676667

Sullivan Mine

Dennis Mercer — Mark Brown (mine manager)

1941 – 1981 — Vic Mann Geo; Jane – Geo

15000 tonnes tin concentrate

9000 tonnes tin metal

– built a smelter in Marysville – 1903

– closed in 1909

– 1910 – 1912 picked up

– in production since 1923 with mill

– current minable reserves

5.5 mtonnes

~~B.6~~ % Zn 3.6 % Pb

19

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DUKSBAK WATERPROOF

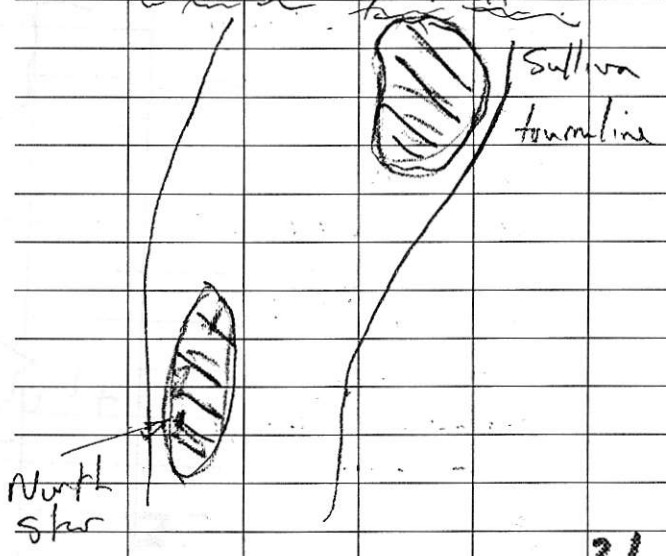
LEVEL (S)

- 2 km down, 2 km west on north side of Kimberley Gault

- drill two years ago found I laminations and then hit a fault
- have off hole anomaly to the east
- possible to be as large as Sullivan
- argillite like putty 8500'
- probably have to be shaft
- can't wedge (don't only)
- Mark Creek slide
- natural acid rock drainage
- Lower Aldridge has Pb 3%

Kimberley Fault
- normal - north dipping

- flat thrust fault in lower part of ore bodies in last / couple of weeks
- some doubling up of the bands
- on the NE side Kimberley Fault



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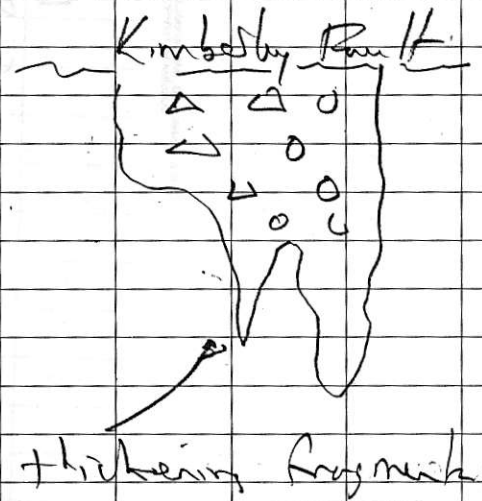
LEVEL (S)

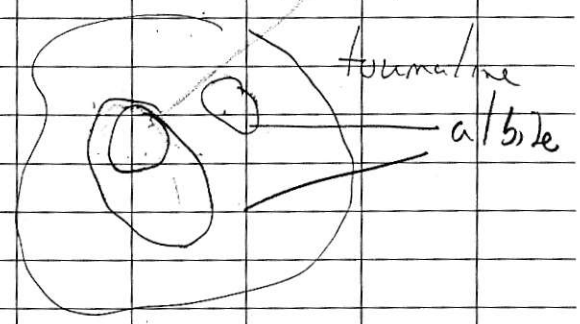
Western One – more Pb-rich
Eastern one – more zinc-rich

– up to 50% sulphides in tourmalinite – too hard to mine
– some places it grades to ore values



- some intense folding with overlying beds less contorted
- albitite - has no cohesive strength
- just pyrite - no economic sulphides
- angular clasts

- iron core - pyrite - chlorite - zone not mined in orebody



B Band - triplet
- good marker

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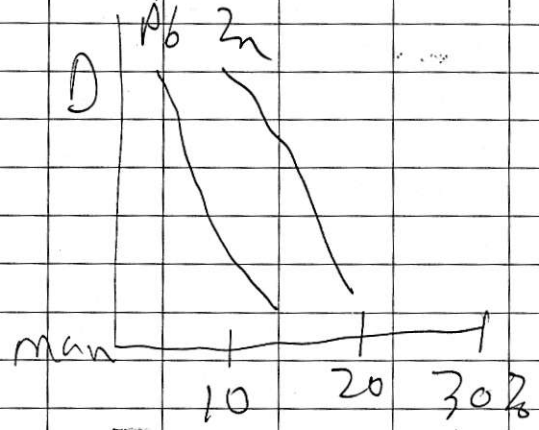
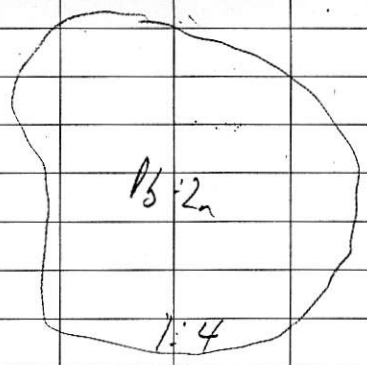


bands show varying degrees of syn-sedimentary folding which tends to be characteristic of the band laterally

? why slumping on one surface and not on one above
<in Blaiminee



- pyrrhotite replacement ex core extends into pyrite-chlorite core
- albitization could have come thru iron-core - late stage

- gabbro - later but not known to cut ore

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LEVEL (S)

- pyrrhotite - late replacing sulphides

Geo: Sullivan
- Vic Mann, Jaine

- down to 2670'

Underground Tour

#1 Decline – conglomerate
G1330 cutout – "

Δ1 first cutout –
footwall argillite
– 1/3 – 1/2 m
– 70 to 80' below orebody
– west zone

Δ2 stellated o/c. with
wacke – lighter-coloured
clasts in gray wacke
– <1/2 m bedded

Δ3 further along get
gabbro block
with po

Δ4 #3 cutout
tourmaline
– 120' below orebody

LEVEL (S)

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- white precipitate on tourmalinite may be gypsum

- up to 0.1% Cu in mine
- don't analyse for Cu

Mill Tour - Sullivan

Sunny
P

May 9, 1999 Dave Van Dieren
Trygve Hoy
Joan Hestreth

Sullivan Concentrator
- works 5 days a week
- not at capacity
-

-

Δ1 trains -

use float & sink
with 3/4"
- pile - galena nodules
from concentrate
375 - 400 tonnes per day

now making highest grade
concentrates even though
ore big. & lower grade

LEVEL (S)

R. D. PENHALL LTD., MADE IN VANCOUVER, CANADA
DUKSBAK WATERPROOF

1993 – $8 million
expansion
– tower
– grind to 17 micros

North Star Hill (road)
– Middle Aldridge o/c

Bouma Cycle
– sketch
E
D
C
B
A

every combination
– coarse gnostly common
– Can see flute casts
– gypsum twins
(swallow tails)
pseudomorphs
– evidence of brine
+ evaporites below

- oxidizing conditions

Δ2 Hiwatha Marker
one of lower ones
- 300 to 600 m above Sullivan

top Hiwatha
Lamb
bottom Sullivan

- approximately 20 markers
- easily scoured out? as don't find them everywhere
- laminae will thicken but sequence the same
- can match laminae on slabs with different thicknesses by tilting slabs

Genesis
1 - black layers are algal blooms with included material
2 - water column turns over in Red Sea
- possible

R. D. PENHALL LTD., MADE IN VANCOUVER, CANADA
DUKSBAK WATERPROOF
LEVEL (S)

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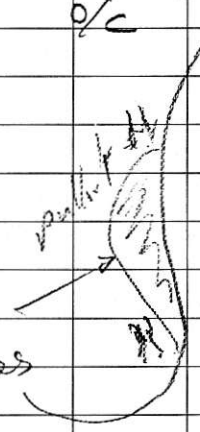
③ Gulf of California
- get laminae
-

dust storms
- deserts access
-

- all recrystallized
- dated? - zircons?

△ Stop – Mayne sill &
fragmental
– types of fragmentals

△ Stop Toby Conglomerate
– Windermere
– big pull out
beside big green
o/c



= Rapitan to north
= Rapitan has drop
stones – diamictite,
– carbonates up north
– Mt Nelson granite clasts
in granitic matrix

LEVEL (S)

33

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