses, 61 samples Au, Ag, Cu, As	
61 samples @ $1.00	61
33 " @ $3.00	99
32 " @ $4.50	144
Report preparation--Regional Geologist 12 days @ $66	792
Total	$ 4,025

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the Vancouver Office of the Mining Recorder, in the Province of British Columbia, this 27th day of April 1973, A.D.

C. Phillips Purdy, Jr.

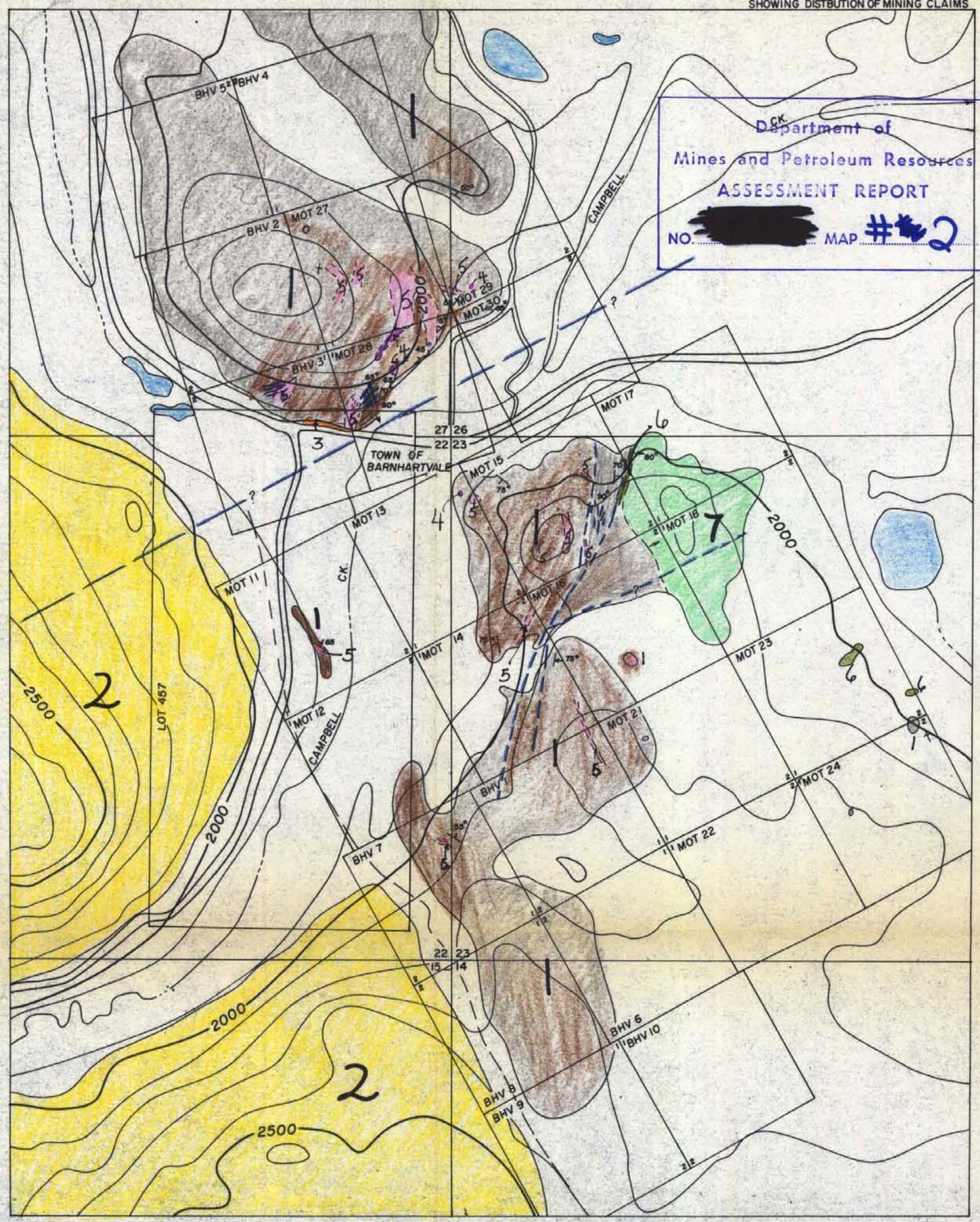
Signed, L. Jeanotte, Sub-mining Recorder
A Commissioner for taking Affidavits for British Columbia or
A Notary Public in and for the Province of British Columbia.

Original signed document already submitted to N. R. Blake, Mining Recorder, Kamloops, B.C.

To accompany geological and geochemical report by C. Phillips Purdy, Jr., P. Eng. on the MOT Group, Barnhartvale, Kamloops Mining Division, dated May 26, 1973.

Plate III

PLATE I
GEOLOGIC MAP OF THE MOT GROUP
SHOWING DISTBUTION OF MINING CLAIMS



Scale: 1"= 1000' C.I.= 100'

0 500 1000

To accompany geological and geochemical report by C.Phillips Purdy Jr. P.Eng. on the MOT group, Barnhartvale, Kamloops Mining Division, dated May 26,1973

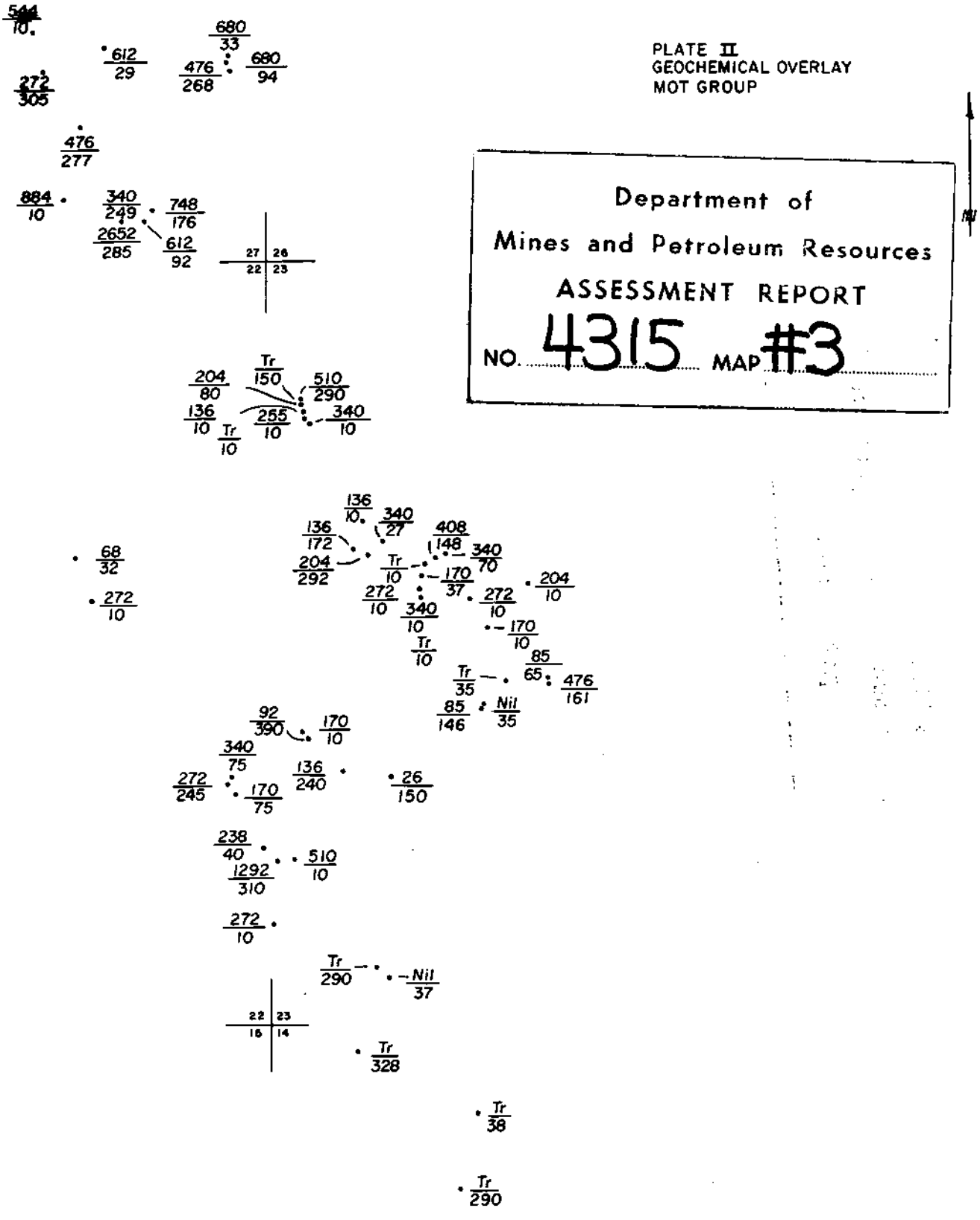
COPPER RANGE EXPLORATION CO., INC.

7	Kamloops Group	Early Tertiary
6	Tranquille Beds	
5	Feldspar and quartz feldspar porphyry	Cretaceous
4	Biotite feldspar porphyry	
3	Diorite	
2	Granodiorite and aplite	
1	Cache Creek Group (argillite, greywache, conglomerate, limestone and mafic volcanics) Intensity of shading shows degree of iron staining and bleaching of the Cache Creek Group	Permian

- 50° Fault, showing attitude, dashed where conjectured
- 70° Attitude of bedding
- 80° Attitude of joint
- Approximate contacts between rock types
- Area of outcrop or near outcrop identifiable by float fragments

PLATE II
GEOCHEMICAL OVERLAY
MOT GROUP

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4315 MAP #3



M-3 4315

Scale: 1"=1000'

To accompany geological and geochemical report by C.Phillips Purdy Jr. P.Eng. on the MOT group, Barnhartvale, Kamloops Mining Division, dated May 26,1973

PLATE I
GEOLOGIC MAP OF THE MOT GROUP
SHOWING DISTBUTION OF MINING CLAIMS

PLATE II
GEOCHEMICAL OVERLAY
MOT GROUP

T 19

R 16 W

Scale: 1"= 1000' C.I. = 100'

340 Gold in p.p.b.
249 Arsenic in p.p.m.

To accompany geological and geochemical report by C. Phillips Purdy Jr. P.Eng. on the MOT group, Barnhartvale, Kamloops Mining Division, dated May 28, 1973

COPPER RANGE EXPLORATION CO., INC.

7	Kamloops Group	Early Tertiary
6	Tranquille Beds	
5	Feldspar and quartz feldspar porphyry	Cretoceous
4	Biotite feldspar porphyry	
3	Diorite	
2	Granodiorite and aplite	
1	Cache Creek Group (argillite, greywache, conglomerate, limestone and mafic volcanics) Intensity of shading shows degree of iron staining and bleaching of the Cache Creek Group	Permian

- 60° Fault, showing attitude, dashed where conjectured
- 70° Attitude of bedding
- 80° Attitude of joint
- Approximate contacts between rock types
- Area of outcrop or near outcrop identifiable by float fragments

M-3 4315

4315 M-2

4315
M-3

BARNHART VALE

CAMPBELL CREEK

Mot 13
Mot 14
Mot 15
Mot 16
Mot 17
Mot 18

1900
2000
2100
2200

No sample taken
No sample taken

LEGEND

As / Hg Values in ppm / ppb

ANOMALOUS

THRESHOLD

ANOMALOUS

THRESHOLD

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
MAP #3
NO. 366

COPPER RANGE EXPLORATION CO INC.
Vancouver, B.C.

MOT CLAIMS

Soil Sample Results

DATE May 1971 | SCALE 1" 250' | N.T.S. 92 I/2

250 0 250

21° TN MN

Approved [illegible]

Harold C. Hopkins

FIG. 3

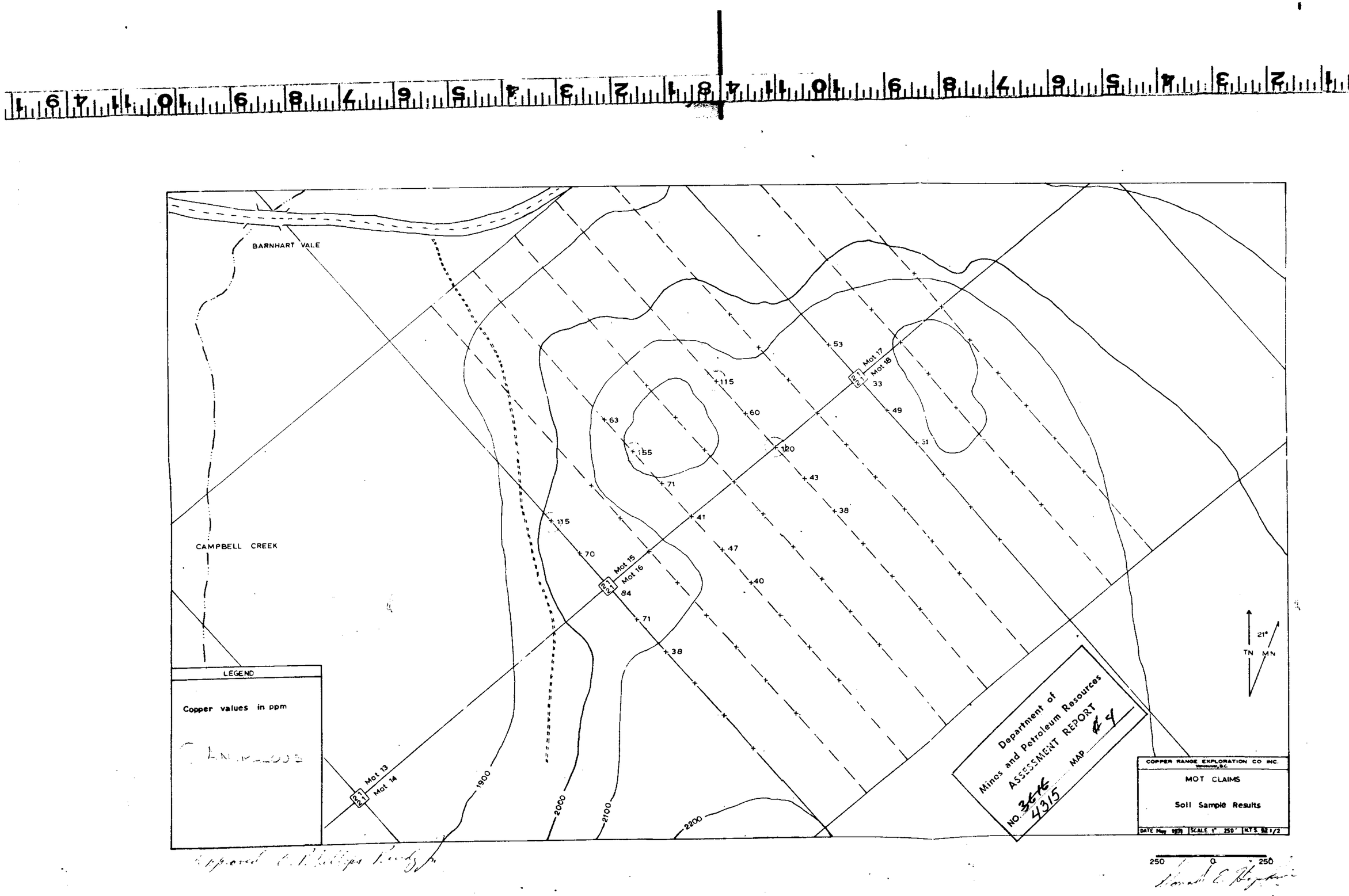
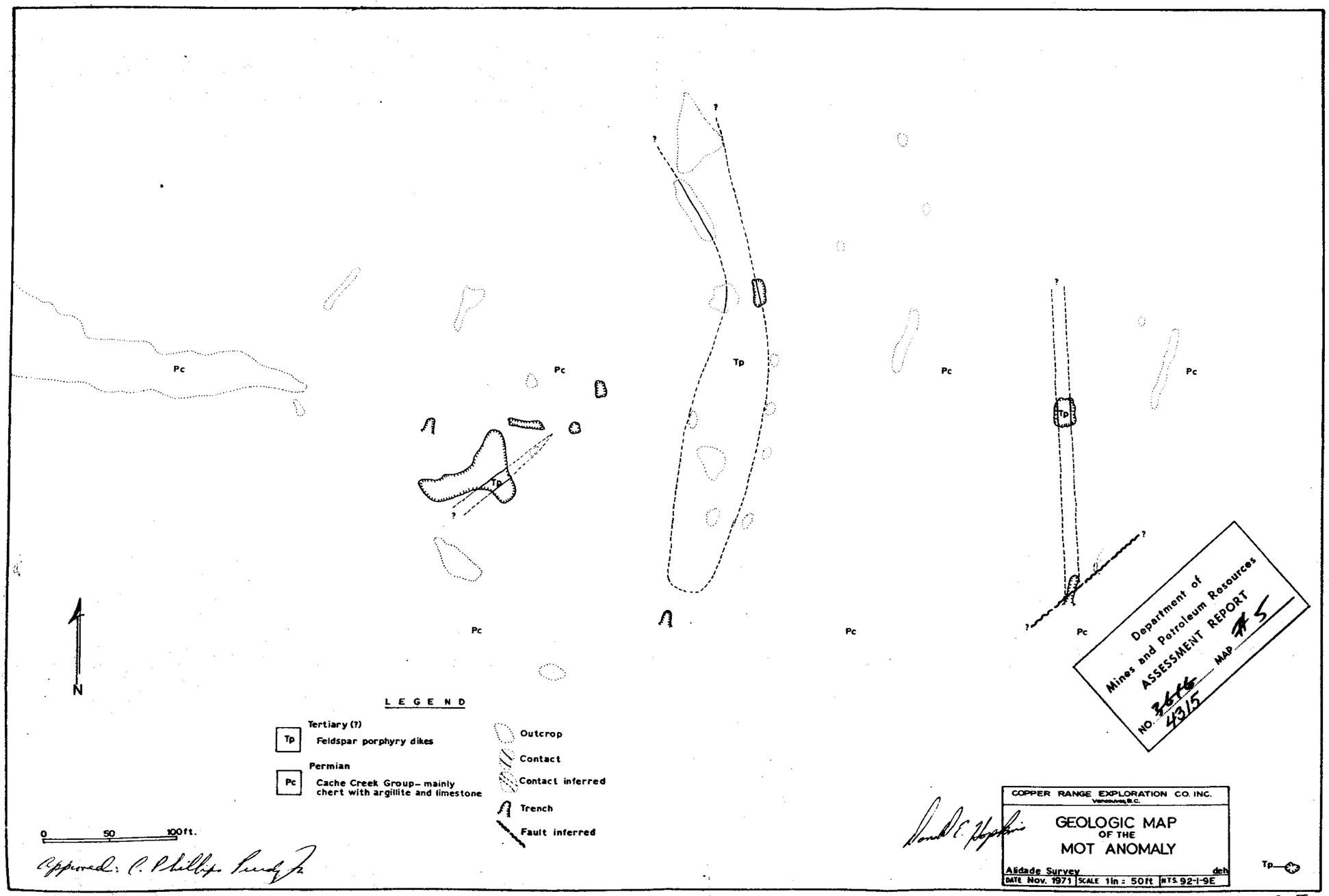

BARNHART VALE
CAMPBELL CREEK
Mot 17
Mot 18
Mot 15
Mot 16
Mot 13
Mot 14
53
115
60
63
155
120
49
33
31
71
43
38
115
41
70
47
84
40
71
38
1900
2000
2100
2200
LEGEND
Copper values in ppm
21°
TN MN
Department of Mines and Petroleum Resources
ASSESSMENT REPORT NO. 3676 MAP 4315
COPPER RANGE EXPLORATION CO INC.
Vancouver, B.C.
MOT CLAIMS
Soil Sample Results
DATE May 1979 SCALE 1" = 250' N.T.S. 82 1/2
250 0 250

FIG. 4


Pc
Pc
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Pc
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?
N
LEGEND
Tertiary (?)
Tp
Feldspar porphyry dikes
Permian
Pc
Cache Creek Group– mainly chert with argillite and limestone
Outcrop
Contact
Contact inferred
Trench
Fault inferred
0
50
100 ft.
Approved: C. Phillips Peverly Jr.
Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3616 MAP #5
4315
COPPER RANGE EXPLORATION CO. INC.
Vancouver, B.C.
GEOLOGIC MAP
OF THE
MOT ANOMALY
Alidade Survey
deh
DATE Nov. 1971
SCALE 1 in : 50 ft
NTS 92-I-9E
Tp

FIG. 5

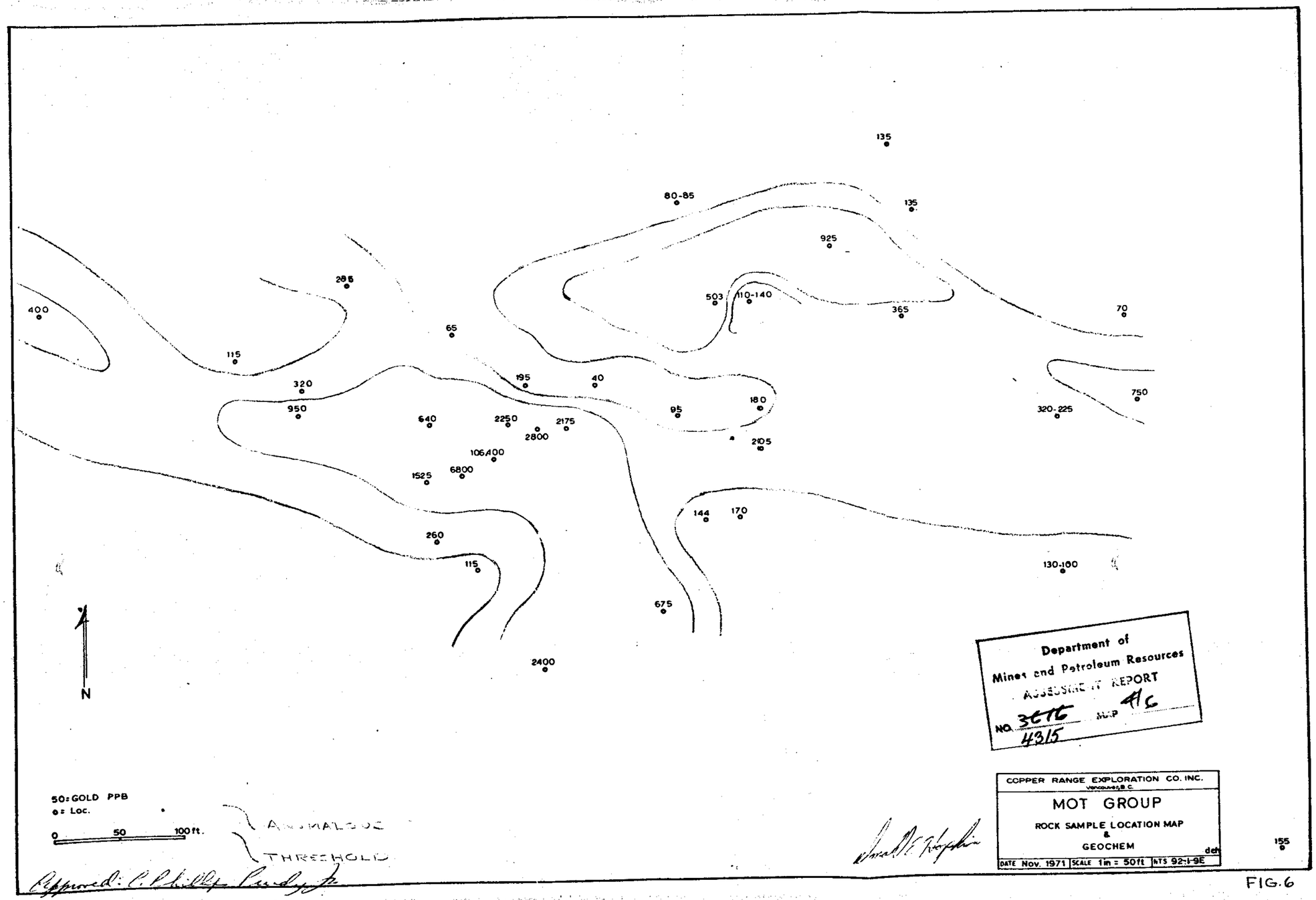
135
80-85
135
925
285
503
110-140
365
70
400
65
115
320
195
40
180
750
950
95
320-225
640
2250
2175
2800
2105
106400
1525
6800
144
170
260
115
130-100
675
2400
N
50: GOLD PPB
e: Loc.
0
50
100 ft.
ANOMALOUS
THRESHOLD
155
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3616
MAP 41G
4315
COPPER RANGE EXPLORATION CO. INC.
Vancouver, B.C.
MOT GROUP
ROCK SAMPLE LOCATION MAP
&
GEOCHEM
dah
DATE Nov. 1971
SCALE 1 in = 50 ft
NTS 92-I-9E

FIG. 6