

TATLA LAKE PROJECT

MISCELLANEOUS - Report May 29th - June 20th, 1973.

Three other anomalies in the area S.E. of Bluff Lake were covered from the base camp by traverses. Two of anomalies seem to be due to minor pyrrhotite content in greywacke, whereas the third one occurs in calcareous sediments with reddish brown weathering, fossiliferous limestone. The latter contains pyrite in parallel lenses in steeply dipping beds. Some tuffaceous material accompanies the limy rocks. 25 samples were taken from and around these zones.

A Cu showing indicated on Tipper's map was checked. This is located on Sheet 2, Block 7 X: 33,400 Y: 83,000' and probably on the southern edge of Nornada's block of claims. According to Tipper, a trace of bornite occurs in a thin vein in andesite. No color anomaly is indicated on the aerial photos of the area and the showing could not be located. The andesitic rocks in the area are fresh in appearance, but highly fractured and traversed by frequent epidote and a few quartz veinlets. Local shearing was noted at a couple of locations.

4 intrusive stocks on the east side of Klinaklin River as mapped by Tipper and also indicated on the color photos of the area were checked. No outcrops were found in the areas of the two northern stocks, whereas andesite outcrops near or at the top of the hillocks were found which were marked as intrusive stocks.

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A two person prospecting team of Granby Mining Co., which was in the area since May 26, has left Tatla Lake for Smithers. A talk with them revealed that they have staked 4 claims on a showing of quartz veins with arsenopyrite and possibly other sulfides. The location of the claims was not revealed, but this should appear on the published claim maps in due course.

Rock samples to be checked for alteration  
and mineralization

		Sample #	Map
41141 ✓	15	35303	15
41548 ✓		36224	16
41475 ✓		36333 *	9
41817 ✓		36475 *	9
41819 ✓		36524 *	8
36224 ✓		36735	8
36333 ✓		37036	14
36475 ✓		38012	17
38012 ✓		41141	1
36524 ✓		41475	7
36735 ✓		41548	1
37036 ✓		41817	1
35303 ✓		41819	1

\* Hand specimens available @ Bruce Genge.  
Remainder as rock chips @ lab.

## TATLA PROJECT

REPORT FOR THE PERIOD MAY 29 - JUNE 20, 1973

The move for the project was begun on May 29 when the group consisting of 9 persons, 6 of which were employed temporarily for the ~~period~~ purpose, assembled at Williams Lake. The group moved on to Tatla Lake on May 30 after making some necessary purchases, where the base camp was established in a house rented from Graham Inn, which is run by McDonald family. The helicopter, Bell 47G3B, on contract from Trans-West Helicopters, also arrived on the same day at Tatla Lake.

After some reconnaissance flying over the area in general, three field camps were established on June 1, having split the group into 3 parties of 2 persons each.

~~Party~~ Party A, consisting of Art Dawson and Eric Dempster, was located at A, (sheet 2, Block 6, X: 43,000' Y: -500').

Party B, consisting of B. Gupta and Mike Borton, was camped at a location in Block 6 as well, but moved to the present location B, (sheet 2, Block 11, X: -7,200' Y: 21,500') on June 3 due to

the snow condition around the previous site.

Party C, consisting of Brian Hermon and Rick Marsh, was camped at C<sub>1</sub> (Sheet 2, Block 6, X: 37,700', Y: -35,000'), about 6.6 miles south of A<sub>1</sub>.

X SITE A<sub>1</sub>: At least 9 gossan-like zones were examined from this camp-site. As the anomalous zones on colored photos are trending generally along NNW, traverses were run along NE-SW to take chip samples from outcrops, soil or talus depending upon the local condition. Stream sediment samples were also taken from the local streams. A total of 129 samples were collected and sent for analysis.

The rock outcrops and the talus in the areas examined consist predominantly of argillaceous and calcareous sediments, probably of Karnian age (after Tipper). Minor tuff in Karnian sediments and some grit of Kimmeridgian were also encountered. Sparse disseminations of pyrite in sediments in the anomalous areas were found. A trace of azurite was noticed by Art in a conglomerate bed near a volcanic sequence "loaded with pyrite", while making a traverse about 2 miles east of A<sub>1</sub>.

It is concluded that the anomalous coloration

is due to the brownish weathering sediments containing rare traces of pyrite.

SITE C<sub>1</sub>: As the camp here was surrounded by steep hills and valleys, partially covered with snow, regular traverses were not possible across all the adjacent anomalous zones (color anomalies). However, 7 such zones were investigated and a total of 78 rock or talus samples were collected.

Most of the rocks in the area examined consist of andesite, andesitic tuffs and some rhyolite with minor interbedded argillite and conglomerate with some greywacke probably of Hauterivian (after Tipper). The volcanic assemblage resembles greenstone and some of it is heavily pyritized. Heavy pyrite is often accompanied by bleaching and some alteration. A trace of malachite was noted in one specimen. The gossan-like appearance of most of the areas examined is due to the oxidation of pyrite and the accompanying precipitation of iron oxides on rock surfaces, fractures and the adjacent areas. If the presence of copper is indicated by the geochemical results, more work is warranted in this area.

SITE C<sub>2</sub> (Sheet 2, Block 10, X: 3700', Y: 10,600'): Brian & Rick were moved from camp C<sub>1</sub> to C<sub>2</sub> on June 7.

From this site, at least 10 color anomalies were examined and a total of 170 rock, talus or stream sediment samples were taken, while traversing these zones.

The general geology of this area is very similar to that of C<sub>1</sub>, but the rocks are almost exclusively pyroclastics and acidic to intermediate volcanics. Weak to moderate amounts of pyrite and the consequent oxidation of it seem to be the cause of most of the color anomalies. No copper mineral was reported from this area. If the geochemical results indicate interesting values, further work in the area should be interesting due to the close proximity of the intrusive stocks.

SITE C<sub>3</sub> (Sheet 1, Block 11, X: 38,000', Y: 40,600')

Camp C<sub>2</sub> was shifted to C<sub>3</sub> on June 18. Although the result of the investigation is not yet fully available, a boulder with arsenopyrite and traces of chalcopyrite has been reported from one location.

SITE B<sub>1</sub> - A<sub>2</sub>: After camp B<sub>1</sub> was set up on June 3, malachite and chalcocite-bearing float was found on June 4 on a casual traverse east of the camp on the hill slope. When the field work at A<sub>1</sub> was finished on June 8, it was decided to move Art and Eric to the site B<sub>1</sub> to speed up the work.

To cover the area systematically, 12.5 miles of compass and chain lines were laid out by flagging at a spacing of 1200'. A few intermediate lines were run where necessary. Talus, soil or chip samples were taken at intervals of 400' on these lines and a magnetometer survey with readings at every 200' is finished today by Gupta. Although the readings are yet to be fully plotted, a zone of magnetic high, approx. 200'-300' wide, appears to strike NE-SW. 246 samples have been taken so far from the area and sent out for analysis.

The copper mineralization, mostly malachite and some chalcocite, has been found associated with tuffaceous andesite/andesitic tuff which has been considerably epidotized and silicified. The stains of malachite are mostly in quartz or epidote veinlets, or along ~~quartz~~ fracture planes coated with quartz or epidote as it appears from float along the west and south slopes of the hill immediately east of B<sub>1</sub>-A<sub>2</sub>. Most of the float had considerable magnetite associated with it. The geochemical results of the samples and the plotting of magnetic data should show some correlation.

Other anomalies SW of the site A<sub>2</sub>-B<sub>1</sub> are

also being examined, specially the one extending along the valley.

MISCELLANEOUS: Three other anomalies in the area SE of Bluff Lake were covered from the base camp by traverses. Two of anomalies seem to be due to minor pyrrhotite content in graywacke, whereas the third one occurs in calcareous sediments with reddish brown weathering, fossiliferous limestone. The latter contains pyrite in parallel lenses in steeply dipping beds. Some tuffaceous material accompanies the lying rocks. 25 samples were taken from and around these zones.

A Cu. showing indicated on Tipper's map was checked. This is located on sheet 2, Block 7, X: 33,400', Y: 83,000' and probably on the southern edge of Noranda's block of claims. According to Tipper, a trace of bornite occurs in a thin vein in andesite. No color anomaly is indicated on the aerial photos of the area and the showing could not be located. The andesitic rocks in the area are fresh in appearance, but highly fractured and traversed by <sup>frequent</sup> epidote and a few quartz veinlets. Local shearing was noted at a couple of locations.



4 intrusive stocks on the ~~west~~ east side of Klinaklini River as mapped by Tipper and also indicated on the color photos of the area were checked. No outcrops were found in the areas of the two northern stocks, whereas andesite outcrops near or at the top of the hillocks were found, which were marked as intrusive stocks.

A two person prospecting team of Granby Mining Co., which was in the area since May 26, has left Tattle Lake for Smithers. A talk with them revealed that they have staked 4 claims on a showing of quartz veins with arsenopyrite and possibly other sulfides. The location of the claims was not revealed, but this should appear on the published claim maps in due course.

Zach Foggi

# TATLA PROJECT

CITIES SERVICE MINERALS

RECEIVED

JUL 30 1973

REPORT FOR THE PERIOD JUNE 21 - JULY 26, 1973

## PIN GROUP OF CLAIMS:

On the basis of geochemical results and some of the malachite float found in the B, area, 88 claims were staked during the period July 3-8. This group was expanded on July 24 towards west to include 18 additional claims, which brings the total no. of claims in this block to 106.

The malachite float and some malachite staining on altered, epidotized andesite was located in the eastern half and central parts of the staked area comprising of a NNE trending hill and an E-W trending ridge. The malachite float, associated often with magnetite, was, later on, traced to the upper slopes of the ridge in and near several outcrops, which show some mild shearing and epidotization of the tuffaceous andesite/andesitic tuff. Such outcrops are often traversed by veinlets of quartz, with or without carbonate, and epidote and chlorite along fractures, at times along indistinct bedding planes, which exhibit slip effect. Locally, some chalcopyrite was also found as disseminations in the altered andesite. A geological map of the area

is being prepared and a copy of it will be mailed as soon as available.

Geochemical results of the area show high Cu in silt samples from the creek (Chromium Creek), which flows eastward between the hill and the ridge mentioned above. Soil samples from the upper part of Chromium Creek Valley in the west half of the staked area also indicate more than 100 ppm Cu, which is frequently accompanied by high Au content, the background value of which is less than 30 ppb.

The magnetic survey conducted earlier along easily accessible lines indicate a modest magnetic high trending N60E on the hill in the NE quarter of the area. The extension of this trend towards <sup>W</sup>W along the Chromium Creek Valley has been indicated by contoured values (100 and 150 ppm) of Cu and Mo (2 ppm) in the soil samples. Intense shearing and formation of bleached sericite schist was observed at a location north of the base line on line 6E, ~~located~~ running over this ENE trending zone and it is assumed that this zone represents a shear, parts of which may carry Cu mineralization as indicated by the malachite float on north side of the base line between lines 6E and 18E.

As part of this area has yet to be sampled and some of the geochemical data is still not available, it will take some time before a clear picture of the mineralization emerges.

~~X~~<sup>3</sup>

AREA A3 (Sheet 2, Block 5, X: -8,200 Y: -55,000)

Although camp A3 was set up on June 21, only 70 samples covering 4 of the 6 anomalies were obtained during the period upto June 25; this was partly due to very steep slopes and partly due to the lost time on an injury sustained by Art Dawson. However, the geochemical results proved to be most encouraging by showing anomalous Mo and high Cu contents in silt sediments and rock chip samples from the outcrops, the peak value being 437 ppm Cu and 235 ppm Mo from a silt sample. Generally the values of Cu and Mo are higher in silt samples than in the rock chip samples of the area. The peak values of Cu and Mo from chip samples are 156 and 104 ppm respectively (two different samples), <sup>the corresponding samples being</sup> taken from the southern slope of an E-W trending ridge west of Twist Lake.

The outcrops observed in the area are those of the Coast Range intrusive, mostly of biotite granite and quartz diorite phases with some felsitic and granophytic dykes. Minor amount of hornfels and baked andesitic tuff occur in the area, which could

roof pendants. The visible mineralization was that of pyrite disseminations, mostly in the intrusive; this gives rusty coloration to the adjacent areas defining them as color anomalies.

The chip and silt samples anomalous in Cu and Mo define a NW trending pattern half a mile long and could be of some value in further work, which will be carried out immediately. All the rock samples with anomalous Mo were of biotite granite.

X<sup>4</sup>

AREA A<sub>4</sub> (Sheet d, Block 10, X: 16,000', Y: 35,000')

This camp was set up on June 26, but the field work in the area was interrupted by the long week-end break (4 days) at the end of June, and by the staking activity of the Pin group, when Eric Dempster was put on the staking job with Ed. The field work in the area was resumed on July 8 for 3 more days and a total of 71 samples were collected, all of the samples except 3 being rock chips from outcrops. The geochemical result is not yet at hand.

The area is underlain by andesitic and dacitic volcanics and tuffs of Hauserivian age with minor amount of shyslite and acidic tuff. All the color anomalies show pyrite mineralization accompanied by some oxidation giving rusty appearance to the rocks. Some silicification and epidotization of the effusives was noted, presumably due

to the presence of a NNW striking fault zones traversing the area.

X<sup>5</sup> AREA A<sub>5</sub> (Sheet 2, Block 6, X: 16,500', Y: -11,500')

The field-work in this area, located just north of the Middle Lake, was started on July 13 and was finished on July 24. A total of 266 silt, soil and rock chip samples were collected during this period and were sent out for analysis.

Although the area contains a color anomaly of impressive size (2 miles long, 1 mile wide), no copper mineralization was encountered in the area. The area is underlain mostly by Hauterivian intermediate volcanics with some interbedded sediments. These have been subjected to the contact metamorphic effects of the adjacent Coast Range intrusive and are baked, indurated, pyritized, often recrystallized and converted to hornfels. The pyrite dissemination in the rocks has caused this color anomaly on oxidation. It remains to be seen whether geochemical results indicate any base metal mineralization at depth.

AREA B<sub>2</sub> (Sheet 2, Block 10, X: 53,800' Y: 8,400')

This area in the vicinity of Bluff Lake towards WNW was covered during the period June 25-28. The area is traversed by Tchaikaran Fault in NW-SE direction bringing the Coast Range intrusive, principally

diorite, in contact with the late Triassic volcanics, mostly acidic tuff and tuffaceous andesite with some interbedded sediments, mostly greywacke.

Although the area seemed interesting due to the occurrence of the said major fault, the rocks of the area are devoid intensive alteration, except some shearing near the fault area. Traces of disseminated pyrite were noted in some outcrops. A total of 52 soil and rock samples were collected and sent out for analysis, the results of which are being awaited.

### AREA B<sub>3</sub> (Sheet 1, Block 11, X: 7,000', Y: 9,000')

The camp in this area was set-up on July 4 and during the succeeding 7 days, 6 color anomalies and their adjacent area were covered by 112 samples most of which were soil and talus and a few rock chip samples from outcrops. This was due to the difficulty of access to steep slopes and craggy ridges, parts of which were still covered by snow.

The area is underlain by pinkish to greyish white granite to granodiorite of the Coast Range. Biotite occurs as a dominant accessory in the acidic variety of the intrusive, whereas hornblende occurs in less acidic varieties. The intrusive is frequently cut by felsitic and aplitic dykes trending

NW, which is also a prominent direction of fracturing. At the sheared contact of one such dyke was found a malachite stain but this was not considered important due to lack of any significant alteration in the surrounding rocks. A float of a basic dyke rock was also picked up at one location (sample # 36261a), which contained a trace of bornite. The geochemical results of the samples are not yet available.

AREA B4 (Sheet 2, Block 5, X: -12,800', Y: -18,000')

The work in this area, located about 6 miles west of Middle Lake, was started on July 14 and seven color anomalies have been covered till now by 149 samples of various types.

The area is underlain by dacites and andesites of Hauterivian, which are intruded by a stock of the main Coast Range intrusive. This is apparently dioritic to granodioritic in composition and epidotized near its contact with the volcanics. This contact is presently being traced.

The most important feature of this area is the occurrence of disseminated chalcopyrite and some magnetite in the epidotized intrusive and the baked volcanic rock along its contact. Some malachite float was noted on the slope of the hill, on which



the intrusive/volcanic contact is located:

A second occurrence of malachite (x: -4,000', y: +6,000') was noted in the same area at a distance of 2 miles east from the first occurrence. Here, the staining occurs in a rusty, fine grained, siliceous, whitish rock, presumably a chilled phase of the intrusive as sill, along the fractures. The occurrence does not seem to be of much consequence, but the geochemical results from the surroundings should be interesting.

AREA C1: The geochemical results from this area indicated high Cu (upto 240 ppm), Zn, Pb, Ag and some Au in rock chips of greenstone outcrops. It is interesting to note that the samples with high metal content are distributed in a linear pattern along NS0W, which is also the general strike of the volcanics. The second interesting feature is the zonal distribution of metals along this trend, Pb, Zn and Ag being towards the NW end, whereas Cu towards the SE end, with some Zn. To continue exploration on this trend towards SE, Brian and Rick were moved yesterday again in this area and the radio code today indicated their find of chalcopyrite and malachite, apparently associated with a small intrusive stock.

AREA C2: The geochemical results from this area

gave 3 silt samples high in Cu ( $>100$  ppm); the cause was found to be the presence of traces of chalcopyrite in a quartz veinlet in tuffaceous andesite along the stream. This is not considered important and more work is not warranted in this area.

AREA C3 (Sheet 1, Block 11, X: 38,000', Y: 40,600')

This area was considered important since it is located on the NW-flank of a probable SW-plunging anticline, on the SE-flank of which is located a Au showing of Kleena Kleena Gold Mine. The rock types in the area as well as around the gold showing are similar, i.e. argillite, greywacke, siltstones and some tuffaceous rocks. Most of these, in the present area, are affected by the adjacent granitic intrusion and have been baked, silicified to some extent and some of them converted to hornfels. The disseminations of pyrite and pyrrhotite occur in hornfelsic and indurated rocks. Besides a grain of chalcopyrite, which was noted in a sample of baked ~~intrusive~~ tuffaceous siltstone (sample # 37259), no other encouraging base metal mineralization was found in this area. The same sample also contained 600 ppt. Au.

A total of 96 samples, mostly from outcrops and talus, were collected from this area during June 19-26.

AREA C4 (Sheet 1, Block 11, X: 27,200', Y: 10,500')

A longer than normal duration of 14 days was spent to do prospecting, some geological mapping and sampling in the area. A total of 245 soil, talus, silt and rock samples were collected, the results of which are not yet fully known. This area was considered important since it is located near the huge gossan (3 miles long and more than a mile wide), which extends eastward to the Pin Group area.

The important geologic features of this area are (1) the presence of at least 2 shear zones striking roughly E-W, (2) <sup>the</sup> granitic intrusive in the southern part, the contact of which with the volcanics strikes WNW-ESE, (3) intense contact metamorphic effect of the intrusive as shown by the conversion of Hauterivian volcanics and minor sediments to hornfelsic rocks and (4) extensive occurrence of pyrite in various hornfelsic rocks.

One of the two shears in the central part of the area, which may be extension of the shear along Chromium Creek Valley of the Pin Group, runs along WNW in the western part and gradually swings to an E-W attitude. Fault gouge along it as well as sericitization of hornfels on either side of it was noted during the survey. Some of the chip samples adjacent to this

fault zone show higher values of Cu ranging upto 330 ppm. The evaluation of this area will be done fully when more geochemical results will be available. Traces of chalcopyrite were reported from a couple of locations not connected with this fault zone.

AREA C5 (Sheet 1, Block 16, X: 30,000', Y: 19,900')

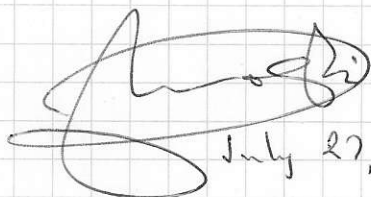
This area west of Mellinchy Lake was selected due to the proximity of <sup>the</sup> Cu showing/s(?) of Anaconda claims. 16 color anomalies in the area were covered by 297 soil, silt and chip samples during the period July 14-24.

The major part of the area covered is underlain by the Coast Range granodiorite, diorite and their finer grained equivalents. However, volcanics, most of which are baked and indurated, occur as roof pendants and xenoliths in the intrusive. As in other areas previously described, the volcanics are mostly silicified, chloritized and often recrystallized to hornfelsic varieties. Occurrence of pyrite disseminations in the area is not as abundant as at other places. Most of the anomalies were due to the reddish brown coloration on weathered surfaces of the intrusive and some rusty patches in volcanics due to the oxidation of pyrite.

At a location about a mile east of Mellinchy Lake, a small blob and minor disseminations of chalcopyrite associated with pyrite cubes in rusty gtz-diorite were

found. Four claim posts with government lease tags were found nearby, so it is likely that this showing must be on Anaconda claims.

Several other isolated color anomalies on sheets 1 & 2 were explored, but none was found interesting enough to merit its mention.

  
July 27, 1973

## TATLA PROJECT

REPORT FOR THE PERIOD JULY 27 - AUGUST 30, 1973.

X<sup>4</sup>. AREA A<sub>4</sub> (Sheet 2, Block-10, x: 16000' y: 3500')

All The geochemical results of The samples taken from This area have been singularly discouraging for any further work.

X<sup>5</sup>. AREA A<sub>5</sub> (Sheet 2, Block 6, x: 16500' y: -11500')

Some of The soil samples and a few chip samples from outcrops in The area covered gave high Cu, Mo and Zn values. The highest Cu in soil samples is at 484 ppm, although the general high remains at The level of 100-236 ppm. The higher values of Mo (4-12 ppm) seem to coincide with high values of Cu in soil samples. In contrast to This tendency separate rock chip samples show high values in Cu and Mo which range from 100-209 Cu and 6-11 ppm Mo. Most of The high samples were taken from The area 3,000' x 2,000' -

located on the south margin of the big colour anomaly by the north-west side of Middle lake.

(Sheet 2, Block 6, X: 13,000' Y: 15,000') All the chip samples giving relatively high Cu values were from volcanic hornfels outcrops.

AREA A<sub>6</sub> (Sheet 2, Block 5, X: -16,500' Y: -48,500')

The work in this area having a long colour anomaly (14,000' x 3,000') NNW of Twist lake was done during the period July 26 - August 11.

A total of 324 soil, silt and chip samples were taken during this period.

A Chalcopyrite-molybdenite occurrence at X: -19,000' Y: -45,500' in medium to relatively finer grained granodiorite was found in the early stages of the work on the slope of a cirque. This was followed up by detail sampling at intervals of 50'-100' of outcrops. It was observed that most of the chalcopyrite-molybdenite mineralization along with pyrite occur in intensely fractured rocks, as minute fracture fillings and coatings; The mineralized fractures

trend predominantly along N 10-30E and along N 80E to E-W; The former being more numerous; The spacing between fractures varies from 2"-18". The fresh looking granodiorite, which is a part of The Coast Range Intrusive, is slightly silicified (quartz along some of the minute fractures) and at times contain tiny felted biotite which could be hypogene. Biotite is the chief mafic accessory often showing well developed hexagonal crystal outlines when broken parallel to the basal cleavage.

Besides granodiorite, the intrusive seems to be occurring in several other phases; these are granite to quartz diorite and diorite, probably some syenodiorite (including probable quartz monzonite) and some late stage hypabassal phases such as Biotite-Felspar Porphyry, Quartz-Biotite-Felspar Porphyry, aplite and microgranite to microdiorite. Some volcanic hornfels occur in the area as small isolated patches,



which are considered as xenolith blocks of the adjacent, invaded country rocks. Most of the outcrops of the intrusive and the cross-cutting dykes are weak to moderately magnetic and often contain visible minute scattered grains of magnetite. However, it is not clear whether magnetic survey of the intrusive could be used to delineate sulphide mineralization.

On the basis of the above showing, a block of 48 claims was staked on Aug. 19-20, when it was noticed that a 2-man party of Placer Ltd. had done some staking in the immediate vicinity of Aug. 18.

Although the whole complete geochemical results are not yet available, the partial result shows a high Cu-Mo pattern around the showing including soil and silt samples in the cirque area. The Cu and Mo content of the rock chip samples from unmineralized outcrop apex at 206 and 19 ppm respectively against the

general best ground of 12-50 ppm Cu and 21 ppm Mo. The soil samples from the lower area are generally higher in Cu. (max - 352 ppm) and Mo (max - 96 ppm) contents. The higher values of Cu & Mo occur in the same rock chip and soil samples. Some of the mineralized samples sent for assaying returned values of Cu varying from 20.01% to 0.18% and those of Mo 20.01% to 0.048%. With one selected sample assaying 1.85% Mo. Gold assays of all the samples were 20.003 oz/ton. It is suspected that some oxidation and leaching of copper mineralization might have taken place due to the presence of pyrite as disseminations and along the fractures in the rocks of the area and the abundance of limonite giving the colour anomaly on the northeast side of the mineralized area. The oxidation and leaching of copper oxides might give lower assays of the surface samples.

AREA A<sub>7</sub> (Sheet 2, Block 5, X: -6,200' Y: -37,300')

The work in this area, which contains the northern part of the colour anomaly of A-6 area was started from Aug-13 and is just being finished. A total of 115 soil, silt and chip samples were taken from the area; the geochemical results of these are not yet at hand.

The general geology of the area is same as that of A-6 area except that the granitic phase and to a lesser extent the dioritic phase take relatively more space than the granodioritic phase. Traces of chalcopyrite were noted from several samples scattered in the area but none was considered impressive to overtake a part of the Noranda claims in the area which expired on Aug-23.

AREA B<sub>3</sub> (Sheet-1, Block 11, X: 7,000' Y: 9,000')

The soil samples from this area showed high Cu and Zn contents varying from

112 to 424 ppm Cu (back ground 15-45 ppm Cu)  
and up to 317 ppm Zn (back ground 60-100 ppm Zn)  
As given in the last report traces of malachite  
were found in this area at the contact of  
an aplite dyke within the Coast Range Intrusive  
the geochemical highs coincide with the  
color anomalies marked near this occurrence.  
Further work is planned from the present  
B<sub>6</sub> camp.

AREA B<sub>4</sub> (Sheet 2, Block 5, X: -12,800' Y: -18,000')

A chip sample from chalcopyrite - mala-  
chite occurrence at the contact of volcanics with  
a diorite (a part of the Coast Range Intrusive)  
stock returned 3360 ppm Cu on analysis but only  
1 ppm Mo; a similar float gave 3840 ppm Cu and  
3.0 ppm Ag. Soil and rock chip samples from  
outcrops in the general vicinity returned low  
Cu values with highs in 100-129 ppm range  
except 3 soil samples not too far from the  
showing. This is not considered interesting and

no further work is warranted in the area.

Similarly a series of silt samples taken from the Hell Raving Creek on the SE side of the ridge with the above showing gave Cu values ranging from 46-122 ppm and Mo from 1-8 ppm. This is not considered interesting for further work.

AREA B<sub>5</sub> (sheet 2, Block 5, X: -19,400' Y: -5,200')

The field work in this area was performed between July 27 - August 13, covering 14 anomalies by a total of 347 soil, silt, talus and chip samples from the outcrops along the various traverses. Most of the area covered is underlain by granitic to dioritic phases of the Coast Range Intrusive with scattered outcrops of the hornfels, probably contact metamorphosed Hauterivian volcanics. Dykes and sills of aplite, granophyre, microdiorite and felspar porphyry are numerous throughout the area.

A medium of finer grained granodiorite forming the peak of a mountain (9100') just WNW

of the campsite has an occurrence of malachite, azurite, molybdenite and traces of chalcopyrite on the north side of the peak as seen by the float nearby. The showing could not be examined as it is exposed on the very steep northern slope. An assay of a float sample gave 0.082% Mo whereas another float sample containing chalcopyrite gave 2.61% Cu and 0.008 oz/ton Au. Other float samples gathered at the foot of the north slope of this mountain assayed 1.05% and 2.56% Cu and 0.006-0.007% Mo. Any further work on this northern slope appears almost impossible due to its steepness. Volcanic hornfels is exposed at the base of the slope but it does not contain any sulphide mineralization.

Although the complete geochemical results are not yet available, a weak Cu 'high' is indicated in soil and talus samples from the upper south slope of the same mountain.

No further work is suggested in this area except on the upper mountain slopes of the Cu-Mo showing.

AREA B6 (sheet 1, Block II, X: 7,500' Y: 2,000')

The field work in this area commenced on August-15 and is still continuing. The area is very rugged and a large number of samples taken till now are from talus. Some float of bornite, malachite, azurite, covellite and chalcopyrite associated with quartz and pinkish to gray granite was encountered at the outset along two parallel glaciated valleys on the north and south side of a ridge trending almost E-W just south of the camp site. The richer mineralization is associated with quartz in irregular fractures, whereas some azurite, malachite, patches of chalcopyrite and bornite were noted on fracture planes of fresh looking massive granites, which are often traversed by quartz or quartz-felspar veins and veinlets.

A traverse on the south lower slope of the ridge proved futile in locating any mineralization in gray granite, cut by dykes of aplite and microgranite. The rocks are very fresh in outcrops and blocky with the fractures spaced at several feet.

AREA C<sub>4</sub> (Sheet 1, Block 11, X: 27,200' Y: 10,500')

The geochemical results of silt samples along a creek, which drains the south west of the huge gossan zone striking WSW-ENE with the Pin group at its ENE end showed high Cu and Mo values ranging from 108-178 ppm and 7-60 ppm respectively. Also some of the chip samples from the outcrops on the north slope of the ridge south of the subject creek gave high Cu values. ( $\pm 200$  ppm) Therefore, it was felt that this area should be explored further and Brian & Rick were moved over there again on Aug. 14. The area for field work was extended towards east & west to cover 11 additional colour



anomalies. A total of 135 samples (all chip and talus) were taken during this period up to Aug-25.

Although no significant mineralization was found in the area previously covered, several scattered outcrops with stains of malachite and traces of chalcopyrite were located in the eastern part of the area. An outcrop of diorite, located at  $x: 28,300'$ ,  $y: -1100'$  (Block - 5, Sheet - 1) was found to be traversed by a quartz vein containing abundant malachite and azurite stains with some chalcopyrite and bornite. The vein is at least 100' along strike (N 80 E) and varies in width from 1' to at least 5'. This is not considered important as the enclosing quartz-diorite is unaltered. The geochemical results from this area should be of interest.

AREA C<sub>6</sub> (Sheet 2, Block 6,  $x: 37,900'$   $y: -33,400'$ )

The field work in this area done during the period of July 26 - Aug. 13 overlaps part of the area covered by Camp C<sub>1</sub>. The decision

Am?

to set up the camp at C<sub>6</sub> was taken due to the presence of two anomalies - one of Pb, Ag, Zn and the other of Cu in C<sub>1</sub> area. During this period a total of 40 <sup>colour</sup> anomalies were explored, of which 30 are in C<sub>6</sub> area and 10 located about 3-4 miles north of Middle lake. A total of 411 soil, silt, chip and talus samples were taken for geochemical analysis.

The area is underlain by Cretaceous intermediate to basic volcanics, breccia and their tuffaceous equivalents with minor, thin interbedded sediments; the Cretaceous rocks are shown as having a thrust contact with the upper Triassic (Late Norian/Rhaetian) sediment, (mostly dark gray shales and argillite, maroon shales and some tuffaceous sediment) and minor volcanics, but no evidence of a thrust was found during the field work. The Cretaceous (Hauterivian) units are intruded by a diorite stock (about 12,000' x 6,000') centered in the upper.

part of the valley NE of the White Saddle Mountain. Granodiorite and the granitic phases of the Coast Range Intrusive also occur in the south east and southern parts of the area covered.

In the early stage of the field work, ~~an~~ malachite and chalcopyrite occurrences were located in the diorite stock along the fractures at N 40-50E with steep dips towards NW. This direction coincides with the trend of that part of the valley which straddles the north slope of the White Saddle Mountain. The copper mineralization occurs almost exclusively as fracture-filling and surface coating disappearing away from the fracture into the massive rock. The scattered Cu mineralization along the fractures, was observed over an area of 6,000' x 2,500'. Typical assays of 3 grab samples (selective) from different locations gave 0.96%, 0.35% and 2.7% Cu; the last one also contained 0.35 oz/ton Ag and 0.14 oz/ton Au; The other samples

having no significant values of Au or Mo. As pyrite was rarely seen accompanying chalcopyrite or malachite the chances of large-scale oxidation and leaching are ruled out. The mineralized fractures in the diorite are widely spaced. Some malachite staining was also noted on a few fractures along N 50-70 W; this also is the direction of some of the shears occurring in diorite along which the rock is carbonatized. (The presence of brownish siderite / ankerite (?) in and near <sup>\*?</sup> this narrow zones) Most of the diorite outcrops around mineralized area show varying degree of alteration although still retaining the distinctive texture. Chlorite, sericite, carbonate and epidote are common alteration products which are typical of propylization. It is interesting to <sup>note</sup> that the copper mineralization is confined only to this diorite stock and not in the adjacent intruded rock and also not found in the more acidic intrusive phases south and southeast of the area, where only pyrite

\*  
? this narrow zone  
or  
these narrow zones.

was noted.

In order to find close space fracturing with better copper mineralization, a base line along The Valley (N20E) was laid out and four lines (22 S, 11 W, 24 N and 36 N) were run perpendicular to it at suitable places so that an I.P. survey could be run along these lines. Thus, a total of 17,600' of line were cut, flagged, chained and soil or talus samples were taken along them at 200' intervals. The I.P. survey was conducted on the base line from 8 S to 35 N, on line 11 W from 1 W to 12 E and on line 24 N from 10 W to 14 E using dipole-dipole method with electrode intervals of 200'. The I.P. result on the base line is characterized by low F.E. (0.5-2.0) and high resistivity (approx 9000-2,500  $\Omega$ ) except in the vicinity of the third lake on the northern part of the line. An extremely weak deep (450'), F.E. of 3.1-3.2% combined with the lower resistivity (364  $\Omega$ ) was noted between 19 N & 25 N. This is about as far

north as the diorite stock has been traced up on the w. slope of the ridge, whereas volcanics were noted towards the valley on the lower edges of the outcrops. This anomaly could be significant if diorite underlies the surficial volcanics. The weakness of the F.E. may be due to the averaging effect of the large volume of barren rock. The I.P. result on line 24 N shows a similar weak F.E. of 3.6% from 1E to 3E coupled with fairly high resistivity (820  $\Omega$ ). The I.P. survey on line 11 N gave a fairly uniform F.E. of 0.2-1.5%. The geochemical results of soil and talus samples from the valley and lower slopes should be of interest in interpreting this weak I.P. effect.

AREA G7 (sheet 1, Block 4, X: 50,500' Y: -10,700')

The field work in this area commenced on Aug-27 and is still continuing. All the granite and granodiorite, often porphyritic with large crystals (up to 1") of biotite, examined so far look very fresh. Limonitic coatings were encountered

along the fractures of some outcrops which, seem to have produced colour anomalies.

### Miscellaneous

The I.P. crew from Smithers arrived at Tatla Lake on Aug. 11 and were moved to the Pin Group of claims on the following day. After the initial difficulty of grounding the electrodes, 3 bags (each of 100 lbs) of calcium chloride were supplied for use as solute. As digging of the holes for electrodes was found time consuming in the hard talus and shallow bedrock, 55 sticks of dynamite (60%), sufficient ~~to~~ black fuse and caps were supplied for quicker action. During the stay of the I.P. crew, 2 days were lost in the moves, one from Tatla Lake to Pin Group and the other from Pin Group to C<sub>6</sub> area. Thus a total of 12 productive days were obtained out of 16 days stay of the I.P. crew at Tatla Lake up to Aug. 27. A total of 36,700' (~~36,700~~<sup>7.0</sup> miles) of lines were covered by I.P. survey.

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of which 28,700' (5.44 miles) of lines were on  
the Pin Group and 8,000' (1.55 miles) on C6 area.

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TATLA LAKE PROJECT

AREA A 4. (Sheet 2, Block 10, X: 16,000' Y: 3,500') - Report 21.6.73 - 26.7.73.

This camp was set up on June 26, but the field work in the area was interrupted by the long weekend break (4 days) at the end of June, and by the staking activity of the Pin group, when Eric Dempster was put on the staking job with Ed. The field work in the area was resumed on July 8 for 3 more days and a total of 71 samples were collected, all of the samples except 3 being rock chips from outcrops. The geochemical result is not yet at hand.

The area is underlain by andesitic and dacitic volcanics and tuffs of Hauterivian age with minor amount of rhyolitic and acidic tuff. All the color anomalies show pyrite mineralization accompanied by some oxidation giving rusty appearance to the rocks. Some silicification and epidotization of the effusives was noted, presumably due to the presence of a NNW striking fault zones traversing the area.

AREA A 4. (Sheet 2, Block 10 X: 16000' Y: 3500') Report - 27.7.73 - 30.8.73.

All the geochemical results of the samples taken from this area have been singularly discouraging for any further work.

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TATLA LAKE PROJECT.

AREA A 5. (Sheet 2, Block 6, X: 16,500' Y: - 11,500') Report 21.6.73 - 26.7.73.

The field work in this area, located just north of the Middle Lake, was started on July 13 and was finished on July 24. A total of 266 silt, soil and rock chip samples were collected during this period and were sent out for analysis.

Although the area contains a color anomaly of impressive size (2 miles long, 1 mile wide), no copper mineralization was encountered in the area. The area is underlain mostly by Hauterivian intermediate volcanics with some interbedded sediments. These have been subjected to the contact metamorphic effects of the adjacent Coast Range intrusive and are baked, indurated, pyritized, often recrystallized and converted to hornfels. The pyrite dissemination in the rocks has caused this color anomaly on oxidation. It remains to be seen whether geochemical results indicate any base metal mineralization at depth.

AREA A 5. (Sheet 2, Block 6, X: 16500' Y: - 11500') - Report 27.7.73 - 30.8.73.

Some of the soil samples and a few chip samples from outcrops in the area covered gave high Cu, Mo and Zn values. The highest Cu in soil samples is at 484 p.p.m., although the general high remains at the level of 100-236 p.p.m. The higher values of Mo (4-12 p.p.m.) seem to coincide with high values of Cu in soil samples. In contrast to this tendency separate rock chip samples show high values in Cu and Mo which range from 100-209 Cu and 6-11 p.p.m. Mo. Most of the high samples were taken from the area 3,000' x 2,000' - located on the south margin of the big colour anomaly by the north-west side of Middle Lake (sheet 2, Block 6, X: 13,000' Y: 15000') All the chip samples giving relatively high Cu values were from volcanic hornfels outcrops.

TATLA LAKE PROJECT

SITE A 1. - Report May 29th - June 20th, 1973. (Sheet 2, Block 6, x: 43,000 y -500)

At least 9 gossan like zones were examined from this campsite. As the anomalous zones on coloured photos are trending generally along N.N.W., traverses were run along NE - SW to take chip samples from outcrops, soil or talus depending upon the local condition. Stream sediment samples were also taken from the local streams. A total of 129 samples were collected and sent for analysis.

The rock outcrops and the talus in the areas examined consist predominantly of argillaceous and calcareous sediments, probably of Karmian age (after Tipper). Minor tuff in Karmian sediments and some grit of Kimmeridgian were also encountered. Sparse disseminations of pyrite in sediments in the anomalous areas were found. A trace of azurite was noticed by Art in a conglomerate bed near a volcanic sequence "loaded with pyrite" while making a traverse about 2 miles east of A1.

It is concluded that the anomalous coloration is due to the brownish weathering sediments containing rare traces of pyrite.

P. 1

TATLA LAKE PROJECT.

SITE B.1. - (A.2.) - Report May 29th - June 20th, 1973. (Sheet 2, Block 11, X: 44,000  
Y: 17,000)  
FIN AREA

After Camp B was set up on June 3, malachite and chalcocite-bearing float was found on June 4 on a casual traverse east of the camp on the hill slope. When the field work at A.1. was finished on June 8, it was decided to move Art and Eric to the Site B.1. to speed up the work.

To cover the area systematically, 12.5 miles of compass and chain lines were laid out by flagging at a spacing of 1200'. A few intermediate lines were run where necessary. Talus, soil or chip samples were taken at intervals of 400' on these lines and a magnetometer survey with readings at every 200' is finished today by Gupta. Although the readings are yet to be fully plotted, a zone of magnetic high, approximately 200'-300' wide, appears to strike NE-SW. 246 samples have been taken so far from the area and sent out for analysis.

The copper mineralization, mostly malachite and some chalcocite, has been found associated with tuffaceous andesite/andesitic tuff which has been considerably epidotized and silicified. The stains of malachite are mostly in quartz or epidote veinlets, or along fracture planes coated with quartz or epidote as it appears from float along the west and south slopes of the hill immediately east of B.1 - A.2. Most of the float had considerable magnetite associated with it. The geochemical results of the samples and the plotting of magnetic data should show some correlation.

Other anomalies S.W. of the Site A.2.-B.1 are also being examined, specially the one extending along the valley.

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TATLA LAKE PROJECT.

AREA A 3. (Sheet 2, Block 5, X: - 8,200' Y: - 55,000'). Report 21.6.73-26.7.73.

Although camp A 3 was set up on June 21, only 70 samples covering four of the six anomalies were obtained during the period up to June 25; this was partly due to very steep slopes and partly due to the lost time on an injury sustained by Art Dawson. However, the geochemical results proved to be most encouraging by showing anomalous Mo and high Cu contents in silt sediments and rock chip samples from the outcrops, the peak value being 437 p.p.m. Cu and 235 p.p.m. Mo from a silt sample. Generally the values of Cu and Mo are higher in silt samples than in the rock chip samples of the area. The peak values of Cu and Mo from chip samples are 156 and 104 p.p.m. respectively (two different samples), the corresponding samples being taken from the southern slope of an E-W trending ridge west of Twist Lake.

The outcrops observed in the area are those of the Coast Range intrusive, mostly of biotite granite and quartz diorite phases with some felsitic and granophyric dykes. Minor amount of hornfels and baked andesitic tuff occur in the area, which could be roof pendants. The visible mineralization was that of pyrite disseminations, mostly in the intrusive; this gives rusty coloration to the adjacent areas defining them as color anomalies.

The chip and silt samples anomalous in Cu and Mo define a NW trending pattern half a mile long and could be of some value in further work, which will be carried out immediately. All the rock samples with anomalous Mo were of biotite granite.

A-4-E

TATLA LAKE PROJECT

AREA A.6. (Sheet 2, Block 5, X:-16500' Y: - 48500') - Report 27.7.73 - 30.8.73.

The work in this area having a long colour anomaly (14,000' x 3,000') NNW of Twist Lake was done during the period July 26 - August 11. A total of 324 soil, silt and chip samples were taken during this period.

A chalcopyrite-molybdenite occurrence at X: - 19,000' Y: 45,500' in medium to relatively finer grained granodiorite was found in the early stages of the week on the slope of a cirque. This was followed up by detail sampling at intervals of 50' - 100' of outcrops. It was observed that most of the chalcopyrite - molybdenite mineralization along with pyrite occur in intensely fractured rocks, as minute fracture fillings and coatings. The mineralized fractures trend predominantly along N.10 - 30E and along N 80E to E-W; the former being more numerous. The spacing between fractures varies from 2"-18". The fresh looking granodiorite, which is a part of the Coast Range Intrusive, is slightly silicified (quartz along some of the minute fractures) and at times contain tiny belted biotite which could be hypogene. Biotite is the chief mafic accessory often showing well developed hexagonal crystal outlines when broken parallel to the basal cleavage.

Besides granodiorite, the intrusive seems to be occurring in several other phases; these are granite to quartz diorite and diorite, probably some syenodiorite (including probable quartz monzonite) and some late stage hypobassal phases such as Biotite-Feldspar Porphyry, Quartz-Biotite-Feldspar Porphyry, aplite and micro-granite to micro-diorite. Some volcanic hornfels occur in the area as small isolated patches, which are considered as xenolith blocks of the adjacent, invaded country rocks. Most of the outcrops of the intrusive and the cross-cutting dykes are weak to moderately magnetic and often contain visible minute scattered grains of magnetite. However, it is not clear whether magnetic survey of the intrusive could be used to delineate sulfide mineralization.

On the basis of the above showing a block of 48 claims was staked on August 19-20 when it was noticed that a 2-man party of Canex Placer Ltd. had done some staking in the immediate vicinity on August 18th.

Although the whole complete geochemical results are not yet available, the partial result shows a high Cu-Mo pattern around the showing including soil and silt samples in the cirque area. The Cu and Mo content of the rock chip samples from unmineralized outcrop apex at 206 and 19 p.p.m. respectively against the general background of 12-50 p.p.m. Cu and <1 p.p.m. Mo. The soil samples from the lower area are generally higher in Cu. (max - 352 p.p.m.) and Mo (max - 96 p.p.m.) contents. The higher values of Cu and Mo concur in the same rock chip and soil samples. Some of the mineralized samples sent for assaying returned values of Cu varying from <0.01% to 0.18% and these of Mo <0.01% to 0.048% with one selected sample assaying 1.85% Mo. Gold assays of all the samples were <0.003 oz/ton. It is suspected that some oxidation and bleaching of copper mineralization might have taken place due to the presence of pyrite as disseminations and along the fractures in the rocks of the area and the abundance of limonite giving the color anomaly on the northeast side of the mineralized area. The oxidation and leaching of copper oxides might give lower assays of the surface samples.

TATLA LAKE PROJECT

AREA A.7. (Sheet 2, Block 5 X:-6,200' Y: - 37,300') Report - 27.7.73 - 30.8.73.

The work in this area, which contains the northern part of the colour anomaly of A.6 area was started from August 13 and is just being finished. A total of 115 soil, silt and chip samples were taken from the area; the geochemical results of these are not yet at hand.

The general geology of the area is same as that of A.6 area except that the granitic phase and to a lesser extent the dioritic phase take relatively more space than the granodiorite phase. Traces of chalcopyrite were noted from several samples scattered in the area but none was considered impressive to overtake a part of the Noranda claims in the area which expired on August 23rd.



TATLA LAKE PROJECT

AREA B.2. (Sheet 2, Block 10. X: 53,800' Y: 8,400') - June 21.6.73 - 26.7.73.

This area in the vicinity of Bluff Lake towards WNW was covered during the period June 25-28. The area is traversed by Tchaikazan Fault in NW-SE direction bringing the Coast Range intrusive, principally diorite, in contact with the late Triassic volcanics, mostly acidic tuff and tuffaceous andesite with some interbedded sediments, mostly greywacke.

Although the area seemed interesting due to the occurrence of the said major fault, the rocks of the area are devoid intensive alteration, except some shearing near the fault area. Traces of disseminated pyrite were noted in some outcrops. A total of 52 soil and rock samples were collected and sent out for analysis, the results of which are being awaited.

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TATLA LAKE PROJECT

AREA B.4. (Sheet 2, Block 5. X:-12,800' Y: - 18,000') Report 21.6.73-26.7.73.

The work in this area, located about 6 miles west of Middle Lake, was started on July 14 and seven color anomalies have been covered till now by 149 samples of various types.

The area is underlain by dacites and andesites of Hauterivian, which are intruded by a stock of the main Coast Range intrusive. This is apparently dioritic to granodioritic in composition and epidotized near its contact with the volcanics. This contact is presently being traced.

The most important feature of this area is the occurrence of disseminated chalcopyrite and some magnetite in the epidotized intrusive and the baked volcanic rock along its contact. Some malachite float was noted on the slope of the hill, on which the intrusive/volcanic contact is located.

A second occurrence of malachite (X:-4,000' Y:- 18,000') was noted in the same area at a distance of 2 miles east from the first occurrence. Here, the staining occurs in a rusty, fine grained, siliceous, whitish rock, presumably a chilled phase of the intrusive as sill, along the fractures. The occurrence does not seem to be of much consequence, but the geochemical results from the surroundings should be interesting.

AREA B.4./

AREA B.4. (Sheet 2, Block 5 X:-12,800' Y: - 18,000') Report 27.7.73 - 30.8.73.

A chip sample from chalcopyrite - malachite occurrence at the contact of volcanic with a diorite (a part of the Coast Range Intrusive) stock returned 3360 p.p.m. Cu on analysis but only 1 p.p.m. Mo; a similar float gave 3840 p.p.m. Cu and 3.0 p.p.m. Ag. Soil and rock chip samples from outcrops in the general vicinity returned low Cu values with highs in 100-129 p.p.m. range except 3 soil samples not too far from the showing. This is not considered interesting and no further work is warranted in the area. Similarly a series of silt samples taken from the Hell Raving Creek on the S.E. side of the ridge with the above showing gave Cu values ranging from 46-122 p.p.m. and Mo. from 1-8 p.p.m. This is not considered interesting for further work.

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TATLA LAKE PROJECT.

AREA B.3. - (Sheet 1, Block 11 X: 7,000' Y: 9,000') Report 21.6.73 - 26.7.73.

The camp in this area was set up on July 4 and during the succeeding 7 days, 6 color anomalies and their adjacent area were covered by 112 samples most of which were soil and talus and a few rock chip samples from outcrops. This was due to the difficulty of access to steep slopes and craggy ridges, parts of which were still covered by snow.

The area is underlain by pinkish to greyish white granite to granodiorite of the Coast Range. Biotite occurs as a dominant accessory in the acidic variety of the intrusive, whereas hornblende occurs in less acidic varieties. The intrusive is frequently cut by felsitic and aplitic dykes trending NW, which is also a prominent direction of fracturing. At the sheared contact of one such dyke was found a malachite stain but this was not considered important due to lack of any significant alteration in the surrounding rocks. A float of a basic dyke rock was also picked up at one location (sample # 36261a), which contained a trace of bornite. The geochemical results of the samples are not yet available.

AREA B.3. (Sheet 1, Block 11 X: 7,000' Y: 9,000') Report - Jul 27.73 - 30.8.73.

The soil samples from this area showed high Cu and Zn contents varying from 112 to 424 p.p.m. Cu (background 15-45 p.p.m. Cu) and up to 317 p.p.m. Zn (background 60-100 p.p.m. Zn). As given in the last report traces of malachite were found in this area at the contact of an aplite dyke within the Coast Range Intrusive, the geochemical highs coincide with the colour anomalies marked near this occurrence. Further work is planned from the present B.6 camp.

TATLA LAKE PROJECT.

AREA B.6. (Sheet 1, Block 11 X: 7,500' Y: 2,000') - Report 27.7.73 - 30.8.73.

The field work in this area commenced on August 15 and is still continuing. The area is very rugged and a large number of samples taken till now are from talus. Some float of bornite, malachite, azurite, covellite and chalcopyrite associated with quartz and pinkish to gray granite was encountered at the outset along two parallel glaciated valleys on the north and south side of a ridge trending almost E-W just south of the camp site. The richer mineralization is associated with quartz in irregular fractures, whereas some azurite, malachite, patches of chalcopyrite and bornite were noted on fracture planes of fresh looking massive granites, which are often traversed by quartz or quartz-feldspar veins and veinlets. A traverse on the south lower slope of the ridge proved futile in locating any mineralization in gray granite, cut by dykes of aplite and microgranite. The rocks are very fresh in outcrops and blocky, with the fractures spaced at several feet.

TATLA LAKE PROJECT

AREA B.5. - (Sheet 2, Block 5 X:- 19,400' Y: -5,200') - Report 27.7.73-30.8.73.

The field work in this area was performed between July 27 - August 13, covering 14 anomalies by a total of 347 soil, silt, talus and chip samples from the outcrops along the various traverses. Most of the area covered is underlain by granitic to dioritic phases of the Coast Range Intrusive with scattered outcrops of the hornfels, probably contact metamorphosed Hauterivian volcanics Dykes and silts of aplite, granophyre, microdiorite and felspar porphyry are numerous throughout the area.

A medium of finer grained granodiorite forming the peak of a mountain (9100') just WNW of the campsite has an occurrence of malachite, azurite, molybdenite and traces of chalcopyrite on the north side of the peak as seen by the float nearby. The showing could not be examined as it is exposed on the very steep northern slope. An assay of a float sample gave 0.082% Mo. whereas another float sample containing chalcopyrite gave 2.61% Cu and 0.008 oz./ton Au. Other float samples gathered at the foot of the north slope of this mountain assayed 1.05% and 2.56% Cu and 0.006 - 0.007% Mo. Any further work on this northern slope appears almost impossible due to its steepness. Volcanic hornfels is exposed at the base of the slope but it does not contain any sulphide mineralization.

Although the complete geochemical results are not yet available, a weak Cu 'high' is indicated in soil and talus samples from the upper south slope of the same mountain.

No further work is suggested in this area except on the upper mountain slopes of the Cu-Mo showing.

TATLA LAKE PROJECT.

MISCELLANEOUS. - Report July 27th - August 30th, 1973.

The I.P. crew from Smithers arrived at Tatla Lake on August 11 and were moved to the Pin group of claims on the following day. After the initial difficulty of grounding the electrode 3 bags (each of 100 lbs) of calcium chloride were supplied for use as solute. As digging of the holes for electrodes was found time consuming in the hard talus and shallow bedrock, 55 sticks of dynamite (60%), sufficient black fuse and caps were supplied for quicker action. During the stay of the I.P. crew, 2 days were lost in the moves, one from Tatla Lake to Pin group and the other from Pin group to C.6 area. Thus a total of 12 productive days were obtained out of 16 days stay of the I.P. crew at Tatla Lake up to August 27. A total of 36,700' (7.0 miles) of lines were covered by I.P. survey of which 28,700' (5.44 miles) of lines were on the Pin group and 8,000' (1.55 miles) on C.6 area.

Drawing ② Quad ⑪

This area lying north of Drawing ① occurs along a granodiorite - hornfels contact. Several spots high for Cu + Zn occur, but most are in the range of Cu 70-110 ppm & Zn 100-115 ppm except one sample in the granodiorite assaying 218 ppm Cu & 184 ppm Zn on the west edge of the sampled area and another sample in a gossan on the NE edge that assayed Cu 236 ppm and Au 620 ppb. This is one of the higher gold anomalies that we located in the area. #37259

Drawing ③<sup>①</sup> Quad ⑫

This map covers McLinchy Lake area and Camp # C-5. Several areas of anomalous rock & talus samples occur on either side of McLinchy Lake. To the S.E. of the lake, an area with coincident Copper & molybdenum values over 3000' x 1000' warrants further investigation. Values range up to 21 ppm Mo & 410 ppm Cu in one small gossan area. <sup>in sample # 41817</sup> Several other 70-150 ppm anomalous Cu ~~are~~ samples lie to the NE.

North of McLinchy Lake lies a small lake called "Fish Lake" by our crew for obvious reasons. One small area ~~containing~~ indicated by 3 samples between Fish & McLinchy lakes is slightly anomalous in copper. A large area north of Fish Lake contains both Cu + Zn anomalies in rock & talus, with these areas requiring more work. Geologic investigation & analysis of our rock specimens ~~will~~ help.



$$33 \text{ ppm} = 1 \text{ oz}$$

3300 ppb

$$33,000 \text{ ppb} = 1.0 \text{ oz}$$

3300

0.1

330 ppb

$$33,000 \text{ ppb} = 1 \text{ oz}$$

3300

0.1 oz

330

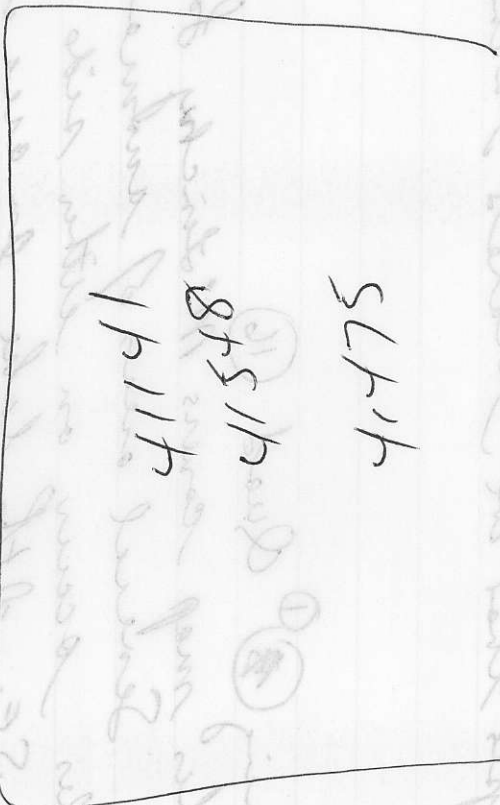
0.01 oz

33 ppb

0.001 oz

1  
1,000,000

1  
1,000,000



① base ② ground

*[Faint handwritten notes in the right margin, including the words 'base' and 'ground', and some illegible numbers and symbols.]*

Drawing ⑦ Quad ⑪

A large area west of the horizon in the vicinity of C-4 camp ~~occurs~~ in volcanics and hornfels in the proximity of an intrusive contact. An area of approx ~~13,000~~ 13,000 x 6400 ~~ft~~ contains anomalous values of copper in silt soil & rock samples. Smaller areas of Mo and Zn anomalies occur within this area. The Mo <sup>values</sup> especially increased in value <sup>up to 60ppm</sup> the further downstream to the north one looks. Copper values range up to 530 ppm in sample # 37376 in the center of the map within 1600' of the ~~soil~~ hornfels - intrusive contact.

Additional smaller areas (1600' x 1600') occur on this map that are anomalous in Cu, Mo, & Zn. These smaller areas as well as the large area all require additional field work to ~~authenticate~~ locate the reason for the anomalies. Preliminary ~~work~~ work in 1973 indicated widespread epidote <sup>with ~~scattered~~ occasional</sup> malachite staining in fractures in volcanics similar to that located on the <sup>the</sup> ~~the~~ <sup>claim</sup>. The bulk of the epidote is located roughly parallel to the contact and from 0 - 3000' ~~into~~ into the volcanics from the intrusive.

Drawing ④ cont'd

quartz veins in blocky talus caused the high assay values shown due to heavy hornite, chalcopyrite, malachite & azurite. The veins appeared to be very widely spaced from observation of talus boulders and the highly anomalous condition represented by samples 36864-36872 is misleading in that only mineralized specimens were selected by the crew. Nonetheless, the source for this spectacular find must be located. Malachite in granodiorite was noted at sample # 36927 in place <sup>near</sup> the east end of the valley. The location of high grade talus approaching the head of the valley would indicate that an area to cover would lie to the west of this valley & west of samples 36880 etc. A large snow field will limit the potential area.

A medium intensity copper-zinc anomaly in soil samples from talus areas at the north end of the map requires further work. Granites & granodiorites have been mapped with malachite on fractures observed in one outcrop. Copper & zinc values <sup>in soils</sup> range from Cu 100-424 ppm & zinc 100-~~295~~<sup>317</sup> ppm in the anomalous area.

Drawing ③⑤ Quad ④

No significant geochemical response was noted on this map. Several gossans have not been traversed however, & this should be completed in 1974.

Drawing  
~~Map~~ (11) Quad (5)

This large area contains several significant Cu-Mo anomalies in both rock, silt, & soil environment.

In the lower right area of the map is a grouping of arsenic-copper values which were recognized early in the field season & as a result a return ~~camp~~ trip was made to enlarge the sampling <sup>program</sup>. The terrain is very steep but silt values up to 235 ppm Mo, <sup>and 437 ppm Cu</sup> the sample # 35128 certainly requires more work. An area of 6400' x 4000' remains of interest as well as several isolated smaller 1-2 sample anomalies.

To the west of the above area lies our A+E claims, ~~over which we staked 48~~ 48 claims were staked over this copper showing when staking activity by Placer Development was noted ~~immediately~~ immediately to the north. Only rock chip sampling has been completed over this mineralized area, and a more detailed program of mapping & sampling is warranted. A ~~final~~ report is included as Appendix <sup>?</sup> on the A+E claims.

Continuing to the top of the map (eastward from A+E claims) lies a series of Cu-Mo highs in Rock, soil & silt. These anomalies are associated with a large gossan 15,000' long by 3000'-5000' wide. One <sup>rock</sup> sample # 35943 ran 375 ppm Mo. This area, although presently held by Placer is worthy of further investigation both with the gossan area and ~~outside~~ <sup>small</sup> outside. An area that requires more work is a <sup>small</sup> gossan north of A+E claims.

Drawing (12) Quad (6)

This map contains several scattered spot highs of medium value with one sample <sup>#41141</sup> containing 1340 ppm gold, lying ~~at~~ <sup>in</sup> the eastern group of results.

Drawing (5) Quad (4)

One area on this map contains 6 samples that form an anomalous with the highest value being <sup>(10)</sup> 10 ppm Mo & 500 ppm Cu at the west edge of the anomaly. This was the last tour comes in the 1973 field season, & spectacularly mineralized talus with chalcopite in stringers & disseminated in the rock was located at the base of steep cliffs.

Drawing (7) Quad (5)

The only sample of any significance on this sheet is # 41475, <sup>on the western edge,</sup> which sampled a 3'-4' basaltic dyke containing blebs of hornite. This sample assayed .002% Mo, .12% Cu & .024 oz Au/ton.

Drawing (4) Quad (11)

This map contains many anomalies, some of which require much additional work. The terrain is rugged & access to ridge tops difficult. The geology is essentially all granites to granodiorites. Because of the rugged terrain many talus samples were taken through inability to reach outcrop, or due to valleys being filled with glacial debris & morainal material.

The anomalous area in the center of the map is represented by nearly all talus samples. Well mineralized

Drawing 10 cont'd

the center of the map area is slightly anomalous in copper (90 ppm) + Mo (6 ppm). A quartz vein in this creek ran 4000 ppm Cu + 170 ppb Au.

Drawing  
~~Map~~ 13 Quad 6-10

This map area contains widespread to slightly anomalous values in Mo, Cu, Zn, As, + Hg, but no significant concentrations are evident. Hg is the most notable + widespread element + the fact that it is so widespread on this map ~~of the~~ ~~area~~ may reflect a ~~stratigraphic~~ control rather than hydrothermal origin. lithologic

A weakly anomalous soil anomaly with Cu values up to 164 ppm + Hg values to 330 ppb occurs in the ESE corner of the map.

The large zinc anomaly in silt (up to 211 ppm) in the south central map area ~~is not explainable~~ is unexplainable at present.

<sup>anomalous</sup> element is a 1 spot high + as such does not appear to have any lateral extent.

Drawing  
~~Map~~ 18 Quad 5

This map contains one area in the NW corner that contains visible chalcopyrite + malachite in talus around the south + east edge of a 9100' peak. Malachite staining was reported on the mountain but other than selected talus samples which are naturally high grade, soils only reach 124 ppm Cu. A short look should

Drawing ⑩ cont'd

and west of the Placer ground.

An area that requires further investigation is in the extreme NE corner of the map area where silt samples (4) run up to 362 ppm Cu & 275 ppm Zn (sample # 39041). Anomalous mercury values are also present. A small gossan upstream from the silt anomaly does not appear to ~~have~~ be adequately mineralized to account for the high silts. ~~More work is needed~~

More work is needed within the whole area.

Drawing  
~~Step~~ ⑮ Quad ⑥-⑩

This map contains a very interesting area of overlapping Cu-Mo-Zn anomalies in rock & soil samples. A large gossan in the lower center of the map was covered & yielded an anomaly about 500' 3000'. Sample # 35303 (rock) ran 48 ppm Mo & 1040 ppm Cu and lies in the center of the anomalous area.

Additional work should be done to the south & west of this anomaly as it is open in this direction.

Drawing (9) (16) Quad (9-10)

The most easterly gossan on this map, elev 5500-6000' has 1 <sup>rock</sup> sample containing 390 ppm Cu in a sheared diorite. Other samples from the gossan are mapped as volcanics so a contact situation appears to be present. The other samples are not highly anomalous.

Drawing (9) (9) Quad (5)

This map contains several anomalies that warrant further checking. The most easterly anomaly is made up of both rock and soil samples. The rock is mapped as (altered tuff?) with one sample <sup>#36333</sup> containing malachite. Soils nearby contain up to 124 ppm Cu & 148 ppm Zn.

The more central <sup>anomaly in the</sup> map area ~~and~~ is made up of 3 zones of Cu highs both in soil & rock samples. Soils running as high as <sup>500</sup> ~~112~~ ppm Cu & <sup>112</sup> ~~278~~ ppm Zn occur on either side of a gossan zone. One rock sample <sup>#36475</sup> mapped as a granitic rock contained malachite & disseminated chalcopyrite; and also 3360 ppm Cu. <sup>This anomalous zone has dimensions of 4200' x 1600'</sup>

Hell-Roaring Creek to the south of the anomalous area ~~is also~~ just discussed is anomalous for Mo, Cu + Zn. for a length of 6400'

Drawing (10) Quad (10)

This map covers the area worked from camp C-2. A number of gossan zones were covered, but no significant geochemical anomalies were encountered. Widespread zinc values up to 164 ppm and arsenic values up to 50 ppm occur, and one creek near



Drawing (8) Cont'd

be given this <sup>peak</sup> area to ascertain if any further work is warranted.

Drawing (14) Quad (6)

This map area encompasses the BRIC area - no claims are staked but I.P. work was conducted over ~~the~~ a small portion of the valley bottom in an attempt to locate areas of increased fracturing <sup>with</sup> mineralization.

~~An altered diorite stock intrudes volcanics~~  
Interesting <sup>Copper</sup> values have been located over a general area of 5000' x 8000' on fractures in an altered diorite.

An area of anomalous zinc values to the NW of the BRIC area on the edge of the map sheet was first located in early work. As sampling progressed eastward an increase in copper values was noted, peaking in the area of comp C-6. Within the area of high zinc values, one sample # 37036 ran nearly 1 oz. silver and 620 ppb Au. No extension of this sample has been located.

Drawing (17) Quad (7)

One sample # 38012 is anomalous for Cu (132 ppm), Zn (880 ppm) + Mercury (1150 ppb). This is a rock which will require further investigation. Several other silts and soils <sup>in the area</sup> are slightly anomalous in zinc + mercury.

Drawing (1) Quad (16)      Camp C-5

This map covers McLinchy Lake area and ~~Group~~ <sup>Group</sup> #C-5. Several areas of anomalous rock and talus samples occur on either side of McLinchy Lake. To the S.E. of the lake, an area with coincident copper and molybdenum values over 3000' x 1000' warrants further investigation. Values range up to 21 ppm Mo and 410 ppm Cu in sample #41817 in one small gossan area. Several other 70-150 ppm anomalous Cu samples lie to the N.E.

North of McLinchy Lake lies a small lake called "Fish Lake" by our crew for obvious reasons. One small area indicated by 3 samples between Fish and McLinch lakes is slightly anomalous in copper. A large area north of Fish Lake contains both Cu and Zn anomalies in rock and talus, with these areas requiring more work. Geologic investigation and analysis of our backup specimens will help.

Drawing (2) Quad (11)      Camp C-3

This area ~~lying north of Drawing (1)~~ occurs along a granodiorite hornfels contact. Several spot highs for Cu and Zn occur, but most are in the range of Cu 70-110 ppm and Zn 100-115 ppm except one sample in the granodiorite assaying 218 ppm Cu and 184 ppm Zn on the west edge of the sampled area and another sample #37259 in a gossan on the NE edge that assayed Cu 236 ppm and Au 620 ppb. This is one of the higher gold analyses that we located in the area.

Drawing (3) Quad (11)      Camp C-4

A large area west of the Pin gossan in the vicinity of C-4 camp occurs in volcanics and hornfels in the proximity of an intrusive contact. An area of 13,000' x 6400' contains anomalous values of copper in silt, soil and rock

samples. Smaller areas of Mo and Zn anomalies occur within this area. The Mo values especially, increase ~~in value~~ <sup>to</sup> up ~~the~~ 60 ppm further downstream to the north, ~~one looks~~. Copper values range up to 530 ppm in sample #37376 in the centre of the map within 1600' of the hornfels - intrusive contact.

Additional smaller areas (1600' x 1600') occur on this map, that are anomalous in Cu, Mo and Zn. These smaller areas as well as the large area all require additional field work to locate the reason for the anomalies. Preliminary work in 1973 indicated widespread epidote with <sup>occasional</sup> malachite staining in fractures in volcanics, similar to that located on the Pin claim. The bulk of the epidote is located roughly parallel to the contact and from 0 - 3000' into the volcanics from the intrusive.

Drawing (4) Quad (11) Camp B-3 & B-6

This map contains many anomalies, some of which require much additional work. The terrain is rugged and access to ridge tops difficult. The geology is essentially all granites to granodiorites. Because of the rugged terrain, many talus samples were taken through inability to reach outcrop, or due to valleys being filled with glacial debris and morrainal material.

The anomalous area in the centre of the map is represented by nearly all talus samples. Well mineralized quartz veins in <sup>o</sup> black talus caused the high assay values shown due to heavy <sup>b</sup> hornite, chalcopyrite, malachite and ~~agirrite~~ <sup>AZURITE</sup>. The veins appeared to be very widely spaced (+5') from observation of talus boulders, and the highly anomalous condition represented by samples 36864-36872 is misleading in that only mineralized specimens were selected by the crew. Nonetheless, the source for this spectacular float must be located. Malachite in granodiorite was noted at Sample # 36927 in place near the east end of the valley. The location of high grade talus approaching the head of the valley would indicate that an area to cover would lie to the west of this valley and west of samples 36880 etc. A large snow field will

limit the potential area.

A medium intensity copper-zinc anomaly in soil samples from talus areas at the north end of the map requires further work. Granites and granodiorites have been mapped with malachite on fractures observed in one outcrop. Copper and zinc values in soils range from Cu 100-424 ppm and zinc 100-317 ppm in the anomalous area.

Drawing (5) Quad (4)

No significant geochemical response was noted on this map. Several gossan have not been traversed however, and this should be completed in 1974.

Drawing (6) Quad (4) AREA C-8

One area on this map contains 6 samples that form an anomalous area with the highest value being 10 ppm Mo and 500 ppm Cu at the west edge of the anomaly. This was the last target covered in the 1973 field season and spectacularly mineralized talus with chalcopyrite <sup>in</sup> ~~or~~ <sup>ers</sup> stringers and disseminated in the rock was located at the base of steep cliffs.

Drawing (7) Quad (5) Camp C-7

The only sample of any significance on this sheet is #41475 on the western <sup>b</sup> edge which sampled a 3'-4' basaltic dyke containing blebs of hornite. This sample assayed .002% Mo, .12% Cu and .024 oz Au/ton.

Drawing (8) Quad (5) Camp B-5

This map contains one area in the NW corner that contains visible chalcopyrite and malachite in talus around the south and east edge of a 9100' peak. ~~M~~ Malachite staining was reported on the mountain but other than selected talus samples which are naturally high grade, soils only reach 124 ppm Cu. A short look should be given this peak area to ascertain if any further work is warranted.

Drawing (9) Quad (5) Camp B-4

This map contains several anomalies that warrant further checking. The most easterly anomaly is made up of both rock and soil samples. The rock is mapped as (altered tuff?) with one sample #36333 containing malachite. Soils nearby contain up to 124 ppm Cu and 148 ppm Zn.

The more central anomaly in the map area is made up of 3 zones of Cu highs both in soil and rock samples. Soils running as high as 500 ppm Cu and 112 ppm Zn occur on either side of a gossan zone. One rock sample #36475 <sup>is</sup> as a granitic rock <sup>in</sup> contains malachite and disseminated chalcopyrite and ran 3360 ppm Cu. This anomalous zone has dimensions of 4200' x 1600'.

Hell-roaring Creek to the south of the anomalous area just discussed is anomalous for Mo, Cu and Zn for a length of 6400'.

Drawing (10) Quad (10) Camp C-2

This map covers the area worked from camp C-2. A number of gossan zones were covered, but no significant geochemical anomalies were encountered. ~~XX~~ Widespread zinc values up to 164 ppm and arsenic values up to 50 ppm occur, and one creek near the centre of the map area is slightly anomalous in copper (90 ppm) and Mo (6 ppm). A quartz veins in this creek ran 4000 ppm Cu and 170 ppb Au.

Drawing (11) Quad (5) Camp A-3 + A-6 + A-7

This large area contains several significant Cu-Mo anomalies in both rock, silt, and soil environment.

In the lower right area of the map is a grouping of molybdenum-copper values which were recognized early in the field season and as a result a return trip was made to enlarge the sampling program. The terrain is very steep but silt values up to 235 ppm Mo and 437 ppm Cu in sample #35128 certainly require more work. An area of 6400' x 4000' remains of interest

as well as several isolated smaller 1-2 sample anomalies.

To the west of the above area lies our A & E claims. 48 Claims were staked over this copper showing when staking activity by Placer Development was noted immediately to the north. Only rock chip sampling has been completed over this mineralized area, and a more detailed program of mapping and sampling is warranted. A report is included as Appendix \_\_\_ on the A&E Claims.

Continuing to the top of the map (eastward from A&E claims) lies a series of Cu-Mo highs in rock, soil and silts. These anomalies are associated with a large gossan 15,000' long by 3000' - 5000' wide. One rock sample #35943 ran 375 ppm Mo. This area, although presently held by Placer is worthy of further investigation both with<sup>in</sup> the gossan area and outside. An area that requires more work is a small gossan north of A & E claims, and west of the Placer ground.

An area that requires further investigation is in the extreme NE corner of the map area where silt samples (4) run up to 362 ppm Cu and 275 ppm Zn (sample #39041). Anomalous mercury values are also present. A small gossan upstream from the silt anomaly does not appear to be adequately mineralized to account for the high silts.

More work is needed within this whole area.

Drawing (12) Quad (6)

This map contains several scattered sp<sup>o</sup>it highs of medium value with one sample #41141 containing 1340 ppb gold, lying in the eastern group of results.

Drawing (13) Quad (6-10)      *Camp A-1*

This map area contains widespread slightly anomalous values in Mo, Cu, Zn, As, and Hg, but no significant concentrations are evident. Hg is the most noticeable and widespread element and the fact that it is so widespread on this lithologic map may reflect a/control rather than hydrothermal origin.

A weakly anomalous soil anomaly with Cu values up to 164 ppm and Hg values to 330 ppb occurs in the ESE, corner of the map.

The large zinc anomaly in silts (up to 211ppm) in the south central unexplainable map area is ~~unexplainable~~ at present.

A 25 ppm Mo value in soil along with other anomalous element is a 1 spot high and as such does not appear to have any lateral extents.

Drawing (14) Quad (6) Camp C-1 & C-6

<sup>but</sup> This map area encompasses the BRIC area - no claims are staked by I.P. work was conducted over a small portion of the valley bottom in an attempt to locate areas of increased fracturing with mineralization.

Interesting copper values have been located over a general area of 5000' x 8000' on <sup>widely spaced</sup> fractures in an altered diorite.

An area of anomalous zinc values to the NW of the BRIC area on the edge of the map sheet was first located in early work. As sampling progressed eastward an increase in copper values was noted, peaking in the area of camp C-6. Within the area of high zinc values, one sample #37036 ran nearly 1 oz. silver and 620 ppb Au. No extension of this sample has been located.

Drawing (15) Quad (6-10) Camp A-4 & A-5

This map contains a very interesting area of overlapping Cu - Mo - Zn anomalies in rock and soil samples. A large gossan in the lower centre of the map was covered and yielded an anomaly about 5000' 3000'. Sample #35303 (rock) ran 48 ppm Mo and 1040 ppm Cu and lies in the centre of the anomalous area.

Additional work should be done to the south and west of this anomaly as it is open in this direction.

Drawing (16) Quad (9-10) Camp B-2

The most easterly gossan on this map, elevated 5500-6000' has one rock sample containing 390 ppm Cu in a sheared diorite. Other samples from the gossan are mapped as volcanics so a contact situation appears to be present. The other samples are not highly anomalous.

Drawing (17) Quad (7)

One sample #38012 is anomalous for Cu (132 ppm), Zn (880 ppm) and Mercury (1150 ppb). This is a rock which will require further investigation. Several other silts and soils in the area are slightly anomalous in zinc and mercury.

*next page*



TATLA LAKE PROJECT.

AREA C.6. - (Sheet 2, Block 6 X: 37,900' Y:-33,400') Report 27.7.73 - 30.8.73.

The field work in this area done during the period of July 26 - August 13 overlaps part of the area covered by Camp C.1. The decision to set up the camp at C6, was taken due to the presence of two anomalies - one of Pb, Ag, Zn and the other of Cu in C.1. area. During this period a total of 40 color anomalies were explored, of which, 30 are in C.6 area and 10 located about 3-4 miles north of Middle Lake. A total of 411 soil, silt, chip and talus samples were taken for geochemical analysis.

The area is underlain by Cretaceous intermediate to basic volcanics, breccia and their tuffaceous equivalents with minor, thin, interbedded sediments; the Cretaceous rocks are shown as having a thrust contact with the upper Triassic (late Norian/Rhactian) sediment, (mostly dark gray shales and argillite, maroon shales and some tuffaceous sediments) and minor volcanics, but no evidence of a thrust was found during the field work. The Cretaceous (Hauterivian) units are intruded by a diorite stock (about 12,000' x 6,000') centered in the upper part of the valley NE of the White Saddle Mountain. Granodiorite and the granitic phases of the Coast Range Intrusive also occur in the southeast and southern parts of the area covered.

In the early stage of the field work, malachite and chalcopryrite occurrences were located in the diorite stock along the fractures at N 40-50E with steep dips towards NW. This direction coincides with the trend of that part of the valley which straddles the north slope of the White Saddle Mountain. The copper mineralization occurs almost exclusively as fracture-filling and surface coating disappearing away from the fracture into the massive rock. The scattered Cu mineralization along the fractures, was observed over an area of 6,000' x 2,500'. Typical assays of 3 grab samples (selective) from different locations/

locations gave 0.96%, 0.35% and 2.7% Cu; the last one also contained 0.35 oz/ton Ag and 0.14 oz/ton Au; the other samples having no significant values of Au or Mo. As pyrite was rarely seen accompanying chalcopyrite or malachite the chances of large scale oxidation and leaching are ruled out. The mineralized fractures in the diorite are widely spaced. Some malachite staining was also noted on a few fractures along N 50-70W; this also is the direction of some of the shears occurring in diorite along which the rock is carbonatized. (The presence of brownish siderite/ankerite (?) in and near this narrow zone). Most of the diorite outcrops around mineralized area show varying degree of alteration although still retaining the distinctive texture. Chlorite, sericite, carbonate and epidote are common alteration products which are typical of propylization. It is interesting to note that the copper mineralization is confined only to this diorite stock and not in the adjacent intruded rock and also not found in the more acidic intrusive phases south and southeast of the area, where only pyrite was noted.

In order to find close space fracturing with better copper mineralization, a base line along the valley (N.20E) was laid out and four lines (22S, 11W, 24N and 36N) were run perpendicular to it at suitable places so that an I.P. survey could be run along these lines thus, a total of 17,600' of line were cut, flagged, chained and soil or talus samples were taken along them at 200' intervals. The I.P. survey was conducted on the base line from 8S to 35N, on line 11N from 1W to 12E and on line 24N from 10W to 14E using dipole-dipole method with electrode intervals of 200'. The I.P. result on the base line is characterized by low F.E. (0.5 - 2.0) and high resistivity (approx. 9000-2,500  $\Omega$ ) except in the vicinity of the third lake on the northern part of the line. An extremely weak deep (450'), F.E. of 3.1 - 3.2% combined with the lower ~~P~~ sensitivity (364  $\Omega$ ) was noted between 19N and 25N. This is about as far north as the diorite stock has been traced upon the w.slope of the ridge, whereas volcanics were noted towards the valley on the lower edges of the outcrops.

This anomaly could be significant if diorite underlies the surficial volcanics. The weakness of the F.E. may be due to the averaging effect of the large volume of barren rock. The I.P. result on line 24N shows a similar weak F.E. of 3.6% from 1E to 3E coupled with fairly high resistivity (820 $\Omega$ ). The I.P. survey on line 11N gave a fairly uniform F.E. of 0.2 - 1.5%. The geochemical results of soil and talus samples from the valley and lower slopes should be of interest in interpreting this weak I.P. effect.

14

TATLA LAKE PROJECT.

SITE C.1. - Report May 29th - June 20, 1973. (Sheet 2, Block 6, x:37,700', y:-35,000')

As the camp here was surrounded by steep hills and valleys, partially covered with snow, regular traverses were not possible across all the adjacent anomalous zones (color anomalies). However, 7 such zones were investigated and a total of 78 rock or talus samples were collected.

Most of the rocks in the area examined consist of andesite, andesitic tuffs and some rhyolite with minor interbedded argillite and conglomerate with some greywacke probably of Hauterivian (after Tipper). The volcanic assemblage resembles greenstone and some of it is heavily pyritized. Heavy pyrite is often accompanied by bleaching and some alteration. A trace of malachite was noted in one specimen. The gossan-like appearance of most of the areas examined is due to the oxidation of pyrite and the accompanying precipitation of iron oxides on rock surfaces, fractures and the adjacent areas. If the presence of copper is indicated by the geochemical results, more work is warranted in this area.

AREA C.1. - Report June 21st - July 26, 1973.

The geochemical results from this area indicated high Cu (up to 240 ppm), Zn, Pb, Ag and some Au in rock chips of greenstone outcrops. It is interesting to note that the samples with high metal content are distributed in a linear pattern along N50W, which is also the general strike of the volcanics. The second interesting feature is the zonal distribution of metals along this trend, Pb, Zn and Ag being towards the NW end, whereas Cu towards the SE end with some Zn. To continue exploration on this trend towards S.E., Brian and Rick were moved yesterday again in this area and the radio code today indicated their find of chalcopyrite and malachite, apparently associated with a small intrusive stock.

TATLA LAKE PROJECT

AREA C.4. - (Sheet 1, Block 11 X: 27,200' Y: 10,500') - Report 21.6.73-26.7.73.

A longer than normal duration of 14 days was spent to do prospecting, some geological mapping and sampling in the area. A total of 245 soil, talus, silt and rock samples were collected, the results of which are not yet fully known. This area was considered important, since it is located near the huge gossan (3 miles long and more than a mile wide), which extends eastward to the Pin group area.

The important geologic feature of this area are (1) the presence of at least 2 shear zones striking roughly E-W (2) the granitic intrusive in the southern part, the contact of which with the volcanics strikes WNW - ESE, (3) intense contact metamorphic effect of the intrusive as shown by the conversion of Hauterivian volcanics and minor sediments to hornfelsic rocks and (4) extensive occurrence of pyrite in various hornfelsic rocks.

One of the two shears in the central part of the area, which may be extension of the shear along Chromium Creek Valley of the Pin Group, runs along WNW in the western part and gradually swings to an E-W attitude. Fault gouge along it as well as sericitization of hornfels on either side of it was noted during the survey. Some of the chip samples adjacent to this fault zone show higher values of Cu ranging up to 330 ppm. The evaluation of this area will be done fully when more geochemical results will be available. Traces of chalcopyrite were reported from a couple of locations not connected with this fault zone.

AREA C.4./

AREA C.4. - (Sheet 1, Block 11 X: 27,200' Y: 10,500') Report 27.7.73-30.8.73.

The geochemical results of silt samples along a creek, which drains the southwest of the huge gossan zone striking WSW-ENE with the Pin group at its ENE and showed high Cu and Mo values ranging from 108-178 ppm. and 7-60ppm. respectively. Also some of the chip samples from the outcrops on the north slope of the ridge south of the subject creek gave high Cu values ( $\pm$  200 ppm.). Therefore, it was felt that this area should be explored further and Brian and Rick were moved over there again on August 14. The area for fieldwork was extended towards east and west to cover 11 additional color anomalies. A total of 135 samples (all chip and talus) were taken during this period up to August 25.

Although no significant mineralization was found in the area previously covered, several scattered outcrops with stains of malachite and traces of chalcopyrite were located in the eastern part of the area. An outcrop of diorite, located at X: 28,300' Y:-1100' (Block 5, Sheet 1) was found to be traversed by a quartz vein containing abundant malachite and azurite stains with some chalcopyrite and bornite. The vein is at least 100' along strike (N 80E) and varies in width from 1' to at least 5'. This is not considered important as the enclosing quartz-diorite is unaltered. The geochemical results from this area should be of interest.

TATLA LAKE PROJECT

AREA C.5. - (Sheet 1, Block 16 X:30,000' Y: 19,900') - Report 21.6.73-26.7.73.

This area west of McClinchy Lake was selected due to the proximity of the Cu showing/s(?) of Anaconda claims. 16 color anomalies in the area were covered by 297 soil, silt and chip samples during the period July 14-24.

The major part of the area covered is underlain by the Coast Range granodiorite, diorite and their finer grained equivalents. However, volcanics, most of which are baked and indurated, occur as roof pendants and xenoliths in the intrusive. As in other areas previously described, the volcanics are mostly silicified, chloritized and often recrystallized to hornfelsic varieties. Occurrence of pyrite disseminations in the area is not as abundant as at other places. Most of the anomalies were due to the reddish brown coloration in weathered surfaces of the intrusive and some rusty patches in volcanics due to the oxidation of pyrite.

At a location about a mile east of McClinchy Lake, small blebs and minor disseminations of chalcopyrite associated with pyrite cubes in rusty quartz-diorite were found. Four claim posts with government lease tags were found nearby, so it is likely that this showing must be on Anaconda claims.

Several other isolated color anomalies on Sheets 1 and 2 were explored, but none was found interesting enough to merit its mention.

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AREA C.7 - (Sheet 1, Block 4, X: <sup>- 500</sup>~~50~~,500' Y: - <sup>- 16 000</sup>~~10,700~~') - Report 27.7.73-30.8.73.

The field work in this area commenced on August 27 and is still continuing. All the granite and granodiorite, often porphyritic with large crystals (up to 1") of feldspar, examined so far look very fresh. Limonitic coatings were encountered along the fractures of some outcrops which seem to have produced color anomalies.



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SITE C.2. - (Sheet 2, Block 10, X: 3700' Y: 10,600').- Report 29.5.73-20.6.73.

Brian and Rick were moved from Camp C.1 to C.2. on June 7. From this site, at least 10 color anomalies were examined and a total of 170 rock, talus or stream sediment samples were taken, while traversing these zones.

The general geology of this area is very similar to that of C.1, but the rocks are almost exclusively pyroclastics and acidic to intermediate volcanics. Weak to moderate amounts of pyrite and the consequent oxidation of it seem to be the cause of most of the color anomalies. No copper mineral was reported from this area. If the geochemical results indicate interesting values, further work in the area should be interesting due to the close proximity of the intrusive stocks.

AREA C.2. - Report June 21st - July 26, 1973.

The geochemical results from this area gave 3 silt samples high in Cu ( 100 ppm.); the cause was found to be the presence of traces of chalcopyrite in a quartz veinlet in tuffaceous andesite along the stream. This is not considered important and more work is not warranted in this area.

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*Camp*  
SITE C.3.

- (Sheet 1, Block 11 X: 38,000' Y: 40,600') - Report 29.5.73-20.6.73.

Camp C.2 was shifted to C.3 on June 18. Although the result of the investigation is not yet fully available, a boulder with arsenopyrite and traces of chalcopyrite has been reported from one location.

AREA C.3. - (Sheet 1, Block 11, X: 38,000' Y: 40,600') Report 21.6.73-26.7.73.

This area was considered important since it is located on the N.W. flank of a probable SW-plunging anticline on the S.E. flank of which is located an Au showing of Kleena Kleene Gold Mine. The rock types in the area as well as around the gold showing are similar i.e. argillite, greywacke, siltstones and some tuffaceous rocks. Most of these, in the present area, are affected by the adjacent granitic intrusion and have been baked, silicified to some extent and some of them converted to hornfels. The disseminations of pyrite and pyrrhotite occur in hornfelsic and indurated rocks. Besides a grain of chalcopyrite, which was noted in a sample of baked tuffaceous siltstone (sample # 37259), no other encouraging base metal mineralization was found in this area. The same sample also contained 600 ppb. Au.

A total of 96 samples, mostly from outcrops and talus, were collected from this area during June 19-26.