Photo# A12326-2
Rock Samples GS-17 - GS-25-H

11 June 68

018606

G. Sanford

ca-p #1 VK

GS 68 17 +300' N

#1 OC of bluish grey ~~phyllitic~~ slate - soft - can scratch ∫ hammer

GS 6817

64 S 115

L.S. + 200' N

OC - same thing, but black slate in places also, small ~~sills?~~ ∫ sill like bodies of black fg material

Concretionary?

GS 6817 A - sill small

could have intruded as beds are bent around.)

- qtz stringers in sill? mat'l +200'

56 115

GS 68-18 Small oc of black, v fg material. Appears Bedded

075

GS 68-18 - has appearance of a small fold

Difficult to sample main ck as swift, narrow, deep

GS 68-22 Small gossan
10'x2', Small ck, w/
little redin, it comes out
of ground <5' away
Talus looks like blk chert w/
qtz eyes

GS 68 22 — All talus is well weathered, diff to get good fresh surface.

There are several gossans within 500' of 68-22 - all rock (talus) the same

GS 68-23 Most of grvl is Dark slate

#1 Talus above GS 68-25 = chert pebble cong? Same as at gossan

11 June 68

A Black slates 15 110

GS68-25A 2 samples
slate & chert

slates are just a minor outcrop
practically all of ~~mt~~ mountain
so far has been the chert pebble
conglom.
Some places chert cong seems
bedded 40 125

B GS68-25B 2 A→B minor slate, majority cong talus

① cong 120, vert
② med-fg cong sample 100' N, talus
cong cut frag. by qtz stringers
numerous small pin holes in sample. ①

+500' Black slates 115 30

Prominent cleavage 120 65S

GS68-25C Dark lst w̄ ~~pyrite~~?

GS 6825 D fg qtzite? Dark on fresh surface, light grey on weathered
small oc of shales between these
last sta

GS 6825 E Blue grey slates

72 135

F Blue grey slates. 115
62

F + 200' Same but 125, vert

F + 400' " " 47 130

Blue grey slate talus to G

G. GS 6825 G

fg Qtzite, Dark on fresh surface,
light grey weathered surface
Same w/ minor slate for next
700'

GS6825 H

Chert Pebble Cong?

80 N
135

I Blue grey slates

vert
145

GS68 26 200' N of camp. Pyrite in black slate found here. Float only

GS68-26

~~GS6827 Soil sample B horizon taken near gossan.~~

Rock Descriptions

GS68-17 w.s. Grey black F.S. Blue grey
no visible minerals, fissile, very fine grained

Blue grey slate

GS68-17 A ws Blue grey
FS Greenish black, a slight sheen, some limonite specks
quite fine grained, qtz stringers
very hard, barely scratches w̄ hammer

GSGB-18 ws Bluish grey (rust coated in places) FS. Black

massive, novisib. minerals, vfg

in hand specimin appear to be 2 fracture directions

Black chert

GSG8-22 ws black & bluegrey & rust

F.S about the same

some of black surfaces are polished & have an almost metallic luster

med sized grains of chert & qtz in a black fg matrix - qtz is minor

qtz chert pebble cong.

GSG8-25A ws. bluegrey FS. Black

① v.fg, novisib. minerals, moderately fissily

Black slate

② ws green grey FS, Bluegrey

med-coarse chunks of grey & black chert

embedded in chert matrix - cuthy qtz stringers

chert pebble cong.

minor qtzite (grey) pebbles

6568-25 B ① Similar to 25A ② but numerous small pin holes

② ws Reddish brown

FS Black w whitish frags

fg, slightly grains elongate in dir of cleavage

chert frags? glz?

6568-25 C ws Dirty green grey

FS Light greyish

fine grained, some surfaces glassy, limonite stains, fizzes in HCl

① Grey lst

6568-25 D ws Light grey

FS Dark grey

no visible min, massive, fg, gtzite

GS 25 G   WS Bluegray

FS: Darkgray black

fg, massive, no visib minerals, q

qtzite

GS 28 25 H

Photo # A12326-2

Rock Samples GS6827A - GS68-31 13 June 68

Sulfs GS68-27-GS6836 G. Sanford

Camp #1 Mc

#1 Not Oc. but frost heaves grey slate

#2 Blue grey ~~shal~~ slate

15 / 120

#3 Blue grey slates

32 / 140

#4 Talus Black chert? ⊠ pyrit

GS6827A

#5 Chert pebble conq. talus

#6 Blue grey slates

30 / 130

about 20' above and 30' to west of this posn, small oc?, prob. talus? of dark, fine-med grained ~~[illegible]~~ qtzite looking rock. However, rock in (qtzite, grey)

gross picture appears to be layered and is interbedded with slaty material

GS6827B-2

GS6827C slug grey slate. Ochas slumped in many places and this might not be a true reading.

100 vertical feet below SOS
maybe large slump block 060

#7 GS6827D

Very hard to break
Dark qtzite appearing rock
Cut by qtz stringers frequently
Some well developed qtz xyls in stringers
massive

#8 Talus slope GS6829

Dark dirty grey on fresh surface
Light grey on weathered
Maybe Bi present but rock prob qtzite

#9 as 6568 31

talus on N side of ck, bedded

looks like metamorphosed chert pebb. cong

6568-31

Rock descriptions

6568 27 A WS Blue grey
FS Black

pyrite cubes visible, aphanitic, massive

Black chert

6568-27 B WS Greenish black
FS Black & white specks intermingled

med-coarse frags of black chert fine grained,
Blk Qtzite & chert interbands

6568-27 C WS Blue grey
FS Same

aph, fissile, no visib minerals, limonite stains

Blue grey slate

GS68-27 D ws blue grey

FS Gray

fg, no visib min, massive

Qtz. te

GS68-29 Similar to 68-27 D

GS68-31

Talus ws Dirty yellow black

FS grey

somewhat foliated

contains light-grey chert pebbles

may contain some slate or may be slaty

surfaces from mvt.

some chert stained red

A12251-426 15 June 68 1

Camp #2 G Sanford, T Coates

Samples collected Rocks P. Clairidge MC

GS-68-40 - GS-68-49

#1 120/24 FS black

WS Blue grey

Very fine grained, ~~no minerals~~ minor pyrite

hard & prob much qtz

Blocky weathering, with smallest partings (along bedding) about ½" thick

Blocks tend to be elongate

GS 68-40

~~grey bc~~ grey-black bedded chert

#2 Chesty argillite talus

Similar to above

BR? badly broken by frost & glaciation

FS Black

WS Light grey

79/165

v. fg, qtz stringers, minor limonite along fractures.

#3

Fault

From west, west side of ridge

slickensided surfaces on some talus.

fault 040 88 S

Both rock types are cherty argillite

Ridge cut by fault, on South side 080, 26S on North 130, 39 S bedding. Below ridge fault surface 040, 88 S. Top of ridge cut by small ditches, 090. Nothing conclusive as to dirn of mvt. or magnitude

#4 — 155 / 86 — Bluegrey cherts.
W.S. somewhat lighter
no visible minerals

#4 + 150' N ~~[illegible]~~ granular & foliated
↔ 093 / 30 foliated — F.S. Black
W.S. Grey black
joints 155 70S prominent
055 vert
This locn approx. on contact
65-68-41

- small qtz grains? along schistose surface
Slate

Slaty cleavage ~120, 20S
line of contact - slate

#5

joints 050 vert
fissile, fracture spacing < 1mm
- some limonite
— 130 / 16 — black slates

LS+150' lineation 150, 24

gray phyllitic slates, sheen on cleavage surface

~~etc~~ fracture spacing << 1mm

6S68-42

B lineation

+150' ~~140 — 52~~ ⊥ 140 52

Slates same as previous

lineation 160, 15

#6 lineation 160, 15 ⊥ 080 14

Black slates as previous

67 150

+500' micaceous sheen disappears shale blacker

#7 End of prominent slaty talus, start of more blocky talus to N

more cherty | 6S68-43 |

#8 chert talus

#9 040/22 Black massive chert F.S

Grossly bedded

lightgrey w.S.

- limonite along fractures, qtz stringers

6568-99

#10 95/110 bluegrey slates some spotted

some more fissile than others

prom fracture 035 vert

656849

#11 080/32 Bedded chert

contact? chert & slates chert s.

black chert (FS) cut by qtz stringers, much rust in area (100x30') Greyish w.S.

#12 Blocky graphitic black argillite

6568-96

#13 Chert Pebble cong. BR?
Jointing 050 vert
GS68-47
whitish, grey & black med coarse pebbles in
black matrix F.S. Blue black
W.S Greywhite

#14 Chert Pebble cong. talus
some w graded bedding
GS68-48

#15 Joint 035 85 S
GS68-49 med grain chert pebble
cong. blk & grey pebbles
W.S. Rusty bluish, F.S. Bluish Blk.
Small oc of greyslates here small
pod

cherty sheared argillite
WS pink grey
FS Black
Shearing 150, 180 both vert
rust around, maybe recemented
fault

+100' Green slates, minor red & grey
23 / 140 boulders?

85
140 greyslates
+150

talus is fine, elongate
pencil shape but fatter

#16 Small qtz. telus
75 x 50 ≈ 120°
lens in greyslate
qtz. te is black f.s.
greyish w.s.
greyslate contains some
cherty ~~pebbles~~. cobbles

Photo A12251-424
-426

16 June 68

Camp #2

G. Sanford

Rocks 65-68-50 - 65G861

#1 Talus

w.s. Blue grey

fs Grey ^ Black

no visible minerals, v. fg., no visible structure, may be parting along bedding fairly massive, ~~no definite fracturing~~ >1" spacing between fracturing along bedding. Many pieces cut by qtz stringers. Most talus about fist size, rectangular frags

65-68-50 · Grey black bedded chert

#2 125/180

Bedrock?

Grey ^ black bedded chert, similar to above

May be large boulders

H3 $\frac{T}{30}$ 130 ws Black

FS. Grey Black

no visible minerals, v.f.g., layered

very fissile

GS 68-51 Black slate

Bedding seems to be quite irregular

+50' across small gulley GS68-52

$\frac{T}{55}$ 080, grey blue slate, ~~not so fissile~~

This is probably a small pod as there are

black slates beyond this point, however

the black slates have changed attitude

$\frac{T}{45}$ 080

Perhaps small gulley is fault?

Some well polishes slickenslided talus

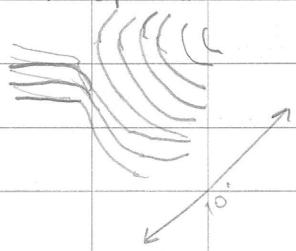
seen above this point

+300'

Black slate $\frac{T}{45}$ 115 approx as many

orientations due to frost heaving etc. However
dirn of strike has definitely changed
This is on N side of next small gulley

#4 Cannot get attitude as beds are variously folded, and cannot get true attitude
Generally 110-130 ° to south
WS Blue Grey Black
FS Black - hard
No visible minerals, some qtz stringers
d sills < ¼", aphanitic
Blocky layering 3-8" beds
Highly folded in place; lineation along bedding, not necess. in folds
surface pitted



Axis of fold 040 Plunge 16° S

T_{18} 015 beds on ~~west~~ east side

beds on west covered

GS 68-53

weakly fissile folded chert?

Some large blk qtzite boulders

on top of hill

#5 Talus pile ws Greyish w rust stains

FS. Grey & light grey

contains qtz, qtzite & chert frags

all angular med. coarse grained

- Greywake GS68-54

Mostly light grey chert.

Also typical chert pebble cong.

Silt sample GS68-37 500' to N

3

#6 Raining & colder than Hell

At ridge edge 20+ ft thick

section of gwke CS6855

over lain by 10+ ft of ~~black~~ bluegrey

shale

$\frac{\top}{38}$ 130

Very steep & can't get down on N side

gwke may be med-fine g. chert peb. cong

- no qtz or qtzite - med grain chert pebble cong

#7 $\frac{\top}{25}$ 120 ws Rusty Bluegrey

Fs Black

No visib minerals vfg

Much less fissile than slates

~ ½" between partings along

bedding

Bedded chert? too soft

CS6856

is just a small oc ≈ 40'

vert thickness

argillite?

contact here with chert pebble conglom. w chalky cement? to S. most of ridge is cherty cong.

#8 joint 045 vert

sample = previous no. for cong. also. The cong. may be graded as some boulders have coarse matl some have fine

#9 Similar to #7 [7/16] 140

GS68-57 lies above this.

ws Rusty Bluish grey

fs Rusty bluish grey

- diff. to get good fresh surface in this area

- small chert pebbles

#10 ⊥ 140
22

as #7

Between 9 & 10 coarse & fine chert peb cong
LS + 200' small x of black
slates

#11 ws Reddish brown
Fs Grey white
Frost talus at top (edge too steep
to go near) - qtzite - m - fg
q 65 68-58

also gwke or chert ~~pcong~~ cong
- med. grained ↗

chert cong ws. rusty blue black
FS Blue black
med - coarse grain, surface appears to have
~~[illegible]~~, foliation, some epte.

4100' to E w.s. Grey, rusty

F.S. rosty grey white

small pebbles of chert

GS68-59

#12 Similar at #12

ushead E along ridge, chert

pebbles become larger

GS68-59A between 59 & 60

- Dark-light gray chert, gtz

#13 Chert pebble corg

grn-grey & white-gray chert

pebbles, some gtz. to pebbles

- from #11 to #13, little

true outcrop, mostly talus

GS68-60

Continuing west from #4

500' west T 15 135

#14 T 10 130 Ws Black

Fs Black

No vis. b min, Bedding ~~fault~~

~~massive~~ 1-3"

Black chert

#15 - 14-15 No Bedrock

All cherty talus; some with slate

like parting due to weathering.

at 15, fairly large talus chunks

Ws Rusty

Fs Blue gray

More fissile than chert, not as

fissile as slate GSC 68-61

cherty argillite

#A12251-426, 424 18 June 68

Camp #2 G. Sanford

Samples (rock) collected GS-68-62 — or
GS68—76

sulfs GS-68-38 — GS68-55

#1 115 / 45 WS. Black, some surfaces shiny

FS Black

aph, some limonite, mostly on fracture surfaces.

OC weathers forming sharp corrugated surface, blocks somewhat pancake shape when break off

Surface is foliated, bands up to 3" thick and in places bands are fissile cc 1mm

Black chert, foliated along bedding

GS68.62

No visib. lineations

#2 Talus - chert Pebble Cong

pebbles of chert from med size to ~1" diam, grey & black chert pebbles, black chert matrix maybe some sorting

#3 Talus from Mount Aho

Black cherts chert pebble cong. w/ black & grey chert pebbles. Both rocks well rust stained & both have qtz stringers & well developed xyls

#4 Bedded ws alt bands ¼-3" of buff colored matl & black matl

Buff ws. Sand Buff & Black

FS Blk gray, touch of green

minor pyrite vfg w/ calcite crystals (few) up to ¼" long sprinkled in HCl Lst. GS68-63

Some lst is also blackish

Black natl ws - Blue Black

FS Black

aph, no visib min, somewhat

fissile, cherty argillite?

6S68-64

also small bands of fg.

WS Buff

FS Buff

ws - chert+qtz frags, ~~pitted~~

surface pitted, no react. HCl

- interbedded w chert+arg.

6S68-65

Sandstone? clastic frags.

Rocks in area are moderately

folded. Essentially flat here

but 50° to W approx ~~E~~ 080

(undulatory folding)

- some of folding might be due to downhill slumping, along bedding surfaces

Between 3 & 4 folded Bluegrey lst

GSGB-66

Bedded ~ 3-4" bands

Beds sort of undulate,

- impossible to get dip & strike

- at least 100 vert feet (True Thick)

of this lst. overlies GSGB-67

weathers in rounded & arched chunks argil. lst

GSGB-67 WS Reddish brown

25-1/180 FS Black

aph, no visible minerals.

Fairly fissile, elongate, thin tales

Thin chunks have a china type

ring to them when struck

Black argillite

Weathers - bands 1/4 - 3" thick

#5 Talus ws Light blue gray
FS Black

Aph, no visible in. There are probably 2 rocks weathering in this color. One is Black slate & other black argillite. The argillite is somewhat fissile and is folded. When weathers, resembles slate.

No outcrop at all visible.

GS 68-68

6 T 115 / 45 ws rusty red & sharp
FS Blue Black

may be a foliation or slaty parting
Limonite stains along fractures
Weathered surface is sharp, Talus platy
elongate

GS 68 69 slate?

Talus above = dark Qtzite

ws. Grey

Fs Black

fine grain

At this posn ≈ 50' away, there is oc

of ~~[illegible]~~ rusty pebbly qtzite, possibly proterozoic?

ws. Grey - may be large boulder

FS. Darker grey

cut by qtz stringers, pebbles ~ med - coarse

rust on surface & along fractures

GS 68-70

7 65 130 ws Grey green

Fs. Greenish

No visib. min, aph., highly fractured

fractures ~ ½" apart, leads to

small sharp talus.

~~Greensla~~

Scratches easily with hammer,
slightly fissile GS68-71
Green shale? arg
It is possible that this is a minor
oc as it is underlain by chert
pebble cong (med-coarse pebbles
of dark & light grey chert) &
is overlain by GS68-72 grey
qtz. fc

GS68-72 WS light/grey green
FS similar

Fine grain, no visib minerals but qtz
weathered grains rounded, cut by
qtz stringers. Well weathered
specimens contain limonite grains
interstitial (not along fractures)

Rocks around here appear to have
been somewhat folded or moved around

above qtz-te (about 50' horiz) from last stn. GS68-71 type rock again? but it now is more massive. The weathered surface is occasionally red, but fs. is still green

By more massive, mean it shows no tendency towards fissibility. Surface weathers to give banding, but is almost concretionary? ~~Prob qtzite~~, banded, fg. ~~microscopic qtzite~~ phyllite

GS68-73 2

Red on specimen is not red weathered surface, both specimens have schistose surfaces, with micas

50' from here, similar rock, more weathered & foliated? 105, 55 S (approx)

lineation on fracture surface

fractures surface 178/70

lineation 95, 80 E

Prob. slickenslides

\# 8  15

140

massively bedded 2-5" secns

WS Gray green

FS Same or black (wellweathered)

novisib. min, aph, similar to previous

green samples in appearances, but harder

~~Metachert~~ ~~or~~ slate?

Possibly interbedded with black chert

6S6879

\# 9  130 WS Light grey

23

FS Dark grey

novisib min, aph, limonite along fract.

Grey chert

Fairly massively bedded

joints 015 79 S

Just above this point, at the top of the peak, the chert is overlain by

GS 68-75 ~~dipping~~

WS Rusty grey black

F.S. Greyish green

FG, contains minerals (can see xyl faces) also calcite veins, possibly ~~grained feldspar~~? Rock seems to be ~~a~~ relatively high S.G.

weathers massively ~~Dolomite~~? Qtzite

#10 ~~→~~ 010 15 WS Light Grey

FS Greygreen–black

chert, similar to previous (#8

Limonite on fractures

≈ 3-4" bedding

GS 68-76

+500' ~~080~~ 10 — 080 10

wellfractured 165 vert

½" - 6"

same place — 065 38

massively bedded

½" - 1' bedding

11 — 075 35

ws Bluegrey

FS Black or light grey black

aph, no visib min

chert, massively bedded

A12251-424

19 June 68

Camp #2

G Sanford

Rock samples collected GS-68-77 - GS-68-87

Silts collected GS-68-56 - GS68-65 ok

#1 T 50 095 WS Buff reddish brown

FS Black, slight tinge of green

vfg, no visib. min, fissile; weathered & fresh surface pitted. Weathers in elongate flat blocks ≈ 1" - 1' long

Black slate - arg

GS68-77

#2 T 28 115 WS Blue grey & a touch of red

FS Blue grey

fissile, vfg, no mineralization

Blue grey slate

GS68-78

#3 T 48 135 ws grey white
FS Dark blue grey

vfg, minor pyrite, Imonite stains along fractures fractures along bedding
½-2" blocks

6568-79

Blue grey ~~chert~~ slate

#4 T 49 100
1-2 ft interbeds of black, blue grey & greenish grey cherts
Green greys have closest parting or lowest
⅛", grey, black >1"
green greys predominate

#5 T 36 105 ws grey
FS blue grey

aph, no vesic
weathers in slate like manner
~¼" thick blue grey ~~chert~~ slate

GSG8-80

slaty argillite

#6

bluegrey - black

bedded cherts

bluegrey
WS lightgreenishgrey

FS bluegrey

black WS grey

FS black

beds vary from ¼-½" to 12",

appears to be no correlation between

width & color.

GSG8-81 2

#7

Light
WS Grey

blue
FS Grey

aph, no visible min. weathers as slate,

but fresh surface is not fissile as

slate, & not massive as is chert, scratches

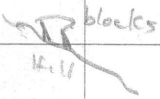
Bedding fractured chert? slate GSG8-82

#8 —T/36 — 095 WS Bluegrey

FS Grey green

Vfg, no vis. b min.

somewhat fissile, weathers in large flat blocks which stick up above ground



soft — — Grey slate?
Scratches

All the beds along the ridge seem to undulate slightly. This could be due to folding, or slight slumping along the crest, sliding downhill

GS 68-83

#9 as #8

T 120 / 16 greenish grey ~~shale~~ slate

This reading is subject to some error as most of the beds here seem to have moved

GSG8-84

#10

~~T 095 / 38 green grey slate~~
~~pyrite visible~~
~~GSG8-85~~

~~T 125 / 55 50' away~~

#10

T 095 / 38 grey green ~~slate~~ phyllite

mod. fissile, pyrite visible

GSG8-85

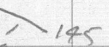
T 125 / 55 Same thing only more fissile (50' to W)

In between the two is talus with folds in it but no bedrock seen.

#11  Black slates

#12  Blue grey slates

#13 Black chert cut by qtz stringers. This is possibly float as it is similar to nearby float

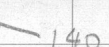


500' to SW of this posn

Massively bedded

- In places there are what appear to be lenses? of ~~more~~ somewhat fissile material

6568-86



+500'

#14 135/12

WS Black grey
FS Black

· Black chert overlain by cherty black slates
· appears slate tho' not as fissile

6568·87 2

#15 ~~150~~ 140/56 Blue grey slate at silt cs 6859

#16 130/42 Blue grey slates

C. 385-5

A12346-372 24 June 68

Swan Lake G. Sanford

Rock samples GS-68-88 - 106

S, Its GS68-66

#1 ~~120~~ 69/130 ? w.s. purple buff

ES rusty redish brown

schistose ~~sd~~ sheen, no visib. min,

qtz grains on ws., limonite throughout

med grain, grains rounded

Mus? Qtzite

GS68-88

+200' 45/120 ?

ws Buff

Fs Green

well weathered surface very fissile

unweathered quite massive

micas - schistose surface, no visib. min

limonite GS-68-89

~~Qtzite~~

phyllite

2 60/145

Similar to 1. WS is somewhat more fissile

6568-90

3 45/145 WS light grey

FR Bluish grey

limonite, minor feldspar

qtz grains med-coarse

grains tend to get ~~finer~~ larger as heads,

rounded

6568-91

Somewhat foliated

Some places

35/095

- at this point, the beds suddenly become more & more fine grained, down to the point where we have a ~~gut~~ qtzite shale (over ~ 5-10')

GSG8-91 A&B

Some surfaces have a ~~metamorphic~~ micas scattered across them. This OC of fg is less than 50' wide across strike

Rock then becomes quite massive. It looks as if it has been moved & metamorphosed. This is for ≈50'

There are some shear slates? in it.

Rock then returns to 91 type for 20'+ ft then ~~sha~~ slates, grey green on F.S. for 20'+ ft

#9 ~~76~~ 125 sim to 91 no fp

+150' W.S. cream

F.S. cream

v fg, some qtz xyls visib, limon. fx

GSG8-92

Possibly a felsic "dyke" tending ≈ 140 (sill)? - v fg qtz. to

#5 WS Bluish grey 65 / 135

FS Dark grey

f-med g., lin. to, qtz grains

somewhat rounded.

G568-93

+200' 52 / 135 G568-94

micaceous surfaces

#6 64 / 120 G568-95

qtz-ete schist

The weathered surface is purple gray & grey qtzites seem to alternate over most of the ridge. There are infrequent metamorphic? zones in which we get some slates

#7 60 / 110 ws bluegrey

FS grey

limonite along bedding.

6568-96

#8 49 / 125 6568-97

ws greyish

FS similar

limonite

schisty

#9 ↙58 135

bedding not as pronounced in this area.

FS rusty Wuegrey

W.S. Grey

limonite

GS68-98

#10 GS68-99

massive? qtzite. No real significant sign of bedding

300' E along ridge

Similar matl cut by numerous qtz stringers

GS 68-100

#11 136 / 135

GSG8-101

#12 145 / 125 similar to previous

GSG8-102

overlain by ws. Grey matl.

#13 158 / 115

GSG8-103

#14 159 / 125 GSG8-104

#15 ≈25 yds of black slates

trending ≈ 130, dip unkn - steep

quite buggered up

ws Blue grey

FS Black

VFG. No visib min

GSG8-105

to N 50/125

usual qtzite - same NO.

GS68-105

200' N similar slates

+500' similar again

16 55/110

GS68-106

Throughout the day there have been many dips in the general topography. These dips are usually associated with areas where the slates are interbedded with the quartzite.

Photo # A12231 - 250
12850 - 132

25 June 68

G. Sanford

Rock samples GS68-107 - 122

#1 ⟷ 150 (15) WS Dirty grey, some rusty areas

FS Grey

limonite along schistosity, colorless micas & qtz? quite schistose &c[illegible]

GS-68-107

The rock has small undulating folds ≈ 5" , paralleling the dirn of schistosity. plunge ≈ 25° S

f-med grain

weathers in tabular elongate blocks

qtz like veins also (// schist)

59 135 + 300' along ridge

#2 Spot check

#3 The area covered so far has been extensively talus covered with very little O.C. All has been [107] type, some ~~gate~~ gtz and minor material resembling 107 only much much harder

cannot get dip although appears gently to WE

[GS 68-10E] ?

one sample A is somewhat harder

Rock seems to be coming less & less schistose - less micas on face and still schisty but difficult to break

#4 GS 68 - 109 over lies 110

110 ws grey

FS greengrey

vaguely schistose, prob. lot of qtz.

no structure

109

minor fold splunge 180° - undulate

ws. Blue grey green

F.S Grey green

schistose surfaces spacing ≈ 1 ~~

Novisib min. but micas

#5

scattered 1-3" qtz sills & dykes

WS. Grey (light)

F.S. Somewhat Darker

GS 68 - 111

Schistose (mica) surface

#6 ← 10 → 145 Similar to above

when this matl weathers, it becomes very much softer & parts along the schistosity. In some places, it is almost graphitic. The weathered matl could easily be thought of as a different rock

200' to East, minor amounts of (1 plus)

WS Green → white qtz eyes

FS Blue green w qtz

no other visib. min

eyes 1-3 mm

Qtz. to? feldspar porphyry

GS 6B-112

Prob. some sort of dyke matl

no outcrop seen, tends to follow small depression 050

Talus broadens out to S ≈ 100' w. do & narrows to N

Qtz float in this area is greyish, not white as before

Around side hill to N there is only the schist float. As approach top of hill ≈25 vert ft. most of talus is somewhat similar to above. 112

Rock now has a definite intrusive look
<5% Bi, ≈30% qtz & Feld, rest matrix, dark grey

6568-113

7. Control

Between here & 6 schists as before scattered between these schists are rocks which are not as schistose & appear much richer in qtz. Faint hint of ~~bedding~~ schistosity.

GS68-114 2

No bedrock seen

#8 No BR seen

Talus approx 50:50 qtz:tonalite schist & dark intrusive. Minor aplitic matl

No ~~qtz~~ intrusive at top of hill.

int. similar to 113

Aplitic mat ws. Dull white
FS Light Gray

Fine med grain Bi + Qtz scattered in V fg matrix
More Bi than qtz

GS68-115 2

#9 

Small folds plunge ~20°S

qtz. to schist GS68-116

Prob. overlain by int. judging by talus

#10 Small oc of intrusive. Going from 8-10 Int hangs then somewhat lighter in color

Bi, Qtz, Fp visible ~ med grain

F.S. grey

w.s. whitish grey

No visib foliation

GS68-117

Small oc - few 10's of ft

100' E from last sta

sandy talus

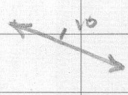
sills & stringers of qtz

~065 50-100' granodior dyke

#11

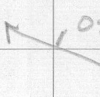
same stuff but 2' sill of qtz

#12



small folds plunge 190°S

#13



appears to be increasing in Bi

#

GS-68-118

#14 Control ~~sch~~ qtzite schists

GS-68-119

all talus

#15 ↔ 18 140 small folds plunge 18S

#16 ↔ 29 140

#17 ↔ 15 145

GS-68-120

#18 ↔ 08 140 similar to others
but appears somewhat
tougher GS68-121

Between 17 & 18 there is another
aplitic like dyke? also some
rust & pyrite in one sample

GS68-122

prob. qtzite.

Photo# A-12346-374, 372 GSanford

GS68-123-136 28 June 68

Swan Lake

1. Talus ws Dirty gray

FS lighter

limonite present, med-coarse grain

subrounded qtz grains

slightly foliated or schistose

GS-68-123

C. 385-5

2 ↖ 85 ↘ 145 Bedrock?

from 1-2 talus appears to be getting

finer grained, also more

schistose

ws Dirty grey

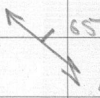
FS lighter

limonite along schistosity or bedding

grains of fine qtz

GS-68-124

+100' mineralization - arsenopyrite?
or tetrahedrite in qtz vein?
no extent

#3 

similar to #2 but med qtz grains
There has been an increase in the
amount of intrusive appearing
qtz, to talus between 2 & 3
similar to ~~mineralized~~ rock containing
mineralized qtz vein

65-68-125 qtz-tesch.?

65-68-126 qtzite

int qtzite is prob. metamorph qtzite
int. qtzde was rusty white
FS crean
Scattered fine qtz + limonite, aph
matrix

#4 58 / 135 as previous, small qtz sills & dykes majority sills

In some places is more massive than others not as finely schistose.

WS is a reddish buff

+300' 80 / 150

#5 Dyke material? or vfg-aph qtzite similar to 126 except has slight greenish tinge and the few scattered qtz grains, minor limonite

GS-68-127

lineations 105, 30 SW

35 / 105

C. 385-5

At this stn there is a small gulley trending ~170-180. It could tie in with a small notch on the opposite hill

on the N side of this gulley ~~wash~~ ≈100' we have an intrusive? of some type

WS Grey

FS greenish white

contains feldspars (some zoned), qtz grains ~~& muscovite~~ ~ fine-med grain

There is some mineralization.

Prob metamorph qtzite.

| GS 68-128 |

#6 $\frac{\ \ }{\ \ }$ 40 150 Bluegrey slates

WS Brown Black

FS Blue grey

vfg, no visib mins or lineations

very fissile

| GS 68-129 |

almost below #5

some slates have greenish & purplish tinge on WS

In next 100-200' slates become quite foliated? in bedding dirn, cut by qtz stringers. These are overlain by [GS-68-130] ~~limy~~ ~~argillites~~ argillitious lst.

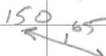
w.s. grey

f.s. black

ufy some have bands of light matl, calcite

This is not a great thickness < 20'

overlain by green slates

#7 

med-fine grain qtzite again

contains more limonite

[GS-68-131]

#8 limy argillite talus
argillitous lst

#9 65 / 155 Xylline lst ~~limy argillite~~, but lighter in color, more granular ~~larger grains~~

FS is now blue grey ✓

65-68-132

not as distinctly layered

#10 65 / 150 similar to 9

minor limonite

+200' 62 / 155 well weathered blue grey shales

#11 argillitious lst & lst w̄ qtz pebbles or of ≈ fine-med size pebbles

65-68-133

prob qtz pebbles in a limy ~~calcitaceous~~ matrix

#12 ws Dirty grey

69
180 FS Bluegrey

vfg, limonite along bedding

fissile - blue grey slates

GS 68-134

#13 54
180 Similar to above, but

little limonite

GS 68-135

more limonite uphill

#14 15
165 Blue green slates

GS 68-136

Photo# A12247-4

GS68-137
-147

G. Sanford

29 June 68

Swan lake

#1 Intrusive B.R. Assume granodiorite

Plag 40, Bi 30, Qtz 30%

WS Grayish white

FS Black & white

Some limonited pyrite along fractures,

minor hornblende

fine - med grain.

Hbd Bi Granodiorite

GS-68-137

#2

185

WS. Dirty Grey

FS Similar but darker

No visib min, hard. Int. qtzite of some type

65-68-138

This is a "lens" in the granodiorite ie there is granodior in the rock around it.

Between 1 & 2 there are zones which are quite rich in Bi and sections which are ~~schistose~~ gneissose

65-68-139 z

at 2, it is quite likely these are xenoliths of qtzite

(This is all prob meta sed.)

#13 

continuous from #

similar to #139, somewhat greener

due to chlorite?

May be intrusion metamorphosed green slate GS68-140

also have portions similar to 139

#9 

from 3-9

rock appears to be coming more and more schistose

WS. Rusty

FS. Blk & white - grayish

very slight schistose surface

qtz, plag, Bi in rock

Bi on schistose surface

GS-68-141

Bi Schist

#5

small interbeds of liny material qtz grains in liny matrix, both white, <5' wide

contact

#6

foliated blue green slates

Between hand last st, there are two massive chunks of qtz. In place, it is somewhat schistose — mica pods.

slates w.s. lightgrey

FS ~~blue green~~ ~~green~~ grey

large pieces of qtz along cleavage surfaces, slate highly folded in places.

GS-CB-142

5 → 6 minor amts of blk argillaceous material.

+200'

100' from #6 hit proto. gtz. schist
ws Rusty grey buff
fs Grey
fg gtz, some pyrite, limonite
schist base

6568-143

#7

Proterozoic gtz. schist ws
some interbedded blue grey slates.

+150' small occ of w.s. Purple slates

#8 

fg qtzite schist
Some limonite

between 7 & 8 some of was med grain. ~~Some~~

#9 Spot check, qtzite schist BE.
Rock here is more massive than at 8

#10 

Fine-med grain, limonite

#11 Massive qtzite, medium grain
much limonite

65-68-144

#12 

fg qtzite schist
interstitial limonite

65-68-145

#13 

rock has weak schistosity & qtz grains med-coarse

#14 

Similar to above

#15 

Pinto qtz-mica schist
med grain, limonite

GS 68-146

Rock appears to be folded? or slumped?

#16 

med grain limonite
some qtz is bluish

GS 68-147

on airphoto appears to be series of small folds in this region. On ground they are "ditches" about 10' deep & 30-30' across the top.

Photo# A-12339-310

30 June 68

GS68-148

GS-68-157

G. Sanford

Swan Lake

#1 

w.s Grey, some rust

FS. Little darker

Qtz pebbles med grain, l-on. to along schistose surfaces, pebbles subrounded

GS-68-148

Proterozoic Qtz. to schist

#2 

Similar but finegrain

GS-68-149

#3 

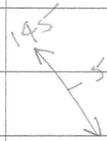
as #2 but grains somewhat larger

between 2 & 3 hard medgrain

#4 

Similar

GS-68-150

#5 

med grain, subrounded

limonite

GS-68-151

qtz stringers

#6 

fine-med grained qtzite

similar to previous but not as much limonite

?

In this area there is a series of small ridges & depressions. They show as lines on the air photo

GS-68-152

65 → 115

Similar to #6

+200' NE

#7 56 → 130

Numerous qtz stringers & sills.

med grain

GS-68-153

#8 65 → 35

qtz rich (veinsets, not refering to qtz grains)

GS-68-154

#9 Massive qtzite med-coarse grain

limonite

GS68-155

#10 85 → 15

ws purple

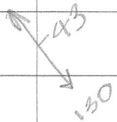
fs Black

vfg, no visible fissile

Blackslate w/ limonite

GS-68-156

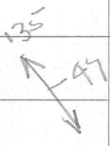
qtzites to W



#11 med. grain grey weathering

qtzite

GS-68-157



#12 Same

Photo # A 12346-368.

GS-68-158 G Sanford

GS-68-168 1 July 68

Swan Lake

#1 

Massive med grain gtzite

WS. Grey

FS. Grey

limonite, textitial, some gtz has bluish tinge, no visib minerals

GS-68-158

Same place WS. Grey buff
to N

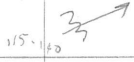
FS. Black

vfg schistose, somewhat fissile along schistosity, limonite

vfg gtzite schist

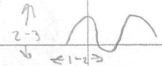
GS-68-159

#2 greyish slate fg gtzite Highly folded. Several orientations 115-140 dipping 20-30 to E

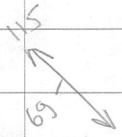


65-68-160

Folds 2-3' high ~ 1-2' wide



#3



w.s. Buff

F.S. grey

fg, subrounded gtz grains, limonite interstitial & along schistosity

65-68-61

overlain by med-coarse grain gtzite

limy matrix

#4 

WS Green brown

FS Lightgreen

vfg, no vis. b in

Green slates

65-68-162

many qtz stringers

messed up ie bent in various direction

etc

#5 

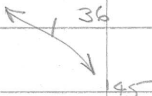
Med grain qtzite

add coarse grain

#6 

Med-coarse grain qtzite

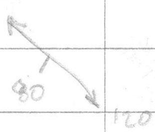
#7



fg, highly fissile qtzite.

Some grain short slate? vfg qtzite between here & 8

#8



fine-med grain grey weathering qtzite w/ limonite

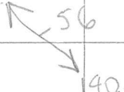
fairly massive

Some chert pebble cong float

#9 Talus mixture of med-fine qtzite & greenish slates, some folded slates

CS-68-163

#10



med. grain grey weathering qtzite

CS-68-164

#11 WS, Cream

F.S. Blackish blue

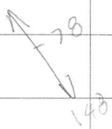
5% fine qtz grains, some limonite

Blue-grey lst

65-68-165

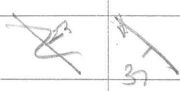
This is prob. a large chunk of talus but I don't think it has travelled very far.

#12



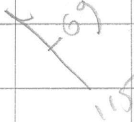
fg qtzite schist

65-68-166



100' below this

lst similar to above

#13 

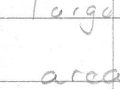
W.S. Whitish
FS Black

Lst

6S-68-167

200'-300' to N get med grain qtzite 

No dip

#14 

Massive med-coarse grain qtzite. large amts of outcrop in the area.

G.S. -68-168

photo# A-12231-240

2 July 68

GS-68-169
GS-68-178

Swan Lake

G. Sanford

#1 ↖32 ↘065

well weathered fine-med grain proterozoic qtzites, some blue eyes. Some is fine grain. Both are somewhat limy, interstitial limonite

GS-68-169

qtz stringers

#2 ↖38 ↘050 fg qtzite w/ some ~~[illegible]~~ some med eyes of bluish qtz

w.s. light grey

f.s. Bluish greenish grey

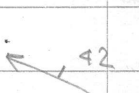
limonite

GS-69-170

#3 

Similar to previous

In area No of 2 there is little, if any outcrop small units of qtzite similar to #2 are seen.

#4 

fine-med grain qtzite
limonite

65-68-171

#5 

med grain qtzite
limonite
numerous qtz stringers

65-68-172

#6 Talus only — same med grain gtz.te

#7 

med grain gtzte

+200' 

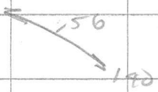
#8 

Same

150 S 

#9 

#10 fg qtzite



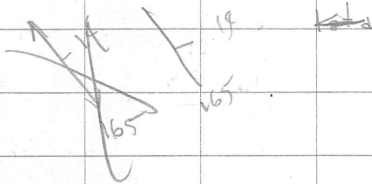
white micas on schistose faces

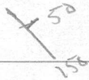
W.S. Dirty red brown

F.S. Greenish tinge

GS 68-173

#11





W.S. Rusty buff

F.S. Blue black

numerous fine qtz grains; calcite veins

matrix v. fg.

~~[illegible]~~

qtz pebbles (grains) in limy matrix

weathers in thin plates & massive blocks

To the east, beds 14 / 165

& to west 50 / 150

There is no gouge where the beds meet, only broken, relatively large chunks of rock. It looks as if one side slumped & the rock fractured no mvt.

GS-68-174

There are small 1/4" calcite lenses or nodules

+200' along top E   med qtz grains

57 / 60   - more than at last stn

in lmy matrix

GS-68-175

on E. side of gully

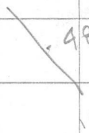
WS Buff & Dark grey

FS Bluish

1st w qtz very minor pyrite

GS-68-176

#12



Sacarroid calcite

some qtz

GS-68-177

has been some mvt along bedding

some of lst is quite fissile

all beds in the area undulate slightly

A

#13

28

155

6568-178

overlain by fsts

numerous gtz stringers $\frac{1}{32}$" - 1"

& larger

ws Green grey

FS Similar

fine gtz grains, no limonite

gtzite

Photo # A12239-169
A12231-245

3 July 68

65-68-179

Swan Lake

65-68-193

G. Sanford

1. WS Grey wh. fe, some rusting

FS. Black & wh. fe

Qtz, feldspar, biotite hornblende

Qtz 30, Bi 30 Plag 40, minor hbd.

hornblende Biotite granodiorite

Bi: well developed Xyls

fine-med grain

65-68-179

Float

WS grey, rusty

FS Grey black

fg qtz, feld & bi matrix

larger phenocrysts of qtz & some bi

Same number

Dyke or sill or quicker cooled granodior?

#2 Granodior similar to previous

Specimen is more weathered

minerals of darker intrusive also

GS-68-180

#3 Similar granodior

GS-68-181

+300' 15

100

line of contact ≈ 085, 85 N

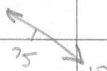
grano. to N, sch. to S

Bi Schist.

GS-68-182

#4 85 not as schistose as

090 last rock, less Bi

#5 

ws Grey white

FS Grey

vfg Bi qtz ?, schistose

GS-68-182A

Luck from 4 to 5 has been mostly dark fg qtz. ts ∞ sm pyrite in places

ws Grey
FS Grey

GS-68-183

+100' 10-20' band of buff weathering

1st ∞ qtz pebbles in t. (grains)

GS 68-184

Somewhat folded

#6 

ws. shiny grey

FS grey

limonite along fractures

vfg qtzite

GS-68-185

There has been similar material to this
with qtz ~~grains~~ eyes (grains ≈ 1mm)
between this & the last stop

#7 37 N 120

ws light brown w/ touch of green
FS Blackish

well lineated, fg with coarse particles
of some type weather out Kyanite? chloritoid?
andalusite?

74 120

65-68-186

schist

From 6 on the rocks take on a distinct sheen

Between 7 & 8, minor Dark gray weathering
limestone

8 ↖83 ↘135

WS Grey

FS Graygreen

↖N ↘135

No visib min, vfg

somewhat foliated, well lineated

GS-68-187

sheen on surface, graphitic schist.
Chloritic "

#9 Mostly talus

ws gray black

FS Black blue

vfg, no visib min. reacts w HCl

argillitious ls-l

GS-68-188

Some greenish slate talus overlies this

#10 ↖115 ↘41

ws grey

F.S. ~~Grey~~ bluegrey

fg qtz pebbles

qtzite GS-68-189

#11 74 125 qtzite few some med grained pebbles

folded slightly

65-68-190

#12 31 115 med grain qtzite

65-68-191

microlst 12-13

#13 65 135 WS Grey green

FG Greene

limonite, faintly schistose

vfg qtzite? too soft chlorite schist?

65-68-192

linears on airphoto follow strike

may be easier weathered bands

14

79
135

Similar to previous, not as
much limonite

65-68-193

WS. Dirty grey
FS. light grey
fg qtzite

Photo # A12245-241, A 12238-4

GS68-194
GS 68-208

4 July 68
Swan Lake
G. Sanford

M + B rock area

1. Granodiorite
About equal percentages of qtz, Bi & feldspar
med grain
GS 68-194
as proceed downhill get minor amts
of hbde.

2. Similar to above but w minor
hornblende.
GS-68-195

3. As #2

Just beyond #3 we find first chunks of non intrusive float

Seems gtz. bi schist, some is fg gtz. to Intrusive becomes darker & finer grained. Some has much hbl. There are several ~~xenoliths~~ xenoliths of metased in the granodior int

65-68-196

#4 42 / 130 W.S. Grey F.S. Blackish

fg gtz, micas w.s.b?, schistose fg gtz to schist

65-68-197

#5 56 / 130 — grey weathering

gtz. fg

GS-68-198

#6 97 / 135 — similar to #5

folded slightly

GS-68-199

#6 55 / 110 — WS Rusty grey

FS greenish grey

fg gtz. fg, somewhat schistose

GS-68-200

#7 W.S. Gray

FS. white

fg gtz.

massive gtzite.

GS-68-201

#8 

qtzite similar to previous

#9 med grain qtzite schist
GS-68-202

#10 Same

#11 Same as above

#12 64 / 165 Grey weathering qtzite
GS 68-203

#13 Granodior, minor Hbl. talus

#14 continuous from 13, similar

#15 contact. Granodiorite to N, gets darker near contact. To S grey weathering fine gtz. te

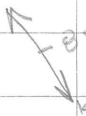
Contact approx 070

CS-68-204

#16 

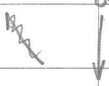
Sg gtz. te, some with large aggregates of B.

CS-68-205

#17 

Grey weathering dark F.S. gtz. te

CS-68-206

#18 

lineation probably on fault surface as quite shiny

Rusty gtz. ls.

GS-68-207

#19 Granodiorite

5-10% Hbl.

GS-68-208

non foliated

#20 

gtz. ls

Photo # A 12328-216 6 July 68

G. Sanford

Swan Lake

GS 68-209,
GS 68-226

#1 ↖ 29 ↘ 095 ws greyish white, shade of orange

fs bit darker

fg, no visible minerals

GS-68-209

qtz. te

weathers in a somewhat fissile manner.

Large OC. of std rock across valley to W ↙ 44 120

Just beyond this sta (#1) ≃ 100-200'
rock changes to dominantly ~~black~~
~~fine black slates~~ bluegrey phyllites

65-68-210

#2 35 120 w.s. greengrey

f.s. lightgrey

fg, minor limonite, weathers massively
although the rock is highly layered
some black ~~slates~~ phyllites. ↑ Where near surface weathers
in fissile fashion

65-68-211

some lime

#3 19 120 similar qtzites

#4 115 24 similar qtzites but finer
grained

1200' Rock seems heavy, some pyrite & limonite

ws Gray

fs Similar

alt'n bands of gray (major) & minor black.

Prob. vfg gtzite, possibly slate

fairly fissile

GS-68-211A

#5 

ws Dark gray & rusty

fs Gray, slightly green

vfg, fissile

~~vfg gtzite~~? phyllite

GS-68-212

#6 

This reading is not necessarily accurate as there has been a variant of slumping & minor folding

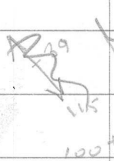
#7 

Rocks still qtzite, but now is approaching med grained has some specs of blush qtz

GS-68-214

#6 Interbedded minor blk ~~slates~~ phyllites & fg qtzites

GS-68-213

#8 

Bluegray phyllites ~~Blk slates~~

Between 7 & 8 get metamorphosed appearing ~~rock~~ qtzite. The weathered surface is completely pitted with limonite filled holes. There could be where ~~qtz~~ feldspar grains have

weathered or fallen out

GS-68-215

Minor O.C. interest only

WS Dull grey

FS Shiny grey

med size qtz grains

85 32 125 cliff face appears to be

altn bands of blk & blue

grey ~~slate~~ phyllite & fg qtzite. ~~Slate~~ Phyllite is

minor.

Minor limonite in the ~~slate~~ phyllite

GS-68-216

There is some amts of black

xylline lst interbedded also. It

appears as small lenses or

concretions in both slates & qtzites

~~Interbedded micor blk slates & fg qtzite~~

~~GS-68-213~~

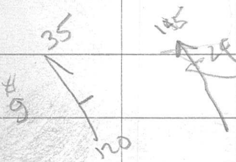
The above shales & qtzites overly at least 100 vertical ft of ~~dark Ls~~.

or limy argillites W.S. Silvery

FS. Light Bluish black

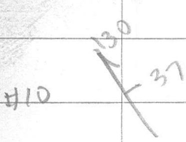
very fissile shiny surface

GS-68-217



Same as above

end of above, overly slates



Blue gray Phyllites ~~Black slates~~

GS-68-218

#11 130 / 40

WS grey

FS. Bluegray

fissile, shiny. Bluegray phyllites

GS68-219

Practically all talus so far has been similar, some w/ kink bands. There is the odd OC of fg gtz. ite.

#12 34 / 115

fg gtz. ite

GS-68-220

small OC ≈ 100'

#13 115 / 36

WS. Greenish grey

FS. Little darker

numerous fine blk spots, no visible

green phyllite

GS-68-221

39 / 165

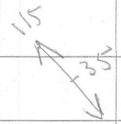
#14 ~~Green phyllite, similar to last~~

~~GS-68-222~~

#14 125 fine grained qtzite

phyllites almost continuous from just beyond #10

GS-68-222

#15 

Both qtzite & phyllite

From last stop to here qtzite & phyllite alternate in small <100' thickness

It is hard to say which is in excess though I may be the qtzite

GS-68-223 qtzite

+200' what appears to be med grain

qtzite, however there is carbonate

along the fractures - interstitial - interest only

GS-68-224

#16 

phyllites, ws grey

FS green grey

GS-68-225

+200' ~~a~~ 1st qtzite

of a. 224 and black xylline

1st GS-68-226 minor portion

226 ws Reddish Buff

FS Pinker

qtzite

Photo # A 12328-220 7 July 68

Swan Lake

GS-68-227
GS-68-241

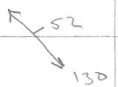
G. Sanford

#1. Talus only WS Grey

FS Grey

fine-med grain qtz, limonite, white micas

present GS-68-228 qtzite

#2 

similar to above, med grain

qtz is somewhat bluish

GS-68-229

#3 

as previous

GS-68-230

several qtz stringers

#4 

Similar but finer grained

GS-68-231

#5 

vs Pinkish gray

as similar

Med size qtz grains, limonite

pinkish qtzite

GS-68-232

#6 

med grain qtzite w limonite

GS-68-233

#7 — 140 / 65 — Interbedded ws Dirty grey

Fs Bluegrey

vfg, fissile. Bluegrey phyllite

135 / 53 — med. grain qtzite

same place

Up to this posn, rock seen has been totally qtzite with the very odd band of bluegrey phyllite. Usually about 5' wide.

65-68-234

#8 On E side of suspected fault we have med grain grey weathering qtzite

some has pyrite in it

Rock appears to be large talus boulders and not B.R.

65-68-235

130 / 58

overlies bluegrey phyllite

Opposite side same thing

GS-68-236

Glacial striae ~~or slickenslides~~

on blue grey phyllites

#9 150 / -44

Blue grey spotted phyllites

GS-68-237 'use as marker

#10 -51 / 135

Fg grey weathering qtzite

There has been no sign of the spotted slates on the opposite side of the fault. However there is little outcrop.

#11 

well weathered, greenish f-m-gr qtzite

GS-68-238

#12 

qtzite similar to #11

GS-68-239

#13 

fg qtzite, some micas

GS-68-240

valley between 13 & 14

#14 

Blue gray phyllite

GS-68-241

#15 On opposite side of small gully -
fg. qtzites

For the last waste the rock has been a mixture of qtzites & phyllites. Alternate, but due to absence of oc do not know how wide the bands are

Photo # A-12247-15 8 July 68

G. Sanford

65-68-242 Swan Lake
65-68 - 260

#1 30 085 WS Black

FS Black

vfg, no visib minerals, weathered surface
quite sharp Black slatey argillite

65-68-242

1A 43 110 045 29

Top of hill #1 + 350' appears to be two
joint sets as above. Slaty cleavage 24 070

Blk slates

#2 F 56 / 100 ws BK
Fs Blk

~~vfg~~ aph, no visible min, hard

Blk chert | 65-68-243 |

#3 ws Grey

FS Reddish grey due to limonite

limonite, vfg shiny qtz xyls

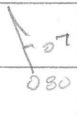
fg qtzite, massive

| 65-68-244 |

#4 F 14 / 115 Blue grey slates, minor

| 65-68-245 |

#5 F 61 / 065 Bk chert

At this same posh 

ws Greywhite

FS Black

vfg, nonsiliceous, surface worn

Incated, may be bedding 

Blk slates

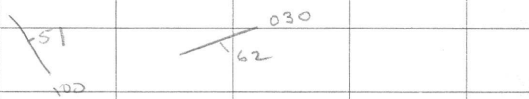
GS-68-246

fairly well fractured along these fracture

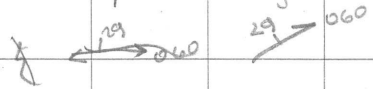
weathers in pencil shape fragg but

much larger.

(Probably two periods of metamorphism)

#6 

Two prom. cleavages



Blk slates

GS-68-247

+200'

52

110

ws light blue gray, or gray blk

fs ~~blk~~ gray blk

Bedded cherts

GS-68-248

Very little

#7 Some gray blk bedded cherts just before contact w/ qtz. tes

ws. white - light gray

fs. rusty gray

v fg - fg, limonite

fg qtz. tte - massive

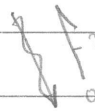
GS-68-249

86

080 (blk cherts ≈ 50' away)

occ of qtz. tes is not very large ≈ 500' alonghill.

Rock changes to #8

#8 

ws Grey black

fs Blk, shiny

no visible min, fairly fissile, vfg

Blk slate

65-68-250

In places, the slate is much less fissile & appears cherty. These may be cherty bands or concretionary sections

65-68-250 A & B

#9 

This reading approx only

It is BR but has been broken etc by weathering

ws Light green

fs. Similar but darker

vfg, no visib min, somewhat fissile

GS-68-251

Phyllites

#10 195 / 29

again may not be correct

Similar but is more massive

& a dark dirty green

color progressively has changed

GS-68-252

#11 28 / 095

similar to above but

along ridge

Minor oc. majority as #12

#12 48 / 110

Blk slates

GS-68-253

continuous to top of hill

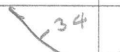
#13 27 / 080

Grey slates

GS-68-254

Grey interbedded = blk, more blk

#14 Blk slates



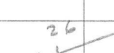
GS-68-255

#15 Follow h.11, contouring to opposite side

cross 1-300' of qtz. to talus GS-68-256 & then

few 10's of ft of blk chert GS-68-257

overlie GS-68-258 blk slates

#16 

contact WS Green gray/

FS "

very fissile

Green gray slates

GS-68-259

#17 

Similar to above but

l. Hle grayer

GS-68-260

minor Blk slates & chert between 17 & 16

A 12339 - 307
309 ✓
A 12295 - 12 ✓
-14 ✓

11 July 68

GS-68-261
GS-68-269

G. Sanford

Camp #3

#1 ws Grey, some rust

FS Grey

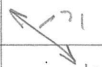
limonite, med qtz grains

qtzite

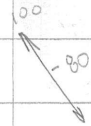
GS-68-261

#2 similar qtzite.

qtzite continuous from last stn. Minor dark lst float. Brown weathering

#3 

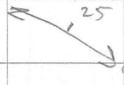
Similar

#4 

as previous

65-68-262

between 3&4 there are minor bands of FS greenish phyllites & some coarse grained qtzite

#5 

same

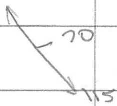
#6 

med grain qtzite = limonite

~~but~~ just after #5, small band of reddish white calcite

65-68-263-2

#7



WS light grey

FS ~~Blk~~ Blk

no visib min, fg, hint of schistosity

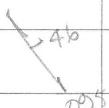
limy

xylline ~~argillaceous~~ lst

65-68-264

300' OS from PD-68-197

#8



at PD-68-198

Blue grey phyllites

65-68-265

#9

purple slates

65-68-266

just beyond here, minor lst

#10 25 110 W.S. Buff

F.S. Blk

fg, no visib min, react w HCl

Argillitious Lst

65-68-267

#11 There has been no outcrop at all along the whole ridge. There has been minor talus of slate (various colors, red greenish; blue grey predominates) a dark fg light weathering rock with limonite

- qtzite

65-68-268

#12 60 095 Blue green slates

65-68-269

270 45

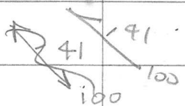
A 12295-14
-13

12 July 68

GS-68-270
GS-68-272

G. Sanford

Camp #3

#1 

WS. Dark, dirty red brown

FS. Greenish grey

vfg, no visible min, fissile, phyllitic

3g Green slates

GS-68-270

~~st~~ Attitudes ≈ constant along OC

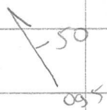
#2 No OC seen but plenty of red & green slate talus.

30' band of well weathered fg grey green qtzite

GS-68-271 A

- some grey slates between 1 & 2

#3



W.S. greenish cream

FS Gray

aph, no visib min.

appears to be a somewhat metamorphosed slate. There is some intrusive light weathering, black fresh surface

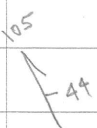
chert qtzite which cuts across the slaty cleavage

3h

There is also some chert, similar in color to the slates. This could be a slate that was heat metamorphosed & slaty cleavage was lost

65-68-271 - 3

#4



gray slates

3h

65-68-272

A-12389-306

65-68-275

65-68-275

14 July 68

G. Sanford

Camp #3

#1 Control - cross ck

#2 Control - Somewhat open

#3 Control

#4 Cross creek

#5 Control - swampy

#6 Control, Eastern limit

#7 Minor Blue gray slate talus

#8 Blk w.s. qtzite talus

#9 Control, very swampy region

#10 Control, along small ridge

#11 Control, cross ck

#12 control

Little rock was seen throughout the traverse and no bedrock

A1239-306

GS-68-273
-275

13 July 68

G. Sanford

Camp #3

#1

Lot of talus, very little OC. Reading could be wrong as no other rock to check with ie could be frost heave, etc

WS Blk

ES Blk

ufg, no visib minerals some limonite, fissile

Blk slate

GS-68-273

#2 Control

#3 Control, eastern limit of traverse

#4 Control, good for chopper pad

No Bl & very very minor talus Blk dgrey slate seen between above stations

#5 40 / 070 small os

Fs dirty grey

ws: Blue gray

v fg, no visible, soft, no reaction

Blue gray blk argillaceous slates

no ftoo fissile

65-68-274

#6 51 / 105 As previous but contains pyrite & weathered out pyrite cubes

65-68-275

#7 Control

A12339-304
306

15 July 68

GS-68-276
-277

G. Sanford

Camp #3

#1 Control

#2 wsBlk Talus
FsBlk

vfg, no visible minerals except
limonite (interstitial)
@ talus
GS-68-277

in some chunks, weathered out
pyrite cubes are visible

Not much talus, but extensive

#3 Control

#4 Control, Swampy, flows to E

#5 Control Small lake

#6 ← 25 ws. Rusty blk

135 fs Blk

fg, no visible banding, limonite weathers in somewhat fissile manner, interbedded w Blue grey slates

Blk gfz. ls

GS-68-277 Z

#7 Control

#8 control

#9 control

GS-68-278
-294

18 July 68

G Sanford

A; 22251-420

Swan Lake

#1 ws light grey Talus

Fs Blk

aph, no visib. minerals, hard

Blk chart, grey weathering

GS-68-278 grey boulder chert

#2 100 / 73 LS + 200'

ws. light grey → blk

Fs blk

vfg, some limonite along slaty

cleavage, fissile

Blk slate

GS-68-279 - 2

#3 — 110 / 54 — prob. bedding as chert is banded with this attitude also

Similar to #1 although F.S. may be greyer rather than black. If F.S. is breathed on, it is blk.

GS-68-280

So far, slates of #2 minor

Blue grey - blk slates

+100' — 41 / 130

#4 — Blk bedded cherts

35 / 120

+250' — 64 / 100

Chert weathers in bands ≈ 1" - 18" thick

avg ≈ 3-6"

#5 71 095 Blk bedded cherts

GS-68-281

#6 45 110 grey weathering blk bedded cherts

GS-68-282

#7 105 46 ws light grey

fs grey blk

vfg, no visible mica, mod. fissile slates + argillaceous

GS-68-283

Fair amt of slates, not enough to be mappable a interbedded w chert

#8 46 100 Blk chert w limonite along fractures

GS-68-284

minor slates between here & #9

#9 Chert - grey - talus, but contains pyrite nodules. The nodules are rounded and have a radiating pattern inside the nodules

Possibly pellets of marcasite?

GS-68-285

size 1mm - 8mm

Between 8 & 9 small sill of calcite crystalline & contains broken frags of blk chert & opaque ? to

interest GS-68-286

#10 030 / 34 - banded

grey chert, 2-3" bedding

fair amt of pyrite in odd places

GS-68-287

#11 045 / 100 . banded

- has become darker, is

now almost blk

GS-68-288

between 10 & 11 - minor chunks of

reddish weathering darklst.

+350' 046 / 100 Similar to #11

#12 075 / 55 Blk bedded chert

- lot of talus, little BR. This

rdg may be a chunk of float

between 11 & 12 all chert talus

65-68-289

at #12, some samples c̄ pyrite

65-68-290

above rdg corresp. to others in same vicinity

#13 29 100

ws light grey

FS: dark grey

vfg, no visib min but qtz? on some weathered faces, soft, not fissile, no react w HCl

65-68-291

grey argillite

#14 contact between previous & grey chert

65-68-292

#15 56/100 Blk bedded chert

GS-68-293

around end of mountain similar material GS-68-293A

#16 51/075 ~~Blk chert/slates~~ as ~~#13~~ grey argillaceous slates as #13

GS-68-294

A12106-262 19 July 68

G. Sanford

GS-68-295 Swan Lake
-308

#1 Very minor folding 03 140

ws Greenish gray

Fs lighter

fg qtz, interstitial limonite

specimen appears very slightly schistose

but rock is massive

qtzite

GS-68-295

050 15 12

#2 15

qtzite as previous, definitely schistose

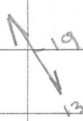
well lineated, odd eye of blue qtz

GS-68-296

#3 

medgrain gtzite

65-68-297

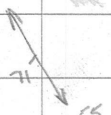
#4 

fine-med grain gtzite

limonite along fractures

interstitial pyrite (Dufn. Italy BR)

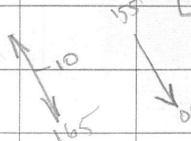
65-68-298

#5 

Grey weathering, fine grained

gtzite

65-68-299

#6 

ws Greenrod

FR Greenist

fg, limonite, folded on very small

scale, causing limonations

mod. fissile. Prob fg gtzite

phyllite

GS-68-300 - 2

Small swamp just after this stn

#7 Only rock seen in the poss. ble outcrop area

Grey weathering qtzite, but med size qtz grains. OC is massive

GS-68-301

cut by qtz stringers; not uncommon in all rock seen so far

#8 

Similar to #6

GS-68-302

OC well broken up

phyllitic

#9 ws Gray white

FS Similar

f-med grain, limonite along fractures & interstitial, some blue qtz eyes as mm, massive

Qtz, Lt

GS-68-303

+100' S

#10 fg fissile qtzite

Large talus blocks, no OC

+200'

Similar

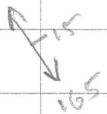
GS-68-304

attitudes vary here 2' away they dip to S & 4' are horiz

#11 - Rock here is folded in places. This may account for differences in attitudes at previous stations.

fine-med grain qtzite. Only few mid size frags

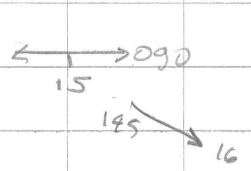
65-68-305



#12 Massive, grey weathering qtzite

65-68-306

+400'

#13 

phyllite

#14 10 120

~~Both massive sch.~~

fissile qtzites, schistose

GS-68-307

170 07

155

#15 05

Small fold <3' high across schistose fissile qtzites

GS-68-308

#16 Control } No rock visible

#17 "

A12349-339 20 July 68

G. Sanford

GS-68-309 Swan Lake
-322

#1 070 / 25 ws Reddish buff

FS grey blk

fg, no vis. minerals, layered, layering somewhat distorted in places (folded) react w HCl, interbedded w smallants of fairly fissile weathered blk slates

Bedded xylline lst

GS-68-309

#2 Between 1 & 2 there are minor outcrops ~100' wide across ridge of greychert GS-68-310, grey argillaceous slates w some pyrite, occupying the topographic lows, GS-68-311

all other rock seen is limy rock of some type - crystalline lst or limy argillites.

GS-68-312 2

Some red weathering limy rx

#3 29 / 10S from 2 on, rocks become cherty

ws Grey blk

FS Blk

banded, vfg, pyritogranus visib

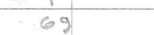
GS-68-313

Blk chert

chert in area is both blk & grey

Blk predominates

GS-68-314 grey blk



#3 +200'

Attitudes so far seem to be quite erratic

. chert ≈ to #4 - grey

#4 w.s. white - rusty white

Fs greyish white

Fg matrix of gtz?, med grains of gtz, pyrite & feldspar

intrusive gtzite?

Not large enough to be mappable

GS-68-315

+100'

w.s. Grey white

Fs. Green grey

vfg, limonite along fractures, soft

no react HCl

Grey argillite

GS-68-316

#5 

Grey bedded chert

65-68-317

#6 

Similar

#5 +200' along ridge 

grey arg.

- minor lst clay arg.

#7 

grey chert w minor pyrite

appears folded slightly

+100' Dyke? - aft of #7 or

general dirn = 025

if is a dyke, could have distorted

the bedding

#8 055 / 50 grey chert

appears to be arching towards top of mtn.

+200' 050 / 66 - grey argillites

#9 025 / 46 grey argillites

65-68-318

#10 015 / 45 Grey bedded cherts folded on fairly large scale

#11 040 / 50 Grey bedded cherts

65-68-319

#12 070 / 26 "

Band of arg between 11 & 12 (minor chert, mostly grey arg.

#13 040 / 40 Bedded blue grey arg

65-68-320

#14 075 / 65 Grey bedded cherts

65-68-321

#15 060 / 83 Grey bedded cherts

#16 64 / 105 Blue grey arg

65-68-322

Between 15 & 16 seems to be mostly arg, w some cherts & minor limy rock

#A12-186-414

22 July 68

G Sanford

Camp #4

Rx GS-68-323

GS-68-345

Silt GS-68-100
101

#1 135 → 11 ↑ 40 ↘ 135 prob. bedding

3 different rocks, 1-5' spacing

ws rusty grey

FS approaching black with what appears to be black specks (qtz)

vfg matrix ≈ fine grained blk qtz eyes, some rusting along fractures. In weathering out bands of 8-12" thick, some schist separating the two bands

GS-68-323

WS lightish grey

F.S. Grey, limonite along fractures

vfg, well lineated & fractured, soft

Phyllite? of some type.

GS-68-324

WS light grey green

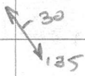
F.S. grey white

limonite along fractures, fg

qtzite

GS-68-325

+50' to E



WS. Rusty grey

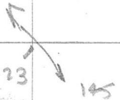
FS. Dark, touch of red

fg, tough, no visib min, banded in

dirn of schistose rocks; it overlies

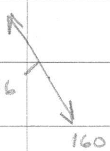
GS-68-326 qtzite

+200 E



- blasting cord & rock
drill ~~here~~ between last
stn & here. (65-68-327)

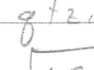
#2



100' between 1 & here
rock has become fairly fissile,
almost slaty & spotted?
(65-68-328)

#3 light grey weathering med grain
qtzite, somewhat limy and
also light grey weathering fg
qtzite in a limy matrix B
(65-68-329 A & B)

#4



- layered xyllne lst
ws ~~[illegible]~~ light blk
FS Dark blue blk

fg, no visib min, interbedded $\bar{c}$

slaty, non-limy beds, majority

1st

GS-60-330 2

#5 strike/dip 13, 110 Similar to 1st of above

plus interbeds of light buff weathering

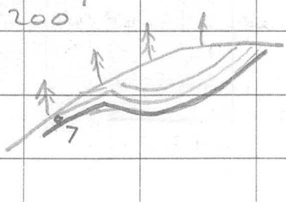
light gray fs, qtzitic in limy matrix

as 329-B - predominates

Looking across small valley to E

can see moderate folding over

~200'



#6 Large talus blocks of fg qtz in a limy matrix as 329-B

65-68-331

#7 

Interbedded ls f/ 330 and qtzite 329-B. At crest of fold get thickening of both beds

#8 no attitudes, but B.R. as 329-B

#9 

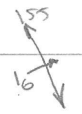
65-330

could possibly be large talus block

+100'N 

~~was~~ rusty, bl white fg qtzite, no lime

minor, more 329-B to N

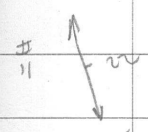
#10 

ws browngray

fs shiny grayblk

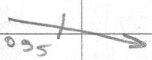
vfg soft matrix, med-coarse subangular grains embedded in matrix, appear random hardness >5, possibly qtz but are blk

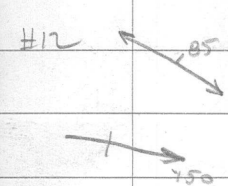
65-68-332



Similar to last stn but grains are crushed.

65-68-333



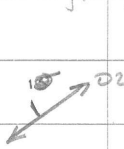


look similar? to 334 & 325

65-68-334 into bedded

Many variations in dips & strikes could be caused by folding. Some folded talus chunks are seen

at this region, spotted rocks as GS-68-332 also

#13 

ws Reddish grey

FS Blk, hint of red

fg, massive, schistose fuces

on weathered surface leaves a

line - qtz, tc - fg

GS-68-335

335 A - nearby rock

#14 Intrusive rock - well weathered

coarse grained

Bi, Mus, Qtz & FP

Mus, Bi Qtz, FP Granodior?

GS-68-336

#15 Similar GS-68-337

#16 Good weathered surface 65-68-338

#17 ~~65-68-33~~ Same as continue along, grain size decreases somewhat - not true near 17, get yellow orange weathering feldspars

65-68-339

#18 Control. Till about 3/4 of the way up this hill, only rock seen was granodiorite Minor, Major constituents? then appeared. Whole ~~top~~ outcrop area is talus of both rock types, neither one seeming to dominate although this sta is on granitic rock.

Some of rocks prob. also diorite

65-68-340

[347] - near a granitic contact

#19 fair - to f rusty, fine grain gtzite talus [GS-68-342]

about 1 way to 20 get mostly similar rock + some granodior + rest of way vise versa.

#20 Granodiorite - coarse grained

[GS-68-343]

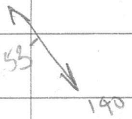
#21 52 / 130 Blk slates in fg gtzite

#22 - All this region is fg gtzite talus

[GS-68-344] 2

also chunks of float with med size elongate grains, somewhat like [332]

Same no. as above

#23 

qtzite - fg.

(GS-68-345)

#24 No oc 50-50 qtzited granodior talus
granodior usually more rounded

#25 Similar

#26 Mostly granodior talus
rounded

#27 Qtzite granodior

#28 Similar

A12282-104

23 July 68

G. Sanford

camp # 4

Rxs

GS-68-346

GS-68-355

Silts

GS-68-102
-103

#1 ws. Dirty crusty light grey

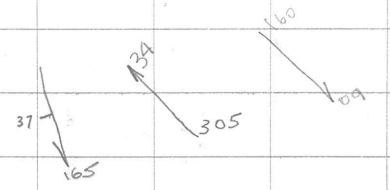
FS. Somewhat similar

fg matrix (gfz) with numerous coarse gtz & g grains embedded in f. g rock; appear subrounded.

Qtz. fe - massive

GS-68-347

#2



ws. Grey blk

FS Blue grey

vfg, no visible min, no react HCl

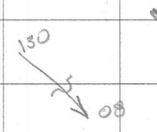
moderately fissile

blue gray argillitious slate

GS-68-348

Two lineations, closer spaced ≈ 1mm

305

#3 

Bedrock?

lineations caused by micro fold crests,

closley spaced ≈ 1mm. Also large folds

2-3", same dirn.

WS Greenish gray blk

FS Blue gray

no visible min, vfg, some interstitial minerals

GS-68-349 - phyllites?

#4

ws Light brown

FS light grey

40 → 165

fg, minor pyrite, no reach HCl, hard

fg qtz.ite?

GS-68-350

overlain by ws Rusty, ~~red~~ greyish

FS Bluish grey (dark)

pyrite, soft, ~~coarse~~ reacts HCl

xylline lst

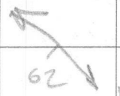
d qtz.ite in limy matrix - massive

GS-68-351 2

#5 Massive qtz.ite, med-coarse grain, interolimite, some feldspars coarsened

GS-68-352

+100'



fine-med grain qtzite
- several qtz stringers
+veins

#6

BR?

fine-med grain qtzite
w limonite.

GS-68-353

#7

sim. to previous

GS-68-354

#8

fg qtzite

GS-68-355

24 July 68

G. Sanford

Camp #4

Rx GS-68-356
GS-68-359

Slf GS-68-104
-105

#1 WS Gray

FS "

fg, nonvisib. min, subrounded qtz grains

massive qtzite

GS-68-356

#2 Control, by small lake from #1 no ox seen. Much boulder talus of granodiorite qtzite.

#3 

Almost on contact

(< 30' away)

qtz. dike is very hard

WS Grey

FS Blk

GS-68-357

Coarse grain granodiorite

15% Bi

35% Qtz

50% FP

GS-68-358

#4 20% Bi

40% Qtz

40% Fp

~~Bi~~ Bi granodior

wholer. dge

GS-68-359

#A-12282-93

Rx 65-68-360
-367

26 July 68
G Sanford

s. lt 65-68-106

Camp #5

#1 Blue grey slate - talus.

ws Dirty grey blk

FS Blue grey

vfg, nonvisible, mod. fissile - slaty arg?

65-68-360

BQ?

#2 055 / 18

ws grey

FS 4

fg, some interstitial limonite

schistose surface > micas

qtzite

65-68-361

#3 

Similar to previous; more limonite

GS-68-362 micas

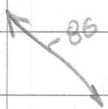
#4 

BP? - lacks prom. micas

since end of lake has been all qtzite talus

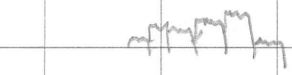
GS-68-363 - some reaction w HCl

- 200' to NE

#5 

Similar - subrounded qtz grains

weathers in sheets ≃ ½ - ¾" thick



in this manner attitude along weathered face.

GS-68-364

- no react HCl

#6 Central - qtz. te talus

#7 Central - qtz. te talus

#8 

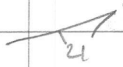
Qtz. te, massive weathering

GS-68-365

Up to small lake, scattered amts of fg qtz. te talus or float. No bedrock seen.

#9 OC of broken blue grey argillitic laters (similar to #1). Some have manganese dendrites along fractures. Also is folded (folds 1-3°).

GS-68-366

#10 

Blue gray slaty arg

65-68-367

A 12282-92

Rx GS-68-368
-371

G. Sanford
K. Heinänen
28 July 68

S.lt GS-68-107 None

Camp #5

Top of hill N of camp

med-coarse grain xyline lst intruded by granitic dyke. Lst is very pore, some phenocrysts of calcite, up to a few inches across.

Granitic rock was rusty

F.S. fairly dark

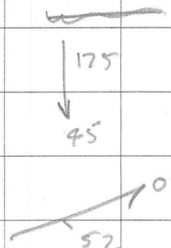
Bi, Qtz, Fp

GS-68-368 2

#1 Small amts of ~~#~~ limy rock. Broken bits of talus - bedrock but too broken for attitude

GS-68-369

#2



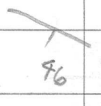
ws Rusty

FS Blue grey

vfg, nouis. bmin, somewhat fissile slaty argillite

65-68-370

#3



interbedded blk fg argillite & grey weathering lst, calc. fr veins

lst 1-3" beds

arg 6-18" "

beds are slightly curved, axis along strike dipping SW

GS-68-371

#4 58 110 wide bands (>5' in places) of fairly pure xylline lst. Several small 1-3" bands of non limy material

Cross from this ridge to ridge to S. Much granitic talus seen in various places, no bedrock of any type. Predominately granitic float to end (s) of small lake upon which camp is. Sof'end mainly qtz. to talus but again no B.R. seen. (29 July)

#A12282-4 | August 68

Rx GS-68-372
-382

G Sanford

Camp #6

S.lt GS-68-107 - none

A'

#1 ↘ 75 / 115 Bedrock?

ws Rusty grey green

fs grey

fg subrounded qtz, interstitial limonite.

GS-68-372

qtzite slightly limy

#2 ↘ 78 / 140 as above

GS-68-373

OC is scattered - numerous small ones, not one big one as indicated on photo

nonlime

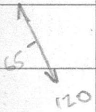
in this region, some outcrops
exhibit "blocky"? like weathering
in ¼-½" bands

attitudes similar to #2

from this point on, there is a lot
of coarse grain qtzite talus
- subrounded grains, minor slate

65-68-379

#3



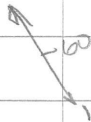
wslimy

f-med grain qtzite

65-68-375

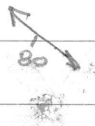
nearby are several large chunks
of coarse grain qtzite but
not certain if bedrock

65-68-376

#4 

fg gtz.te, some faces w. th micas

GS-68-377

#5 

fg gtz.te weathering similar to #2

#6 

fg gtz.te w interstitial limonite

blocky weathering 1-2"

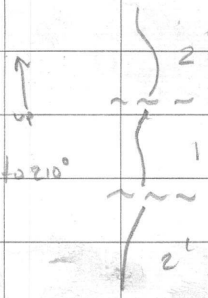
GS-68-378

ws d along fractures — liny

#7 fold/rock

fold axis 180 21 W

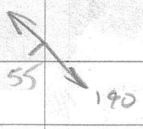
210 21°



fault surface 015 05 W

Rock is prob a fg gtzite — LE

65-68-379 2



Rock from 7 or is much more schistose & much finer grained than any other so far — LE

cotter ≈ 5-600' massive qtzite Sg

#8 Massive f-med grain cot
by numerous qtz stringers
Trending ≈ 040

65-68-380

#9 

½-½" block weathering
qtzite f-med grain

65-68-381 w qtzite
odd coarse
pebble

#10 

similar to above, some coarse
pebbles

65-68-382

#A12282-4

Rx GS-68-383
-394

~~Sd~~

S.lf GS-68-107

2 Aug 68

G Sanford

Camp #6

#1 WS Grey

FS "

limon. ts along fractures, med grain. subrounded qtz

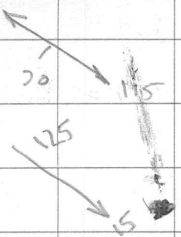
Qtz. ts

GS-68-383

Just prior to this stn, small amts of grey, well lineated argillitious material - broken talus

GS-68-384

#2



W end of swampy area (large)

ws rusty grey

Fs Blk

fg, react w HCl

Lst

65-68-385

65-68-385A - near by flow

#3 At 65-68-107 silt

Talus of ws Brn grey

Fs "

fg, mod. fissile

chloritic schists

small oc.

65-68-386

Between 3 & 4, some fg qtzite BR (non limy) and as get ≈ 800' from #4, limy qtzites

65-68-387

#4 Massive ws Rusty

fs. Grey

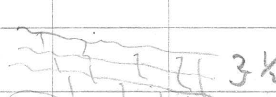
fg, soft, limy

Xylline lst

65-68-388

#5 $\overline{\vdash}^{010}_{16}$? Med grain qtzite

w.s. looks almost like a brick wall



1"-several ft

attitude is of these surfaces

65-68-389

whole OC area is similar in appearance (weathered), some is light grey (white from distance) weathering 65-68-389A

#6 Massive, limy qtzite

65-68-390

#7 Massive qtzite, non limy

Above small swampy area

65-68-391

#8 Across somewhat swampy area from #7

All rock is talus, some large chunks. All rock

appears to have moved (slumped, frost heaved etc) so no attitudes could be obtained

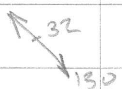
ws grey green

FS grey " (darker)

vfg, thinly laminated << 1mm but ≈ 1/4" thick "fissile cleavage" along schistose surface

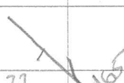
phyllite (non limy

GS-68-392

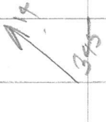


≈ 100' S of this point (qtzites, fg, grey weath)

#9



ws dirty green
FS greenish



vfg, no visible mica, schistose

There has been qtz. fx BR & talus
between 8 & 9 ~~o/c Prob. not continuous.~~

GS-68-393

#10

Fairly prominent cliffs
fg qtzite w̄ limonite

GS-68-394

D12186-304
A12203-440

Rx GS-68-395
-412

GSanford
4 Aug 68

Sit GS-68-108
114

Camp #7

#1 Small lake ~ ¼-½ mi 065°
(to west)

Large lake, shaped like moose
track 010 (to south)

15% Bi, 35% Qtz, 50% Fp medgrain
scattered rusting - Granodiorite

GS-68-395

#2 Part of contact. First non
intrusive BR

WS Quite rusty

FS Dark greyish

Bi rich, fg, heavy Bi in scattered pods

GS-68-396

30 ? weathers along this attitude
150

Bi Schist - very hard

65-68-397 granitic rock

near contact

fg, not as much Bi as

previous, pinkish color

+200' along ridge - w.s. grey

f.s. "

fg, minor limonite

"cooked" qtzite

65-68-398

Rock from contact on has been folded

somewhat due to intrusion. On some

faces can see banding 79
-schistosity 145

on a small scale - about actual thickness

of bands. Some up to

1/4"

65-68-399

#3 Granodiorite med-coarse grain

65-68-400

#4 Granodiorite, 1 Hlk Bi ~ 5% Qtz 40%, 55% Fp.

65-68-401

#5 Large talus pile of grey weathering gtzite & schistose gtzite

65-68-402

Hill between 402 has both gtzite & granodior talus.

#6 Small OC of massive fg qtzite

W.S. grey

FS "

microclinerite

GS-68-403

Whole of side hill is qtzite talus

some massive, some schistose.

#7 Top of ridge

W.S. Grey green

Fs Grey

vfg, quite fissile along schistosity

no visible mica

~~Phyllite~~ chlor. tinge hist

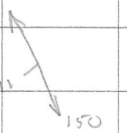
GS-68-404

#8 Dominantly Qtzite talus begins

ws Reddish
FS Gray

fg, schistose

GS-68-405

#9 

fg qtzite
some kyan. fc schist talus
in area

GS-68-406 Z

#10 Granodiorite talus at S end of small ~~glacial~~ alpine lake. From a distance (#7) the granodior appears a different color than the surrounding qtzite contact drawn on this basis. Hbl inclusions, xenoliths of dark fg material - diorite?
<5% Hbl 25% Bi 40% FP 30% Qtz

GS-68-407 2

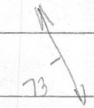
#11 

fg qtzite

GS-68-408

Scattered samples of interesting rock
- the general area

GS-68-408A 3

#12 

dirn of banding in rock

It is too wet to really determine what is happening

GS-68-409 qtzite

Large ridge of broken granitic talus above this pos-

#13 

WS grey

FS grey

v fg, folded slightly in places, mm shear on "cleavage" faces

GS-68-410

#14

ws. dirty grey

FS silvery grey

vfg, novesicular, schistose

GS-68-411

Minor qtzite between here and 15

#15

ws grey

FS "

somewhat similar to previous

GS-68-412

Photo # A12203-~~438~~ 438

5 Aug 68

Rx GS-68- ~~[illegible]~~ 413
419

G. Sanford

camp # 7?

Silt GS-68- 115
117

#1 Above small elongate alpine lake
Dominantly granitic talus since
leaving camp. Some schistose
qtzites

Granitics weather with very
tight surface

~~ws.~~ light grey

FS. similar

f-med grain, limonite interstitial

Bi 10-15% Qtz ~~[illegible]~~ 35% FP ~~55-60~~ 50%

granodior?

GS-68-413

#2 Same but more Bi

#3 Prob. on contact. If not f,
w. thin few 100', Rock (talus) to.
S is all qtzite, qtzite schist etc.
rock to N is granitic
~~S~~ f. All of qtzite type rock
is extremely hard
65-68-414 2

#4 Granodiorite
65-68-415
etc prob on contact

#5 Most of non int. talus seems to be
banded qtzite schist 65-68-416
There is also some Kyanite schist

and rock of type GS-68-417

#6 Possibly contact as much granodior talus. Small lake

GS-68-418

#7 Overlooking lake granodiorite, prob 2200' from contact (to S)

GS-68-419 Rx from both sides of contact

Some of talus has pegmatitic white micas + tourmaline.

#8 All granodior talus, contact drawn on basis of color differences in rock.

A 12203-439

Rx GS-68-420
427

6 Aug 68
G Sanford

S.lt GS-68-118
-122

Co-p # 7

#1 Peak just N of twin peaks
Granodior

GS-68-420

B: 15% Qtz 35% FP 50%

#2 Similar to above

GS-68-421

#3 "

GS-68-422

#4 Granodiorite as previous but rock has weathered & is quite rotten.

65-68-423

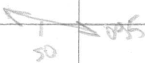
#5 Granodiorite samples near contact (<100' away)

65-68-424 2

some Hbd

Bi schist samples near contact

65-68-425 2

#6 

dirn of banding in rock

light & dark bands alt, dark <1mm light 3-4mm

65-68-426

Mica schist

Just beyond this pos'n, ≈ 25-40' of intrusive rock

#7 

- some qtz + tourmaline + diopside. Some limy material

GS-68-427

#8 Granodior. BR. rock bed.

No non intrusive BR seen in c/c

A-12189-20 · G Sanford 1/4

14 Aug 68

Rx GS-68-428
-440

P. Dean
M Ladue
Camp 2

to West along
low ridge

Silts GS-68- 176 122
-185

#1 Massive blk, well weathered
chert. Numberous small <1mm
qtz stringers, some 1<x<3mm

[GS-68-428] 2

+ 200'

US Rusty grey
(white in places)

FS Darkish grey

vfg, no visib min, scratches.
fairly massive - argillite
interbedded w cherts
no visible layering

[GS-68-428]

#2 Blk massive chert, (?) well weathered
(i.e. breaks easily along fractures)
few qtz stringers, similar to #1
Talus of above, minor blk slaty
argillite w pyrite & minor feldspathoidal
qtzite
Also minor oc ~300' s of #2 of
argillite - chert breccia. Frags < 3/4" in
diam. Resembles gossan material but
little visible limonite (428A)

#3 Blk chert as above } some weathers
#4 " " " " } grey white

65-68-429

#5 Same, in places is grey white on
fresh surface (prob weathering affected)
Between 4 & 5 no oc, mostly chert

talus, small unmappable units of 2/4

grey arg & blk slate.

#6 025 approx – broken talus
75

ws grey

fs blk

vfg, quite fissile blk slate

minor?

between sub band of qtzite, not

mappable 65-68-430

092 top of hill (4300') blk arg
79

#7 Mappable occ of non chert

Near N. edge chert is brecciated &

as go S get narrow bands of a brown

qtzite (must thicken & thin in places)

and then fairly fissile fg, micaceous blk argillites - several 100' Blk chert interspersed in minor amts

65-68-431 2

(Brecciated chert is prob gwke of next days traverse)

+500' Beds strike 135, dip steeply N i S. Blk arg

From here to #8, arg, chert & minor qtzite, all mixed up

#8 V. small oc. of chert ~~pebble~~ gwke conq

65-68-432

#9 Same but pebbles are small greatest ≃ 1/4". More angular

65-68-433

#10 090/87 Minor Blk arg as #9

#11 Chert congor breccia as #9 3/4

#12 Small oc of grey weathering medgrain qtzite w interstitial limonite. Possibly Proterozoic - limy
Another oc. above this one (2-300 vert ft) is much darker

65-68-434

#13 approx 500' upstream from silt 176. OC of Blk ls tw calcite veins

65-68-435

#14 177 silt + 250' Upside

65-68-436

qtzite

#15 177+ 900' Grey. Blk lst
lst above 178 also

#16 179 Blk. cherts
Same place on S side of ck
blk argillites, well broken
GS-68-437
qtzites overlie argillites, but
could be talus boulder

+400' US
101 - blk arg.
65 - rock is qutz,
folded, but general bedding dirn

+550' Jn 181 S fork

#17 at 183, Blk lst
GS-68-438

#18 Blk chert, grey weathering

#19 S of top of hill

minor coarse grain feldspathoidal qtzite. Fair amt of fg inmdg similar

63-68-439 2

Very top of hill is chert.

#20 Same blk chert

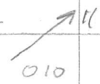
#A12178-262 1/3

S. Ltg GS-68-186 15 Aug 68
None
G. Sanford

Rx GS-68-440 To NW. W at along
445 high ridges

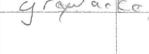
#1 Rusty grey-blk bedded cherts

+500' us slickenslides



Rock is not all chert. There seems to be about equal proportions of cherts blk argillites & cherty qtzites or greywacke, all interbedded
w/ pyrite

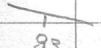
#2 GS-68-440 2 as above



small fault 080, 85 E

offset left 2'

#3



Dominantly blk arg. lite

from #2

- bedded arg. lite

from #3 on up, get greater amts & wider bands of gwke

#4 OC of gwke - pebbles of dark gray chert, qtz grains

(65-68-44)

Pebbles up to 1" in diam in cherty matrix. Most pebbles are chert some arg. lite

#5 Gwke, as previous.

Between #5 most talus has been gwke, though much has been

~~about~~ about med grain size

Some blk argillite.

#6 Top of hill med grain chert breccia or gwke

minor blk argillite & med & fine

grain qtzite (sandstone)

65-68-442 2

#7 whole of ridge is similar. Ranges

from very coarse to fine gwke,

minor arg.

#8 what appears to be qtzite

69 108 (prob fg breccia or gwke) interbedded

with ~~chert breccia~~ gwke

#9 ~~chert breccia~~ gwke — whole ridge

#10 Scattered amts of med. fine grain ~~chert breccia~~ gwke. Some at the N end of ridge appears to be almost argillite.

GS-68-443 3

#11 ~~Chert Breccia~~ gwke

#12 Small oc of ~~Breccia~~ gwke, pebbles up to 1/2" diam

much oc along "ditches" visible on air photos

#13 Similar, minor blk arg

T 105
87

#14 as above, creek float of blk chert cut by qtz stringers

GS-68-444

#15 gf gwke, f-med grain

#16 Med grain gwke, some of oc is massive chert, but most is gwke

-ooo-

65-68-795

Some of the gwke talus seen during the day had pebbles as large as 3-4" in dia

A 12178-261

A-12850-91   G. Sanford   1/3

Sills 65-68-186 None   16 Aug 68

Rx 65-68-446
-460

P Dean } comp #1
M. Laluce }

E along ck

#1   60   117   Blk massive chert

minor pyrite

[65-68-446]

#2   81   112   Same. All ck bed

has been bedded & massive

blk chert

#3   Between 2 & 3 get fair amts

of blk argillite, some with

pyrite & qtz fragments

At 3, first noticeable gwke-medg

[65-68-447] 2

just beyond #3 ·20' wide dyke trending

≈ N-S about ~~170~~ 003

dark, fair amt of feldspar on

~~w~~ weathered surface, med

grain. well developed Bi in fine

grain matrix

GS-68-448

minor pyrite

cuts through blk chert ~~———~~ 64 110

also minor green mineral - epidote?

Rock on side hill to S is predominately

argillations

#4 Dyke similar to previous ≈010 to 175

~40' wide

where stream forks

GS-68-449

#5 most of cirque is coarse pebble gwke, some arg. Scattered OC Some gwke bedded talus GS-68-450

#6 Top of hill. Mostly angl. frags talus S side is gwke talus, W side arg

#7 Bottom of pass OC of blk chert cut by qtz stringers GS-68-451

#8 Dyke - continuation of fractures seen. Rock is blk chert & arg. GS-68-452 Talus traces of other on Eastern slope

#9 Between 8 & 9 Rock is mostly a type of qtzite (some dark & some light) GS-68-453. There is also small amts of lst & some

gowke. At #9 5' wide dyke. Not similar to previous

weathers spheroidally & is well weathered. Fresh surface is dark with scattered light white fine grain spots some are tiny. Some possibly zeolites? Weathered surface pitted.

65-68-954 - la-prophyre

seems to curve around hill, General W-S. trend

#10 As #9 (not dyke)

#11 oc of fine grained chlorite? rich rock (greenish tinge). Slightly finy scratches with difficulty - skarn minor malachite

65-68-955

From the last station, the ridges have been the dogs breakfast. Some arg, some chert, some lst, not one some of it (many more than others)

large enough to be mappable. Also some gwke or a feldspathic qtzite?

GS-68-456 2

#12 Another dyke similar in appearance to the first two. ≈ Trend 125° (Sill?) 20' wide. Has large ~~Hbl~~ ~~hbl~~ Hbd xyls in it. Fabric seems to vary, probably due to chilling at margin – no Bi

GS-68-457

All talus.

Less than 100' from here we get intrusive rock. At this point the intrusion is no more than 1-200' wide

Pyrite present GS-68-458
near centre? at top

(Above dyke is possibly the outer edge of the intrusion as similar material seems to surround the ~~intr~~ intrusion

≈ 145

contact closely follows edge of ridge ≈ SW.

#13 At bottom of hill get dikeharfs ~~Dyke~~ Int like rocks less than 50' to NW

- It is difficult to say anything conclusive about the intrusion. The sidehill is quite steep & all rock seen is probably talus

~~#~~

at 12 Series of rocks across intrusion

GS-68-459 1 2 & 3

459 - Near outer edge

458 close to contact at approx center (100' either way

#A12850-91 18 Aug 68 1/3

Rx GS-68-461 G Sanford

-473

11 P Dean } Comp #2

sills - None M Ladue }

walk from #1 to #2

#1 → 085, 40

faint lineation → 32, 45

argillitious

Blk slates - minor alt till

#2 is gwke, ~~fine grained~~ grain

frags < 1/4" GS-68-461 2

#2 ~~—~~ 50, 103 ingwke

c̄ bedded slates

beyond 2 some fairly coarse

~~grorg~~ graingwke ≈ 1" frags

#3 Possibly a dyke but could be

qtzite, pyrite present

2

weathers greater rusty fresh surface
greyish, mod size qtz grains
scattered in v fg matrix

≃150° strike   65-68-462

Same place 87 / 120 cherty arg
spotted

65-68-463 spots possibly frags.

#4 from #3 all blk argillites cherty
75 / 130 (harder than arg, but
will scratch

65-68-464

#5 89 / 105 Bedding?

what appears to be a cooked
qtzite

65-68-465

Dyke < 200' w along ridge from contact
not much known, talus only ≃ 135
20' wide 65-68-466

#6 On contact

Sample of granite within 3' of contact & dark contact rock

~~7+8~~ 65-68-467 granite

65-68-468

Traverse down ridge to SE

#10 at end Blkarg

80 / 100

changes to granite 76 / 115

#11 Dyke ≈ 020 vert

65-68-469 70' wide

in granite

50' from this, another dyke, very small appears to be squeezed into fractures, prob. part of previous (offshoot) 65-68-470 pyrite?

200+ ft another dyke 30' wide trending 003 65-68-471 pyrite present

Previous dyke ≈100' from contact

Intrusive seems to cover about ½ of
top vertical 130-40' of hill

015 80W Prominent joints in
granite, cliff faces

#12

Top of hill is well weathered
& deeply weathered. Get very fresh
unweathered surfaces difficult
Some pyrite present, stains cliffs
gutered. 65-68-472 ?

150' from contact

#

#13 Graniticrock, large hbd or pyroxene xyls.

Rustystains --- B 65-68-473

A-12850-91

19 Aug 68 1/3

Rx GS-68-474
-486

G. Sanford

P. Dean } camp 2
Miladoc

Silts GS-68-186
None

walk around cirque

#1 66 ⟶ 105 faces at S end of lake
opposite camp
Black slaty argillite or chert
some pyrite

GS-68-474

#2 on ck between lakes
oc of rusty rock. F.S. Blk &
fg. some pyrite. No react HCl
fairly soft.

GS-68-475

Some surfaces spotty. Microgranite?

179 joints 025 85W
118

#3 - Small occ. of similar material

pyrite [65-68-476]

#4 095 / 82 Dark, bedded fg

rock, slightly limy, pyrite

dolomitic?

[65-68-477]

fairly close to contact, few 100'

schistose along bedding

105 / 87 100' Not contact

joints 017 30E

#5 Contact

A - minor chalco, pyrite what appears

to be aplite - 3' from contact

A
B ? over space of 3'

C }

D - 10' away from A

E 15' away A - pyx nodor

amphibole present

Twins?

1,2,3 Pyritized g tactite within

few 10's of ft of contact

#6 015 88W - joint

most of joints are rusted

specimen w pyrite

65-68-478

Xenolith sample @ Hbde/ pxn xyl init

1/2 way between #6 & 7

65-68-479

#7 Granitic sample

65-68-480

just beyond here, some talus has copper stain (azurite [malachite]). Small amts of chalco. 65-68-481

Sample of inclusion ~ 1' diam

65-68-482 same place

Mineralized rck seems slightly darker
Cu " seems to be along fractures

#8 Sample of rock

65-68-483

#9 65-68-484

#10 65-68-485

#11 005 BGE joints.

sample 65-60-986

A 12850-91 1/2

Rx GS·68·500 20 Aug 68
-508

silts None G. Sanford

P. Dean } camp #2
M Ledwe

#20 ~~85~~ 110 interbedded blk arg &
a fragmental SS or gwke. Mostly
aligned chert frags along bedding dirn
Elongate frags up to 1" long 3/8"
wide. 1' SS; few inches arg.
alt'n bands

#21 Gwke w̄ interbands of blk arg
& minor chert. Some gwke has
quite a bit of qtz

65-68-500 2

#22 Mappable unit of blk slaty arg &
spotted blk arg. At 22 got blk chert

65-68-501

→ 080 approx strike, ≈ constant

dip steeply to N or S

#23 joint 050 81E. chert in small

band near #22 Changes to arg. llitions

chert w pyrite

WS Rusted

FS Blk

hard, vfg, not glassy like chert, some

schistose surfaces

65-68-502

At 23, small dyke? just minor

amts of talcs, nothing else

65-68-503

#24 joint 040, 70E dyke small prob

qtzite. Sample taken

65-68-504

#25 Mostly gwke, some qtzite near here dyke similar to material found in ck.

Dyke 015°

joint 027 65 E

GS-68-505

Practically all of side hill leading up to peak from 24 is qtzite. Fair amts of gwke. Some chert

GS-68-506

#26 MNOPQ take over contact ≈15-20'

joint 025 65 W

granitic rx deeply weathered

This bc has the appearance of a small finger, more comint. before reach solid intrusive, though only ~50'

#27 few 100' from contact

GS-68-507

#28 GS-68-508

A 12850-91 1/2

~~Rx~~ GS-68-509 G. Sanford
-513

S. 2? Aug 68

Silts GS-68-186 None P Dean }
Mcalu } #2

Contact just S of #2

Between two N. lakes

joints 014, 85W

Blk fg mat'l similar rock 19 Aug #2

Examining contact at S end of N. lake

GS-68-509 granitic sample

taken ≈ 1/2 way to 2nd lake, about

5' from contact

finer grained than most other

samples, pyrite, slight greenish tinge

GS-68-510 contact rock at this pos'n.

appears to be a qtzite. (Hornfels)

At S end of N Lake

GS-68-511 contact rock, reddish tinge.

GS-68-512 Granitic sample near (5') contact.

Along contact getting granitic for no more than 1"

joints 080 82 N near this pass in granite

Vein 040 40 W

pink weathering calcite

some cavities lined w zeolites?

contains frags of what looks like contact rock ie could post date intrusion

samples of both GS-68-513

3' wide, may just be wall rock
as does not continue into intrusive rock

#A-12850-91
A 12376-239

G. Sanford 1/4

Rx GS-68-514
-539

22 Aug 68

P Dean
M Calvo } camp #3

s. H GS-68-186 None

Traverse ridge NE of camp #2 & head S to camp #3

#31 Massive blk chert pebble cong. Grey weathering GS-68-514

#32 Same

#33 T 090 / 32 Blk Bedded cherts & cherty argillites. Cut by numerous qtz stringers. GS-68-515

#34 115 72 Blk cherty arg & chert

65-68-516 2

interbedded

Same place 2-300' of grey chert

w/ manganese dendrites & grey arg-cherty

w/ pyrite.

65-68-517 2

#35 075 45

050 28 grey weathering

blk bedded cherts

most of sidehill is blk chert. Interbands

of bluegray argillite & bluegray slate

65-68-518

#36 70 120 Blk cherts, arg, & slates

fair amts of xylline pyrite? - arsenopyrite & some

brown fibrous material

65-68519

~~+400'~~ ~~78 110~~ Possibly a 3' sill here 3/4

white rock, vfg, some green mineral

[65-68-519]

#37 Small bed of blk lst (3')

[65-68-520]

+400' 78 110

Rock resembles that seen below, Now has spotty look (meta minerals) (Blk, fg)

[65-68-521] A, B

A farther from contact

#38 Dyke? 140 essent vert

vfg ws rusty 4' wide

FS Reddish gray

pyrite present

[65-68-522]

Approx here, rock begins to turn hornfelsic

Samples taken in order from here over several 100'

65-68-523 ABC

A farthest out

Contact passes just N of end of small lake

@ ridge to E, contact just N of where ridge drops suddenly off.

#39 Pyrite & chalco along fractures in talus.

65-68-524

#40 Granite sample

65-68-525

#41 Saint 010 8GE
Sample GS-68-526

#42 Top of hill, granite sample ⇒ pyrite
GS-68-527

#43 Very minor chalc found in place, Malach. fracture structures. Very minor occurrence to extent
GS-68-528

#44 It has become fine grained
GS-68-529

#45 Similar
GS-68-530

#96 Contact

GS-68-531 ≈ 70' from contact

GS-68-532 200' away

GS-68-533 300' "

Dyke? about 50' from contact

GS-68-534

grey vfg. pyrite - ≈ 3' wide
no strike

#97 Dyke? Similar to previous

GS-68-525

035 100' wide

rock than becomes chert

coarse Minor

#48 Another small dyke similar to previous

085
68 Blk slates or arg. Mtx

GS-68-536

49 Blk chert follows this
Dyke talus near here

GS-68-537

50 Blk slates —— 120 & dip steeply
both dirns.

GS-68-538

A12850-91 G. Sanford 2/2

Rx GS-68-539 23 Aug 68
-559

P. Dean } #3
M. Ladue

s. lfs GS-68-186
None

#51 113/50 oc in clk bottom

WS Rusty

FS Blk

fg, hard, no visib. min, some
pyrite qtz. itc?

GS-68-539

#52 084/45 Blk slate arg interbedded
w chert pbl. cong. Some qtzite
as previous GS-68-540

#53 $\frac{\quad}{57}$ 105 Blk slaty argillites,
blk qtzite interbands
65-68-543 2

65-68-~~45~~ 541 } about equally
65-68-542 } spaced between
#2 & #3

65-68-544 - blk slaty arg

65-68-545 " " "

#54 Blk ~~arg~~ slaty arg & blk qtzite?
65-68-547 here, 65-68-546
½ to 3

#55 Similar. Samples approx evenly
spaced to this point 65-68-552

#56 Contact

Lx evenly spaced to contact

GS-68-553

GS-68-554

GS-68-555

#57 Granite

GS-68-556

#58 Joint OR BSE

#59 Contact

#60 approx outer limit of hornfels

GS-68-557 Sample of arg matl

#61

#61 More arg 65-68-558

Minor chert peb cong

Possible dyke ~ aft?

65-68-559

W.S. Rusty, light

FS Dark bluegrey

v.fg matrix, scattered pyritized

qtz grains?

None of samples react w̄ 35% HCl

A 12178 - 312 G. Sanford 1/3

Rx GS-68-560 24 Aug 68

567

P Dean } #3

S. It GS-68-186 None M Ladue

#1

ws Blk & rusty

Fs Blk

faintly fissile, vfg, no vis. banding

blk argillite

GS-69-560

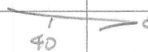
#2 Blk cherts cut by qtz stringers

Just S of this small thickness

of blue gray arg w̄ pyrite

gray weathering

#3



Since #2 lightweathering bluegray green argillite & chert

65-68-561

changes here to blk chert/arg

#4 Most of side hill talus is blk chert with the strangers, some light bluegray chert & similar argillite. Some chert pebb. cong.

65-68-562

#5 Mostly all talus of #4 - bluegray chert/arg

#6 Depression is broad bard & flat

35 060

W.S. Brown,

FS. Blue Blk c̄ touch of red

laminated, vfg

| 65-68-563 |

#7 Between 6 & 7 dominantly

bluegrey ~~shale~~ ~~gr~~ arg, talus

close to 7 changes to blk chert

| 65-68-564 | - arg

| 65-68-565 | minor amts
greychert

at this posn, the chert has

nodular bodies in it. These bodies

tend to be spheroidal & radiating -

fairly long prismatic xyls. Fresh

surface has strong H_2S smell

xyls are colorless, or light grey - soft

sphalerite?

Rock is also quite dense

65-68-566

105 / 90 whole of s. dch hill is bedded

- call all top of ridge chert

#8 joint 020 ≈ vert, slight w

Blk chert - qtz

#9 55 / 125 Blk chert, qtz stringers

most of ridge has been blk

chert, minor argillite & some

chert peb. cong which is well

weathered & is not similar to

other cpc seen, - white

65-68-567

3/3

#10 ~~Blk~~ Blk chert w qtz stringers

#11 Light weathering blue-grey
- greenish ~~sl~~ arg & chert

#12 090/62 blk slate arg

A 12850-157 30 Aug 68

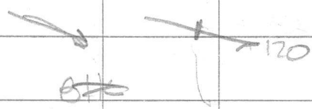
Rx GS-68-568 G Sanford

-578 Laforce Lake

S. lt GS-68-186 Small Intrusion

NE of camp

#1



w.s. Grey (Dark)

FS Blk

v fg, no visib min

Blk slaty argillites

GS-68-568

at same place interbedded

w.s. light grey

FS "

f - med grain qtzite

GS-68-568

just to S of here it is very massive

Bluegray - blk argillites

65
115

then more fined grain qtzite

65-68-568 A

#2

20
135

Blk ~~slates~~ arg as previous

(argillitious)

some fg qtzite.

some of argillites are almost

cherty

65-68-569

Same till #3

#3 As above

080
75

minor blue grey arg

All rock is deeply weathered

#4 Angular granitic talus & probably Bedrock

65-68-570

300' East, Bedrock for sure

- Some w pyrite

#5 Granitic rock

65-68-571

#6 "

65-68-572

Nothing but granitic rock between 4 & 6

few 100' from #6 (?) qutz qtzite

#7 Massive qtzite

65-68-573

#8 Massive blue grey chert & pyrite

& ws. Rusty

Fs. Greenish grey

vfg, minor pyrite

prob vfg qtzite

65-68-579

some places get black chert

(appears minor) 65-68-579

between edg

- slightly argillitious

#9 Grey chert

65-68-576

#10 Blue gray chert & somewhat altered chert.

65-68-577

#11 70/100

Blk arg & Blk slate?

65-68-578