676887

Highland
092ISW012

gas-fired dryer for coke filters - steam

Total Revenue ~ $800M
$200M for mo

Highland Valley Copper Overview

Highland Valley Copper

Ministry of Mines Presentation – April 12, 2005

Molybdenum Sulphide
3500 kilos – 3.5 tonnes in a bag

Mining began in the Highland Valley in 1962 when Bethlehem Copper went into production.

First Low Grades
early 60s

History

- Bethlehem Copper began in 1962, with mining finished in 1982
- Lornex milling started in 1972
- Highmont operated from 1979 to 1984
- Valley mining started in 1982
- Partnership formed in 1986

late 70s metal prices dropped

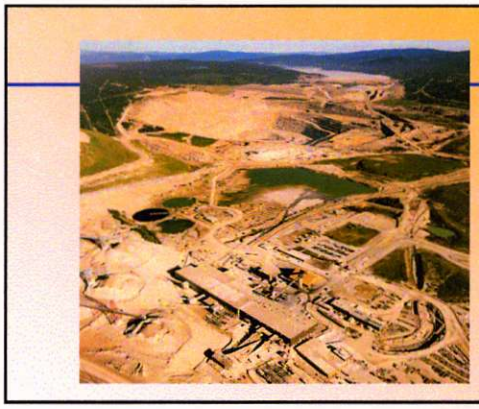
Bethlehem
most of property - reclaimed

Teck Cominco – 95%
Highmont – 5% (2.5% Teck Cominco)

Trojan Pond
- successful fishery
- Kamloops trout

Highland Valley Copper

Employing approximately 900, HVC produces about 1.4% of the global copper concentrate production and 3 % of the world's Molybdenum.



Largest Open pit mine in Canada

United Steelworkers
Sept 30/2005 – 3 year expiring

- Lornex 30% chalcopyrite, moly plus

167 Mt at beginning of 2008 - 0.43% Cu 0.007% Mo

50 Mt - 2008 - considering going 2013 adding 98 Mt

Highland Valley Copper

Ore is being mined from two pits, Valley and Lornex.

Highland Valley Copper

Mine plans are developed based on grades, rock structure and required mining rates.

high grade concentrate - close to 40% Cu - very clean

70% Valley - bornite - harder the ore, deeper in the Valley pit

25 minutes in 1970s - 41 minutes now - drilling production hole, same machine

Highland Valley Copper

Drilling is carried out by 3-BE49R drills under GPS guidance systems. Nominal hole diameter is 311mm and bench height is 15m.

$3m new

60m - 6" deep

electric

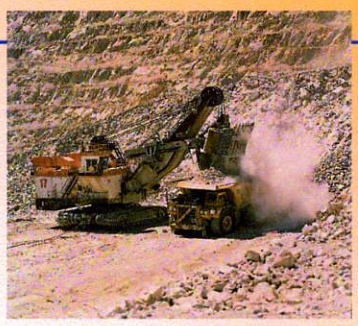
Highland Valley Copper

Blasting uses a water-resistant ammonium nitrate emulsion.

"can sleep a hole"

every second day

plastic explosive - not affected by water - can be an issue for example



Highland Valley Copper

Trucks are loaded with 4-P&H 2800 shovels and 2 - BE295 shovels.

A L-1400 Letourneau supplements the shovels.

Truck fleet consists of 12 - Cat 793's and 14 - 789's.

240 short tonne trucks 3 passes 1/11 truck

1/10 trucks older

Highland Valley Copper

Dispatch allocates the Cat 789 and 793 haulage trucks.

"Pure Products"

Highland Valley Copper

In Pit Crushing uses 2 gyratory crushers to crush to approximately 17 cm.

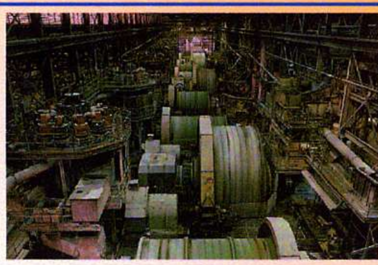
3 crushers - each process 20 mT, - in Valley Pit, moved every 6 or 7 years

Highland Valley Copper

From the crushers the ore is conveyed to the Highland Mill.

belts, 60" wide, higher tension steel and — belt - 9km

Highland Valley Copper



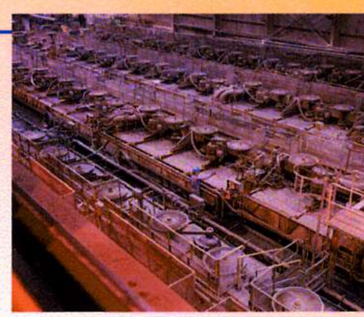
Grinding takes place in three semi-autogenous and two fully autogenous mills.

0.4%

5 grinding lines 50 mt capacity

biggest in terms of mined tonnes and milled

Highland Valley Copper



Bulk flotation produces a sulfide concentrate which is further treated in cleaner flotation circuits to separate copper and molybdenum.

- older so smaller

Separating minerals from rock materials

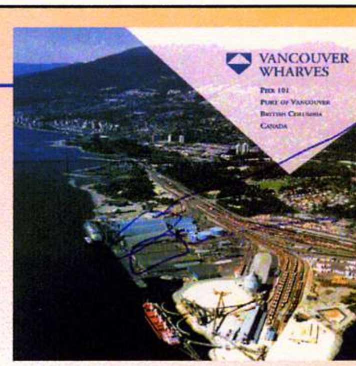
Highland Valley Copper

Concentrate Dewatering is achieved by filtration to 12% moisture, and drying to 8% in rotary dryers.

gold and silver in concentrate

very pure - no arsenic

Highland Valley Copper



Concentrate Shipping employs trucks from the minesite to Ashcroft, and rail from there to Vancouver.

Red Dog

Kelmwarka shed

Flin Flon

SA & Europe customers

moly trucked to Vancouver

additional step to remove copper - very clean

freeze up? concern?

- minimum water - 20m we m

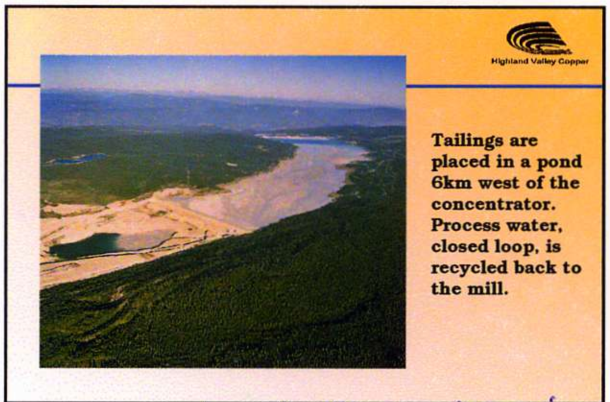
- pump from River Thompson River

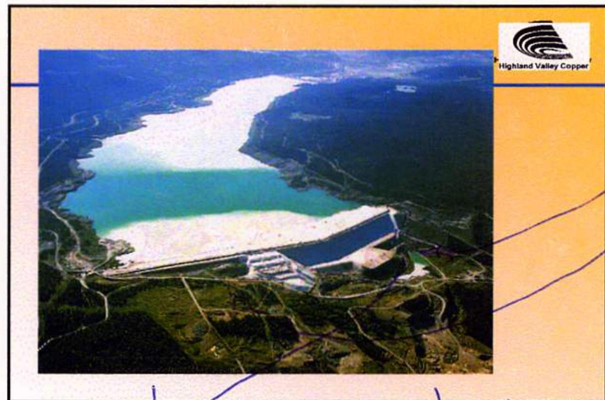
- core of dam built from coarse fraction of tailings

- make sure it doesn't fail - upgraded design with buttresses

6km by 1 to 2 km wide

capacity 2 bt - room 1 bt





50 mt of fine material annually - no discharge water

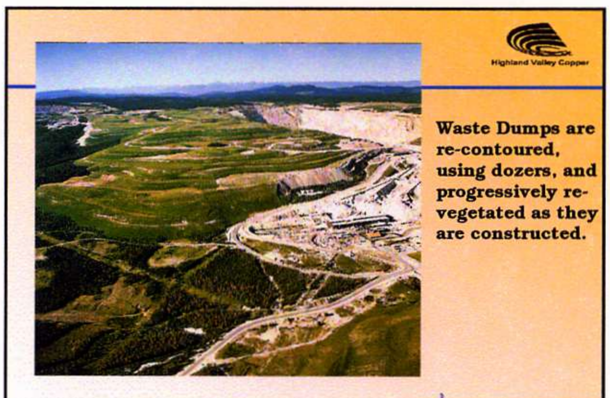
will need closure structures

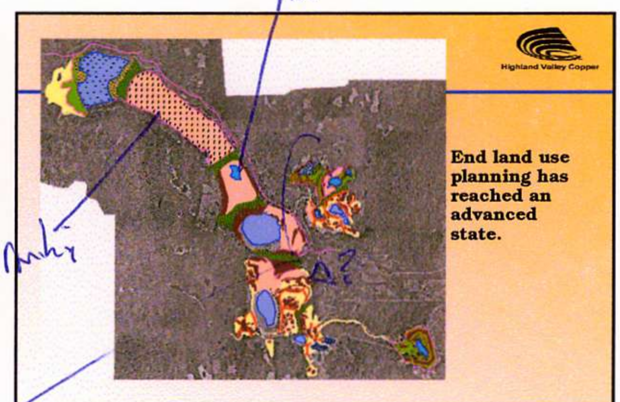
2½ km wide 150 m high

landfill

one of largest earth fill dams

- in closure have to build for maximum flood event in 10,000 years





Angling

Δ?

progressive reclamation

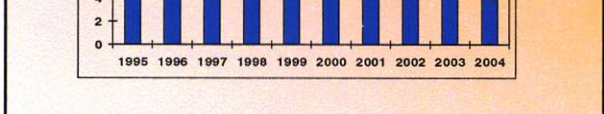
had one meeting with FN, ranchers

6000 hectares - 34% reclaimed with vegetation for a year or more

ongoing monitoring groundwater

micro hydro power facility 1 km drop

contractor (1) total lost time 41 days



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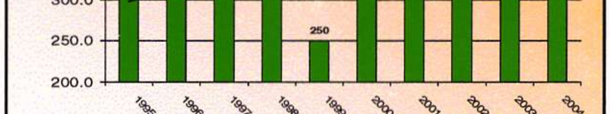


bow hunting designated on mine property (Δ)

wildlife - yellow

agriculture - beige! - grazing, ranching, hay pink pasture

(- fishes same as other - only river concern for metals, mo)

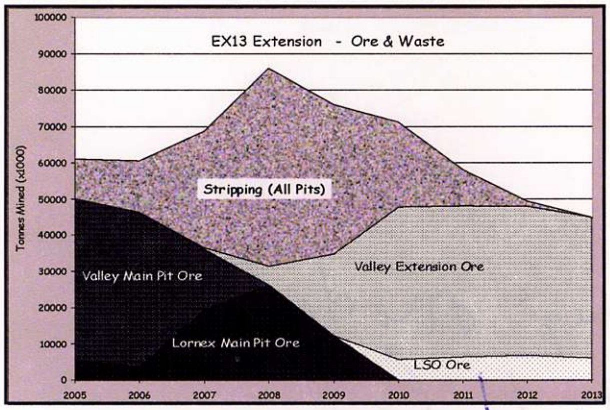
green mixed forest

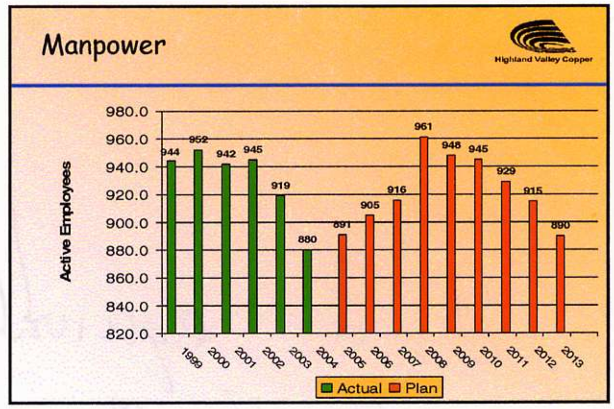
industrial use

recreational use

- gained 3mt last year because of put moly-bearing waste thru mill

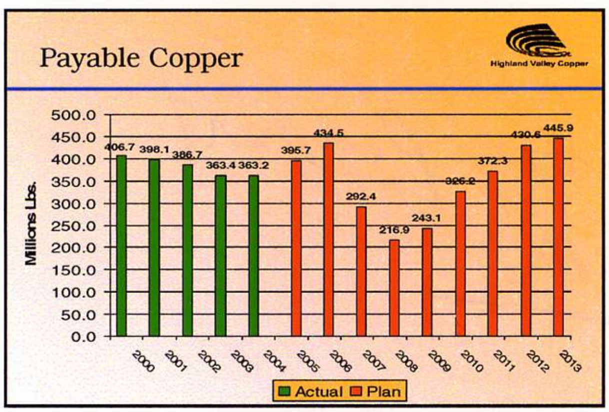
- work force used to be 1400
- Larger equipment no surveyors

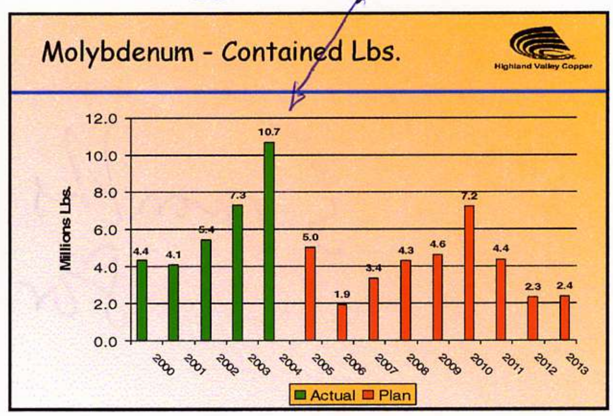




Lornex Salvage Option

(recoveries climbing from 50% low 60ies for moly)





paying $30 a ton to get ore to Asia

Tech Cominco Taxes for H.V. sent to them $50 m as well

eqt

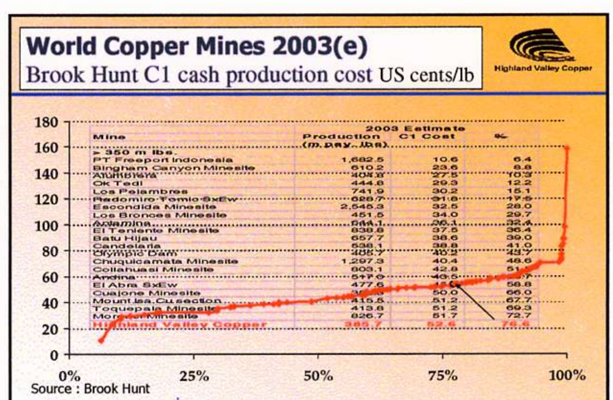
C1 cash curve - competitors curve share with ministers

Economic Impact - Annual (2004 Actual)

Highland Valley Copper

- **Total Operating Costs** = **$276.5 million**
  (includes $99 million payroll - 880 employees)
- **Total Capital Expenditures** = **$ 3.5 million**
- **Total Transportation Costs** = **$ 18 million**
  (includes Rail, Terminal; excludes Ocean Freight)
- **Total** = **$298 million**
- Multiplier Effect 2.5 x
- **Overall Economic Impact** = **$745 million**

$40m for taxes + gov fees



Vancouver wharfs railroads

Power rates could halt operation

(1) labour costs
(2) power costs - $35m
(3) grinding steel

- argued against Duke Point power project

Used equivalency model at
3 or 4 Months Ca
$3-4 or $0.75 Ca

5 months for payment
for No