823147

DEWAR CREEK PROJECT

1972

Submitted by:

Fred Chow,
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SUMMARY AND CONCLUSIONS

During the Dewar Creek project in 1971, three groups of claims called the Mc 1-4, Nine Lake 1-84 and the Doc 1-6 were staked. These covered a Cu-Zn-Pb sulphide showing, an anomalous Zn silt geochemical area, and a galena occurrence with exceptionally high Pb soil geochemical values. The Cu-Zn-Pb sulphide showing is a 1.5-foot shear located at the initial posts of the Mc 1-4 claims. The silt samples containing up to 500-1000 ppm Zn were obtained from the drainages into Nine Creek and Greenland Creek. The highest geochemical areas are located on Nine Lake # 7 on Nine Creek, and claims 1, 2, 4, 49, 60, 61, 67 and 72 on both sides of Greenland Creek. A 1000 ppm Pb anomaly with values up to 3000 ppm Pb lies on the six Doc claims and covers an area approximately 3000 feet by 4000 feet downslope from the quartz-galena mineralization in argillitic rock.

In 1972 a combined exploration programme including mapping, magnetic and electromagnetic surveys and soil sampling was conducted to evaluate the three olaim blocks. Each programme totalled approximately 30 line-miles of survey. The work was done by four men during the period between June 29th and August 31st.

Geological mapping and prospecting did not uncover any important evidence for an economic mineral deposit on the Mc and Nine Lake claims. Galena mineralization on the Doc claims was found over a larger area than previously observed.

The geophysical survey outlined four coincident Mag. - E.M. anomalies, plus several separate ones on the Mc and Nine Lake claims. All the prominent magnetic and electromagnetic anomalies reflect small, narrow, near-vertioal bodies buried at a shallow depth.

Results from geochemical soil sampling over the geophysical anomalies did not indicate any hidden Cu, Zn or Pb deposits. Although numerous high geochemical assays, especially zinc, were obtained, their anomalous values were not judged to be significant.

Recent reviews of the geophysical surveys prompted geochemical tests for tungsten to be done on soil samples over a Mag. - E.M. anomaly on the Nine Lake claims. The results showed unusually high tungsten content in the soils on claims 1, 3, 57, 61 to 68 inclusive, and 71. Anomalous tungsten values of 100 ppm W or greater occur over an area approximately 3000 feet by 6000 feet. Numerous samples assayed 400 ppm W. The possibilites for economic tungsten mineralization are being investigated.

Prospecting on the Doc claims indicated several locations of galena mineralization plus a rough outline of the favourable argillitic rock formation on Doc # 2 claim. The outcrops expose low-grade (about 0.8% Pb) galena mineralization in bedded and veined quartz. Further work is required to assess the potential of the Doc claims.

RECOMMENDATIONS

It is recommended that investigation and research be carried out for possible economic tungsten mineralization on the Nine Lake claims north of Greenland Creek. Bulldozer stripping should be used as a first step in this investigation to be followed by diamond drilling if warranted.

It is further recommended that prospecting, additional soil sampling, and three I.P. test lines be carried out in the area of the large Pb anomaly on the Doc claims.

The Mc claims and the Nine Lake claims south of Greenland Creek should be allowed to lapse.

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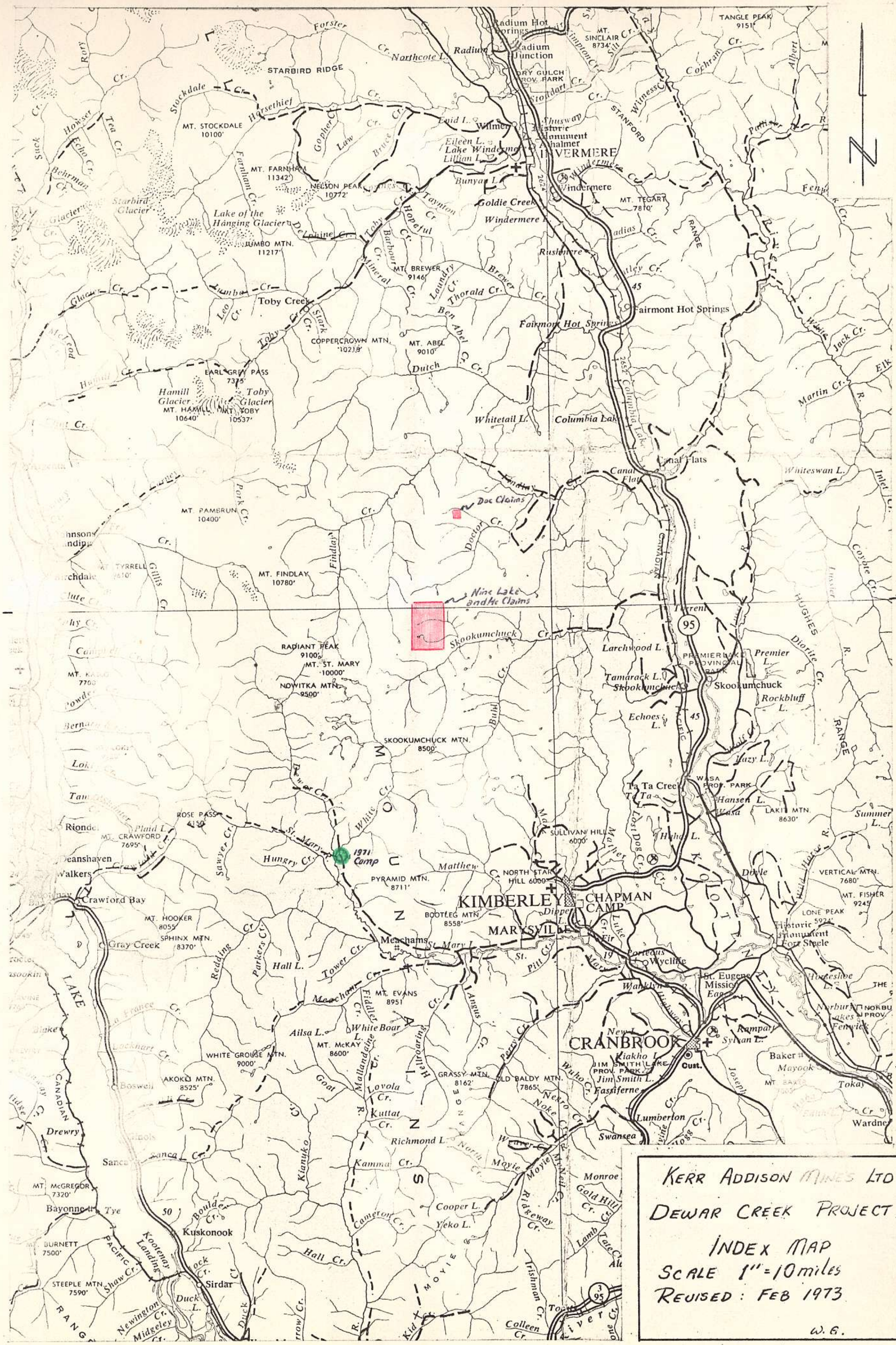
KERR ADDISON MINES LTD
DEWAR CREEK PROJECT, B.C.
INDEX MAP
SCALE 1" = 10 miles
REVISED: FEB 1973
W.G.
Doc Claims
Nine Lake and Hc Claims
1971 Camp
KIMBERLEY
CRANBROOK
INVERMERE
50°

Figure 1

INTRODUCTION

A total of 94 mineral claims were staked in three blocks, based on geochemical anomalies and/or mineral finds, during the 1971 Dewar Creek project. These claims include the Mc Nos. 1-4 and adjoining Nine Lake Nos. 1-84 mineral claims in the Dewar Creek map area, Fort Steele M.D., plus the Doc Nos. 1-6 mineral claims in the Finlay Creek map area, Golden, M.D.

Follow-up work was recommended by the writer on the Doc and Mc groups, plus 47 claims on the Nine Lake group. A combined programme of geological mapping, electromagnetic surveying, magnetic surveying and soil sampling was carried out on the claims during the period between June 29 th-August 31, 1972. Four men were employed during the season. Each type of survey covered about 30 line-miles.

Six campsites were selected for operation bases and the camps were moved by helicopter. This plan provided for efficient coverage of the large, mountainous area, and minimized unproductive walking time.

The field work commenced at a late date because of the slow spring break-up. The programme was hampered by deep, wet snow covering most of the survey area. Winter snowfall at the end of August forced a cut-back on the programme for the Doc group of claims.

Assessment work filed on the three claim groups are as follows :-

Geological and Geochemical Surveys on Doc 1-6 MCs

Magnetic and Geochemical Surveys on Mc 1-4 MCs

Geochemical Survey on Nine Lake Nos. 1-4 inc., 6, 8, 10-12 incl., 25, 26, 28, 30, 32, 34-38 incl., 41-46 incl., 49-51 incl., 61-68 incl., 70, 74, 76 and 78 MCs (40)

A total of 50 mineral claims are kept in good standing until August and September of 1973.

MC AND NINE LAKE MINERAL CLAIMS

A. GEOLOGY (Map # 1)

Mapping was confined mainly to outcrops observed along the grid survey lines. Within this area, outcrop covers approximately 12% of the area and talus about 15%. The remaining ground is believed to be mostly float covered, under a relatively thin layer of soil.

The claims are underlain by the Lower Aldridge quartzite formation. These rocks are intruded by the Moyie diorite sills which occupy about a quarter of the thickness of the rock formations. A pegmatite mass intrudes the formation about the centre of the eastern property boundary. Satellitic plugs and dykes of pegmatite occur within 3,000 feet of the main mass. This assemblage of rocks lies within an embayment of the White Creek Batholith which borders the south and east side of the property.

The area lies on the crest of a regional anticline. Rocks between Greenland Creek and the Batholith have been compressed into isoclinal folds, with much drag folding and faulting. Axes of the isoclinal folding is northerly. Faulting is northsouth and eastwest. Latest faulting occurred after emplacement of the pegmatite. Evidences of this are angular pegmatite blocks folded within quartzite at a fault at STA. 45 + 90 NE on line 18 NW. The sediments generally strike northeast to northwest and dip gently east or west. Sediments north of Greenland Creek do not show much disturbance and they trend east-west and dip northward.

Quartzites are light to medium grey, grey or rusty weathering, thin-bedded, medium to fine-grained, and often sericitic. Alteration of the quartzite to quartz-mica schist or quartz-chlorite schist occurs at intrusive contacts, also along fault zones.

Moyie Intrusions vary in composition from a light coloured quartz diorite to a dark coloured gabbroic rock. The rock is usually medium grained but is commonly fine grained in the narrow sills. Hornblende is the main mafic mineral, biotite is often abundant along borders, and chlorite plus calcite is often present. The latter two minerals may represent alteration and reaction with the bordering sedimentary rocks.

Pegmatites are simple in composition, consisting essentially of feldspar and quartz, with well crystallized black tourmaline and tabs of muscovite.

Quartz Monzonite and Prophyritic Quartz Monzonite rocks of the White Creek Batholith are fresh-looking. Their contacts with the sediments lie somewhere along or south of Nine Creek, within the southern claim boundary, but was not seen. One piece of monzonite float was found on the north bank of the creek.

B. MINERALIZATION

Prospecting in 1971 located a small shear containing pyrrhotite, sphalerite, chalcopyrite, arsenopyrite and galena on the Mc claims. On the Nine Lake claims, calcite-quartz veins and stringers are commonly found in Moyie sills, some with minor chalcopyrite, galena, sphalerite, pyrrhotite and pyrite. These are isolated occurrences and generally are located at the contacts with the sedimentary rocks.

During the 1972 exploration work, no new mineralization was found on the Mc claims. On the Nine Lake claims, quartz veins of the above mentioned type were noted to occur within the pegmatite dykes. Mineral claims 1, 4, 74 and 75 showed the greatest number of quartz vein occurrences, though the amount and the mineralization are not significant. Similar mineralization was not found with the quartzite formation.

MC GROUP

A. MAGNETIC SURVEY (Map # 2)

The magnetometer survey covered an area approximately 1,300 feet (NW-SE) by 800 feet (NE-SW), centred around the sulphide showing, and totalling 5,900 lineal feet. Lines were spaced 200 feet and 100 feet apart, with stations chained and flagged every 100 feet. Readings were taken at each 100-foot station, also at 25 and 50-foot intervals over the magnetic anomalies. A Sharpe MF-1 magnetometer was used on the survey.

Three NS linear magnetic anomalies lying in echelon, parallel and close together were located on claim MC # 1, about 450 feet NW of the sulphide showing (Initial Post). These are short, narrow features with values of 1,100, 1,200 and 1,700 gammas. Two smaller, round-shaped anomalies with values of 1,600 end 1,900 gammas were located about 250 feet SE of the sulphide showing.

Profiles of the anomalies indicate narrow (30 - 40 feet), flatly dipping (Westward), shallow structures with the greatest magnetic mass down dip. Calculations based on the "horizontal slab formula" gave a magnetic mass containing 0.066% magnetite or 5.0% pyrrhotite equivalent in the 1,200 gamma anomaly (A). The other magnetic bodies range from 0.099% to 0.355% magnetite (7.1 to 27.5% pyrrhotite) content. (The depth of burial to the top and to the centre of the mass were not used in the calculations).

The sulphide showing was not detectable, probably due to an insignificant mass.

B. E.M. SURVEY (Map # 3)

A Crone C.E.M. unit was used on the electromagnetic survey. Readings were taken over the 100-foot stations at 200-foot coil separation, on the 1830 Hz frequency. Line 6N was re-surveyed using a 300-foot coil separation.

A N-S linear E.M. anomaly was located over the northorn half of magnetic anomaly "A". The lowest negative reading (-14^{o}), located on Line 4N/2W, coincides with the magnetic centre. The E.M. anomaly crosses line 6N at station 2W and shows readings -7^{o} and -11^{o} on 200 feet and 300 feet coil spacing respectively. The magnetics show background values over the E.M. anomaly with a narrow magnetic anomaly 125 feet to the west.

Using Crone's depth calculation, the depth to the top of the conductor is 50 feet at the centre and about 75 feet on Line 6N. The dip of the conductor changes from about 10^{o}W to 45^{o}W on the two lines.

The coincident Mag and E.M. anomaly is believed to be caused by magnetite and pyrrhotite mineralization. Variations of the magnetite and pyrrhotite content, down dip and along the N-S structure, could cause the offset Mag. and E.M. features on the west.

No conductive mass was detected over the sulphide showing. A slight increase in conductivity occurs south of magnetic anomaly "D" (SE of BL 00/1S).

C. GEOCHEMICAL SOIL SURVEY (Map Nos. 4A, 4B and 4C)

The soils contain a low content of Cu, Zn, Pb and As. Lead was the only anomalous element, found only in three samples, and all within 100 feet of the sulphide showing. For reasons unknown, the sample taken directly above the sulphides assayed low - 90 ppm Cu, 115 ppm Zn, and 200 ppm Pb. Lead background value is 23 ppm and the highest assay is 2,500 ppm Pb.

Geochemical contour maps of the four elements do not show any metal concentrations except a weak 50 ppm Pb contour extending 75 feet around the shear zone.

D. CONCLUSIONS

The geophysical surveys outlined several small magnetic anomalies and one E.M. anomaly. The latter is coincident with one of the magnetic anomalies. Profile plotting indicates narrow bodies buried at shallow depths. The geophysical anomalies indicate a shallow source but the lack of significant geochemical response together with the limited extent of the geophysical anomalies, militate against further investigation of these targets.

NINE LAKE GROUP

A combined survey involving magnetic, electromagnetic, geochemical soil sampling, and geological mapping was conducted on 44 claims of the Nine Lake group. Grid lines were spaced at 400-foot centres with stations 100 feet apart. Base lines were established on claim location lines and tie lines placed where necessary. Grid lines were slashed out, blazed, flagged and marked with coloured flagging at 100-foot invervals. Approximately 30 line miles were surveyed.

A. MAGNETIC SURVEY (Map # 2)

A Sharpe MF-1 magnetometer was used on the survey. A general increase in magnetic intensity occurs from south to north and west to east on the property. The variance in the background is about 200 gammas. No definition of the assumed contact along Nine Creek between the White Creek Batholith and the Aldridge quartzite formation was observed. The other three rock types cannot be distinguished by magnetics. Generally speaking, the magnetic mineral content of all the rocks is low and small concentrations occur in an irregular pattern. The area north of Greenland Creek shows the greatest megnetic "action".

All the magnetic anomalies are located in the northern half of the surveyed area, straddling Greenland Creek. They are lenticular features, more or less parallel te the flatly dipping rock formations. Nearly all the magnetic profiles depict near-vertical narrow bodies. This would indicate that concentrations of the magnetic minerals are occurring in fault or shear zones rather than in strata-bound formations. The "sharp" magnetic anomalies detected over gently dipping diorite sills and diorite quartzite contacts would mean that high concentrations of magnetic minerals occur only to a limited depth. Most of the magnetic anomalies occur in quartzite covered areas, though underlying diorite sills may not be far below. These anomalies are located on claims 2, 3, 30 and 74 (Lines 16-21 NE), on claims 1 and 3 (Lines 27-29 NW), on claims 61-64 (Lines 28-30 NW) and on claim 68. The latter is a 1,100 gamma-high anomaly located at Line 33NW/34NW, and was found to be caused by a near-vertical, 10 feet to 25 feet wide, basic dyke containing 5% pyrrhotite with probably finely disseminated magnetite. The cause of the other anomalies, ranging from 100-500 gammas, were not determined by field observations because of overburden and absence of mineralization.

Magnetic anomalies occurring over diorite sills are located on claims 66 and 61-64. The anomalies range from 100-700 gammas, with most magnetic highs above the diorite-quartzite contact. These anomalies are attributed to magnetite which is known to occur in iselated concentrations within the diorite.

B. E.M. SURVEY (Map # 3)

A Crone C.E.M. unit was employed using the horizontal shootback method, on 1830 Hz frequency, and with 300-foot coil spacing. Check readings were obtained on the 390 Hz frequency. Tests were conducted with different frequencies on a 600-foot spread, but the work was not completed due to electrical storms at the end of August.

In general, E.M. response is greater in the areas of higher magnetics. The E.M. anomalies also depict narrow, near-vertical and lenticular features similar to the magnetic anomalies. There are a few coincident E.M. - Mag. anomalies. All the E.M. anomalies are considered small, weak conductors. The conductive bodies range in width from 30 feet to 50 feet, with dip angles varying from -4^{o} to -10^{o} and $+4^{o}$ to 16^{o}.

a) Coincident Mag. and E.M. Anomalies

There are three targets or areas which show coincident Mag. and E.M. anomalies. These are located on claims 1 and 3 along the north side of Greenland Creek, NW on claims 61-64 (Lines 27 to 29 NW), and further north on claim 68 (Line 33 NW/Sta. 34 NW).

The first anomaly (claims 1 and 3) shows positive dip angles of $+10^{o}$ to $+20^{o}$. The ratio of low/med (390/1830 Hz) frequencies are 1:1 approximately. E.M. profiles indicate a narrow, near-vertical conductor buried at a shallow depth. On the E.M. map the $+6^{o}$ contour forms a lens-shaped figure 150 feet x 1,300 feet long. A weak 100-gamma magnetic anomaly coincides with the E.M. anomaly. The conductor may be caused by pyrite with pyrrhotite, the latter giving the magnetic response. The structure is possibly a fault or shear parallel to the strike of the sediments.

The second anomaly (on claims 61-64) also shows positive dip angles. On plan, it is irregular in shape and is surrounded by small negative E.M. features. The higher dip angles range from $+8^{o}$ to $+15^{o}$. The ratio of low/med frequencies is about 0.5 : 1. The E.M. anomaly lies over a diorite sill which outcrops at the common corner of claims 61, 62, 63 and 64, and extends on strike of the sill. The magnetic anomalies occur along the diorite-quartzite contacts and also over the quartzite. At line 27 NW / 25+50 NW, the $+12^{o}$ E.M. reading is over a magnetic low or negative, which may be the results of reverse polarity. The E.M. profiles indicate narrow, near-vertical conductors except on Line 28 NW a broad $+8^{o}$ dip angle is spread 600 feet across a diorite sill. The cause of the latter response is unknown. A combination of pyrite, pyrrhotite and magnetite mineralization may be the cause of the conductive and magnetic anomalies. As in the case of the first E.M. anomaly, the structure(s) would have to be a fault, shear or sill running parallel to the strike of the flatly dipping Aldridge and Moyie rocks.

The third coincident Mag. and E.M. anomaly is located on claim 68. It is discussed under magnetic Survey (page 10). A $+8^{o}$ E.M. reading was obtained over the 1,100 gamma anomaly. A speck of chalcopyrite was seen in the outcrops over the area.

b) Other E.M. Anomalies

The remaining ground south of Greenland Creek shows relatively low conductivity. A moderate change in conductivity occurs on claims 34, 42 and 44 (Line 12 to 15 NE). There are three small negative anomalies with dip angles ranging from -5^{o} to -10^{o}. They exhibit

features of narrow, lenticular, conductive bodies which are weakly magnetic (60 to180 gammas). The anomalies may be caused by weak pyrrhotite mineralization within narrow zones. No evidence of this was noted.

A few small quartzite outcrops were found in the area. Small pegmatite dykes and diorite sills appear to intrude the quartzites along the southwest side. The large pegmatite mass borders the northeast edge.

C. GEOCHEMICAL SOIL SURVEY (Mep # 4A, 4B and 4C)

Soil samples were taken at 200-foot intervals along the grid lines. Greater invervals were used where terrain dictated such as talus slopes, rock outcrops, and swampy ground. The samples were taken from the top of the "B" horizon when available. Along steeply sloping hillsides and open cirques, the existence of each horizon is doubtful. Profile sampling was conducted at selected locations to evaluate and compare the metal content of each soil horizon. All the samples were analyzed for total metal content in copper, zinc and lead. A group was analyzed for tungsten and a chosen number were tested for arsenic.

Most of the profile samples showed lower metal content in the "A" horizon, higher in the "B" horizon and slightly higher again in the "C" horizon soil. For the purpose of locating an anomalous geochemical zone the "B" horizon sampling was the logical choice.

The regional exploration programme in 1971 located a large area containing anomalous zinc values in the stream silt sampling of the Greenland Creek drainage system. Copper and lead content was low. The exploration work in 1972 was directed towards the area which showed the highest geochemical values.

The results of the soil survey indicated two moderately anomalous Cu-Zn zones and one definitely anomalous zinc anomaly within the Nine Creek drainage. Also, several moderately anomalous zones with definitely anomalous zinc values around the Greenland Creek drainage area. Copper and lead values are usually low within the Greenland Creek drainage. Arsenic geochemistry on a low conductive area (claims 32, 42 and 44) did not indicate base metal mineralization.

Tungsten analyses were done on above mentioned area and over one coincident Mag. and E.M. anomaly (claims 1 and 3), where Cu, Zn and Pb geochemistry showed only background values. Moderate to definitely anomalous W assays were obtained.

For analysis of the geochemical soil survey, the following values were used:

	ppm. Cu	ppm. Zn	ppm. Pb	ppm. W
Background Range	0- 50	0-125	0- 25	0- 25
Threshold Range	50-150	125-250	25- 75	25- 50
Weakly Anomalous	150-200	250-375	75-100	50-100
Moderately Anomalous	200-250	375-500	100-125	100-150
Definitely Anomalous	>250	>500	>125	>150

C. GEOCHEMICAL SOIL SURVEY

a) Copper Geochemistry (Map # 4A)

The distribution of Cu values in the soil form small, isolated geochemical highs with moderately to definitely anomalous assays. Two moderately anomalous Cu zones are located on the south side of Nine Creek on claims 5, 6, 7, and 8, and on claims 10 and 12.

The first one forms a closed 200 ppm Cu anomaly with definitely anomalous assays, though lacks extremely (1000 ppm plus) high values to be classified as important. It trends 1,400 feet east-west, with a downward dispersion of 200 feet to 600 feet into Nine Creek.

The second Cu geochemical high shows a moderately anomalous zone open towards the south and east. Highest Cu assays occur upslope of the zone. Moderately to definitely anomalous Zn assays coincide with the Cu values.

The east-west trend of the 50 ppm Cu contour suggests the hidden trace of the White Creek Batholith and Aldridge sediment contact. Neither the Pb nor the Zn values indicate a change of rock types. Metal dispersion is normal with the Cu assay contours cutting the topographical contours at a slight angle downhill.

Quartz monzonite float and talus rock cover a large portion of the surveyed area south of Nine Creek. Areas shown as over-burden on the geological plan contain abundant monzonite float above and below the surface. No quartzite or diorite was seen. On the north side of the Nine Creek only one piece of monzonite float was noted. The White Creek Batholith outcrops immediately south of the survey grid. No sulphide mineralization was found amongst the talus and the quartz monzonite float was fresh and barren looking.

The geochemical anomalies are likely caused by Cu and Zn mineralization along the intrusive sedimentary contact. Mineralization occurring within the multi-phase batholith is possible, although no sulphide mineralization has been recorded in the past. Silt samples taken along Skookumchuch Creek on the south side of the monzonite ridge showed slightly above background values.

b) Zinc Geochemistry (Map # 4B)

The soils within the Nine Creek drainaga showed a much lower zinc content than those within the Greenland Creek drainage. There is only one zinc anomaly of interest in the first area and several in the second area.

On the north slope of Nine Creek, one zinc anomaly with high assays occurs on claims 26, 35 and 37 on Line 7A NE. It forms an 800-foot circular anomaly with zinc assays up to 1,100 ppm. One of the samples

contained 1,450 ppm Pb but the others were below lead background (25 ppm) values. One high Cu sample is located uphill and one downhill from the zinc anomaly.

The anomaly straddles a ravine, its long axes parallel to the topographical contour; thus suggesting a NE-SW zone of mineralization. Most of the anomaly lies on the south-west side of the ravine which is covered by overburden and pegmatite with diorite talus. On the uphill side, a pegmatite mass intrudes the Aldridge quartzite and Moyie diorite sills. The anomaly appears to lie across a section of the rock contacts where the greatest disruption of the sedimenta and sills occurred. The source of the zinc is probably traceable to the tongues of pegmatite dykes. Without correspondingly high Cu and/or Pb values the zinc anomaly is a weak target.

Similar zinc highs occur on the northwest corner of claim 41 (Lines 16 and 17 NE) near Greenland Creek. Again, it is not regarded as a potential target.

Upstream in Greenland Creek and on the south side several zones with definitely anomalous zinc values are outlined on claims 1, 2, 30, 74, 76 and 49. The trend of each anomaly is northwest along the general strike of the sediments and sills. Their locations line up in a northeast direction. The geochemical dispersion appears to follow local drainages (NW-N) rather than downslope towards the N-NE. The most impressive anomaly is the larger one on claims 2, 49, 74 and 76, measuring 400 feet to 600 feet wide by 2,000 plus feet long, with assays higher than 1,000 ppm Zn. Copper values form small, scattered, moderate anomalies located slightly uphill. Lead goechemical assays are low.

The zinc anomaly lies over an area occupied largely by a diorite sill. A small number of quartz veins with minor pyrite, chalcopyrite, pyrrhotite and sphalerite were found within the diorite sills. These veins are short (50 to 60 feet) and narrow ($\frac{1}{2}$" to 6") veinlets which have a northwesterly strike and a variable dip. A basic dyke was found at the east end of the anomaly (Line 20 NE/45 NE). No sulphides were noted but the soil samples contain highly anomalous Zn, moderately anomalous Cu, and weekly anomalous Pb values.

The trend of the Zn anomaly follows a narrow band of quartzite in diorite rather than on strike with the basic dyke. Westward projection of the quartzite band would intersect Line 23 NE @ Station 46NE where the definitely anomalous zinc values occur again.

Minor sphalerite mineralization along the contacts of the narrow quartzite band with the diorite sill is the probable cause of the zinc soil anomaly. The ratios of Zn to Cu and Pb assays suggest occurrences of this type, based on previous seasons' work.

Many small zinc anomalies are outlined on the north side of Greenland Creek towards the northwest corner of the surveyed area. These are moderately anomalous zinc highs located on NW Lines 28, 30, 31 and 32, within claims

61, 63, 68 and 71. The Cu content in the soil is low but the Pb content is weakly to moderately anomalous. The anomalous zones occur along a northwest line following the creek. The geochamical dispersion appears to be downslope from several metal sources along a NE-SW line.

The anomalous area is underlain chiefly by Aldridge quartzite and bounded by thick Moyie diorite sills whcih strike about N60°E and dip 25° to 30° northwest.

The sources of the anomalies are likely from scattered occurrences of sphalerite in fractures along a probable fault parallel to the small southeasterly flowing creek (?)

Another possible fault along Greenland Creek may best explain the abrupt change in geochemical values on either side of the main drainage.

c) Lead Geochemistry (Map # 4C)

Anomalous Pb values form small isolated highs within the area (see Map 4C), but are not significant Pb anomalies. In all cases, they are directly related to the zinc anomalies.

Although the area north of Greenland Creek shows some magnetic and electromagnetic response relative to the rest of the property, the lack of subordinate geochemistry and absence of favourable mineralization do not provide much evidence for a Cu, Zn or Pb deposit.

d) Arsenic Geochemistry (Map 4, 5th assay)

A selected number of soil samples from Line 12 to 15NE were tested for As content. This was done to evaluate the low negative EM anomalous area which gave no Cu, Zn or Pb geochemical targets. Results were negative.

e) Tungsten Geochemistry (Map 4, 4th assay)

Tungsten geochemistry was first applied to the area mentioned in the previous paragraph when negative results were obtained for base metal mineralization. Also, the Skookumchuck Creek area contains several tungsten occurrences. Two of these are located about 1.5 miles and 2 miles southeast, and both have been explored by diamond drilling.

Tungsten analyses were conducted on all samples over and surrounding the target areas (Line 8NE to 19NE inclusive) to provide background values for evaluation. The results showed weakly (50 - 100 ppm W) to moderately (100 - 150 ppm) anomalous values, indicating small isolated zones of tungsten mineralization, and not significant enough for further exploration.

Re-assaying of soil samples for tungsten content was done in January 1973, over the area showing a coincident E.M. and Mag. anomaly on claims Nine Lake 1 and 3. This anomaly occurs in a low (Cu-Zn-Pb) geochemical area, and was believed to be caused by pyrite and pyrrhotite in a fault or shear zone. The possible association of scheelite with pyrrhotite prompted the re-evaluation of the E.M. - Mag. anomaly.

Results from the tungsten analyses showed moderately to definitely (> 150 ppm) anomalous values with the zone open to all sides. Consequently, further re-evaluation of the soil samples was continued step-by-step. To date, samples within an area 5,000 feet long by 1,600 feet wide, north of Greenland Creek have been re-examined for tungsten. Approximately 50% of this area showed 100 plus ppm W in the soils. Tungsten values classified as definitely anomalous ($\geq$ 150 ppm W) form five anomalies; the smallest measuring 400 feet x 1,400 feet and the largest averaging about 1,200 feet wide x 1,800 feet plus long (open east and west). Two of these anomalies contain values between 200 - 300 ppm W, and the other three contain values between 400 and 450 ppm W. The geochemical trend is NE-SW, parallel to the rock formations, but there is also a probable NW-SE trend at 90° to the one above.

Presently, rock geochemistry is being conducted to find the true source of the tungsten mineralization. Further re-assaying of the samples collected during the 1972 season is planned. Tungsten analysis on selected silt samples collected around the periphery of the Greenland Creek drainage, during the 1971 field season, is proposed. Other Mag. and E.M. anomalies may warrant re-checking for tungsten values.

The underlying rocks in the area are gently dipping Lower Aldridge quartzites with accompanying Moyie diorite sills. Other intrusive rocks nearby are small pegmatite outcrops $\frac{1}{2}$ mile on the east plus the large pegmatite mass located one mile southeast. The contact of the White Creek Batholith forms an irregular semi-circle around the east and south side, about 1.5 to 2 miles from the tungsten area.

Rocks in the immediate area of the anomalous tungsten soils are not noted for tungsten mineralization. Calcite was found only in Moyie diorite sills but similar carbonate mineralization was found elsewhere in the Dewar Creek Project area. The diorites often contain a high carbonate content (vigorous reaction with HCL). This was often noted in metamorphosed diorite where the rock assumes a medium green colour. The formation of tungsten minerals, notably scheelite may derive from this source. Whether scheelite mineralization is a common occurrence with all metemorphosed diorite sills is unknown.

In summation, the geochemical anomalies outlined by the survey are not considered potential targets for a Cu, Zn and/or Pb deposit. The possibilities for economic tungsten mineralization will be investigated.

D. CONCLUSION

The combined survey (mapping, E.M. and Mag.) of the Nine Lake claims to investigate the cause of the anomalous zinc silt samples and to locate hidden base metal deposits did not show positive results.

The geophysical surveys picked up three coincident Mag. and E.M. anomalies plus several individual anomalies. All the anomalies indicated near-vertical and narrow features. The profiles reflect near-surface, magnetic and/or conductive bodies. These locations do not show anomalous Cu, Zn, or Pb values in the soils. One must conclude that the geophysical anomalies do not represent hidden deposits of Cu, Zn or Pb mineralization.

The geochemical survey showed low Cu-Pb and high Zn content in the soils. Numerous zinc soil anomalies were outlined, some with anomalous Pb and/or Cu values but the latter two elements were generally not significant. Only one zinc anomaly covered a large area. Although definitely anomalous values were outlined over a wide zone, its potential was discounted because of visible Cu-Zn quartz veins, probable sphalerite mineralization in a narrow quartzite band bounded by diorite, and no magnetic or electromagnetic anomaly.

Recent tests on tungsten geochemistry carried out by re-assaying the samples, showed unusually high tungsten content in the soils. Further investigation is required to assess the situation. This is now in progress.

DOC GROUP

Four days were spent during the end of August on the property. Prospecting, mapping and soil sampling were conducted on the Doc Nos. 1 and 2 claims. E.M. and Mag. field tests over the mineralized area failed to show any response. An I.P. survey was conducted during the end of September but the results were poor because of the difficulty in grounding power electrodes in rocky, frozen ground.

A. GEOLOGY (By Werner Gruenwald) (Map # D3)

The Doc mineral claims occupy part of the Purcell Upper Aldridge unit near the Creston formation contact. Three rock types were delineated; two being variations of the Upper Aldridge, the third being altered diorite dykes (Moyie). The lower sequence of the Upper Aldridge consists of brown to greenish argillaceous quartzites and quartzites, while the overlying sequence is a grey to black limonite bearing argillite and argillaceous quartzite (biotite and sericite rich). It is this upper sequence which contains the lead bearing quartz veins.

The mineralized area is located in the northwest portion of Doc # 2 where the rocks, as most elsewhere, strike north-northeast and dip 15^{o} to 30^{o} NNW except in areas of localized folding. Also located in the northwest portion of Doc # 2 are a number of Moyie diorite dykes (?) which have been altered to chlorite and contain small calcite veinlets and minute cubes of pyrite.

In the area of the black argillites, mineralized quartz veins are fairly abundant. The veins are of two distinct types; one being a bedded type with straight to irregular contacts and thicknesses of 1/16" to 3". The other is a crosscutting type which trends $N45^{o}W$ and dip nearly vertical. Thicknesses of these range from 1" to 14" with the average being approximately 8". The bedded veins have the simplest mineralogy consisting of milky white quartz, galena and the occasional wall rock fragment while the crosscutting veins contain quartz, galena, chalcopyrite ($< 1\%$), malachite and azurite.

Small amounts of greenish-yellow stain (pyromorphite?) were observed on weathered surfaces and in solution voids as well as minor limonite and carbonate.

In all veins the galena was fine to medium grained and cleavage was not well developed; those observed were usually curved which might indicate deformation. The sulphide mineralization is not very massive, the maximum sulphide content being about 25%,with the bedded veins generally having the higher sulphide content.

The following sequence probably took place:-

a) Solutions moving along bedding planes occasionally breaking off bits of wall rock.

b) Quartz forming in fractures and around fragments with galena forming soon after.

c) Second stage of fracturing allowing crosscutting veins to form with quartz crystals and voids in some places.

d) Later solutions depositing galena and chalcopyrite in void around crystals.

e) Fracturing and deformation of quartz veins and galena.

f) Solution and formation of alteration minerals.

B. GEOCHEMICAL SOIL SURVEY (Map #D4A-B-C)

The additional soil sampling done on claims 1 and 2 extended the Pb geochemical anomaly 1,000 feet southwest. The 1000 ppm Pb geochemical anomaly now has a width of 700 - 1000 feet and a length of about 4200 feet. Soils containing 2000 plus ppm Pb occupy over 50% of the above anomaly. The anomalous area covers almost the entire area of claims 2, 4 and 6 along a NE-SW trend. The known mineralization at the top of the ridge will undoubtedly disperse the metal further down the north and south slopes (see also Map # 25C, Dewar Creek project 1971).

Geochemical dispersion is affected by mechanical and chemical means. In this situation it is more pronounced because of the steep topography plus the drainage pattern. However, the geochemical anomaly on claim # 2 is directly over the mineralized area. The anomaly straddling claims 4 and 6 could easily be caused by the same source.

The geochemical dispersion does not indicate that the mineralization would extend much beyond the southwest corner of claim # 2. Fill-in soil sampling and/or prospecting plus trenching may show whether the anomaly on claims 4 and 6 is strictly a secondary dispersion train.

C. CONCLUSIONS

The limited amount of field work done in 1972 did not provide enough information to add to or further assess the potential of the lead mineralization.

Galena was found to occur in beds and veins within argillitic rocks of the Upper Aldridge formation, probably at the topmost horizon as the contact of the younger Creston formation is nearby. The mineralization occurs within an area roughly 800 feet x 600 feet in extent.

The results of the additional soil samples verified the projected geochemical dispersion of Pb downslope from the ridge top. The anomalous Pb values on claims 4 and 6 are likely due to secondary dispersion, though a second source is not ruled out.

The Doc claims remain a good hunting ground for a lead deposit. The following work is recommended for the 1973 season.

1. Stake additional three mineral claims surrounding the south-west corner of claim # 2 for protection.

2. Run three I.P. test lines over the mineralized area. This should be carried out during the latter part of June or early July when the ground is moist from the melting snow.

3. Prospect known mineralized area plus other possibilities.

4. Map geology and determine limits of mineralization.

5. Fill-in soil sampling on north slope between the two most westerly lines, also continue soil sampling on south slope @ 200-foot sample spacing on lines 400 feet apart to the creek at the bottom.

6. Prospect, map and soil sample the area east of the most easterly survey line, especially the area where previous sampling has indicated an anomalous (> 100 ppm) Pb zone.

FC/ah

F. Chow

March 29, 1973

ADDENDUM TO THE DEWAR CREEK PROJECT REPORT, 1972
NINE LAKE MINERAL CLAIMS TUNGSTEN PROSPECTS

The Dewar Creek Project Report by the writer dated February 1973 reported possible economic tungsten mineralization on the Nine Lake mineral claims based on this year's re-assaying of soil samples collected during the 1972 survey. Preliminary investigation of the tungsten prospect is now complete. Evaluation is based on soil geochemistry, occurrences of tungsten mineralization in the immediate area, and geological environment.

A total of 423 soil samples have been assayed for tungsten, of this number 284 samples were done this year. Eighty-eight silt (a few soil) samples were analyzed for tungsten for regional geochemistry, of this number 38 samples were tested during the 1971 programme. Fifty-one rock specimens collected during the 1971-72 season were tested for tungsten content.

To date, tungsten soil geochemistry has been applied to about 29 claims of the Nine Lake group, in which 12 claims were investigated during the 1972 field season. The coverage area includes: Nine Lake Nos. 1, 3, 4, 30-34 inclusive, 37, 38, 41, 42, 44, 49, 50, 52, 57, 58, 60-68 inclusive, 71 and 72 mineral claims, which cover an area about 3,000 feet wide by 12,000 feet long NW-SE across Greenland Creek. Five of these claims namely Nos. 57, 58, 60, 71 and 72 were allowed to lapse in 1972 prior to our knowledge of the tungsten content of the rocks and soils. This ground will be re-staked.

At present, the area lying north of Greenland Creek is considered to have the greatest potential for an economic tungsten deposit.

Evaluation of Tungsten Soil, Silt and Rock Geochemistry

A separate report by Werner Gruenwald dated March 30, 1973 has been written on the evaluation of the tungsten prospect by statistical analysis and accompanies this report.

Geochemistry (Map 4D and 5D):

The geochemical plan (see Map # 4D) shows anomalous tungsten in the soils across the mouth of two cirques, between the 6,600 feet and 8,000 feet topographical contours. Moderately (100 - 150 ppm) to definitely (> 150 ppm) anomalous tungsten values are found in soils within an area of about 2,000 feet to 4,000 feet NE-SW by about 6,000 feet NW-SE. The anomalous area has a vertical relief of 1,400 feet in 6,000 feet N-S.

The geochemical dispersion downslope is about 600 feet, based on a few anomalous rock specimens at the following locations : 27R(150 ppm W), 28R(500 ppm W) on claim # 60, and 54R(100 ppm W) on claim # 69. On this assumption, tungsten mineralization is widespread, with the better grades along the NE-SW zone on the north and lower grades towards the south.

The average downhill slope in the cirques is about 12^{o}SE and about 30^{o} down the cirque walls. The 200 - 300 ppm W contours on the most northerly section of the map (claims 57, 58, 61, 68 and 71) show a slight dispersion train downhill from the cirque walls but the overall trend of the plus 200 ppm W values is NE-SW across the cirques. This trend conforms to the general strike of rock formations north of Greenland Creek, thus suggesting contact mineralization along the intrusive sills and sediments.

The southerly portion of the anomalous area (claims 62-66) also shows a northeasterly trend (see $>$ 100 ppm W contour), with moderate geochemical dispersion at a small angle to the topographical contours. This appears to be caused by a separate zone of mineralization rather than a secondary geochemical dispersion from the northernanomaly.

There are relatively few publications or reports on case histories of tungsten geochemistry. In general, background values for soils are between 2 and 5 ppm W, and anomalous values over mineralized areas range from a few hundred (?) to $>$ 1,000 ppm W. The Salau deposit in the French Pyrenees shows less than 5 ppm W background (regional) and over 1,200 ppm W over the deposit. The deposit is clearly defined by values $>$ 500 ppm W.

The regional background for the Dewar Creek Project area is between 0-10 ppm W (see Map 5D). Within the Nine Lake claims the background range is about 0-25 ppm W. The area which contains moderately anomalous (100 - 150 ppm W) values or greater is extensive and covers about 50% of the surveyed area north of Greenland Creek. Tungsten values classified as definitely anomalous ($\geq$ 150 ppm W) form five anomalies; the smallest measuring 400 feet x 1,400 feet and the largest averaging about 1,200 feet wide x 1,800 feet plus long (open east and west). Two of these anomalies contain values between 200 - 300 ppm W, and the other three contain values between 400 and 450 ppm W. The geochemical trend is NE-SW, parallel to the rock formations, but there is also a probable NW-SE trend at 90^{o} to the one above.

Tungsten Occurrences:

There are four tungsten occurrences within 3 - 6 miles of the Nine Lake tungsten prospect; Cominco's Molly Group shows scheelite with molybdenum (and casserite?) associated with limestone skarn; Arrow Inter-America's Val Group is reported to have mineralization in three modes of occurrence (a) scheelite in a quartz rubble shear zone (b) scheelite as selvages in quartz filled fractures in moyie diorite sills, and (c) cassiterite and scheelite in quartz veins; Cominco's Pico Group shows scheelite associated with skarn minerals in siltstone and argillite with diorite.

The mode of occurrence of the tungsten mineralization on the Nine Lake claims is not definitely known. The few rock specimens containing anomalous tungsten values are quartzites with or without skarn and metadiorite sills with quartz filled fractures. The quartzite specimens contained the highest values.

Geological Environment:

There are four known tungsten occurrences within the immediate area, all within the Lower Aldridge formation with accompanying diorite sills, and all bordering the contact of the White Creek Batholith. The geological setting appears to be favourable for tungsten, plus the possibility of associated tin mineralization.

Recommendations:

Six additional claims should be staked and eight lapsed claims should be re-staked as soon as possible (see Proposed Staking Plan, Map # 6).

Bulldozer stripping should be used as the first step in the investigation, followed by diamond drilling if warranted. Seven geochemical targets have been selected for trenching (see Proposed Trenching Plan, Map # 7). Trenching on locations 1 - 4 should be completed and on locations 5 - 7 to proceed if warranted. The first four trenches total 1,800 lineal feet, the latter three trenches total 1,200 lineal feet.

FC/ah

F. Chow

Enclosures:

1. Map 4D - Nine Lake M.C. Geochemical Plan, Tungsten
2. Map 5D - " " Regional Tungsten Geochem
3. Map 6 - " " Proposed Staking and Re-staking
4. Map 7 - " " Proposed Trenching 1973

Estimated Costs:

A. Staking

1. Airfare - Vancouver to Cranbrook and return, two men	$ 148.00	
2. Helicopter - Cranbrook to property, four return trips	1560.00	
3. Meals and accommodation	100.00	
		$1808.00

B. Trenching

* 1. Mobilization and demobilization of cat (including walking cat four miles from road to location)	$ 600.00	
2. Bulldozing trenches # 1-4 inclusive 10 days @ $240.00/day	2400.00	
3. Bulldozing trenches # 5-7 inclusive 7 days @ $240.00/day	1680.00	
4. Helicopter to ferry cat fuel 2.5 hours @ $260.00/hour	650.00	
		$5330.00
5. Mobilization and demobilization :-		
a) Airfare, Vancouver to Cranbrook and return, two men	$ 148.00	
b) Helicopter, Cranbrook to property and return	1300.00	
c) Road vehicle	60.00	
		$1508.00
6. Camp supplies and maintenance :-		
a) Food, 3 men @ $8.00/day for 20 days	480.00	
b) Helicopter, one supply trip	390.00	
		$ 870.00

C. Wages

Two men for one month	$2200.00	
		$2200.00

D. Assaying

1. 300 rock samples for W @ $3.00	$ 900.00	
2. 30 composites for Sn @ $5.00	150.00	
		$1050.00

E. Topographic Map

1. 1" = 400 feet, Topographical Contour Map, 50-foot contours	$505.00	
2. Photo Mosaic, 5 square miles, 1" = 400 feet scale	40.00	
		$ 545.00
	TOTAL	$13311.00
Contingencies 10%		1331.10
	GRAND TOTAL	$14642.10

* Assuming road from Skookumchuck to Greenland Creek will be repaired. Mr. Dunc Hamilton, Ranger at Forestry Service Station at Canal Flats has advised that the road will be cleared and repaired by the end of April 1973.

Mr. Hamilton has also advised that temporary access road (4 miles along Greenland Creek) to property is not recommended, but permit may be granted after personal inspection.

Estimated costs for building 4 miles access road, suitable for 4-wheel drive vehicle is about $1200. This amount can be offset by helicopter charges for mobilization and demobilization costs at $1300 plus fuel and supply trips costs at $1040.

EVALUATION OF TUNGSTEN SOIL SILT AND ROCK GEOCHEMISTRY DEWAR CREEK PROJECT 1973

BY: W. Gruenwald

March 30, 1973

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A. SOIL GEOCHEMISTRY

a) Statistical Analysis

DATA: N = No. of samples = 476

Sum of Xi = 35,600 ppm

i) Arithmetic Mean $\bar{X} = \frac{35,600}{476} = 74.8$ ppm

ii) Mode: is 0-10 range (i.e. most frequently occurring sample

iii) Median: is that at which 50% of the samples are greater than it and 50% are less than it. From ~~frequency histogram~~ this is approximately 32 ppm

iv) Standard Deviation - (S)

$$S = \sqrt{\frac{(\Sigma x_i - \bar{x})^2}{n-1}} = \sqrt{\frac{35,600\ (74.8)^2}{476-1}} = \sqrt{\frac{30,000}{475}} = \sqrt{63}$$

$$= \underline{\underline{7.95 \text{ ppm}}}$$

The 95% confidence limits are $\bar{x} \pm 2$ standard deviations. That is, there is a 95% probability that the mean lies between the values 58.90 ppm and 90.70 ppm.

b) Background Calculation

From page one and the curve on page four, one can see that the mean value and anomalous values are rather high, this being due to the inclusion of high values (i.e. 400 ppm). Thus, the indicated background on page four (left of curve) is in a sense a "background" of an anomalous area.

To find a background in the true sense, elimination of certain high values is necessary. The following calculation follows this approach.

a) Total number of samples = 476 = 100%

b) Number of samples < 50 ppm = 272 = 57.1%

c) Number of samples > 50 ppm = 204 = 42.9%

The arithmetic mean of b) $= \frac{\Sigma N < 50}{N <} \quad \frac{3440}{272}$ ppm = 13 ppm

Thus the range 0 to 26 ppm (i.e. 2 x Mean) would be considered background; 26 to 39 ppm would be threshold and anomalous would be any values above 39 ppm. (See this on page four - right side of curve).

Fig 1

FREQUENCY DISTRIBUTION OF TUNGSTEN VALUES (DEWAR CREEK PROJECT)

N = number of samples = 476

$\bar{X}$ = arithmetic mean = 74.8 ppm

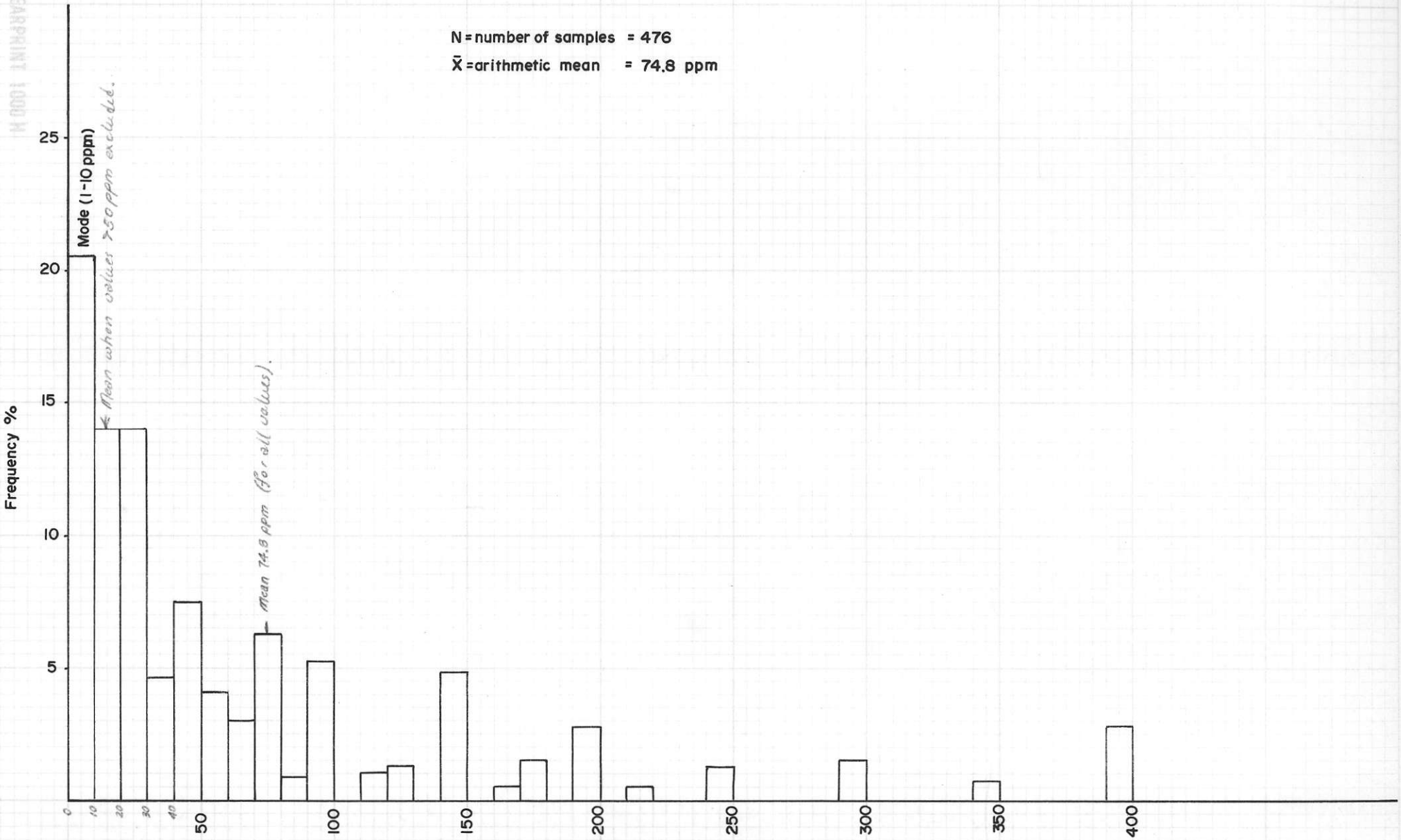
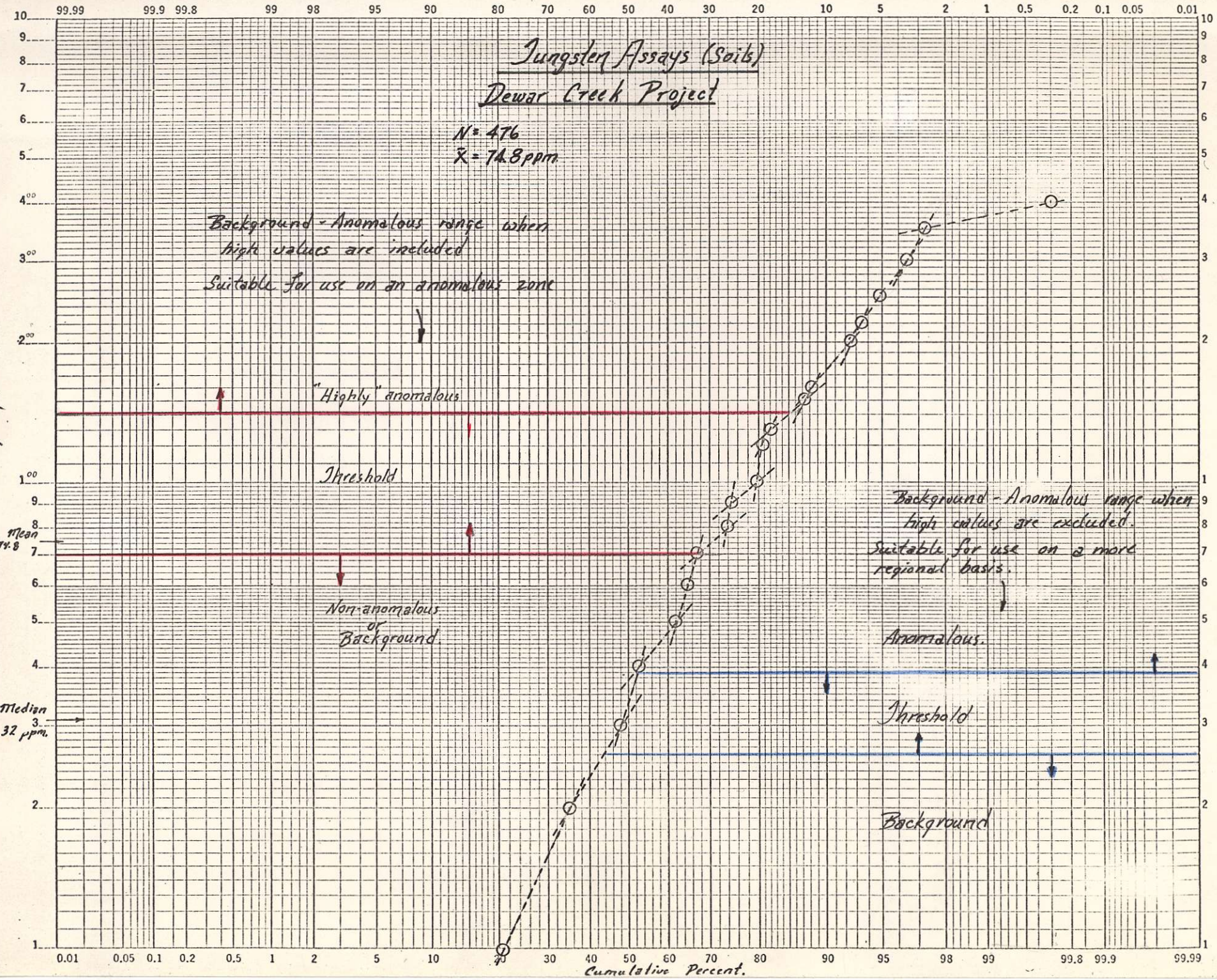
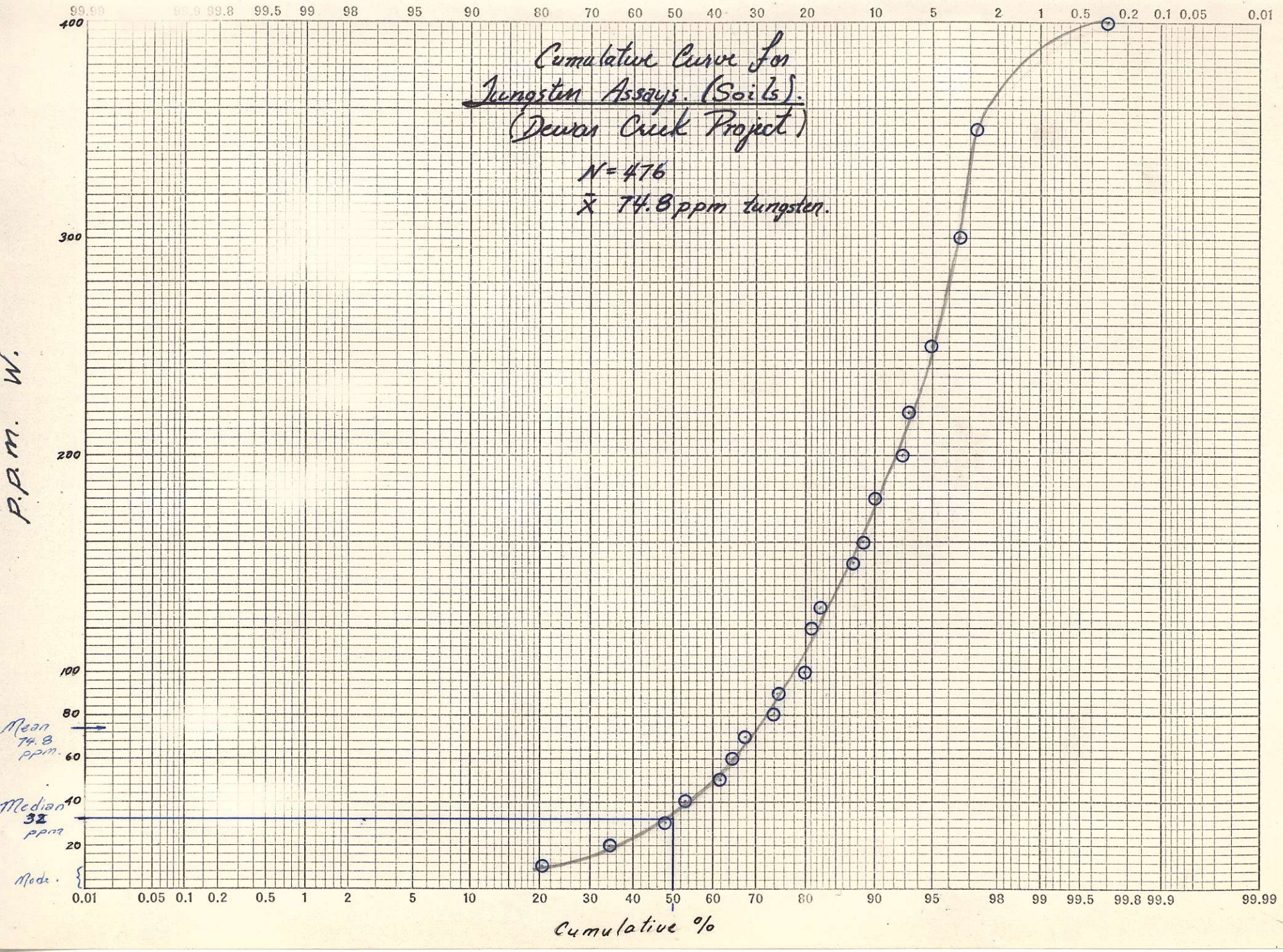


Fig 2.



NO. 3127 ARITHMETIC PROBABILITY. DESIGNED BY HAZEN, WHIPPLE & FULLER. CODEX BOOK COMPANY, INC. NORWOOD, MASSACHUSETTS. PRINTED IN U.S.A.

J193



B. SILT GEOCHEMISTRY

a) Background Values

For the 66 silt samples assayed, the same method of background calculation was used (i.e. exclusion of > 50 ppm values). This gave a mean of approximately 14 ppm which is nearly the same as the mean for the soils. Thus the background - anomalous values would be very similar in both soils and silts.

NOTE: When one is sampling far from the batholith (i.e. > 3 miles) the values are even lower having only a range of 0-10 ppm with background being in the order of 0-5 ppm.

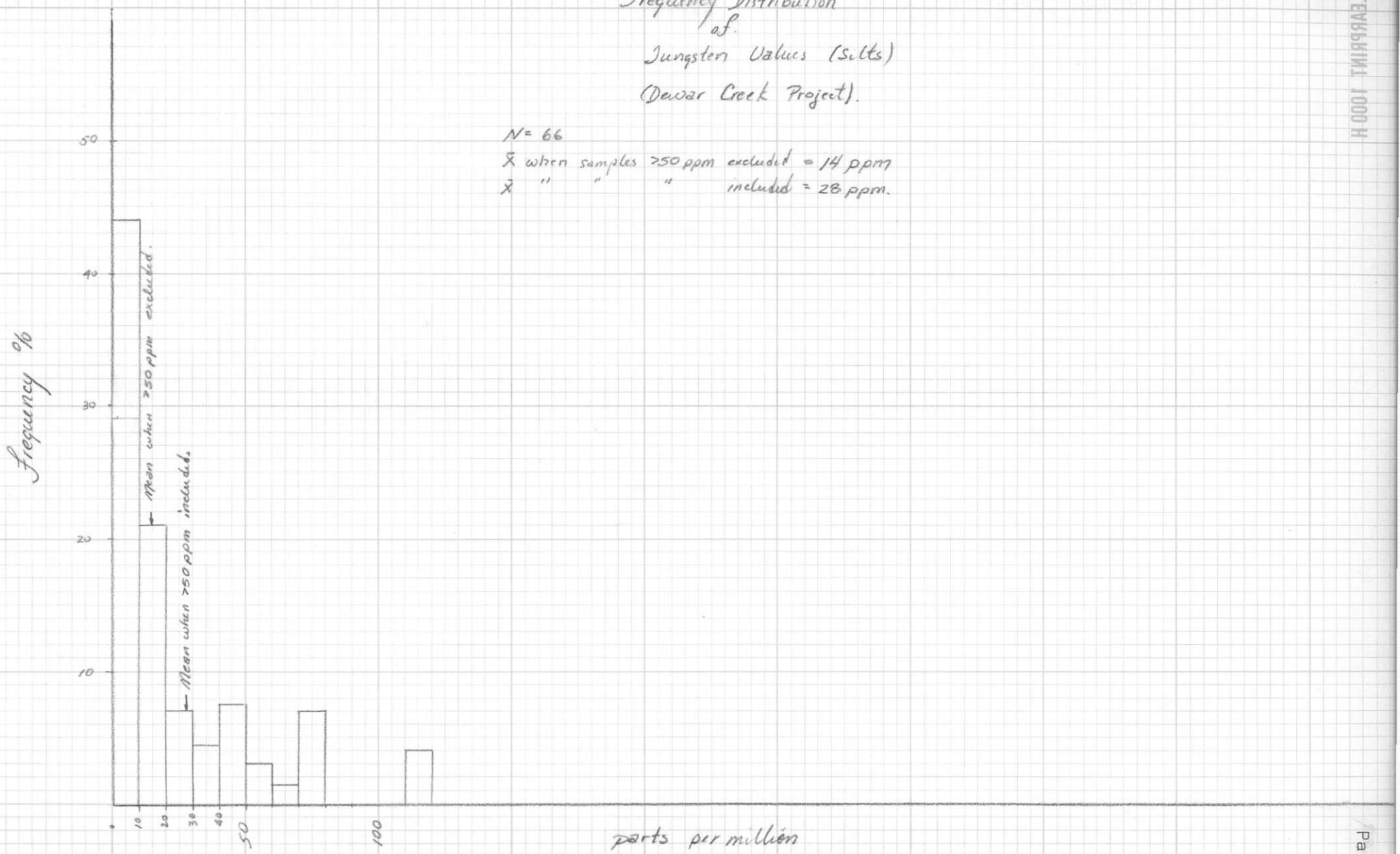
Thus in the case of a region with no batholith influence one can expect values to approach that of the 1-2 ppm range which is cited in Hawkes and Webb as being the average tungsten content in sedimentary and intrusive rocks.

Frequency Distribution of Tungsten Values (Silts) (Dewar Creek Project).

$N = 66$

$\bar{X}$ when samples ≥50 ppm excluded = 14 ppm

$\bar{X}$ " " " included = 28 ppm.



No.	Sample No	Rock Type	Mineralization	Carbonate	Wassay(ppm)	Nearest Batholith	Area	Misc.
1	6 - 1R	Diorite	Minute Pyrite Cubes	High	130	1.7 mi	Greenland Creek	Calcite Veinlets
2	6 - 2R	Quartzite	Dissem. Pyrrhotite	Slight	nd	1.7 mi	"	Rusty Surfaces
3	4 - 4R	Diorite		None	20	2.0 mi	"	50% Mafics
4	4 - 5R	Quartzite		None	10	2.0 mi	"	Rusty Surfaces
5	4 - 8R	Quartzite		None	nd	2.0 mi	"	Medium Grained
6	4 - 9R	Quartzite		None	5	2.0 mi	"	Grey
7	4 - 16R	Quartzite		None	10	1.8 mi	"	Grey
8	4 - 17R	Quartzite		None	15	1.8 mi	"	Grey
99	4 - 18R	Quartzite		None	nd	1.5 mi	"	Grey
10	4 - 19R	Quartzite		None	nd	1.5 mi	"	Grey
11	4 - 20R	Quartzite		None	nd	1.5 mi	"	Rusty Surfaces
12	4 - 21R	Quartzite		None	nd	1.5 mi	"	Rusty Surfaces
13	4 - 22R	Quartzite		None	nd	1.5 mi	"	Grey
14	4 - 23R	Quartzite		None	nd	1.5 mi	"	Grey
15	4 - 24R	Quartzite		None	nd	1.4 mi	"	Grey-br.
16	4 - 25R	Quartzite		None	nd	1.4 mi	"	Rusty Surfaces
17	4 - 26R	Quartzite		None	nd	1.4 mi	"	Rusty Surfaces
18	4 - 27R	Quartzite	Scheelite Specks	None	700	1.4 mi	"	Rusty Surfaces

W. G. Mar/73

No.	Sample No	Rock Type	Mineralization	Carbonate	W assay(ppm)	Nearest Batholith	Area	Misc.
19	4 - 28R	Quartzite		None	nd	1.4 mi	Greenland Creek	Rusty Surfaces
20	5 - 20R	Quartzite		None	20	1.4 mi	"	Rusty Surfaces
21	5 - 21R	Quartzite		None	nd	1.4 mi	"	Rusty Surfaces
22	5 - 25R	Quartzite		None	nd	2.0 mi	"	Highly Rusty
23	5 - 26R	Diorite	Chalco. in qtz. veins	Slight	nd	2.0 mi	"	Rusty
24	5 - 27R	Diorite		None	150	2.1 mi	"	Rusty Surfaces
25	5 - 28R	Quartzite		None	500	2.1 mi	"	Very Rusty
26	5 - 29R	Quartzite		None	5	2.1 mi	"	Rusty Surfaces
27	5 - 30R	Quartzite	Dissem. Magnetite	Slight	5	2.2 mi	"	Rusty Spots
28	5 - 31R	Quartzite		None	nd	2.2 mi	"	Rusty Surfaces
29	5 - 32R	Quartzite		Slight	nd	2.2 mi	"	Rusty Specks
30	5 - 35R	Diorite		Slight	40	2.0 mi	"	Rusty Surfaces
31	3-15-51R	Diorite		None to Slight	nd	2.1 mi	"	Unaltered
32	3-15-52R	Quartzite		None to Slight	10	2.1 mi	"	Rusty Specks
33	3-15-53R	Diorite		None	20	1.9 mi	"	
34	3-15-54R	Diorite		None	100	1.4 mi	"	Unaltered
35	3-15-55R	Diorite		None	180	1.7 mi	"	Unaltered
36	3-15-56R	Diorite		None	5	1.8 mi	"	Diorite

W-6 Mar 73

No.	Sample No	Rock Type	Mineralization	Carbonate	W assay(ppm)	Nearest Batholith	Area	Misc.
37	1-10- 2R	Diorite		None	nd	2.1 mi	Upper Greenland Creek	25% Mafics
38	1-7- 3R	Diorite	Near Mo, WO_3 showing	Slight	nd	0.5 mi	"	40% Mica
39	3-6-34R	Quartzite		None	nd	2.6 mi	Rusty Ridge	Brown-black
40	3-9-42R	Diorite	Chalco. in qtz. veins	Slight to moderate	nd	> 4 mi	North of Doc Peak	35-40% Mafics
41	3-9-44R	Diorite	Chalco. & pyrr.specks	Moderate	nd	> 4 mi	"	60% Mafics
42	3-9-45R	Diorite	Dissem. Mag & pyrr.	High	nd	> 4 mi	"	35% Mafics
43	3-8-40R	Diorite & Quartzite		High	nd	> 4 mi	Findlay Creek	Fine-grained
44	2-6-364R	Diorite	Dissem. Magnetite	Moderate	nd	> 4 mi	Upper Findlay Creek	25-30% Mafics
45	3-B-17R	Diorite	Dissem. Mag & pyrr.	Slight to Moderate	nd	> 4 mi	Pyramid Creek	Fine-grained
46	3-3-23R	Gabbro		Moderate	nd	1.7 mi	"	
47	3-1-R8	Diorite		None	nd	> 4 mi	Mathews Creek	45% Mafics
48	3-1-R3	Diorite		None	nd	> 4 mi	"	60% Mafics
49	3-B-36R	Quartzite		None	nd	> 4 mi	Meacham Creek	Silicified and Rusty
50	3-B-34R	Diorite	Dissem. Chalco.	Moderate	nd	> 4 mi	Hall Lake	Rusty Fractures

W. G. Mar 173.

EVALUATION OF ROCK ASSAY DATA:

Quartzites
Total "W" ppm — No. of samples = $\frac{1280}{30} = \overline{X} = 42.6$ ppm

23% of quartzites assayed had values > 5 ppm

Diorites
Total "W" ppm — No. of samples = $\frac{645}{20} = \overline{X} = 32.2$ ppm

35% of diorites assayed had values > 5 ppm

From the 50 samples assayed it appears that the diorites and quartzites both have appreciable amounts of tungsten in the anomalous area north of Greenland Creek.

Since some of the tungsten anomalies are situated near known diorite outcrops it would be important to determine whether the tungsten mineralization is concentrated in the diorite (i.e. fractures) or along the diorite-quartzite contacts.

Werner Gruenwald

WG/ah

W. Gruenwald

Dewar Creek Project:

Thin Section Descriptions (+ Hand specimen description)

1. Sample No. 4-B-27 R.

Hand Specimen:-

- gray, limonite stained, fine grained argillaceous quartzite
- carbonate content: nil
- tungsten assay was 700 ppm.
- when exposed to ultraviolet light no flourescent grains (scheelite) were observed.

Thin Section:-

Mode: Quartz ≥ 65%
Mica ≤ 30% (mainly muscovite)
Limonite & ≤ 5%
Opaques

In the thin section as well as the hand specimen a definite directive texture (foliation) is observable. On close examination one can see minute grains of muscovite ~~aligned~~ in a preferred orientation thus giving the weak foliation.

The quartz grains show minor elongation and recrystallization indicating low grade metamorphism of the type found in the Parcell anticlinorium.

There is, however no indication of any tungsten mineralization.

Rock Name: Argillaceous quartzite.

Alteration: low grade, sub greenschist

2. 6-1 R

Hand Specimen:

- pale green, rusty weathering, calcite veined diorite (?)
- carbonate content - high
- tungsten assay - 150 ppm
- when exposed the ultraviolet light no flourescent grains were observed

Thin Section:

Mode:

Carbonate	≈ 80%
Limonite + opaques	≥ 15%
Quartz	< 5%

The original rock which was probably a diorite, has been almost wholly replaced and veined by calcite; as well as undergoing limonite staining.

Much of the limonite stain is in the individual calcite grains making the limonite content appear higher than what it truly is.

The original texture is vaguely preserved as larger grains of calcite and the occaisional grain of quartz.

Rock Name: Diorite (having undergone carbonate metasomatism)

3) Sample No 5-28R

Hand Specimen:

light gray, rusty weathering quartzite containing scattered patches of mica, part of a quartz vein and small specks of scheelite (10) with most being on a rusty, micaceous fracture surface

- a freshly broken surface yields far fewer scheelite specks
- carbonate content: nil
- tungsten assay: 500 ppm.

Thin Section:

Mode %: quartz ≥85%
mica ≥10% (muscovite, minor biotite).
calcite << 1%

Under the ~~thin~~ microscope the rock looks like a slightly impure quartzite. Minor recrystallization has taken place accounting for the ragged edges of the quartz grains.
The micas are the result of low grade metamorphism of the rock which originally contained clay minerals

Rock Name - Micaceous Quartzite

Alteration - low grade, sub greenschist

4) R-55

Hand Specimen:-

- dark grein, non rusty ~~gabbro~~ diorite
- one rusty surface (narrow vein) has numerous grains of scheelite
- Fresh surfaces show no scheelite grains
- carbonate content ; nil (fresh rock) : slight (on vein).
- tungsten assay 180 ppm.

Thin Section:-

Mode: Plagioclase : 60%
Hornblende - 30%
Quartz - 5%
Biotite - 3%
Apatite - 1% - 2%
Opaques and Carbonate ≈ 1%

The plagioclases (An_{32} - andesine) are quite fresh and show little or no alteration (ie. not cloudy).
There are no directive textures and grain sizes of plagioclase and hornblende are quite varied.
No scheelite grains were found in the fresh portion of the rock.

Rock Name: Hornblende Diorite.

Alteration: nil to very low grade subgreenschist.

5) Sample No 3-15-54R

Hand Specimen :-
dark green, medium grained, diorite containing hornblende, plagioclase, biotite, some quartz and three specks of scheelite.
- carbonate content - slight (in small fractures)
- tungsten assay 150 ppm.

Thin Section :-

Mode :-			
	Plagioclase	55%	
	Hornblende	40%	
	Quartz	≤5%	
	Biotite	2%	
	Accessories + opaques	3%	sphene 2%, rest is apatite and pyrrhotite

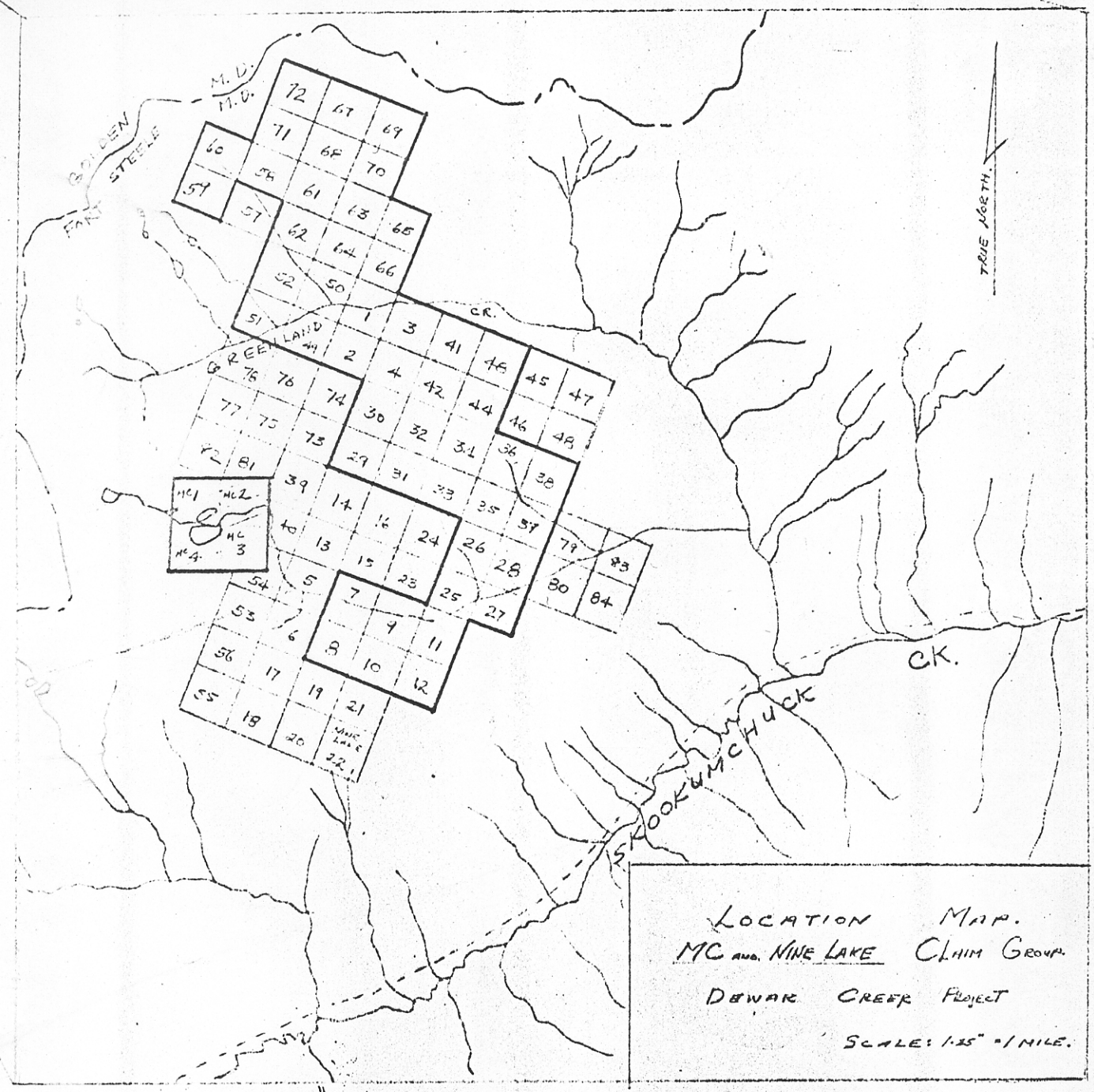
Plagioclases are unaltered; relief is positive, therefore no albitization has taken place, and the Anorthite content is 35-40 putting its composition in the andesine range.
The plagioclase and hornblende crystals (anhedral) are intergrown to give a subophitic texture. (i.e. neither the plagioclases or hornblendes enclose each other.

Rock Name :- Hornblende Diorite (approaching gabbroic composition

Alteration :- nil

It would appear that tungsten mineralization occurs preferentially on fracture-vein surfaces in both diorites and quartzites.

It seems that alteration has little to do with tungsten mineralization (i.e. structurally controlled.)



LOCATION MAP.
MC and NINE LAKE CLAIM GROUP.
DEWAR CREEK PROJECT
SCALE: 1.25" = 1 MILE.

MAP No. 6

Proposed Staking and Restaking

Dewar Creek Project.

* New claims to be staked have been increased from 6 to 12 M.C's Another 12 claims will be added if silt samples show anomalous values.
April 6/73 1000 hrs
J.L.

* Additional 4 claims to be staked -

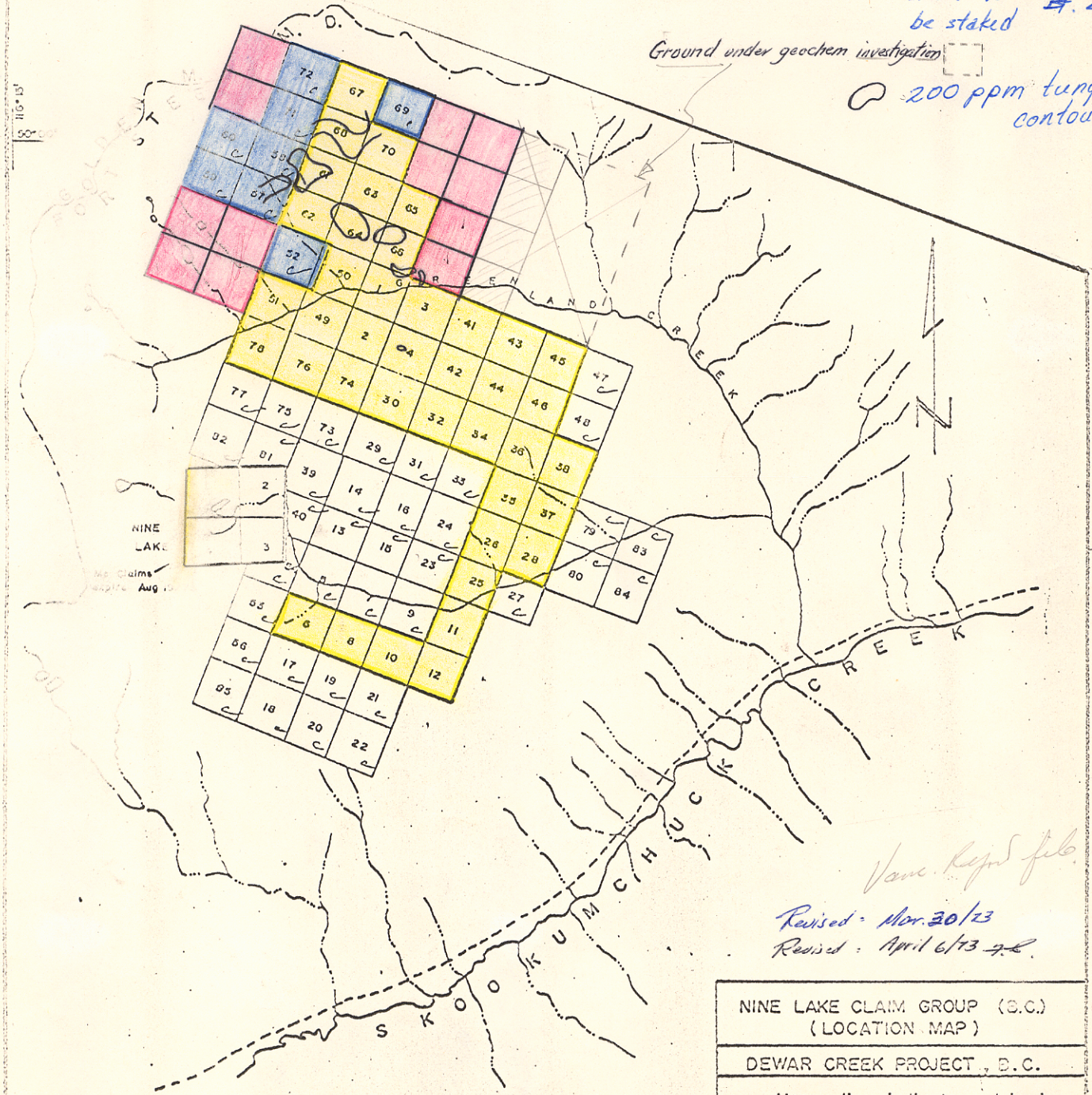
Total new claims = 16
Re-staking = 8
Total = 24

J. Lhotka April 6/73 1415 hrs.

	No.
Restaking	8
Staking (New) *	12
Claims good until Sept 1973.	
Claims to be staked	20

Ground under geochem investigation

200 ppm tungsten contour.



Vanc. Rept. file

Revised: Nov. 20/73
Revised: April 6/73 J.L.

NINE LAKE CLAIM GROUP (B.C.)
(LOCATION MAP)

DEWAR CREEK PROJECT, B.C.

— Heavy line indicates claim in good standing until SEPT. 1973.
c Cancelled claim

SCALE 1.25" = 1 MILE

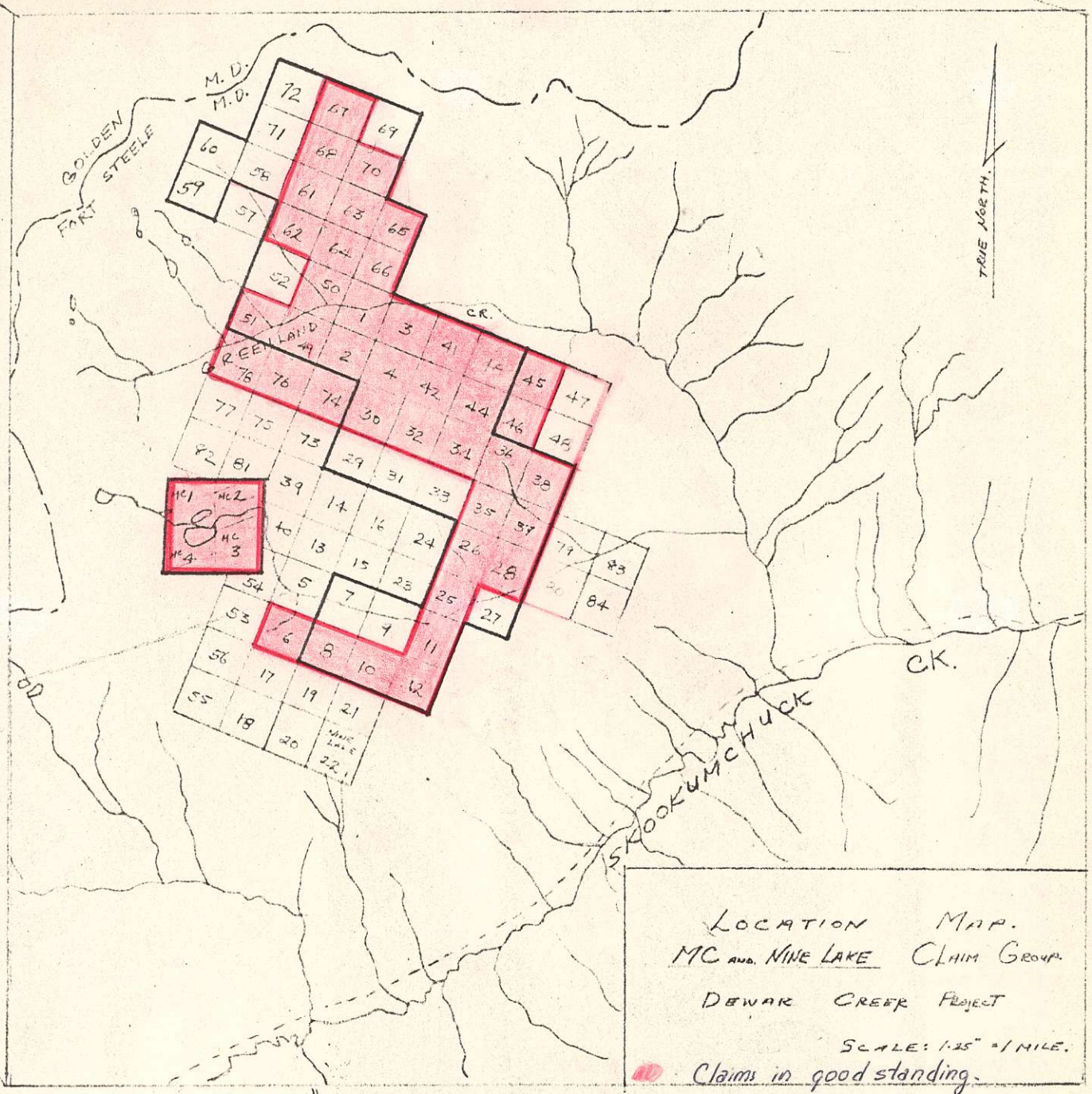

M.D.
M.D.
GOLDEN
FORT STEELE
TRUE NORTH.
CR.
CK.
SKOOKUMCHUCK
MC1
MC2
MC3
MC4
NINE LAKE
LOCATION MAP.
MC AND NINE LAKE CLAIM GROUP.
DEWAR CREEK PROJECT
SCALE: 1.25" = 1 MILE.
Claims in good standing.

Figure 2.

KERR ADDISON MINES LIMITED
405 - 1112 WEST PENDER STREET
VANCOUVER 1, B.C.

COPY

G. M. Hogg

W. M. Sirola

DEWAR CREEK PROJECT - 1972
82F & 82K - KIMBERLEY AREA, B.C.

March 21, 1973

The 1972 exploration programme for the Dewar Creek area involved the checking of silt sample anomalies by a combined programme of mapping, magnetic and electromagnetic surveys and soil sampling. This work was done by four men during the period June 29th to August 31st.

The geophysical work outlined four coincident Mag. - E.M. anomalies but these anomalies were not coincident with geochemical highs. In an attempt to determine their cause, Fred Chow had some of the soil samples in the vicinity of two of the coincident geophysical anomalies, analyzed for tungsten. As a result of this preliminary testing which revealed high tungsten values, more samples were sent to the geochemical laboratory for testing, and it was found that we now have a 'T' shaped area on the Nine Lake mineral claims which measures 5000 feet in a northwesterly direction by 3000 feet in a northeasterly direction with tungsten values in the 'C' horizon soils varying from 200 ppm to a maximum of 800 ppm. These anomalies occur on the 61, 62, 64, 66, 71 and 72 mineral claims.

It is difficult at this stage to draw any sound conclusions about the meaning of these high tungsten values, but we do know that they result from very fine scheelite mineralization in calcareous quartzites. It is possible that this anomalous area is underlain by a portion of the White Creek Batholith but this remains to be seen. It is also possible that the sandy soils in which the tungsten was found are so close to the outcrop that the geochemical values approach the true grade of the tungsten in the underlying rocks. This is possible because at an elevation of 8000 feet there is no proper soil development and the only overburden is that derived by the attrition of the rocks themselves. However, the values are distinctly anomalous even for rock geochemistry and we have no choice except to determine the cause of the anomalies by doing some form of physical work.

In addition to the rather impressive tungsten anomalies there occurs on the Doc group (Map D4A-B-C) a lead geochemical anomaly in which the 1000 ppm contour has a length of 4200 feet and a width of 700 - 1000 feet. The 2000 ppm Pb contour occupies over 50% of the 1000 contour area. This anomaly has a NE-SW trend and covers almost the entire area of claims 2, 4 and 6.

Again in attempting to interpret the meaning of this lead anomaly we must appreciate the fact that the anomalous values in the sandy soils may indeed represent the true grade of the mineralization in the rocks. Galena was found in quartz veins paralleling the beds in the Upper Aldridge argillites and was also found in crosscutting veins. Again we will investigate this area by limited I.P. work and possibly some form of physical work. This mineralization occupies an area roughly 800 feet x 600 feet in extent. The

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DEWAR CREEK PROJECT - 1972
82F & 82K - KIMBERLEY AREA, B.C.

March 21, 1973

attached report and maps do not contain what I would consider an adequate description of the tungsten geochemistry and in consequence a short additional supplement and map will follow within the next few days.

WMS/ah

W. M. Sirola

KERR ADDISON MINES LIMITED
405 - 1112 WEST PENDER STREET
VANCOUVER 1, B.C.

COPY

G. M. Hogg

W. M. Sirola

ADDENDUM TO THE DEWAR CREEK PROJECT REPORT (1972)

April 6, 1973

Please append this additional tungsten information to Fred Chow's Dewar Creek report (1972).

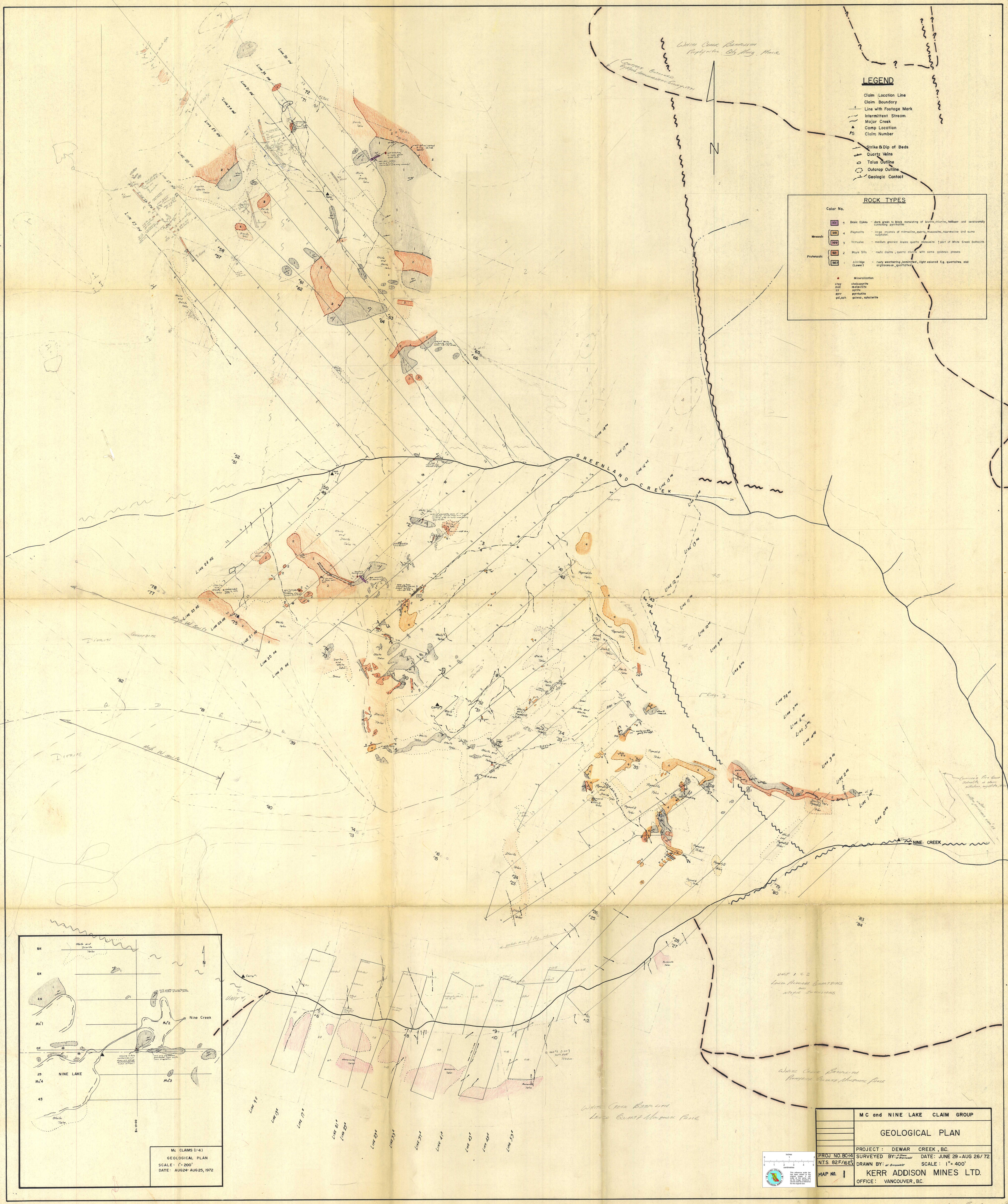
The additional information provided in the addendum includes a cost estimate for 1973 follow-up work which totals $14,642.10. The bulk of this cost is for bulldozer-stripping but there is provision for additional staking to protect the anomalous area.

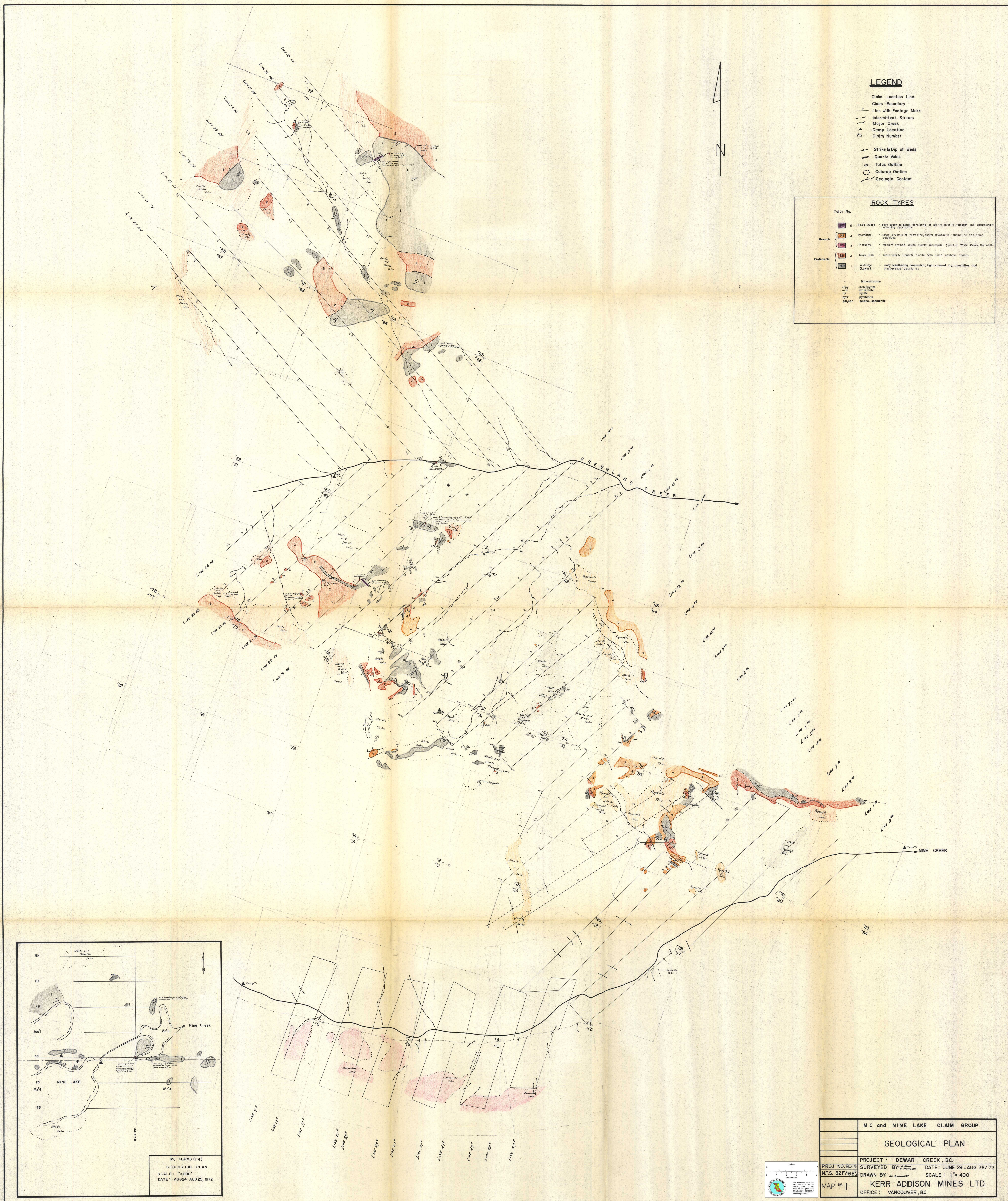
For those who might be interested in geochemical statistics, Werner Gruenwald has written a brief accompanying report indicating that our concept of what is anomalous is based on statistical analysis amongst other things.

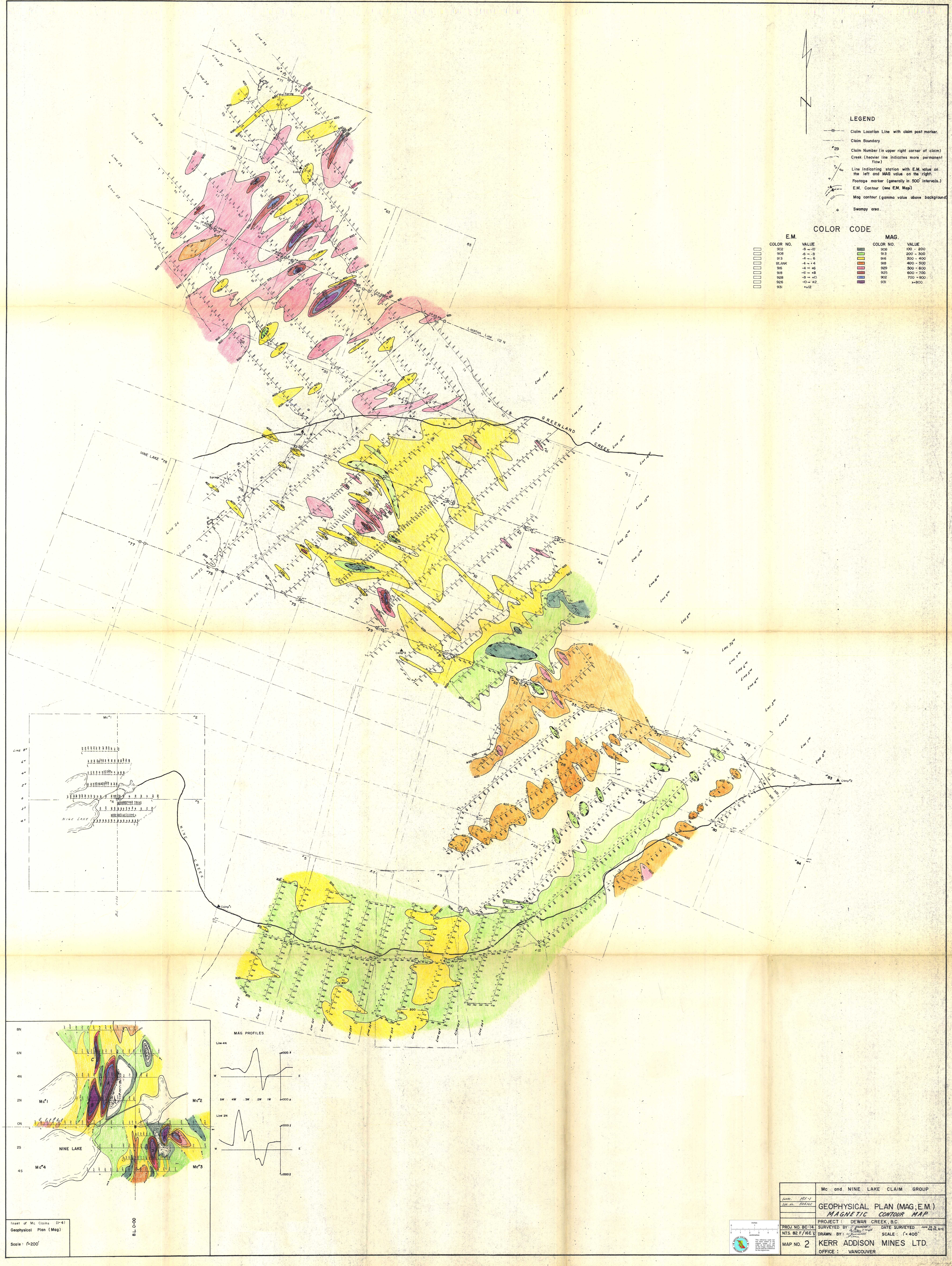
Apparently, Noranda Exploration did some silting in the same area last year and also located the tungsten area. They did no staking however when they realized that the existing claims were held by Kerr Addison Mines. They were sufficiently impressed with their own information that they were prepared to joint venture with us on this project. At this stage there is no reason for such a joint venture and we have politely declined.

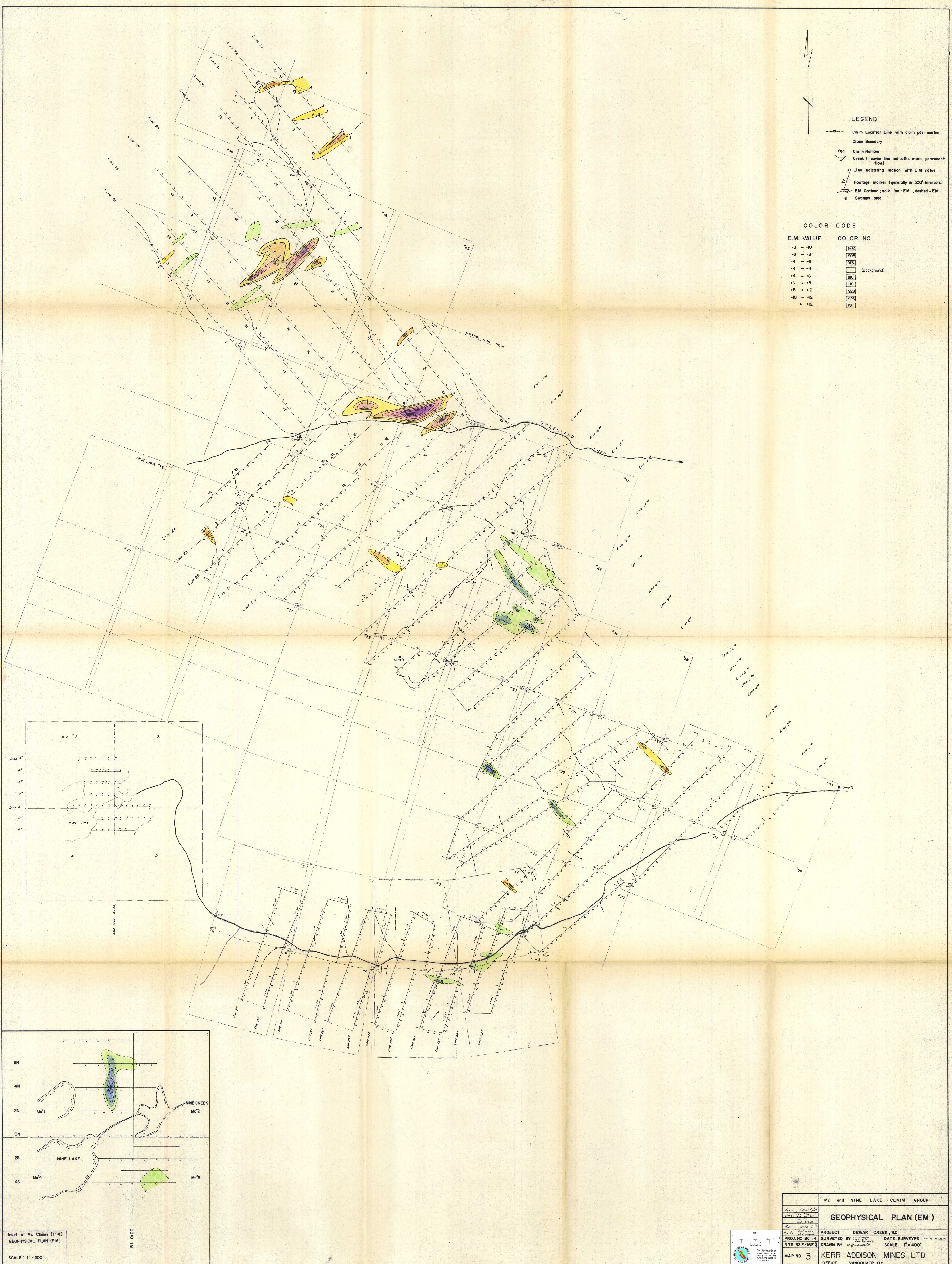
WMS/ah

W. M. Sirola


LEGEND
Claim Location Line
Claim Boundary
Line with Footage Mark
Intermittent Stream
Major Creek
Camp Location
Claim Number
Strike & Dip of Beds
Quartz Veins
Talus Outline
Outcrop Outline
Geologic Contact
ROCK TYPES
Color No.
Mesozoic
Proterozoic
931 5 Basic Dykes - dark green to black consisting of biotite, chlorite, feldspar and occasionally containing pyrrhotite
918 4 Pegmatite - large crystals of microcline, quartz, muscovite, tourmaline and some sulphides.
929 3 Intrusive - medium grained leuco quartz monzonite ; part of White Creek Batholith
921 2 Moyie Sills - meta diorite, quartz diorite with some gabbroic phases
967 1 Aldridge (Lower) - rusty weathering, laminated, light colored f.g. quartzites and argillaceous quartzites
Mineralization
chpy chalcopyrite
mal malachite
py pyrite
pyrr pyrrhotite
gal, sph galena, sphalerite
N
GREENLAND CREEK
NINE CREEK
White Creek Batholith Porphyritic Qtz Monz. Phase
Contact - Outlined by Kerr's Aeromagnetic Survey, 1971
Unit 1 & 2 Lower Aldridge Quartzites and Moyie Intrusions
White Creek Batholith Porphyritic Quartz Monzonite Phase
White Creek Batholith Leuco Quartz Monzonite Phase
High W Soils
Diorite
Cominco's Pico Group Scheelite in skarn siltstone, argillite, diorite
Mc CLAIMS (1-4)
GEOLOGICAL PLAN
SCALE: 1" = 200'
DATE: AUG 24 - AUG 25, 1972
NINE LAKE
Nine Creek
MC and NINE LAKE CLAIM GROUP
GEOLOGICAL PLAN
PROJECT: DEWAR CREEK, B.C.
PROJ NO. BC-14
N.T.S. 82F/16E½
SURVEYED BY:
DATE: JUNE 29 - AUG 26/72
DRAWN BY: W. Gruenwald
SCALE: 1" = 400'
MAP NO. 1
KERR ADDISON MINES LTD.
OFFICE: VANCOUVER, B.C.
Working Print for 1973 Report


LEGEND
Claim Location Line
Claim Boundary
Line with Footage Mark
Intermittent Stream
Major Creek
Camp Location
#5 Claim Number
Strike & Dip of Beds
Quartz Veins
Talus Outline
Outcrop Outline
Geologic Contact
ROCK TYPES
Color No.
Mesozoic
Proterozoic
931 5 Basic Dykes - dark green to black consisting of biotite, chlorite, feldspar and occasionally containing pyrrhotite
918 4 Pegmatite - large crystals of microcline, quartz, muscovite, tourmaline and some sulphides.
929 3 Intrusive - medium grained leuco quartz monzonite ; part of White Creek Batholith
921 2 Moyie Sills - meta diorite , quartz diorite with some gabbroic phases
967 1 Aldridge (Lower) - rusty weathering ,laminated, light colored f.g. quartzites and argillaceous quartzites
Mineralization
chpy chalcopyrite
mal malachite
py pyrite
pyrr pyrrhotite
gal,sph galena, sphalerite
N
GREENLAND CREEK
NINE CREEK
Camp #1
Camp #2
Camp #3
Camp #4
Camp #5
Pond
Snow
Qtzite and Diorite Talus
Diorite Talus
Pegmatite Talus
Monzonite Talus
LINE 33 NW
LINE 32 NW
LINE 31 NW
LINE 30 NW
LINE 29 NW
LINE 28 NW
LINE 27 NW
LINE 26 NW
LINE 25 NW
LINE 24 NE
LINE 23 NE
LINE 22 NE
LINE 21 NE
LINE 20 NE
LINE 19 NE
LINE 18 NE
LINE 17 NE
LINE 16 NE
LINE 15 NE
LINE 14 NE
LINE 13 NE
LINE 12 NE
LINE 11 NE
LINE 10 NE
LINE 9 NE
LINE 8 NE
LINE 7A NE
LINE 7 NE
LINE 6 NE
LINE 5 NE
LINE 4 NE
LINE 3 NE
LINE 2 NE
LINE 1 NE
LINE 0 NE
LINE 9 E
LINE 13 E
LINE 17 E
LINE 21 E
LINE 25 E
LINE 29 E
LINE 33 E
LINE 37 E
LINE 41 E
LINE 45 E
LINE 49 E
LINE 53 E
Mc CLAIMS (1-4)
GEOLOGICAL PLAN
SCALE: 1" = 200'
DATE: AUG 24 - AUG 25, 1972
NINE LAKE
Nine Creek
Mc#1
Mc#2
Mc#3
Mc#4
B.L. 0+00
MC and NINE LAKE CLAIM GROUP
GEOLOGICAL PLAN
PROJECT : DEWAR CREEK , B.C.
PROJ NO. BC-14
N.T.S. 82F/16E½
SURVEYED BY: F. Chow, W. Bruenwald
DATE: JUNE 29 - AUG 26/72
DRAWN BY: W. Bruenwald
SCALE : 1" = 400'
MAP NO. 1
KERR ADDISON MINES LTD.
OFFICE : VANCOUVER, B.C.
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
BRITISH COLUMBIA GEOLOGICAL SURVEY


LEGEND
Claim Location Line with claim post marker.
Claim Boundary
Claim Number (in upper right corner of claim)
Creek (heavier line indicates more permanent flow)
Line indicating station with E.M. value on the left and MAG value on the right.
Footage marker (generally in 500' intervals.)
E.M. Contour (see E.M. Map)
Mag contour (gamma value above background)
Swampy area.
COLOR CODE
E.M.
COLOR NO. VALUE
902 -8 → -10
908 -6 → -8
913 -4 → -6
BLANK -4 → +4
916 +4 → +6
918 +6 → +8
928 +8 → +10
926 +10 → +12
931 >+12
MAG.
COLOR NO. VALUE
908 100 - 200
913 200 - 300
916 300 - 400
918 400 - 500
929 500 - 600
925 600 - 700
902 700 - 800
931 >+800
GREENLAND CREEK
NINE CREEK
NINE LAKE
Location Line 112 N
Camp 4
Camp 3
Camp 2
Camp 1
Springs
MAG PROFILES
Line 4N
Line 2N
Inset of Mc Claims (1-4)
Geophysical Plan (Mag)
Scale: 1"=200'
B.L. 0-00
Mc and NINE LAKE CLAIM GROUP
INSTR. MF-1
SER. NO. 509162
GEOPHYSICAL PLAN (MAG; E.M.)
MAGNETIC CONTOUR MAP
PROJECT: DEWAR CREEK, B.C.
PROJ. NO. BC-14
N.T.S. 82 F/16E ½
SURVEYED BY:
DATE SURVEYED June 29 to Aug 26, 1972.
DRAWN BY:
SCALE: 1" = 400'
MAP NO. 2
KERR ADDISON MINES LTD.
OFFICE: VANCOUVER


LEGEND
Claim Location Line with claim post marker
Claim Boundary
#34 Claim Number
Creek (heavier line indicates more permanent flow)
Line indicating station with E.M. value
Footage marker (generally in 500' intervals)
E.M. Contour ; solid line + E.M. , dashed - E.M.
Swampy area
COLOR CODE
E.M. VALUE
COLOR NO.
-8 - -10 902
-6 - -8 908
-4 - -6 913
-4 - +4 (Background)
+4 - +6 916
+6 - +8 918
+8 - +10 928
+10 - +12 926
> +12 931
GREENLAND CREEK
Location Line 112 N
NINE LAKE #78
Camp #4
Camp #5
Camp #3
Camp #2
LINE 33
LINE 32
LINE 31
LINE 30
LINE 29
LINE 28
LINE 27
LINE 26
LINE 25
LINE 24
LINE 23
LINE 22
LINE 21
LINE 20
LINE 19NE
LINE 18NE
LINE 17NE
LINE 16NE
LINE 15NE
LINE 14NE
LINE 13NE
LINE 12NE
LINE 11NE
LINE 10NE
LINE 9NE
LINE 8NE
LINE 7A NE
LINE 7NE
LINE 6NE
LINE 5NE
LINE 4NE
LINE 3NE
LINE 2NE
LINE 1NE
LINE 0NE
Mc #1
NINE LAKE
BASE LINE 0+00
6N
4N
2N
0N
2S
4S
Mc#1
Mc#2
Mc#3
Mc#4
NINE CREEK
NINE LAKE
B L 0+00
Inset of Mc Claims (1-4)
GEOPHYSICAL PLAN (E.M.)
SCALE: 1" = 200'
Mc and NINE LAKE CLAIM GROUP
GEOPHYSICAL PLAN (EM.)
INSTR. CRONE C.E.M.
UNITS: Coil #36 Box 010380
Coil #91 Box 010392
FREQ. 1830 Hz
COIL SEP. 300' unless noted otherwise
PROJECT DEWAR CREEK, B.C.
PROJ. NO BC-14
SURVEYED BY : Doug Wright, Ted LaRoi, Gary Gruenwald
DATE SURVEYED : June 26 - Aug 26/72
N.T.S. 82 F/16E 1/2
DRAWN BY : W. Gruenwald
SCALE 1" = 400'
MAP NO. 3
KERR ADDISON MINES LTD.
OFFICE VANCOUVER, B.C.

LEGEND

- Claim Location Line
- Claim Boundary
- Soil Sample Site
- Footage Marker
- △4 Camp Location
- Sample plus Geochemical Assay (Cu, Zn, Pb, W, As.) (in parts per million)
- Silt Sample Site (all others are SOIL SAMPLES)

N

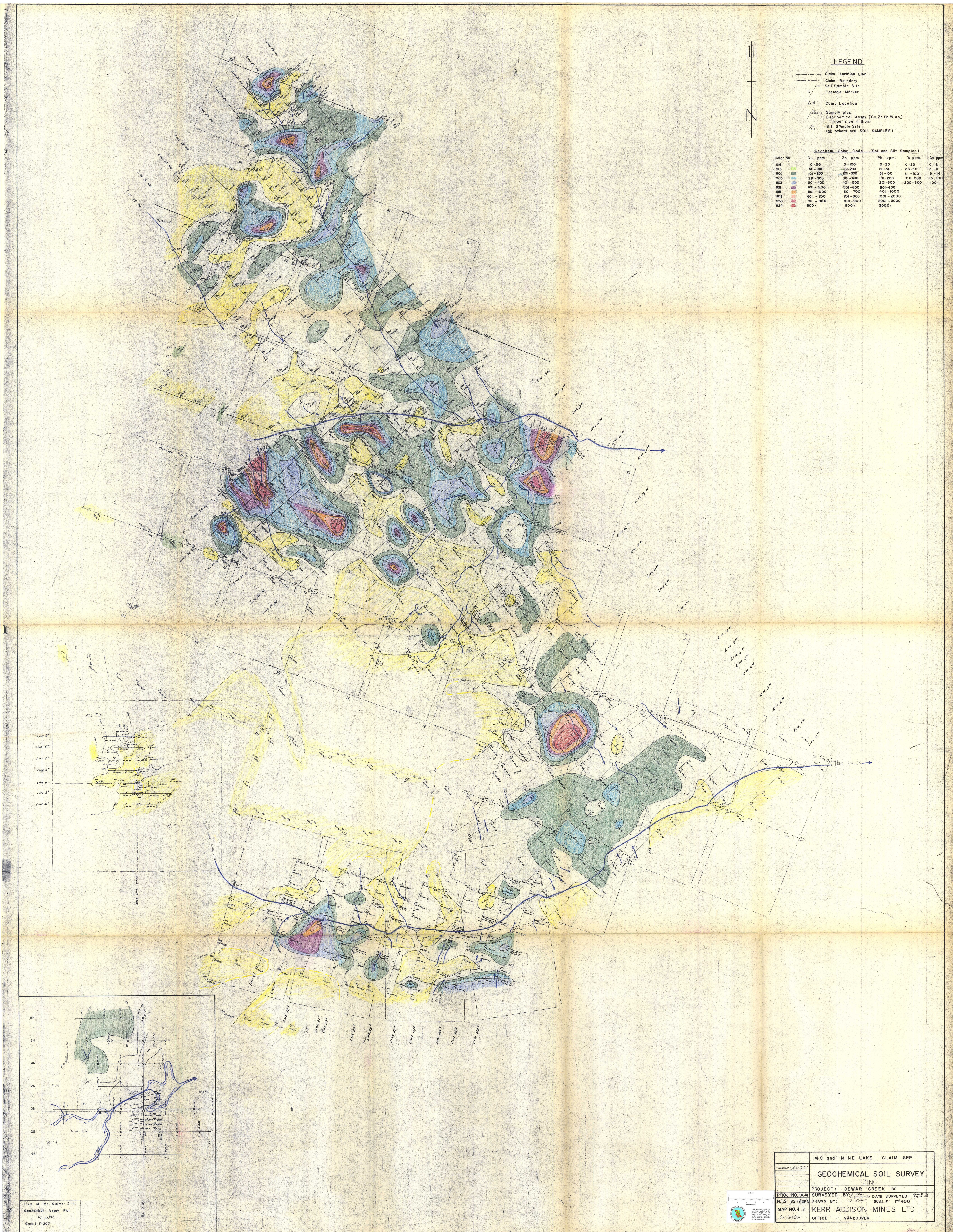
Geochem Color Code (Soil and Silt Samples)

Color No.	Cu ppm.	Zn ppm.	Pb ppm.	W ppm.	As ppm.
916	0 - 50	0 - 100	0 - 25	0 - 25	0 - 2
913	51 - 100	101 - 200	26 - 50	26 - 50	3 - 8
909	101 - 200	201 - 300	51 - 100	51 - 100	9 - 14
905	201 - 300	301 - 400	101 - 200	100 - 200	15 - 100
902	301 - 400	401 - 500	201 - 300	200 - 300	100 +
931	401 - 500	501 - 600	301 - 400		
918	501 - 600	601 - 700	401 - 1000		
928	601 - 700	701 - 800	1001 - 2000		
930	701 - 800	801 - 900	2001 - 3000		
924	800 +	900 +	3000 +		

Inset of Mc Claims (1"=4)
Geochemical Assay Plan
(Cu, Zn, Pb)
Scale: 1"= 200'

	MC and NINE LAKE CLAIM GRP.
Surveys: A.A.-T&M	GEOCHEMICAL SOIL SURVEY
	COPPER
	PROJECT: DEWAR CREEK, BC.
PROJ NO. BC14	SURVEYED BY: E. Edmonds DATE SURVEYED: June 28 to Aug. 25, 1972
N.T.S. 82 F/16E ¼	DRAWN BY: J. Edmonds SCALE: 1" = 400'
MAP NO. 4 A	KERR ADDISON MINES LTD.
Cu Contour	OFFICE: VANCOUVER

Vancouver Copy



Geochem Color Code (Soil and Silt Samples)

Color No.	Cu ppm.	Zn ppm.	Pb ppm.	W ppm.	As ppm.
916	0-50	0-100	0-25	0-25	0-2
913	51-100	101-200	26-50	26-50	3-8
909	101-200	201-300	51-100	51-100	9-14
905	201-300	301-400	101-200	100-200	15-100
902	301-400	401-500	201-300	200-300	100+
931	401-500	501-600	301-400		
918	501-600	601-700	401-1000		
928	601-700	701-800	1001-2000		
930	701-800	801-900	2001-3000		
924	800+	900+	3000+		

Inset of Mc Claims (1-4)
Geochemical Assay Plan
(Cu, Zn, Pb)
Scale: 1"= 200'

MC and NINE LAKE CLAIM GRP.

Analysis - A.A. - Total

GEOCHEMICAL SOIL SURVEY

ZINC

PROJECT: DEWAR CREEK, B.C.

PROJ NO. BC14 | SURVEYED BY: [signatures] | DATE SURVEYED: June 29 to Aug 26, 1972

N.T.S. 82 F/16E½ | DRAWN BY: [signature] | SCALE: 1"= 400'

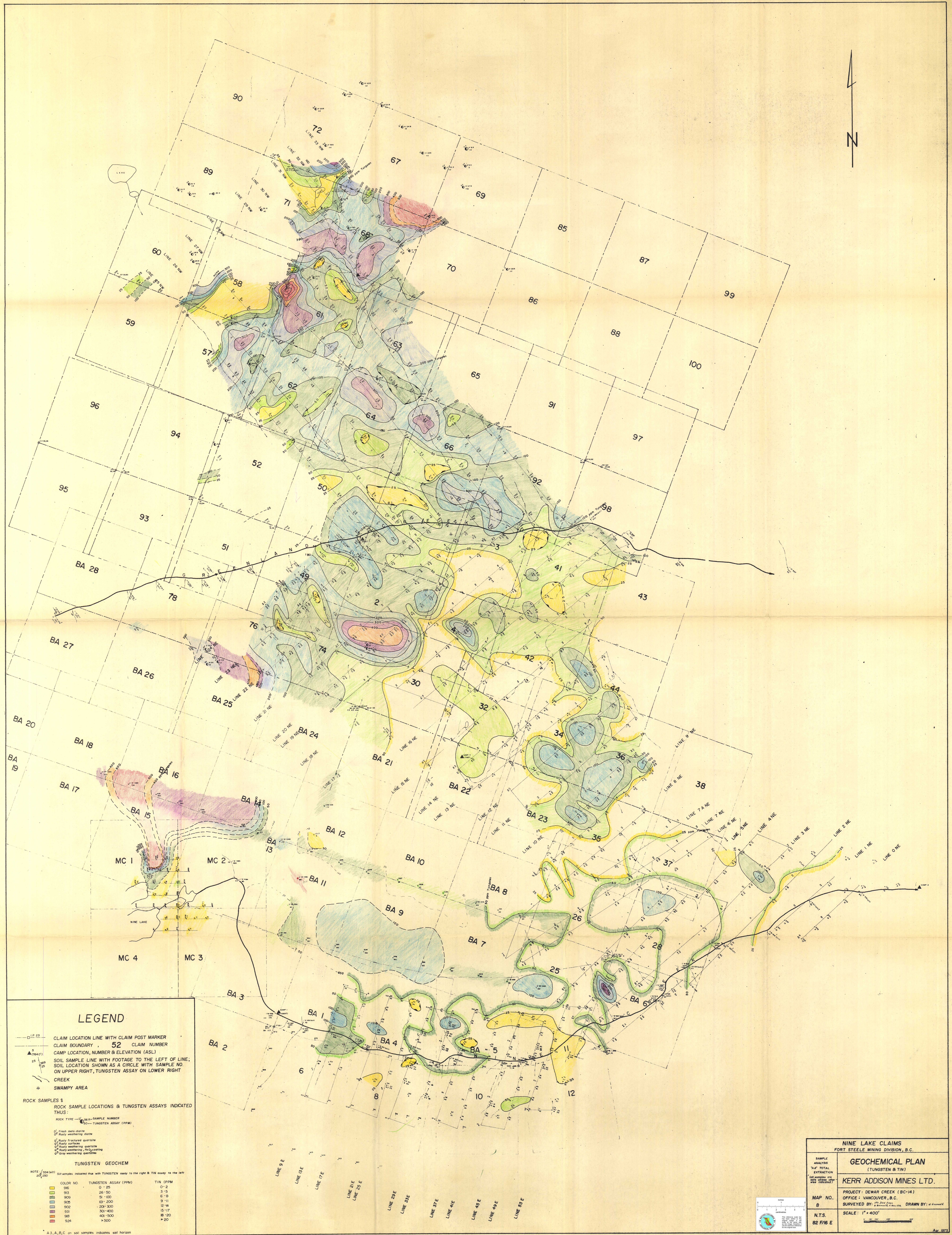
MAP NO. 4 B | Zn Contour

KERR ADDISON MINES LTD.

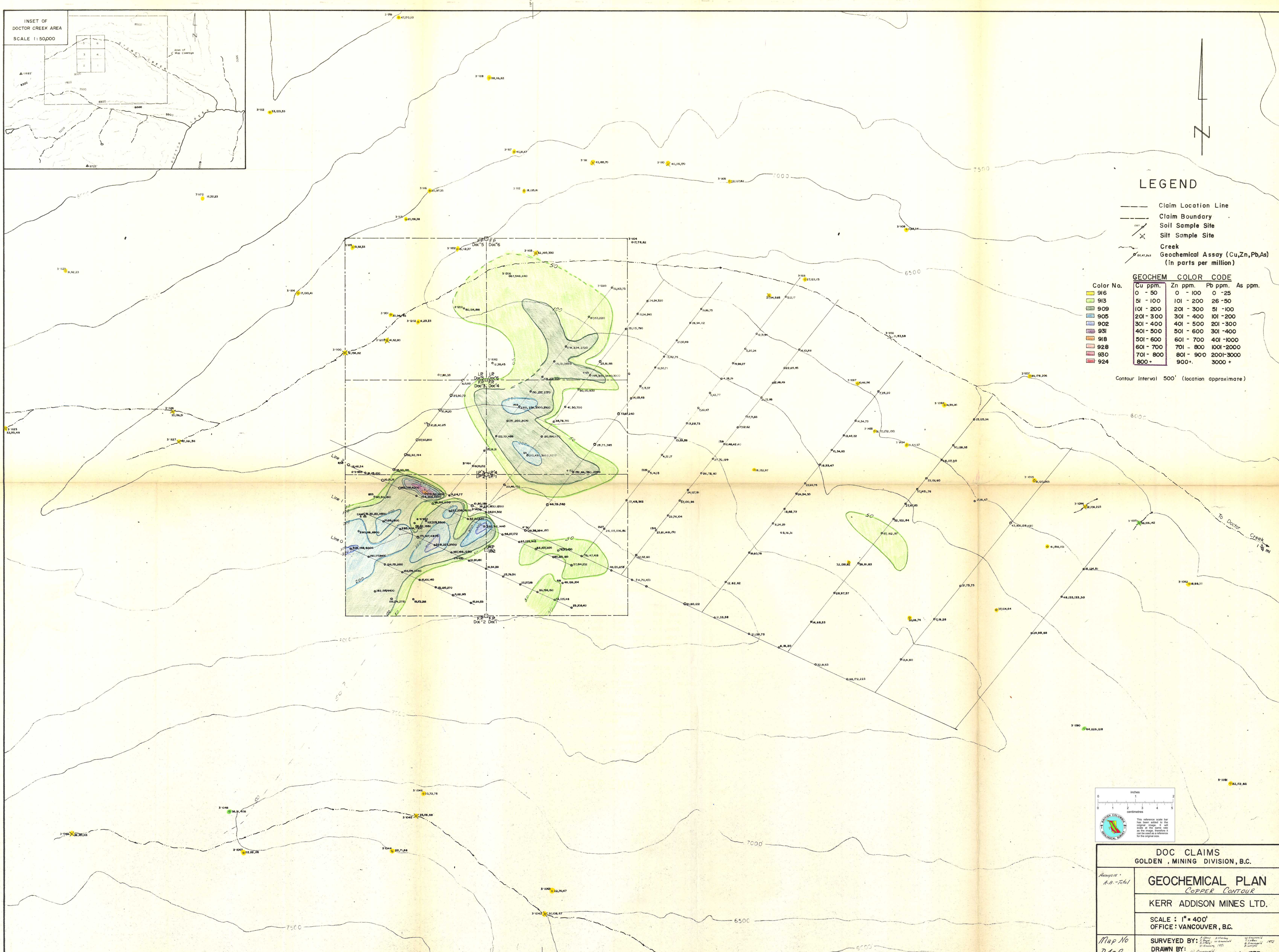
OFFICE: VANCOUVER

Report
Vancouver Copy

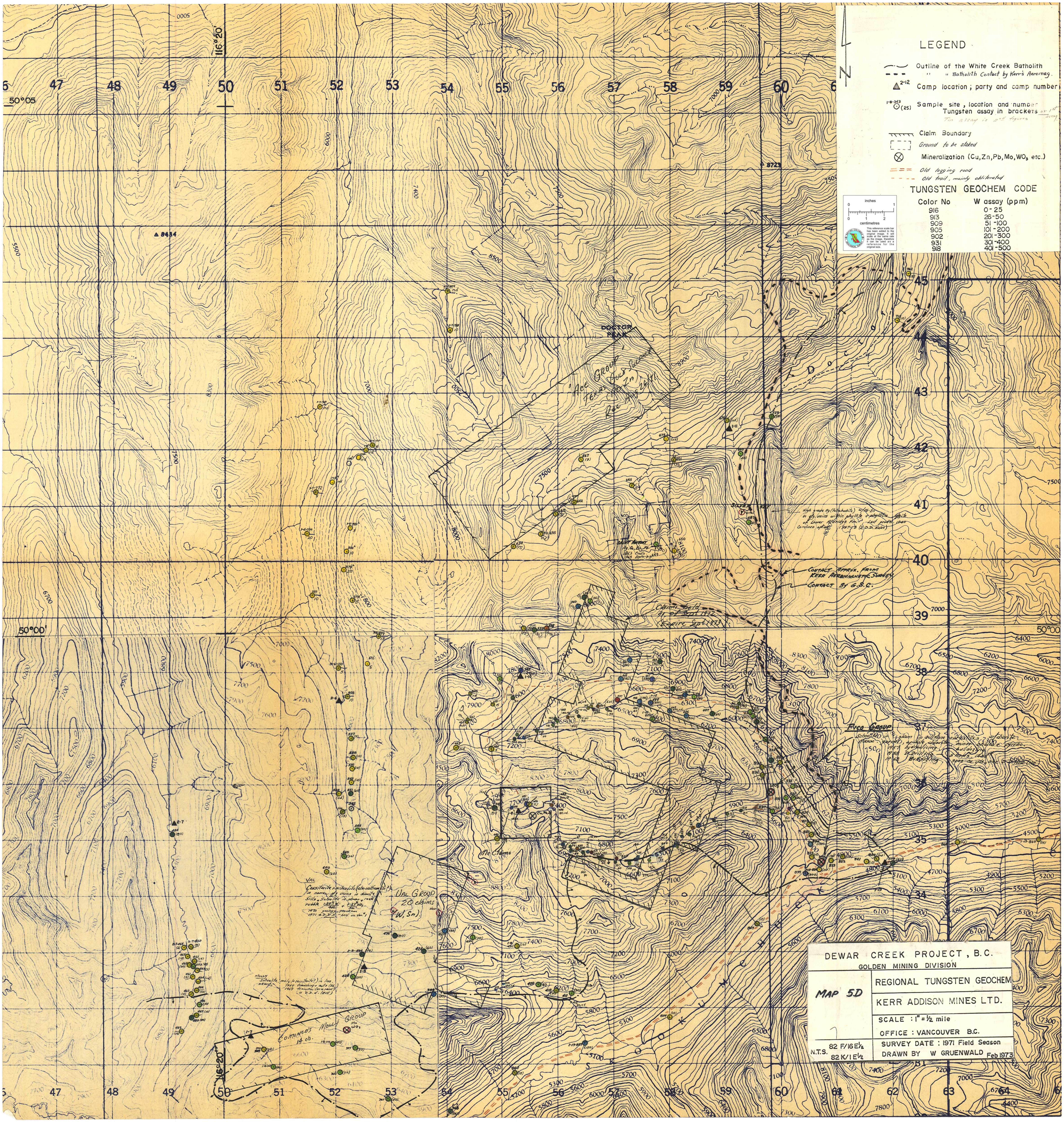

LEGEND
Claim Location Line
Claim Boundary
Soil Sample Site
Footage Marker
Δ4 Camp Location
Sample plus Geochemical Assay (Cu,Zn,Pb,W,As.) (in parts per million)
Silt Sample Site (all others are SOIL SAMPLES)
Geochem Color Code (Soil and Silt Samples)
Color No. Cu ppm. Zn ppm. Pb ppm. W ppm. As ppm.
916 0-50 0-100 0-25 0-25 0-2
913 51-100 101-200 26-50 26-50 3-8
909 101-200 201-300 51-100 51-100 9-14
905 201-300 301-400 101-200 100-200 15-100
902 301-400 401-500 201-300 200-300 100+
931 401-500 501-600 301-400
918 501-600 601-700 401-1000
928 601-700 701-800 1001-2000
930 701-800 801-900 2001-3000
924 800+ 900+ 3000+
GREENLAND CREEK
NINE CREEK
NINE LAKE
Inset of Mc Claims (1-4)
Geochemical Assay Plan
(Cu, Zn, Pb)
Scale 1" = 200'
BL 0+00
MC and NINE LAKE CLAIM GRP.
Analysis - A.A. - Total
GEOCHEMICAL SOIL SURVEY
LEAD
PROJECT: DEWAR CREEK, BC.
PROJ NO. BC14
N.T.S. 82 F/16E½
MAP NO. 4 C
Pb Contour
SURVEYED BY:
DATE SURVEYED: June 28 to Aug 26, 1972
DRAWN BY:
SCALE: 1" = 400'
KERR ADDISON MINES LTD.
OFFICE: VANCOUVER


NINE LAKE CLAIMS
FORT STEELE MINING DIVISION, B.C.
GEOCHEMICAL PLAN
(TUNGSTEN & TIN)
KERR ADDISON MINES LTD.
SAMPLE ANALYSIS "AA" TOTAL EXTRACTION
(all samples are soils unless otherwise indicated)
PROJECT: DEWAR CREEK (BC-14)
OFFICE: VANCOUVER, B.C.
SURVEYED BY:
DRAWN BY:
MAP NO. 8
N.T.S. 82 F/16 E
SCALE: 1" = 400'
Apr 1973
LEGEND
CLAIM LOCATION LINE WITH CLAIM POST MARKER
I.P. 23
CLAIM BOUNDARY , 52 CLAIM NUMBER
CAMP LOCATION, NUMBER & ELEVATION (ASL)
5 (7640')
SOIL SAMPLE LINE WITH FOOTAGE TO THE LEFT OF LINE; SOIL LOCATION SHOWN AS A CIRCLE WITH SAMPLE NO. ON UPPER RIGHT, TUNGSTEN ASSAY ON LOWER RIGHT
CREEK
SWAMPY AREA
ROCK SAMPLES
ROCK SAMPLE LOCATIONS & TUNGSTEN ASSAYS INDICATED THUS:
ROCK TYPE — D' 56 R — SAMPLE NUMBER
50 — TUNGSTEN ASSAY (P.P.M)
D1 Fresh meta-diorite
D2 Rusty weathering diorite
Q1 Rusty fractured quartzite
Q2 Rusty surfaces
Q3 Rusty weathering quartzite
Q4 Rusty weathering, FeO2 coating
Q5 Gray weathering quartzites
TUNGSTEN GEOCHEM
NOTE: 534 (silt) 20 250 Silt samples indicated thus with TUNGSTEN assay to the right & TIN assay to the left
COLOR NO. TUNGSTEN ASSAY (PPM) TIN (PPM)
916 0 - 25 0-2
913 26-50 3-5
909 51-100 6-8
905 101-200 9-11
902 201-300 12-14
931 301-400 15-17
918 401-500 18-20
924 >500 >20
A3, A, B, C on soil samples indicates soil horizon
N
LAKE
NINE LAKE
GREENLAND CREEK
200 ppm Tungsten
100 ppm Tungsten
400 ppm Tungsten
50 ppm Tungsten
25 ppm Tungsten
CAMP 1 (6800')
CAMP 2
CAMP 3 (7350')
MC 1
MC 2
MC 3
MC 4
BA 1
BA 2
BA 3
BA 4
BA 5
BA 6
BA 7
BA 8
BA 9
BA 10
BA 11
BA 12
BA 13
BA 14
BA 15
BA 16
BA 17
BA 18
BA 19
BA 20
BA 21
BA 22
BA 23
BA 24
BA 25
BA 26
BA 27
BA 28
LINE 33 NW
LINE 32 NW
LINE 31 NW
LINE 30 NW
LINE 29 NW
LINE 28 NW
LINE 27 NW
LINE 26 NW
LINE 25 NW
LINE 24 NE
LINE 23 NE
LINE 22 NE
LINE 21 NE
LINE 20 NE
LINE 19 NE
LINE 18 NE
LINE 17
LINE 16 NE
LINE 15 NE
LINE 14 NE
LINE 13 NE
LINE 12 NE
LINE 11 NE
LINE 10 NE
LINE 9 NE
LINE 8 NE
LINE 7 A NE
LINE 7 NE
LINE 6 NE
LINE 5 NE
LINE 4 NE
LINE 3 NE
LINE 2 NE
LINE 1 NE
LINE 0 NE
LINE 9 E
LINE 13 E
LINE 17 E
LINE 21 E
LINE 25 E
LINE 29 E
LINE 33 E
LINE 37 E
LINE 41 E
LINE 45 E
LINE 49 E
LINE 53 E

INSET OF
DOCTOR CREEK AREA
SCALE 1:50,000
LEGEND
Claim Location Line
Claim Boundary
Soil Sample Site
Silt Sample Site
Creek
Geochemical Assay (Cu,Zn,Pb,As)
(in parts per million)
GEOCHEM COLOR CODE
Color No. | Cu ppm. | Zn ppm. | Pb ppm. | As ppm.
916 | 0 - 50 | 0 - 100 | 0 -25
913 | 51 - 100 | 101 - 200 | 26 -50
909 | 101 - 200 | 201 - 300 | 51 -100
905 | 201 - 300 | 301 - 400 | 101 -200
902 | 301 - 400 | 401 - 500 | 201 -300
931 | 401 - 500 | 501 - 600 | 301 -400
918 | 501 - 600 | 601 - 700 | 401 -1000
928 | 601 - 700 | 701 - 800 | 1001 -2000
930 | 701 - 800 | 801 - 900 | 2001-3000
924 | 800 + | 900+ | 3000 +
Contour Interval 500' (location approximate)
To Doctor Creek
Line 2
Line 1
Line 0
inches
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
DOC CLAIMS
GOLDEN MINING DIVISION, B.C.
ANALYSIS = A.A.-Total
GEOCHEMICAL PLAN
ZINC CONTOUR
KERR ADDISON MINES LTD.
SCALE : 1" = 400'
OFFICE : VANCOUVER, B.C.
Map No D4-B
SURVEYED BY: J. Chow, S. Boyd, K. Stangl, D. Ronning, D. Sharkey, W. Gruenwald 1971; W. Gruenwald, T. LaRose, G. Gruenwald, D. Wright 1972
DRAWN BY: W. Gruenwald.
Jan 1973
Van Report.




INSET OF
DOCTOR CREEK AREA
SCALE 1:50,000
LEGEND
Claim Location Line
Claim Boundary
Soil Sample Site
Silt Sample Site
Creek
Geochemical Assay (Cu,Zn,Pb,As)
(in parts per million)
GEOCHEM COLOR CODE
Color No. | Cu ppm. | Zn ppm. | Pb ppm. | As ppm.
916 | 0 - 50 | 0 - 100 | 0 - 25
913 | 51 - 100 | 101 - 200 | 26 - 50
909 | 101 - 200 | 201 - 300 | 51 - 100
905 | 201 - 300 | 301 - 400 | 101 - 200
902 | 301 - 400 | 401 - 500 | 201 - 300
931 | 401 - 500 | 501 - 600 | 301 - 400
918 | 501 - 600 | 601 - 700 | 401 - 1000
928 | 601 - 700 | 701 - 800 | 1001 - 2000
930 | 701 - 800 | 801 - 900 | 2001 - 3000
924 | 800 + | 900 + | 3000 +
Contour Interval 500' (location approximate)
To Doctor Creek
inches
centimetres
BRITISH COLUMBIA GEOLOGICAL SURVEY
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
DOC CLAIMS
GOLDEN MINING DIVISION, B.C.
ANALYSIS: A.A. - Total
GEOCHEMICAL PLAN
LEAD CONTOUR
KERR ADDISON MINES LTD.
SCALE : 1" = 400'
OFFICE : VANCOUVER, B.C.
Map No. D4-C
SURVEYED BY: J. Chow, S. Boyd, K. Stangl, P. Ronning, D. Sharkey, W. Gruenwald 1971; W. Gruenwald, T. LaRose, G. Gruenwald, D. Wright 1972
DRAWN BY: W. Gruenwald
Jan 1973
Van Report


LEGEND
Outline of the White Creek Batholith
" " Batholith Contact by Kerr's Aeromag.
Camp location ; party and camp number
Sample site , location and number
Tungsten assay in brackets or 1st assay
Tin assay is 2nd figures
Claim Boundary
Ground to be staked
Mineralization (Cu, Zn, Pb, Mo, WO3 etc.)
Old logging road
Old trail, mainly obliterated
TUNGSTEN GEOCHEM CODE
Color No
W assay (ppm)
916 0-25
913 26-50
909 51-100
905 101-200
902 201-300
931 301-400
918 401-500
inches
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
DEWAR CREEK PROJECT, B.C.
GOLDEN MINING DIVISION
MAP 5D
REGIONAL TUNGSTEN GEOCHEM
KERR ADDISON MINES LTD.
SCALE : 1" = 1/2 mile
OFFICE : VANCOUVER B.C.
N.T.S. 82 F/16 E1/2 82 K/1 E1/2
SURVEY DATE : 1971 Field Season
DRAWN BY W GRUENWALD Feb 1973
DOCTOR PEAK
"Ace Group" Texas Gulf Sulphur (Pb Zn) Rec Aug 26/71
Silver Key
High grade Ag (tetrahedrite) w/ Pb-Zn in qtz. veins within phyllite + phyllitic argillite of Lower Aldridge Fm. Last prod'n 1940 Cominco option 1957-8 (2 D.D. Holes)
Saint Antony Ag, Cu, Zn, Pb 1863 Prod'n 1965 Exploration D.D.
Contact Approx. from Kerr Aeromagnetic Survey
Contact by G.S.C.
Claims held as of Sept 1972 Expire Sept 1973
Pico Group
Val Group 20 claims (W, Sn)
Cominco's Molly Group 14 cls.
Mc Claims
Doctor Creek
Skookumchuck Creek
50°05
50°00'
116°20'