

DDH

70-5

ELEVATION - 4095'

COLLAR - 2'

TOTAL ELEVATION -  
4097'

DDH

70-6

ELEVATION - 4095'

COLLAR - 2'

TOTAL ELEVATION - 4097'

DDH 70-3

ELEVATION - 4204'

CASINGS - 3'

TOTAL ELEVATION - 4207'

DDH 70-4

ELEVATION - 4202'

CASINGS - 2'

TOTAL ELEVATION - 4204'

JEAN-COURREGE LONGUE

FOREMAN FOR

ARCTIC DIAMOND DRILLING  
LIMITED,

1970-1

174' - 340.5'

1970-2

402-418-5% 192.5' - 402.5' ~~388' 35' in~~

418 - 425'; 425 - 438 - 4% 5%  
Drilling commenced.

on March 26, 1970 on

face already.

ELEVATIONS:-

1970-1 - 4155'

1970-2 - 4204'

440'?

1970-4

\* on - 136-149

107'

019234

March 19, 1970

Information on Jean property is passed on to Hampton.

Diamond drilling contract is awarded to ARCTIC DIAMOND DRILLING CO.

DY claims assessment work is under way.

March 23, 1970

24 AQ core boxes  
is in the warehouse.

100% core recovery, can accommodate 600'.

300 NQ core boxes on way from Whitehorse today.

catalogue for Mining & Exploration Supplies is ordered by Baxendale. Drillers moving stuff in.

FUEL & GAS charges borne by Arctic Diamond Drilling.

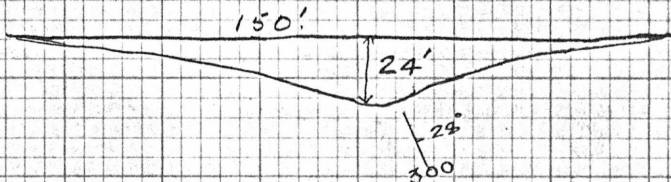
(NOH)

March 13, 1970

D-8 cat left at 8.30 A.M.

8.30 A.M. - 3.00 P.M. - travel time to DY CLAIMS.

3.00 P.M. - 6.00 P.M. - 1970-DY-1  
LOCATION: - 26+00E; 11+00S.



0-3' - Snow.

3-3.5' - Frost soil - undecomposed ag. matter. Moss; Bush etc.

3.5' - 3.8' - Vol. ash. White in color with black crystals of ferro-magnesian minerals.

3.8' - 23' - Glacial debris.

23' - 24' - PHYLLITE, well developed cleavage; staurolite porphyroblasts; kinking in places. L. St occurs as kinkily bedded.

Sericite, chlorite stratitic Phyllite. Rusty along fractures.

Biotite occurs in a minor amount.

March 14, 1970: 21-05-1179

7.00 A.M. - 7.30 A.M. - TRAVEL TIME.

1970-DY-2.

LOCATION: 1600E - 25+00S.

7.30 A.M. - 10.30 A.M.

0 - 3' - Sand.

3' - 4.5' - Organic matter.

4.5 - 4.8 - Vol. ash.

4.8 - 27' - PHYLLITE.

DDH-70-17 ZONE-3.

COLLAR - 4019'

28' - 138.5'

Impure

Chlorite Biotite Schist: -

28-50' -  $f_0 = 75^\circ$  essentially chlorite

schist with negligible bands of  
Biotite schist at various intervals.

50' - 233'

Chlorite Biotite Schist: -

$f_0 = 78^\circ$ .

Quartz occurs as small  
bands scattered throughout  
the schist and are continuous.

Tube is predominant and occurs  
as wide bands of up to 5" width  
in places, continuous and  
is basic in composition. Biotite  
occurs as segregated bands  
as well. This differentiation of  
tube & metasediment imparts a  
banded nature to the core.  
Zoned & granulated

83.5' - The foliation is very  
fine & tends to be phyllitic.

102' - CRENULATED.  
107' - 110' - MASSIVE GREENSTONE  
BAND.

181 - 184 - "  
192 - CRENULATED.

208 - 210 - META GREENSTONE.

Mostly chlorite but some  
angular tremolite is noted in  
places.

Minor sulfaceous bands continue  
212 - CRENULATED.

224.5 - 225 - Meta Greenstone.

Py -  $\approx 2\%$ .

Gradually down the hole, the  
sulfaceous bands diminish,  
but still persist to a minor  
extent.

Graphite increased down the hole.

233 - 257.5'

Graphitic PHYLLITE:

BEDDING: -  $75^\circ$ .

Highly carbonaceous black  
Phyllite, highly fissile.  
In places very finely  
foliated. The core is highly  
leached, probably the fissility  
of rock is a permeable zone  
for ground water. Fissility  
parallels bedding. In places  
small bands of bleached biotite  
chlorite schist of 3' wide and  
are finely foliated and dip  $75^\circ$   
same as bedding.

256.5' - Q + S chlorite sericite  
schist band of 3" wide. Calcite  
vls along fractures.

257.5' - 262.5'

Meta Green Stone.

262.5' - 277.5'

Quartz Biotite chlorite  
Graphite Sericite schist: -  
fol: -  $83^\circ$ .

Gradational zone between graphitic schist and Staurolite Qtz Biotite Chlorite schist.

277.5' - 527'

Garnetiferous Qtz Staurolite Biotite Sericite chlorite schist: -

Fo: - 76°.

Garnets are in process of alteration & completely altered throughout the core to chlorite but still retaining the original porphyroblastic texture. Staurolites are finely disseminated throughout the meta sediment. Qtz occurs as continuous bands throughout.

304 - 305 - QUARTZ BAND.

354.5' - 360.5' - chlorite schist.

390.5 - crenulated.

398' - Andalusite associated with Qtz bands.

398.5 - 399.5

Py - ~ 5% throughout the metasediment.

Qtz bands occur at various intervals.

428 - 437.5 - GRAPHITE SCHIST.

Highly crenulated.

464.5 - 482

Increase in Biotite. Core is highly crenulated throughout.

482 - 527 Qtz Staurolite

Garnet chlorite Biotite Ser. schist continues.

Fo: - 78°

519 - 526.5 Highly

bleached sericite schist.

526.5' - 527' - Qtz schist.

527 - 537 Quartzite.

Banded Sulphides.

BANDING: - 84°.

Mostly disseminated

1 Phalenite; coarse Galena

occurs as filling fractures.

537 - 538.5 FAULT ZONE.

Chalcopy - Mineralization - ~ 2%.

Essentially SP & PY. Coarse Galena occurs as filling fractures.

538.5 - 543 -

MASSIVE SULPHIDES.

Mostly coarse xls of PY & calcitic PY. Minor amounts

Sphalerite.

543 - 548.8 - Banded

SULPHIDES.

Banding - 45°.

Mostly disseminated SPA.

548.8 - 550.5

MASSIVE SULPHIDES

BAND: -

ESSENTIALLY PY, Po & SPA.

Coarse Ga occurs as small veinlets.

550.5 - 562.5 Qtz schist.

DISSEMINATED SULPHIDES

Mostly SP.

562.5 - 570 Bleached

Qtz Ser. schist.

570 - 585 Garnetiferous

Qtz chl Staur. Bio ser. schist.

fo 1 - 75°

585-606 Qtz Ser. Schist: -

fo 1 - 38°

Bleached Qtz Ser Schist.

chlorite to a minor extent.

606-703 Garnetiferous (Altered)

Staur. Qtz Bio chl Schist: -

fo 1 68°

The core is highly crenulated

throughout.

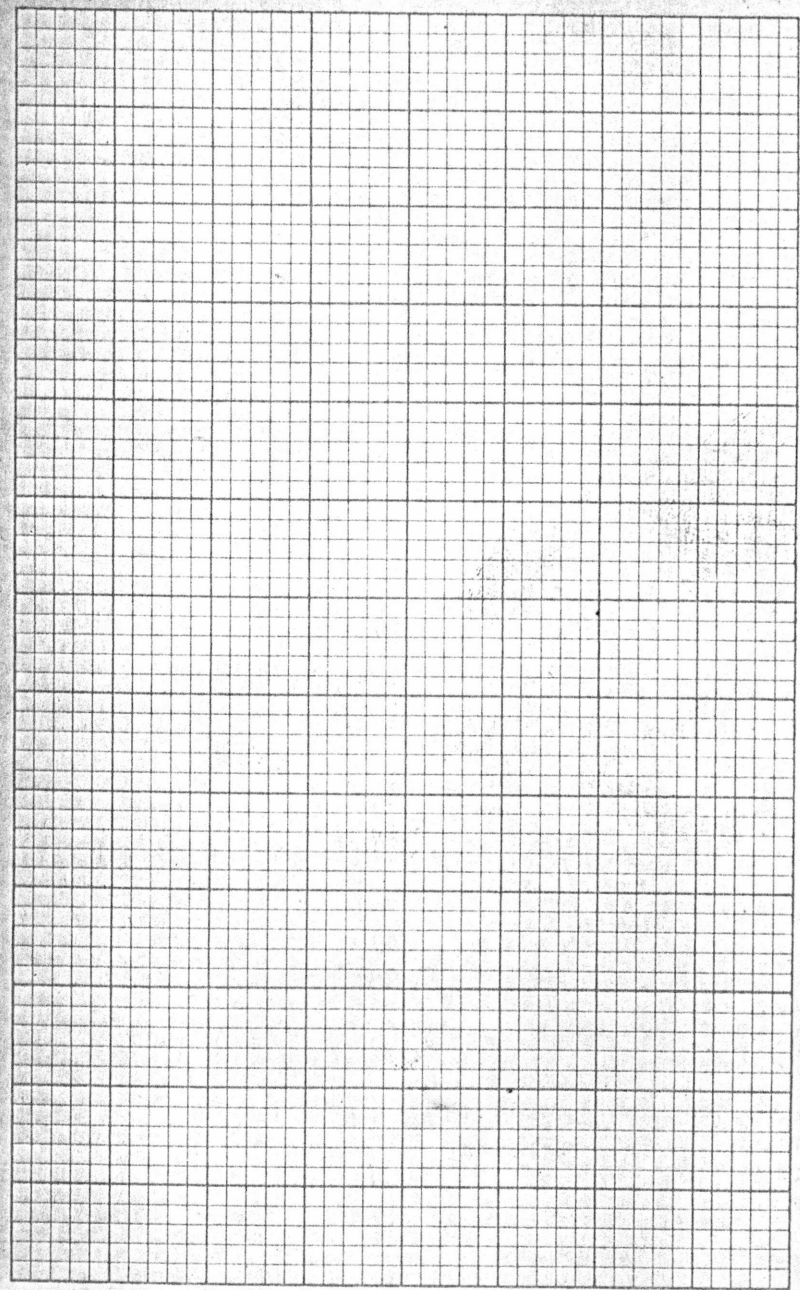
Ribbon Qtz occurs occasionally.

chlorite schist bands @ 2"

wide at various intervals.

703' - END OF DDA.

DY-CLAIMS - TRENCHING WORK



2736

6' 5" x 3' - Bed.

- Heater

38  $\frac{1}{2}$ " x 21  $\frac{1}{4}$ "

8' x 13'

~~Heater~~ Bench.

28" x 28" → Table.

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MARCH 26, 1970.

Drilling commenced on 1970-1  
DDH.

MARCH 29, 1970.

Drilling on 1970-2 DDH commenced.  
0-6' - HX casing.

70-1

April 3, 1970.

35°

FOLIATION: - ~~Schist~~.  
0-50' Qtz. Ser. chl. schist.

finely foliated white to greenish  
white Qtz Ser. schist+ with  
greenish color at chlorite rich  
parts. Qtz occurs parallel to  
foliation planes as ~~minor~~  
thin bands.

20'-24' - Qtz band consists  
of Galena & Pyrite filling  
fractures & cavities.

Disseminated Py. occurs through-  
out the metasediment.

30'-31' - Andalusite Qtz Ser  
schist. fine Ser. curved  
over porphyroblasts of And-  
alusite. Py. veins form  
around peripheries of  
Andalusites. Galena  
replacing Py. to a  
minor extent. coarse  
Galena occurs within  
chl. ser schist. ~~in~~ in Galena



stringers continued to solitation  
or around the peripheral or  
etc grains irregularly.

Fracture usually amounts to  
negligible to a 5% by volume  
to 20%.

Staur. And. Bt. ser. schist bands  
are occasionally present but  
are only 2' - 3' wide.

Much smaller inclusions of Staur.  
occur through the schist widely.

169' - 174' form: - 18°.

ser. schist.

~~It~~ coarsely solitated white  
to slightly greenish white ser.

Schist consists of numerous  
differentiated etc bands carrying  
stringers of Py, Ga & Sphalerite.

Galena is obviously replacing  
Py in these stringers.

174 - 175 ser. schist.

Same as above.

~~It is a~~

Broken core.

Very soluble. Fault? NOT  
obvious or inescapable.

175 - ABRUPT CONTACT.

175 - 185 - sugary etc consists

~~of~~ mineralized with coarse  
SP, Ga & Spangy Py. Chalcopy  
at fine stringers in etc. or  
minerals occur as disseminated  
and part of etc. appear to have  
formed at the same time. TOTAL  
Sulphide content is 50-65%.

183 - 185 - native sulphides  
sulphides - 80% - 95%.

185 - 192 - ~~etc~~ - Sugary  
etc with disseminated &  
banded sulphides. Individ-  
ual grains of Py, SP & Pb embe-  
ded in siliceous matrix.  
Stringers of Ga & SP at places.

192-194 - massive sulphides.  
coarse grained SP, Ga & py.  
75% - 85% Sds.

Silica gangue.

py - oolitic in places

also occurs as porphyroblast  
sandy Sds.

194' - 208' ore - Disseminated

Sulphides - occasionally  
massive Sds bands - mostly  
rich in py & Marcasite.

The ore minerals essentially  
occurs as coarse hard grains  
enveaded ~~in~~ between  
qtz grains. Stringers are  
occasionally present - probably  
produced during metamorphism.  
Sphalerite occurs as concentrated  
bands replacing py at some  
places.

208-210 - Massive Sds.

Very coarse sandy Sds

of SP, Ga & pyrochlore

individual grains banded  
together. Very slight  
amount of ag -  $\approx 5\%$  or less.  
Rich in py & marcasite.

210 - 220 - Massive Sds.

Very coarse ore minerals of  
SP, Ga & py ~~with~~ consistent  
slight silica as gangue.

214 - 216 - Rich in Ga & SP.

215'5' - 216 - 60% py & Marc

216 - 220 - Sandy Sds.

220 - 225' - Same as above.

224.6 - unreplaced

~~ore~~ at ~~depth~~ of 2" wide

224.6 - 225' - Pure iron  
sulphides. py & marcasite.

NO Econo. Sulphides.

225' - 230' - MASSIVE Sds

Sandy Sds,

Same as above

230-235

This cement is enriched  
in Pb & Marcasite.

de minerals - 20-25% may  
be lost in place - 10%.

234-235 - Pure FeS<sub>2</sub>.

235-240

235-237 - Pure FeS<sub>2</sub>.

237-237.5 - Milky & green  
with small & trace, filled by Py.  
and Galena.

Sides of Pb, 2 or more post.

240-245

Same as above.

245-250

Increase in sp & Ga.

Pb - 60 - 20%

250-255

Same as above

Po at 253'.

255-260 - Marcasite.

260-265

Marcasite  
concentrated at 262'

265-270

Marcasite

270-275

Marcasite

275-280

275-275.4 - Py & Marcasite

276-277 - High Py.

280-285 - Qz.

Rich in Ga & Py - 20%  
sp.

285-290 - 285-287 - Qz.

Rich in sp & Ga.  
Py as small bands.

290-295

Marcasite.

Py porphyro blasts.

295 - 300 - massive sdes.  
Py, po s1 ore sdes.

300 - 305 - massive sdes  
R - 60%.

305 - 310  
307.9 - 309.5 - highly  
enriched in FeS<sub>2</sub>.

310 - 315  
massive sdes,  
rich in Py.

315 - 320  
enriched in Ga.

320 - 325 } massive sdes.  
322 - spongy py, por. black,  
slight po. semicond. - fine.  
325 - 330. } 324 - 330 - coarse grained py sds  
Ga. py - calc. no.

328 - 330 - Rich in py.  
330 - 335 } 330 - 332 massive sdes. rich py.  
332 - 333 - fine sd.  
333 - 335 - Qtz sds. Rich in Ga.  
min. sp.

~~335 - 340~~  
with depth tailing and  
essentially Qtz schist.  
min. Ga & sp. stringers.

~~310 - 315.~~

335 - 340 - Qtz con. with  
disseminated sdes. Spongy  
etc, non quartz, massive.  
Ga should be high as various  
stringers cut across etc. Py is  
spongy & coarsely x m.

340 - 340.4 - volca. breccia  
rounded to sub rounded  
fragments of Qtz being  
replaced partly & wholly by  
Py in a ~~dark~~ dark aphanitic  
matrix.

340 - 350 - Qtz - massive with  
disseminated sdes.  
specks of CuV.  
fine disseminated fine stringers.  
350 - 360 - " "

Qtz ser. schist + B  
Qtz ser. cut schist in places,  
dense. Py mostly.  
Sp is very finely disseminated.  
Bio. in some places.  
sp. as small fine stringers  
follows fol.

360 - 373 - Qtz ser. schist  
10 - 90

Gr. dy - Greenish white ch. kv. & y  
schist.

Distal dy. - 0.5' - 1 1/2'

373 - 393 - Granite

Bleached & kaolinized.

393' - END OF DDH.

70-2

192.5 - 438.03

Casing from ground down - 2'  
ground down - 4204'

30405 - 20

Good for 600'

April 11, 1970

Saturday;

Discussion with Mc Hampton on  
mine duties & work to be carried

Sampling:

- 1) Drill (DDH) Assays.
- 2) Rotary cuttings,
- 3) Eliminate subgrade values,
- 4) Show location of Assays  
from bench face;
- 5) Estimate of such reserves  
according to grade.
- 6) Divide Rotary holes into  
sections to predict the  
grades according to Showed  
location.

MINE:

late

1) Rewrite Geol. sections

x-sections to 1" → 50' scale.

2) Indicate P<sub>2</sub> & P<sub>4</sub> Zones.

3) plot the ore waste contacts &  
revise Geol. sections.

4) Estimate reserves &  
grades from time to time.

Run on Gilbert.

Red men take the  
samples.

5';

Plot Geol. & Revise Geol. sections.

Phys. charact  
sticks  
chem. charact

Take specimens for  
Thin section study.

JDA - 70-2

LOCATION: PIT AREA

420A Bench.

April 13, 1970 :-

0-100'

Staurolite Biotite Qtz Schist  
Schist :-

Fo - 240.

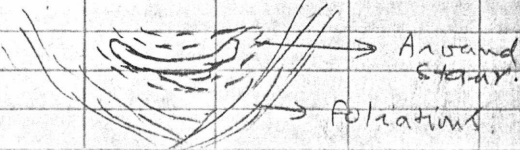
Brown to light brown coarsely

foliated staurolite biotite

Qtz schist. Crenulated  
occasionally at various places.

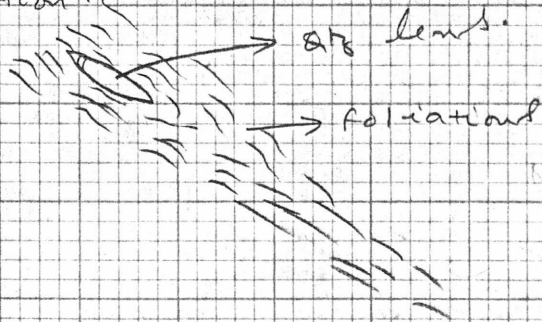
Qtz occurs as thin segregated  
bands and accordingly imparts  
banding to core. Biotite is fine  
schist form layers & cut  
across banding at several other  
places. Chlorite occurs as small  
patches particularly concentrated  
around quartz grains. Andalusite  
occurs erratically throughout the  
core length as porphyroblasts.

Staurolite phenocrysts parallel  
foliation & foliation is usually  
curved around staurolites.



Also occurs as phenocrysts  
cutting across foliation & dissemi-  
nated in the schist and are  
usually very coarse grained.  
finely disseminated staurolites  
is not uncommon.

Qtz also forms as lenses enclosed  
by foliation.



~~Chlorite~~ phlogopite is occasionally  
associated with Qtz phenocrysts  
scattered & replaced by chlorite.  
Altered to?

Mineralization

Qtz py - 2'

Py is usually disseminated  
throughout & mostly associated  
with silica.

100' - 105'

Same as above

121 - 120

192 - 195

445'

448.

105' - 122'

fo' - 55°

Qty Sericite schist:-

White to Greenish white  
Qty ser. schist - finely foliated,  
increasing in Qty with depth.

the minerals of Ga & sp appear  
gradually as veinlets & as  
patches. Veinlets more  
less follow the foliations.

Also Py occurs as disseminated  
Qtz veinlets 8" wide at 112. 6'.

117 - 122 - Almost Qtz but

sericite still occurs, & prominent  
inclusions.

The change to Qtz is gradual

but at 122, increase in Qtz

minerals & becoming  
massive is abrupt within  
Qty. probably gravity segregation.  
Streaked in places, but fresh surfaces  
not uncommon.

122 - 127

massive schist.

mostly pyrite. Qty of  
prominent gangue.

127 - 140 fo - 27°

Stawry. Qtz ser. schist:-

gradually the minerals  
decrease & at 127 become  
increasingly Qtzite and  
pass into finely foliated  
white Stawry. Qty ser. schist.  
Py & Ga veinlets occur  
at 127 - 130 commonly along  
foliation planes.

Qtz lenses as before with  
py & Ga.

135 - crenulations.

Stawry increases at the  
end of the movement.

140 - 180

Fo - 30° but increasingly  
flattening down the hole  
at 160 - 52°.

staurolite seric schist

occasionally calc.

Py & Ga staurolites.

increasing in Qtz with  
depth.

crenulations at 170.

Foliations vertical in places  
due to silica ~~rem.~~

Bleached in places but  
like entire length.

180 - 192 Quartzite.

Contact gradational.

with increase in silica,  
the core gradually becomes  
Qtz.

Rich in Ga & Py than before,  
mainly occur as veinlets  
along foliations.

Contact gradational; last  
five feet of the increment  
slightly bleached.

192 - 197

massive Sdes

This increment richer in both  
Ga & SP. Sandy sulphides embe-  
ded in Qtz & silica matrix.  
in Qtz rich portions, the Sdes are  
simply scattered as individual  
grains.

197 - ~~200~~ 225

massive Sdes

Sandy massive sulphides  
with very coarse oolitic Py.

(P56)

The essential non metallic gangue is Qtz & metallic gangue is Pyrite.

<sup>219 to</sup>  
At 220 - Rich in PY and mostly Qtz gangue.

Also small veinlets of PY are seen in places cutting across sandy s.d.s.

224.6 - 224.8 - Rich in PY.

225 - 230

Qtz sericite schist:

Highly bleached.

Rarely any metals.

Very rich in Macaite at the contact. Small amounts of Galena & Sphalerite are present throughout but only of academic value.

230 - 235 Massive s.d.s.

Gradational contact.

Highly enriched in Galena at the contact for about 4" Qtz Ser.

Schist still persists but to only a lower degree of d/e.

230.5 - Highly Qtz<sup>rich</sup> & small amount of Galena associated with Qtz, essentially replacing partly & totally Sphalerite.

233 - 233.5 - Unreplaced Qtz ser. schist band, highly bleached. At the contact Rich in Pyrite.

~~233.5 - 235~~ <sup>234.5</sup> - PYRRHOTITE, PYRITE, SPHALERITE AND VERY LITTLE GALENA Association.

This particular portion appears to have been rexed as Qtz becomes entirely transparent and occurs as very fine grains in PO.  
All the ore minerals diminished

to very fine grained size.  
Suggests probable proximity to an  
~~ore~~ intrusive(?)

234.5 - 235 — Gradually increases  
in grain size with decrease in Po  
and assemblage is essentially  
PY, Ga & SP. PY - oolitic.

235 - 242 Essentially  
massive sulphides with  
slight gangue of Si. PY is the  
most abundant mineral.

237 - 237.5 — concentration of  
PY & Marcasite.

242 - 248 : — massive sdes  
in ore. Sdes disseminated in  
a highly siliceous.

247 - 247.5 — Very rich in  
Galena.

247.5 - 248 — ~~ore~~ Sulphides  
scattered in ore.

248 - 261 Massive Sulphides.  
Mostly PY & Marcasite.

248 - 248.5 — Sugary, visible  
PY & Marcasite.

Unreplaced ore ser. material at  
various places.

257.5 - 258 — Rich in PY &  
Marcasite.

260.5 - 261 — Rich in PY & Marcasite.  
Almost pure Iron Sdes.

261 - 261.8

Bleached ore seriditic material  
with a minor amount of Gal-  
ena.

261<sup>8</sup> - 266 — poor core recovery.

— only 2'.  
Mostly PY is present.  
Very small amount of  
acominerals.

266 - 288

massive sdes.  
very high in PY.

267 - 268

272 - 274

276 - 276.5

287 - 288

} py & malachite  
little Economic  
sdes.

Galena rich at

270 - ~~272~~

274.5 - 275

275 - 278

286 - 290.2 - un replaced

at Sev. material.

290.2 - 310 - at massive

sdes. Ga; SP & PY, var.

310 - 401

massive Sulphides.

The entire 91 feet is richly  
rich in Sulphides and little  
O<sub>2</sub> is present only - occasional  
log.

The essential association is

PY, var, Ga & SP.

~~thin~~ PY occurs as politic  
and as handy variable concent-  
rated zones.

311.6 - 313 <sup>PY</sup>

316 - 318

321 - 322

391 - 393 - pure PY, malachite.

360 - 375 - very rich in PY.

319 - 320; <sup>Ga</sup>

322 - 323;

342.5 - 343;

The association of

all minerals occurs as  
coarse grained PY, Ga & SP

embedded together. PY occurs  
as oolites in fine grained  
Sphalerite & matrix.

400-401 Increase in  
Silica & gradually passes  
into Qtz.

But the contact itself appears  
abrupt due to a sudden  
decrease in Sdes particularly  
PY.

401-443

Qtz :

is essentially Qtz with a  
minor amount of Sericite here &  
there :

Dark Greenish in color and  
consists of banded & disseminated

Sdes throughout. Though the  
total Sdes are less, it appears  
that PY & ~~Qtz~~ Ga, SP are  
equally distributed or PY  
may be only a little more.

Some Sdes occur in places as  
min lites in grey or white  
py is confined to white Qtz at  
413'.

420-424 - massive Sde band.  
Down the depth, the core becomes  
increasingly schistose and  
changes to Qtz ser. schist.

443-468

Qtz chl. Ser. Schist :

Bleached Greenish white  
schist. Staurolite is occasionally  
present.

py amounts to about  $\frac{1}{2}\%$   $\frac{2}{100}$   
Highly bleached & clayey in  
places at 463-468.

468 - END OF HOLE.

DDH - 70-3

0 - 3' - COLLAR.

3' - 12' - NO core; Turbine bit.

12' - 128' - ~~S~~ Stour, chl, stz.

Biotite ser. schist: -

Fo: - 19° - 25°

Usually steeper.

Greyish white to greyish green  
coarsely foliated schist consists

of Staurolite phenocrysts &

Andalusite at some places  
usually associated with

Quartz. The core is discon-  
tinuous layers  
nitated to Rich ~~to~~ stz,

chl, Bio & imparts a banding  
structure. Quartz also occurs

as thin veinlets continuous

to banding. chlorite also  
occurs as small patches  
particularly around Qtz

phenocrysts probable pebbles  
is original sediment. Staurolites  
though usually very coarse &  
occur as laths within schist,  
fine staur are not rare, parti-  
cularly occur as minute  
grains scattered throughout  
schist.

32 - 33.5' - limonitization along  
joint.

At 40' - fo - 29°

39 - 51' - Rich in Stour.

73 - foliation is draped &  
measures only about 8° - no  
other stl feature such as  
fault is observed.

75 - 81' ~~stz~~ Qtz band &  
andalusite with it.

1260 to be absent from 85'  
106:5 - 107 - Qtz bands

py with it.

from 92', increase in Sericit  
down the hole.

128 - 137.5 massive Sulphides

Contact - 26°. Continuous  
band with foliation.

Po, Py, Ga & Sp. association.

Py occurs as porphyroblasts  
in fine grained Po.

Qtz forms a minor gangue.

Also about 2% Magnetite.

Eco. Idcs may amount to

25% 35%

137.5 - 180

137.5 - 180 Staur. chl Qtz

Ser. schist.

occasionally Andalusite.

contact - 48°.

Rich in <sup>Grny</sup> Qtz at the contact  
and occurs as continuous  
bands ~~along~~ <sup>parallel to</sup> foliation planes.  
Bleached from contact to 162'.

Fresh zones still appear.

147 - 153 Probable

bould zone.

146 - 146.5 - Small band  
of Py, Ga & Sp, Po massive in  
character.

Staur. Qtz chl Ser schist  
conts.

~~180~~  
(P. TO)

180-225

Staur. Qtz. ch. sev. schist:-

conts. (Mineralization at places).

182 - massive due to enhancement silica

186' - 188.8' - Qtz band

192.5 - 203 - Qtz band.

consists of Py & Ga filling  
fractures.

202.5 - 203 - Rich in Ga &  
Sphalerite.

200.5 - Ga veins 5" wide.

These particular Qtz bands

are white in color & not

usually as Grey that occurs

within schist. This is proba-

bly introduced from granitic

intrusive, which suggests

proximity (?) check other  
local Geol.

203-225 - Staur. Bio. ch. l.

conts. Qtz schist

f<sub>o</sub> :- 42°.

thin hairline stringers of  
Py & Ga. Py is also disse-  
minated within meta sediments.

225' - 230' f<sub>o</sub> - 58°.

abrupt contact with Qtz  
consisting of up to 60% sdes  
in the first few feet.  
confirmable contact.

Sandy sdes embedded in  
Qtz.

230 - 249 QUARTZITE

consists of 25% - 75%

sdes. when sulphides

are low, they are usually  
rich in Ga & SP. massive  
Sulphides occur at.

various places.

239.5 - 240 - Rich in PY, Marc.

249 - 428

### MASSIVE SULPHIDES.

249-250 - Bluish core & quite rich in lead. Sandy sulphides & PY is very coarsely disseminated.

Stz still forms prominent gangue and amounts up to 30% of the total volume.

Within Stz zone horizon, the ore minerals occur as small veinlets & as disseminated at

252'.

261 - 262

Rich in PY & Marcasite.

At 262 - very coarse sulphides.

263 - 265

Rich in Ga & Sphalerite.

15°

263.5' - A band of Ga & SP in PY, Marc. dips 15° (note the same dip as foliation at the contact!)

265.5 - 266 - Rich in PY & Marc.

266 - 270 - The core is very much enriched in PYrite & almost amounts to 55%. Also Stz forms a prominent gangue, friable due to leaching vuggy in places.

275 - ore minerals are banded. Bonding - 40°.

Sphalerite rich bands in PY.

PY also occurs as coarse xls within Sphalerite matrix.

278 - 280 Almost pure PY & Marcasite embedded in

Stz matrix. Pyrite & Sphalerite.

Py occurs as sandy sulphides.

Almost amounts to 65% and Stz

upto 20%. Ore minerals occur  
fairly & Ga is higher than  
Sphalerite.

280 - 284 - Still rich in PY &

Marcasite; but also there is  
an increased enhancement in  
ore minerals - upto 20%.

284 - 285 - Rich in Galena &

Sphalerite. PY occurs as Porphyro-  
blasts.

at 285 the contact is quite  
abrupt & rugged arcuate. Sudden

increase in PY & Mar which extends

upto 285.5' consisting of approx-

imately 60% PY. The ore  
minerals particularly enriched  
in sphalerite appears to be

embaying into PY masses,  
gradually replacing it.



SP, PY & Ga.

PY, Mar,  
minor Ga & SP

285.5' - 294.5'

The ore minerals appear to  
coexist in this interval.

PY, SP & Galena association.  
course of sandy sulphides.  
occasionally PY rich zones  
probably differentiated.

Stz forms only a minor  
amount & in places the  
sulphides are 100%.

294' - Stz vein of  $\frac{3}{10}$ " wide  
dips at 41° and the core  
is composed of 80% PY & Mar.

294.5' - 312.5'

massive Sph.

more or less uniformly distributed  
ore minerals

298.6 - 299 - slight enhance-  
ment in PY.

At 310 - covellite & chalcopyrite  
replacing Zn mineralization.

312.6 - 320 - Same as above.

320 - 322.5'

At 320, ore bands extends  
from 320 - 320.5'.

Contact here is with  
PY & QZ ~~passing~~  
through exactly in the centre  
of core dipping at almost 0°  
to 5°. The Sph band is

rich in Zn & Pb & white  
other beds is pure Malachite, PY.  
Sph occurs as small veinlets  
and stringers while Sph  
forms the rim around  
Sphalerite & thus appears  
as replacing Zn partly. Also  
along ~~the~~ the edges of  
PY is concentration of Zn & Pb  
minerals.

320.5 - 322.5'

Pure Malachite & PY. Visible  
with difficulty. Sand size  
grains.

322.5 - 328.5'

Quartzite.

Always Quartzite in this  
ore body appears to carry  
higher Zn Sph than any other  
Sph. Sph is the most abundant  
Sph and next is PY. Suggests  
that Sphalerite is probably

the first mineral that formed  
within Qtz.

Ga occurs at small veinlets  
and filling cavities & fractures.

### 327.5 Excellent banding.

dips at  $15^\circ$ .

Alternating layers of Qtz &  
Sp; Py. Pb & are virtually  
absent here.

This banding is cut by a small  
fault extending for 6" &  
displaced by  $\frac{1}{10}$ " further  
the fault is tilted, trend-  
ing approximately along  
the axis of the core with a  
dip of about  $4^\circ$ .

328 - Good concentration of  
Galena associated with Qtz  
vein.

### 328-339

Highly enriched in Py & Marcasite.  
Moderately siliceous & consists of  
transparent Quartz pebbles.  
Friable with difficulty. Associated  
with milky Qtz veins in places  
and appear to have relaxed as they  
occur as small bands with virtually  
no sulphides.  
ore minerals are negligible to  
nil.

### 339-340

Down the hole ore minerals  
gradually increased. The ore-  
minerals in this foot amount to  
approximately 10% or less.

### 340-371

Massive Sulphides Conts.

346-350 - Highly enriched  
in Py.

### 350-371 Coarse Sandy Sulphides.

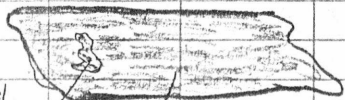
ore minerals may approxi-  
mate to 15% - 20%.

368 - 370 - Rich in Ga & SP.

370 - 371 - Increase in PY.

357.5 sphalerite grains

enclosed by PY.



Coagulated  
grains of Sphaler. PY, MAR.

suggests SP. separating from  
Iron rich (PY) ore magma.

371 - 428

massive Sulphides

Continued.

Very coarse - coarse sandy

Sulphides & PY, Ga, SP

association.

Three minerals occur as  
individual grains & cemented  
together.

Very little Qtz to no

Quartz in this increment.

397 - 402 - 100% PY, MAR

— 80% PY, MAR.

Besides such small pure bands  
of PY, MAR are scattered thro-  
ugh out usually to 6" wide.

422 - 423 - Rich in PY & MAR.

423 - Contact with Po band  
of 6" wide. (423 - 423.5).

The contact is exemplified  
by difference in grain sizes  
between PY & Po while the  
former is coarse & Po is  
very fine grained.

~~Band~~ Contact dips at 65°.

423.5 - 428 Po, PY, Ga

and sphalerite association.

py in this increment occurs  
as porphyroblasts and the  
grain size increases from 425  
down the hole.

428' - END OF HOLE.

DDH

70-5

ELEVATION - 4095'

COLLAR - 2'

TOTAL ELEVATION - 4097'

0-2' - CASING.

2'-14' - TRICONE BIT -  
NO CORR SAVED.

14'-29' - Quartzite.

White to greyish white sugary  
quartzite consists of disseminated  
sulphides & rounded sulphides  
in places. The quartzite is  
sugary in texture and hardly  
friable.

14-32 - leached &amp; fuzzy

surfaces are commonly  
present & filled with  
perfect tiny cubes of PY  
and is probably deposited

by percolating waters  
under release of pressure.

Spongy PY occurs abundantly.  
The total sulphide content  
usually ranges from 5% to  
15% in places and may not  
exceed 20% and is usually  
pyrite.

pyrite also occurs around the  
rim of coarse stz pebbles (?)  
The pebble itself is exempli-  
fied by metals surrounding  
it. (At 17') Also a minute  
amount of chalcopy replacing  
PYRITE, could have been a  
conglomerate layer within stz  
at one time & the pebbly  
structure could have been  
produced by metals replacing  
stz along fractures of minute  
size & gradually left rounded  
stz grains in the metal.

60-62 FAULT ZONE:

Obviously a fault zone,  
replaced by massive Sdes.

mostly PY and is easily

fracturable. Gouge & lumpy

Py crumpling to powder.

Breccia (Angular fragments  
of Qtz completely & partially

replaced by PY;

35' - Banded PY;

Banding dips at  $15^\circ$ .

Minor specks of Chalcopyrite is  
present in some places.

Qtz continues.

84' - Band of PY dips at  
 $12^\circ$ .

Down the hole from 86, the

core is slightly enriched in  
sulphides, gradually.

88 - 89' - Gradationally the  
sulphide content increases,  
sphalerite, Ga begin to appear  
increasingly.

Chalcopyrite at 88.5' around the  
rims of sphalerite & replacing  
sphale.

89 - 218 MASSIVE SULPHI  
DES.

89-90 - Massive sulphides  
amount to 97% of Sds.

90-93 - Increase in silica  
and the core is virtually Qtz  
but consists of upto 40% Sds.  
PY, Ga & SP occur as indivi-  
dual grains in siliceous  
matrix. Qtz is grey white in  
color and sugary in texture.  
Hardly friable.

93-98 - massive Sds with  
siliceous gangue upto 20%.

Py occurs as segregated  
coarse porphyroblastic grains  
and as bands due to such  
segregation. Fair amount of Gal  
& Phalerite.

98-100 - RICH IN PYRITE.

Variable Py & silica  
amounts to 25%.

100-208 MASSIVE SULPHIDES<sub>5</sub>

Massive coarse grained  
sulphides continues. Silica  
enrichment is noticed at a  
few places but does not  
exceed generally 25%.

In a typical massive  
sulphide zone, the ~~the~~ ore  
minerals occur as individ-  
ual coarse grains &

Py usually forms a  
porphyroblasts. These  
coarse grains in places are  
coagulated into thin layers  
upto .2" - .4" and impart  
banding appearance. Within  
these coagulations, finely  
disseminated Sphalerite is  
observed.

occasionally Py, marcasite  
rich bands are observed  
and occur at the following  
intervals.

149.5 - 150; 169-172;

184-184.5; 194-198;

208-303

Massive Sulphides Conts.

226' - 231.5' - pure  
marcasite & Py band.  
coarse grained & hard to  
mineralite.

233 - 235 - Rich in P.G.S.  
235 - 238 - Siliceous, Silica <sup>upto</sup> 40%  
240 - 248 - Po occurs at

Small bands <sup>very</sup> usually fine grained  
& consists of P.G.S. vein like cutting across.  
SP. is very finely disseminated  
in Po matrix.

PY occurs as porphyro blasts.

249 - 250 - Rich in P.G.S.

255 - 256 - PY Star.

253.5 - 254 - Rich in Po. Ga occurs as small  
veinlets. PY - porphyro blasts.

264 - 290 - Highly leached core.  
Vuggy & binole in places.

284 - 291 - Rich in Galena.

292.5 - 293 - Po

293 - 298 - Coarse PY in place oolitic.  
Also amounts to about 50 - 60%.

298 - 303 - Increasingly Siliceous -  
Bluish Grey in color & sugary.

Contact is gradational and banding  
measures 65°.

303 - 318 - ~~is~~ Ste.

Disseminated & stringers of Sides.

Bluish Grey to white Ste consists of  
mostly PY & SP. SP. is finely disseminated  
into bands and appear as layers. Measures  
65°. Some Sericite in places.

DDH - 70 - 6

ELEVATION - 4095'.

CASING - 2'

ACTUAL ELEV. - 4097'.

127' - 132' (2)  

---

3970

318 - 327 QUARTZITE.

FEEBLE MINERALIZATION.  
may amount to 20% - 40% Sides  
in places.

Increasingly siliceous down the  
hole.

319 - ~~319 - 320~~

well banded & folded.  
SP occurs in layers &  
folded.

322 - 327 - QUARTZITE

(Some Sericite)

consists of finely disseminated  
sulphides.

327' - END OF HOLE

CHECK

DDH-70-6

0-2' - CASING.

2-9.5 - NO CORE

9.5-20 - Graphitic schist.

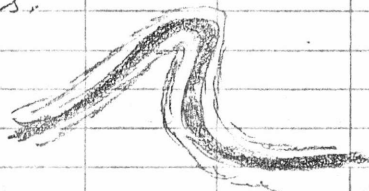
Po: 30°.

DARK Graphitic schist, highly

litic. Consists of a minor amount of py & Po. Qtz occurs as thin bands  $\parallel$  to foliation.

crenulated at 18.6.

a thin band of Po follows through folds.



possibly deposited as a band originally & folded with sediment.

20-64.5

Qtz Bio chl ser. schist: -

Foliation: 45°.

Greyish white chl. ser schist consists of Segregated

quartz bands throughout.

30' - crenulated.

Py occurs in negligible amounts at some places.

64.5-113

Staurolite Bio ser. schist: -

Po: 40°

Segregated layers of Bio. schist & Qtz impart banding to the core. Staurolite occurs as elongated laths & radiating xls.

Usually occurs as Porphyroblasts cutting across foliation & micas are bent around staurol.

Py is essentially associated with Qtz veins and amounts to negligible.

95' Hairline stringers of Py.

112' - Po - 55°.

112-116 - Qtz Ser. Graphitic schist.

Po - 52°.

Continual like Gr. schist band, easily swabbed. Minor Po.

116 - 145

QUARTZITE contact abrupt,

Broken core, difficult to obtain  
the dip of contact.  
Possibly  $55^\circ$ .

Greenish to grey white Qtz

consists of disseminated sdes.  
Occasionally segregated bands  
of SP & PY.

Qtz is sugary in texture &

some of it appears to be  
rexed as suggested by bands  
of Qtz veins that occur at  
various intervals.

PY is the abundant sde with  
cracking & filling various  
fractures. Spongy PY is  
seen at various places.

126' - 127'

Qtz Ser. Schist

Po! -  $52^\circ$

At the contact, abundant PY.

127 - 145

Dissected sdes in Qtz cont. &

132 - 132.5 - Rich in PY.

134 - Banded sdes,

Banding dips at  $60^\circ$ .

PY bands & some Po,  
ch. PY as specks.

139 - Dissected SP concentrated  
over 6" wide Qtz.

143 - Bonding dips at  $65^\circ$ .

Sphalerite vein 11' to the  
axis of core.

144 - Gavein & SP vein filling  
fractures & cavities.

145 - contact with  
massive sdes.

Contact dips at  $65^\circ$ .

145 - 306

MASSIVE SULPHIDES.

Coarse sandy PY, G and P  
association.

151 - 152 - Higher up, <sup>2</sup> of G.

Qtz & PP form the major gangue  
throughout. In siliceous zones,  
the sulphides are dissemi-  
nated.

PY occurs as porphyroblastic  
and coarse oolites.

massive dol conts.

302 - 303 - Rich in PY.

306 - ABRUPT CONTACT

WITH Qtz Sev. schist.

Highly altered &  
clayey in places.

Alteration extends to

311.5!

306 - 328

Qtz Sev schist:

Alteration conts to the  
ent of hole. clay &  
cavity suitable.

Minor veins less of  
sulphides observed  
in some places.

328' - END OF DDH

4065  
0030 187-470

70-4-

~~4204~~

3978 4762

~~187~~

3960

4017

3925

~~4017~~

4204

4015

169

~~187-189~~

4035

~~187-184~~

{ 136 - 1340 }  
140 - 145 }  
145 - 149 }

Started from 169.

70-4

0-21.5' - NO CORE.  
DRILLED WITH TRICONE BIT &  
NO CORE SAVED.

21.5 - 86

Staurolite Qtz Biotite chlomite  
sericite schist: -

Fo: - measured at 45' - 45'

21.5 - 30' - core mostly  
leached & oxidized.

28 - pyrite associated  
with Qtz veins.

32 - 34' - crenulated.

Staurolite occurs as porphyro-  
blasts & coarsely segregated  
throughout the schist.

45' - Andalusite associated  
with quartz. Also coarse  
blaky sericite.

Similar schist continues.  
Staurolite occurs as coarsely  
and connected together as  
ribbons and following foliation.

86 - 136

Staurolite Qtz chl. ser.  
schist: -

Fo: - 45'

There is a gradual  
decrease in Biotite &  
the contact is only gradua-  
tional. Still Biotite occurs  
at some intervals but  
not prominently.  
No change in foliation.

finely disseminated Py occurs  
at various places.

129-136 - Highly siliceous  
and is actually obs. ser.  
schist.

136-149 -

### QUARTZITE

contact: -  $5^{\circ}$ .

Contact of Qtz ser. schist  
against massive ste. Foliations  
also dip at the same angle.

141.5 - 143 - A Band of  
obs. ser. schist.

Fol. -  $5^{\circ}$  very iller  
contact as above.  
Remarkable coincidence.

143-149 - Sulphides.

149-169 - Quartz  
ser. schist.

Contact very arcuate,

$15^{\circ}$  -  $40$  -  $35^{\circ}$ .

Pure ~~obs~~ white obs. schist  
and only a small amount of  
disseminated Py.

168-169 - Highly bleached.

169-469

### SULPHIDES.

170-172 - Rich in Galena,  
& some sphalerite

172-469 - SULPHIDES.

469-482 - Quartzite.

- Disseminated  
sulphides.

482-487 - QUARTZITE

-  $\approx 1\%$  -  $2\%$  Py. occasional  
small Ga.  
487 - END OF DDH 1.

DDH - 70-8

ELEV -	4264
	<u>218</u>
	4046
	<u>6</u>
	40

218 - contact; Arcuate with massive beds. but in general sharp & dips at 75°.

0-17' - no core.

17-113' -

Quartz Staurolite chlorite

ser. schist: -

0-17' oxidized little chlorite until 110'. 17-110 qst ser schist

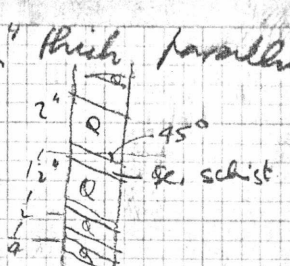
110-113 weathered qtz st chlorite in sch.

113'-127.6' qtz chlorite ser schist some andal/qtz porphyroblasts

127.6-159' qtz ser schist with andalusite/qtz porphyroblasts from around 133'-141'

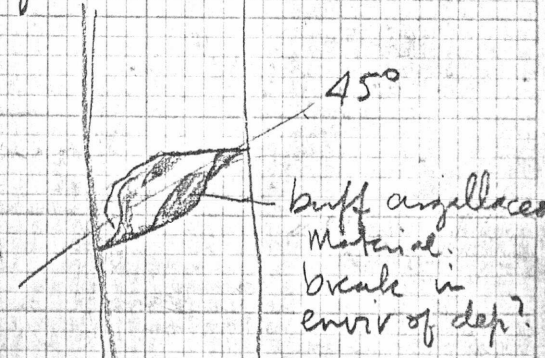
159-161' Eate ser schist At 161' becomes much more qtzose with what appears to be

qtz veins (?) up to 1/2" thick parallel to schistosity (45°)



162-218' qtz biotite ser schist with large (up to 1/2" diam) augens of qtz surrounded by ser and large (up to 1/2") lenses of biotite on fold axes. foliation coarse and irregular trends around 5°

At 218 there is a curious argillaceous surface as follows:



Sharp contact at 218 with quite bearing strong fine chalcopyrite, galena pyrite. Continues to 293.6' at which point diminishes rapidly until around 294'



0-8' no core

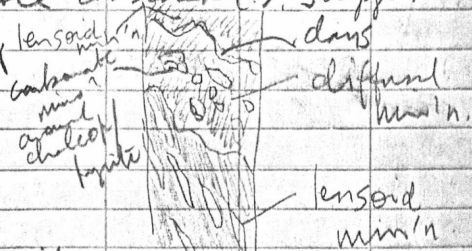
8-159 qtz sericite biotite schist with  
some chlorite  
little weathering at top some  
clays replacing discrete chlorite  
layers to around 25'  
foliation often coarse except  
where sericite begins to dominate.  
Large qtz blebs (up to 1 1/2" thick)  
incorporated from 8'-28'.  
fo. 5°-10° except at 40'-41' where  
vertical  
from around 92' to 130' considerable  
and chlorite / qtz assoc.

159-161 massive sulphide with qtzitic  
gangue (incipient layering)

161-161.1 qtz vein.

161.1-161.3 sericite schist

161.3-162.8 alternations of micaceous layers  
which are to some extent demarcated  
by clay infillings and in one case  
a possible carbonate (?). Suggests  
shumping lensoid in



162.8-163.1 much evidence of breccia including  
sheared surface of chalcocyanite  
presumably crossing core at ~60°

163.1-168.5

6" layer of massive sulphides  
including pyrrhotite, chalc, py  
etc. has incipient banding.  
Probably quite complex and  
related to migration of silica  
in shear zone (?) above and  
below.  
Remainder of this portion is  
much fragmented clayey material  
with relicts of schistosity (N 80° to  
N 110° E) and with relicts of sulphide  
(massive pyrrhotite) intercalated  
by black clay grading into  
a green (cupriteous) clay  
chore.

168.5-170

raggy sulphides in qtz.

At 170 feet there is a fracture (N 5°/hor)  
with cryptocr silica cementing.

170-174.5

further raggy sulphides cementing  
with massive sulphides and  
on occasion contained within  
massive layers. further  
appearance of silica cementing  
and clayey material

174.5-176

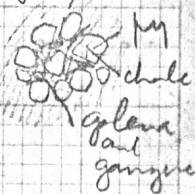
massive sulphides

176-183

mainly coarse granular  
sulphides py/chalc, ga, qtz matrix  
Some raggy portions  
recur as dolites in matrix  
soft weathered(?)

183-183.2

Schist probably  
mylonitized.



- 185.2-187.5 further granular sulphides  
 187.5-187.7 waxy argand with incorporated, sericitic material in bleb 1" x 2"  
 187.7-192.5 clayey material with some sphalerite (?)  
 192.5-198.5 mainly further granular sulphides.

198 ft 6" end of DDH

70-10 PDH

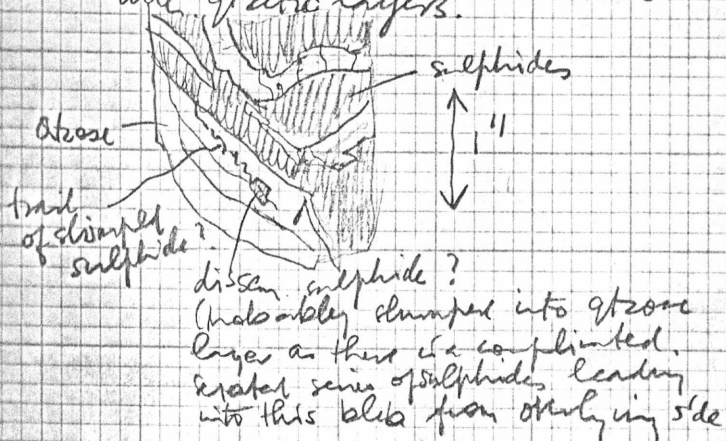
0-20 no core

- 20-89 at or around 20': biotite granite fairly weathered to deeply weathered (ferny areas days) gte ser biotite schist. Much of biotite altered → ferny weathering products,  $\phi$ : 40° to vertical. Coarse fol gte ser andalusite biotite schist with little weathering and coarse foliation (andalusite/biotite on axes of folds)  
 89-128.5 at ~19'  $\frac{1}{2}$ " band of sulphides:



- 123.5-138 ser gte schist with very steeply dipping foliation (much of it bent).  
 138-141.5 gte ser schist with DISSEM sulphides and some much contact gte veins  $\phi$  50°

141.5-182 high contorted sequence of <sup>fairly massive</sup> disseminated sulphides and veins of galena alternating with quartz layers.



At 145' becomes waxy through to 149.6'

- 149.5-182 banded gte  
 152-192 mylonitized(?) gte with dissem sulphides  
 192-193.5 sericitic gte  
 193-200 gte with some sericite  
 brecciation at 200' fault??  
 200-261 contorted banded gte with some venets (?) of dissem sulphides  
 261-279 banded sulphides (up to 10% in restricted bands  $\frac{1}{2}$ " in thickness)  
 279-325 slight sulphides (dissem). Intrusion  
 325' - bottom of DDH

70-14 ELEVATION - 4138'

0-16 - NO CORR.

16-52

Qtz Graphite chlorite schist.

16-25 - Highly crenulated.

Silica occurs as ~~veinlets~~ veins and bands

as disseminated throughout the

schist.

35' - Fo - 35°

33-34 - Stannolite occurs as coarse porphyroblasts, foliation curved over.

The schist is highly crenulated.

52-182 - Quartz Biotite Sericite

Stannolite chlorite schist: -

Fo: - 30°

52-105.5 - Biotite occurs

upto 15% of the total rock

and further down decreases

from negligible to 2% and

occurs as various irregular

intercalations.

well developed schistosity

often the planes filled

with Segregated Quartz

bands.

Crenulations are quite common.

Stannolite occurs as porphyro

blasts & schist contacted around

the peripheries.

Silica is disseminated throughout

and occurs as banded as well.

Pyrite occurs along fracture

planes & as disseminated at

various places, but not exceeding

1% by volume.

Most of the pyrite is essentially

confined to Qtz stringers.

179-181.5 - FAULT ZONE.

182-184.5 - QUARTZITE

GRADATIONAL CONTACT.

Though the core is essentially massive, the leucite occurs in a minor amount. It consists of disseminated sulphides and mostly pyrite. Galena occurs as thin veinlets.

184.5 - ~~213~~ 315'

MASSIVE SULPHIDES:

ABRUPT CONTACT.

184.5 - 193

Banding - 45°

Most predominant metallic mineral is pyrite and amounts to 30%.

Galena & sphalerite occur as segregated bands.

Qtz is the prominent gangue.

193 - 229

Massive Sulphides

Coarse sandy sulphides consist of 70% sulphides and the rest made up of quartz gangue. Some Fe as pathic matter is noted at 213'.

229 - 230 Enriched in Pyrite.

Galena occurs as coarse xls and sphalerite form stringers.

230 - 265

Massive Sulphides continued. Sandy sides mainly composed of Py, Gal & Sp. The ore minerals occur as individual grains bonded together. Silica forms a minor gangue.

At 264 - Enriched in Qtz. Wuggy core - leaching.

265 - 279

Massive Sulphides.  
Same as above.

279' - 279.5'

~~279' - 279.5'~~ Fault Zone.

clayey material - kaolinite & altered feldspars.

pyrite occurs as coarse sandy grains and easily friable. Appears to be later deposition. Galena occurs as thin stringers & coarsely xre.

279.5 - ~~315~~ 315

MASSIVE SULPHIDES.

295 - ~~315~~ 300'

FAULT ZONE.

clayey - Altered feldspatic material & sericite. within this zone occurs highly enriched sphalerite that is easily friable. (sample taken).

Mineralization is not continuous and is only predominant Galena & pyrite.

pyrite crystals are of band size and form an aggregate that are easily friable.

Further down 300', the main sulphides in pyrite.

315 - 316

essentially quartz vein. leached and partly friable. sphalerite enrichment & occurs as veinlets. Some sericite is present.

316 - 318.0

~~316 - 318.0~~ Fault Zone. Sericite.

Composed of quartz, sericite material.

Grains in places are partly replaced by post fault chalcopyrite mineralization and pyrite. Ga & SP.

318 - 322.5 SERICITE SCHIST

Highly crumpled & friable

Sericite schist. Qtz occurs in a minor amount.

322.5 - 333.5

Quartzite:

Banding -  $55^\circ$

Massive coarse grained sugary

Qtz with sparse mineralization.

Main Sulphide is Pyrite and sulphides occur as banded in places varying from 3% - 8% and in places as high as 20%. Sericite is present at a few places.

323 - 324

Vuggy and Sulphides amount to 50% and the rest composed of mainly by Qtz & a minor Sericite.

324 - 333.5

Banding -  $25^\circ$

Quartzite, sugary consists of banded sulphides - mainly Sphalerite, chalcopyrite occurs as minor stringers - cutting across banding.

331 - 333.5

Further down the hole, the mineralization is negligible and increased in Sericite.

333.5 - 345

Fo:  $60^\circ$

It is essentially sericite schist and the foliation is flattened. No mineralization is observed except for a minor amount of Pyrite that occurs erratically (probable Ground water deposition within vugs & other spaces - fractures etc.) In places the sericite is very coarsely foliated.

335 - GARNETS

345 - 376 - Quartz Stawr. Schist

An enrichment in silica and occurs as finely disseminated throughout the schist.

Staurolite appears to a minor amount and occurs as porphy to blatt, the micas bent over the coarse staurolites.

Fo: -  $12^\circ$

Foliation gradually steepens and at 372 measures  $12^\circ$ . Core is highly unmineralized and Qtz segregates into bands.

376-384

Qtz Ser. Schist:

376 - FAULT CONTACT.

376-377 - FAULT ZONE.

Highly Brecciated & altered.

Sericite becomes highly silvery and occurs as small flakes that are easily friable.

Immediate to the fault zone & within, Galena occurs as coarsely xne veins up to  $\frac{1}{2}$ " wide.

377-384 - Enrichment in Sphalerite.

377-378 - The core is composed

of 45% Sphalerite and the rest is made up of orthoclase feldspar that altered to kaolin. Feldspars occur as coarse rounded grains scattered in Sphalerite and impart an appearance of salt & pepper.

Qtz veins cut through this association & carry very coarse xne Galena.

~~This is a fault zone~~  
378-384 - Sphalerite

FO - 15°. Steeping may be due to faulting.

It occurs as disseminated throughout the quartzite. Sericite occurs to a minor amount.

384-386

Same as above.

Mineralization is very sparse.

386-414.5

QUARTZ SERICITE SCHIST:-

392 - FO - 55°.

Quartz Ser. Schist conts.

Staurolite occurs occasionally.

397 - Fault zone.

Proximate mineralization at

397.5 - 398 cutting across banding & foliation. Dip - 2°.

399 - Banding - 48°.

399-400 - Finely disseminated Sphalerite.

402-403 - Qtz vein carries coarsely xne Ga for 1".

405-405.5 - Vein Qtz,

SP & Ga - ~~coarsely~~

coarsely filling cavities, here and there.

406 - fo - 35°

408 - 409.5 - vein quartz.

409.5 - 414.5 - Qtz Ser. Schist  
continues with veins Qtz here & there.

414.5 - 415 - fault zone.

415 - 416.5 -

Pyroxenite, Sphalerite & Ga  
association.

Massive in character & bedding  
fault zone.

416.5 - 439 - Staurolite

Quartz Sericite schist:

421.5 - fo - 45°.

416.5 - 422.5 - Bleached.

423 - coarsely segregated  
Staurolites.

423.4 - 423.6 - Sphalerite  
occurs coarsely.

424.5 - 424.8 - Sphalerite  
occurs as patches, irregularly

cutting across foliation. Feldspar  
is coarsely disseminated in sp.

alter to clay.

427 - 439 - Qtz Staur Ser.  
Schist continues.

439 - 513.5 -

Qtz Staur. Bio. Ser. Schist.  
fo - 49°.

With an increase in Biotite the  
core passes into Qtz Staur Bio Ser  
Schist.

Qtz occurs as segregated  
bands & as disseminated.

470 - 471 - fo - 5°. Probably  
due to folding locally.  
Crenulations are quite common  
in this part of the

513.5 - End of DPH

70-16 COLLAR - 4143'

18 - 5'

23

24 - 2'

25 1/6 - 1 1/2'

28 - 2 1/4'

30 - 2'

32 1/4 - 1'

33 - 1 3/4'

35 - 2'

36 - 1'

37 - 3'

39 1/6 - 4'

43

45 - 2'

48 - 2 1/4'

50 - 3'

50 - 3 1/4'

52 1/6

DDH 70-5

Footings

217'  
— 10.5      299 — 6

227.5'  
— 4.5      303 — 4

233  
— 10      318 — 5

243  
— 7      327 — 9

250  
— 4

254  
— 10.5

264.5'  
— 4.5

270  
— 2.5

273  
— 3.5

276  
— 0.5

279  
— 7

289  
— 3

293

70-1

0-1 - COLLECT

- 5

1  
5 - 0.5

178  
- 10

10  
- 0.5

188  
- 10

15  
- 0.5

198  
- 9

18  
- 14

207  
- 5

33  
- 5

213.5  
- 2.5

38  
- 34

216  
- 7

72  
- 12

223  
- 9.5

84  
- 9

232.5  
- 9

93  
- 19

241.5  
- 7

112  
- 25

249.5  
- 1.5

127  
- 7

251  
- 0.5

134  
- 39

253  
- 3.5

173

257  
- 11.5

268.5  
- 9.5

278

- 19.5

298

- 23.5

321.5

- 9

330.5

332 - 1.5

335 - 3

340.5 - 5.5

350.5 - 10

370.5 - 20

373 - 21.5

393 - 20

70-2

35	- 30	235	- 5
52	- 17	240	- 5
56	- 4	245	- 5
60	- 4	250	- 4
68	- 8	255	- 4
74	- 6	258	- 3
88	- 14	262	- 2.5'
122	- 34	264	- 0.5'
127	- 5	266	- 1.5
139	- 12	267	- 0.5
155	- 16	270	- 2.5
176	- 21	272	- 0.5
189	- 13	275	- 2.5
192	- 3	280	- 3.5
195	- 3	290	- 6
205	- 10	293	- 3
220	- 15		
230	- 10		

304	- 8	412.5	- 7.5
311	- 4	422	- 9.5
323	- 12	433	- 11
333	- 7	445	- 12
338	- 4	450.5'	5.5'
343	- 4	468	- 17.5'
346	- 3		
352	- 5		
360	- 7		
365	- 5		
373	- 8		
380	- 6		
383	- 3		
391	- 8		
395	- 4		
397.5	- 2.5		
402	- 4		
403	- 0.5		
405	- 2		

50,000 tons.

800  
15  
100  
60  
25  
180.

\$1800 Ton

5500	—	5500	00
3000	—	4500	00
1000	—	4000	00
1000	—	1000	00
1500	—	1600	00
2000	—	4000	00
1000	—	1750	00
		<u>22,350</u>	00

5 Ton truck

1 Front end loader.

1 Rotary Drill.

1 D7 cat. ripper.

Det:

Subst:

Equip:

Mater:

Daily Prodn. Required — 150 Tons.

320  
48,000

1 Year Prodn. to mine the deposit.

1 engineer.

1 mechanic

1 " " helper.

1 cat oper.

1 Rotary Driller

1 Blaster

1 " " helper.

1 Rotary drill oper.

1 Labourer.

40 loads.

10 hr. shift.

90,000,000

22,100

10' t.

500' r.

30' w.

15,000 with

6

25,000 tons

50' r.

15' t

40' w.

300,000  
6

50,000 tons.

750 tons.

45,000 tons

2 months

180

50,000

\$ 90,000,000

Bayland

2

1,500