

PENDING

B. e. 3.

MAR 11 1964

KERR-ADDISON GOLD MINES LIMITED
(FOR INTER-OFFICE USE ONLY)

825714
104B

To..... P.M. KAVANAGH. From..... W.M. SIROLA.

Subject..... STIKINE AREA EXPLORATION. Date..... March 10th, 1964.

I have held off sending you the Stikine proposal, largely because we keep accumulating information, and we are now in the process of colouring a revised geological picture which we will send on to you this week.

Bill Dunn staked approximately 200 claims, in 6 groups, in this area, and these are shown on the map which we will be sending you.

We expect to have a Bik Syndicate meeting here on Friday, when Jim McLeod returns from the Prospectors Meeting. At this stage, I have no idea as to whether or not McIntyre has any interest in furtherance of the Bik Syndicate.

Apparently, Kennecott are interested in the Schaft Creek area claims, and negotiations are now going on between Kennco and Silver Standard. I feel that before we should agree to farm out this particular group of claims, we had better resolve the degree of involvement we will have this summer in the Bik ground in general.

W.S.R.	
K.C.B.	
R.D.S.	
B.C.B.	
P.M.K.	✓
J.W.H.	
B.A.P.	
C.K.V.	
J.B.S.	
G.P.R.	
E.L.D.	
H.P.	
E.C.T.	
D.V.B.	

Wm M Sirola

pp William M. Sirola.

WMS/iw.

JUN 28 1964

of Be/3.

KERR-ADDISON GOLD MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

- W.S.R.
- K.C.G.
- E.F.
- R.D.S.
- B.C.B.
- C.K.W. ✓
- G.W.M.
- H.A.P.
- C.K.W.
- J.B.S.
- G.P.R.
- K.F.L.
- J.B.
- E.C.J. (circled)

To P.M. KAVANAGH. From W.M. SIROLA.

Subject STIKINE AREA EXPLORATION, B.C. Date June 25th, 1964.

The helicopter left Vancouver Island on June 9th and arrived at Telegraph Creek on June 13th.

The magnetometer recorder was short circuited on the first tryout, probably because the generator polarity on the recorder, which is hooked up to charge the magnetometer recorder battery, has a negative ground, whereas the recorder, oddly enough, has a positive ground. The magnetometer itself is not grounded, because of the rubber insulation inside the case, and did not suffer any damage. However, we had to bring the unit back to Vancouver, and Stan Maurer has, once again, got the equipment functioning. It should be operational again by this weekend.

The first river boat did not arrive at Telegraph Creek until June 19th, and we had no way of moving the camp until that time, because fixed wing aircraft could not land on the swollen Stikine River. You will recall that our first base camp was to be at the junction of the Chutine and Stikine Rivers. In the meantime, however, Roy has the crews out and seems quite impressed by Christian and Bysouth, who are working on separate crews. Roy has been to see a "pebble dyke" type of copper occurrence, discovered by Christian when he was working for Kennco several years ago. The chief charm of this type of occurrence is that it can lead to a major breccia pipe, since these dykes are usually off-shoots of some larger diatreme. I assume, however, that Kennco has made some type of evaluation of this occurrence.

We have received word from the Elsec people to the effect that they consider themselves liable for the damage to the recorder and magnetometer, and we would, therefore, request that you reduce the amount of Elsec's invoice by \$350.55. The Elsec invoice is in the amount of £ 1,314 : 6 : 11d. We will send them a copy of the invoice from Electronic Laboratories. In estimating the total cost of the recorder, I did not take into consideration the 8% sales tax which our current Minister of Finance foisted on the Canadian public during his last budget, largely because the 8% tax was not in effect at the time of the order. There was, however, a 4% tax at that time, and we are now trying, through the customs brokers, to have the tax figure of 4% apply on the recorder purchase. At the moment, it is my intent to leave here Friday afternoon to join the Stikine crew, in the hope of getting the magnetic equipment airborne without further incident.

KERR-ADDISON GOLD MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To.....From.....

Subject.....Date.....

contd/..

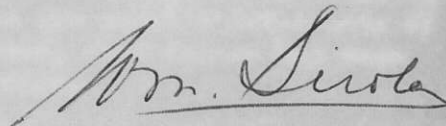
- 2 -

If we are still in the exploration business next year, I would like to hire a man who would be something of an electronics technician, and who could also serve as head of a geophysical crew whenever required. Assuming that we ultimately get reasonable performance from the recorder, it would be my hope to do a considerable amount of airborne work in the winter time in B.C., and this would keep the type of man I contemplate active all year round.

Would you please confirm or deny the proposed arrangement between Noranda and Kerr Addison regarding the checking of two geo-chemically anomalous areas which Dave Lowry and his crew located last year (?).

We got a new cast today, and we think this gives us more mobility than the shrunken leg. We can actually walk without crutches!

*Confirmed. i. k.
MK
Jan 29/69*



William M. Sirola.

WMS/iw.

JUNE 25, 1964

✓

STIKINE PROJECT
PROGRESS REPORT, JUNE 1964

The month of June has been marked by disappointments and a lack of positive achievements. Between flood stages in the river, a late summer, and continuous difficulties with the electrical equipment, we have been making a very slow start.

The crews arrived in Telegraph Creek early in June and sat idle until the helicopter arrived on June 12. They set up a temporary camp on rented property at Sawmill Lake, 2 miles north of Telegraph Creek. Fuel for the helicopter was on the river boat, which was unable to advance beyond Anuk Landing during the high-water period of the Stikine River. We managed to borrow 4 barrels of fuel from the forest ranger, making it possible to transport the prospectors to their first field areas June 14-15. Pessimism concerning the expected arrival date of the river boat prompted us to order helicopter fuel from Cassiar; we received 925 gallons on June 17.

The reserve of helicopter fuel made it possible to attempt the airborne geophysical work. However, before the magnetometer was completely installed, a short circuit developed, burning out much of the wiring. Anomolously, the fuse failed to burn out. The magnetometer was flown out of

Telegraph Creek on June 19 by North Coast Airways.

With no magnetometer for airborne work, I decided to make the most of the field teams. Hence I did not retrieve them to help break camp in Telegraph Creek for the move to Kirk Landing. The river boat arrived at 8:30 p.m. on June 19. We sorted our supplies, leaving some in Blanchard's warehouse, and were moved down river to Kirk Landing by 1:30 p.m., June 20. Chaplin and Mc Crackin were brought in to help set up the base camp on June 21.

We reached an impasse (and blew a fuse) in our attempt to set up the radio, so I called from Telegraph Creek for professional assistance. Peter Bollman of Lectrofrige (Terry's Radio, T.V., and Communications Ltd. in Whitehorse) arrived at noon on June 24 and worked on the radio until noon on the 26th. One resistor was discovered to be burned out, a condenser connection was broken, a diode was burned out, and a variable capacitor was shorting out. The last item defied field repair, so the decision was made to take the radio to Whitehorse with the hope of getting it back by June 27.

The delay in our airborne magnetometer program also prompted me to stake the northwest flank of

Hankin Peak (area # 27) so that it would be available for detailed surface studies. 60 claims were staked, mostly by witness, on June 23. The following day I received a note from Pat Clay (a former Btk syndicate prospector who helped me stake the claims) that Hill, Stark, and Associates have already staked this (or a nearby?) area; we did not see their claim posts because they witnessed from a different valley (which leads me to think they claimed a larger piece of ground and may blanket our 60-claim area completely).

On June 14, Wilf Christian and I visited a Cu-Mo area east of Tatsamenie Lake, Tulsequah quadrangle. This is an area that was known to Wilf from his 1959 season in the district. The mineralized zone appears to be a "pebble dike" or a tabular feature analogous to a breccia pipe. Low-grade copper and molybdenum mineralization is widespread even beyond the limits of the breccia zone. The host rock is granite (?) gneiss, showing extensive epidote, chlorite, actinolite, calcite, orthoclase, and pyrite as alteration products. This rock type has a low magnetic susceptibility. Copper and traces of molybdenum are also present in a propylitized mafic volcanic rock (basalt?), which is strongly magnetic. The ore minerals are chalcopyrite and molybdenite. They occur as disseminated grains and sporadic veinlets throughout the host rocks, but are notably concentrated in the breccia zone. This breccia zone can be traced for

nearly 2000 feet vertically and even farther horizontally. Others have looked at the area since Wilf was last there, but in my opinion it warrants further study. Unless I receive a directive to the contrary, I plan to place Wilf's team in the area soon to stake and carry out some detailed work.

No geochemical anomalies have been found by the prospecting crews, other than the mineralized zones already noted on our maps. Each of these zones visited to date has been probed by other parties. Thus far, none has seemed very exciting as a target for detailed work.

This country is teeming with exploration parties, most of whom are staking wildly. Consequently, I think it will be a wise policy to stake any ground that looks even remotely interesting as soon as we decide it warrants further study.

Respectfully submitted,

Roy A. Mac Diarmid
Geologist

KERR-ADDISON GOLD MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

*Blue file
104/B
Stikine Project*

MSR.
K.C.G.
E.P.
R.D.S.
B.C.B.
PMK. ✓
H.A.P.
C.K.W.
J.R.S.
C.P.R.
K.F.L.
H.B.
E.S.J.

To..... **Mr. W. M. Sirola** From..... **Mr. P. M. Kavanagh**
Subject..... **Kerr-Noranda Arrangement, Stikine Region, B.C.** Date **June 29th, 1964**

With reference to the second last paragraph of your June 25th Stikine memorandum, please proceed on the basis that there is an arrangement between Kerr and Noranda concerning the two geochemically anomalous areas in the Stikine region which Dave Lowry on Noranda's behalf brought to our attention.

You and Roy can give a check of the two areas as much or as little priority as you see fit.

Yours very truly,



Paul M. Kavanagh
Chief Geologist - Exploration.

PMK:db

P.S.

We will send a copy of the Elsee repair bill to the Elsee people from here.



This situation was not examined by our men in the Stikine last year but we may be able to examine it this year.

*PMK
Apr 23/65.*

NORANDA AGREEMENT BOUNDARY

COORDINATES

CORNERS

SW: N $56^{\circ} 27 \frac{1}{4}'$
W $131^{\circ} 10 \frac{2}{3}'$

SE: N $56^{\circ} 27 \frac{1}{4}'$
W $130^{\circ} 29.6'$

NW: N $56^{\circ} 55.8'$
W $131^{\circ} 11.4'$

NE: N $56^{\circ} 55.8'$
W $130^{\circ} 28.9'$

MEMO TO: R.V. Porritt
FROM: A.M. Bell
SUBJECT: Stikine Geochem.

P. Kavanagh is talking to Vancouver Office about getting results of Norpex geochemistry done in the Stikine area. Kerr is sending crews into this area within ten days and would like a deal on one restricted block. I haven't details on location of this block.

I would suggest the following basis of agreement based on the assumption that the area in question would be half the area of interest covered by our work:

We assume our costs for this block could be pro-rated at \$25,000. We would participate in the work done by Kerr in the proportion of 80% Kerr - 20% Noranda. Noranda would start with a credit of \$25,000. At such time as this became 20% of expenditures on the Stikine Venture, they would have the opportunity of contributing pro rata to maintain this 20% interest.

As a generalized figure, I judge Norpex spent some \$50,000 on the Stikine work. Should they want the information on the whole area worked, we would want a higher credit.

AMB/MJM

May 28, 1964.

*after Kerr has spent \$50,000
we will have 25% and option
to maintain it. If we drop out
we'll abandon any interest*

Copy of M. P. M. Kadanoff

KERR-ADDISON GOLD MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To..... W.M. SIROLA.

From..... ROY A. MAC DIARMID.

Subject MONTHLY REPORT - STIKINE PROJECT.
June 26th - July 28th, 1964.

Date..... August 3rd, 1964.

W.S.R.
K.C.G.
E.F.
R.D.S.
B.C.S.
P.M.K. ✓
G.W.M.
H.P.
C.K.M.
J.B.S.
S.P.R.
A.F.L.
M.D.
B.C.A. (circled)

The Stikine project ran smoothly during the past month, in spite of difficulties with the airborne magnetometer and the radio. A large area south of Kirk Landing was well prospected, both from the air and on the ground. Each phase of the project is discussed separately below.

Prospecting Activity:

Party "A" prospected on Conover Mountain and Rugged Mountain. High copper geochemical anomalies were obtained in Misterjay Valley, but only traces of chalcopryrite in mafic volcanics could be found. A large zone of bleached and pyritized tuffs(?), adjacent to an airborne magnetic anomaly and in the general area of high copper analyses, encouraged detailed prospecting. Unfortunately, no more than traces of copper could be found.

Party "B" prospected the upper stretches of Strata Creek, Yehiniko Creek, Butterfly Creek and Oksa Creek, as well as the west side of Cone Mountain. Traces of copper, lead and zinc mineralization were found in several places, but nothing was found in sites that seemed worth staking. One large boulder of float, found at the head of Butterfly Creek, contained about 5% molybdenite (and some chalcopryrite) as large rosette-like clusters in a coarse-grained granitic host. Poor flying conditions at high altitudes have foiled attempts to locate the source of this impressive rock type; further studies will be made to trace this source.

Party "C" prospected on the Sheslay River, and up Vekops Creek, Deeker Creek, Patmore Creek and Limpoke Creek. Traces of molybdenum were found all along the southeastern side of the Sawback Range, but in each case only widely spaced veins or shears carried the mineralization. An interesting area of Cu-Mo (as disseminations, veins and veinlets with accompanying alteration) was found in a branch valley (Wilf Creek), along the south side of Limpoke Creek. The alteration minerals include pyrite, magnetite, quartz, and epidote, and gray feldspars (anorthoclase?). The mineralized areas are associated with airborne magnetic anomalies. Staking and more detailed studies are in progress.

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To..... From.....

Subject..... Date.....

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- 2 -

The variables involved in using the Holman geochemical technique for copper were tested. It was found that we cannot rely too strongly on the parts-per-million figures obtained by the field parties. However, the general order of magnitude seems to be reproducible and should be significant - provided the field parties are not too careless in their selection of silts and in their volume measurements.

Airborne Magnetometer:

It was learned that all magnetometer traverses with the helicopter will have to be along contour lines, but this is no problem because there seems to be no heading error. Relatively little actual flying time with the magnetometer was achieved during the month, due to instrumental problems and high winds. Nevertheless, a block about 35 miles long (N-S) and 15 miles wide (E-W) was more than half covered. The areas flown include the Shakes Creek pluton, Strata Creek, Dokdaon Creek, Bryden Creek, Devil's Elbow Mountain, Conover Mountain, Missusjay Creek, Misterjay Creek, Barrington Mt., Mount Rowgeen, and the lower parts of the Stikine River valley between Kirk Landing and Patmore Creek. Anomalies were found in literally all of these areas. The copper mineralization covered by the DOK claims (Hudson Bay Mining & Smelting) is clearly revealed by a magnetic anomaly. Most of the anomalies checked are due to magnetic-bearing mafic igneous rocks. The strongest anomaly found is on Mt. Rowgeen and is due to the presence of magnetite in a biotite "diorite" (apparently an altered diorite, the mafic minerals of which have been replaced by biotite and magnetite); this anomaly is about one mile wide and two miles long. A ground check with the magcrometer produced an anomaly of 7,000 gammas. Further work is planned in this area. Several of the anomalous areas have shown signs of copper mineralization.

During the period of this report, some nine days were spent working with the magnetometer when it was not functioning properly. Another five days were lost while the apparatus was enroute to Vancouver for a more competent diagnosis. When the winds are strong and gusty, contour flying cannot be carried out, even though the helicopter may be able to serve the crews; two full days and two half days of lost flying time can be attributed to this factor. Another day was lost to rain and three half days were lost to rain and/or fog. During the early part of July, the

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winds were a problem; later in the month, the fog restricted flying - especially in the mornings.

An estimated 2 - 3 hours is spent in pre-flying preparation and post-flying plotting of data for each hour of magnetometer time flown.

Ground Geophysical Work:

Party "A" conducted a geophysical study of the Conover shear east of the Chutine River. Flights normal to the shear zone had produced distinct anomalies at the shear and along a parallel feature to the north. S.P., E.M., and magcrometer profiles were made along the same course. Except with the Magcrometer, coincident anomalies were not obtained. Apparently, the airborne magnetometer anomalies are reflecting mafic volcanic rocks that are interbedded with sediments striking nearly parallel to the shear zone.

The airborne magnetometer anomaly traced on Mt. Rowgeen was also checked by a ground magnetometer survey. The anomalous rocks - magnetite-bearing diorites - are clearly reflected in the ground profile.

Surface geophysical studies are also being undertaken in the Wilf Creek area, on Mt. Barrington, where copper and molybdenum have been found.

Radio Problems:

Between June 24th, when the radio was returned from Whitehorse, and July 24th, when the Spilsbury and Tindall technician succeeded in adjusting the set, we had virtually no communication with the outside world. Only the intercamp frequency was functioning, and that was not at full capacity. Since July 24th, we have been able to reach Vancouver at almost any hour. We have also reached Atlin. Attempts to reach outside stations without success can probably all be attributed to poor answering services - radio problems, unattended receivers, or too much squelch at the other station.

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KERR-ADDISON GOLD MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To W.M. SIROLA. From ROY A. MAC DIARMID.

Subject STIKINE PROJECT - MONTHLY REPORT FOR AUGUST, 1964. Date September 8th, 1964.

W.S.R.
K.C.G.
E.F.
R.D.S.
E.C.B.
P.M.K. ✓
G.W.M.
H.A.P.
C.K.W.
J.B.S.
G.P.R.
K.F.L.
J.B.
<u>E.C.J.</u>

The month of August was highlighted by the discovery of a zone of copper- and molybdenum-bearing joints at the head of Spann Creek. Also, the molybdenite from Butterfly Creek was tracked down, the Hankin Peak area was studied, and several areas north of Kirk Landing were prospected. The airborne magnetometer was not functioning during most of the month, but when it was performing it revealed several interesting anomalous zones.

Two short periods of rain and low fog slowed down the operation during a total of seven days; otherwise the conditions were good. The work accomplished is briefed below :

AREAS PROSPECTED

Limpoke Creek - Spann Creek Area :

A zone of closely spaced joints containing chalcoppyrite and subordinate molybdenite was discovered by Party "C" at the head of Spann Creek. The jointed zone is about 300 ft. wide and of unknown length. The host rock is granodiorite, and, besides chalcoppyrite and molybdenite, the joints contain pyrite, pyrrhotite, quartz, calcite and henlandite (?). In the best zones, the joints average about 1-1½ inches apart and they probably average less than 1/20 inch in width. Only 1/3 or less of the joint filling can be expected to be chalcoppyrite. Accordingly, the mineralized zone seen on the surface seems to be of sub-economic grade, as far as copper is concerned.

The host granodiorite is only faintly altered near joints, indicating that hydrothermal activity was limited. But the amount of chalcoppyrite and molybdenite present suggests that the area is a good place for detailed prospecting.

Further signs of mineralization have been found throughout the Wilf Creek - Spann Creek area, especially near the contact between the granodiorite and the overlying sediments and volcanics.

The jointed zone was found by surface prospecting, but it was reflected earlier in both airborne and surface magnetometer surveys. Other magnetic anomalies along the contact may be associated with better mineralization, but the terrain and overburden have hampered field checks.

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To date, 72 claims have been staked, the peripheral areas have been prospected, a geologic map is in progress, magcrometer and E.M. surveys have been begun, and an S.P. survey is about to start. Until August 23rd, there were only two men on the property, but since then two more were brought in to expedite the geophysical work.

Hankin Peak Area :

This area was staked in June, two days before Hill, Stark and Associates attempted to stake the same ground. Party "B" spent eleven days on the 60-claim group (the Hank Claims), making geochemical analyses, sketching a geologic map, and prospecting in general. They found scattered copper mineralization along widely spaced shear zones in feldspar porphyries, but no promising areas were located. An airborne magnetometer survey produced an anomaly over the mineralized zone previously found (by geochemical sampling) southwest of the lake.

Butterfly Creek Moly :

An impressive piece of quartz monzonite float, carrying disseminated molybdenite, was found by Party "B" in July, but they were unable to locate the source. After studying the float and the available geologic and topographic maps, we decided to try again. It seemed probable that the float must have come from a small zone along a cirque. This time the molybdenite was found in place - on the first day. However, it came from an isolated 3-foot, pod-like zone, so we abandoned the area.

Other Areas Prospected :

Routine prospecting was carried out on Rugged Mountain, Grass Mountain, northeast of the Barrington River, and north of Limpoke Creek. Traces of copper were found in each of these areas, but no encouragement for further prospecting was found.

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KERR-ADDISON GOLD MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To.....From.....

Subject.....Date.....

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GEOPHYSICAL STUDIES

During the month, parts or all of six days were spent attempting to make the magnetometer work properly; only three days were spent flying airborne traverses. The areas covered are east and north of the Barrington River, over the Hankin Peak claims, and near the mouth of Yehiniko Creek. A large zone of anomalous ground northeast of the Barrington River proved to be magnetic andesites. Anomalies east of the Barrington River (in what may prove to be an inaccessible area) and across the mouth of Yehiniko Creek have not been checked. Anomalies have been checked on the ground, but further work (presently in progress) is necessary before they can be explained.

Surface geophysical studies have been undertaken in the Wilf Creek - Spann Creek area, and along the large anomaly found last month on Mt. Rowgeen. All geophysical techniques (magnetometer, S.P., E.M.) are presently being used on the Spann Creek group of claims.

GEOCHEMICAL STUDIES

Routine silt sampling has progressed as usual. It has been found that copper-bearing zones show up clearly by sampling dirt along the upper parts of talus slopes.

Respectfully submitted,

Roy A. MacDiarmid.

August 24th, 1964.

of Bc 3
COPY

W. M. Sirola

P. M. Kavanagh

MacDiarmid's Final Report, Stikine Project

November 26th, 1964.

Attached is the draft of his final report which MacDiarmid sent to you earlier this month.

As you know we made a considerable number of additions and adjustments to it during our recent trip to Idaho.

I have found that the first page of his description of the Spann Creek zone is the most in need of adjustment. That page is page 13. On it you will see that I have added a small one sentence paragraph starting with the words "In addition to the principal". When sending this draft back to MacDiarmid I wish that you would advise him that I would like the following extra paragraph inserted right after the short additional one I have referred to above.

"The grab samples which were obtained from the principal zone and from several other outcrop and float localities have given the following range of grades: 0.15 to 5.80% copper; trace to 1.03% molybdenum; nil to 4.41 oz. silver; and trace to 0.06 oz. gold. There appear to be a 3/4:1 ratio of silver to copper. An abandoned gold dredge hulk on the Barrington River near the mouth of Spann Creek is support for there being a significant gold content in the mineralization."

When returning the draft to MacDiarmid please prompt him to submit the final version of his report to you as soon as possible.

Paul M. Kavanagh.
Chief Geologist - Exploration.

PMK:sw

W.S.R.
K.C.G.
E.F.
R.D.S.
B.C.B.
P.M.K. ✓
G.W.M.
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G.K.W.
J.B.S.
G.P.R.
K.F.L.
J.B.
<u>K.C.J.</u>

NOV 9 1964

of Re 3

THE UNIVERSITY OF BRITISH COLUMBIA
VANCOUVER 8, CANADA

RECEIVED
NOV 4 1964

DEPARTMENT OF GEOLOGY

November 2, 1964

Mr. W. Sirola,
Kerr-Addison Gold Mines Ltd.,
1112 West Pender Street,
Vancouver, B.C.

Copy PMK

Re. Stikine Project, 1964

Re peridotite sample.

Dear Bill:

A thin section of your sample shows it to be a peridotite with the following composition:

- Olivine, as coarse equant grains 67%.
- magnetite, interstitial to olivine and clinopyroxene 20%.
- Clinopyroxene, coarse grains 10%.
- Biotite, as sparse scattered patches up to 2mm. 3%
- Spinel, as small blebs and discontinuous threads in magnetite. (less than 1%).

The rock is quite fresh and shows no sulphides. The small percentages of elements quoted by you over the phone can all be accounted for in the above listed minerals.

RECEIVED
NOV 11 1964
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O

Mt. Rowgen Sample

Yours sincerely,

Bob Thompson

R.M. Thompson