1866

1968 GEOLOGICAL AND GEOCHEMICAL REPORT

On The

SHASS MOUNTAIN MOLYBDENITE PROSPECT

Omineca Mining Division

93 K 7

W. Lodder

Amax Exploration, Inc.

T.J.R. Godfrey, P.Eng. (B.C.)

May 1969

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SUMMARY AND CONCLUSIONS

The Shass Mountain Molybdenite prospect is located 25 miles north-northeast of Endako, B.C. at latitude 54°21'N and longitude 124°55'W. The property consists of 46 claims (Kid 1 - 46 inclusive) staked by Amax Exploration, Inc. in August 1968.

The property is underlain predominantly by sedimentary rocks of the Cache Creek Group (Palaeozoic), intruded by apophyses of the Topley Intrusions, a (biotite) quartz monzonite and a variety of dykes considered to be younger satellitic intrusions related to the Topley Intrusions. The intrusive rocks are believed to be of late Cretaceous to early Tertiary age.

The most dominant structural feature on the property is a distinct circular lineament (one mile diameter). This lineament is thought to represent a doming feature caused by the intrusion of the (biotite) quartz monzonite into the Cache Creek sediments. In addition strong northwesterly and northeasterly trending topographic linears are present on the property.

Molybdenite mineralization on the property is confined to the (biotite) quartz monzonite intrusion and its adjacent wall rocks. The molybdenite mineralization is associated with considerable amounts of pyrite (up to 15%) and trace amounts of chalcopyrite. In addition to pyrite, pyrrhotite is locally developed in the sedimentary wall rock of the quartz monzonite intrusion. Pyrite is thought to form a halo around the molybdenite mineralization.

Associated with the molybdenite mineralization, silicification and quartz veining have been noted in varying degrees in the quartz monzonite and its wall rocks. Locally, the quartz monzonite displays intense pervasive silicification and strong quartz veining in the form of a stockwork. Silicification and quartz veining are less intense elsewhere in the quartz monzonite and in its wall rocks.

At the present an interpretation of the actual grade and extent of the molybdenite mineralization is rendered difficult due to the paucity of exposure. The average grade of the exposed mineralization in the (biotite) quartz monzonite is estimated at 0.1% MoS_2.

Geochemistry has outlined a northeast trending area of scattered anomalous Mo soil values. Only part of this anomalous area occurs over the projected extensions of the quartz monzonite. Interpretation of the results within this anomalous area is furthermore complicated by the fact that several anomalous soils have been detected in poorly drained humic rich soils and thus probably represent hydromorphic dispersion and organic accumulation.

4 INTRODUCTION

General Statement

A program of geological mapping and geochemical sampling was conducted from August 12th, 1968 to August 21st, 1968 and September 2nd, 1968 to September 30th, 1968 on the Shass Mountain Molybdenite prospect, 25 miles north-northeast of Endako, B.C.

The claims covering the prospect are underlain predominantly by Palaeozoic sediments of the Cache Creek Group, intruded by a quartz-monzonite plug and a variety of dykes, considered to be younger satellitic intrusions related to the Topley Intrusions.

Molybdenum mineralization is frequently associated with the quartz-monzonite plug, and a number of molybdenite occurrences have been found located in the area.

Location and Access (Figure 1)

The Shass Mountain Molybdenite prospect is located 25 miles north-northeast of Endako, B.C. at latitude 54°21'N and longitude 124°55'W, between elevations of 3000 to 3500 feet. Access to the claims is by helicopter from Burns Lake or Fort St. James, B.C.

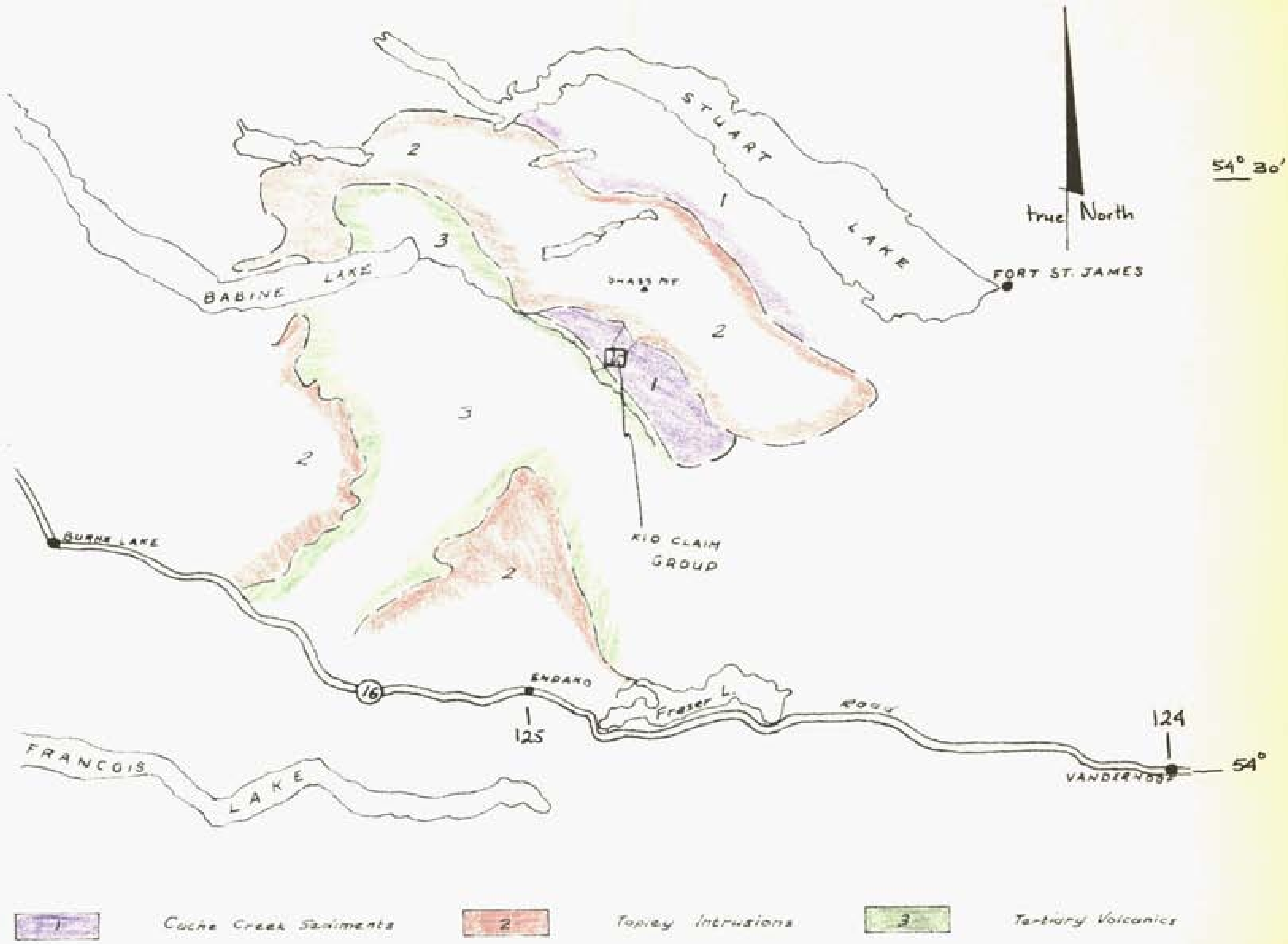
Property (Figure 2)

The property consists of 46 claims (Kid 1-46 inclusive) staked by Amax Exploration, Inc. and recorded on August 26th, 1968.

GEOLOGY

Regional Geology (Figure 1)

The Shass Mountain Molybdenite prospect lies within a



AMAX EXPLORATION INC

SHASS MOUNTAIN MoS_2 PROSPECT

OMINECA MINING DIVISION BRITISH COLUMBIA

LOCATION AND REGIONAL GEOLOGY

SCALE 1 INCH = 10 MILES

To Accompany Report "SHASS MOUNTAIN MoS_2 PROSPECT"

by W. Lodder & T.A.R. Godfrey Date Jan. 29, 1969

Drawn by: J.C. – Completed by: N.GB

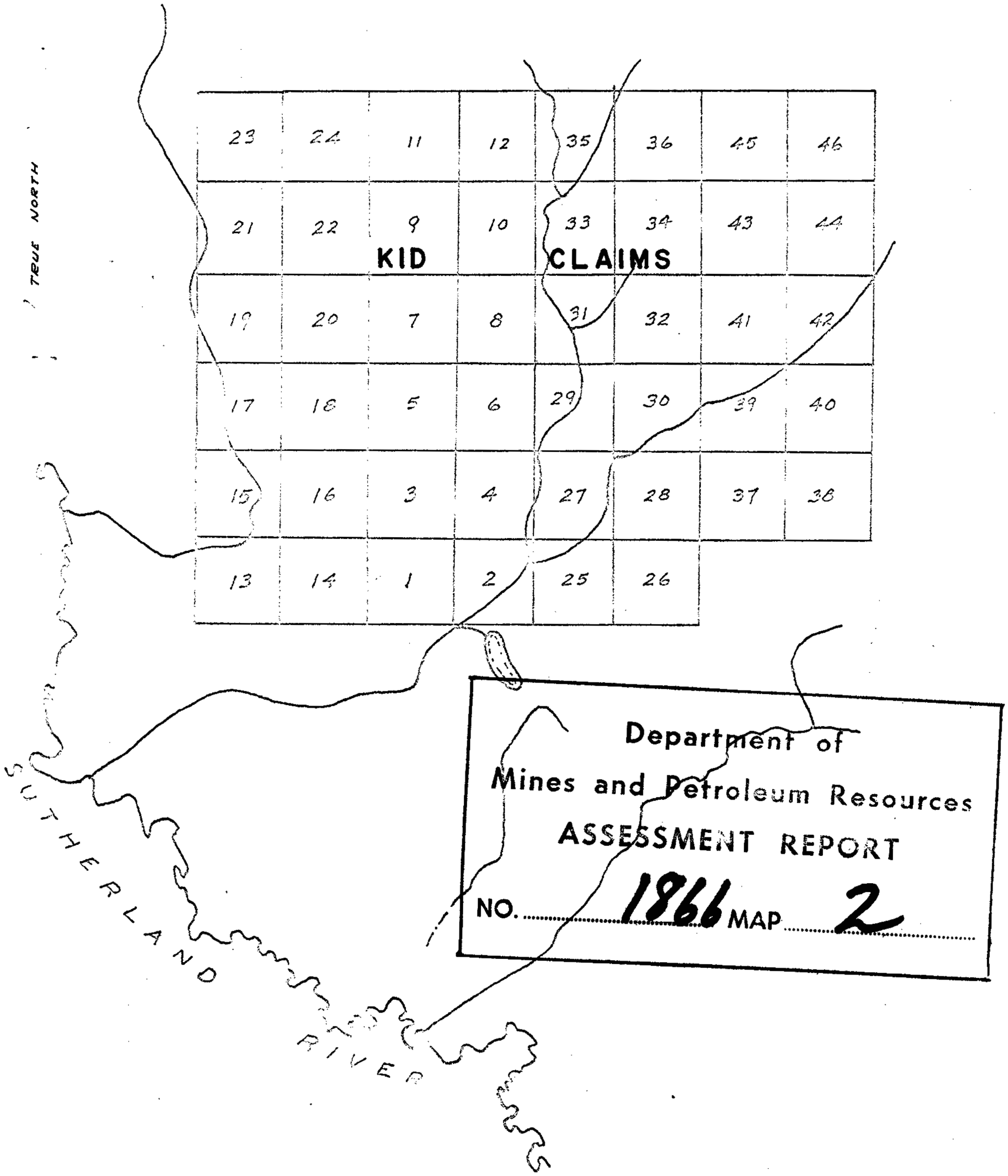
northwest trending belt of Palaeozoic sediments (Cache Creek Group). This belt, 15 miles long and 3 miles wide, is intruded towards the north and east of granodioritic to gabbroic phases of the Topley Intrusions and overlain by a complex Tertiary sequence of extrusive rocks towards the west and south.

The central part of the belt is intruded by apophyses of the Topley Intrusions and a variety of stocks, considered to be younger satellitic intrusions related to the Topley Intrusions. The intrusive rocks vary in composition from acid porphyry to gabbro and are believed to be of late Cretaceous to early Tertiary age.

<u>Geology of the Claim Group</u> (Figure 3)

Glacial overburden obscures in excess of 95 percent of the bedrock within the property, consequently the geology is not well known at the present. Geological mapping was carried out on a scale of 1" = 400 feet. The claim location lines and the geochemical grid lines, located by chain and compass provided the basic control.

The claim group is underlain predominantly by sedimentary rocks of the Cache Creek group. These rocks are intruded by a gabbroic dyke, a (biotite) quartz monzonite and a series of dykes. The intrusions are thought to be late Cretaceous to early Tertiary satellitic intrusive phases related to the Topley Intrusions. Towards the southwest of the property the sedimentary and intrusive rocks are overlain by a complex sequence of young



AMAX EXPLORATION INC.

SHASS MOUNTAIN MoS_2 PROSPECT

OMINECA MINING DIVISION – BRITISH COLUMBIA

CLAIM MAP

SCALE: 1 INCH = ½ MILE

To Accompany Report "Shass Mountain MoS_2 Prospect"

by W. Lodder Date Jan. 29 1969

& T.J.W. Godfrey

Fig. 2

Drawn by: J.C. Completed by: N.G.B.

6 Tertiary extrusive rocks.

Sedimentary and Extrusive Rocks

Unit 1 (Cache Creek)- The Cache Creek Group consists of massive, argillites and fine grained quartzites with minor marble lenses. Locally, thin, discontinuous tuff horizons are present within the sequence. The sediments are silicified and pyritized along the quartz monzonite contact and schistose to gneissic near the contacts of the Topley Intrusions.

Unit 9 (Tertiary Volcanics)- Tertiary extrusive rocks on the property are flat lying, fragmental basalts and tuffs varying in color from purple to brown. The basalts are commonly characterized by lath-shaped feldspar phenocrysts (4 mm in length) embedded in a fine grained matrix. Flow banding and spherulitic structures are also common. The tuffs normally display a distinct graded bedding.

Intrusive Rocks

Two large intrusive bodies and a number of dyke rocks outcrop within the claim group. The two large bodies comprise an older steeply dipping gabbroic dyke trending north to northwest in the middle portion of the claim group and a younger (biotite) quartz monzonite plug (one mile diameter) in the western portion of the property.

Several dykes of varying texture and composition, ranging in width from 4 to 100 feet cut the Cache Creek sediments. Except for one porphyritic acid dyke intruded into the quartz monzonite, 7 no contact relations of the dyke rocks with each other or with the other two intrusive bodies are exposed and consequently little is known about their age relations. At the present it appears that all the dyke rocks post date the quartz monzonite intrusion.

Unit 2 - The dark gray to black rocks of the gabbro dyke are locally exposed on surface over a width of up to 600 feet. The rocks are rich in magnetite and composed primarily of pyroxene (?), amphibole and plagioclase. Minor amounts of pyrite and pyrrhotite are common and the rocks are locally strongly serpentinized.

Unit 3 - The(biotite) quartz monzonite plug, consists of heavily stained, brownish-grey, porphyritic rocks characterized by quartz eyes (up to 1 cm) set in a medium to coarse grained granular matrix composed of quartz, plagioclase and K-feldspar. Biotite is present in variable amounts (5 - 15%). Inclusions of the gabbroic dyke are common in the quartz monzonite.

Unit 4 - Dykes and/or irregular bodies of pegmatite are present especially in the southern portion of the property. On fresh surface the pegmatite is medium to light grey in color, showing large phenocrysts of plagioclase (up to 2 cm in length) set in a medium grained quartz-feldspathic groundmass. Occasionally granophyric textures can be recognized in this groundmass.

Unit 5 - Porphyritic to fine grained almost equigranular dyke rocks are found in both the Cache Creek sediments and the (biotite) quartz monzonite. They are characterized by "phenocrysts" of plagioclase and quartz embedded in a light green quartz-feldspathic matrix in which K-feldspar can be recognized on close inspection. Pyrite is common as fine disseminations.

Unit 6 - On the western portion of the property close to the assumed quartz monzonite contact a breccia dyke is found within the Cache Creek sediments. The dyke is strongly weathered and no fresh specimen could be obtained. The rocks are characterized by their fragmental structure, showing strongly altered angular fragments of varying size and origin (sedimentary and intrusive) embedded in an almost cryptocrystalline matrix. Pyrite disseminations appear to be common in both fragments and matrix. Considerable amounts of carbonate and quartz found in the dyke along fractures are contributed to weathering.

Units 7 and 8 - "Lamprophyre" dyke rock was found in one outcrop on the western portion of the property intruding the Cache Creek sediments along the schistosity. The rock is characterized by plagioclase phenocrysts (up to 6 mm in length) and phenocrysts of biotite basal sections (up to 4 mm in diameter) embedded in a fine grained to cryptocrystalline dark brown matrix. Small amounts of disseminated pyrite are common and occasionally quartz eyes are present. A typical fine grained, dark green diabase dyke is found in the southern part of the property.

Structural Geology

The structure of the claim group appears to be complex, but its interpretation is rendered difficult by the paucity of

9 exposure.

The most dominant structural feature in the mapped area is a circular lineament. This lineament is quite obvious both on aerial photographs and in the field and is thought to represent a doming feature caused by the intrusion of the quartz monzonite plug into the Cache Creek sediments. Lack of exposure prevented studies and measurements of the actual distortion and uplift of the sediments.

In addition to the above discussed circular lineament, strong northwesterly and northeasterly trending topographic linears are present in the area. These two directions are reflected by the drainage pattern of the area and are thought to represent regional fault directions. The trend of the gabbro dyke coincide closely with one of the above mentioned directions, suggesting that faulting, at least in part, might have localized intrusive activity in the area.

Mineralization and Alteration

Molybdenite mineralization on the property is confined to the quartz monzonite plug and its adjacent wall rocks. A number of molybdenite showings have been located on the property. The molybdenite mineralization is associated with considerable amounts of pyrite (up to 15%) and trace amounts of chalcopyrite and(?) magnetite. In addition to pyrite, pyrrhotite is locally developed in the sedimentary wall rock of the intrusion.

Molybdenite mineralization was first encountered in

10 quartz-monzonitic float boulders. These boulders were found in two creeks, a southerly flowing creek through the middle of the property and a southwesterly flowing creek in the eastern portion of the property. The boulders are thought to be derived from a brownish clayey boulder till horizon, locally eroded by the deeply incised creeks. Follow-up work in the almost completely overburden covered area located several molybdenite showings in a few scattered outcrops of the quartz monzonite and its adjacent wall rocks. Molybdenite mineralization in the quartz monzonite, occurs as fine disseminations and as fine flakes in a well developed quartz vein stockwork (30 - 40 quartz veins per square foot). The quartz veins are especially noticeable on weathered surfaces and range from one mm to one cm in width.

In the sedimentary wall rock, the molybdenite occurs as a coating along fractures and along small,irregular quartz veins (average width less than 3 mm). Variable amounts of pyrite and chalcopyrite are always associated with the molybdenite.

Although, at the present, interpretation of the mineralization is extremely difficult due to the paucity of exposure, it appears that molybdenite mineralization is limited to the eastern portion of the quartz monzonite and its adjacent wall rocks. Pyrite forms a halo around the molybdenite mineralization and an increase in magnetite content appears to be present towards the western portion of the property.

Silicification and quartz veining have been noted in varying degrees in the eastern portion of the quartz monzonite and its adjacent wall rocks.

The most northern exposure of the quartz monzonite displays intense pervasive silicification and strong quartz veining in the form of a stockwork. Silicification and quartz veining are less intense in the more southerly exposures of the quartz monzonite, there the silicification is no longer pervasive and the quartz veining, is only locally well developed (3-4 quartz veins per foot). Silicification and quartz veining in the sedimentary wall rock of the quartz monzonite intrusion, are controlled by fracturing. The intensity of silicification and quartz veining is highest in zones of intense fracturing and decreases rapidly in unfractured parts.

The molybdenite mineralization appears to show a relationship both in extent and amounts to the silicification and quartz veining. The amount of molybdenite is highest in zones of pervasive silicification and stockwork development, decreasing rapidly towards weakly altered parts. Except for assays on two selected well mineralized samples (0.4% MoS_2) of the quartz monzonite, no samples were taken for assaying on the property and consequently little is known at the present about the actual grade of the molybdenite mineralization. It is visually estimated that the average grade of the molybdenite mineralization as exposed in the quartz monzonite is around 0.1% MoS_2, while the average grade in the adjacent sediments is thought to be around 0.05% MoS_2.

GEOCHEMISTRY (Figures 4 and 5)

A total of 587 soil samples were collected on the property. The sampling was done along claim location lines and compass and tapelines spaced at approximately 500 feet. The sample interval was 200 feet. In addition about 80 silt and water samples were collected from creeks draining the property and a limited amount (ten) of rock chip samples were taken from rock exposure in the area.

The samples were analyzed at the AMAX laboratory in North Burnaby. Soil, silt and rock samples were analyzed for molybdenum and copper. Water samples were analyzed for molybdenum only. Determination of pH was done on every fifth soil and silt sample and on all water samples.

The sampling procedures, analytical methods and laboratory methods are outlined in Appendix I. The sample location and results are shown in Figures 4 and 5. The dominant soils within the area of interest consist of weakly developed podzols although locally humic gleys and organic soils are important. The podzolized soils occur in the best drained areas whilst the gleys and organic soils occur in local depression or stagnant pools. The average pH of the soil is around 5.2. The Mo and Cu content in soils and silts ranges widely. A background of 2 ppm Mo was established for the area the anomalous threshold was set at 4 ppm Mo. The Mo content ranges from 0 - 36 ppm.

Cu values are indicated on Figure 4, however, no background and anomalous threshold was determined for copper.

Geochemical sampling outlined an area of scattered anomalous Mo values over the western portion of the property (See Figure 4). Figure 4 also indicates that this anomalous area might extend towards the northeast. Most of the anomalous Mo values occur over the projected extension of the quartz monzonite (circular lineament) and are partly explained by the exposed molybdenite mineralization. However, little is known about the geology and/or mineralization of the area occupied by the northeast extension of the anomaly. Interpretation of Mo anomaly is furthermore complicated by complex hydromorphic dispersion and organic accumulation. Four small areas of high soil copper values are present on the property; two within the Mo anomaly, and two outside the anomaly (northeast corner of grid, southeast corner of grid, see Figure 4). In general these areas coincide with local depressions and the anomalous Cu values are associated with anomalous Mo values. It is thought that most of the Cu represents accumulation of the metal in humic soils of poorly drained depressions (See Figure 5) derived from surrounding slightly acid soils and transported by groundwater movement.

The coincidence of high Mo values with Cu peaks suggests that Mo has also undergone hydromorphic dispersion and organic accumulation (See Figure 5). Based on our present knowledge of the property, it is assumed that the high Cu soil values are of no significance for exploration and that the associated high Mo soil values, although probably of significance, are of low contrast only. However, for a better understanding of the complex geochemistry of the property, detailed geochemical orientation studies will be carried out in the future.

W. Lodder

Amax Exploration, Inc.

May 1969

T.J.R. Godfrey, P.Eng. (B.C.)

APPENDIX I

Procedures for Collection and Processing

of Geochemical Samples

Amax Exploration, Inc.

Vancouver Office

December 1968

R.F. Horsnail

SAMPLE COLLECTION

Soils

B horizon material is sampled and thus organic rich topsoil and leached upper subsoil are avoided. Occasionally organic rich samples have to be taken in swampy depressions.

Samples are taken by hand from a small excavation made with a cast iron mattock. Approximately 200 gms of finer grained material is taken and placed in a numbered, high wet-strength, Kraft paper bag. The bags are closed by folding and do not have metal tabs.

Observations as to the nature of the sample and the environment of the sample site are made in the field on standard forms, examples of which are shown overleaf.

Drainage Sediments

Active sediments are sampled with stainless steel trowels from tributary drainages which are generally of five square miles catchment or less. Composite samples are taken of the finest material available from as near as possible to the centre of the drainage channel thus avoiding collapsed banks. More than one sample is taken if marked mineralogical or textural segregation of the sediments is evident.

Some 200 gm of finer material is collected unless the sediment is unusually coarse in which case the weight is increased to 1 kg. Samples are placed in the same type of Kraft paper bag as are employed in soil sampling.

Water samples are taken at all sites where appreciable water is present. Approximately 100 mls are sampled and placed in a clean, screw sealed, polythene bottle.

Observations are made at each site regarding the environment and nature of the sample. The same standard sheet that is used for soil sampling is employed.

Rock Chips

Composite rock chip samples generally consist of some ten small fragments broken from unweathered outcrop with a steel hammer. Each fragment weighs some 50 gms. Samples are placed in strong polythene bags and sealed with non-contaminating wire tabs. Samples are restricted to a single rock type and obvious mineralization is avoided.

Soil, sediment and rock samples are packed securely in cardboard boxes or canvas sacks and dispatched by road to the AMAX geochemical laboratory in Vancouver.

SAMPLE PREPARATION

Packages of samples are opened as soon as they arrive at the laboratory and the bags placed in numerical sequence in an electrically heated sample drier (maximum temperature 70°C).

After drying soil and sediment samples they are lightly pounded with a wooden block to break up aggregates of fine particles and are then passed through a 35 mesh stainless steel sieve. The coarse material is discarded and the minus 35 mesh fraction replaced in the original bag providing that this is undamaged and

RECCE SAMP[illegible] DATA SHEET

Camp ______________________

Collector ______________________ Project ______________________ Area (lake, highway, etc.) ______________________

Date ______________________ Plotted (map, photo) ______________________

CODE	Number: Sample Number	Type: Rock	Type: Soil	Type: Water	Type: Silt	Type: Veg.	Location: General	Location: Sample Site	Environment: TOPO. Terrain TYPE	Environment: DIRECTION Drainage TYPE	Sample Description: SIZE Texture TYPE	Sample Description: TONE Colour BASE	Analytical Results: pH	Analytical Results: Mo	Analytical Results: Cu	Analytical Results:	Remarks (Geology, Geomorph., Culture, Float)
1					a b c		N	E									
2					a b c		N	E									
3					a b c		N	E									
4					a b c		N	E									
5					a b c		N	E									
6					a b c		N	E									
7					a b c		N	E									
8					a b c		N	E									
9					a b c		N	E									
10					a b c		N	E									
11					a b c		N	E									

General Remarks:

Form JAH-67

REFERENCE FOR COMPLETING RECCE SAMPLE DATA SHEET

Code Number - Year, project, samplers initial and type of sample

Sample Number - Each sampler is to number consecutively irrespective of sample type or area.

Sample Type (Rock, Soil, Water, Silt, Veg.) - Put check mark in appropriate column. In case of silt (stream sediment) more than one sample is commonly taken at given site, therefore, identify different samples by subscript a,b,c, and check accordingly. If only one sample, check "a" and add subscript to number on sample envelope.

Location - Location information is used to assist accurate plotting and re-locating site in field:

General	Sample Site
Given with reference to plot on map or photo, e.g., highway, lake, river, creek, mountain, traverse, etc.	Detailed location of actual sample site; e.g., side of road, mountain slope, distance from lake, stream junction, bridge, swamp, culture, etc.

_____ N _____ E - The "N" and "E" spaces refer to some numerical coordinate, i.e., latitude or longitude, <u>leave blank in field</u>, for office use later.

Environment

Terrain
- Topo - mountainous, hilly, rolling, flat, dissected, (other) (specify other)
- Type - deciduous, coniferous, grassland, swamp, cultivated, grazing, orchard, jungle, rock, (other)

Drainage
- Direction - N, NE, E, SE, S, SW, W, NW, ?
- Type - groundwater, sheetwash: for streams-mature or meandering, youthful or eroding; PLUS size in actual feet at water level - seepage, 1 ft, 1-5 ft, 5-15 ft, over 15 ft.

Sample Description

Texture
- Size - very fine, fine, medium, coarse, very coarse, unsorted, mixed, (other)
- Type - Rock -- acid granitic, intermed. granitic, basic granitic, acid volc., basic volc., sandstone, carbonate, shale, metamorphic, (other)
  - Soil -- A_0, A_1, B_1, B, C (if recognized) PLUS clay, loam, silt, sand, and approximate proportion of organic content - 1/4, 1/2, 3/4, if any
  - Silt -- clay, loam, silt, sand, (other); PLUS amount of organic material-1/4,1/2,3/4, if any

Colour
- Tone - pastel, light, medium, dark, deep, speckled, spotted, (other)
- Base - white, gray, black, brown, yellow, orange, red, mixed, (other)

<u>NOTE:</u> In describing Environments and Samples <u>pick one word only</u> for each section; (put any additional comments under the "Remarks" column).

Remarks - Any additional information not covered by other columns that may be pertinent to interpretation of results, e.g., geological features such as faults, dikes, quartz veining, geology of float, use of fertilizers on cultivated soils, sample below culvert, old mine, etc.

General Remarks - Any comments worth noting either with respect to area in general or taking and handling of samples including analytical remarks noted in lab report.

not excessively dirty.

Rock samples are exposed to the air until the outside surfaces are dry; only if abnormally wet are rocks placed in the sample drier. Rock samples are processed in such manner that a fully representative ½ g sample can be obtained for analysis. The entire amount of each sample is passed through a jaw crusher and thus reduced to fragments of 2 mm size or less. A minimum of 1 kg is then passed through a pulverizer with plates set such that 95% of the product will pass through a 100 mesh screen. Where samples are appreciably heavier than 2 kg the material is split after jaw crushing by means of a Jones splitter. After pulverizing the sample is mixed by rolling on paper and is then placed in a Kraft paper bag.

WEIGHING AND DIGESTION FOR Cu and Mo ANALYSIS

Digestion tubes (100 x 16 mm) are marked at the 5 ml level with a diamond pencil. Tubes are cleaned with hot water and concentrated HCl. 0.5 g samples are weighed accurately, using a Fisher Dial-O-Gram balance, and placed in the appropriate tubes.

To each of the samples thus prepared are added 2 ml of an acid mixture comprising 15% nitric and 85% perchloric acids. Racks of tubes are then placed on an electrical hot plate, brought to a gentle boil (½ hour) and digested for 4½ hours. Samples unusually rich in organic material are first burned in a porcelain crucible heated by a bunsen burner before the acid mixture is added. Digestion is performed in a stainless steel fume hood.

After digestion tubes are removed from the hot plate and the volume is brought up to 5 ml with deionized water. The tubes are shaken to mix the solution and then centrifuged for one minute. The resulting clear upper layer is used for Cu and Mo determination.

MOLYBDENUM DETERMINATION

1. Transfer a 1 ml aliquot of digestion solution into a clean test tube.
2. Add 2 ml of a freshly prepared mixture comprising 1:1 5% KSCN solution and 15% $SnCl_2$ solution.
3. Make up to 10 mls with demineralized water.
4. Add 1 ml isopropyl ether, cork tube and shake for 45 minutes.
5. Estimate Mo content by matching intensity of amber-yellow colour in solvent phase with a standard series.

Standard Molybdenum Solutions

Stock Standard Solution (100 µg/ml) - Dissolve .015 gms of MoO_3 in 5 ml conc. NaOh and make up to 100 ml with demineralized H_2O. This solution must be made up bi-monthly.

Working Standard Solution (10 µg/ml) - Pipette 10 ml of 100 gamma/ml stock solution in a 100 ml volumetric flask and make up to 100 ml with demineralized H_2O.

Molybdenum Standards of Analyses for Soil, Silt & Rock Chip - To 11 clean 16 x 100 mm test tubes marked at 5 ml mark, pipette the following amounts of standard solution:

mls of 10 µg/ml Mo Solution	ppm
0.2	4
0.4	8
0.8	16
1.2	24
2.0	40

mls of 100 µg/ml Mo Solution	ppm
0.4	80
0.6	120
0.8	160
1.2	240
1.6	320
2.0	400

- then make up to 5 ml

To 16 x 150 ml test tubes pipette 1 ml from each of the 11 standards made above. After the standard solution has been added, the following solutions are to be pipetted in the standard tubes.

1) 1 ml of HCl
2) 2 drops of $FeCl_3$ (1% solution)
3) 1 ml of 5% KSCN solution
4) 1 ml of 15% $SnCl_2$ solution
5) Make up to 10 ml with H_2O
6) 1 ml isopropyl ether
7) Stopper and shake for 45 seconds.

Molybdenum Determination in Waters

1) Measure pH of samples with pH meter
2) Transfer 50 mls of sample into 125 ml separatory funnel
3) Add 5 mls dilute(1:1)HCl
4) Add 4 mls of a mixture comprising 1 part 1% $FeCl_3$ solution to 3 parts 5% KSCN solution and shake
5) Add 3 mls 15% $SnCl_2$
6) Add 2 mls isopropyl ether, shake for 30 seconds and allow phases to settle
7) Drain off water layers, retaining organic layer into 13 x 100 mm test tube. Compare with standards.

Molybdenum Standards - Label 10 clean test tubes 0, 4, 10, 16, 20, 40, 50, 60, 70, and 80 ppb, to the respective tubes pipette the following volumes of 1 gamma/ml Mo work solution:

mls of 1 µg/ml Mo Solution	ppb
.20	4
.50	10
.80	16
1.00	20
2.00	40
2.50	50
3.00	60
3.50	70
4.00	80

After the standard solution has been added, the following solutions are to be pipetted into the standard tubes:

1) 1 ml 1:1 HCl solution
2) 2 drops of 1% $Fe_2(SO_4)_3(NH_4)_2SO_4$
3) 2 mls of 15% KSCN solution
4) 1 ml of 15% $SnCl_2$ solution
5) 1 ml of isopropyl ether
6) Stopper and shake for 45 seconds.

COPPER DETERMINATION

The digestion solution is sprayed directly into a Perkin-Elmer 290B atomic absorption spectrophotometer from which the Cu concentration is read on the scale.

Instrument settings are:

Coarse Wavelength Control	280.1
Slit Width	7 A°
Lamp Current	5 ma
Acetylene Flow	14.0
Air Flow	14.0

The instrument is calibrated such that the maximum scale reading corresponds to 20 ppm in solution ie: 200 ppm in the sample. Samples with Cu contents of over 200 ppm are diluted until a reading is obtained on the scale. It is practical to measure concentrations in the range 5 ppm to 1%.

pH MEASUREMENTS

Soil and drainage sediment samples are dampened with water in a glass beaker to a pasty consistency. Demineralized water is used for this purpose as it has a low buffer capacity and thus does not influence the pH of the sample. Measurement is made with a Fisher Acumet pH meter. Electrodes are stored in buffer overnight. A 30 minute warm up time is allowed for the instrument each morning. A 10 ml aliquot is taken from water samples for pH measurement.

APPENDIX II

Kid 1-46 Inclusive

Work done on Kid 1-46 inclusive mineral claims from August 12th to August 21st and September 2nd to September 30th, 1968.

Geochemical Soil Survey	25 miles
Silt and Water Survey	40 locations
Geological Mapping	4 square miles

Geochemical Samples Analyzed
Soil 587 (Cu,Mo pH for every fifth sample)
Silt 40 (Cu,Mo pH for every fifth sample)
Water 40 (Mo pH)

Personnel Employed

W. Lodder, Geologist I/C - 601 - 535 Thurlow Street, Vancouver, B.C.
JE Christoffersen-Senior Assistant-100 Mineola Rd., Port Credit, Ont.
KE Card-Senior Assistant-4337 W 13th Ave., Vancouver, B.C.
JJ Fransen-Junior Assistant-Box 463, Fraser Lake, B.C.
NI Norrish-Junior Assistant-Box 556, Summerland, B.C.

Assessment Work Charges

Salaries

W Lodder	Sept.2-4/68	3 days @ $45.00/day	$135.00
JE Christoffersen	Aug. 12-21/68	7 days @ $21.37/day *	149.59
KE Card	Sept.2-30/68	29 days @ $21.37/day	619.73
JJ Fransen	Sept.12-30/68	19 days @ $14.51/day	275.69
NI Norrish	Sept.2-12/68	11 days @ $13.69/day	150.59
* (3 days staking)		Total	$ 1330.60

Board - 69 man days @ $5.00/day $ 345.00

Helicopter Time

Access to claims and supplying of crew on claims

September 2/68	1 hour @ $210.00/hr	$ 210.00
September 3/68	1.30 hours @ $135.00/hr	202.50
September 4/68	1.30 hours @ $135.00/hr	202.50
September 12/68	1.30 hours @ $135.00/hr	202.50
September 23/68	2.45 hours @ $135.00/hr	371.25
September 30/68	3.30 hours @ $135.00/hr	472.50
		$ 1661.25

R Godfrey

Geochemical Sample Analyses

587 soil samples @ $2.00/sample	$ 1174.00
40 silt samples @ $2.00/sample	80.00
40 water samples @ $2.00/sample	80.00
	$ 1334.00
Report Preparating and Drafting	$ 50.00
Grand Total	$ 4720.85

To be applied for one year on Kid 1-46 inclusive

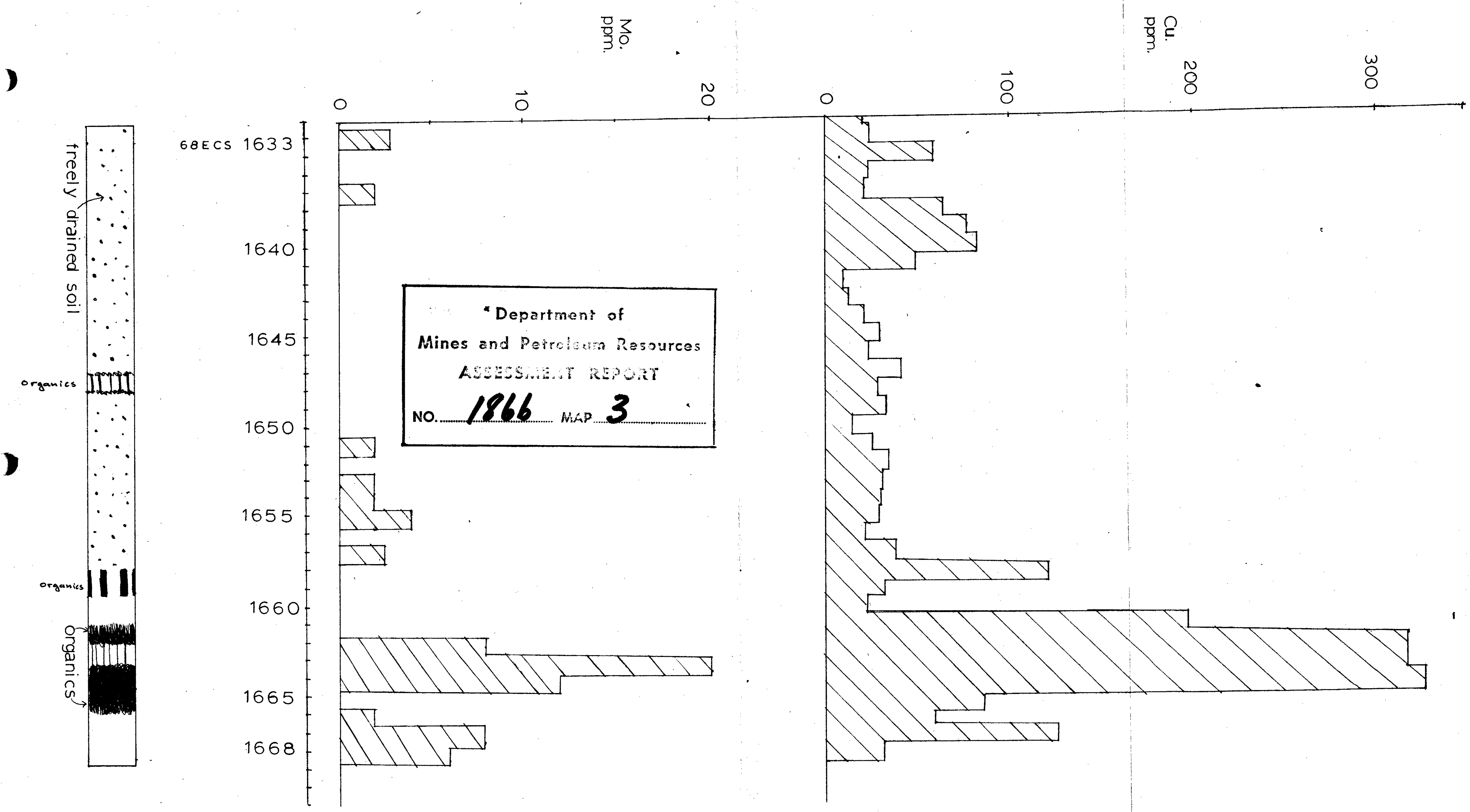
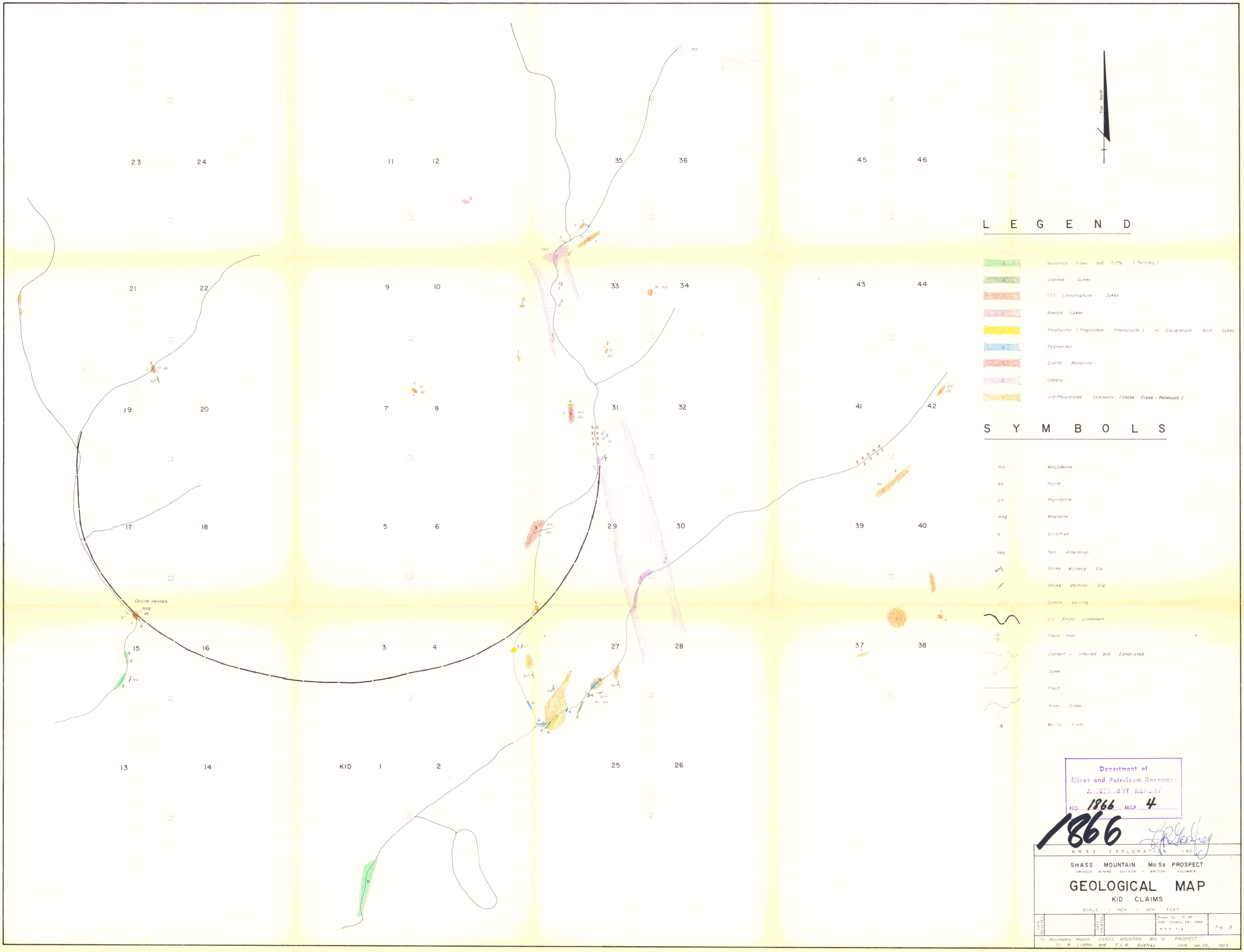
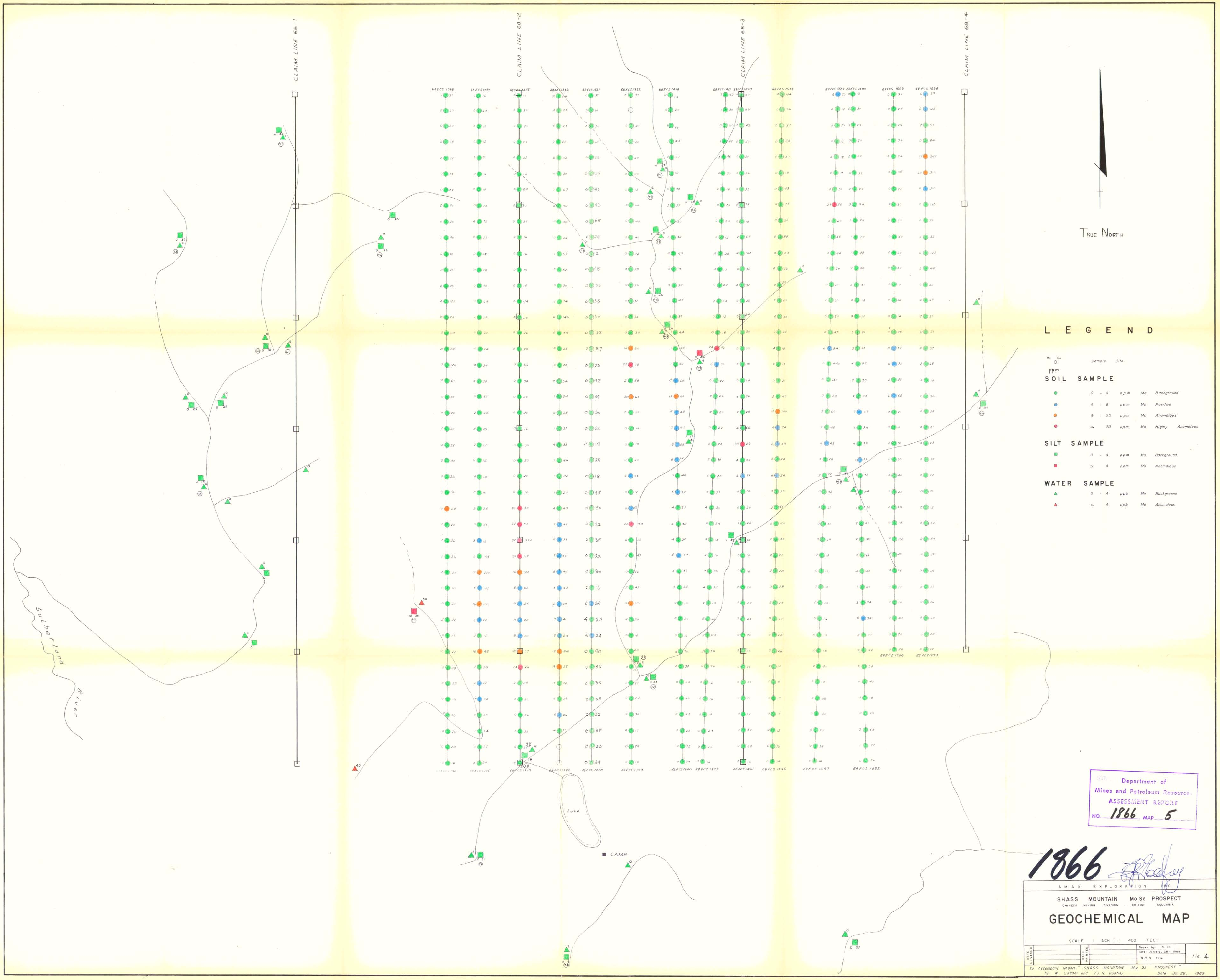


FIG. 5 SHASS MOUNTAIN. Relation between Mo-Cu and poorly drained organic rich soils.

1866



True North
23
24
11
12
35
36
45
46
21
22
9
10
33
34
43
44
19
20
7
8
31
32
41
42
17
18
5
6
29
30
39
40
15
16
3
4
27
28
37
38
13
14
KID
1
2
25
26
talc
Calcite Veinlets
mag
py
LEGEND
9 Volcanics - Flows and Tuffs (Tertiary)
8 Diabase Dykes
7 (?) Lamprophyre Dykes
6 Breccia Dykes
5 Porphyritic (Plagioclase Phenocrysts) to Equigranular Acid Dykes
4 Pegmatites
3 Quartz Monzonite
2 Gabbro
1 Undifferentiated Sediments (Cache Creek - Palaeozoic)
SYMBOLS
mo Molybdenite
py Pyrite
po Phyrrhotite
mag Magnetite
s Silicified
talc Talc Alteration
Strike Westerly Dip
Strike Vertical Dip
Quartz Veining
Air Photo Lineament
Claim Post
Contact - Inferred and Established
Dyke
Fault
River, Creek
Mo S2 Float
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1866 MAP 4
1866
AMAX EXPLORATION INC
SHASS MOUNTAIN Mo S2 PROSPECT
OMINECA MINING DIVISION - BRITISH COLUMBIA
GEOLOGICAL MAP
KID CLAIMS
SCALE 1 INCH = 400 FEET
DATE REVISED
DATE PRINTED
Drawn by N GB
Date January, 28 - 1969
N.T.S. File
Fig. 3
To Accompany Report " SHASS MOUNTAIN Mo S2 PROSPECT "
by W. Ledder and T.J.R. Godfrey Date Jan 28, 1969



CLAIM LINE 68-1
CLAIM LINE 68-2
CLAIM LINE 68-3
CLAIM LINE 68-4
TRUE NORTH
Sutherland River
Lake
CAMP
LEGEND
Mo Cu
Sample Site
ppm
SOIL SAMPLE
0 - 4 ppm Mo Background
5 - 8 ppm Mo Positive
9 - 20 ppm Mo Anomalous
> 20 ppm Mo Highly Anomalous
SILT SAMPLE
0 - 4 ppm Mo Background
> 4 ppm Mo Anomalous
WATER SAMPLE
0 - 4 ppb Mo Background
> 4 ppb Mo Anomalous
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1866 MAP 5
1866
AMAX EXPLORATION INC.
SHASS MOUNTAIN Mo S2 PROSPECT
OMINECA MINING DIVISION - BRITISH COLUMBIA
GEOCHEMICAL MAP
SCALE 1 INCH = 400 FEET
DATE REVISED
DATE PRINTED
Drawn by: N. GB
Date: January, 28 - 1969
N.T.S. File
Fig. 4
To Accompany Report " SHASS MOUNTAIN Mo S2 PROSPECT "
by W. Lodder and T.J.R. Godfrey Date Jan 28, 1969