

MAY 19 1977

MEMO: RE: D.C. SYNDICATE DORSEY LAKE PROGRAM

CAMP BRAVO

(1) THE INITIAL TARGET WILL BE AN AREA OF PORPHYRITIC MONZONITE AT ABOUT $131^{\circ}35'W$, $60^{\circ}15'N$. THE AIR MAG MAP SHOWS A LOCAL LOW IN THE AREA AS WELL AS A RATHER ELONGATE LOW TO THE NORTH WEST. (105B/5)

THE EXTENT OF THE VARIOUS INTRUSIVE PHASES ARE TO BE MAPPED ON $1''-\frac{1}{2}$ MILE AIR PHOTO SCALE. SMALL TRIBUTARY STREAMS NORTH OF THE MAIN ANOMALOUS STREAM SHOULD BE SAMPLED AT ABOUT 1500' INTERVALS. STREAMS EAST OF THE MAIN ANOMALOUS STREAM SHOULD BE SAMPLED.

ALL OCCURRENCES OF CU, MO MINERALIZATION PARTICULARLY SHOULD BE NOTED. OCCURRENCES OF ZN, PB, W SHOULD BE LOOKED FOR. CHARACTER SPECIMENS ARE TO BE COLLECTED AND IF ANY SUBSTANTIAL MINERALIZATION IS FOUND A SAMPLE OR SERIES OF SAMPLES REPRESENTATIVE OF THE MINERALIZATION SHOULD BE TAKEN FOR ASSAY.

(2) THE SECOND AIR MAG LOW TO THE NORTHWEST WILL BE THE SECOND TARGET. VARIETIES OF INTRUSIVE ARE TO BE MAPPED AND THE STREAMS SILT SAMPLED.



DORSEY LAKE PROGRAM

LIST OF MAPS AND PUBLICATIONS

- 1 TUNGSTEN GEOCHEM MAP 1"- $\frac{1}{2}$ MILE
- 2 SILT SAMPLE RESULTS MUNSON LAKE AREA 1"- $\frac{1}{2}$ MILE
- 3 SILT SAMPLE RESULTS DORSEY LAKE AREA 1"- $\frac{1}{2}$ MILE
- 4 AEROMAGNETIC MAPS 105B/ 3, 4, 5, 6.
- 5 GEOLOGY MAP WOLF LAKE SHEET 105B 1"- $\frac{1}{4}$ MILES
- 6 TOPOGRAPHIC MAP WOLF LAKE 1"- 4 MILES
- 7 AIR PHOTOS 1"- $\frac{1}{2}$ MILE A 11536 411, 413
A 11373 419, 421
- 8 PAMPHLET OF FIELD PROCEDURES
- 9 COMPILATION OF PAPERS ON PORPHYRY COPPER DEPOSITS
- 10 BULLETIN 56 GUICHON BATHOLITH
- 11 ECONOMIC GEOLOGY VOL 71, #4 RE GUICHON BATHOLITH

³⁰⁰⁰
~~4.70~~ Gray sericite sch
with py.

This was first traverse
with Bruce. Aerial
photos were worthless.

6/8/77

ARIAL PHOTO A11370-347
Seagull Creek, 1:50,000
105 B/3 E Half.

5. Initial pt. $\frac{78.0}{131.0}$

15' thick layer of gray, massive, well consolidated siltstone in larger sequence of interbedded chert (white to light gray) and dark gray siltstone. Thickness of most layers is inches or fractions of inches. This thick layer contains thin (<1") stringers of chert & epidote (?). Pyrite (small amounts) is disseminated in the siltstone & occurs as $\frac{3}{8}$ " blebs or lenses surrounded by epidote (?). Limonite on joints.

6. Massive gray L.S.
7. Tan med. grained calcareous S.S. Calcite in stringers & cavities. Soft, poorly consolidated
8. Massive gray L.S. (sandy)
9. Fine to med grained qty. monzonite with biot. L.S. at contact has red oxidized appearance but no strong alteration.

10. Monzonite becomes med. grained away from contacts & is white ~ gray in color. No apparent mineralization at SE contact grain size decreases. At SE contact there is approx 50' of marble or very crystalline L.S. The siltstone & chert is very similar to gypite. probably contact phenomenon.

300' ← siltstone + chert.
500' blocks may have slumped.

Better attitude ~~284°~~
for siltstone 70°
+ chert / gypsinite

6/9/77

ARIAL PHOTO 11412~143

11. $\frac{0.47}{1}$ med grained white
66° to pale gray gty.
monzonite with bot.
12. same monzonite but
darker color & slightly
more mafic appearance.
13. soil sample midway
between hill top & stream
77 DCW 101
(dark)
14. Massive, gray, fine
grained L.S.
15. Massive, gray green
chloritic volcanic rock with
gty, calcite, py, & a trace
of magnetite. Forms
60' bluff on SE side
of Torcupine river.

6/10/77

Bar #27 Claim, 105 B/3

Box 70-6 405 ~ 428.5

fine to med grained
gtyrite with calcite
grains & stringers
x taline calcite in vuggy
areas. Py also present.
tiny spots of blue
fluorescence that ~~flake~~ ^{flake} off.

Box 70-6 387 ~ 405

Same. some silver
gray sch layers < 1" thick

Box 70-6 487 ~ 503 ^{END}

same

Box 70-6 449 ~ 467

" " 467 ~ 47?

" " 365 ~ 387

Rock in trench
is contorted qtz sch
with qtz stringers
and local patches of
serpentine & calcite.
Calcite flowers
slightly but nothing
else seems to. O/C
is rust stained, much
of it from pyrr. joints
are also discolored by
gossan

1370
23

SILT SAMPLE 77 DCB 101
from creek running through
clear area where drill
core was stored.

N
2"=1MI.

● MED. GRAINE, LIGHT
GRAY QTZ. MONZONITE
WITH BIOTITE

● MASSIVE, DARK
GRAY, FINE GRAINED
LIMESTONE

● GRAY GREEN
CHLORITIC VOLCANICS

PY - PYRITE

ROUNDED
BOULDERS OF
QTZ. SCH., QTZITE,
PHYLLITE, QTZ.
SERICITE SCH., &
MONZONITE AS
FLOAT IN Q.

BRAVO
6/9/77
T.O. FLETT
A-11412-143

BRAVO

6/13/77

Completed camp set-up.

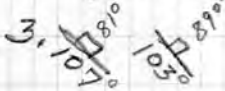
SOIL SAMPLE 77DCW102

from latrine, BRAVO #1.

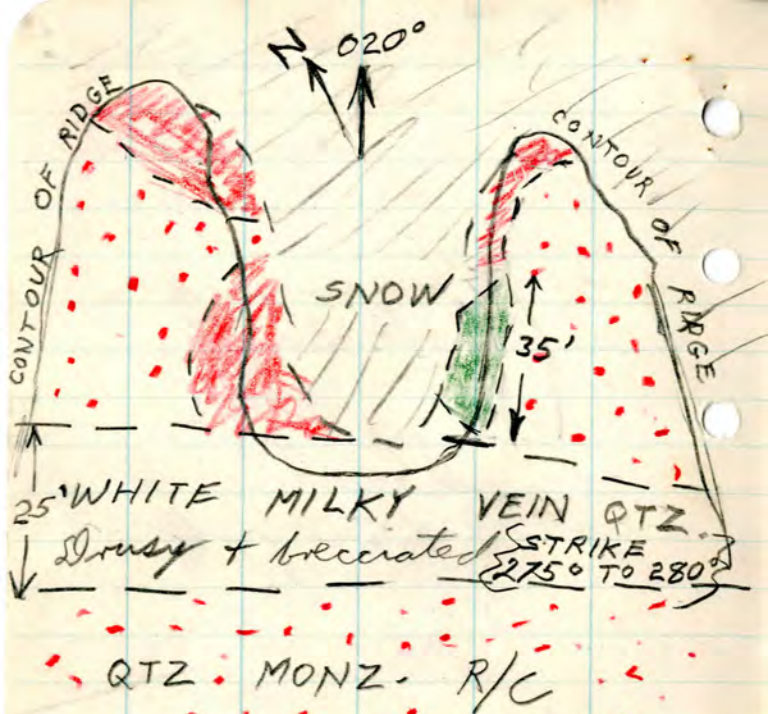
AIR PHOTO A11536-411

1. Impure gtzite with gty. stringers & py. Appears metamorphosed, almost igneous x talline as you approach the bluff to the NNW toward the Pam Stock.

2. Cream colored, coarse grained gty. monzonite. Some saussurization. Gty. stringers & veins present.

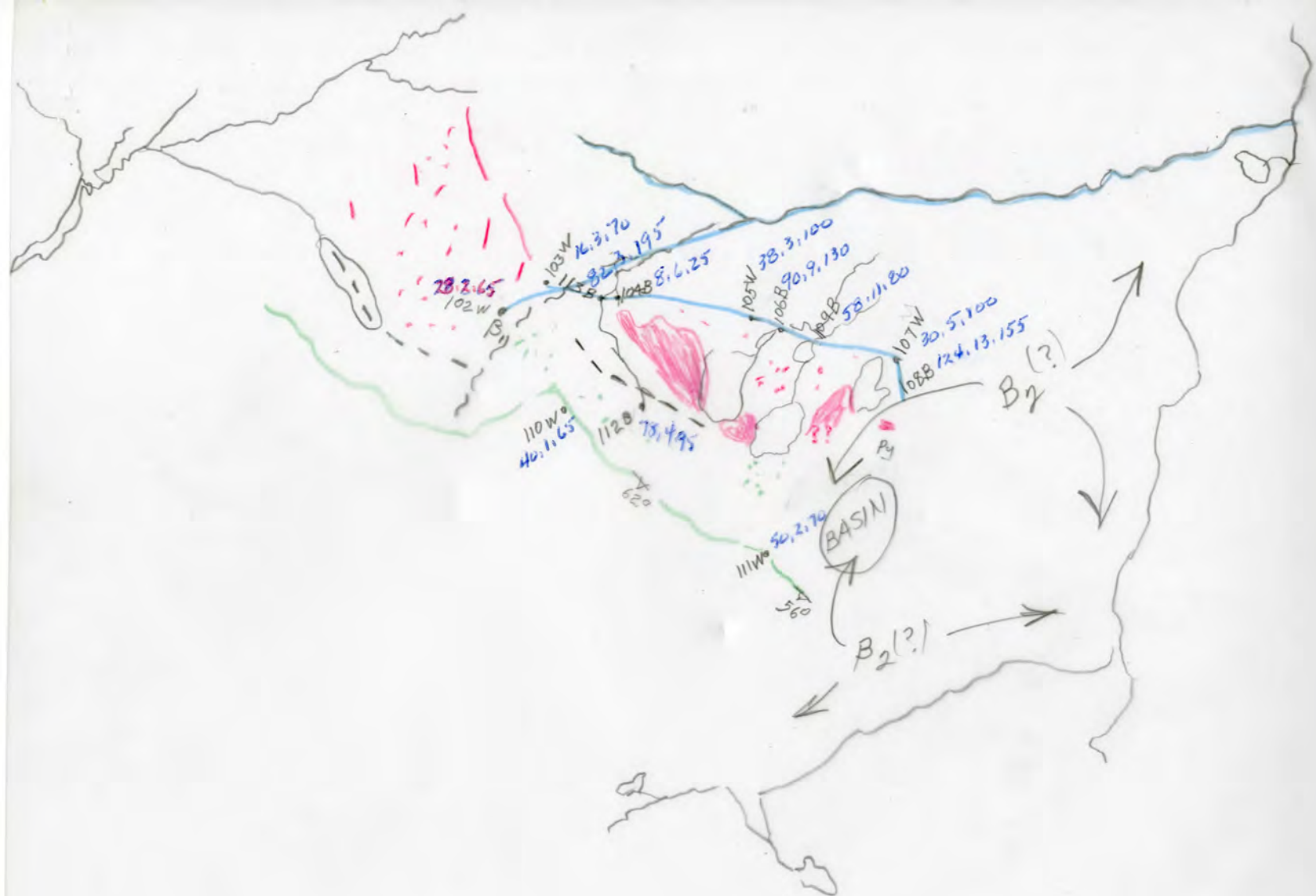
3.  Open joint system in gty. monzonite.

4. Milky white gty. vein approx 25' wide strikes 275° to 280° . Drossy & Brecciated (???)



● LIGHT COLORED, MED.
TO COARSE GRAINED
SAUSSURITIZED QTZ.
MONZONITE

● ASSIMILATE, GRAY~
GREEN, FINE GRAINED
SEDIMENTS OR META-
SEDIMENTS.



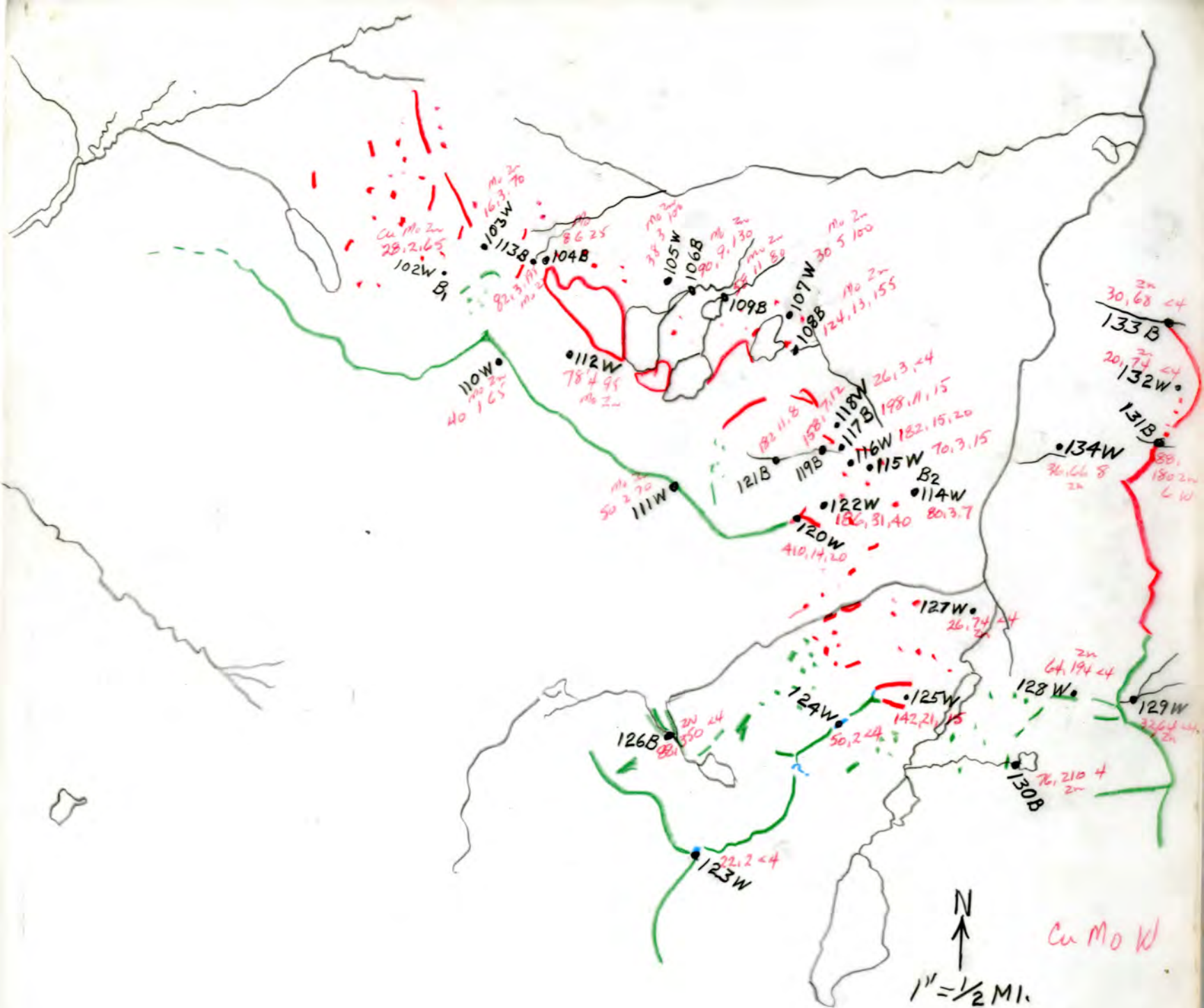
1" = 1/2 MI.

A 11536 ~ 411

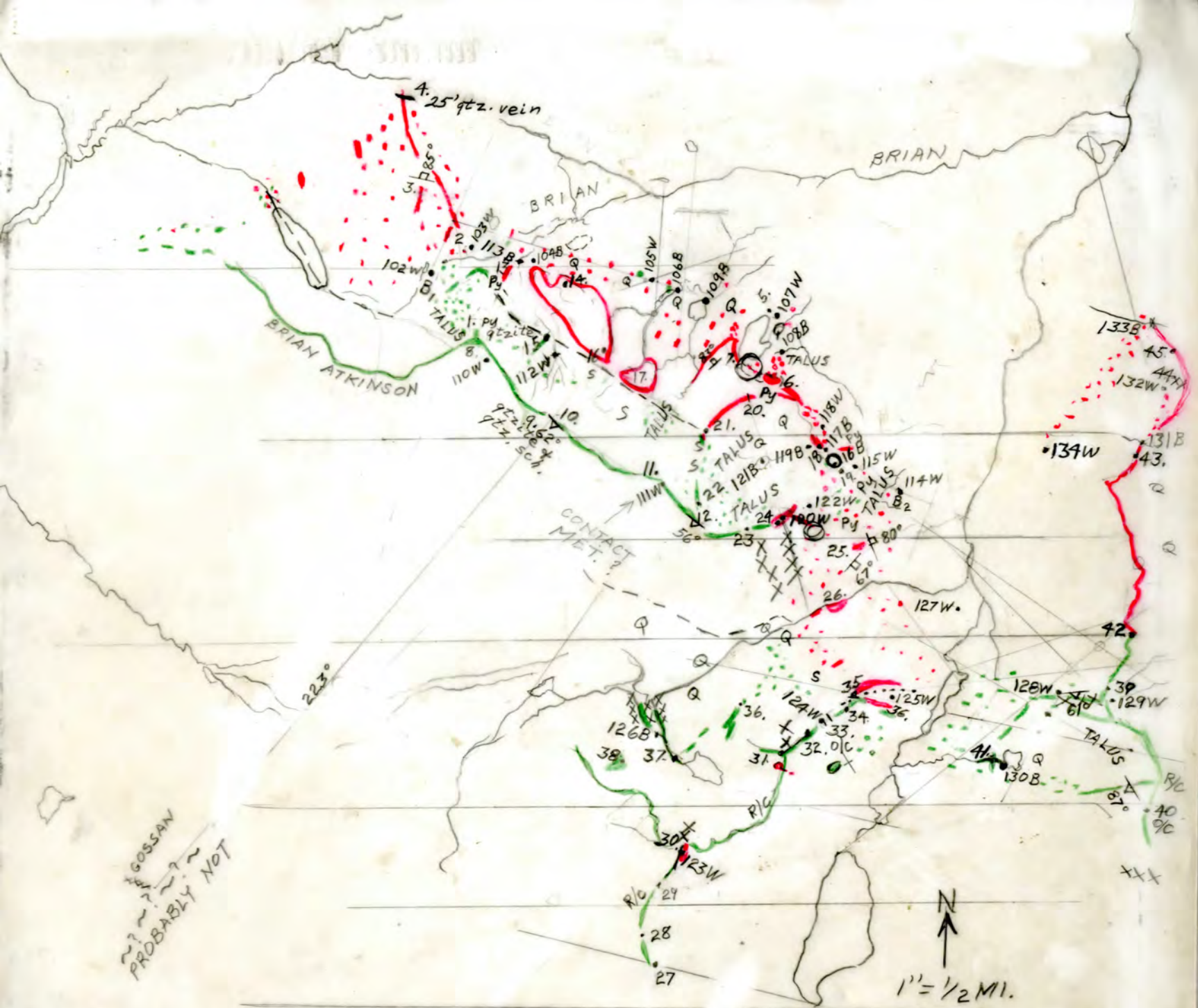
BRAVO #1

6/13/77 ~ 6/16/77

T.D. FLETT



A 11536 ~ 411
 BRAVO #1 & #2
 GEOCHEMISTRY
 T.O. FLETT
 6/13/77 TO 6/30/77



WEEKLY CAMP REPORT

PROJECT D.C.

CAMP NAME & NUMBER BRAVO #1

NTS SHEET WOLF LAKE
105 B

DATES 6/12/77 ~ 6/16/77

AIR PHOTOS A 11536 ~ 411
A 11373 ~ 421

LAT & LONG 60° 16' N 131° 36' W

SILT SAMPLE SERIES B~6 TO B~30 BRIAN ATKINSON
B~104, B~106, B~108, B~109, B~112, B~113 T.O.F.

SOIL SAMPLE SERIES W~11 TO W~13 BRIAN ATKINSON
W~102 + W~103, W~105, W~107, W~110, & W~111 T.O.F.


ROCK SPECIMEN NUMBERS _____

I have made a quick & dirty tracing of my map sheet. My notes & references to the notes on the map are not included. Sample locations are. I am sending:

1. my tracing
2. all of Brian's overlays
3. all sample sheets

FOR MY MAP:

- metasediments
largely gty. schist, quartzite,
hornfels (sed. mapped largely
along ridge.)
- Intrusive
med. to coarse grained
gtz. monzonite

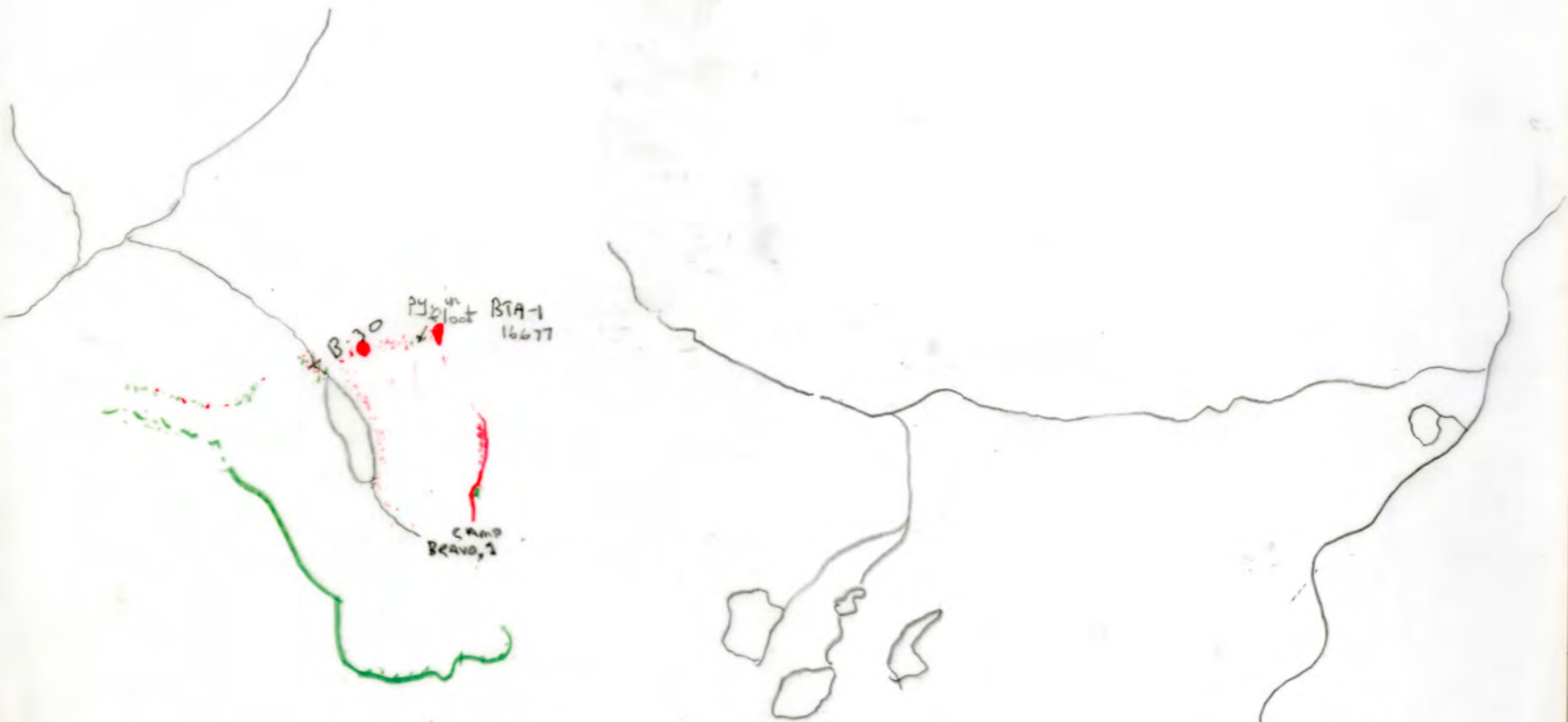
 sample line
both silt & soil

— — — — — contacts
~ ~ ~ ~ ~ fault (geopetry) (OVER)

(OVER)

P_4 occurs in the sediments reasonably frequently. It also occurs in the monzonite but you have to look for it. I have not observed $CuFeS_2$ or MoS_2 or any W mineralization but I have greater faith in the geochem. for this than my lens & luck. At the E end of our work area, between silt sample 108B and the green ridge line where I have foliation striking SE & dipping 56° SW there is a large, high basin. I have mapped monz. on the N by the lake & the extension of the ridge according to your data is also monz. It is in these areas that your data indicates mineralization in the float. I will locate B₂ somewhere between one of these points and the nearest anomalous river. My objective is to get into that basin & yet provide Brian with access to the tributaries above the anomalous rivers. I have bagged a grab sample of rusty monz. It might be interesting to see if an analysis would pick up any Cu, Mo, or W.

L. O. S.



CAMP BRAVO
JUNE 16th /77.
B. Atkinson
A11373-421

APPENDUM TO NOTES
FOR 7/13/77 MADE
ON 7/28/77

STA. 4

The rock described as
assimilated sed. or
meta-sed. may actually
be a mafic or ultra-
mafic dike or intrusive
in the light of later
experience (STA. 33).

It contains chlorite,
a trace of magnetite
& has the general
appearance of a
crystalline igneous
rock such as fine
grained gabbro or
perhaps diabase.

6/14/97

Chopper Sue in at 3:00 PM
Geochem Traverse E of
BRAVO #1 AIR PHOTO
A11536~411

5. Fairly fresh camp site.
One yr. old (?).

6. Gray, med. grained
qtz. monzonite with
biotite, hornblende, &
pyrite.

7. Gray-green, coarse
grained qtz. monzonite

6/15/77

BRAVO #1 AIR PHOTO
A11536 ~ 411

8. Gray-green, fine grained amphibolite with qtz., biotite, & chlorite. Old stringers of white vein qtz.
9. Gossan on NW side of sharp V-shaped valley about 3 mi. to SW (223°). Gossan stain on ridge about 5 mi to N bear 002°
- Gray, fine grained qtz. sch.
10. ~~40.~~ Gray gtzite & ^{62.} qtz sch. qtz. stringers parallel planes of schistosity.

↑ SCH. AMPHIB. QTZ. ↓

11. Metasediments assume fine grain texture, massive, dark gray color, & generally silicious appearance.

12. Fine grained, gray, impure gty. sch. $\frac{130}{56}$

Joints stained with limonite & Mn. These joints & stains are prolific enough to make it difficult to obtain a fresh fracture.

6/16/77

BRAVO #1 AIR PHOTO

A11536~411

13. On light tan,
med. to coarse grained
qtz. monzonite.

Trace amounts of
somewhat oxidized py.

Contact with meta-sed
is immediately up
slope about 100 to 150
ft to the S. Contact
obscured by snow.

Sed. very much
resemble greenstone
but I think this is
metamorphic phenomenon.
Some are dense, fine
grained, gray gylite
and some of these have
thin (<1") drussy gyl.
stringers with a trace
of calcite. Sed. also contains
py.

(13.) $\frac{85^\circ}{055}$ An extremely flat (polished?) joint system occurs in the monzonite. There are also $\frac{1}{4}$ " to $\frac{1}{2}$ " white qtz stringers.

tan colored,

14. Hard, fine grained, re-crystallized appearing phase tends to form NEarly trending ridges parallel to joint system. $\frac{70^\circ}{083}$ Fe stain on fractures.

15. CONTACT ZONE
gray, fine grained qtz sch to SW. $\frac{112^\circ}{63^\circ}$ White qtz in nodules & along schistose planes.

Monzonite to NE is very fine grained, white in color,

has bleached appearance
and contains assimilated
sediments.

16. Gray, fine to med.
grained gty monzonite.
No apparent mineralization.
Analysis might be
interesting to assure
that nothing has
been missed.

17. Gray, med. to coarse
grained gty. monzonite.
Some scurrying.
White gty veins up to
3" thick

⊗ = orthoclase porphyry
with xenoliths of greenstone
also minor amethyst occurrence



BRIAN ATKINSON
A-11536-411
BRAVO #2
JUNE 17-20th/77.
1" = 1/2 mile.



- igneous qtz-felds porphyry outcrop.
 - talus w/or float.
 - sediments, grites, slates, metaseds. outcrop.
 - talus w/or float.
- 1" = 1/2 mile.

BRIAN ATKINSON

JUNE 17-22/77

A-11536-411

BRAVO #2.

815-430877

B-73
+B-71
B-72

al-87

JUNE 30TH/77

A 11373-419

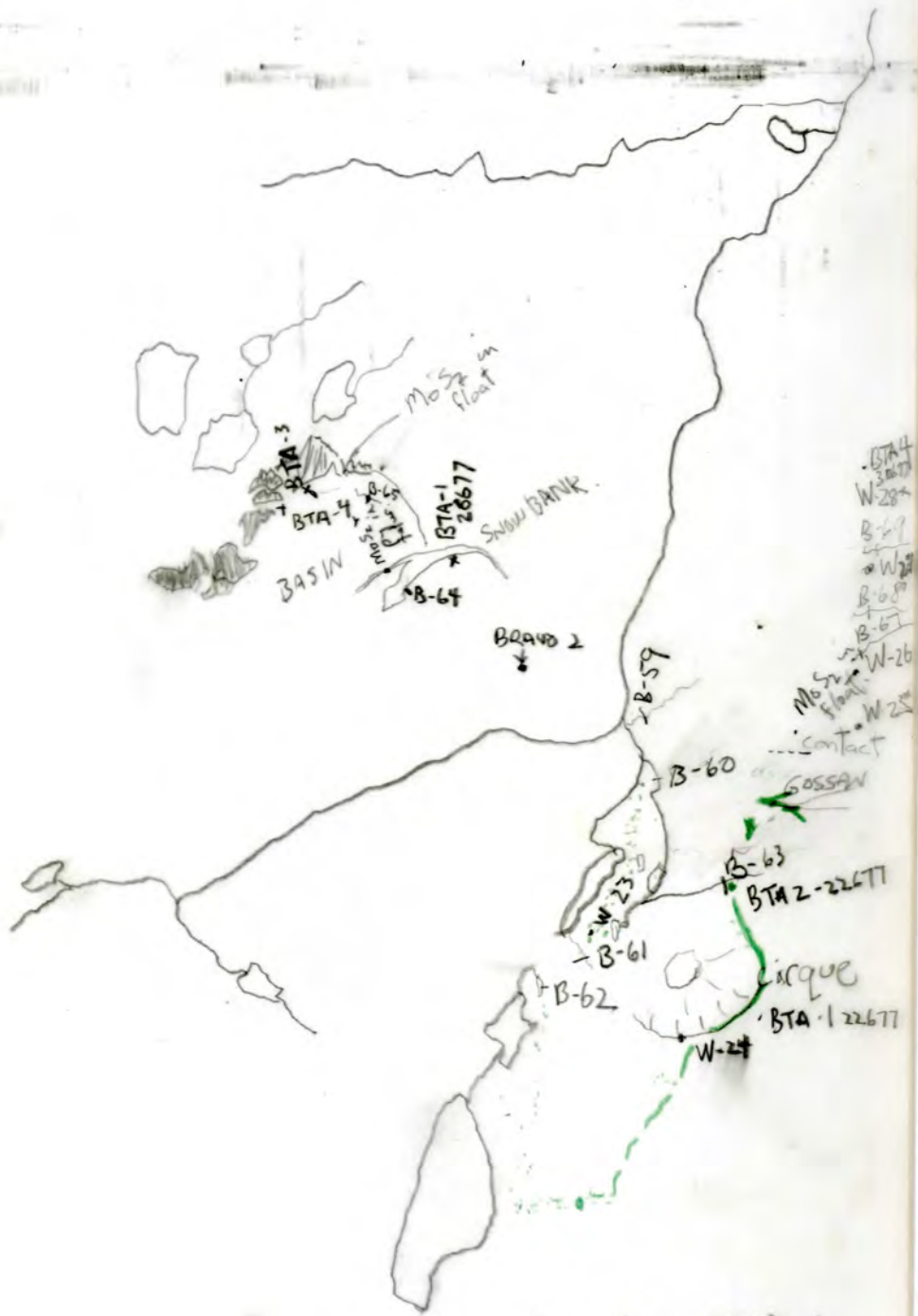


BRIAN ATKINSON

B-42 B-43
W-21
S-58

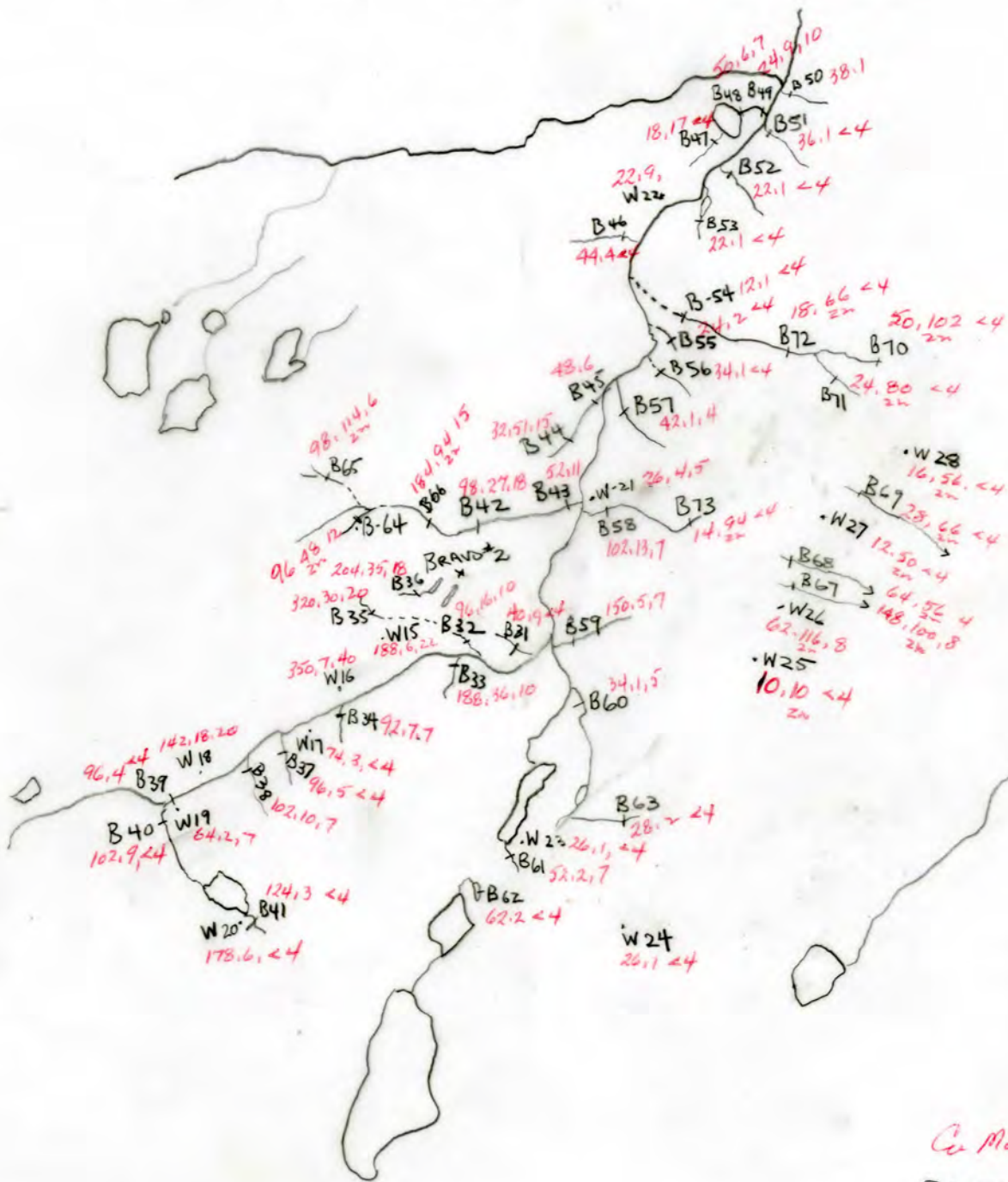
A 11373-421

x BRAVO 92 JUNE 21 - 1977.



1" = 1/2 mile.

Brian Atkinson
 JUNE 22nd/77.
 A-11536-411
 BRAVO #2.



Co Mo W
 BRAVO #2
 A 11536-411
 JUNE 17 - 30 1977

**CHEMEX LABS LTD.
SOIL SAMPLES**

COLLECTOR: T O FLETT

RESULTS PLOTTED BY: _____

ANALYST: _____

AREA: _____

MAP: _____

METHOD: H.M.: _____

FIELD MAP: A11536-411 (AIR PHOTO)

DATE: _____

CU.: _____

DATE: 6/18/77 TO 6/22/77

DATE: _____

SAMPLE NUMBER	SAMPLE LOCATION	NOTES	TOPOGRAPHY					VEGETATION					SOIL DATA				FIELD SCREENED	VALUES			
			VALLEY BOTTOM	SLOPE UP	SLOPE DOWN	HILL TOP	LEVEL GROUND	HEAVILY WOODED	SPARSELY WOODED	BURNT	LOGGED	GRASSLAND	HORIZON SAMPLED	THICKNESS OF HORIZON	HORIZON DEVELOPMENT	PARENT MATERIAL		Mo	CU	PB	ZN
6/18/77	77DCW114	A11536-411 At B2. Brown, sandy			X?	X?		X					B+C 24"								
"	77DCW115	" TALUS SLOPE 4 to 5' high by 1			X			X					B+C ?								
"	77DCW118	" HIGH BASIN 3" FROST BOIL											B+C ?								
6/19/77	77DCW120	" GOSSAN ZONE				X							B+C ?								
6/21/77	77DCW122	" TALUS SLOPE	X	Y									C ?								
6/22/77	77DCW123	" FROST BOIL				X							C ?								
6/22/77	77DCW124	" SADDLE CONTACT?				X							C ?								
6/22/77	77DCW125	" TALUS, CHILL ZONE	X	Y									C								
													B+C								

6/18/77

BRAVO #2. AIR PHOTO
A11536~411

18. Gray, coarse grained
qtz. monzonite
porphyry with biotite,
hornblende, & trace py.
sulfuritized plag.
Probably K-flds.
phenocrysts.
19. Large boulder in
talus slope has
coarse grained qtz.
monzonite porphyry
in sharp contact
with a gray green
aphanitic igneous
rock with large
phenocrysts of flds.
($> 1/2''$) and fewer smaller
phenocrysts of quartz.
Contact looks as if it
had been drawn with
a straight edge. This

is float. No signs
of dykes or sills have
been observed in O/C
to this point. Both
rock types contain Py. (

6/19/77

BRAVO #2 AIR PHOTO
A11536~411

20. Coarse grained qtz
monzonite with
sarsinitized plagi.
& hornblende. Structures
are rusty (both Fe & Mn).
21. Just above slide area.
Apparently approaching
contact.
- a.) Monz. grain size
decreases.
 - b.) monz. appears
darker gray in
color.
 - c.) Py (?) content
appears to
increase.

22. Gray to gray green
fine grained met ~
amorphous rocks. Very
fine grained. appear
to be qtz. sch. amphib ~
olite, & chlorite amphibole
sch. Qtz. veins & tiny
stringers of epidote (?)
occur erratically.

Possibly sparn ?

{ actinolite / hornblende
{ hornblende
{ epidote
{ garnet

Mineral grains too fine
for accurate identification.

23. Massive, fine grained,
gray green amphibolite.

24. Contact with
fine grained, rather
gneissic qtz
monzonite. Ridge
is serrated & rock
quite fractured.

Fractures are
just stained with
limonite*. Grab
sample picked from
along the ridge top
where gossan zone
appears to originate.

* Traces of MoS_2 in
broken up light colored
"bleached looking" portions.
This material also
has a fine yellow
powdery mineral on
it with a slight
greenish cast...
possibly wulfenite or
a hydrated Mo mineral(?).

6/21/77

BRAVO #2 AIR PHOTO
A11536-411

25. Medium to coarse
grained qtz, monzonite
porphy. saussurized.
Two well developed
joint systems cause
"columnar" appearance.

$\frac{30^\circ}{338^\circ}$ $\frac{05^\circ}{65^\circ}$

26. Medium to coarse
grained qtz, monzonite
& qtz. mon. porphy.
stds. appears
somewhat fresher,
less altered. stds.
phenocrysts have pinker
hue.

$\frac{335^\circ}{75^\circ}$

6/22/77

BRAVO #2 AIR PHOTO
A11536-411

27. Gray, fine grained
qtz sch. Also qtz.
Amphibole sch. & gtzite.
White milky qtz. in
veins, nodules, & along
planes of schistosity.
Limonite locally.
Most of the exposure
is rubble crop. (R/C).

28. Same rock type
O/C. ~~57°~~
57°

29. Same rock, O/C.
~~47°~~
62°

30. Contact between
gray siliceous, impure
qtzite & contact met.
hornfels.

HORNFELS

White or light gray chill zone with metamorphic minerals (porphyroblasts) of chiastolite (var. of andalusite) & andalusite, and possibly other ^{Al-rich} met. minerals in a very fine grained matrix. This area has only limited exposure of ~~contact zone (possibly a capola)~~.

RELATED TO ULTRA-MAFIC INTRUSIVE(?).

31. $\frac{10}{40}$ Impure gty. sch.
White gty. along planes of schistosity. gty. amphib. sch

32. Massive, flack fine grained amphibolite.

SEE NOTES FOR 6/26/77.

33. Zone of very fractured highly altered dark green fine grained rock. Rock is rusty on weathered surfaces but highly ~~unconformity~~ serpentized

on fractures and
into the matrix of
the rock as well.

~~Possibly the work
of late magmatic
fluids on flds in
the country rock
surrounding the
intrusive? a zone
of white high grade
metamorphic rock
is also present (see
STA. 30), sample 77DCW124.~~ **NO!**

34. ²⁸⁵ Gray fine
50° grained qtz sch
fracture zone 8" to 12" wide
smaller fractures filled with qtz
35. Medium grained,
rather gneissic
qtz monzonite
porphyry with chill
zone of high temp.
met. rocks just
to the S. Chill zone
represented by dotted

MAPPED
IN FLOAT

MAPPED IN
FLOAT & O/C.

Line on the map
is about 30' to 50' (in width (N ~ S)).

6/28/77 The "chill zone" of hornfels is not present in other areas where the metased. & the monz. are in close proximity. See notes for stations 20, 21, 22, 12 and 15, 16, 17. It was traced partly in float and appears to cross the contact of the sed. & the stock at an acute angle. This rock may be due to the contact metamorphic affect of the ultra ~ mafic rock mass rather than the stock of intermediate composition.

BRAVO #2

6/23/77
AIR PHOTO
A11536~411

36. Gray, fine grained
qtzite & qtz. sch with
qtz along planes of
schistosity & limonite
on fractures. $\frac{120^\circ}{70^\circ}$ $\frac{85^\circ}{035^\circ}$

37. Gray, fine grained
qtz. sch. $\frac{136^\circ}{50^\circ}$ $\frac{028^\circ}{80^\circ}$
qtz & limonite as at STA. 36.

38. Rather massive,
gray green, fine
grained qtz. amphibole
(?) sch.
Sample # 77 DCB 126

6/26/77

BRAVO #2 AIR PHOTO

A11536-411

EXAMINATION OF MoS_2
SHOWING IN O/C ZONE TO
THE E & SLIGHTLY N OF
STA. 35.

Host rock is a medium
grained qtz. monzonite
porphyry with feldspar
phenocrysts up to 1" in
diameter. Closer to the
contact the igneous
rock appears somewhat
finer grained and rather
gneissic in texture.*

Alteration of the monzonite
appears to be saussurization
silicification[?]
and argillization, occurring
most intensively along
joints & fractures and
penetrating into the
rock mass from them.

a good example of this is included in the bag of samples marked 35 T.O.F. 6/26/77. Another portion of this sample taken from this O/C has a 1" feldspar phenocryst sheared so that it is offset approx. $\frac{1}{2}$ " implying that some shearing has taken place in at least this mineralized portion of the stock. No S_2 is distributed most spectacularly along joints along with some limonite and it appears to permeate the rock back from the joint slightly as well but generally it seems to be associated with fractures. The tiny blebs also have limonite halos about them. ~~fracturing~~

is not intensive &
one generally notes
MoS₂ in more obvious
amounts every 5, 10,
or 15 ft. rather than
in closely spaced (a
few inches) fractures.

* I initially termed the
rock composition
monzonite largely on
the basis of its light
color. Phenocrysts
seem to be K-feldspar
in this area but
occasionally I observed
plagioclase striations.
It is probable that
saussuritization has
destroyed many of the
striations and that
the rock is somewhat
more mafic than it
appears. Petrographic
work might well reveal
it to be dioritic in

composition.

RE-EXAMINATION OF RIDGE
SW OF MoS₂ SHOWING.
TRAVERSE IS SW FROM
STA. 35 TO STA. 31.

FROM APPROX 120 FT. NE
OF STA. 35 TO SW about 60'
of very fractured oxidized
monzonite (?) exposed to SW
along the ridge followed
by about 60' of medium
grained qtz monzonite
porphyry which appears
somewhat fresher and
harder. Some silicification
along fractures.

"CHILL ZONE" DESCRIBED
AT STA. 35. This zone
is largely R/C and floaty,
about 100 FT. wide and
composed of hard, brittle
light gray to tan colored
matrix with porphyroblasts

of biotite possessing
chloritic halos and
andalusite. as suggested
in my addendum to
my notes for 6/22/77,
this hornfels may
be related to ultra-mafics
rather than the monzonite
stock.

FROM STA. 33 TO SW

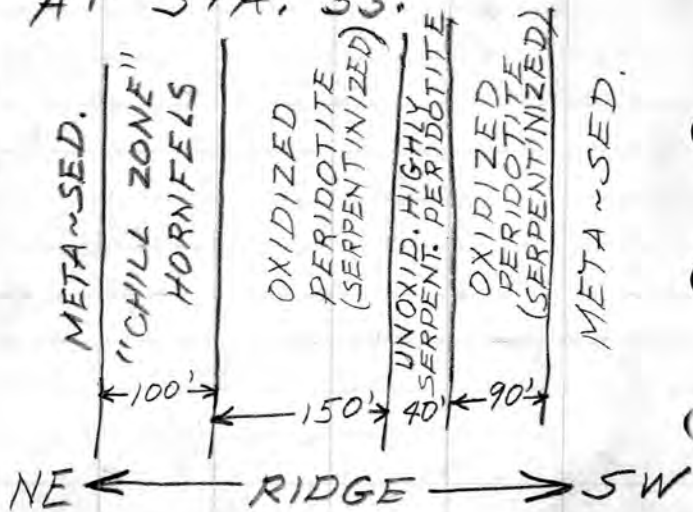
100' of "CHILL ZONE" hornfels
As described above.

150' black, aphanitic,
serpentinized trap
rock with red Fe^{2+} oxide
on all exterior surfaces
Probably fine grained
peridotite or pyroxenite.

40' of the same rock
type but highly
serpentinized, both
on fractures & within
the matrix. No Fe^{2+}
oxide present.

90' fine grained peridotite(?), (this time with Fe-oxide on fracture surfaces. This sequence (& presumably the 190' that just preceded it) exhibits a high magnetite content.

AT STA. 33.



at STA. 32, the massive, black, fine grained rock described in notes for 6/22/77 actually follows a sequence more like this:

GRANITE GNEISS	QUARTZITE	QUARTZ AMPHIBOLE SCHIST
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NE ← ——— RIDGE ——— → SW

Gossan indicated on the photo overlay between STA. 31 and 32 occurs in fractured schist and seems to be of no significance.

STA. 36 200' to 400'
S of the O/C

(STA. 35 & E)

showing MoS_2 was
examined briefly but
no sign of mineralization
was observed. If
time permits I would
like to check this o/c
more thoroughly.

6/29/77

BRAVO #2.

AIR PHOTO
A11536-411

SOIL SAMPLE 77DCW128
taken in stunged
soil on mt. side
between o/c of fractured
gray, impure qtz
sch. or phyllite. The
rock is quite fractured
& fairly highly gossan
stained on all fractures.
It contains noticeable
pyrite. 086°
 61°

39. Gray, fine grained, qtz.
sch. $\frac{318^{\circ}}{59^{\circ}}$ $\frac{310^{\circ}}{72^{\circ}}$ } Better
exposure.

White qtz stringers along
planes of schistosity.

SOIL SAMPLE 77DCW129
Sample taken in dry
drainage & pattern on
crest of ridge in small
basin. The drainage

pattern has formed
along a fracture
zone in the meta-
sed. Gossan is on
fracture surfaces
& forms a predominant
stain on the steep
slope to the W into
the anom. area.

fine grained white or
light gray hornfels (?)
with small brown
colored porphyroblasts
of oxid. biotite (?) are
present as float
along this zone.

40. fine grained, gray
gty. sch in o/c.
Med. grained gty. chlorite
sch P/c on slope up to
peak immediately to N.

$\frac{3080}{140}$

41. Rather massive
fine to med. grained
qtz. biot. sch.

6/30/77

BRAVO #2

AIR PHOTO
A 11536 ~ 411

42. Contact between
meta-sediments &
qtz. monzonite stock.
Meta-sed. transition
from fine grained,
gray, impure, qtz.
sch and amphibole
sch to a hard, brittle,
fine grained, gray
green, slightly
chloritic amphibolite
and a fine to medium
grained, gray green,
quartzite with some
amphibole, chlorite, and
biotite. Qtz. monzonite
is slightly finer grained
but porphyritic with
1" felds phenocrysts
and small inclusions
of

assimilated meta-sed. ~~is present~~. py present
in small amounts of
 MoS_2 occurs along
limonite stained
fractures.

43. R/C in alpine basin
contains tiny spots
of MoS_2 . A second
specimen with
assimilated meta-sed.
has tiny hair-like
accicular \times tabs of
yellow mineral in*
limonitic cavities.
Traces of meta-sed.
& serpentinized peridotite
with oxidized surfaces
were also present as
float.

44. Fractured qtz. mony.
porph. with goosan on
fractures.

45. Monzonite assuming somewhat "gneissic" character. Grains are crudely aligned, more equal in size, (less porphyritic) though rather coarse. Qty. of chlorite content may be increasing. Qty vein about 6" wide plus smaller stringers and veins are present.

* STA. 43. Possibly tiny x tabs of actinolite in a fragment of meta-sed that was assimilated by the monz. porph. (?). X tabs appear to fine & hair-like for actinolite.

RADIO: 8:00 A.M. & 7:30 P.M. / BEDDING
ELEV. AIRSTRIP: 3500' / FOLIATION
PHOTOS: 1" = 1/2 MI.

DECL.: 31.5° E / JOINT SYSTEM

S = SNOW

Q = QUATERNARY OVERBURDEN

Gr = GRANITE

Mon = MONZONITE

Drt = DIORITE

Gab. = GABBRO

LS = LIMESTONE

S.S. = SANDSTONE

S.T.S. = SILTSTONE

Qtzite = QUARTZITE

Sch = SCHIST

R/C = RUBBLE CROP

O/C = OUTCROP

Qtz = quartz

Py = pyrite

Po = pyrrhotite

Cp = chalcopyrite

Mol = molybdenite

FOR AIR PHOTO A11536-411
CAMPS BRAVO #1 & #2
JUNE 13, 1977 ~ JUNE 30, 1977
STA. 1. THROUGH 45.

FOR AIR PHOTO A11370 ~ 357
CAMP BRAVO #3 + #4 7/11/77 ~ 7/15/77
STA. 46. THROUGH STA.
SCALE OF PHOTOS: 1" = 1/2 MI.
MAG. DECL. 31.5° E

Λ BEDDING Δ FOLIATION
- Δ JOINT SYSTEM XXXX GOSSAN

S = SNOW

Q = QUATERNARY OVERBURDEN

BLM = BIOTITE VOLCANICS

LEUCO MONZONITE

APLITE DIKE ROCK VESICULAR TRAP ROCK

G&b = GABBRO & WELDED TUFF

LIMEY SEDIMENTS (CHERT, QTZITE, & SILS. LARGELY)

CHERT

QTZITE = QUARTZITE

SILS. = SILTSTONE

META-SED. DERIVED FROM ABOVE

R/C = RUBBLE CROP

O/C = OUTCROP

Qtz. = QUARTZ

Mag. = MAGNETITE

Py = PYRITE

Po = PYRRHOTITE

Cp = CHALCOPYRITE

Mal = MALACHITE

W = TUNGSTON (SCHEELITE)

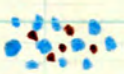
FROM	TO	SENT IN
6/13/77 77 DCW 102	6/16/77 77 DCB 113	6/17/77 ~ B ₁
77 DCW 114 6/18/77	77 DCW 125 6/22/77	6/23/77 ~ B ₂
77 DCB 126 6/23/77	77 DCW 134 6/30/77	7/1/77 ~ B ₂
FIELD NOTES 6/13/77, STA. 1	FIELD NOTES 6/30/77, STA. 45	7/3/77 ~ B ₃
77 DCW 135 7/5/77	77 DCW 148 7/7/77	7/8/77
77 DCW 149 7/9/77	77 DCB 156 7/15/77	left at Baon 7/15/77

samples 77 DCB 101 and 77 DCW 101
used while in base camp ^{at} 6/13/77.

— O/C = OUTCROP
(BLM in this case)

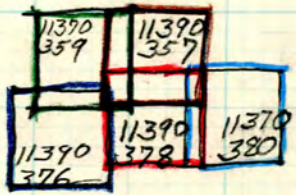
- - - R/C = RUBBLE ~
CROP (aplite dike
rock in this case)

Exclusively large
boulders of single rock
type. Generally on ridge
top & very probably in
place.



FLOAT (mostly lined ss.
but some clastics
in this case.)

AIR PHOTO COVERAGE
FOR B3 & B4



JIM DOUGLAS } FOR STAKING
VICKI DOUGLAS }

1/4/77

BRAVO #3

AIR PHOTO
A11370 ~ 357

46. Welded tuff & vesicular
trap rock with chlorite
& traces of magnetite.

86°
4
358°

47. Siltite & banded chert
(alternating light & dark
layers). Zn-oxide test
neg. on rusty fractures.

48. Light gray, somewhat
cherty L.S. $\frac{095^\circ}{40^\circ}$

Zn-oxide test neg.

49. Tan to gray, hard,
brittle, fine grained,
argillaceous chert or
qtzite. Bedding appears
parallel to L.S. but is
not pronounced enough
to permit measurement
of attitude.

50. Gray L.S. becoming
more siliceous from
W to E along ridge.
48°
50°

51. From 50. to 51.
Rock transitions from
a silty chert to gtyite
with py and gty. sch.
Their attitude becomes
uncertain & they are
quite shattered. Limonite
stains fractures
frequently. Zn-oxide
test negative.

52. Gtyite with calcite
in fractures.

53. Gray sts in contact
with gtyite. Some
stringers of green mineral
in the sts. Possibly
epidote (?) some fractures

are rusty.

54. Hard, dense, fine grained, dark gray, siliceous STs.

The slope between STA. 53 & 54 is pretty well obscured by talus and Q but the few existing O/C suggest that this area & probably on down the slope to the S is underlain by layers of gtzite, chert, and a dark gray fine grained argillaceous siltstone (STs.), probably dipping in a southerly direction like the sediments on the ridge.

7/5/79 gr., possibly O/C, occurs downslope in the creek to the S.W.

BRAVO #3

7/5/77
AIR PHOTO
A11370 ~ 357

55. Intercalated chert
and gzyte 44°
 50°

* 56. R/C of fine to med.
grained, pink,
biotite granite.

* 57. Contact with
shattered, brittle,
rather fine grained
pink, biotite gr.
Rock is very
fractured and
quite gossan
stained on fracture
surfaces. Zn-
oxide test neg. A
well developed joint
system roughly
perpendicular to
the ridge causes
the gr to break into
3" + larger slabs.

175°
 50°

Gossan stained
 fractured zone
 extends 200' or so
 along the ridge.
 Further to the E
 from the contact the
 gr. becomes med. grained.
 The air photo shows
 a slight off-set &
 the ridge is lower &
 much more fractured
 near the contact.
 Possible fault ??

* Biotite leuco ~ qty. monzonite
 according to G.S.C.

$255 - 260$
 $\frac{180}{8} 0^{\circ}$

$247 - 248^{\circ}$

326°

$\frac{107}{2} 85$

$\frac{90}{\square} 065^{\circ}$

7/6/77

BRAVO #3

AIR PHOTO
A11370-357

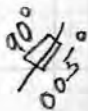
77DCW139. Soil sample
taken from just
below crest of rounded
ridge in R/C of
Biotite leucocratic
monzonite (B.L.M.)

77DCW140 R/C of B.L.M.

Rather weathered specimen
taken from R/C to
check green mineralization
Looks like saussuritized flds.

58. B.L.M. forms large
N facing bluff. Two
very smooth, very well
developed joint systems.

~~85°~~
~~102°~~ POSSIBLE
SLICKENSIDES



Moderate goossan
stain on both systems.

59. 10' vein of light gray
fine grained rock
crosses ridge through

260
150
80

BLM. Strike approx
260° which is
parallel to well
developed prominent
joint system.

60. BLM becoming quite
fine grained.

0930

Very smooth joint system

61. 200' section of shattered
rock, partly masked by
snow, along crest of
ridge. Rock may
be an aplite dike
with phenocrysts of
biotite, qtz. (?), and
possibly zircon or
sphenel or some other such
accessory mineral. R/C very
fractured but not excessively
rusty. It appears to strike
in approx. the same direction
as the vein or dike at STA. 59
& appears to be the same

material though more ^{weather} _{exposed.}

62. Gray, fine grained
banded gtyite in R/C.

BRAVO #3

7/7/77
AIR PHOTO
A11370 ~ 357

63. Dark gray, hard siliceous siltstone & chert. Float below o/c contains thin (<1") bands of skarn. Some fragments in the float are criss-crossed with green stringers of fine grained material but they are quite thin. Zn ~ oxide test negative.

64. Fine grained tan & gray siliceous slts.
 $\frac{105}{360}$

65. Gray silty quartzite. $\frac{141}{91}$

66. Highly fractured zone 10' ~ 12' wide. Rock extremely crumbly

and gossan stained.
Containing calcite
and gty. stringers.
Zn-oxide test neg.
 $\frac{100^\circ}{73^\circ}$ Extremely smooth
joint system.

67. Banded silty gtyite.
Sediments appear to
be assuming a more
metamorphic character.
They contain py
in places. $\frac{127^\circ}{43^\circ}$

7/7/77

My last couple of reports have been hasty & probably incoherent. We did not stake the last area because I felt that the mineralization was not as intensive as you indicated that you hoped ^{it would} be. However, I think that we have demonstrated low grade mineralization over a respectable area. I think that if the D.C. Syndicate does not stake it someone

else eventually
will. I feel that
the area merits
further consideration.

~~10-5~~
~~X~~

WEEKLY CAMP REPORT

PROJECT D.C.CAMP NAME & NUMBER BRAVO #3NTS SHEET WOLF LAKE 105B DATES 7/1/77 TOAIR PHOTOS A11370~357 LAT & LONG 60°16'N, 131°36'W

(CHECK)

SILT SAMPLE SERIES 77DCB 74~100, 201~227 B.A.77DCB 136~138, 145~147 T.O.F.SOIL SAMPLE SERIES 77DCW 29 B.A.77DCW 135, 139~144, 148 T.O.F.

ROCK SPECIMEN NUMBERS _____

Most of the area in the central part of the above air photo has been covered. Specifically, the geology to the E of B₃ has been mapped along the contact between sediments & the biotite leuco qtz. monzonite adjoining the ridges already mapped. Geochem. has been completed along drainage patterns to the N and to the S of B₃. It would appear that trace amounts of scheelite are common in the intrusive & the modest stream anomaly in the NE drains an area of monzonite etc. This seems to be the best explanation for the anomaly at present. If this is the case, the geochemistry we have just completed should produce similar values.

I propose to establish B₄ about one mile to the S.E. in order to obtain geochem. (over)

from the drainage systems to the S and
yet allow me access to the ridges S
and W of our present camp (B3). These
are sediments but close enough to the
intrusive to make a skarn likely if
the L.S. is co-operative.

There is L.S. E of B3 but not in
contact with the intrusive. Unless the
geochem. produces a target or the low
grade W in the monzonite interests you
I would write this area off. I have used
the Zn-oxide test kit on the sediments but
all tests have been negative.

I very much regret leaving you in the
lurch. I will attempt to explain the
situation when I see you. If it is of
any value, I think that Brian is one of
the best partners I've worked with. I
don't know if he can keep a program
rolling or get the necessary information
onto paper but he is a well trained
geologist and he works hard. If you
can obtain a suitable soil sampler I
think that he might serve very well as
geologist.

[Signature]

BRAVO #4

7/9/77
AIR PHOTO
A11370-357

68. Gray, massive, fine grained SITS. with tiny qtz. stringers & stringers of skarny material (epidote [?], etc.)

69. Contact between SITS. & very calcareous chert narrow bands are probably L.S. 10' thick skarn zone with garnet, epidote & magnetite.
Chert $\frac{1}{36}$ Skarn $\frac{20}{36}$

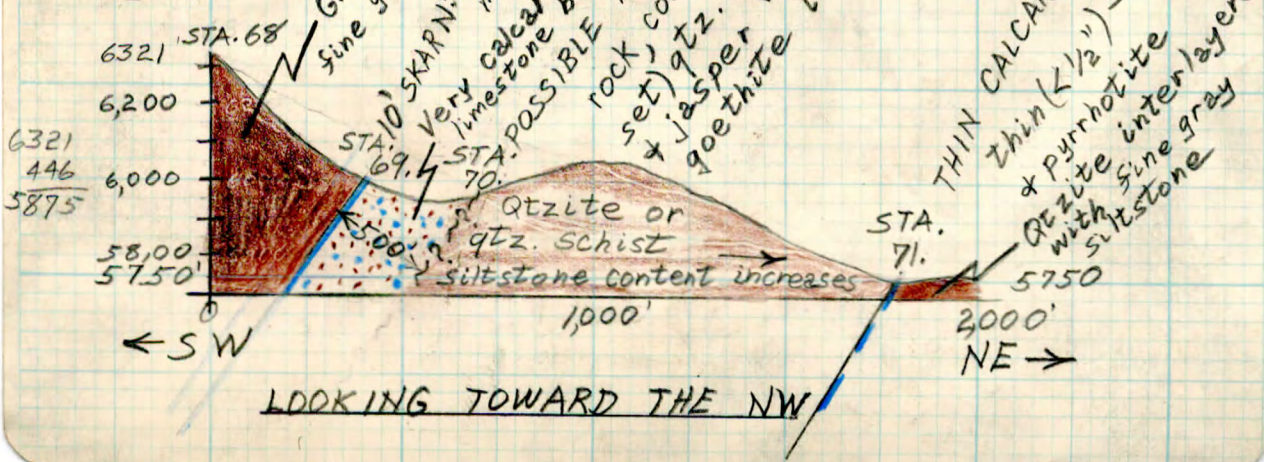
stained by limonite & Mn & contains traces of scheelite.

70. Contact between calcareous chert & gytite or gtz sch
Rock very shattered & Fe stained. White

qtz veins appear
 off-set along bedding
 planes. Breccia with
 jasper matrix occurs
 in float slightly
 down slope. Float
 also contains jasper
 with limonite + goethite
 stytite ~ $\frac{108^\circ}{36^\circ}$ $\leftarrow \nabla ?$ (SCHISTOSITY(?))
 Possible bedding plane
 fault (?).

71. From 70 to 71 qtzite
 becomes interlayered with
 some gray slts. At
 71. Calcareous chert is
 present but relationship
 is not clear. Contact
 of some kind exists
 + rock becomes fine
 gray slts with thin
 (< 1/2") skarn layers
 + pyrrhotite.

125
 321 ELEV. FROM
 446 4 MI. CONTOUR
 6321 MAP 105 B
 5750 CONTOUR
 571 INTERVAL
 500'



LOOKING TOWARD THE NW

72. Intercalated SITS.

& CHERT $\frac{1230}{330}$

73. Chert predominant + very calcareous. SITS content has gradually diminished from STA.

72. $\frac{170}{510}$ $\frac{53}{062}$

77 DCW 152 fine grained green chloritic rock. Highly fractured & gookan stained. Narrow exposure (15') along ridge within very calcareous chert. apparently weak skarn tests for Zn-oxide & with U.V. light both negative

Lower limy layer
somewhat above
contact between chert
& siltstone in this
vicinity. Note sketch
below.

SECTION UP BLUFF
LOOKING TOWARD W



BRAVO #4

7/11/77
AIR PHOTO
A11370-357

74. Four weathered 4"x4"
claim posts wired
together with a blue
flag attached. The
only legible characters
are 16 marked on
two of the posts. They
are bleached white &
appear to be over a
year old.

75. Dark gray, fine grained
SILS. with tiny blebs of
Py & thin skarny lenses
up to 1" thick as you
approach the limy
layer capping the ridge.
Skarn appears to be
mostly epidote + gty.
some gty veins but
evidence

1250
350

77 DCW 154 Highly fractured,
gossan stained, massive
gray SITS.

This sample on
contact between dark
gray SITS & light gray
chert. Contact strikes
approx 105° but expressed
only in R/C. $\frac{426}{40}$ in chert.

78. massive gray SITS.

Thin layers of what
appears to be a boulder
conglomerate composed
of gray SITS. boulder
up to 6" + 8" in diam.

76. Intercalated chert
+ SITS.

77. Gray SITS.

7/13/77

BRAVO #4

AIR PHOTO

A11370-357

79. Contact between BLM
& sediments. At contact
sediments are chert or
gtyite but they form
part of larger unit
of interbedded chert &
SISs.

A shallow pit appears
to have been dug about
150' to the SE at the
crest of the ridge
in monzonite RIC.

BLM is fine grained at
pit, rather sugary
in texture, very low
biotite content, and has
some larger ($1/8$ ", $1/4$ ") blebs
of gty.

Four bleached
4" x 4" clay posts (?)
have been dumped about
45' N of the pit just
over the NE crest of the

ridge. They bear
no markings & appear
to be at least a year
old.

80. Styte with calcite
between grains forms
cap on ridge. O/C
has "blocky" appearance
& weathers to gray
color on surface $\frac{440}{390}$

81. Gray non-calcareous
SITS $\frac{427}{40}$

82. Notch in ridge.
Rock (gray SITS)
appears very fractured.

83. Intercalated SITS &
chert. Chert or styte
becoming rusty to W
up ridge. $\frac{430}{360}$

84. Chert & siltite with
limonite on fractures
 077°
 32° Dark gray silt
occurs in float

85. Creek draining tiny
lake & pond in cirque
has cut nearly vertical
canyon through BLM
along the following
well defined joint
systems: 024° 81° 84°
 103°

BRAVO #4.

June 23/77

zinc and moderate tungsten geochem occurs in the south branch of the creek in the NE portion of Photo A11370-357.

According to the 4 mile map this creek should be within the Seagull batholith. If we expect to find tungsten or zinc we should look at the sedimentary sequence to the south of the batholith.

It is suggested a camp should be established in the pass SW of the creek sampled which will give access to a relatively large area.

We should however expect to have at least two camps in this general area and as we have no geochem information from the SW portion of this whole photo area there is an extensive silt sampling job.

Tungsten geochem - rather spotty - occurs along the valley showing on the east edge of this photo so the NE trending ridge warrants close examination.

Camp

PHOTOS SUPPLIED A11370 357, 359
A11370 376, 378, 380

FROM BRAVO #2 A11536 409, 411

Slope up & Slope down seem to me to be redundant.
These shots were printed by Chemex - not designed by us.

Bottom of O/C
1. Med grained gty.
many permatite
with flds. phenocryst
up to 1" diam flds
appears fairly well
sauss. of MoS_2 &
sauss appear to
permatite into the
rock from fractures.
Rock is sheared e.g.
a 1" flds phenocryst
was offset approx $\frac{1}{2}$ ".

Rock may be more
mafic than many.
Phenocrysts appear
to be K-flds but
occasionally plag.
striations are in
evidence

up to not

2. 60' of very fracture

oxidized monz. (?)

3. Med. grained gty monz
porph appears
somewhat fresher
& harder. Some
silicification along
fractures. 60'

4. float with "Al-rich
chill zone" rock.

Fine grained cream
colored hornfels with
biot. (?) & andalusite
limonite halo around
biot. grains.

metosediments

STA. 33

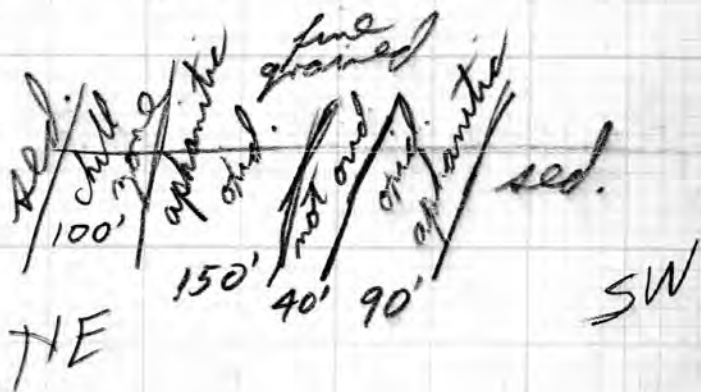
100' of "chill zone"

150' Black, aphanitic,
serpentinized trap
rock with red Fe

oxide on all exterior surfaces. Possibly fine grained pyroxenite or peridotite (?).

40' more of the same highly serpentinized but no Fe oxide.

90' more of the same oxidized on fracture surfaces. Fairly high Fe_3O_4 content.



STA. 32

NE to SW

granite gneiss

gylite

amphibole sch.

Gossan between
STA 31 & 32 is in
fractured sch

Sent Out

77DC W~15 ~ W24

B31 ~ B63

B6 ~ B~30

W11 ~ W13

~~W102, 103, 105, 107,~~

~~110, 111~~

77DC

W~1 ~ W10

~~W101~~

~~B101~~

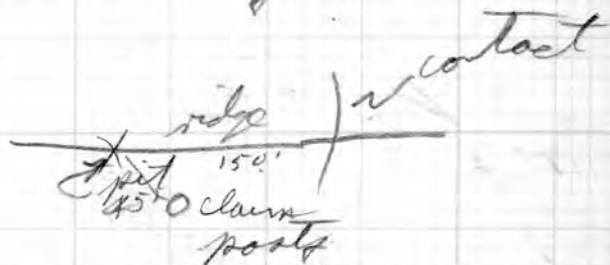
B1 ~ B9

List all that
are not on this
list.

7/13/77

BRAVO #4

79. Contact between
BLM + gylite or
chert* in R/C. Shallow
pit in R/C 150'
to on ridge
top. No O/C exposed.
4 blacked unmarked
4x9" claim to posts
45' to of pit.



interbedded chert + slts

88 paces sed. have
 $\begin{array}{r} \times 6 \\ 528 \end{array}$ "blocky" appearance

Weather gray on
exterior. quartz with
calcite between
grains. $\frac{114}{39}$

125 paces
 $\begin{array}{r} 6 \\ 750 \end{array}$ Gray silt. not
calcareous. $\frac{127}{40}$

at
98 paces ~~to~~ notch in
 $\begin{array}{r} 6 \\ 588 \end{array}$ ridge still
gray silt

175 paces from notch
 $\begin{array}{r} 6 \\ 1050 \end{array}$ ridge turning right
from notch to here
intercalated silt &
chert

27 paces Rusty chert

$\frac{6}{162}$ ghyte $\frac{113}{36}^{\circ}$

80 paces to last

$\frac{6}{480}$ soil sample from prairie log hole.

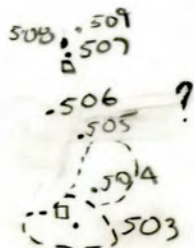
156 W $\frac{077}{32}^{\circ}$ chert & ghyte

with lim. or fractures
Dark gray silt on float!

Last ~ Creek has cut ravine with nearly vertical walls through BLM along following joint systems. $\frac{024}{19}^{\circ}$ $\frac{84}{103}^{\circ}$



- | | |
|----------|-----------|
| 27 46188 | 24 46189A |
| 21 46186 | 22 46187 |
| 19 46184 | 20 46185 |
| 17 46182 | 18 46183 |
| 15 46075 | 16 46076 |
| 13 46073 | 14 46074 |



ECHO 81
A11474 - 99



N
↑

1

- 2 OR DIRT-ARGILLACEOUS
QTZ
- 1 DK
SL ARGILLITE
- 6 PK WCO GRANITE
INTRUSION



00/5

ARGI
QUARTZITE



0.217

80/70



120/5

ARGILLITE

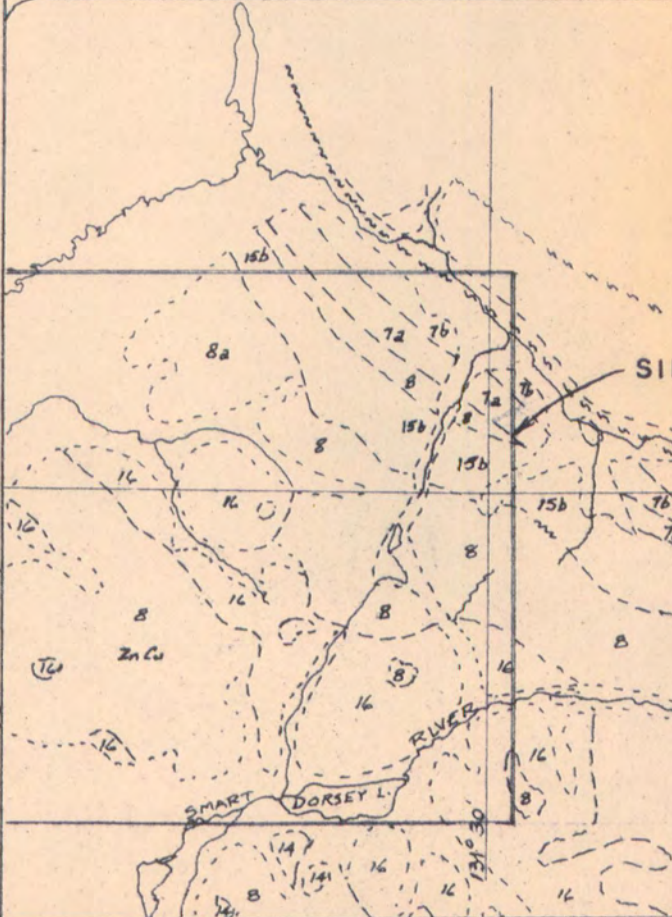


MINDY

ECHO 01
All 474-97



KEY MAP
FROM WOLF LAKE
MAP IO-1960
1" = 4 miles



SILT SAMPLE MAP AREA

LEGEND

- 10 Qtz feld porph, Andesite, Dacite
- 3 Granite, Monzonite, Monz. porphyry
- 78 Argillaceous Slate, Sandstone
- 742 $\frac{1}{2}$ Micaceous Quartzite, Schist, Gneiss
- 37 Limestone

10, 3, 78, 742, 37
Cu, Zn, Mo, Ag, W Silt sample

D C SYNDICATE
DORSEY LAKE AREA
SILT SAMPLE RESULTS
AND GEOLOGY
105 B 485

SCALE 1/2 mile NOV. 1976

CAMP BRAVO FIGURE II

*Tom Douglas
Tikki Douglas*

RAM STOCK
SKETCHED FROM A MILE MAP

HIDDEN LAKE

GENERAL AIR

SMART

RIVER

TREND

MUNSON

LAKE

RESULTS DUE TO P...
TYPE DEPOSITION

MAIN ANOMALOUS
TUNGSTEN AREA

SEAGULL

BATHOLITH
SKETCHED FROM A MILE MAP

LEGEND

- 3a Ultra Basic Intrusive
- 3 Granodiorite
- 37 Limestone
- 37a Dolomite
- 78 Argillaceous slate, phillite
- 78a Cherty argillite, chert
- 78.120.2.6 Silt Sample Cu, Zn, Mo, W, ppm.

D C SYNDICATE

MUNSON LAKE AREA
SILT SAMPLE RESULTS
AND GEOLOGY
105 B-3

SCALE: 1" = 1/2 MILE

FEB 1977

CAMP BRAVO

