

908600
Manager Mike Lipkawich
Ian ~~Oliver~~ Real Helper Ian ~~Lipkawich~~
Inspector Jim McCulloch
Can Met Bice Craigen
Apson Smetton Wolf Nickel

Nicola CLR has chd altn
calate veins + pockets
of ep-py-magnetite

underground ore

1.55% Cu

0.45 oz/ton Au

0.16 - 0.18 oz/ton spe. Pt

≈ 1% copper

Dorado drilling
a 2000' hole

Lakewood Mining
also drilling

Mill

Nature Cu - rel cg -
separated by gravity (shaking
tables) - rest by flotation

Converter 2200°F
when mat^e added
(charged)

gas off cooled to 650 then
to ^{dust} precipitator - leaves that
at $\sim 500^{\circ}\text{F}$ then to SO_2 &
then H_2S scrubbers

Flux - burnt lime
to form a Ca silicate slag

Smelter

Float conc slurred &
dried

Dust from Top Blower Rotary
Converter collected
electrostatically then slurred
with lime to get pH to ~ 10
(eliminated corrosion problem)
- slurred, then back to
thickener.

mix of gravity
CHARGE - float concs. used
OXIDIZE (to remove sulphur)
REDUCE (add coke -
actually a deoxidizing step)

Fe in blended con avg
3-5%

Gravity conc. avg 50% +
Float " ~ 50%

Ball consumption $\frac{1}{4}$ P/ton

Normal smelter - fayalite
system - add SiO_2 not
burnt lime to get rid
of the Fe from the cpy

charge + 2 slag skim (actually
decanting) processes takes ~
6 hours.

SLAG - hand checked for
escaped copper + also
recycled - 1st cycle leaves

5% Cu then recycle get ~
65% of it - Copper oxide
probably

* Skimming is removal
of slag - after 2 skims -
have ~ 50 tons of molten
copper with some sulphur
(~ 2%) in the vat
Blister Grade 99.1% Cu

End point - operator takes
ladle of melt + pours a
mold - surface ~~by~~ features
- keep on until get a
"Flat set."

coke 40-45 ^{lb}/ton Cu

leave a bit of melt in
the converter (like a
starter)

Draw off at the bottom -
do not tip

Selling blister but are

Cu 99%+ ^{anode grade}

S .004 - 01%

As a bit

Sb perhaps?

Main cost - oxygen

70-75% used for melting
16-18 tons/heat
or $\frac{1}{2}$ ton/ton of feed

natural gas - neutral
flame

~ 2 units/1 unit of oxygen
(by volume)

during the meltdown

Casting ~ 2 hrs for
50 tons

Blister trucked to Vancouver
then to customers

SO₂ scrubber

- venturi then scrub
tower

Na bisulphite used
~~as~~ scrubbing liquor.

Hg scrub - ^{rendering} just after

charging phase

T down to ~ 70°F

then gas reheated +
discharged @ 325°F
for flame dispersion +
to help fans.

SO₂ removed from
liquor by adding ^{milk of} lime
to make gypsum -

add caustic to cleaned
liquor to regenerate it.

AFTON

Nov/80

Water

4000 gpm

2000 reclaimed

2000 Kamloops lake

UBC Meeting Oct 22

Godwin - \$2000 for attachments
for cathode luminescence machine

- paragenesis studies -

Soab (Boivin) .
* student working on Devonian

carb - hosted Zn/Pb deposit
east of Kootenay Knp, north of Fernie

Enca Crossing Creek Kimberlite]*

Armstrong - carbonates -
Zr age dating.