

V

Mawson

1961

D. S. TRAIL

~~Journal of ...~~

CANBERRA, A.C.T.

MAWSON,

IV. B. IV

15th September 1961.

Trapped at 1000 ft. heavy snow, heavy rain, 13 days, 2 days + back 4 more days. All day heavy snow, wind to feel S.W. wind. Days feel 16th C. temperature, 3 days heavy snow. Self all day, but tent, some snow on roof, much snow, wind of down. Temp to +22. Good radio contact self with 2 radios.

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16th September 1961.

Heavy snow & fresh wind all day. Self stuck in tent all day, tent & inside both days, fall to C. temperature, at 1600. Snow. Knees deep round camp, very soft. Temp +18.5 F. Bad forecast 8:00 this morning, like to get away for morning.

17th September, 1961

22

Up at 0630 but whiteout  
persistent & blizzard forecast for today  
at 0815. 0900, all 4 w. black  
family left for Aotley depot in  
snow-whiteout, deep soft snow  
very thinning. Collected entire  
remnant of depot, 9 tins pemmican,  
1 tin egg powder, 1 tin oatmeal (4 gal)  
& K-rice. Killed 3 penguins off  
caper w/ley & 1 at camp,  
difficult to catch in soft snow  
when they fly because much faster  
than man can run. Snow  
falling, light ground drift  
& mod. S by wind, T +16°F,  
back in to tent at 1500  
dinner. Scrambled eggs for  
break, penguin for dinner.

M. P.  
A. F.  
E. K.

M.  
P.  
G.

18th September 1961.  
Depot at camp site

Alt 1016 oat flakes

1016 Egg powder

8 x 6 (alt) 1/16. more than 1000.

A rock outcrop on coast

1 mile south (west) of Cape <sup>styles</sup> <sub>Bluff</sub>

(9066) The summit of the near

outcrop is 50' above S.L.

The deposit is under a low lip

of overlying flat black rock

3' high, 30 yds NE (T)

of it is 20' in width. No core

- 0630 rose to beautiful morning,  
cloudless, dawn breaking as low  
gold & green band under black  
starlit sky w. thin aurora in west.

Away at 1030 after establishing depot  
as noted above. Deep snow  
somewhat energy near shore but  
temp. 0° F. implies surface.

Track outside icebergs better,  
fewer high & jumbled ridges.

Drove from most way across  
w. intermittent leading flat  
pressure ridges, much easier in

good light, sun warm but  
light S. wind v. chilly.

1810 arrived at previous camp  
site North of Depot I. Dry  
fresh soft snow out of holes,  
up tent & in by 2100.

Beautiful evening but mod to  
fresh S by wind, v. cold.

19th September, 1961.

500,000 m<sup>2</sup> map, pt a  
NW. point of Skauia Island.

Gneissiferous pyroxene gneiss  
interbedded w. gneissiferous  
quartzite, str. 165°/vertical.

The quartzite is a white to  
grey coarse-grained rock w. **SAMPLE**  
→ 20% lavender-col. med. gr. <sup>123</sup> 11518  
garnets. This gneiss contains  
small pockets aplite &  
quartz peridotite w. biotite <sup>11519</sup>

Seems to be a "gradation"  
into Feldspar - pyroxene - SAMPLE  
garnet gneiss ore band 124

of pyroxene plagioclase SAMPLE 125  
has distinct lenses of pyroxene 11520

- rock in a quartz - feldspar -  
garnet matrix. Lt. yellow -  
brown color. Biotite  
is rare in this exposure.

Pyroxene bearing feldspar -  
pyroxite cuts the pyroxene  
gneiss & quartz-rich SAMPLE  
pyroxite veins & lenses 123  
or abundant thro' the rocks.

The pyroxene - garnet gneiss  
is well foliated, f.g. to  
m.g. yellowish black rock.

Dip very round Shaula's  
west end, 70° S'wards, 60° S'wards,  
to south-west corner where  
str. 120° d. 50° S'wards.

To the section mainly green &  
black feldspar pyroxene gneiss  
w. brick red, fine-grained, concordant  
quartz-feldspar biotite gneiss, SAMPLE  
11521 / 126

very well foliated bands  $\rightarrow$  10'  
slick, also black quartz - ~~S.M.V.~~  
biotite gneiss, med. gr. to 126  
f.g. - biotite abundant here  
A quartz rock, pyroxene pyroxenite  
has fine grained magnetite &  
a v. small quantity brassy  
sulphide & pyrite - no sample.

10' diabrite dyke, sb.  $70^\circ$ , cut  
quartz-gneiss & pyroxene gneiss  
on S.W. corner should, runs  
S.E. to 300' summit, straight & uniform  
cont. no sample.

Island to N. of 'Shark I.',  
two varieties, 'proterozoic gneiss'  
(no garnet) red granite gneiss,  
lt. brown-grey granite gneiss,  
f.g., well foliated in small blocks  
with pseudo-schistosity structure  
common, described plastic foliation

SAMPLE 1-7

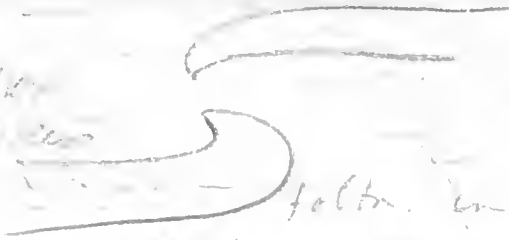
11523

11522



- photos

Pyrox  
quartz



500'  $\pm$  I  
 200'  $\pm$  20° to 30° SW.

Island c, 1 m. S.W. b.  
 in cliff face, str. section  
 in cr. q. & med. q.

yellow to brown quartz,  
 red-green, q.f. B.G. & quartzite  
 all foliated in massive,  
 subhorizontal with black large  
 lenses of pyroxenite  
 & garnet-pyroxenite, garnet  
 abundant & cr. q. the section.

SAMPLE 128 11524

In the cliff section  $\rightarrow$  200'  
 a mass with signs of  
 deformation, sliding &  
 conjugate slopes for pyrox  
 rock, q.f., garnet lenses

~~pyrox~~ @ Co. mass

has more plastic rework. folding  
 c & b islands, rework. fold axis

blende in cl. cl.

c I, str  $130^{\circ}$  d.  $20^{\circ}$  SW  $\infty$   
Copper staining, ~~str~~ red-brown  
Fe staining ~~locally~~ a.w.

quartz-garnet gneiss. Also  
feldsp - biotite & feldsp -  
pyroxene pegmatite; rare,  
knifed - re-inclusion?

- <sup>SW end</sup> ~~plume~~ I, <sup>point to</sup>  
mantled by a glacial <sup>to zone</sup>

Northwest

Western end of McHenry I.

North east - fairly bedded.

lt. brown quartz gneiss, garnet  
gneiss, st 70% w. <sup>20%</sup>

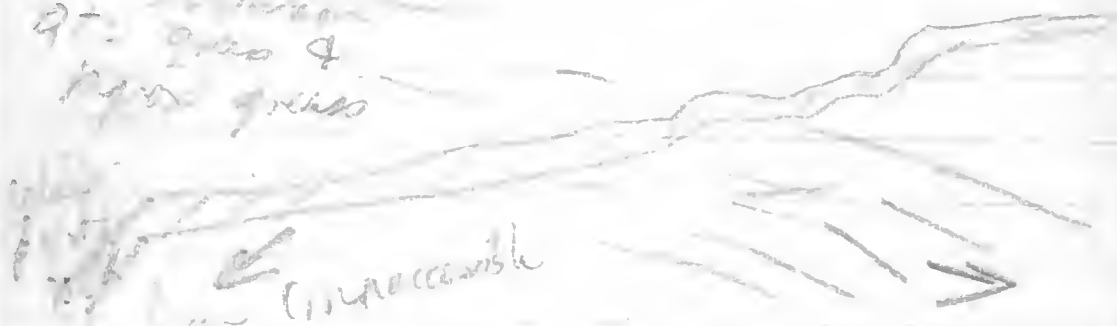
gneiss - pyroxene gneiss  $\rightarrow$  5' + 10' and  
& 10% <sup>irregular</sup> & concordant

yellow-brown kelp pyroxene

all str.  $100^{\circ}$  d.  $20^{\circ}$  -  $30^{\circ}$  W,  
mally  $30^{\circ}$ .

A few pyroxene rocks at  
discordant sheets :-

qtz. feldspar  
garnet &  
pyrox. grains



It is inaccessible

sills, but have  
dth. gran, melanophical appearance  
or diorite

North coast of island close to  
East end side of N coast.  
N. coast quartzite <sup>red</sup> gneiss - granite  
with + gneiss. pyrox. gneiss  
all in g. & f g. light yellow -  
green pyroxene gneiss, also  
some 130' thick discordant? dikes 11525  
pyroxene rock, massive. SAMPLE 129.

Tremendous deformation here,  
semi-plastic w. fold axes  
str. // str, plunge? gentle  
Also folding in 2 directions  
in plastic folds.

on ch. 120° d. 300 ft.

10

Photographs



DIARY - 14th September, 1961.

Rose 0815, slow breakfast  
cloudless sky, T - 20°F but

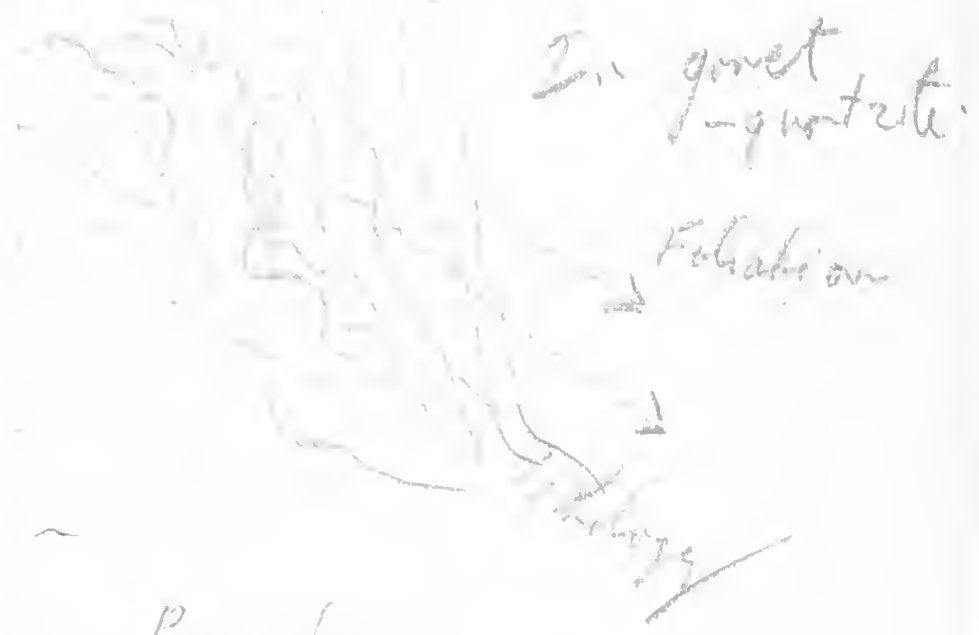
15 kt E/4 wind. Away at 1230  
when wind abated, Smith + blades.

Went to Akhara, then 2100  
 towards Shark I., one low s/ice  
 gneiss - pyroxene. Towards West  
 end Akhara, found Akhara joined  
 by glacier, large to marginal  
 ice. Cliffs on west side glacier  
 descended by snowdrift. Found  
 6 seals. Went Akhara at 1830  
 killed & bled one, then  
 rapidly along N. coast ideal  
 intra + orogenic recurrent folding,  
 + dolerite intrusions, to sunset,  
 then home by 2100.

20th September 1961.

on North coast Akhara  
 at Akhara with finely banded  
 & rapidly alternating  
 green gneiss - pyroxene gneiss,  
 greenish-black or rusty  
 feldspar pyroxene gneiss,  
 + 10% iron + yellow quartz  
 and some granite dykes  
 20/00/60

Foliation - str. alt.  $100^\circ$  d.  
 SW'ward at alt.  $30^\circ - 60^\circ$   
 but lithological boundaries  
 in detail are commonly steep ( $70^\circ$ )  
 to vertical, & break foliation  
 cuts lithology, strike all  
 same both.



Kvass Promontory -

The NW-most end of the  
 promontory is separated by  
 a double-ended land ice  
 process from the rest of the outcrop

The structure of the formation  
is apparently simple, str. 140°  
dip 20°-30° S.W., but in detail  
structure is complex lithological  
units, some boundaries are frequently  
vertical, N.E. end has an  
isoclinal fold, or several, with  
vertical limbs, axis plunges  
towards 160° inclined 10°.

The rocks are almost all gneissiferous  
- med. gr. + co. gr. pink,  
yellow, + lt. gray quartzite  
+ quartz gneiss, w. rocks  
+ thick concordant pyroxene  
masses. There are dark **SAMPLE**  
brown to black, med. gr. **130**  
+ coarse gr. contain small **11526**  
lenses, especially vertical elongated **11527**  
in foliation. The same  
dark red brown, common in  
quartz gneiss rocks +  
medium. On some locally  
quartzite + quartz gneiss dominant,  
pyroxene gneiss also 10%.

11  
11

Intrusive plastic, recumbent,  
 folding abundant. Location prominently  
 west of large. ... on dip  
 ... The pyroxene  
 grains show segregation. SAMPLE  
 lens ... of 131  
 ... 11528  
 ... of feldspar  
 from ... med. gr.  
 ... unbleached,  
 ... 6"  
 ... garnet  
 ... garnet  
 ... garnet

garnet only  
 1x3"  
 lens.

The felsic lenses are  
 ... recumbent style,  
 ... dip



In a pyrope gneiss on Knox Promontory  
a 30' thick, westerly 5'-10'  
thin patches of felsic material which  
look like vesicle fillings.  
These are deformed into  
folds. Str. 170°, dip 70° west  
& the rocks are right way  
up, for what it's worth.

At close to this is a 20' thick  
sheet of pyrope rock  
cutting across the recumbent  
foliated gneiss - it is finely  
banded quartzite. Some  
of the thin pyrope gneiss  
grade into the quartzite  
& are probably tuffs, ashes,  
(? quartzite). The thickness  
is in sharp boundaries  
& are thin flows or lenses  
interbedded.

Beyond, to some of the gneiss -  
feldspar pyrope rocks is minor  
amounts of west dipping  
beds (70° to horizontal) 30' thick  
& ~~is~~ similar lithology to

11529  
SAMPLE  
132

Thin yellow ...  
bedded with ...  
...  
...



At Doves Depot, east side  
Promontory, of quartzite  
graniticiferous w. small amount

Feldspar - pyroxene schist

dk mineral, f of white, very  
well foliated, quartz xls.  
well developed in bed. sample  
Also lenses feldspar pyroxene '33  
quartz, all w. garnet, 11530  
quartz pyroxene All  
str 140', vertical to 70° West  
dip superficially, detail is  
tight semi-plastic inclined  
folding in style,



quartz & pyroxene  
plunge in strike of foliation  
quartzite & quartz rich  
masses of dominant on brown  
pink, yellow, & grey - the  
pink has more feldspar.

21st Sept. 61:

many  
Aa island near E. of  
Dept I., a Dept I. fault  
Larkin Hill, 70 high  
tectonic semi-plastic

South

today

Plat 23



Plat 27  
310° / 310°

Mostly  
Granite gneiss

North



Structure is so complex  
to be almost meaningless.

All is semi-plateau fold  
of foliation & of disrupted  
pyroxene green  
which cuts foliation



only corner attipate  
is one of all folds  
St. 140, approx. horizontal.

Plth coat of Alford. Shale

Quartz rich gneiss, Q.F.B.G.  
gneiss, alt of 50 F 20 210  
G. 20, lb brown to dark brown,  
rusty weathering mal. gr & can gr  
= f... Alfo concordant

20 gneiss is greenish-black  
brown - feldspar - pyroxene  
quartz - muscovite patches  
of layered concordant shales  
of feldspar quartz - pyroxene  
minerals - some green in  
some of the feldspar  
shales - pyroxene - quartz  
formed patches of gneiss

All str 150/50-70 W SAMPLE

Also concordant F Q B G pyroxene, <sup>134</sup>11532  
feldspar, quartz + biotite local  
is aggregated on lens, feldspar  
is not even color. tract

Detachable. The rock.

Northwest corner of Shavita  
has thick (20) bedded red R11535

quartz-feldspar - biotite granite  
with small amount of feldspar - quartz  
greenish quartzite &

quartzite. The present  
location is composed of (5m x  
10m) of black bluish  
slaty quartzite

Locally abundant, 100' thickness  
of fine bedded, impure purple  
quartzite & quartzite lens

with occasional SAMPLE  
13 11531

massive quartz. On strike  
All to about 150°, 130°S  
to west. All east end  
Shavita, the lithology, strike  
& dip

Northwest

North coast is yellow brown  
to orange (in white out)  
med. gr. quartzite  
a quartzite, poorly foliated to

well foliated, granulated ~~are~~  
 Finely interbedded (2" - 2') of  
 grades into f.g. & in gr.  
 mostly black quartz-feldspar  
 pyroxene gneiss w. pockets  
 pyroxenite, well foliated  
 all str. 150° / 70-80° W.

Minor recurrent folds  
 common, abt 3' amplitude  
 axial approx horiz, 11 strike

Unnamed Island north east of  
 Kona: Finely bedded &  
 well-foliated pyroxene gneiss,  
 quartz gneiss & quartzite  
 all med. gr. & fine gr.  
 with large boudins  
 (+ 3' → 10') pyroxenite w.

~~to~~ all with garnet rare  
 or locally common all 11  
 str. 150° / 70° W. fly



Great Lt. brown quartz  
green ss 5' thick  
2" interbedded, foliated  
quartzite, thin, 1' pyroxene  
quartzite, quartz  
(- staff)

Alphard's East end is mainly  
red-brown quartzite species of  
impr. quartzite is. abt 20%  
interbedded pyroxene quartz  
& minor pyroxene str 170° d.

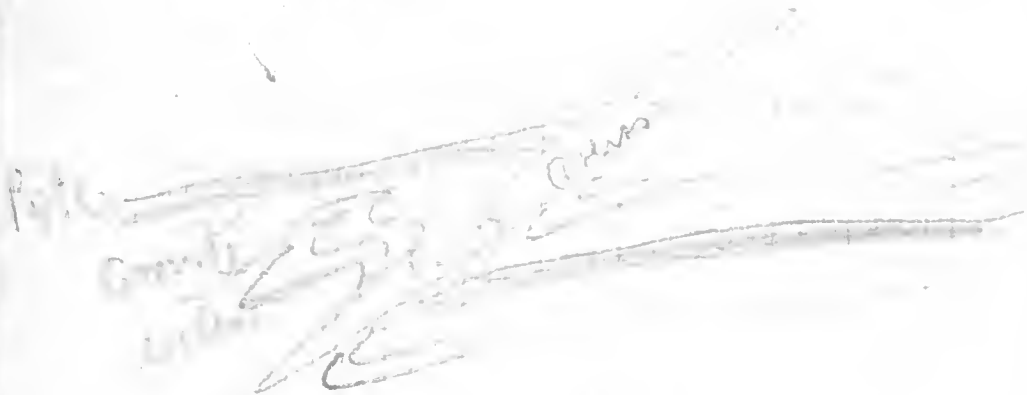
30° - 60° W. The 300' high  
deformed sheets pyroxene  
5' - 15' thick, cut foliation  
dip 15° - 60°, various directions

Massive, somewhat flat in  
pyroxene quartzite, in dip,  
incl. 40°. Thin layers of  
Alphard str. 110° d. vertical - 70° W  
lithology as above.

Alphard + "colored" to north of  
east end of island by  
glacial ice.

N.W. corner of Hatched is  
 structurally complex rocks affected  
 is local, vertical movement  
 fully, fully plastic grade  
 into semi-plastic (semi  
 brittle) zone plane 10°  
 between 30° - plate

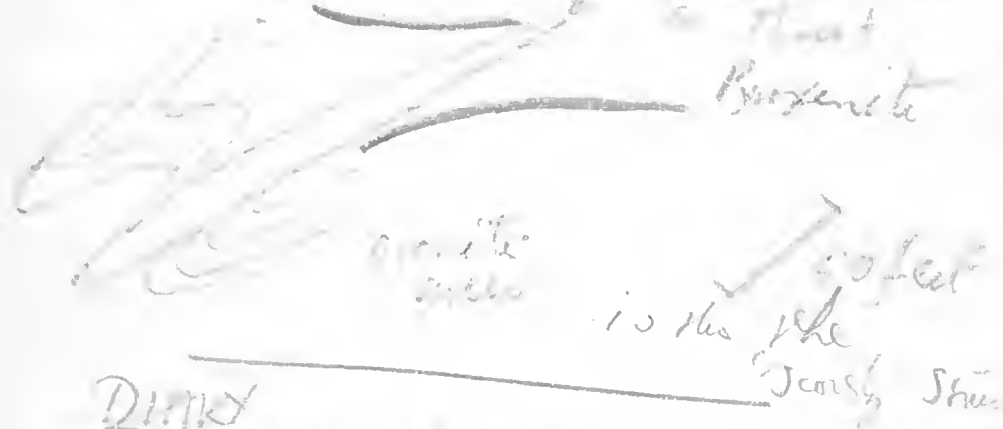
Zone d, same work  
 Hatched.



Foliation sub-horizontal  
 or dip 10° S. The A  
 thrust plane is occupied by  
 a general brecciated zone

... Foliation is  
 ... cut back by slanting  
 ... the metamorphic  
 ...

Thrust str. 140' d. 30° SW.  
 But the slanting is a SLIPSE  
 to a W. recumbent  
 folding over approx. horizon.  
 str. 140'



DAILY

20th September, 1961.

Up - 0730, ... 1015  
 with H + Black ...

First to ... at NE end  
 Adman to phot. ... folds, then  
 Kill & cut up seal West end  
 Aileen 1230 . 1500 Arrived  
 Kvon Promontory, geology to

1800, quartzets, ~~concrete~~  
 Laurentian gneiss, apparently  
 simple structure in fact v. complex,  
 w. abundant foliation. Found  
 Davis deposit as described at  
 East side, prominent, good  
~~massive~~ ~~bed~~ ~~formation~~  
~~quartzite~~ very thin remains

Collect near on route here, O. Hayes  
 signed with road camp at  
 2200, hill steep, ~~noteworthy~~ ~~structure~~  
 Beautiful ~~view~~ ~~at~~ ~~04~~

DIARY 21st September, 01.

Left ~~camp~~ ~~at~~ 1200 in  
 unimpaired, T.O.F. East  
 side? ~~Point~~ I. gives fabulous  
 display ~~foliation~~ ~~thick~~ ~~shale~~  
 for ~~Alfred~~ in whiteout, along  
 N. east ~~Shanda~~, iron ore

Stagnant pyroxene green. V. cold  
in light rock. E. wood  
lands at Kona then through  
rough ice at East end Alford  
& was glass lined, Alford  
w. 1000 to 2000, some  
exposed. Photomicro beautiful  
mountain fields, slope, on  
Alford + I. Perm. N.W.  
Dipend by deep snow, none  
1700 to seal skin.  
Phot green, quartz green  
shows structure beautifully.

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22nd September, 1961.

In de Rigol Shonis North &  
North east of Depot I foliation  
is sub-horizontal w. dips  $\rightarrow$  20'  
in various directions, all quartz-  
bearing lt. brown quartz rich  
green, quartz green, & web.  
quartziferous feldspar pyroxene  
green & pyroxene.

Plastic flow or sliding  
do notice above. (p. 26)  
is very prominent in eastern  
cliffs of wood d



Also dip at 40°, str 140°  
The top of the mountain  
west side of the plateau has  
a prominent fault dipke  
some - in contact with  
is only with probably 50' thick  
Dips on steep to vertical  
mostly str about 100° on  
upside to S. side, but detail  
is very complicated, steep inclined  
& somewhat pldy  
Northwest corner S. side  
str 170°, d 70° W, remnant

fold in pyrope area plange ab-  
limestone II strike

Box I, 4 sample bands in pyrope  
green bands 5' - 100' thick

thin in pyrope banded with

- pyrope green in abundant  
which place material

- Contact - talciferous pyrope  
green (20-30-20)

most of talciferous pyrope  
green

on pyrope talciferous pyrope  
green - pyrope - pyrope

- all in bands 1" - 3'  
thick with well-defined

stone - gradually changing - (No samples)

Between the thick concordant

pyrope green in thick

bands - 5' to 10' thick

pyrope green in pyrope green

in one thin band pyrope

green in pyrope

Bay I, 4 unnamed I.

N.E. of Bay. Interbedded  
H. yellow brown quartz  
quartz & talciferous pyroxene  
sandy matrix w. thin 5"  
thin sand. fragments. All  
fine grained, absence of  
granitic material.

Thin layers, thick  $\rightarrow$  20'  
and, probably grain free  
Thin, - 4" - 6" beds  
quartz into quartz-grain  
probably talciferous

Bay + tal. str. 140'  
d. 50' - vertical S.W.  
massive S.W. with  
slightly compressed  
and water somewhat  
old, heavy base // strike



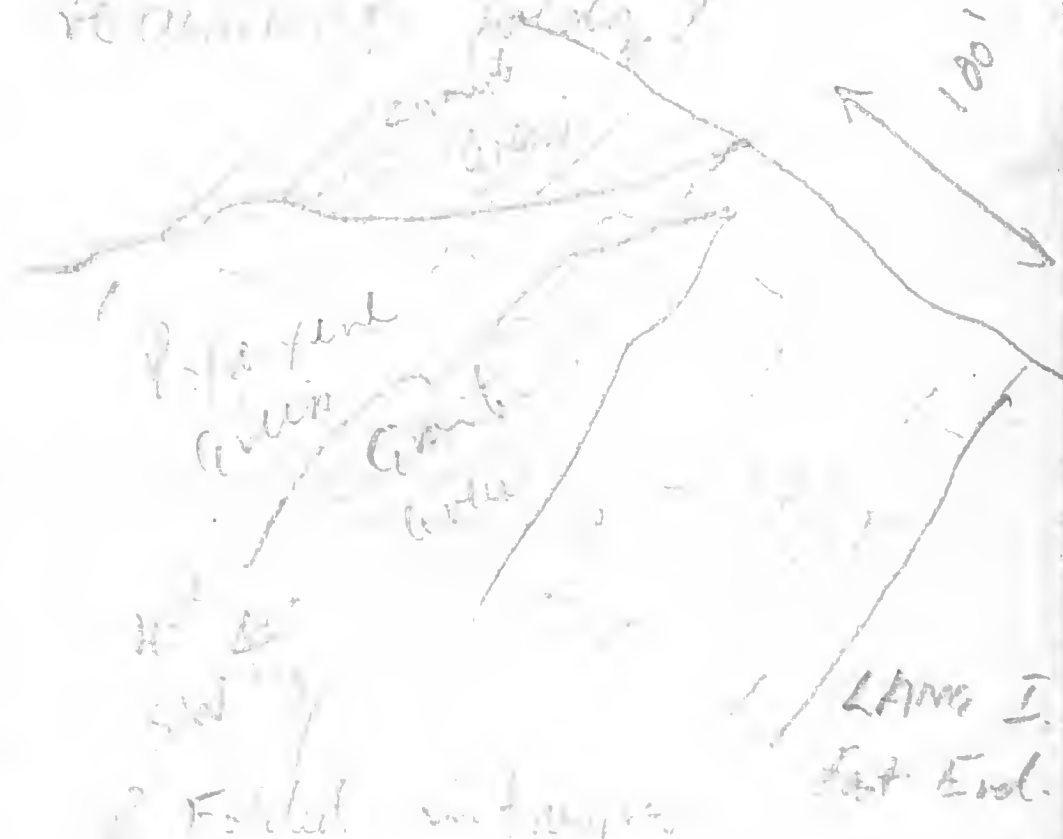
From few miles to  
100 feet long - by  
seen in cliffs of  
Eastern end of Island I  
& the Eastern end of I. Between  
long & long are large masses  
+ 100' of discordant pyroclastic  
quartz, with interbedded  
& interfolded to brown  
quartz veins within  
pyroclastic mass.

The intrusions are involved  
in the in rest, east.

pyroclastic  
conglomerate & the folding  
of what develops the foliation  
of the pyroclastic mass.

The pyroclastic mass down  
to the pyroclastic - quartz  
rocks, incl. gr. dk. greenish  
grey & greenish black &  
thinly bedded & FILLING  
- very folded, with bands  
of dk. greenish - quartz,  
& pyroclastic & felsic material

Long J. H. yellow-brown  
quartz & greenish sh. 100' d  
20' - 40' SW. - complicated  
by ~~large~~ scale (+100')  
folding.



The in-situ are foliated +  
folded, the dip cut, locally  
sharply, the foliated ground to ground

22nd September, 1961

Up 2200 - over 1100. Half  
oncast but good visibility, cold  
light SW wind in evening.  
Beach but much leeward of soft  
snow fields all over. 1000 bank  
on island between Bay & Long,  
then across 1100ft to 1800'.  
Wind died, beautiful scenery.  
Seal pinnacles still.

23rd September, 1961.

East end of Crooked Is,  
elevation 1500, S. vertical  
to 1000 W., see a number  
pools in E direction, 1500 (plunge)  
in state of upper hole,  
(plunge) in top, again  
water level: -



... of fold also 100'  
 ... a core of white med-  
 gr. garnet-quartzite SAMPLE 136

~~11533~~  
~~11534~~  
~~11535~~

... envelope of interbedded  
 garnet-pyroxene gneiss SAMPLE 137

11536  
 (MARBLE)

... quartzite - brittle  
 gneiss. SAMPLE 138 11537

Bedding in quartzite  
 follows str. plane of  
 recumbent folding.

Bright Cu stain, red Fe  
 stain common in pyroxene

green & in quartz in  
 base of fold to be  
 quartz - brittle quartz SAMPLE  
 fragments from west side, 159  
 to bed, and not common 11538  
 in quartz, green & in  
 fragments to be taken  
 together. Also paper  
 thin fragments & decomposed  
 may be bed green  
 bed bed green - MARK  
 thin block + 10', a few  
 thin bed in quartz  
 green, no disconformity

West end of the easternmost  
 of troughed bed has a poor  
 mineral beach or may sub-vent  
 + a few rounded pebbles, strand  
 of bed, a quartz-bed  
 only 100 yds wide, with  
 a vague platform or boulder  
 about 10' above SL +  
 top of bed abt. 50' above SL.

rounded pebbles all way to top.  
 - Quartzite continues to west end  
 about 100' or less - 50'.  
 also on both points some  
 foliated lss sub horizontal,  
 dip 20-30° common. Limestone  
 west of quarry.

Northwest end of middle I.  
 of quartz, gneiss str 5', vertical.  
 fine embedded ~~quartz~~ feldspar -  
 pyroxene - garnet - mica - some  
 cordierite, greenish - black  
 mud sp. or small plate fossils  
 contact on slope with some  
 frequency. Also garnet -  
 quartz gneiss, thick quartzite  
 (15') + garnet - biotite -  
 quartz pyroxene in concordant  
 bands. Green on stamens  
 common, thin, veined.  
 - quartzite in part, common lss.



10/10/17

33



30° to 40°

Initial accident  
 probably in the  
 middle of the  
 N.W. corner of  
 the plot.

Distance to the  
 station is about 100 yds  
 or more. The  
 distance from the  
 station to the  
 point is about 20 yds.



*[Faint, mostly illegible handwriting at the top of the page, possibly including a date or location.]*

→ see Kodachrome, black & white  
DIARY - 23rd September, 1964

Up 0730, 1130, after  
heavy snowfall, cold night -16°F  
at dawn, it is wind & snowing -  
Black family - 4  
to cooked Is, - mol quartzite  
white prominent, small rocks.  
Jelly like at 1700, caught  
offly, heavy fog, heavy snow  
clouds, wind to 11 knots +  
rain at 1730. Small amount  
of snow to 1800. Heavy

24th September, 1964

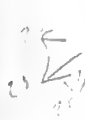
*[Faint handwriting for the 24th of September, including possibly a location like 'Above...']*

40

1961  
 1962  
 1963  
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 1989  
 1990

The [illegible] [illegible]  
 [illegible] [illegible] [illegible]  
 [illegible] [illegible] [illegible]  
 [illegible] [illegible] [illegible]  
 [illegible] [illegible] [illegible]  
 [illegible] [illegible] [illegible]  
 [illegible] [illegible] [illegible]  
 [illegible] [illegible] [illegible]

Made [illegible] [illegible] [illegible] at 1/4 mi  
 at [illegible] 11-5. Track + [illegible]  
 [illegible] [illegible] [illegible] [illegible]  
 [illegible] [illegible] [illegible] [illegible] str  
 750° N 20° SW, no [illegible]  
 following [illegible] for 1/4 mi distance  
 but [illegible] [illegible]



[illegible] [illegible] [illegible]  
 [illegible] [illegible] [illegible]

Up 0730 & away 0805, beautiful day  
w. cold light Ely wind, T -12°C  
low drift to lower shore. Depart  
at 1500, day very bright & sunny  
probably, but with good settlement.  
Pass on just north Point of  
uncovered island 2 m S. &  
find good camp site house wind  
- snow - in E, up to 1000 ft.  
Start in tent 1000 ft. by covered  
logs & brush - prepared to 'settle'  
but by 10:30, beautiful calm  
evening, logs apparently very content.

DIARY 25th September, 1961.

Rise 0700 to mod. Ely wind, light  
drift, overcast. Wind & drift increased  
steadily all ~~morning~~ day to strong wind  
heavy drift by evening. Stayed  
in tent all day.

DIARY 26th September, 1961. (Tuesday)

Wind rose in early morning, T rose to 20°C  
by midday. Snow all day, completely  
whitout. Wind rose again round midday,  
died to calm in evening. Out for  
camp morning only. - in down suit & slippers.

27th September, 1961.

53 m. island abt 2m. S.S.E. (T) <sup>100</sup>  
of Male Point.

Str.  $0^\circ$ , dip  $\pm 60^\circ$  East, rocks  
heavily masked by fresh snow.

H. brown Dior. garnet - quartzites with  
bright <sup>color</sup> in stain common, interbedd.  
w. concordant quartz - garnet -  
biotite breccia w. coarse knot  
biotite garnet rock, also biotite  
-? feldspar gneiss & feldspar -  
? biotite - pyroxene gneiss, all  
minor comp. garnet quartzite  
which are 50%.

The 75 m. island 3m S.E. (T) of  
Male Point also heavily masked  
by snow, visible w. green  
feldspar - garnet - biotite gneiss  
biotite - quartz & with knots  
& concordant lenses pink feldspar  
- quartz pyroxene All str.  $130^\circ / 50^\circ$  SW.  
No accessible sample

but notable lack of massive  
in thick pyroxene rocks.

King Is

Walden, with point  
green 20 100° / 30° SW. Dominantly  
yellow-brown quartz-rich

quartz-feldspar-biotite gneiss

med gr., well foliated, xths.

arranged in regular bands picked  
out by biotite. The rock

contains bands 6" to 3' thick of

quartz-pyroxene gneiss, w

fairly sharp boundaries but possibly  
small scale gradation in outer

run - brownish tuffs - ?

or separation? - medium

grained coarse massive texture

quartz - gneiss, to internal

foliation generally fine

Coarse-grained equivalent

of the quartz-gneiss have a

strong pink colour (feldspar)

I had previously to notebook

been mapped as "contacted

pyroxenite". The pyroxene gneiss

slightly concordant ice -  
no garnet the ...

Eastern of King Is. at W.  
end of North Shoal a 120' raised  
beach, small.

Quartz as Western island, str 1306  
d. 30° SW, mainly yellow-brown  
quartzite or quartzoid

quartz-feldspar-biotite gneiss,  
med. gr. to coarse gr. ~~from massive~~  
to well-foliated deep brown biotite

Quartz-pyroxene or ? feldspar

pyroxene gneisses as above very

6" - 20' thickness but well defined  
& continuous. Some thin lenses 2"-4"  
discontinuous mafic material in

quartz granite gneiss, ? biotite, ? pyroxene,  
here gradational bands, presumably  
pyroclastic origin. SMY120 140

NO GARNET & biotite in 11539  
in itself. ~~has~~ No biotite gneiss. 11540  
~~seen here.~~

Vaf

DIARY - 27th September, 1961

Rose 0730 to blue sky fine day, T 0°F,  
light Ely wind, light drift, thick  
soft powder snow. Creosote island,  
difficult to see snow over Aug 1300  
to neighbouring island to east, then to  
King Is. Walking across whole party  
killed + butchered seal. Hung again  
1830. ~~was~~<sup>after</sup> some wind in afternoon  
sunny. Wind in hour west, east, &  
south, strong wind beyond increased  
to mod. w light drift. Arrived  
Broka composite 2100, pitched camp  
in dark, ate tent 2400, sleep at  
0200, wind seemed to stop with  
heavy drift in morning.

DIARY - 28th September 1961.

0900 rose, ~~fast~~ strong wind, very  
drift, out to higher back guy,  
add snow to sodden back wall,  
then all day in tent, very heavy  
drift later, Vis.  $\approx$  10 yds.

29th September, 1968.

46

East coast of Broka, <sup>close</sup> North  
of camp steep dips, str. about  
 $160^\circ$ , dips near vertical (see Outward  
journey). North of the dips  
are + the regular trend,  
to str.  $150^\circ$  /  $30^\circ$  NW, all this +  
thick pyroxene green interbedded quartz and  
yellow-brown m.g. + co. gr. quartz  
green garnets scarce. Quartz dips  
as above (ie towards NW) prob.  
sub-// blange of recumbent folding  
North east part Broka possibly a  
separate island. At northern  
side east side, plastic str  
are found, pyroxene  
green in quartz green plays toward

$340^\circ$ , incl. alt.  $30^\circ$ , // shallow dip  
a part slide,  
str.  $160^\circ$ , v. a

incl.  $30^\circ$  ↓  
dip  $340^\circ$





North east point of Boka I. is joined to  
main island by narrow sandy neck - covered  
15 ft. high, about 200 yds.

Pt. A is on West side of  
The Great Bay in North Boka  
Here quartz rich lt. yellow brown  
m.g. well-foliated granite gneiss  
with sil. sh. 3" - 3' + a few 10'  
beds m.g. greenish green  
concordant + unconformable,  
str. 170° d. 70° W + 50° W. No garnets  
no Fe stain, no Cu stain,  
no quartzite.

North Point of West side  
of the Bay + continuing along  
North West coast sheet structure  
str. 170° d. 50° - 70° W, thick  
& distinct pyroxene gneiss beds  
in granite gneiss - "scabby  
gneiss" again, no technique  
quartzite or bright Fe stain as  
in C. gneiss. At this point  
a very coarse feldspar - quartz  
brightly peralite, about 20'  
thick, red + dark grey to

- black semi-hedral feldspar  
 + some black euhedral feldspar  
 w. fine completely anhedral  
 quartz + large black + brown,  
 irregular, of white sugary  
 vein quartz. Also with pyroxene  
 + epidote. It in volume is  
 red quartz-feldspar-biotite-  
 garnet gneiss, med. gr.,  
 well foliated but clearly  
 a concordant intrusion.

No visible garnet in country  
 rock      SAMPLES 141

11541  
 11543

Str. above all along N.W. Baka  
 coast + shores.

2 Skanes, northernmost island off  
 West Coast of Borka, thin  
 bands pyroxene gneiss in yellow  
 granite gneiss str.  $0^\circ$ ,  $180^\circ$  W.

North end of long island above

west of Broka, str.  $10^{\circ}/70^{\circ}W$

- Rel. thin + impure, pyroxene  
gneiss 2"-2' in It yellow brown  
s. white gneiss w. garnet very rare  
assoc. w. perovskite but lens in  
s. white gneiss + in pyroxene gneiss

the thin band  $\rightarrow$  2' red garnet  
gneiss, pink feldspar-rich quartz  
gneiss app. to quartz rich feldsp-  
rich yellow gneiss

SAMPLE  
142  
 $\frac{11542}{\sqrt{a/8}}$

- This large island is 2 islands  
the NW 100m. island smaller  
& slightly smaller than the 80 m  
island larger, elongated to North.



The 5' m 80m island, banded gneiss  
str.  $160^{\circ}/70^{\circ}W$  - dip constant  
 $50^{\circ}-70^{\circ}$  over the "large island"  
no folding apparent on large  
scale but possibly

observed by soft snow cone  
 The 80 m island is the "pink rock"  
 bench place of the outcrop, among  
 (L. sandstone)

S.W. corner of island + around  
 very west of SW corner SW  
 all 170° dip 70° with SW +  
 south + vertical.

Part of Broka's SW. coast,  
 alt 1/2 mi. W. of S'm most point,  
 is separate island, elongate N-S  
 N. point is pk. alt 80 m. high,  
 looks in to sea cliff on surface,  
 100 yd. descent below

At S'm most point of Broka SAMPLE  
 "discordant" ~~to~~ feldspar - pyroxene  $\frac{143}{11544}$   
 rocks steeply cut foliation of growth  $\frac{11544}{11545}$   
 grain but contact of two is fine  $\frac{11545}{Ve/T}$   
 3 mm. seam mylonite, the pyroxene  
 rocks are very little style  
 dislocations + have been be faulted

against the ground surface.  
 Str. 160° constant along S.W. coast,  
 dip diminishes, to 70° EAST  
 at Southern point!

shells Is. where  
 syncline starts on plot

This structure is similar to  
 a possible explanation of a basin



- south coast doc Nat  
of Bay<sup>1</sup>, greiss sb.  $160^{\circ}/20^{\circ} E$

52

Bay forming S.E. corner Borka has  
steep dip toward N.W. side,  
str. abt.  $150^{\circ}/30^{\circ}-40^{\circ} E$

Shony in middle of bay has  
folia sub-horizontal. All to be  
sharp, slick road made proper  
glacier - glacier basin quartz-  
stone - quartzite.

Hills behind camp are steep  
200', see above, dip  
probably steeper / progressed  
N.W. to camp.

In hills at head of glacier  
running into N.W. corner of  
bay, foliation is sub-horizontal  
with low Wly dds, 200.

Foliation & bedding are sub-horizontal

on Corner Island guarding the Bay.

Diana, Friday 29<sup>th</sup> Sept. 1961.

Along NW shore South & across  
up just east of cove & cut across narrow  
neck of me to west northern bay. Across &  
round NW point, very rocky in places,  
& down wide western slope, home along  
south coast. <sup>1830</sup> Worm in sun all day

Temp  $\pm 10^{\circ}F$ , light cold but unpleasant  
when coming. Sometimes appearing better  
after big wind yesterday, but still local  
heavy muck by soft snow & still poor  
surface.

30<sup>th</sup> September 1961.

Dip at Bicka Camp is  $70^{\circ}$  Westly  
( $50^{\circ}-70^{\circ}$ ) on E cowlie close to North  
is near vertical. In Gardian  
Island is sub-horizontal & in  
hills at N side above bay (yesterday)  
is gentle Westly  $20^{\circ}$



South West some Harsten, from  
ground level on about  $0^{\circ}/40^{\circ}$  West  
Also sheet of sand-dune

... dip ... 30°-50°  
... about 10°

... 100° / 50° - 50° west

... well-defined black  
... yellow - brown  
... minor discordant  
+ ... white + pink  
... case

... generally  
... discordant  
... tectonic action





the appearance is best by  
 about a 1/2 inch, as we  
 find it is 10-15 mm. The  
 recurrent from a...  
 common...  
 one...  
 one...

In the broad Bay, forming the  
 S. edge of mountain, the...  
 in cliff...  
 about 20-30-40...  
 so...  
 2 steep...  
 vertical.

Law I.  $8034V/310$

Fig. 1. See 30°, vertical, <sup>1st and 2nd</sup> 50-60°/vertical  
 = = See first figure... (20°)  
 of...  
 peaks...  
 of...  
 follows...  
 The...  
 have...  
 vertical & → p. 58

57  
58

Pts 2, 2a strike swings in  
 bay to  $80^{\circ}M / 80^{\circ}N$   
 at these points, rocks as above.  
 - continues page 58.

In the pegmatites, probably which entails  
 the migmatites, though in lower veins  
 bands & lenses, magnetite is a  
local accessory  $\rightarrow$  10% & green  
 Ca staining is common in pegmatite  
 & red garnet-quartz

DINKY 30th September

Rise 0730, away 1100, along  
 south coast of Houston then  
 straight to western end Law Is.  
 Mod. Ely wind felt warm tho'  
 in face, T alt  $+15^{\circ}F$ , but surfaces  
 better, more consolidated, wind swept.  
 Geology in migmatite then  
 to camp site at 1630.

Late geology on Stool of camp  
1800 - 1436, then leisurely dinner.

Blonds going well but Pete  
still badly chopped about after  
being set on by Blonds on 27th



from p. 55  
range from the original  
black through dark red green  
to light green &

It. brown - yellow - green  
when pyromet. is almost pure.

These migmatitic range from  
with addition of quartz,  
garnet, & biotite from black

11546  
Va/6  
5000  
11547  
Va/7  
3000  
11548  
Va/8  
5000  
11549  
Va/9  
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11550  
Va/10  
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Va/99  
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11640  
Va/100  
5000

yellow  
green - red  
in garnet - biotite growth. !!

all concordant, gneissic, &  
well-foliated. Separately  
the pyroxene gneiss has  
several bands varicolored

quartzite & quartz gneiss,  
grey, purple, red, & russet.  
brown, w. varying amount  
biotite & garnet. These may

be injection gneiss. all  
concordant, migmatitic see p. 56

Pr. 3 Comp. place. Foliation vertical

sto 30°, recurrent folding

plagioclase, pyroxene quartz,

amphibole, pyroxene - quartz

30°, 30° - 50°.

fine-grained quartzite, fine-grained  
quartz, pyroxene, & feldspar -  
biotite - coarse pyroxene alternate  
w. rather reddish dark green  
pyroxene. metre in synmetamorphic  
relationships. Garnet & biotite

as common dark minerals in  
the quartzite. In reddish

metre pyroxene quartz w.  
orthoclase - SPRUE 146 11548  
Val/c

pyroxene quartz feldspar  
pyroxene quartz feldspar

with pyroxene quartz feldspar  
in quartzite feldspar in f.g. Val/b

red quartzite feldspar pyroxene 11549  
quartzite feldspar pyroxene 147

quartzite feldspar pyroxene 147  
lenses seamed by coarse red  
biotite pyroxene, quartzite

may be original or may be  
injection rock. ? 1st October, 61.

Small string of rocks East  
of K<sub>2</sub> 3 continue vertical

pyroxene grains str. in above  
to K<sub>2</sub> 35 with vertical  
pyroxene grains str. 30°, w.

(3) thin + few bands white  
quartzite, but covered w. thin  
bands of black quartz-recl  
pyroxene, white to grey  
coarse-grained + hybridized  
the pyroxene grains.

K<sub>2</sub> 4 str. pyroxene at 30°

4' app. vertical, quartzite  
+ thick pyroxene grains

Next island east of K<sub>2</sub> 3 str. 25°/70° SE.

Thick pyrox grains 20', incl. thin  
white quartzite - 3'

CC32 V fore pt 100 as shown,

... ..  
... ..  
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A gentle ... ..  
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up 5:00.

DIARY - 1st October, 1961.

62

Up 0730 + avg 1100 in mod.  
E'ly, through low Is. Wind  
initially increased fresh to strong  
& drift increased light to  
moderate. Rapidly round

outside low Is & cross to  
Blackrock Head, dogs going  
well, outside narrow ice gaps

clipping passages in low Is.

Blackrock Head & low Is. dominantly  
pyrox. green. No composite

Blackrock Head, many bare  
slushy patches on ice, high  
temp. many dogs now - today  
+ 16° F. 1430 left Blackrock

Head for Fildoga + soon  
Skarsson Bay in steadily  
increasing wind & drift

Passed Transverse I. 1730



4 on though passage, waxy  
paths very slippery had ice.

Last night, 1 on from [unclear] [unclear] [unclear]  
steadily increased in wind-force  
(force 7) & drift to [unclear]  
straggled up slope to [unclear]  
[unclear] in very poor visibility,  
& set up tents in [unclear]  
[unclear] drift & force 7 wind (→ 40 mph)  
Tents up, 1 man each per tent pole,  
1 man each windward guy,  
set against wind, ~~the~~ pole  
with windward flaps already  
weighted, the pole men set  
ice [unclear] [unclear] [unclear] [unclear]  
blowing, guys [unclear] set [unclear]  
& other [unclear] - [unclear]  
[unclear]. Into tent 2130  
4 bed 2400; a notice log.

2nd October

Stay to make out [unclear] tent,  
very [unclear] [unclear]. Rose 1100,  
[unclear]. [unclear] [unclear] out 1600  
to [unclear] [unclear], [unclear] [unclear]. [unclear]  
[unclear] all day, bed at 2300

with wind easing.

3rd October, 1961 - DIARY.

64

Rose 0830, no wind, heavy snow. Out 1000 for security light snow, warm, weather changing. Out again 1200 & clean sledge boxes, air sleeping bag.

Sun out all afternoon, T alt. +25°F snow melting on rocks, tent, boxes. Sat around talking in sun, no parkas, no gloves, no hats, very pleasant. Smith & Pordoe seal by, Pordoe through soft snow into seal hole, wet through to waist, pulled out by Smith - obvious danger walk done in soft snow.

Into tent 1730, v. pleasant calm sunny evening - seal for dinner.

14th October, 1961

Up 0745, away 1100 after spilling  
4 cups coffee in tent - major catastrophe.  
Accompanied Piche to Roobey, checks  
now has some points, numbers points  
much smaller. Off to Ice Tongue  
channel where entered slush patch  
& dogs, men sledge all sank  
through soft wet snow into sea  
men up to waist. Kays on to  
firm ice & rapidly led dogs on  
hauling sledge & Smith & Trail to safety.

Returned very cautiously & found  
rotten ice & water common throughout  
eastern approach to Roobey. Reconnoitred  
route along north shore (Feldoya  
shore) across land ice & out to  
sea. Slush everywhere and soft  
fresh snow. Temp about +80F  
but 280F in sun. About two  
miles, put to sea going apparently  
improved or returned camp 1700,  
collected seal killed yesterday,  
loaded sledge for tomorrow. To day's intention  
was returning survey Scotch Bay but  
this abandoned a/c ice conditions.

5th October, 1961. 9111R/329

66

Pt. 111 Small island at N. <sup>W</sup>

point. I slay. Well-banded,  
finely-banded & well-foliated  
light yellow-green gneiss w.  
a few thin (3"-3') bands  
feldspar-pyroxene gneiss & pyroxenite.

The yellow-green gneiss is  
probably a feldspar-quartz-pyroxene  
rock w. rel little quartz  
& only 5-10% pyroxene, tho' <sup>SAMPLE</sup>  
~~comp.~~ dark min. contain 148

str. 30° / 70° W.

I slay NE end str. 10° / 60° W. <sup>V</sup> 22

~~Pt. 111~~ Also pink-red lenses

& thin concordant seams  
feldspar rich permatite soaking  
yellow green gneiss, but not  
abundant.

Pt. 112 2 raised beaches here

possibly 20' & 50' but seen  
at 1 mile distance only. I stay.

DIARY - 5th October, 1961.

Up 0730 & away 1100, slow  
travel on deep soft snow at  
least. Shaded lake - dog for  
rock specimens from deposit. 1200  
Pond's' tea - broke after balling  
& came up re Smiths. kom, fight  
only half-hearted as all dogs very  
tired, panting. Bright sunshine, T.  
abt +15° - in shade. Followed yesterday's  
tracks through slush patches &  
surface improved but to no  
avail slush & open water - seal-holes -  
again between I stay & Courley  
slowed progress at 1600. Deep  
soft snow & slushy puddles  
followed all way to Wm Scarsby  
lake, mostly led & arrived  
camp-site Forclast I. at  
2015, self very tired from soft  
snow, thirsty, hot. Into tent  
2200 & sleep at ~~2~~ 0030.  
Heavy snow in night.

6th October, 1961

Structural observations on

Wm. Seabury Hill.

Pt. 113

Photo 8006V/310

Str.  $160^{\circ}/40^{\circ}W$ .

Pt. 114 Str.  $160^{\circ}/25^{\circ}W$ .

Pt. 115 (Forecast Island

Str.  $130^{\circ}/40^{\circ}SW$ .

Pt. 116 Apparent dip.

Incl.  $20^{\circ}$  towards S.W.

8008V/310

Pt. 117

Str.  $150^{\circ}/40^{\circ}SE$  at W.(T) end

Str.  $150^{\circ}/20^{\circ}SE$  at E(T) end.

8120V/329

Pt. 118

?  $20^{\circ}$  toward N.W. (T) ?!

Pt. 119

? str.  $80^{\circ}/30^{\circ}-40^{\circ}N$ .

Pt. 120

True East end incl.  $20^{\circ}$  towards N(T.)  
also: sub-horizontal.

little radical change in iceberg  
distribution vicinity Forecast I  
since 1959. ~~but~~ group bags close  
E. Pt. 117 ~~my~~ some of these  
now "closed" to W end Forecast I.  
m. out. 1/2 m. to 1 m. W. end  
Sea close East Forecast I. opened  
small bags 1 m. out to S end Pt. 116 island.

---

DIARY - 6th October, 1961. FRIDAY

Rose 0800 after heavy snow, light  
wind all night. 0900 Howson  
forecast blizzard this afternoon,  
so out 1000, tie down all round  
lead dogs. Snow stopped 1300,  
sun out, lunch - scrambled eggs -  
& out 1300. Attempted  
structural plotting on plates w.  
binoculars from island summit  
but heavy snow masking rocks.  
In again 1730 to afternoon  
tea. Light E by wind, intermittent  
light snow. T +17°F, warm  
in tent w. down suit.

Fig 1

Length of hull to the center of body 30 dy. 02

Width

... 4 ... 40 dy



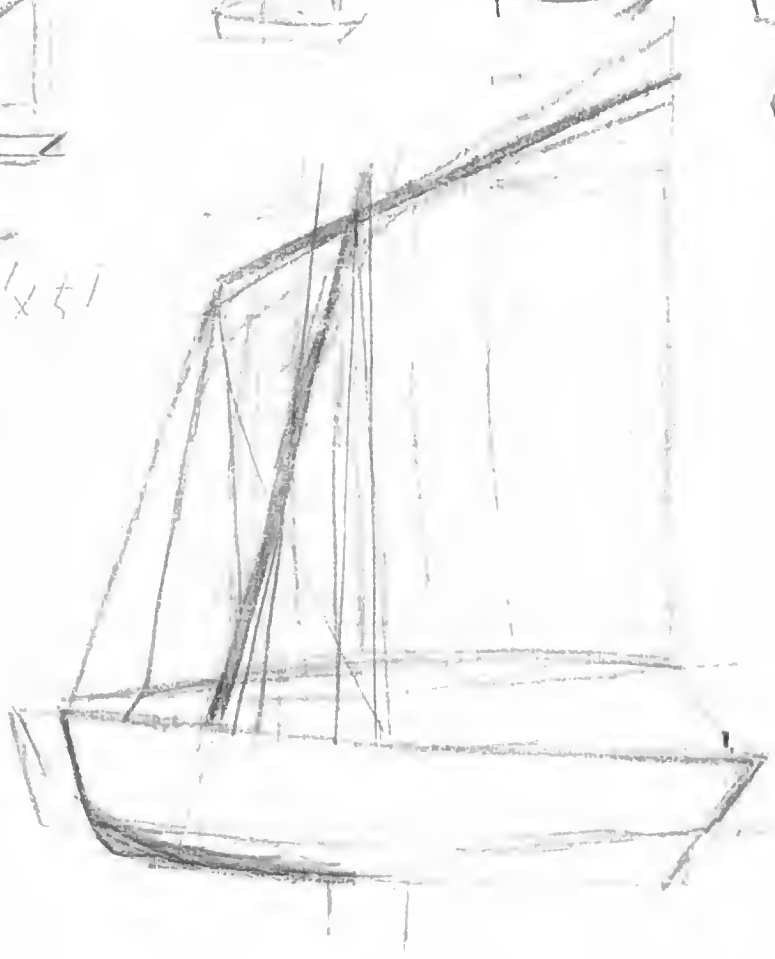


Butter	1 lb / mon / day
S-	1 lb / mon / day
Bacon	1/4 lb / mon / day
HFC	1/2 " " "
* Breakfast	10 biscuits / mon / day
Butter	1/2 lb / mon / week
* Jam	1 tin / mon / week
Egg	1 unit / mon / week
Apples	2/3 tin / mon / week
Salt	1 tin / week
Tea	2 tin / mon / month?
* Coffee	1 tin / mon / month
Sugar	as req / day
Essence	1 tin / mon / day
Chocolate	1 bar / mon / day
Butter	2 lb / mon / week

Unrot	1 tin	
Onion	2 cups	- 7 days
Salt	5 lb	- 7 days
Butter	1 lb	- 5 days
Jam	1 tin	3 days



15' x 5'



23/1/61 - 1st day

23 days from Dawson-

25 days from Tylor-

1 gallon Kerosene lasted 9 days.

### Coffee

Smith + Trail used 2 lbs in 22 days

Coffee 2x daily + 1 lunch time coffee for 12 days

~~For~~ Kerosene used 1 tin for 25 days, 1x daily

### Oatmeal

Smith + Trail used 2 lbs in 28 days

### Biscuits

Smith + Trail used 4 lbs/daily for 30 days

~~For~~ used 5-6 lbs/daily

### Panasonic

Smith + T. also  $\frac{1}{2}$  block daily

+ ~~1~~ 1 block HFC/daily

### Emergency

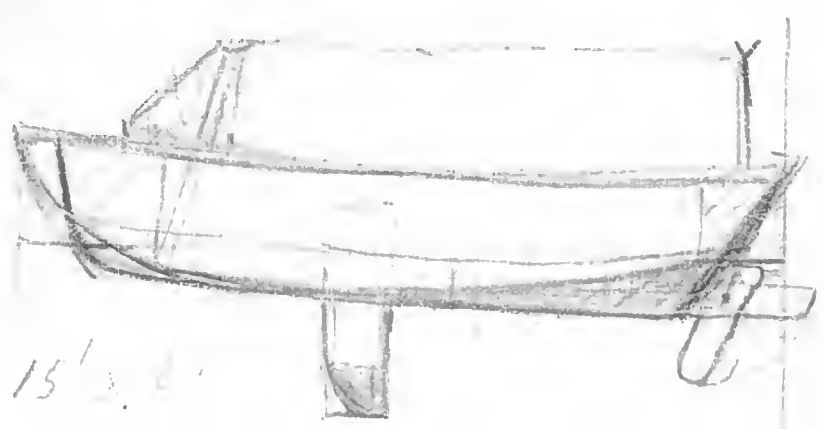
Smith + Trail use 2 bags sugar - 21 days

### Jam

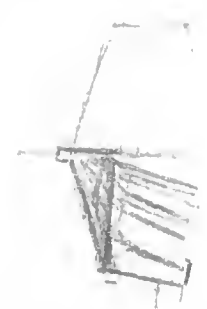
Smith + Trail use 7 lbs jam in ~~24~~ 29 days

### Butter

Smith + Trail / 3 1/2 lbs. in 30 days.



15' 2"



144/58

Pyroxene micropelite, W. Law Is. 1

145/58

Quartzite ? injected,

146/59

Quartz green (quartz) W. Low Is.

147/59

Pyroxene green, W. Low Is.

148/66

Yellow-green green, N.E. Islay.

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