

Newfoundland & Labrador Mining Industry 1993-2013

*David Liverman, Mines
Branch, Natural
Resources*

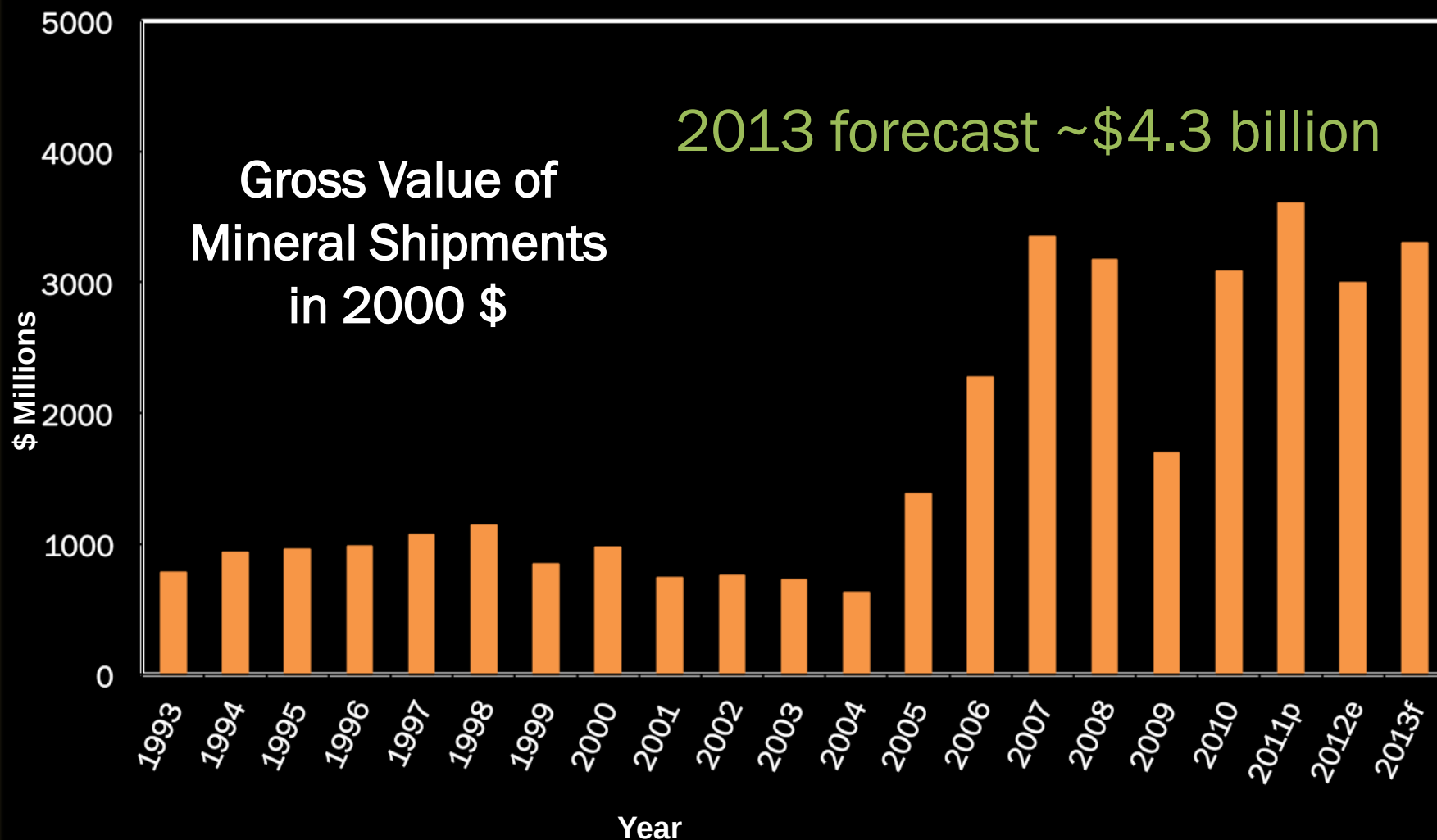




Trends

- Mineral shipments
- Commodities mined and active mines
- Employment and revenue
- Exploration statistics
- Government programs
- The next two decades

Mineral Shipments



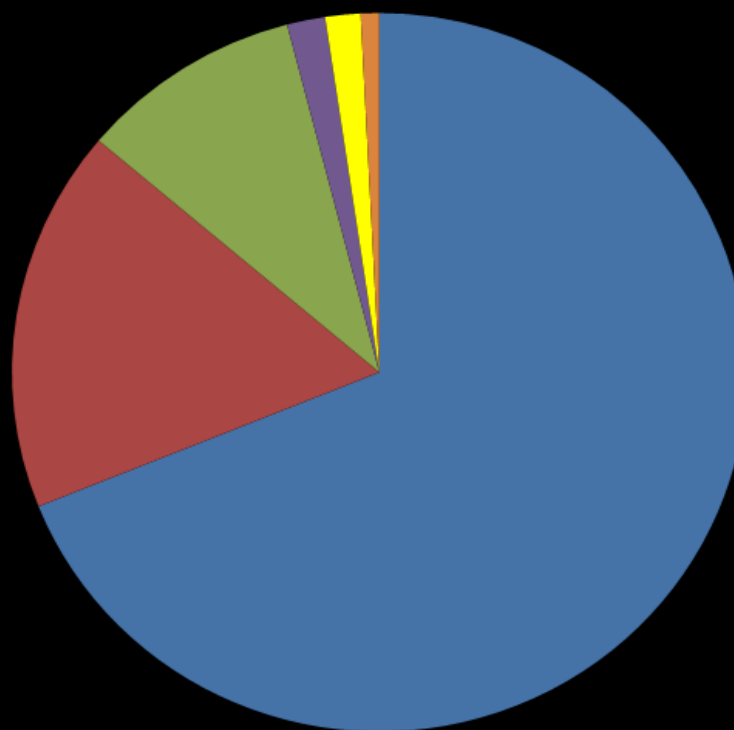
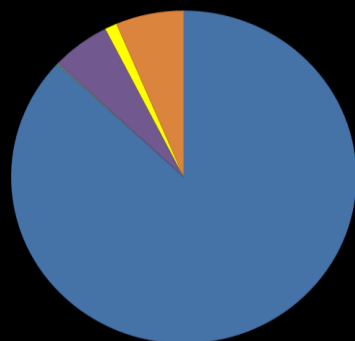
Sources: Department of Natural Resources and NRCan

p: Preliminary; e: Estimate; f: Forecast

Shipments by Commodity

2013 - \$ 4,255,688,000

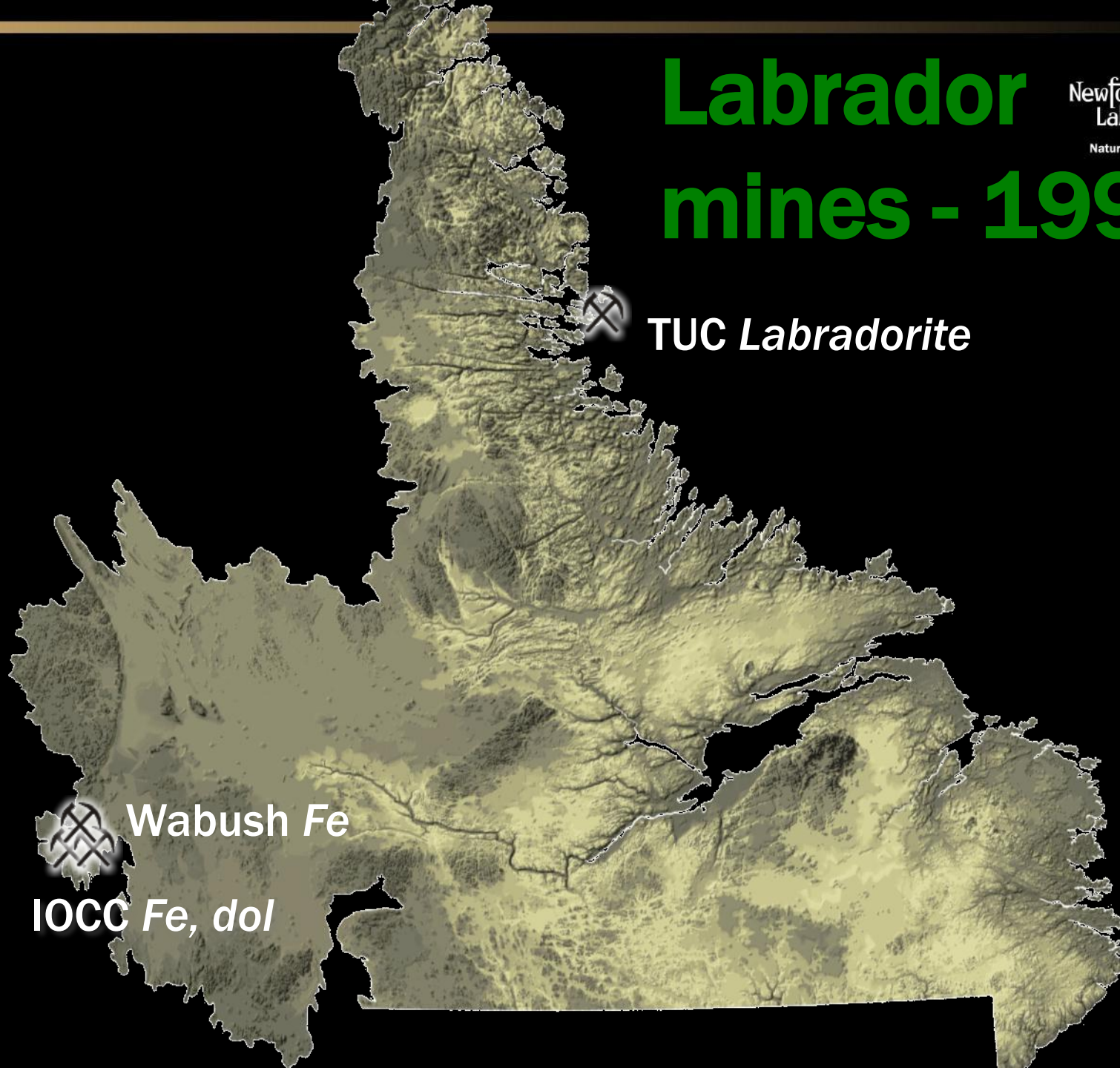
1993 - \$698,872,000



- Iron Ore
- Nickel
- Copper
- Industrial
- Other Metals
- Gold

Labrador mines - 1993

Newfoundland
Labrador
Natural Resources

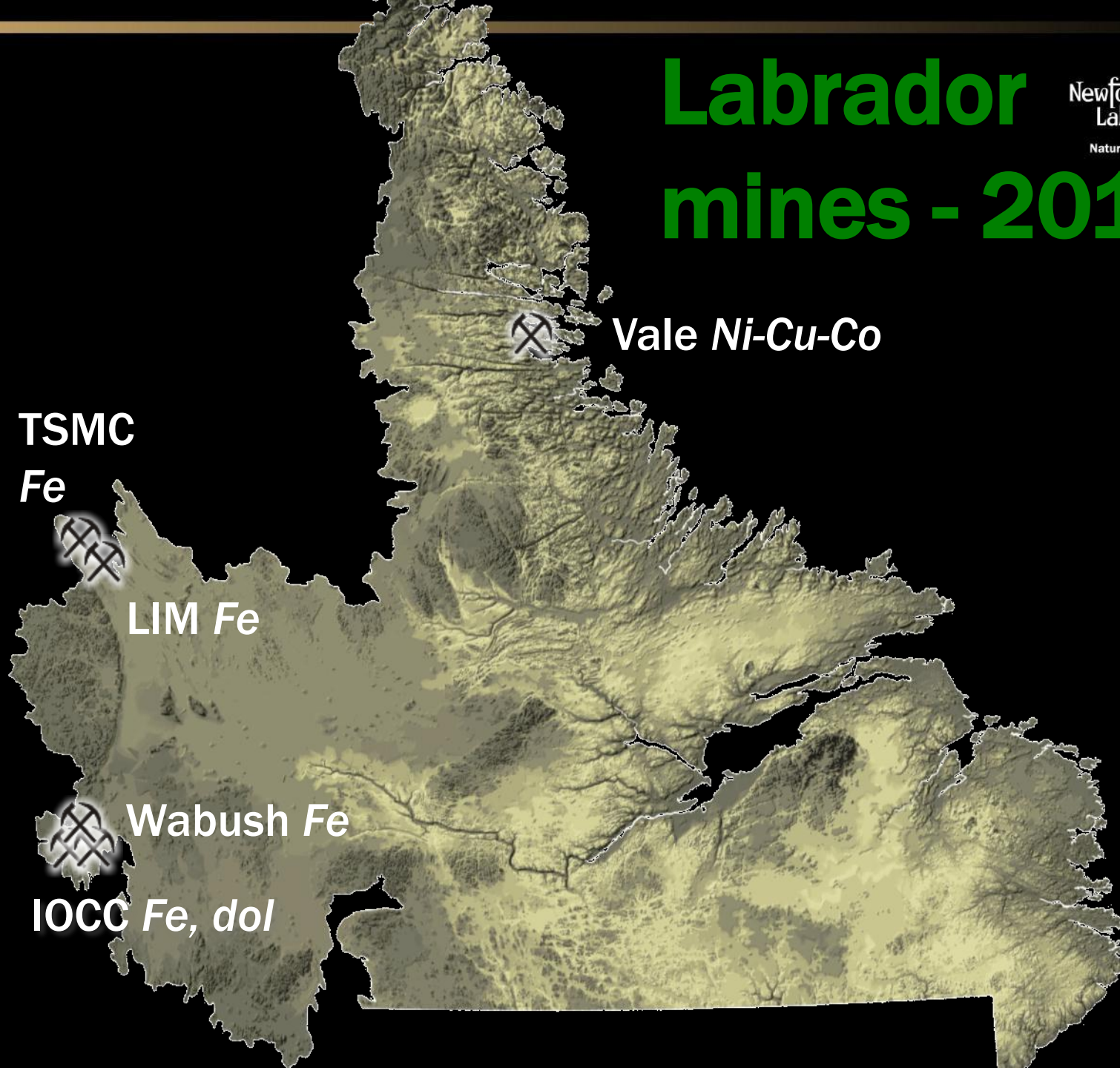


Wabush Fe
IOCC Fe, dol

TUC Labradorite

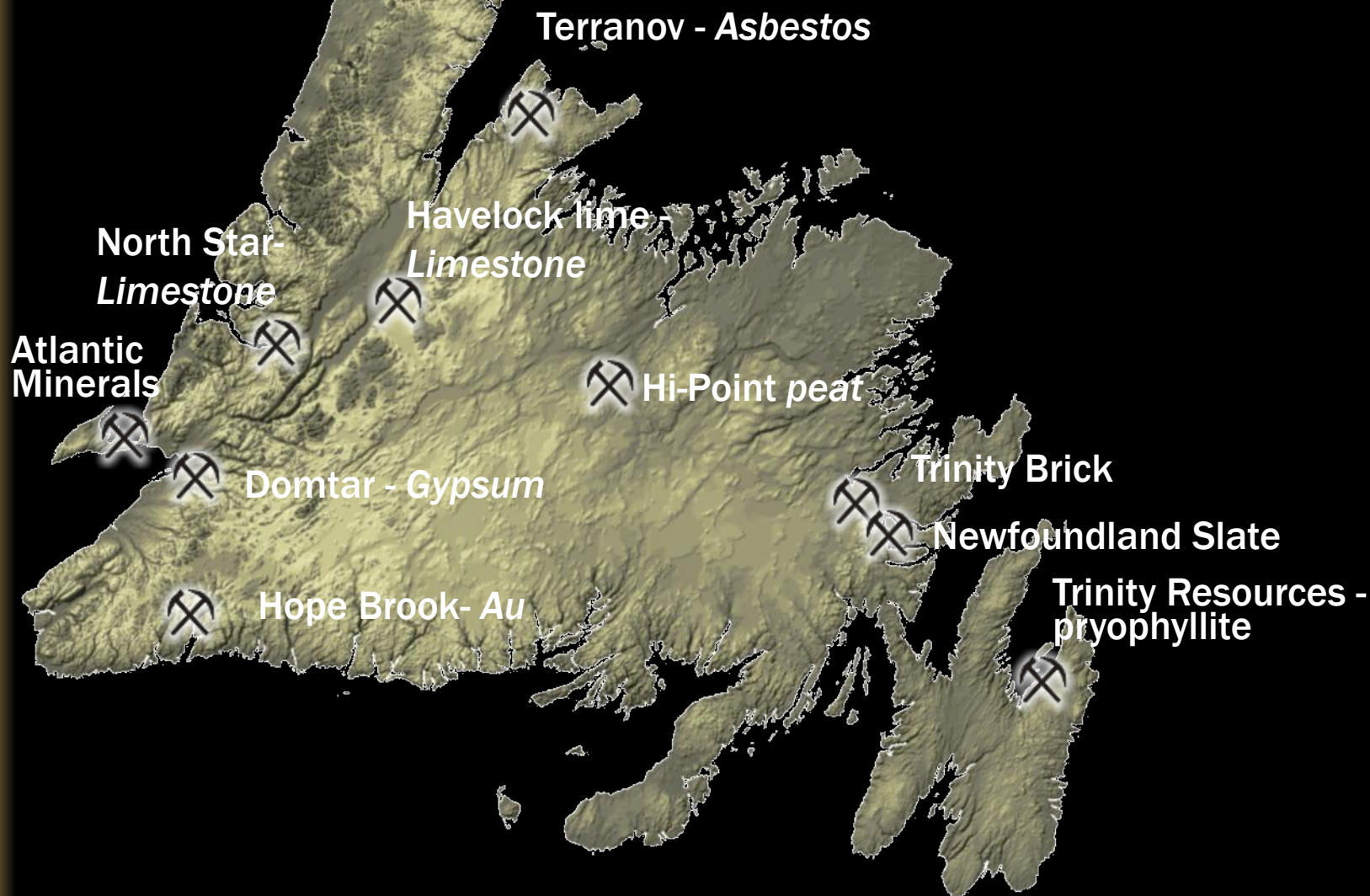
Labrador mines - 2013

Newfoundland
Labrador
Natural Resources

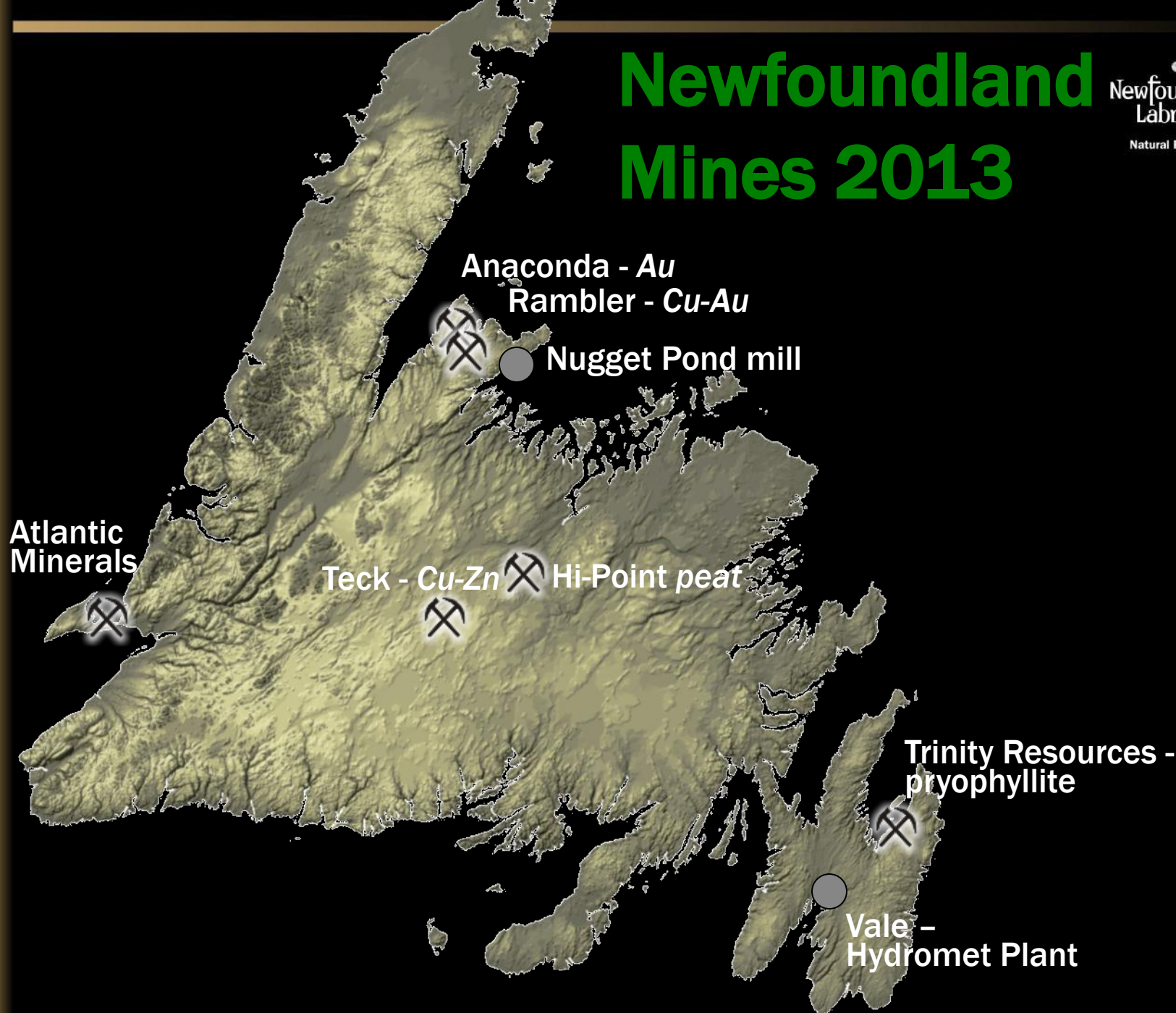


Newfoundland Mines 1993

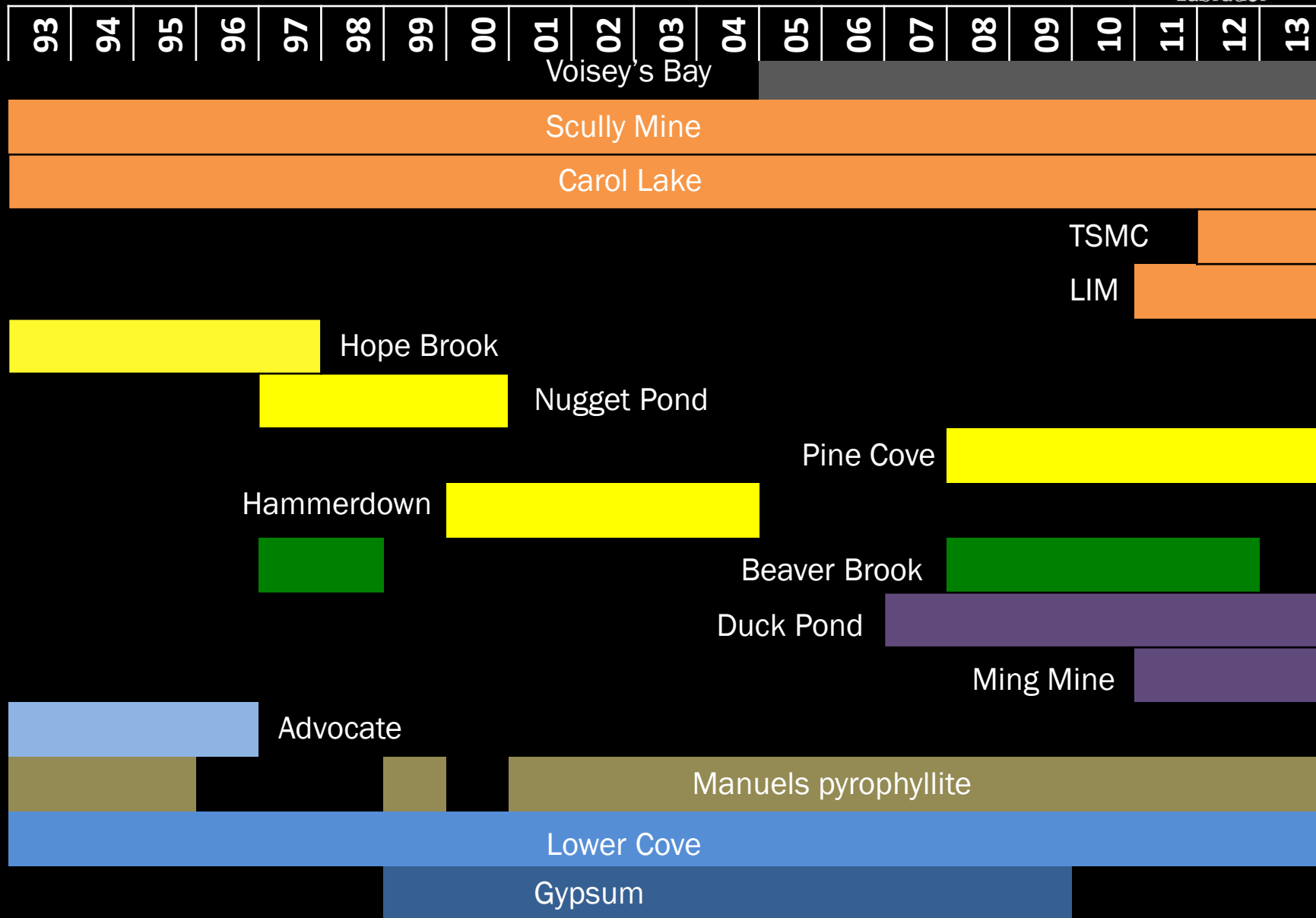
Newfoundland
Labrador
Natural Resources



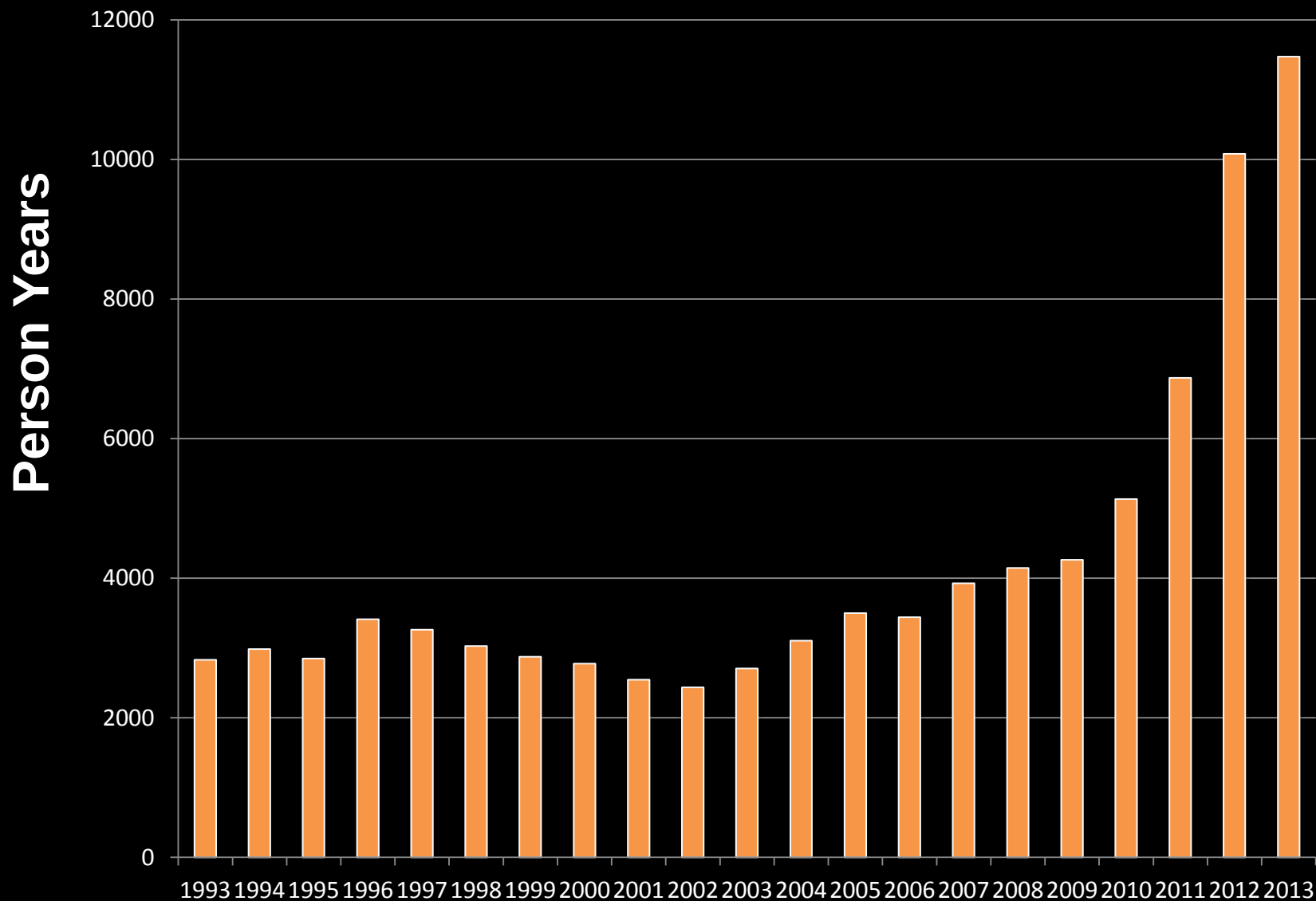
Newfoundland Mines 2013



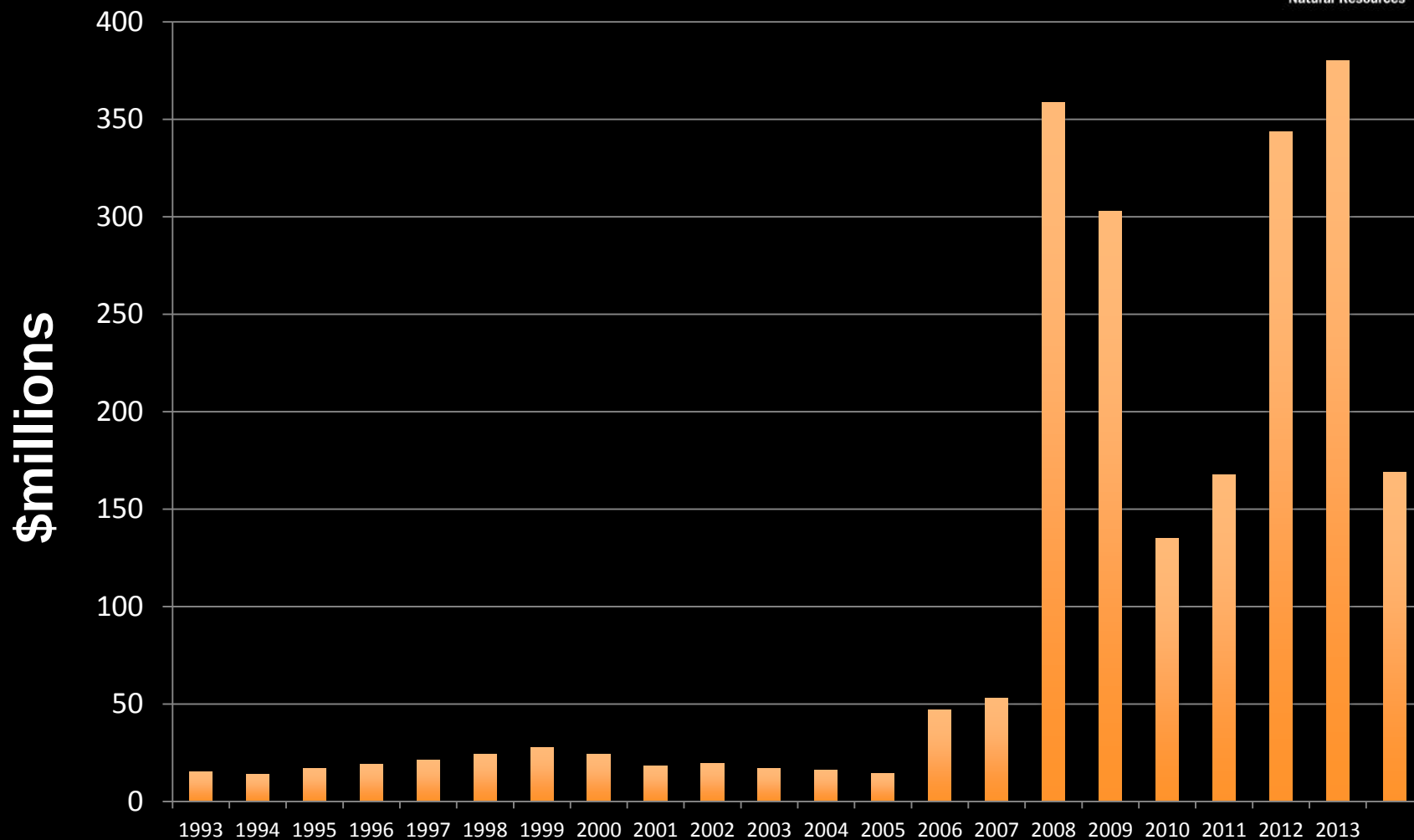
Timeline



Employment



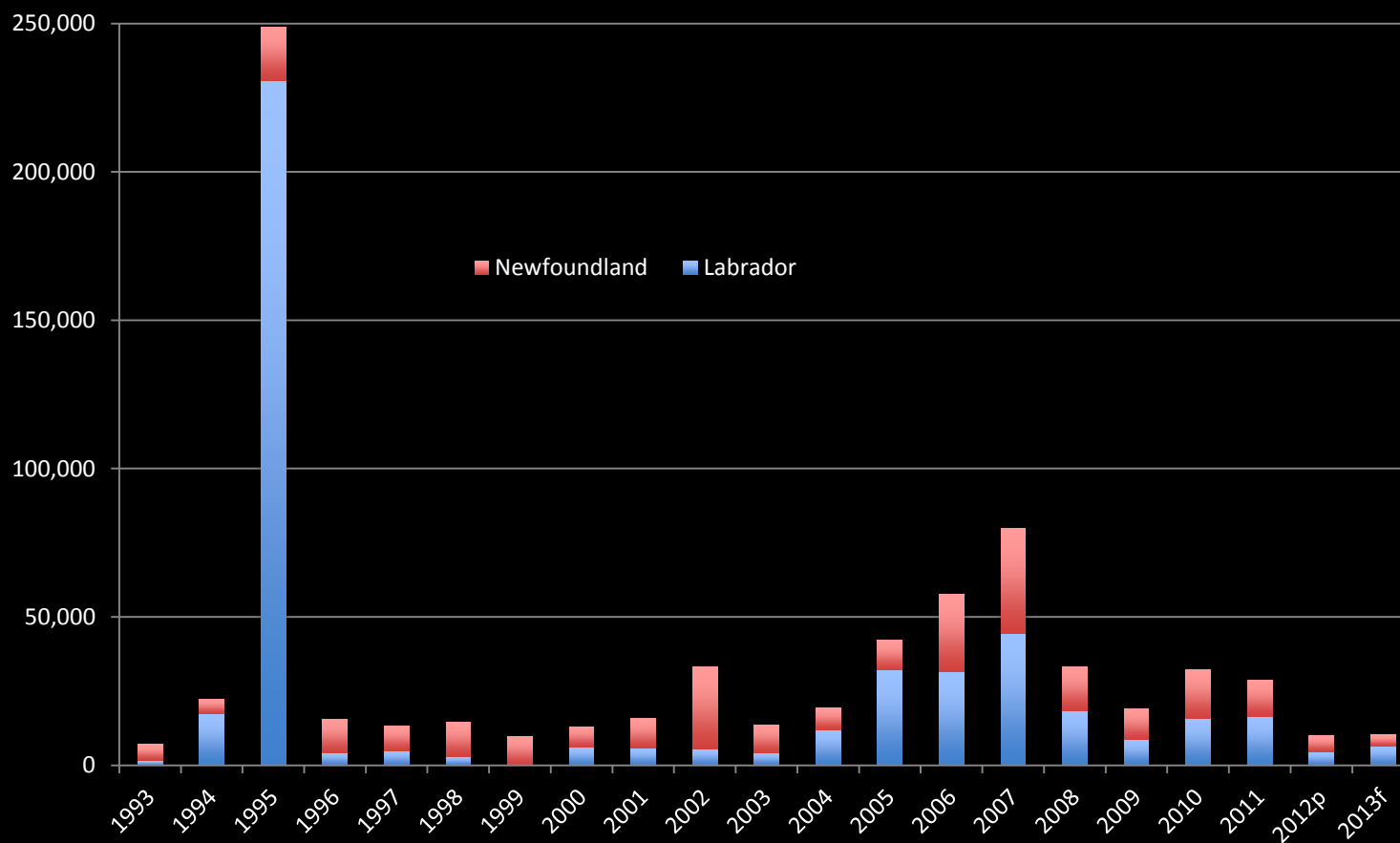
Revenue



Total revenue (corporate, payroll, fuel taxes) 4-5 times greater

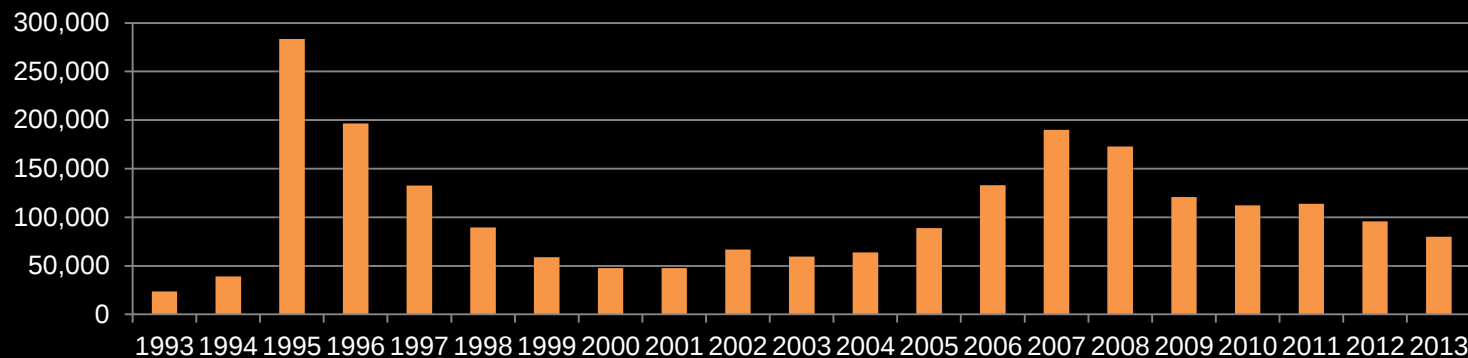
Mineral Exploration

Claims staked

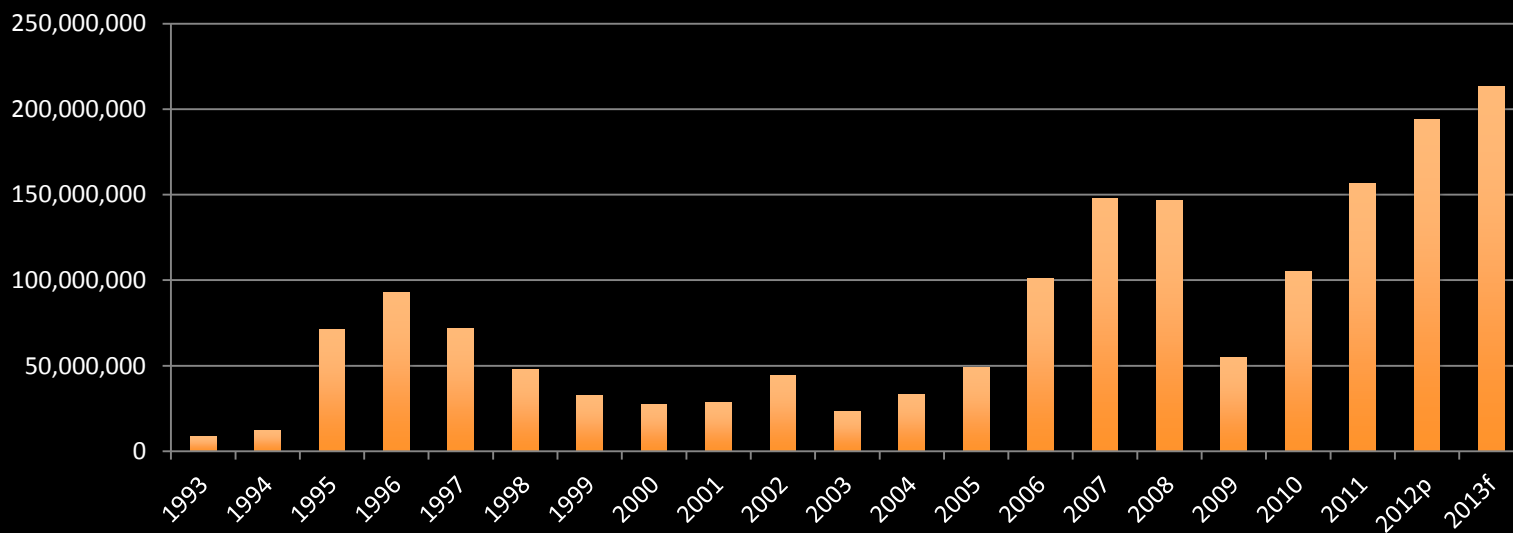


Mineral Exploration

Claims in good standing



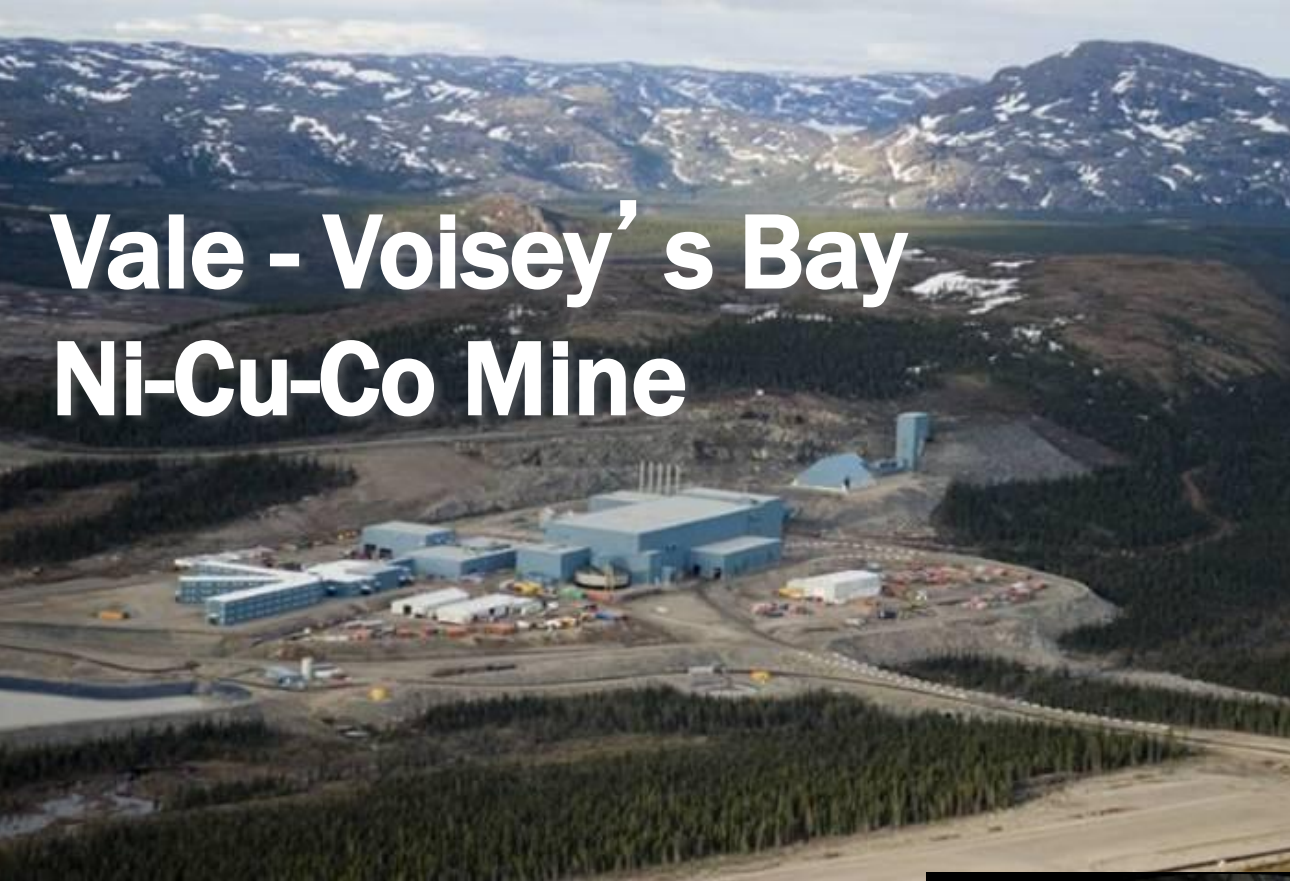
Expenditures



Voisey's Bay 20 years on

	1993	2013
Mineral shipments	\$0.66 billion	\$4.3 billion
Exploration expenditures	\$8.9 million	\$213 million
Employment	2,832	11,473
Claims in good standing	22,910	~80,000 (~250,000 in 1995)
Mining and Mineral Rights revenue	\$15 million	\$380 million

Vale - Voisey's Bay Ni-Cu-Co Mine



Long Harbour processing plant

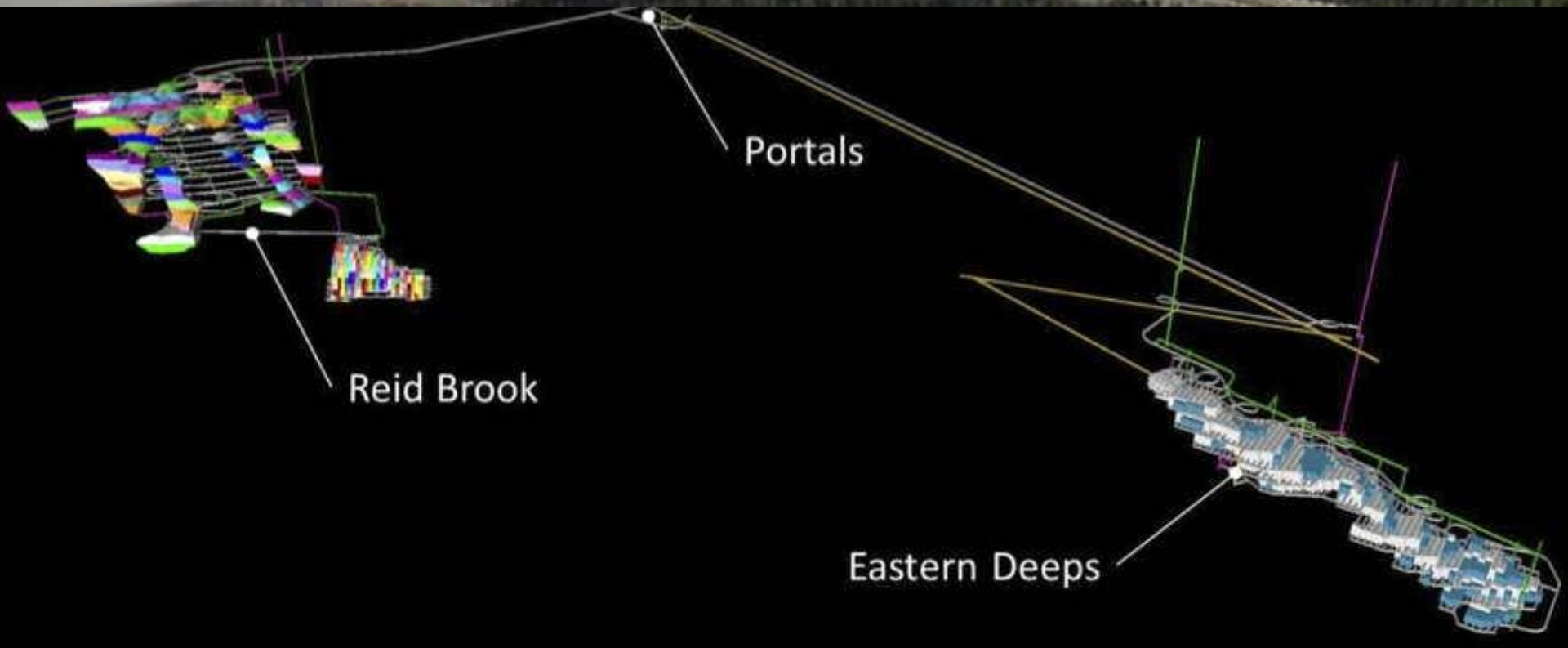


Underground mine

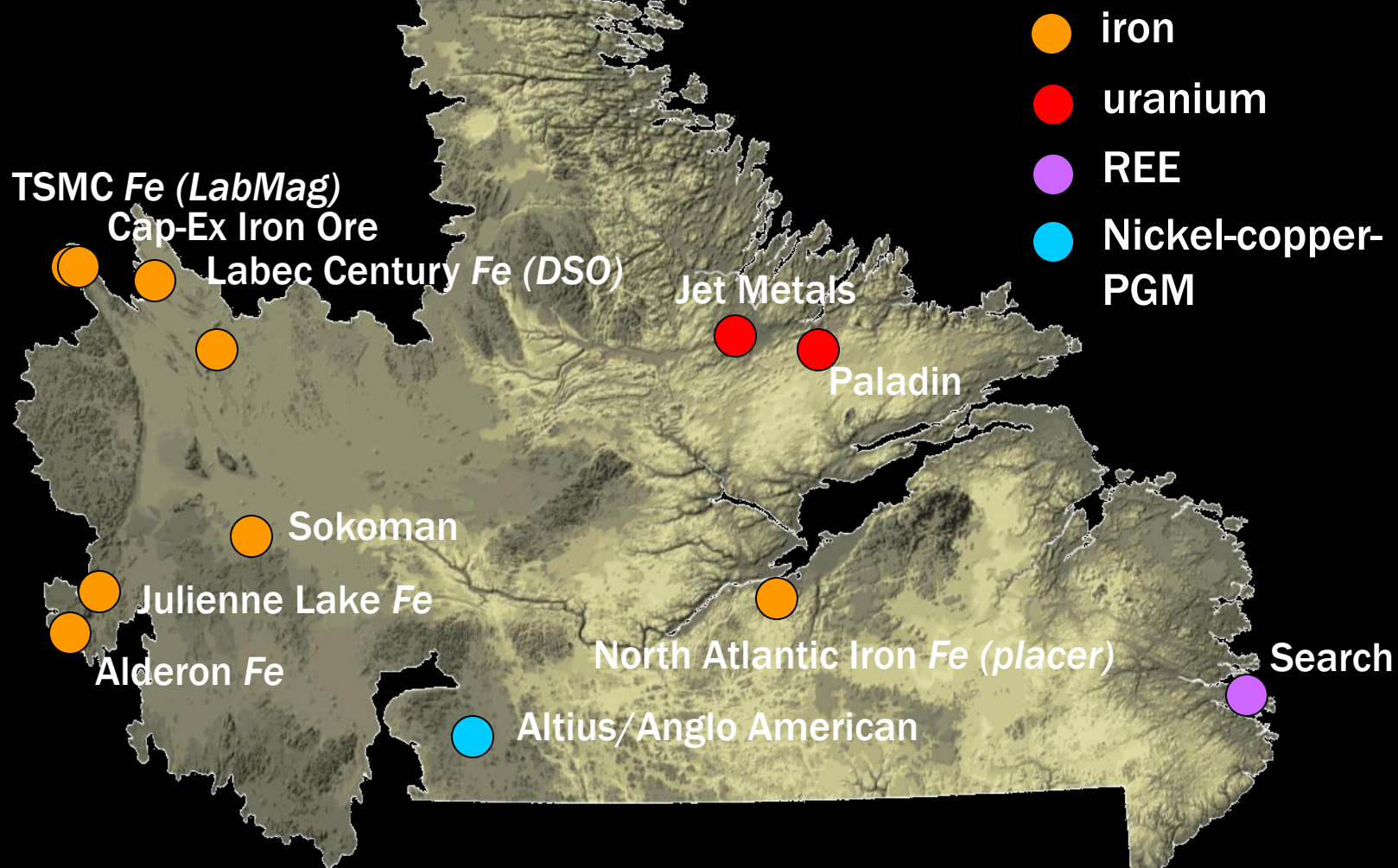
Engineering under way

Sanction 2015

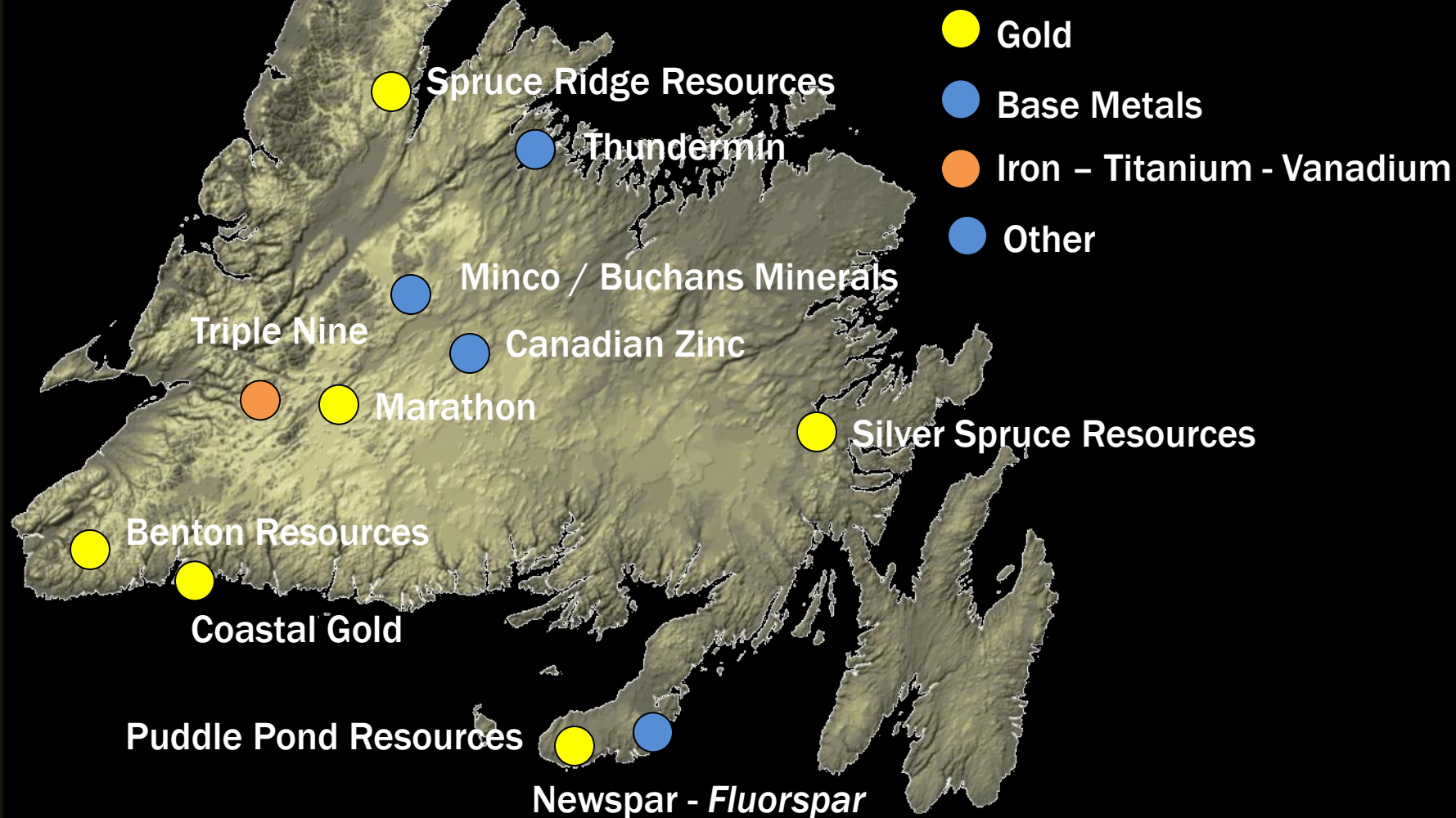
First ore 2019



Labrador advanced projects



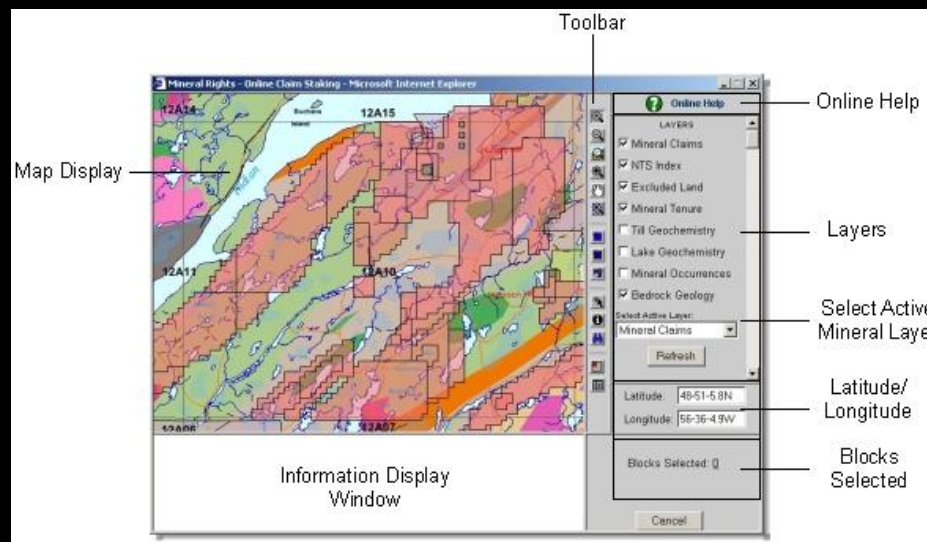
Newfoundland exploration and advanced projects



Mines Branch 1993-2013

- Mineral Rights
- Quarry materials
- Mining Act and orphaned/ abandoned mines
- Geoscience acquisition
- Geoscience data
- Mineral Incentive Programme

Mineral Rights



- 1993 – ground staking/ map staking
- 1995 – map staking
- 2005 – MIRIAD online staking system

Quarry materials



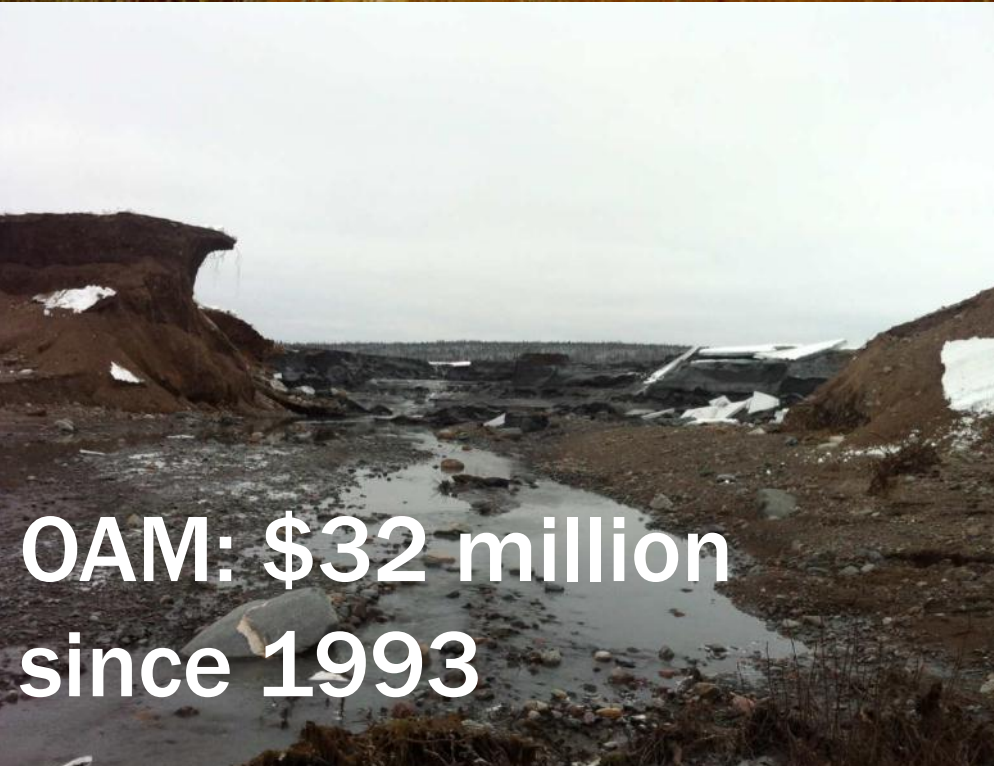
- 1993 – One full time quarry inspector; no rehabilitation requirements**
- 1998 - New Quarries Act**
- 2013 – Three full time compliance officers**

Mining Act



**1993 – No financial assurance,
rehabilitation requirements**

**1999 - Revised act ensures all new
mines rehabilitated**



OAM: \$32 million
since 1993



Geochemistry



1993 – 2013

30,000 till samples

22,000 lake sediments

19,000 rock samples



Geochemistry

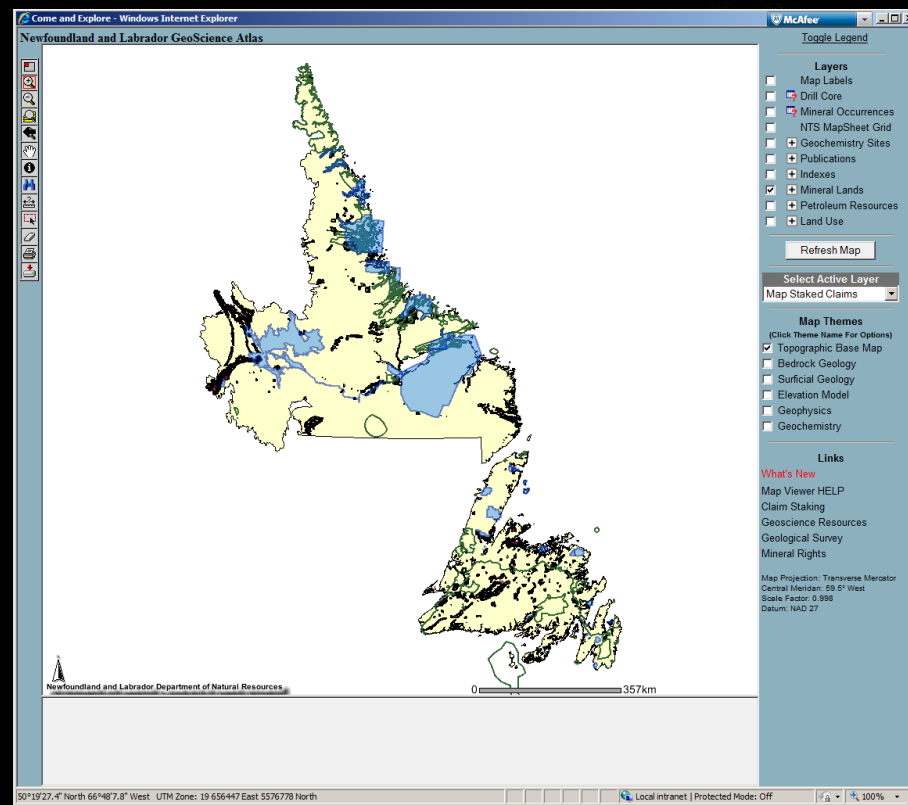
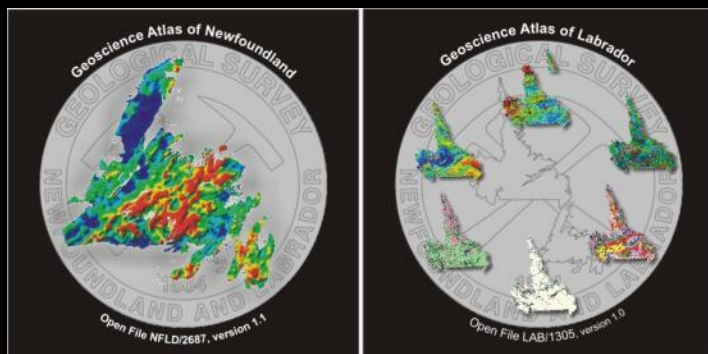


Kola deep borehole
Deepest point ever
drilled (12,262 m)
1970-1992



GPS: 1993 – 2013
30,000 till samples
Average depth 0.4 m
Cumulative depth
12,000 m

Geoscience data



- 1993: Geochemical Atlas of Newfoundland (tape, then CD)
- 1997: first web mapping application; 1st digital map
- 1999: internet distribution of data
- 2006: Geofiles available online as pdf

Promotions



1993

PDAC, Round-up, Open house

加拿大纽芬兰和拉布拉多省
矿业地质资料管理



2013

Quebec Mining, Expo
Labrador, Mineral Resources
Review, expanded PDAC

China Mining

Web – Mandarin site,
dedicated promotions site

Dedicated staff member

Mineral Incentive Programme 1999-2013

1284 prospector assistance grants; \$3.3 million

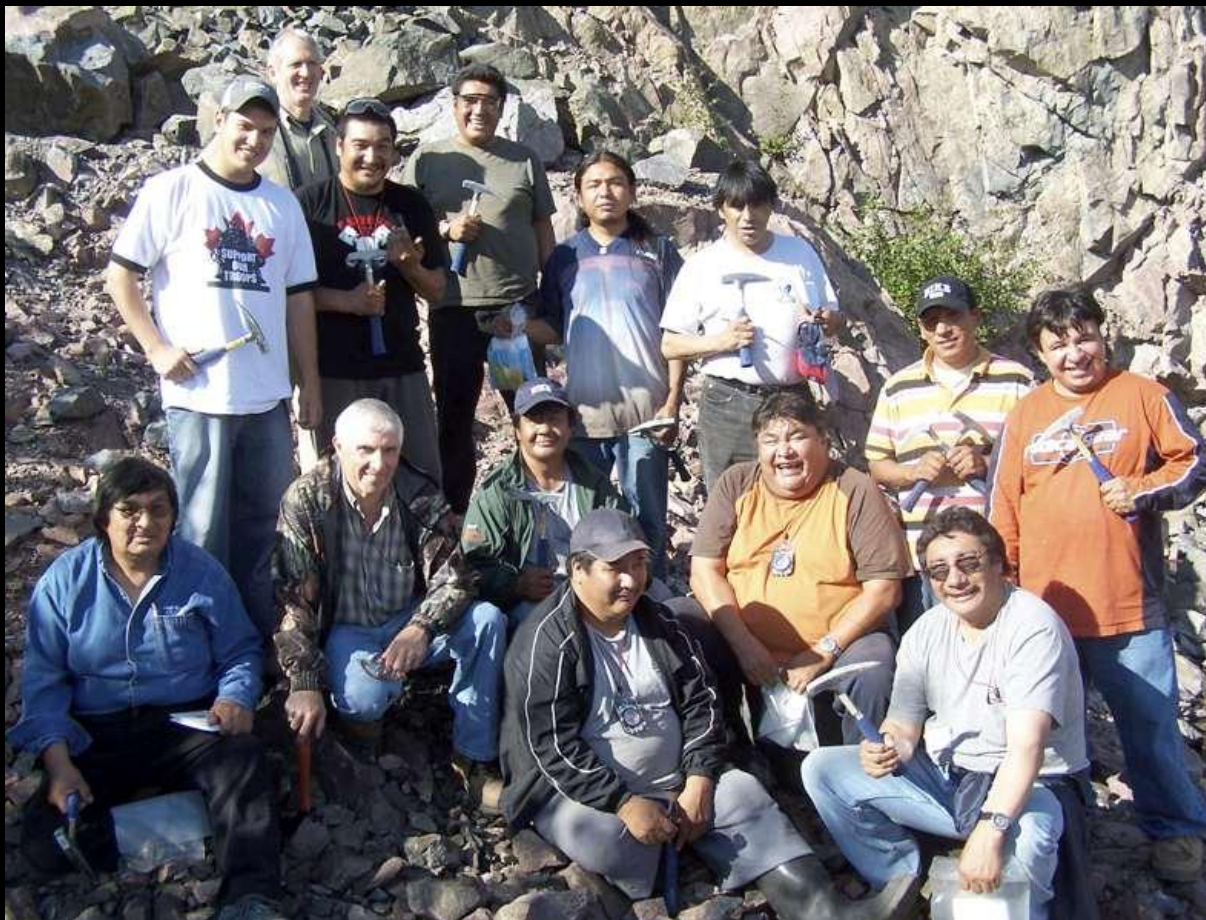
434 JEA grants; \$22 million

38 NSA grants; \$1.3 million

1988 – first prospector assistance grant Albert Chislett



Prospector training



Survey 1996

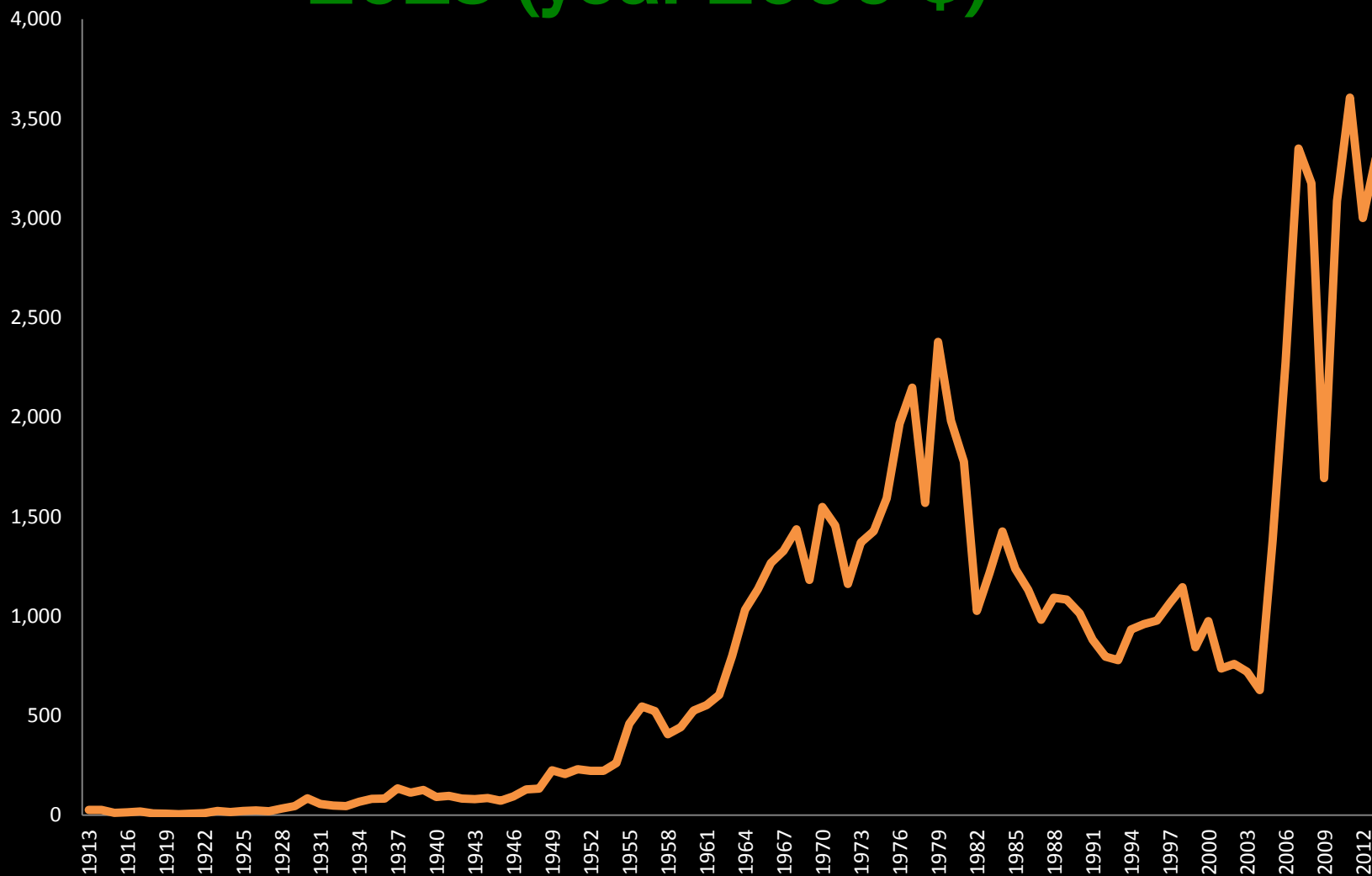


Survey 1996

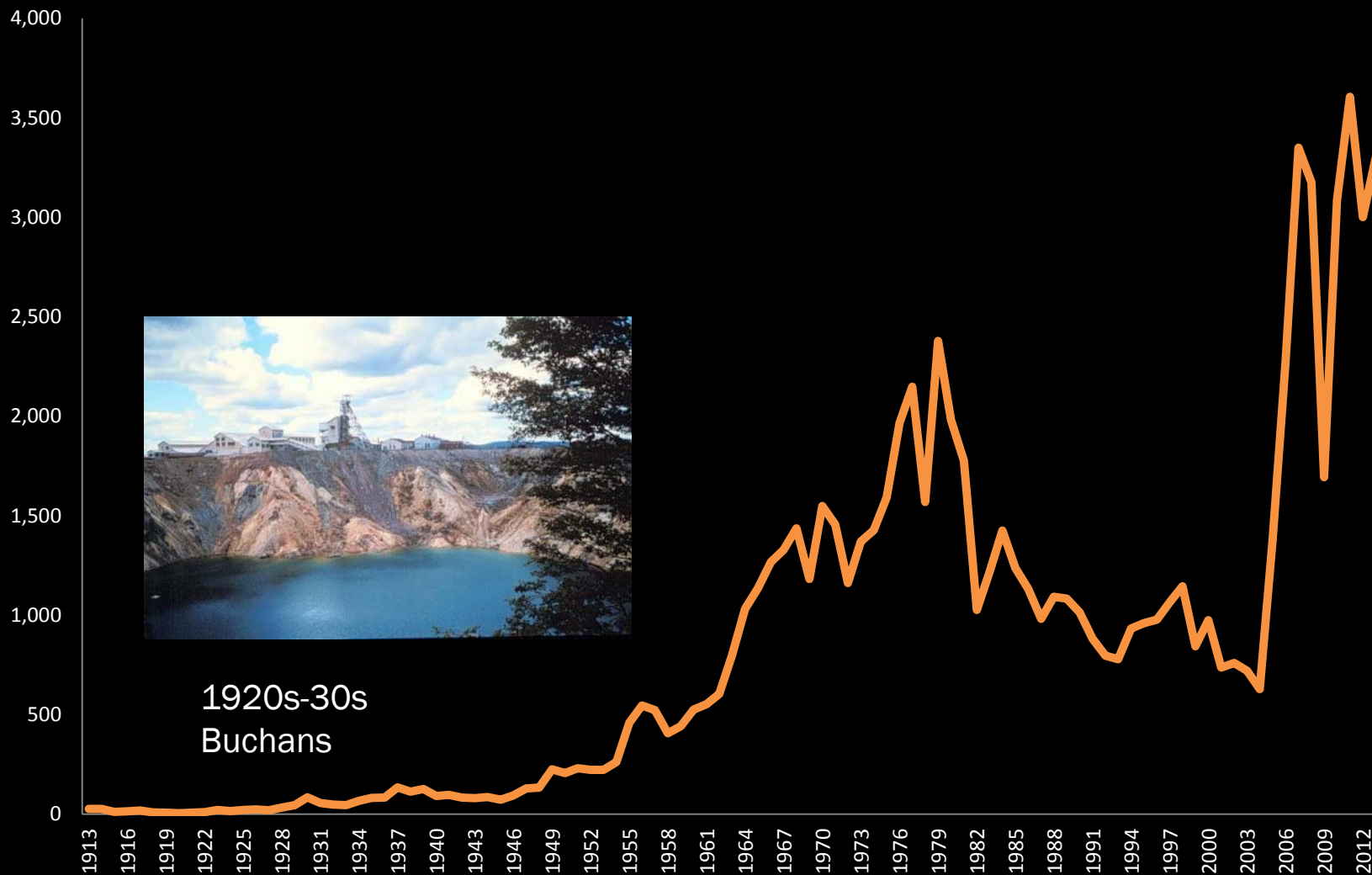
23 of 60 still in Mines Branch
17 retired from Mines Branch

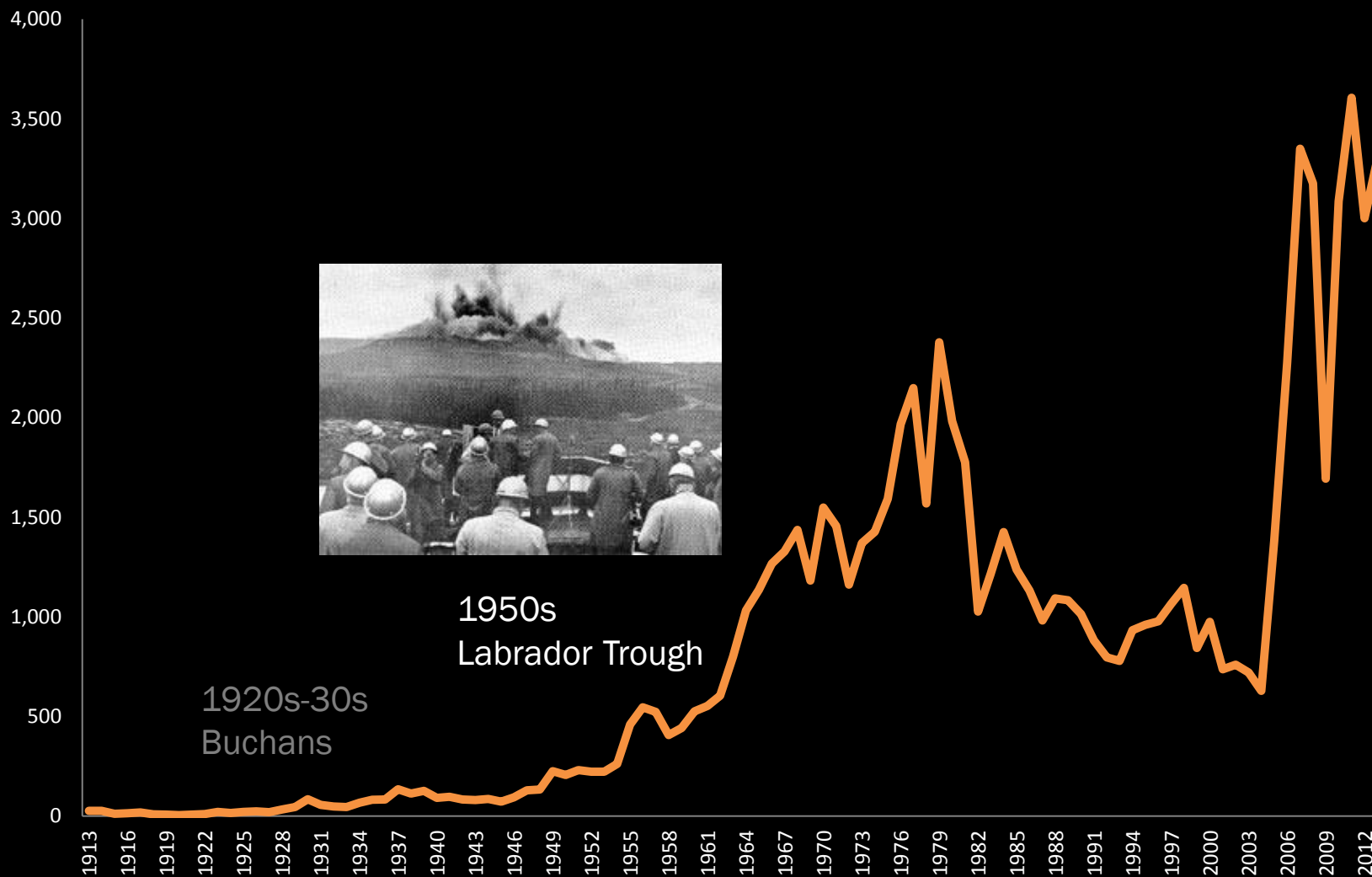


Mineral shipments – 1913-2013 (year 2000 \$)

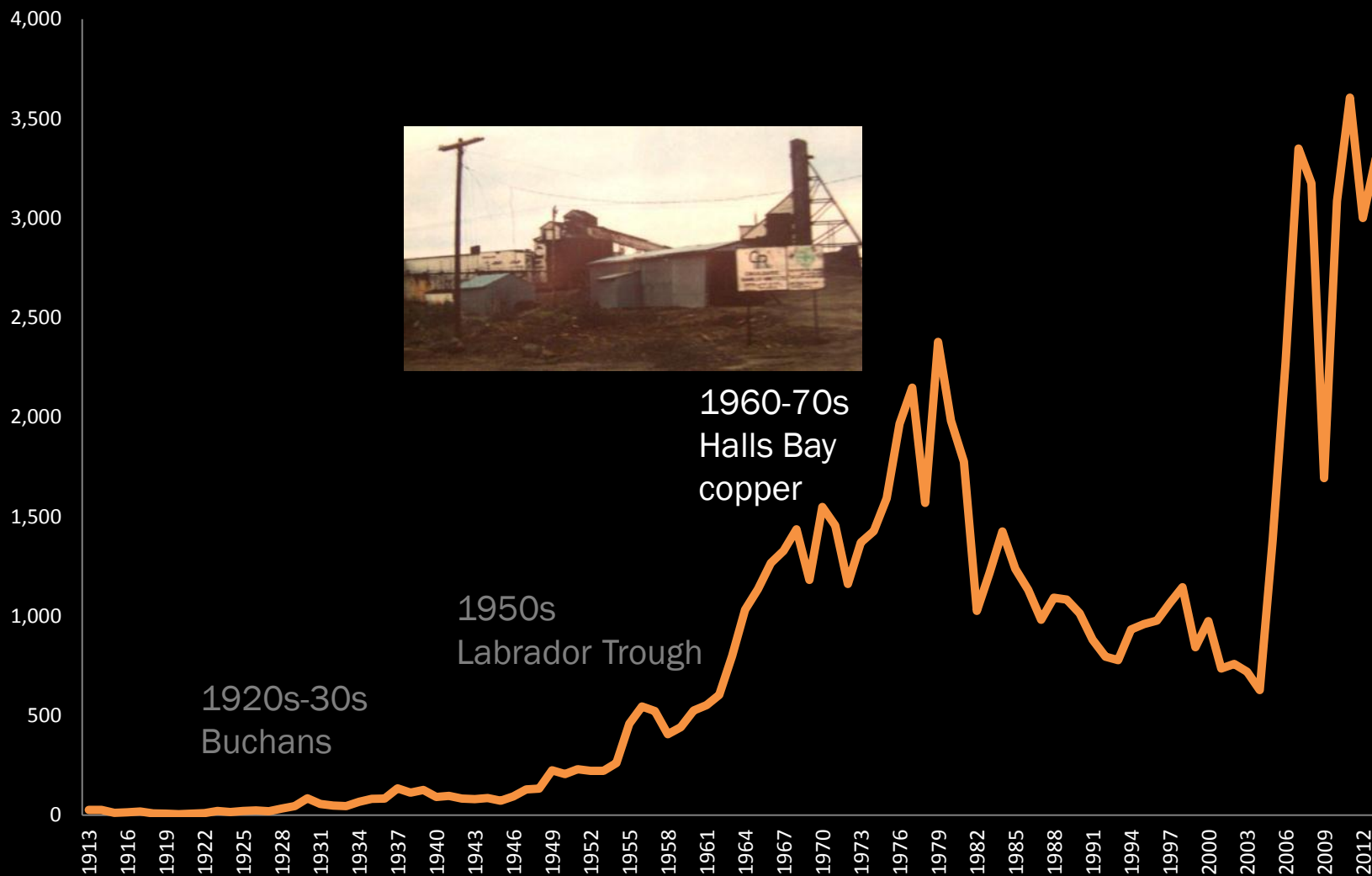


MINERAL RESOURCES REVIEW 2013

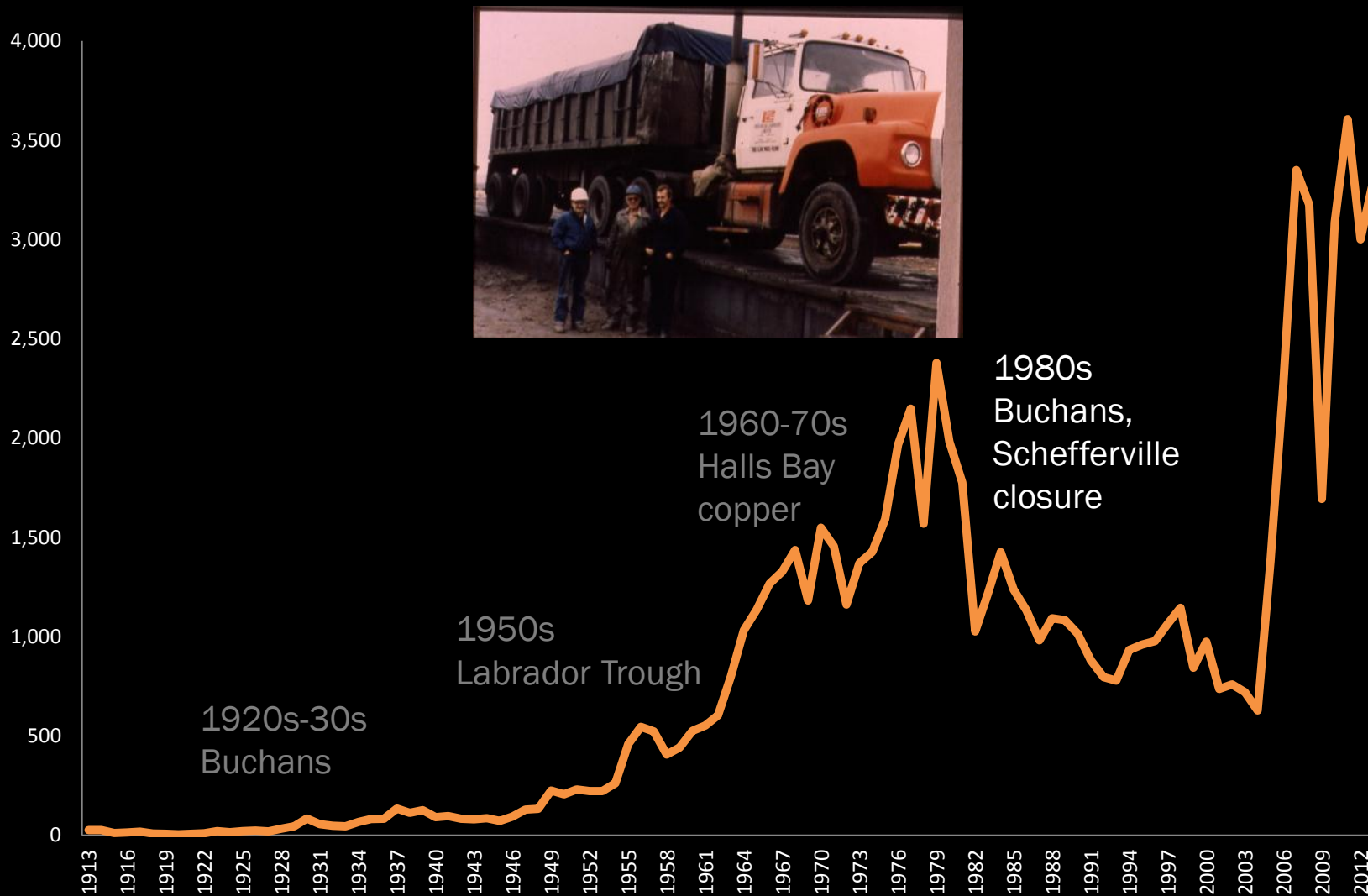




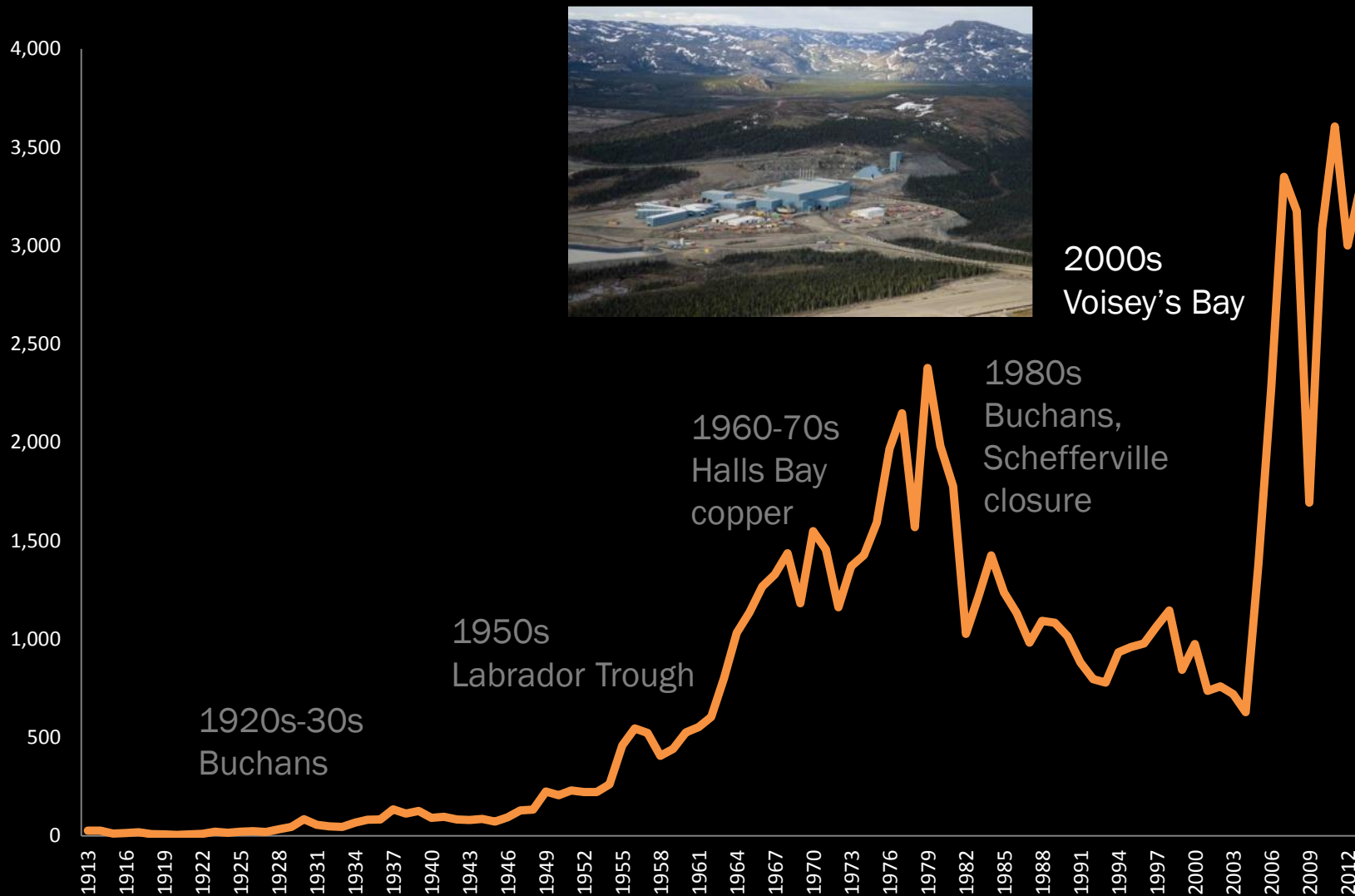
MINERAL RESOURCES REVIEW 2013



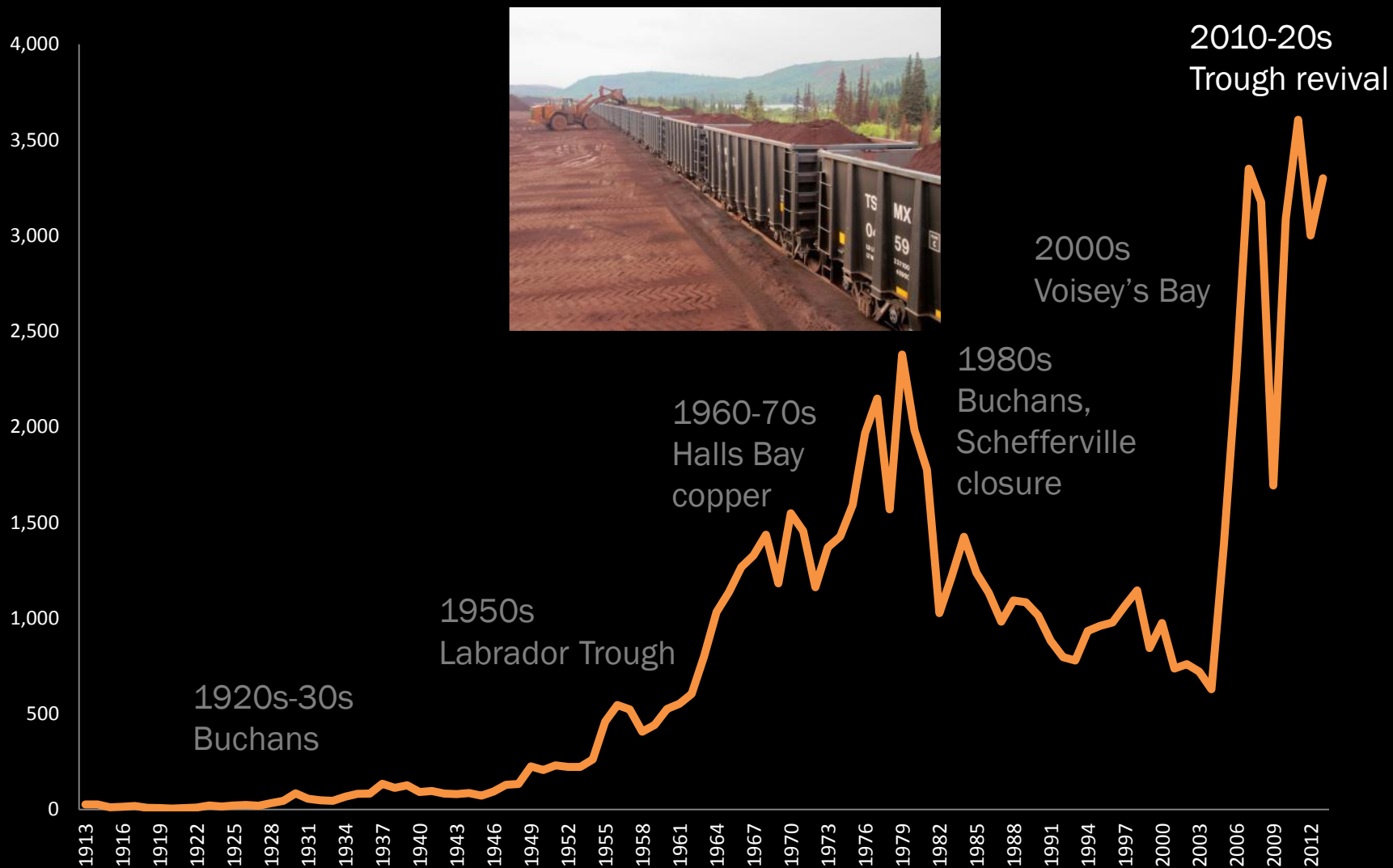
MINERAL RESOURCES REVIEW 2013



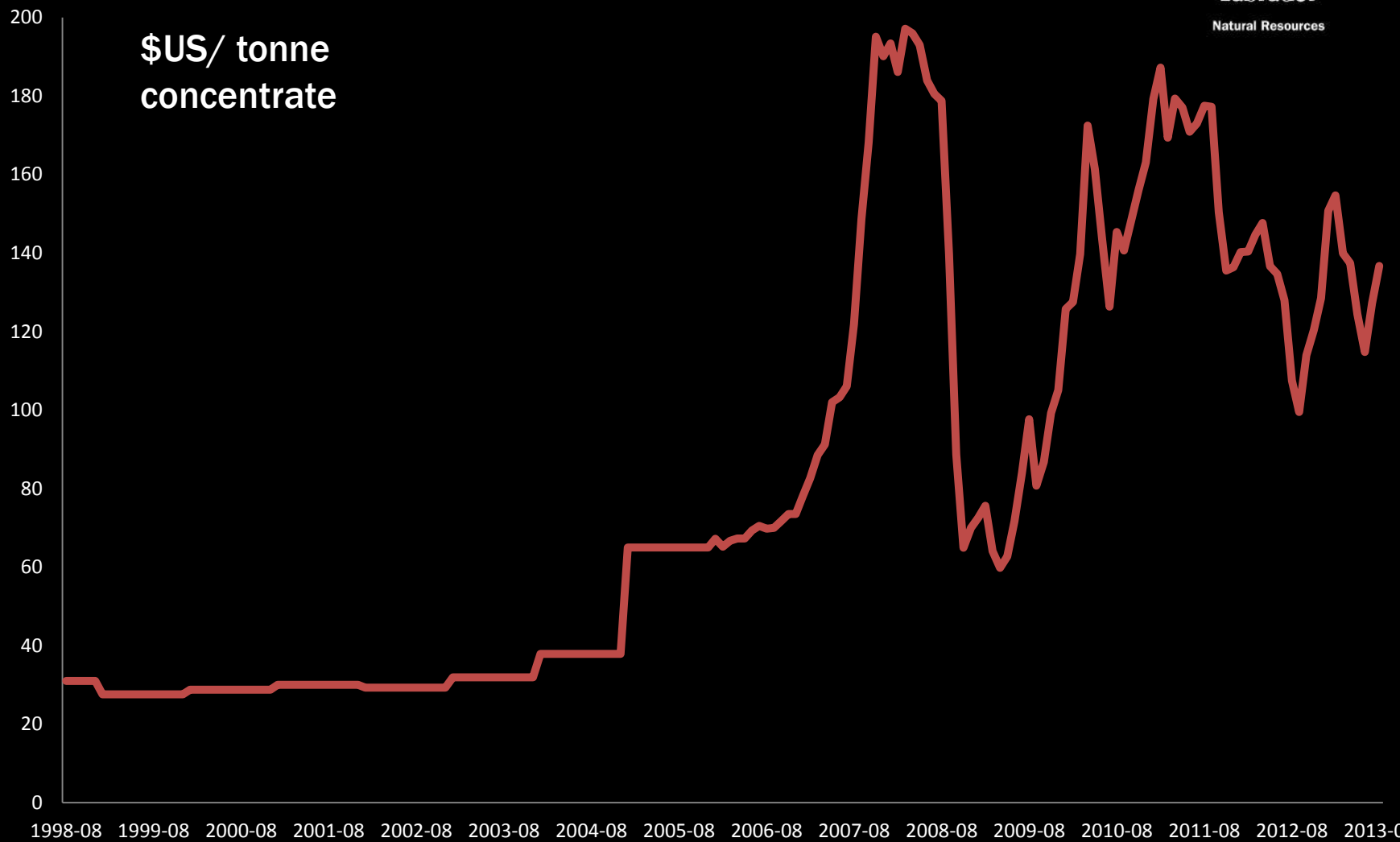
MINERAL RESOURCES REVIEW 2013



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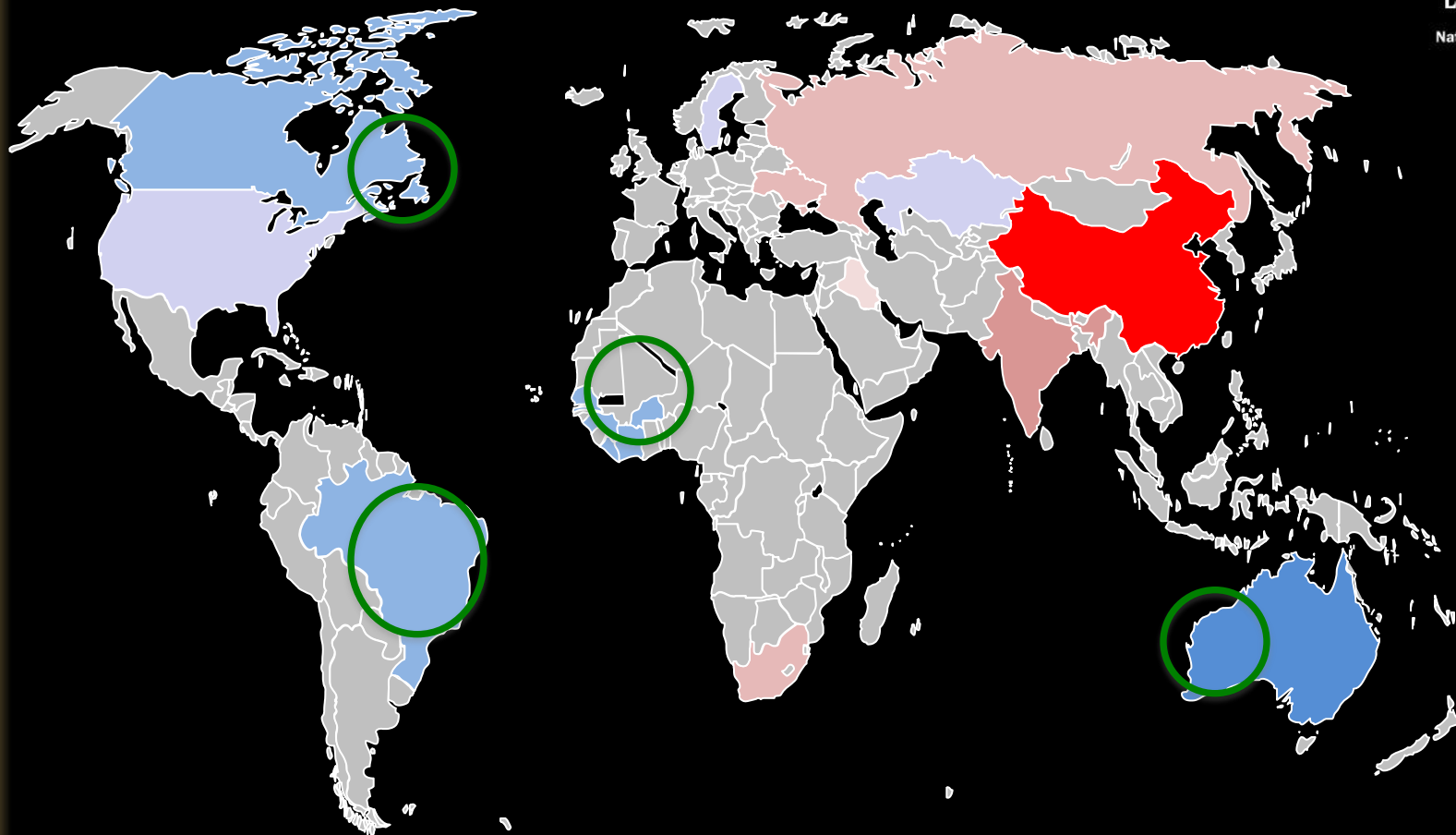
Iron ore prices



Shanghai 1987-2013



Why Labrador?

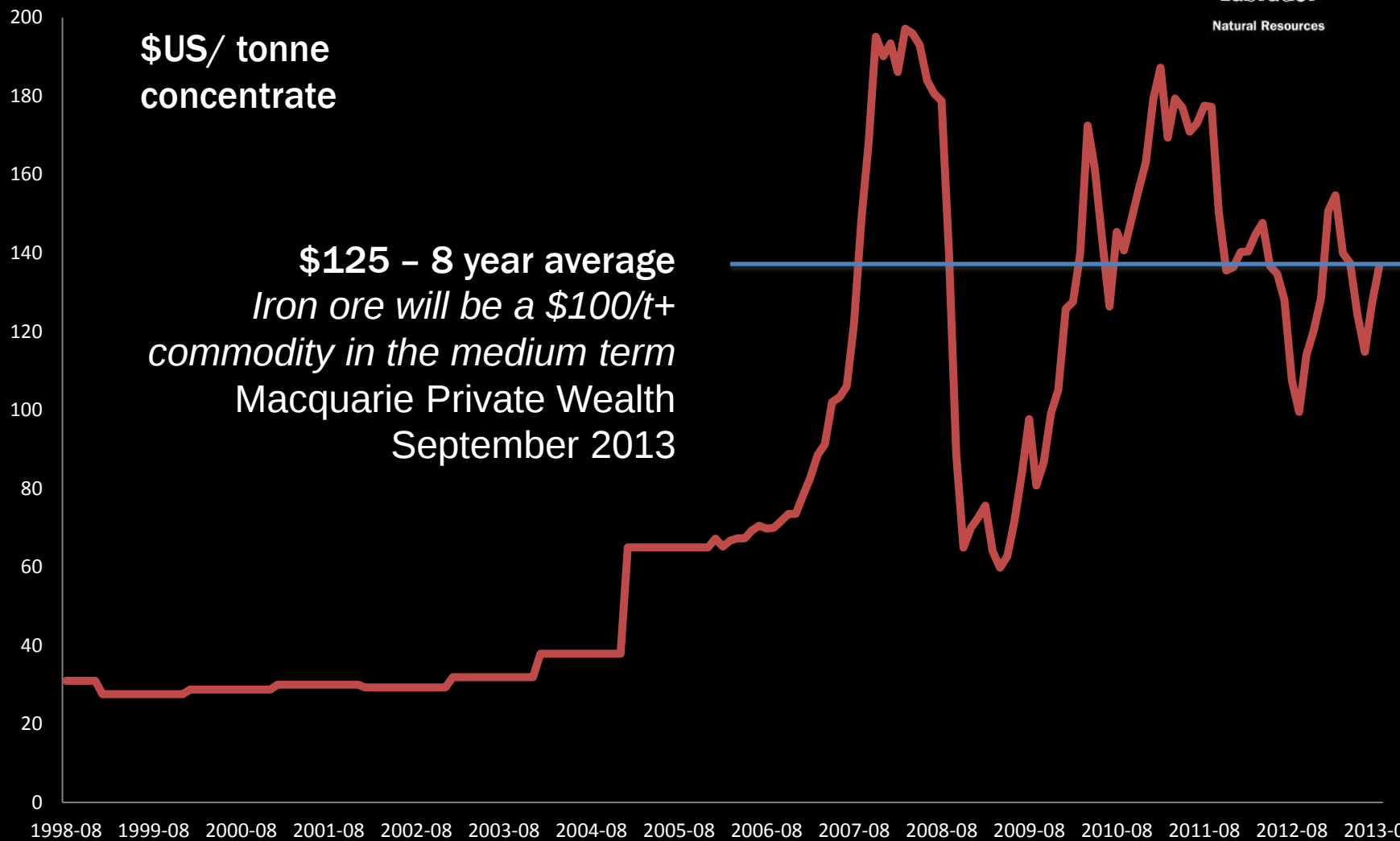


**Undeveloped resources
(quality)**
Existing infrastructure
Political stability

Cost of production
Distance



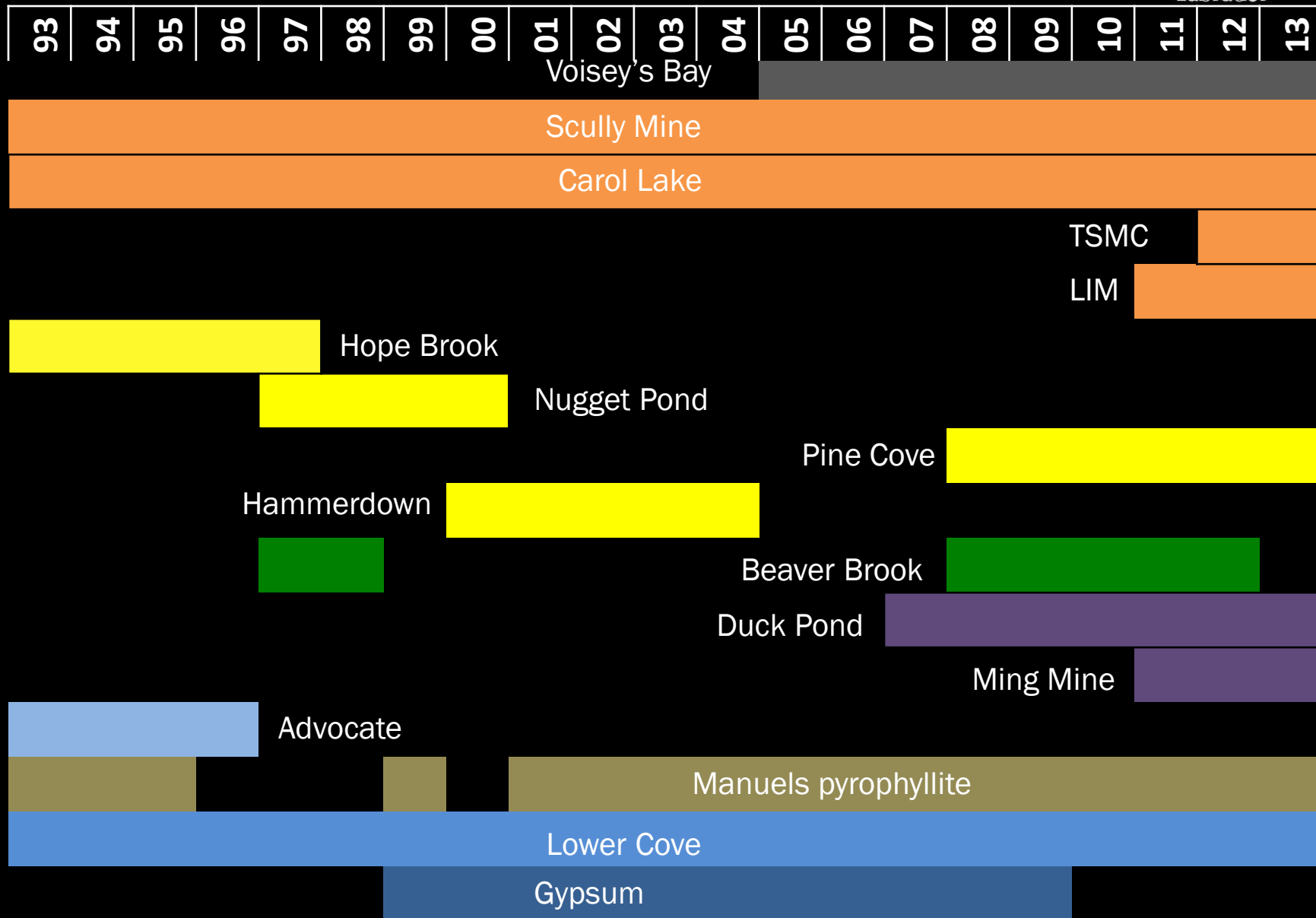
Iron ore prices



Iron ore- future shipments?



Timeline



2003-23

