

The Future of Base Metal Exploration and Mining in Canada

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**Toronto Geological Discussion Group
November 8, 2012**

Forward Looking Information

This presentation contains "forward-looking statements" and "forward-looking information" (collectively, "forward-looking information") within the meaning of applicable Canadian and United States securities legislation. All information contained in this press release, other than statements of current and historical fact, is forward-looking information. Forward-looking information includes information that relates to, among other things, our objectives, strategies, and intentions and future financial and operating performance and prospects. Often, but not always, forward-looking information can be identified by the use of words such as "plans", "expects", "budget", "guidance", "scheduled", "estimates", "forecasts", "strategy", "target", "intends", "objective", "goal", "understands", "anticipates" and "believes" (and variations of these or similar words) and statements that certain actions, events or results "may", "could", "would", "should", "might" "occur" or "be achieved" or "will be taken" (and variations of these or similar expressions). All of the forward-looking information in this press release is qualified by this cautionary statement.

Forward-looking information includes, but is not limited to, continued production at our 777, Trout Lake and Chibél North mines, continued processing at our Flin Flon concentrator, Snow Lake concentrator and Flin Flon zinc plant, our ability to develop our Lalor, Constanda and Reed projects and the anticipated scope of, cost of and development plans for these projects, anticipated timing of our projects and events that may affect our projects (including the timing of decisions by our Board of Directors and governmental authorities), anticipated effect of external factors on revenue, such as commodity prices, anticipated exploration and development expenditures and activities and the possible success of such activities, estimation of mineral reserves and resources, mine life projections, timing and amount of estimated future production, reclamation costs, economic outlook, government regulation of mining operations, and business and acquisition strategies.

Forward-looking information is not, and cannot be, a guarantee of future results or events. Forward-looking information is based on, among other things, opinions, assumptions, estimates and analysis that, while considered reasonable by us at the date the forward-looking information is provided, inherently are subject to significant risks, uncertainties, contingencies and other factors that may cause actual results and events to be materially different from those expressed or implied by the forward-looking information. The material factors or assumptions that we identified and were applied by us in drawing conclusions or making forecasts or projections set out in the forward looking information include, but are not limited to:

The success of mining, processing, exploration and development activities; the accuracy of geological, mining and metallurgical estimates; the costs of production; the supply and demand for metals we produce; the volatility of commodity prices; the volatility in foreign exchange rates; the supply and availability of concentrate for our processing facilities; the supply and availability of reagents for our concentrators; the availability of third party processing facilities for our concentrate; the supply and availability of all forms of energy and fuels at reasonable prices; the availability of transportation services at reasonable prices; no significant unanticipated operational or technical difficulties; the execution of our business strategy, including the success of our strategic investments; the availability of financing for our exploration and development projects and activities; the ability to complete project targets on time and on budget and other events that may affect our ability to develop our projects; the timing and receipt of various regulatory and governmental approvals; the availability of personnel for our exploration, development and production projects and ongoing employee relations; maintaining good relations with the communities in which we operate, including the communities surrounding our Constanda project; no significant unanticipated challenges with stakeholders at our various projects; no significant unanticipated events relating to regulatory, environmental, health and safety matters; no contests over title to our properties, including as a result of rights or claimed rights of aboriginal peoples; the timing and possible outcome of pending litigation and no significant unanticipated litigation; any assumptions related to taxes, including, but not limited to current tax laws and regulations; and no significant and continuing adverse changes in general economic conditions or conditions in the financial markets.

The risks, uncertainties, contingencies and other factors that may cause actual results to differ materially from those expressed or implied by the forward-looking information may include, but are not limited to, risks generally associated with the mining industry, such as economic factors (including future commodity prices, currency fluctuations and energy prices), uncertainties related to the development and operation of our projects, depletion of our reserves, risks related to political or social unrest or change and those in respect of aboriginal and community relations and title claims, operational risks and hazards, including unanticipated environmental, industrial and geological events and developments and the inability to insure against all risks, failure of plant, equipment, processes, transportation and other infrastructure to operate as anticipated, compliance with government and environmental regulations, including permitting requirements and anti-bribery legislation, dependence on key personnel and employee relations, volatile financial markets that may affect our ability to obtain financing on acceptable terms, uncertainties related to the geology, continuity, grade and estimates of mineral reserves and resources and the potential for variations in grade and recovery rates, uncertain costs of reclamation activities, our ability to comply with our pension and other post-retirement obligations as well as the risks discussed under the heading "Risk Factors" in our most recent Annual Information Form, Form 40-F and Management's Discussion and Analysis for the three months ended March 31, 2012.

Should one or more risk, uncertainty, contingency or other factor materialize or should any factor or assumption prove incorrect, actual results could vary materially from those expressed or implied in the forward-looking information. Accordingly, you should not place undue reliance on forward-looking information. We do not assume any obligation to update or revise any forward-looking information after the date of this press release or to explain any material difference between subsequent actual events and any forward-looking information, except as required by applicable law.

Future Base Metal Exploration and Mining in Canada

Two requirements

- Exploration must effectively replace the current supply of quality mineral deposits.
- The Canadian mining industry must be competitive for investment with other countries in terms of:
 - Deposit size and grade
 - Availability of infrastructure and cost
 - Regulatory environment

A look at the history.

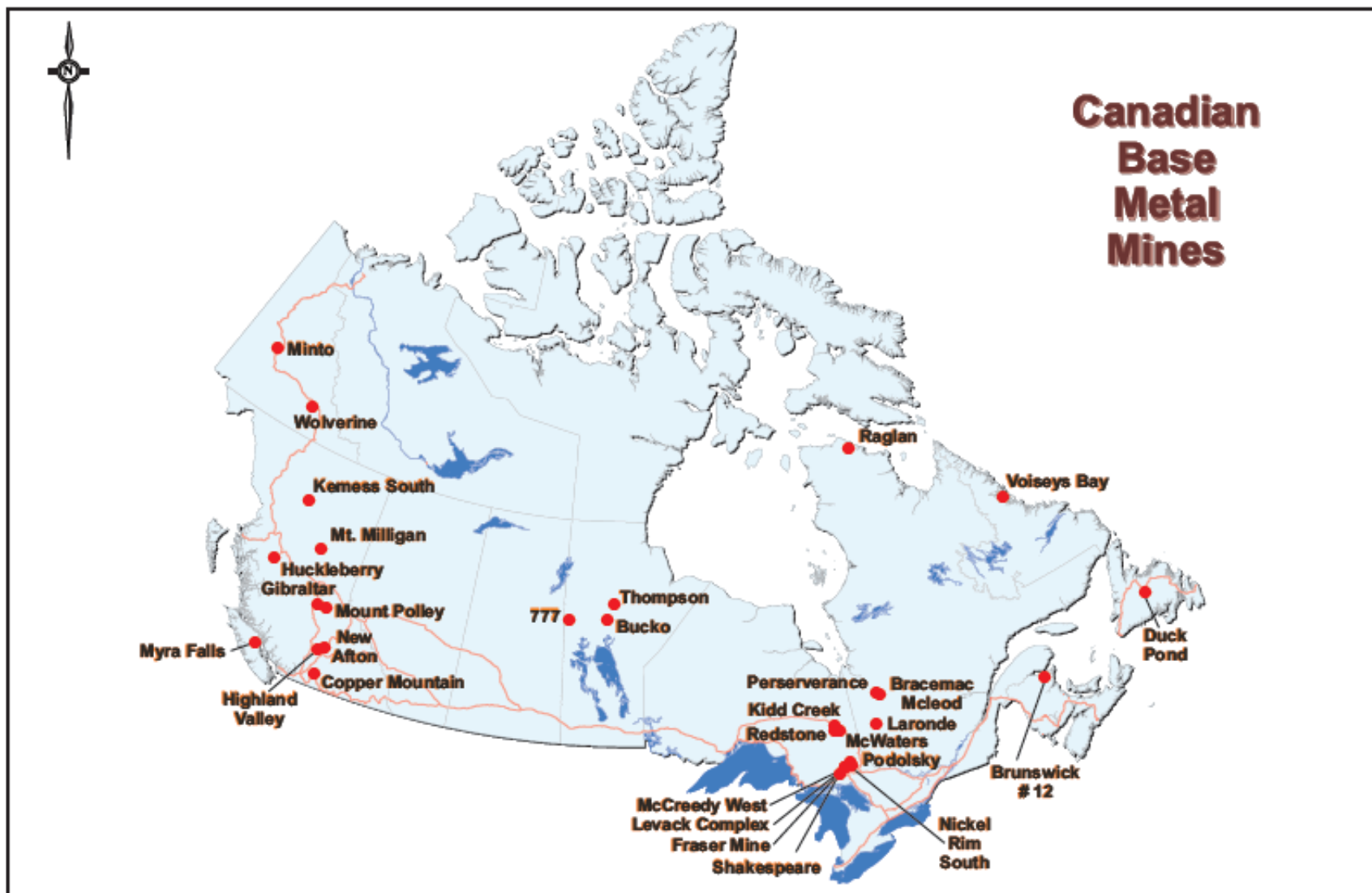
- Trends in exploration, mining activity, supply and demand.
- Established camps (brown fields) versus remote (green fields).
- The role of infrastructure
- Benefits of New technology

1957

“Most of the past and present mineral producers lie south of a line extending westerly from Schefferville in New Quebec, through central Ontario, Manitoba, Saskatchewan and Alberta, and thence northwesterly through north-central British Columbia to central Yukon – ie., within a westerly trending strip comprising the southern third of Canada. Thus, in general, the mining frontier lies only a few hundred miles beyond the main centres of population. Most of the main geological regions, on the other hand, trend northerly and there are no known broad geological reasons for expecting that mineral deposits are less abundant or less rich in the northern parts of these regions than in the southern parts. Thus the concentration of producing properties in the southern third of Canada is attributable to relatively easy access and thorough prospecting. Accordingly, as the northern areas receive their share of attention, they are likely to prove as productive of minerals as have the southern areas. Furthermore, the potentialities of even the southern areas are far from exhausted, as is amply demonstrated by the number, size, variety, and distribution of the mineral deposits found there during recent years by conventional prospecting and by geophysical methods.”

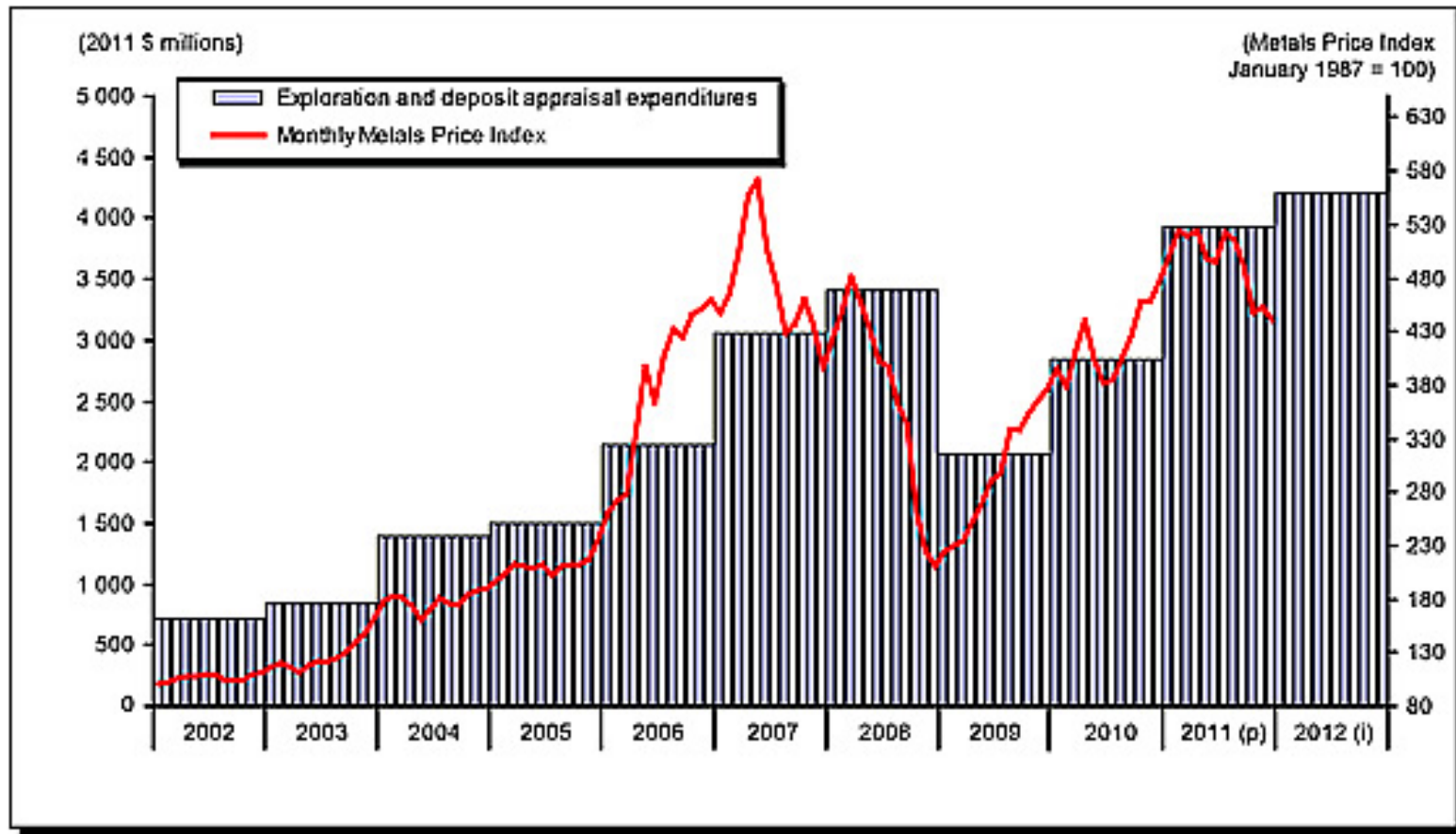
Geological and Economic Minerals of Canada (1957) — Edited by C.H. Stockwell Geological Survey of Canada

Mining Camps



Trends

Exploration and Deposit Appraisal Expenditures ⁽¹⁾ and Monthly Metals Price Index, ⁽³⁾ 2002-12



1) Includes field work, overhead, engineering, economic and pre- or production feasibility studies, environment, and land access costs for on-mine-site and off-mine-site activities.

(3) The NRCan Monthly Metals Price Index is a Fisher Ideal Index that is based on the prices of six metals: gold, silver, copper, lead, nickel, and zinc.

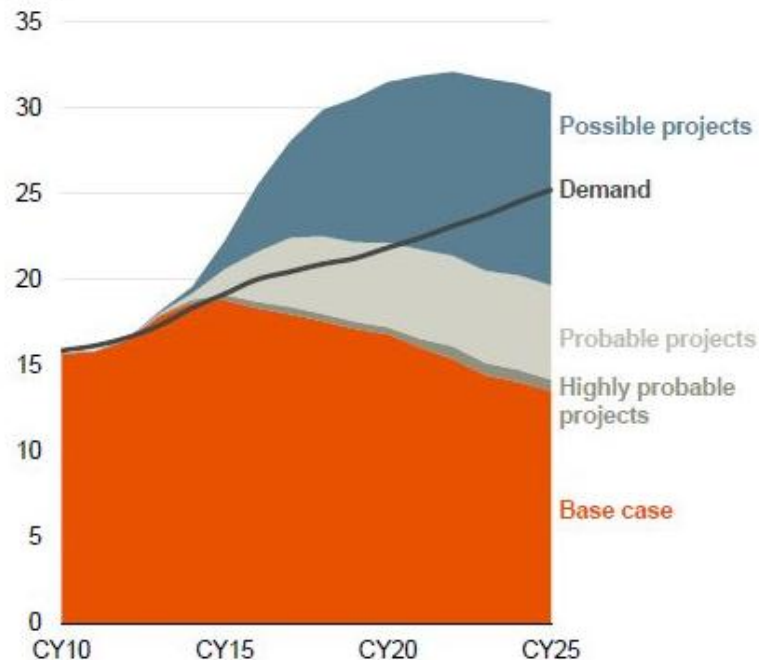
Trends

Resource depletion infers that significant inducement of new supply is required



- Current production will continue to decline due to depletion of resources and lower ore grades
- Resource nationalisation, environmental regulations, capital and operating expenditure escalation, infrastructure constraints and taxation/royalty increases continue to challenge the supply response
- Substantial investment in brownfield and greenfield capacity will be required to cover the demand gap
- Therefore, on average, prices will need to remain high enough to induce new supply

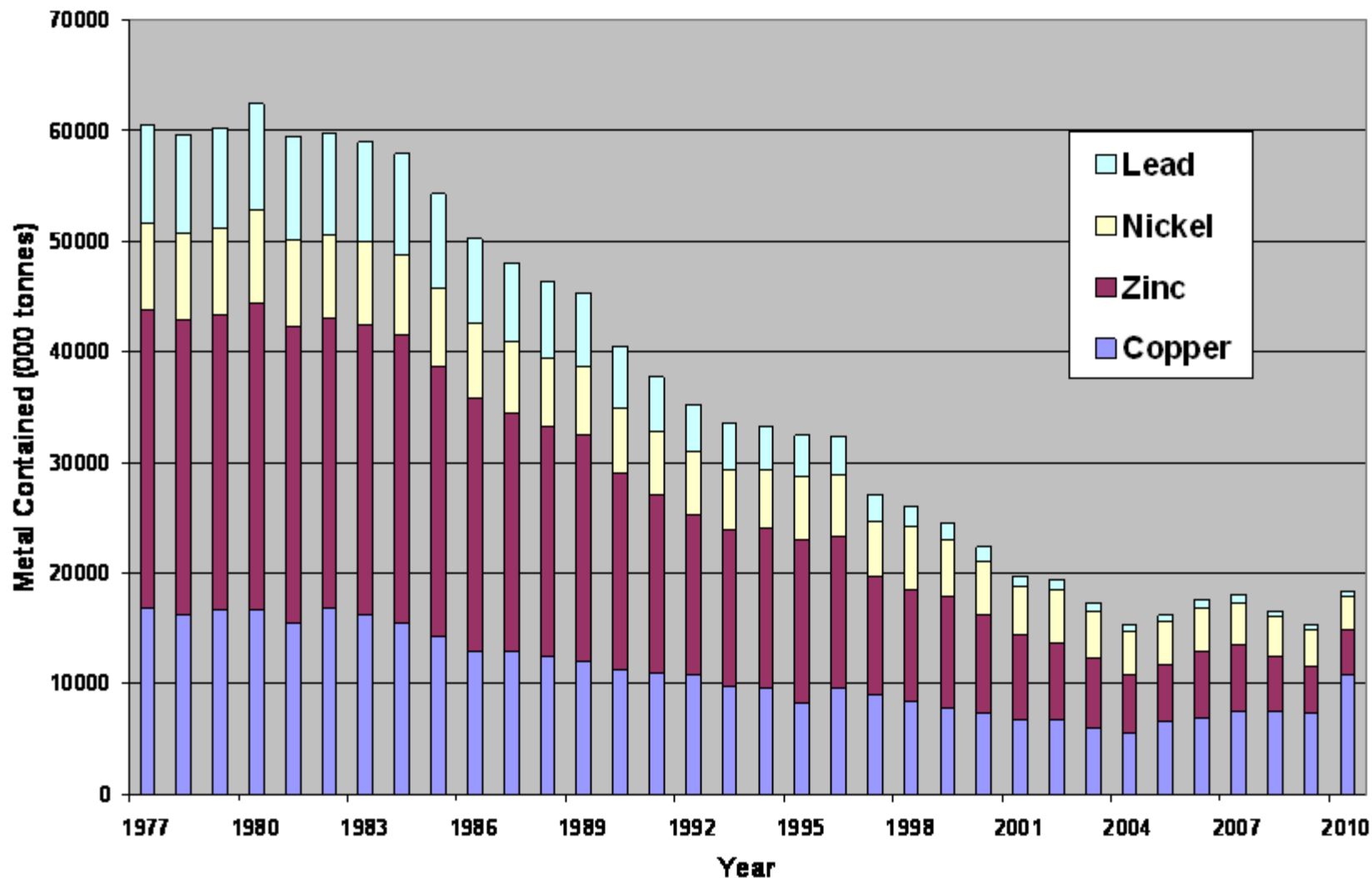
Copper mine production (mt)



Source: Wood Mackenzie, Q2 2012 update.

Trends

Canadian Reserves of Base Metals



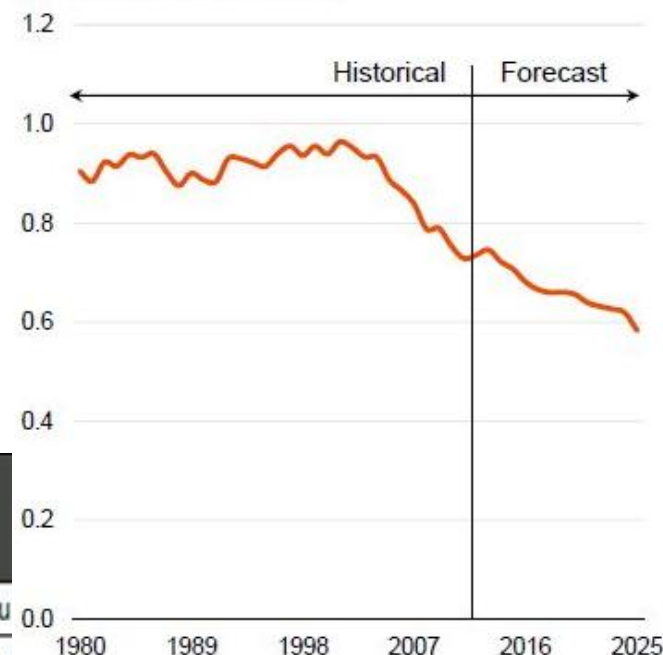
Source: NRCan & Statistics Canada

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Supply-side challenges: grade decline a major constraint

- Copper grades have declined at an average rate of 2.8% per annum over the last decade
- Lower grades have an impact on productivity, increasing costs as production decreases
- New discoveries have not been able to reverse the long term trend
- At the same time new technologies and improved processes have unlocked value in lower grade resources but at a higher cost

Industry average head grade
(% copper in process feed)



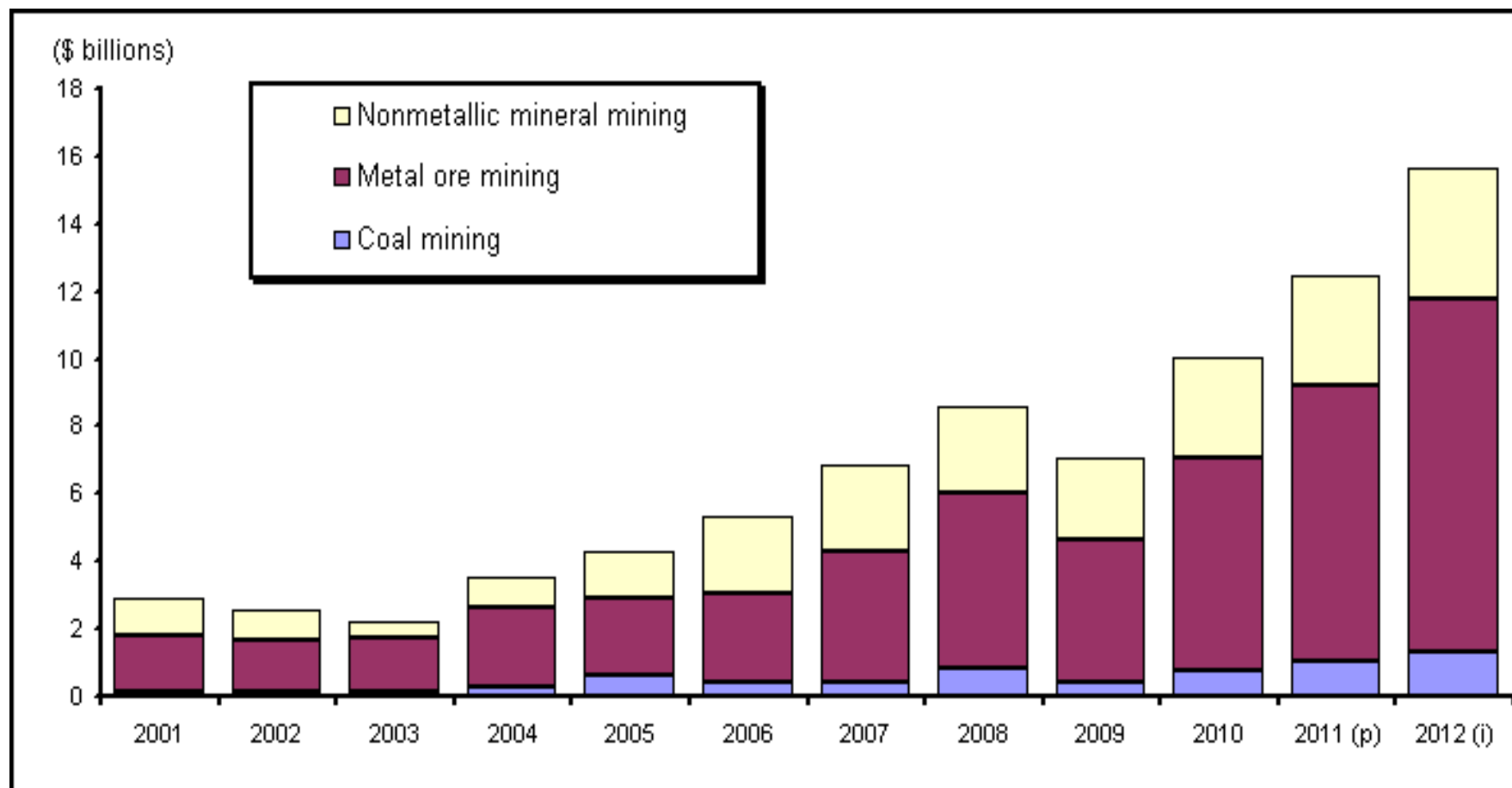
Source: Wood Mackenzie, Q2 2012 update.

Province		Measured Resource (Mt)	Indicated Resource (Mt)	Inferred Resource (Mt)
Escondida district	FY2012	4,069 @ 0.72% Cu	4,986 @ 0.57% Cu	12,635 @ 0.47% Cu
	FY2008	1,819 @ 0.84% Cu	2,984 @ 0.70% Cu	4,233 @ 0.53% Cu
Cerro Colorado	FY2012	96 @ 0.66% Cu	317 @ 0.64% Cu	82 @ 0.58% Cu
	FY2008	135 @ 0.70% Cu	93 @ 0.62% Cu	129 @ 0.56% Cu
Spence	FY2012	232 @ 0.91% Cu	1,315 @ 0.47% Cu	1,260 @ 0.37% Cu
	FY2008	196 @ 1.16% Cu	190 @ 0.70% Cu	13 @ 0.43 Cu
Antamina	FY2012	169 @ 0.83% Cu 0.6% Zn, 9 g/t Ag 0.03% Mo	990 @ 0.91% Cu 0.6% Zn, 10 g/t Ag 0.02% Mo	706 @ 0.73% Cu 0.4% Zn, 9 g/t Ag 0.01% Mo

BHP Billiton Base Metals site tour, 30 September 2012

Trends

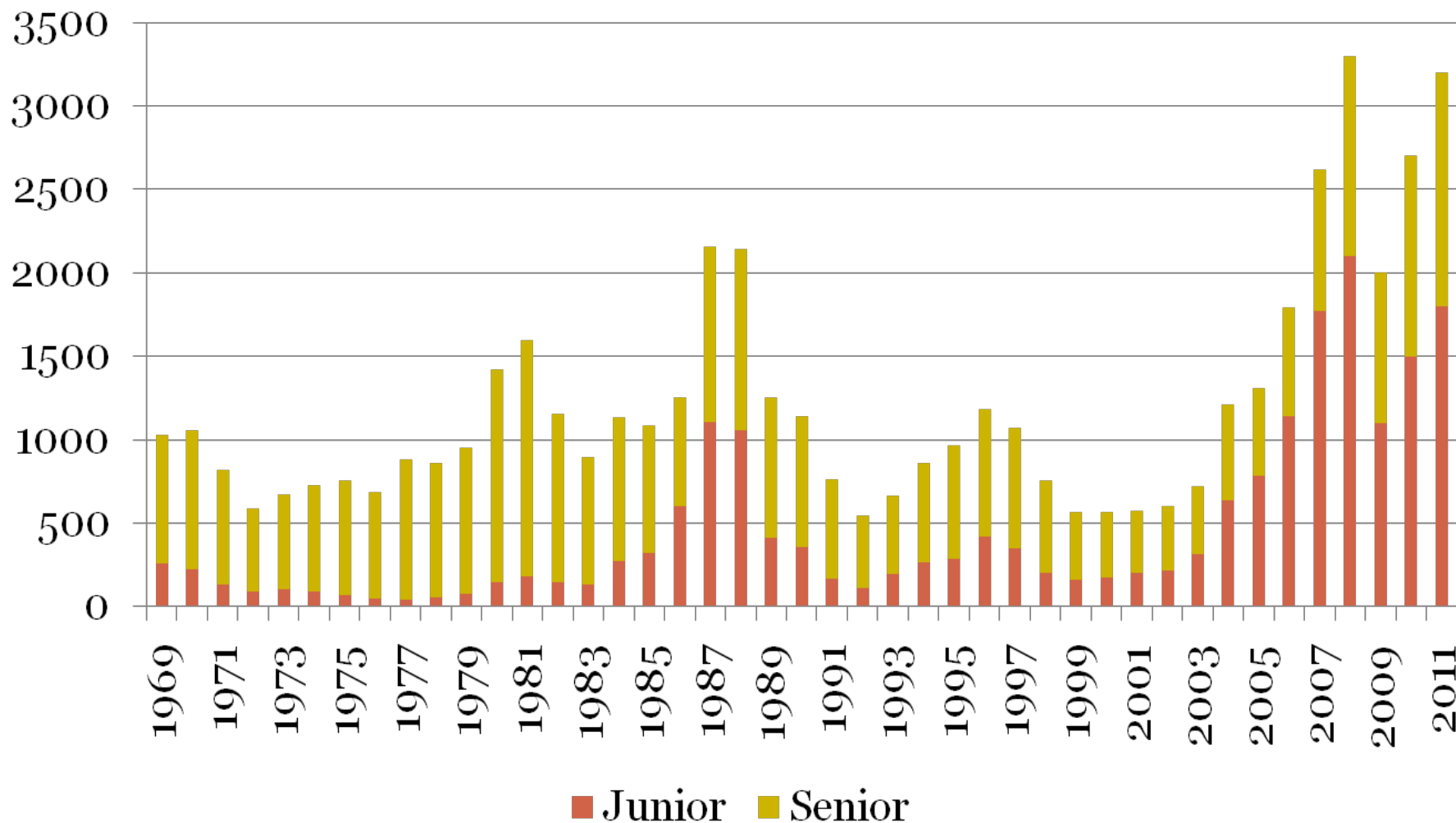
Capital Investment in the Mining Industries in Canada - Current Dollars, 2001-12



Source: NRCan & Statistics Canada. (p) Preliminary actual investment; (i) Intentions.

Trends

Exploration and Deposit Appraisal Expenditures by Type of Company

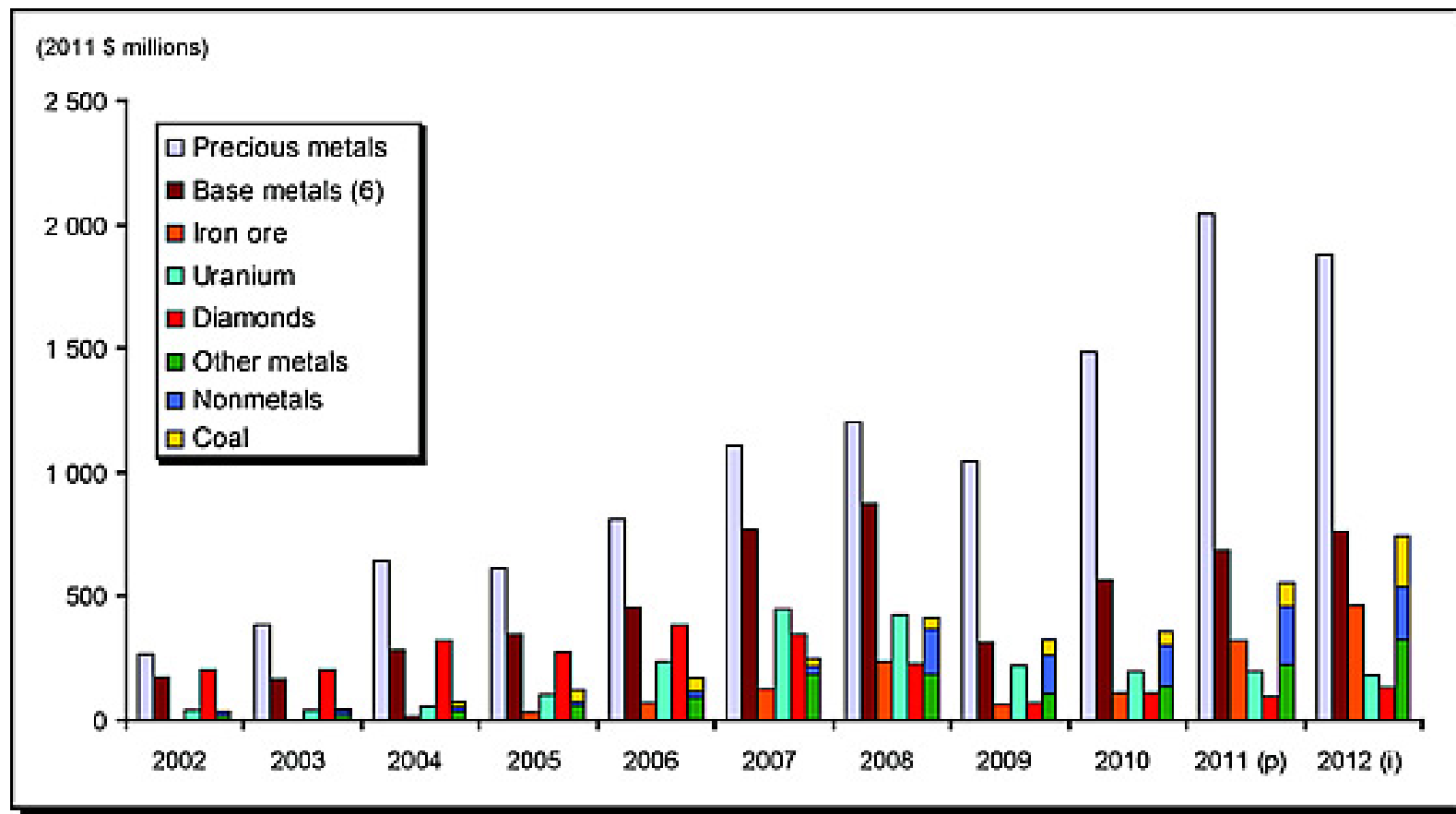


Source: NRCan & Statistics Canada

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Trends

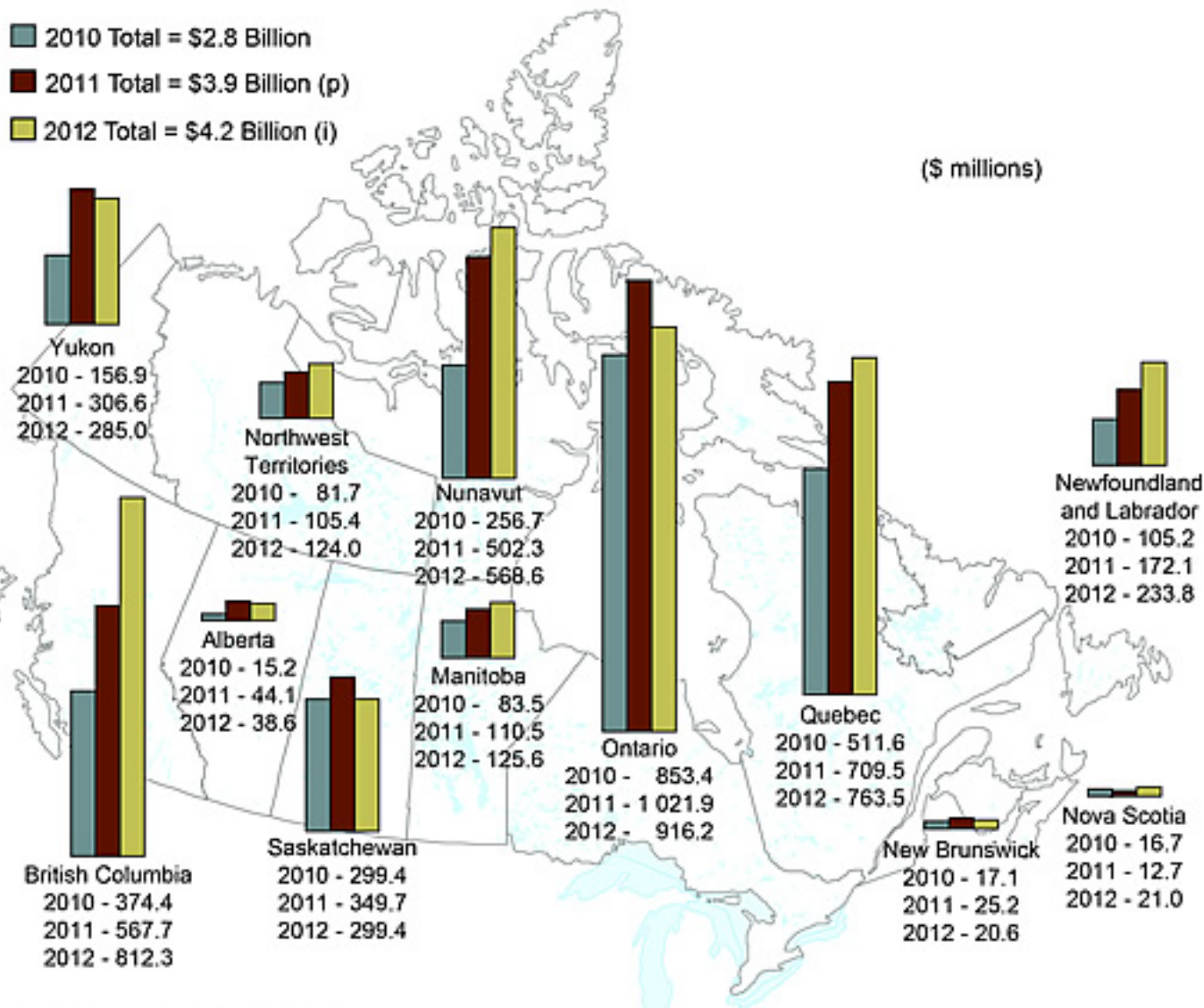
Exploration and Deposit Appraisal Expenditures by Commodity, 2002-12



Source: NRCan & Statistics Canada. (p) Preliminary actual investment; (i) Intentions.

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Trends



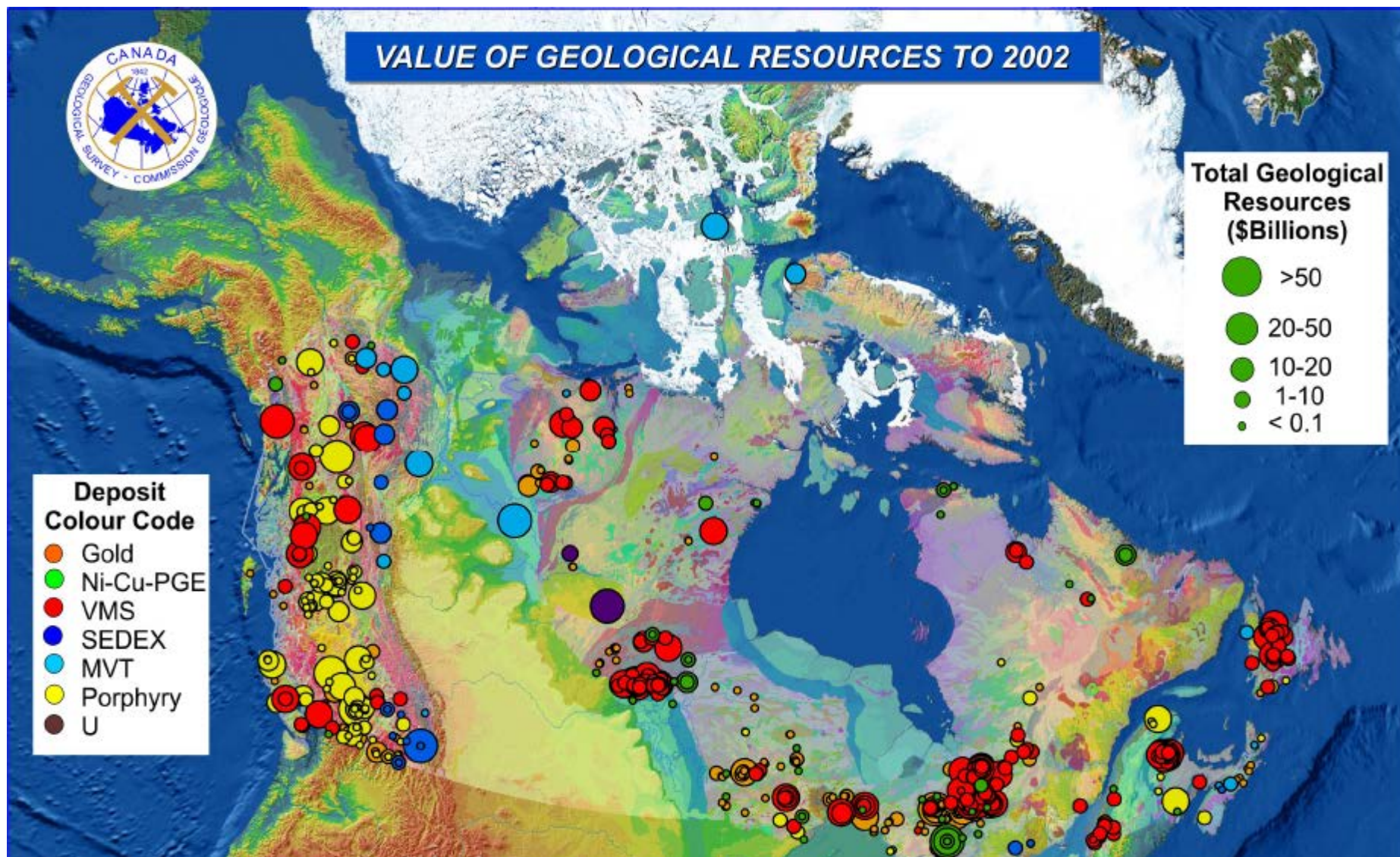
Source: NRCan & Statistics Canada. (p) Preliminary actual investment; (i) Intentions.

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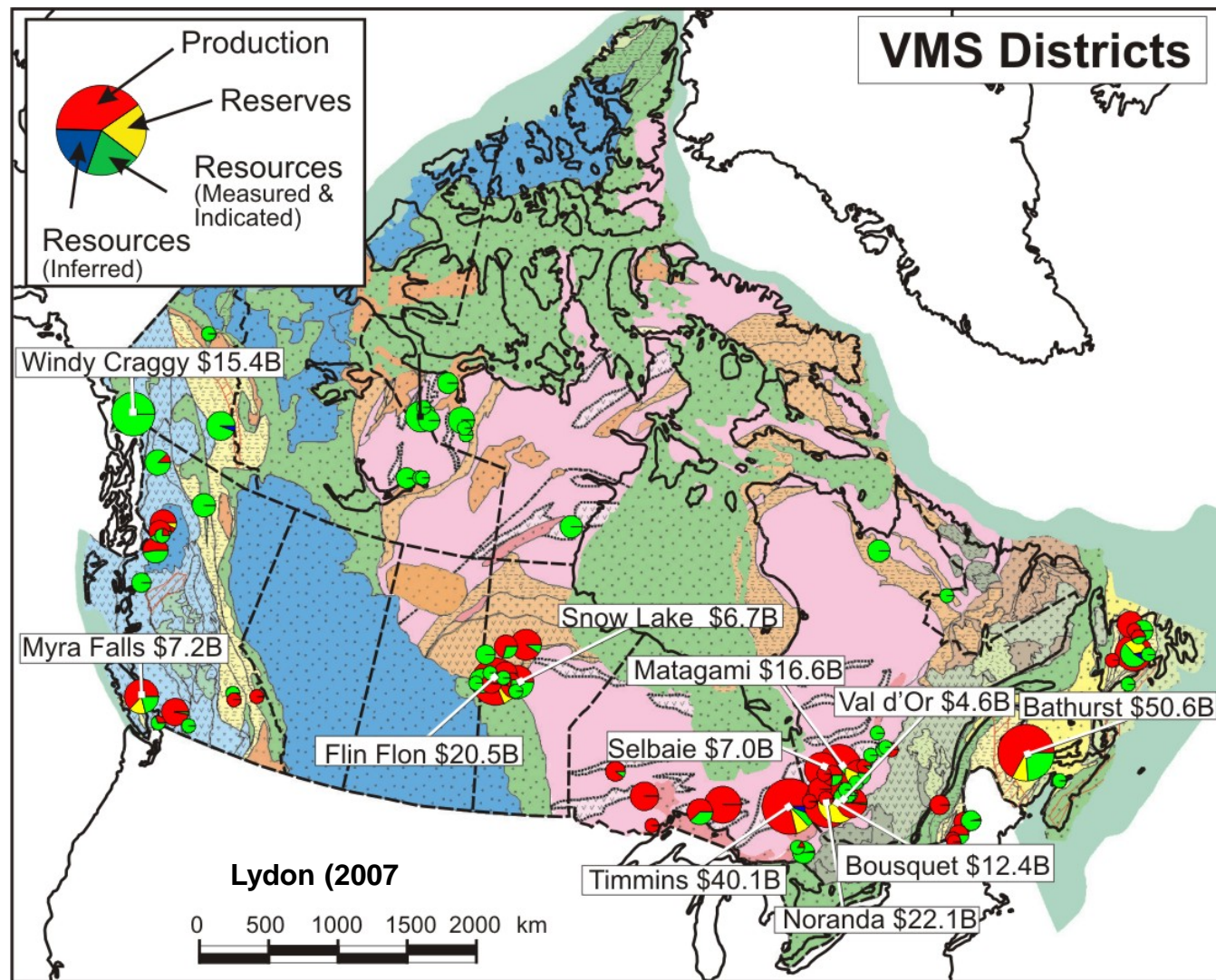
Summary of trends

- Demand for base metals will continue and possibly outpace the supply keeping prices relatively high.
- Mined grades will decline and costs of mining will rise.
- Lower grade ores will not fully replace production.
- Known resources will continue to be depleted and there will be a perceived need to be replaced by exploring for new discoveries.
- Exploration for new discoveries is likely to increase but will rise and fall with metal prices.
- Established mining operations will likely see their mine life extended mining lower grade ores although at increased costs.

Mining Camps

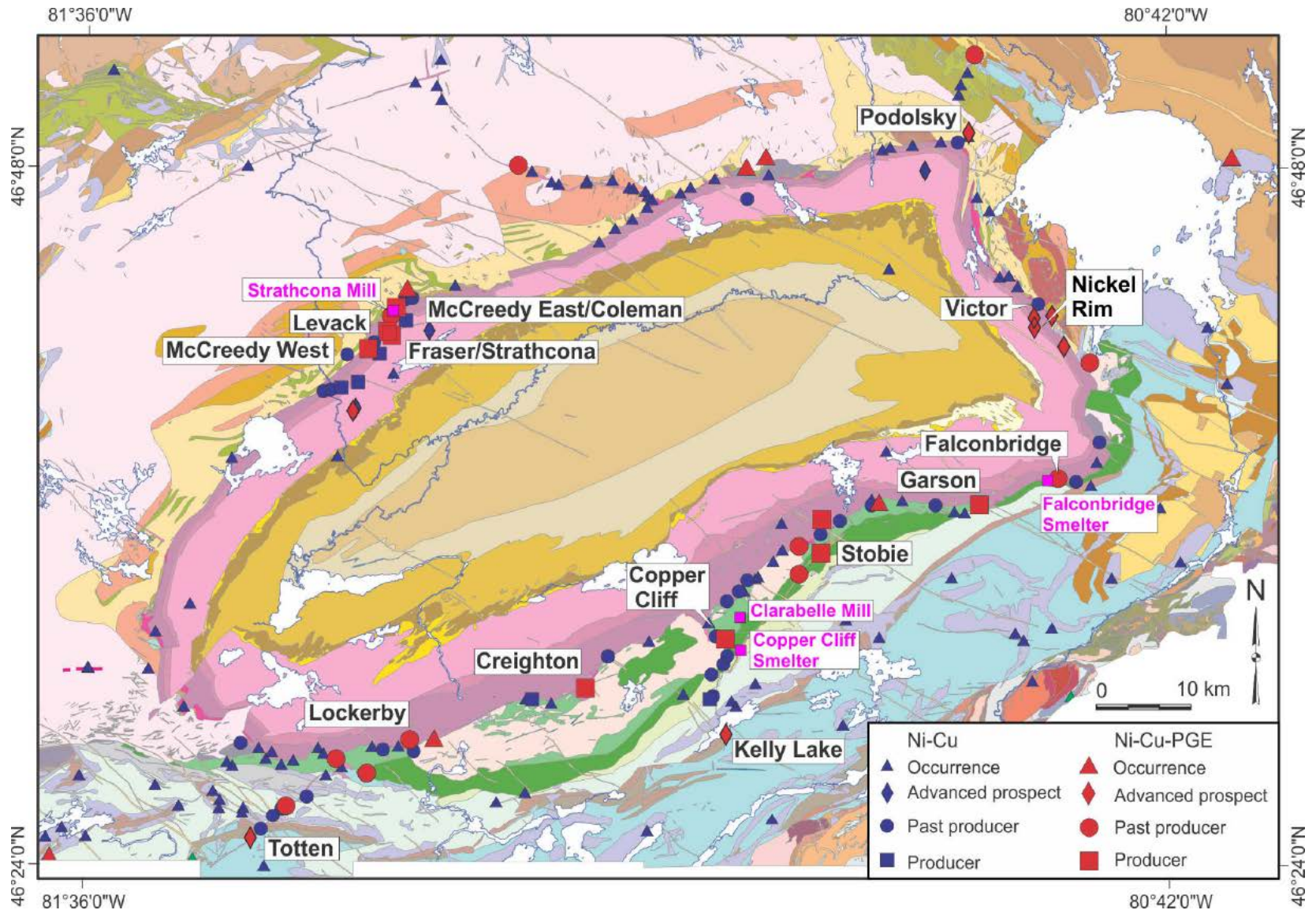


Mining Camps - VMS



- Established camps with production are near infrastructure (southern third of Canada)
- Just deposits in remote areas

Sudbury camp

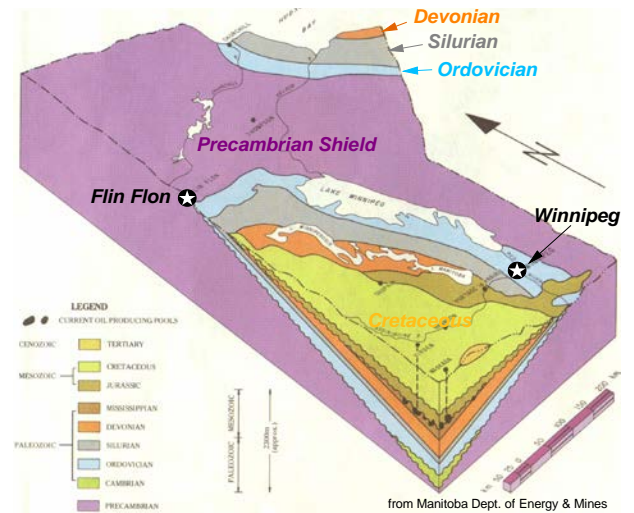
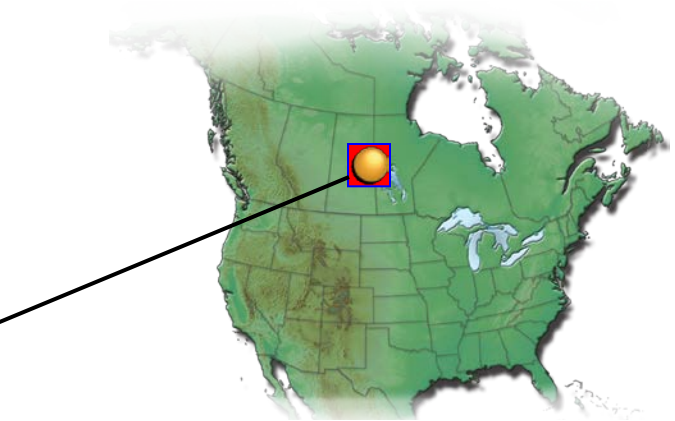
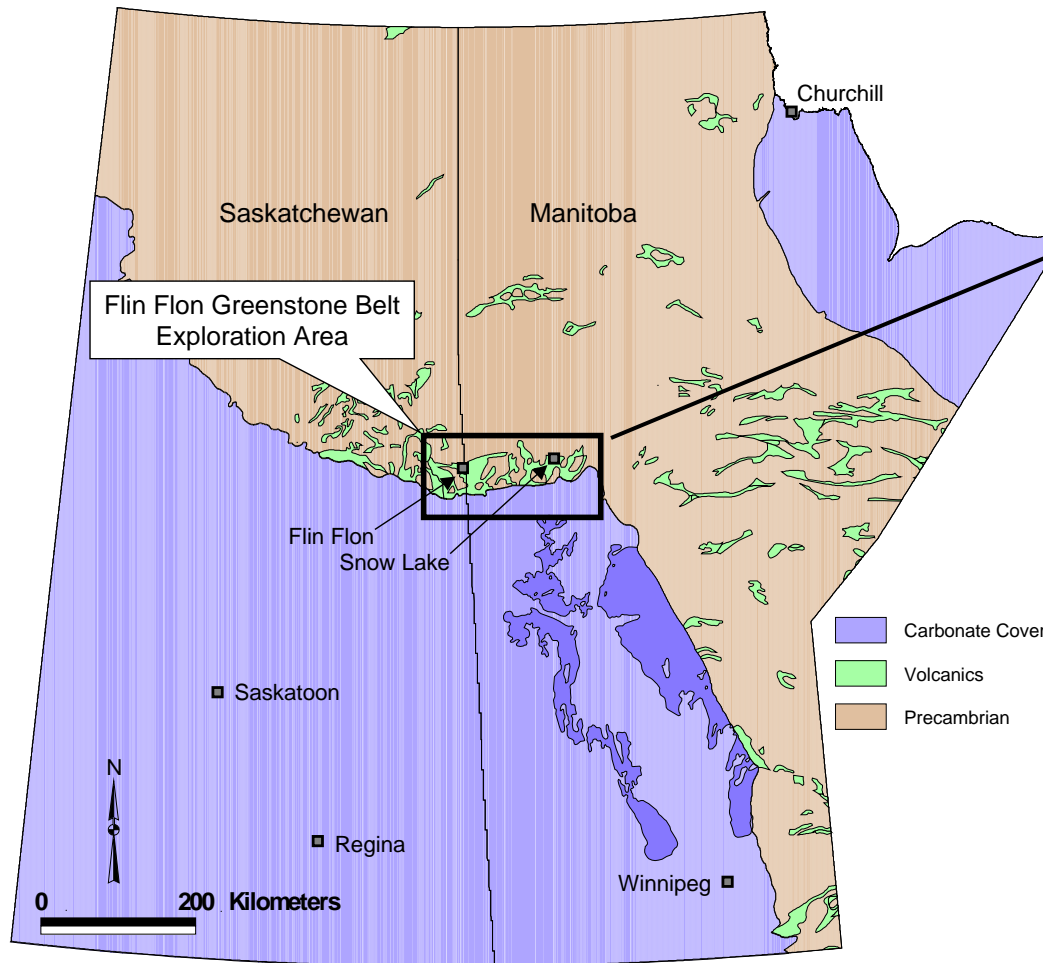


Modified from Ames & Farrow (2007) Metallogeny of the Sudbury mining camp

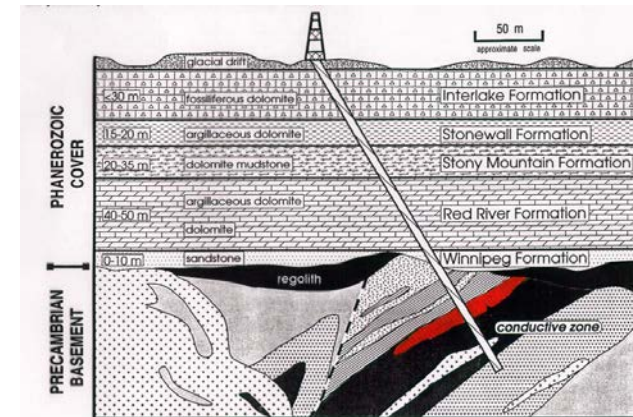
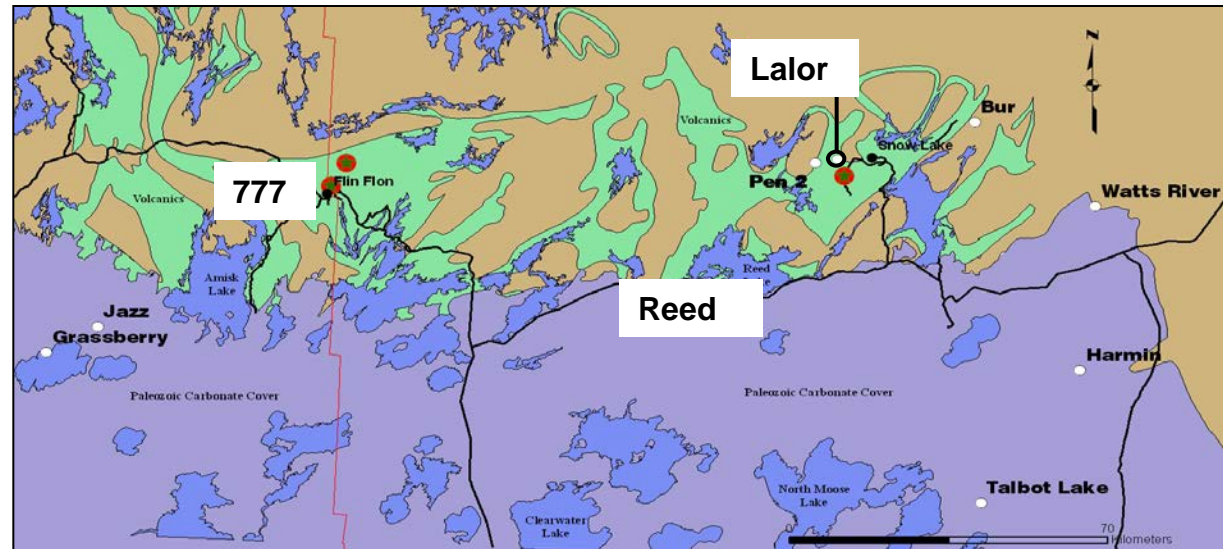
Sudbury camp

- Subury complex mines have produced or contain;
 - Over 1.65 billion tonnes in over 77 mines
 - Over 126 years of production since 1886
 - Currently greater than 127 million tonnes in reserve/resource categories
- Discovered 1883 during railway construction ie post –infrastructure. Earlier reports of copper nickel in GSC reports from 1857.
- Originally only recognized only as copper ores – nickel was recognized 4 years later and now PGE's are economically important.
- Six deposits Frood, Creighton, Copper Cliff, Stobie, Levack and Garson found very early within 10 years,
- Deposits found by prospecting, geophysics and deposit modeling.

Flin Flon Greenstone Belt (FFGB)



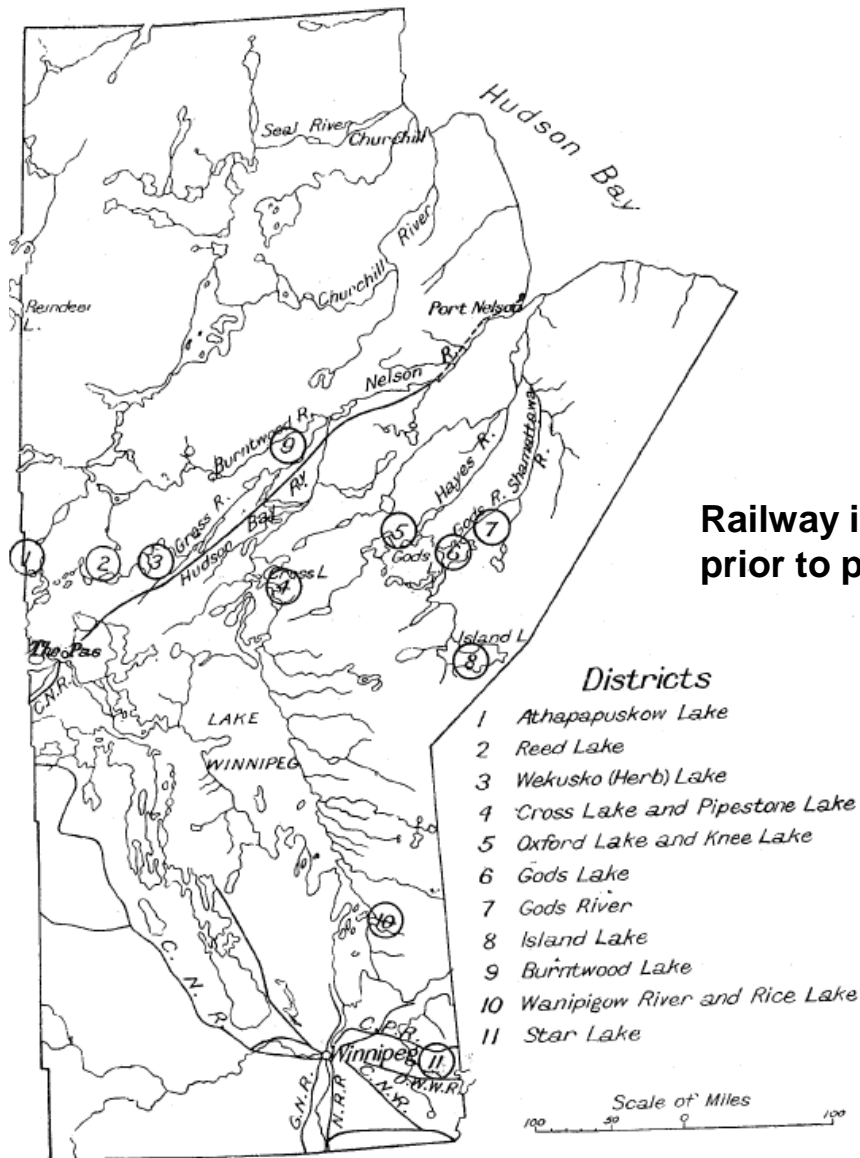
Flin Flon Greenstone Belt (FFGB) – Exposed and under cover



Flin Flon Greenstone Belt (FFGB)

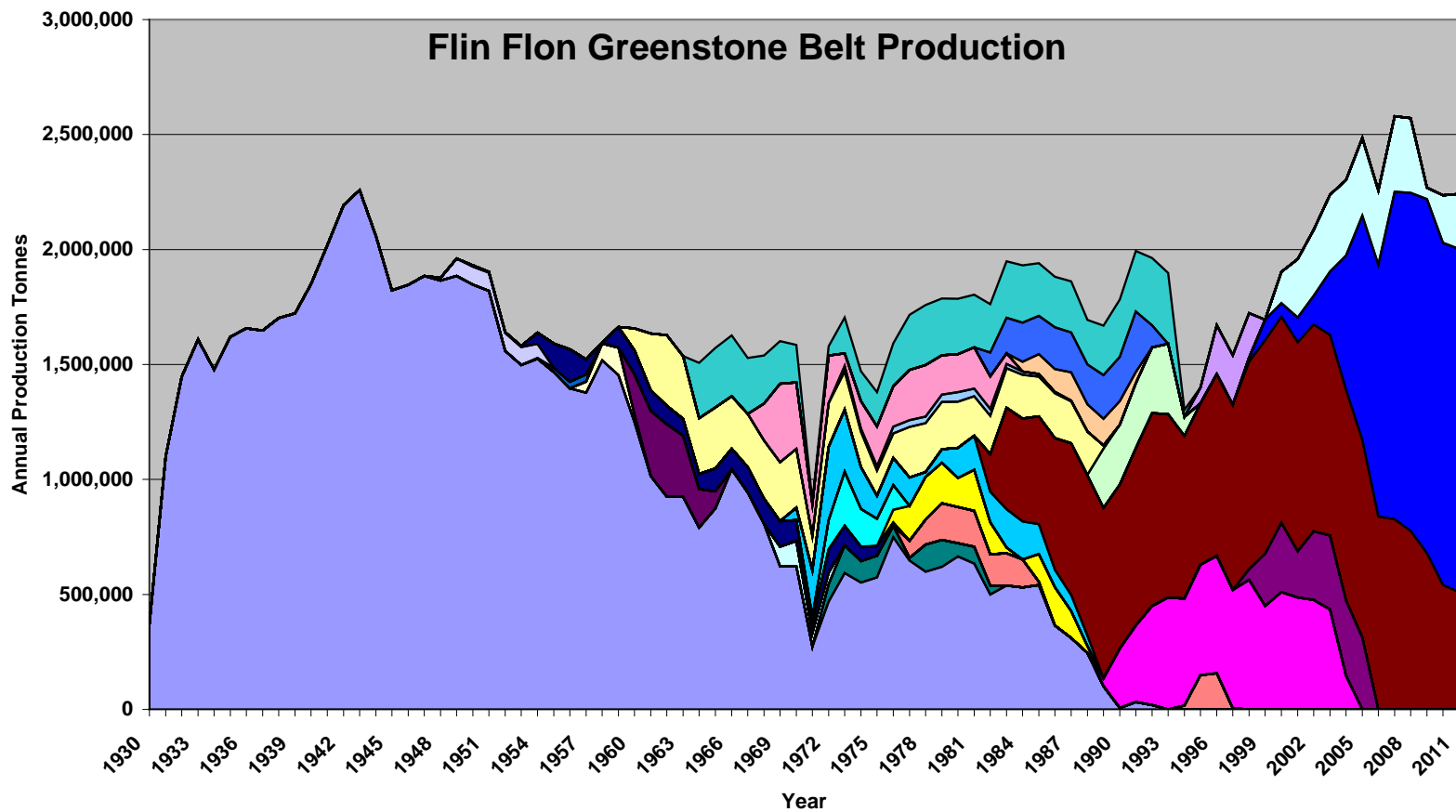
- Hudbay discoveries and mines have produced;
 - Over 155 million tonnes from over 26 mines
 - Over 80 years of production since 1930
- Flin Flon Mine is the largest 62.4 mt @ 2.2% Cu, 4.2% Zn, 2.6 g/t Au and 41.5 g/t Ag Average size of the deposits – 3 to 6mt @ 2% Cu, 4.0% Zn
- More than 20 million tonnes discovered since 1993 – already mined or within current mines.
- Lalor discovered in 2007 has a resource near 30 million tonnes
- 60% of deposits found with geophysics

Flin Flon Greenstone Belt (FFGB) – Chronology

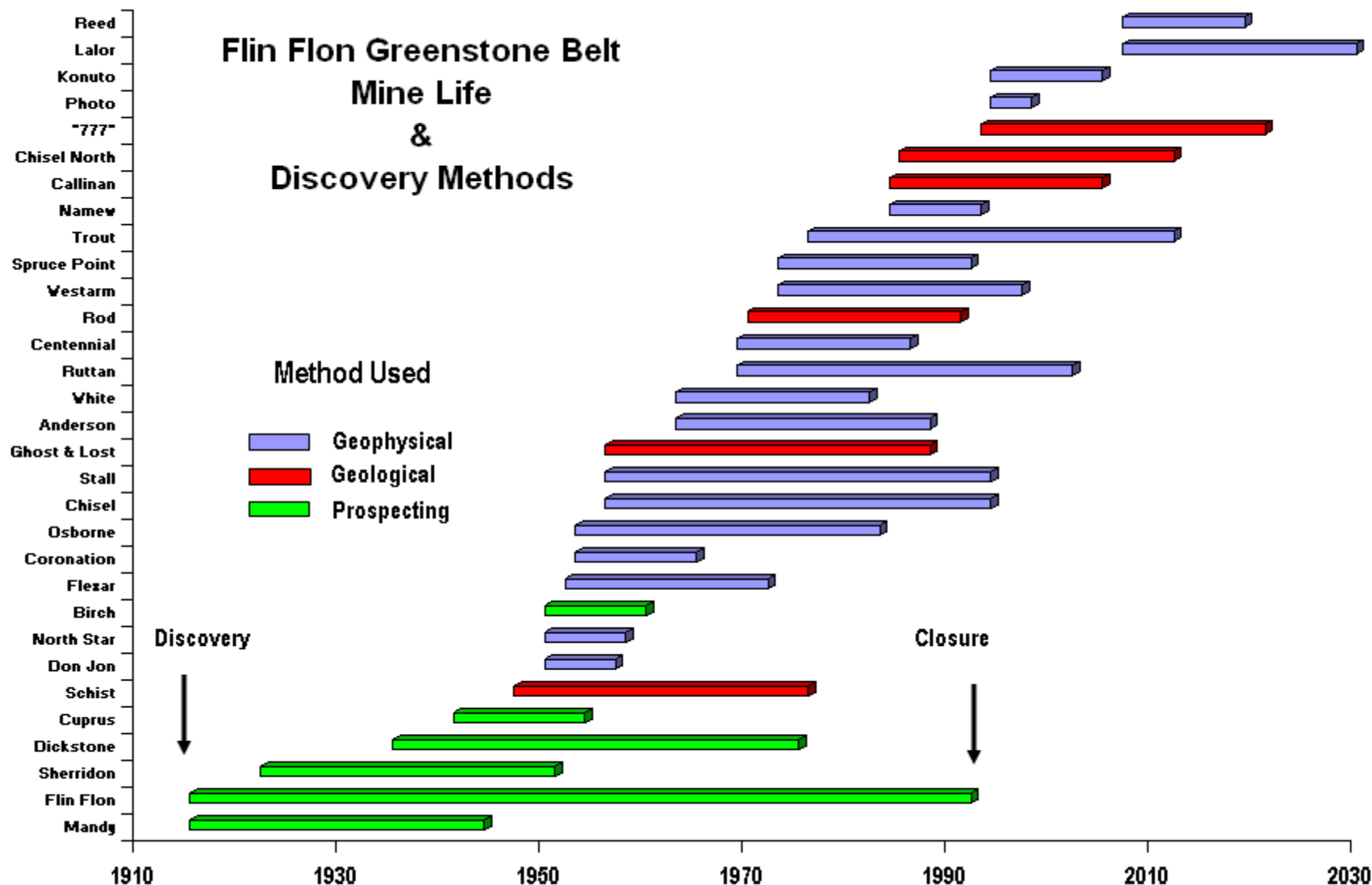


- 1896 J. B. Tyrell GSC reconnaissance survey
- 1906 Wm. McInnes GSC survey the same year construction started on the railway to Hudson Bay
- 1914 E.L Bruce GSC survey
- 1915 T. Creighton discovered Flin Flon Mine
- 1928 branch rail line extended to Flin Flon
- Construction of full metallurgical processing plant
- 1930 Flin Flon Mine started production with 16.3 mt resource
- 2011 >40mt resource and reserves

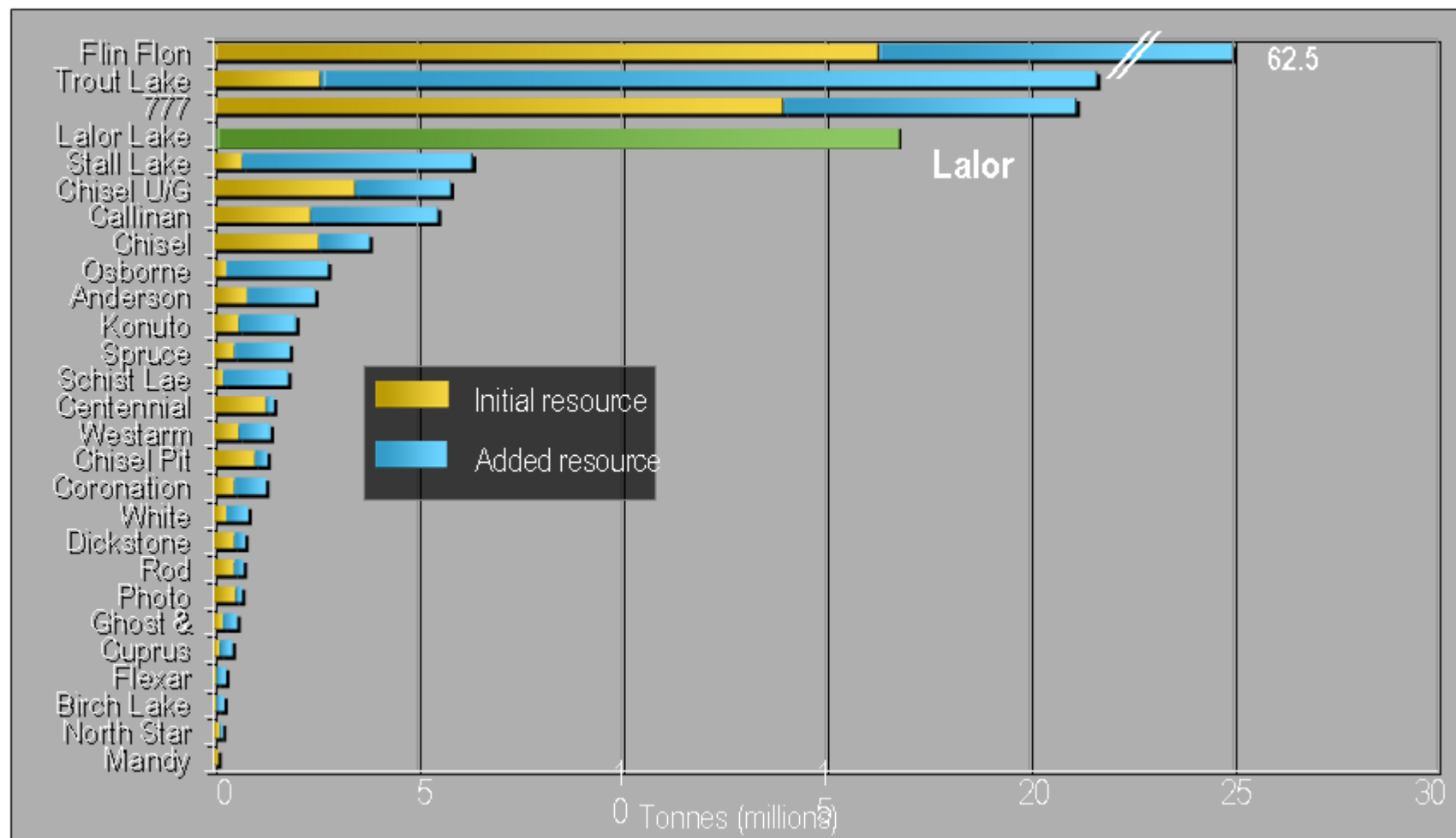
Flin Flon Greenstone Belt (FFGB)



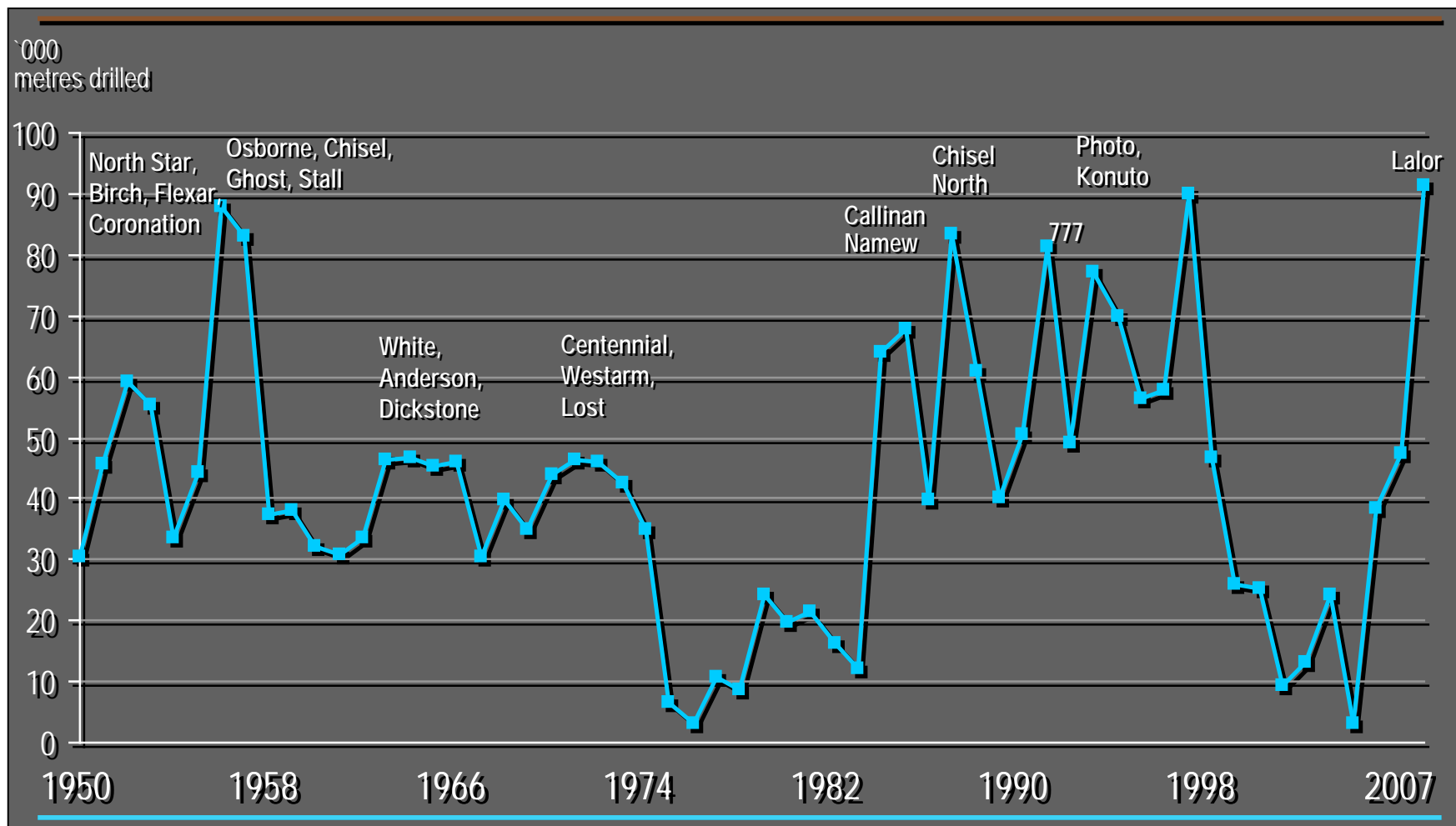
Flin Flon Greenstone Belt Mine Life & Discovery Methods



Flin Flon Greenstone Belt (FFGB)

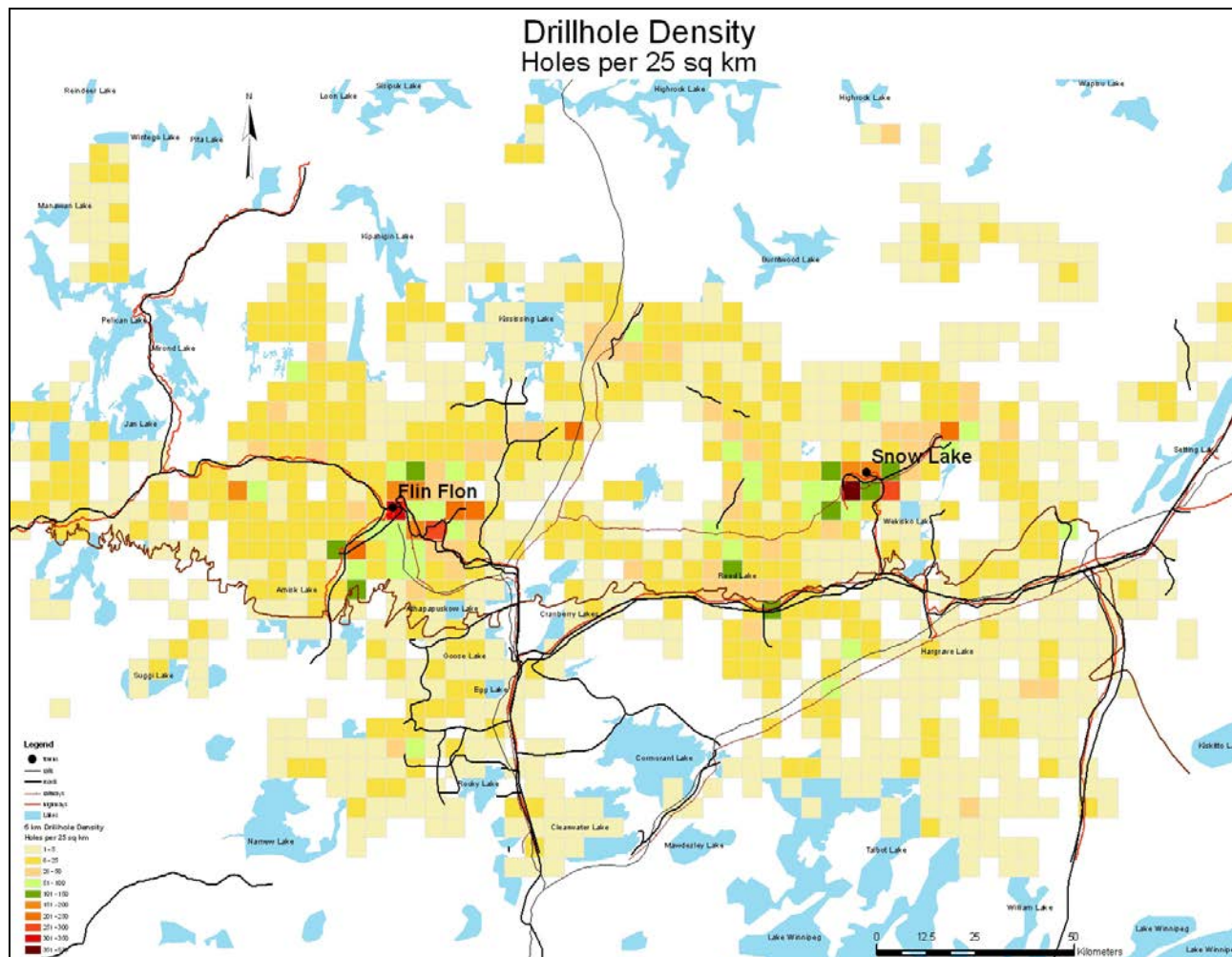


Flin Flon Greenstone Belt (FFGB)



Meters drilled versus discoveries

Flin Flon Greenstone Belt (FFGB)



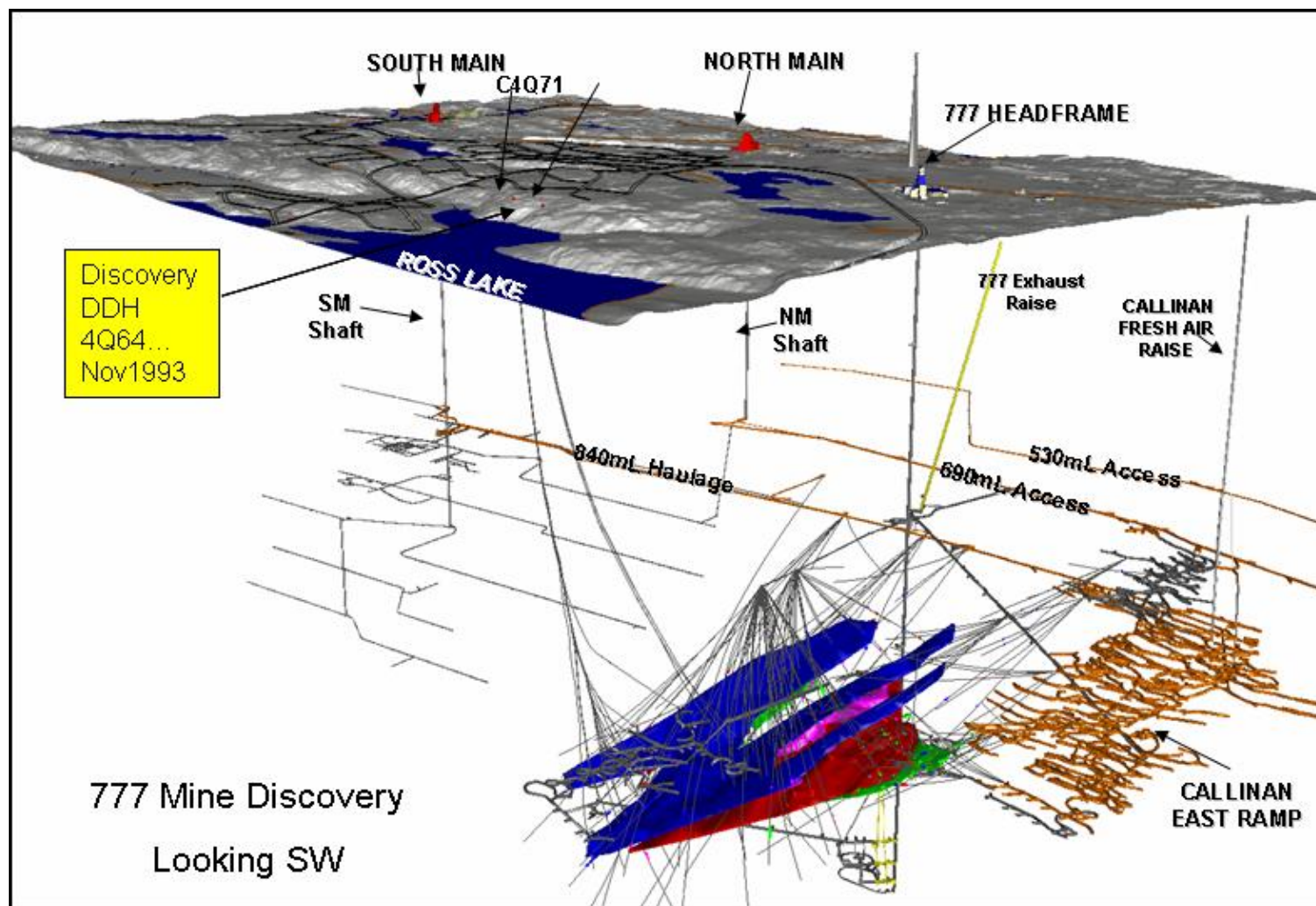
Exploration maturity

Brown fields to
Green fields

- Extensively explored areas near mines
- Well explored areas near satellite deposits
- Under explored areas often under carbonate cover

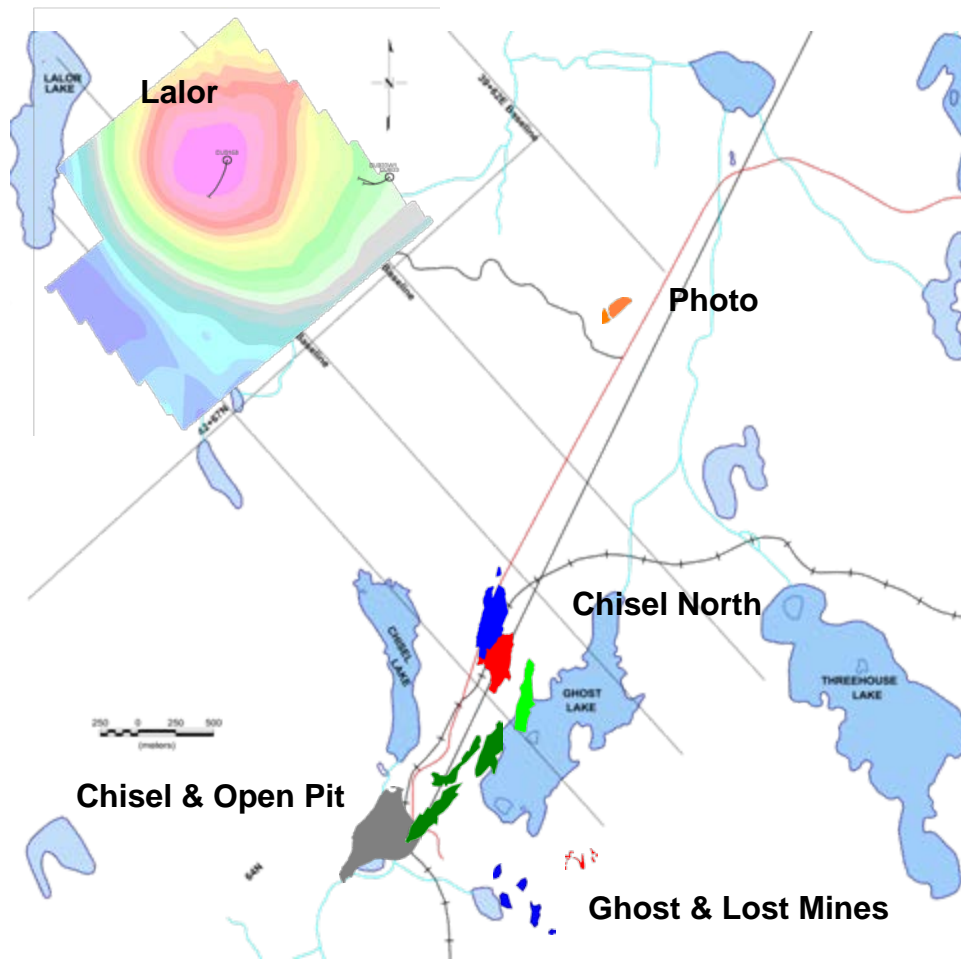
FFGB

777 Near mine Discovery



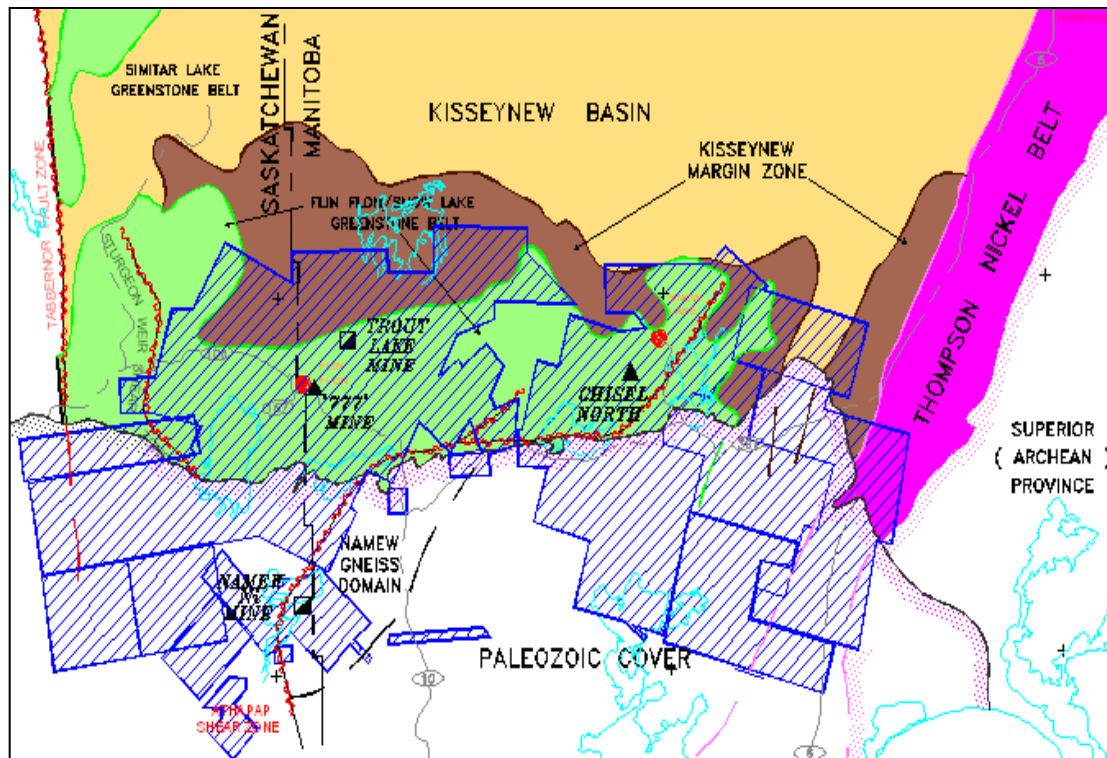
FFGB

Lalor Near mine Discovery



- 1960 Chisel Lake U/G mine started production with 3 mt resource/reserve
- 1987 Chisel North lenses discovered
- Deep drilling Dub 33
- Chisel Open pit mine
- 1993 Photo Lake mine discovered Spectrem airborne
- Crone geophysical surveys - 2003
- Lalor discovery hole Dub 168 - 2007
- Lalor resource currently near 30 mt

FFGB Spectrem Airborne EM Surveys

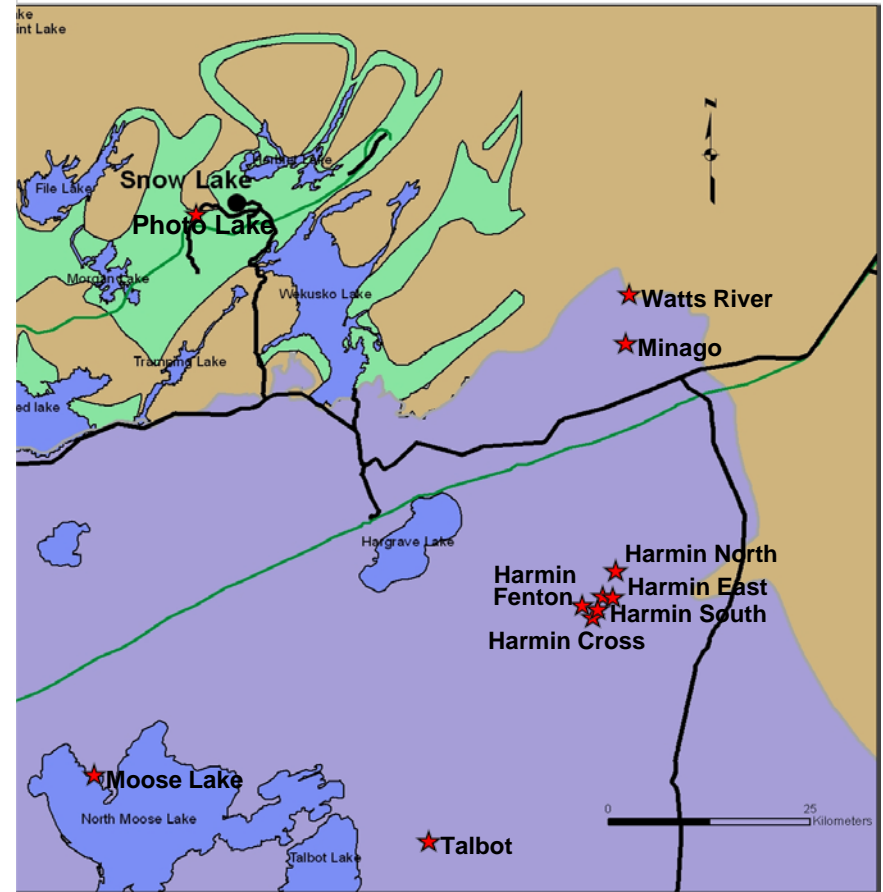


- 5th generation of airborne EM survey (1993 to 2000)
- Produced over 2000 untested EM targets – still testing.
- Produced 2 mines
- Produced at least 6 significant new deposits
- Produced over 20 new mineral occurrences
- Belt is now covered by over 80,000 km of new VTEM survey

FFGB

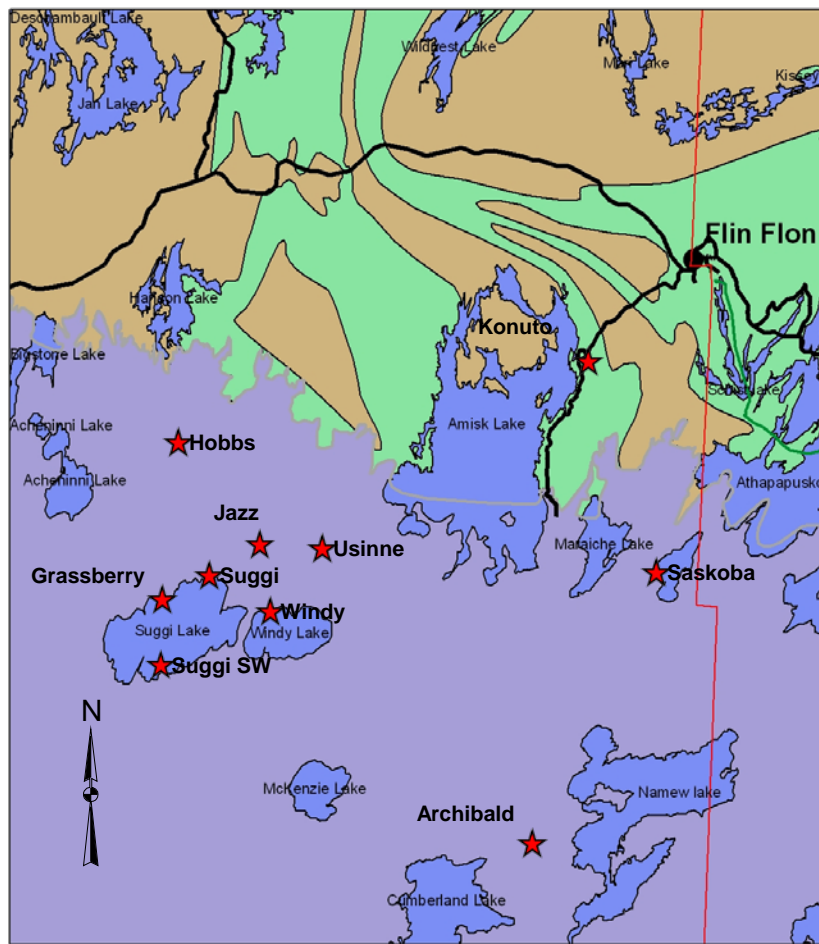
Spectrem Greenfields Discoveries Manitoba

Zone	Meters	Cu %	Zn %
Photo	28.83	6.57	1.80
Watts	13.79	2.51	2.44
Minago	5.45	0.61	0.43
Fenton	6.38	0.94	10.61
Harmin	31.89	2.18	2.97
Harmin East	2.40	0.61	4.26
Harmin South	5.40	0.30	3.57
Harmin North	13.86	0.22	2.04
Harmin Cross	1.33	0.31	4.62
Talbot	9.65	12.44	3.50
Moose	2.91	3.38	1.06



FFGB

Spectrem Discoveries Saskatchewan

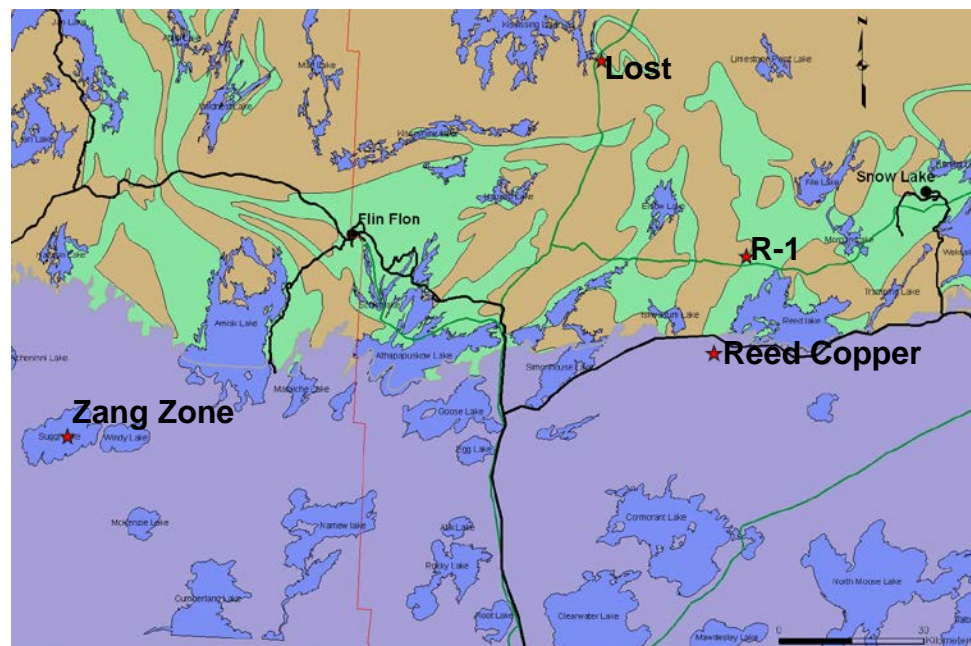


Zone	Meters	Cu %	Zn %
Grassberry	2.52	6.94	19.28
Jazz	2.48	4.20	14.96
Suggi	3.45	4.66	1.45
Suggi SW	2.00	0.62	1.38
Windy	3.00	1.62	5.41
Windy North	2.60	1.40	1.28
Hobbs	2.53	2.68	0.03
Archibald	38.66	0.08	6.92
Usinne Lake	3.56	1.13	0.28
Saskoba	3.98	1.53	0.01
Konuto	8.31	7.39	2.38

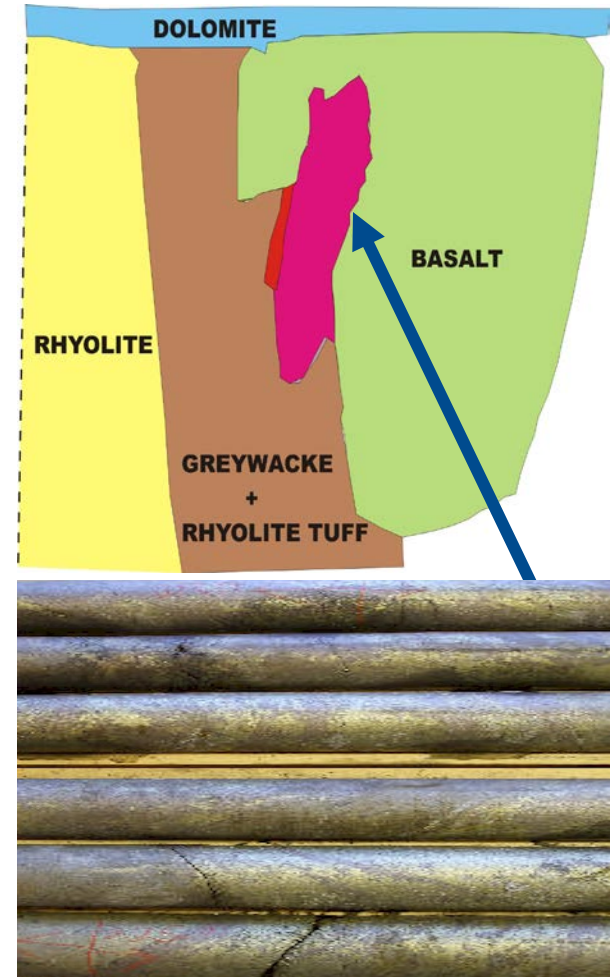
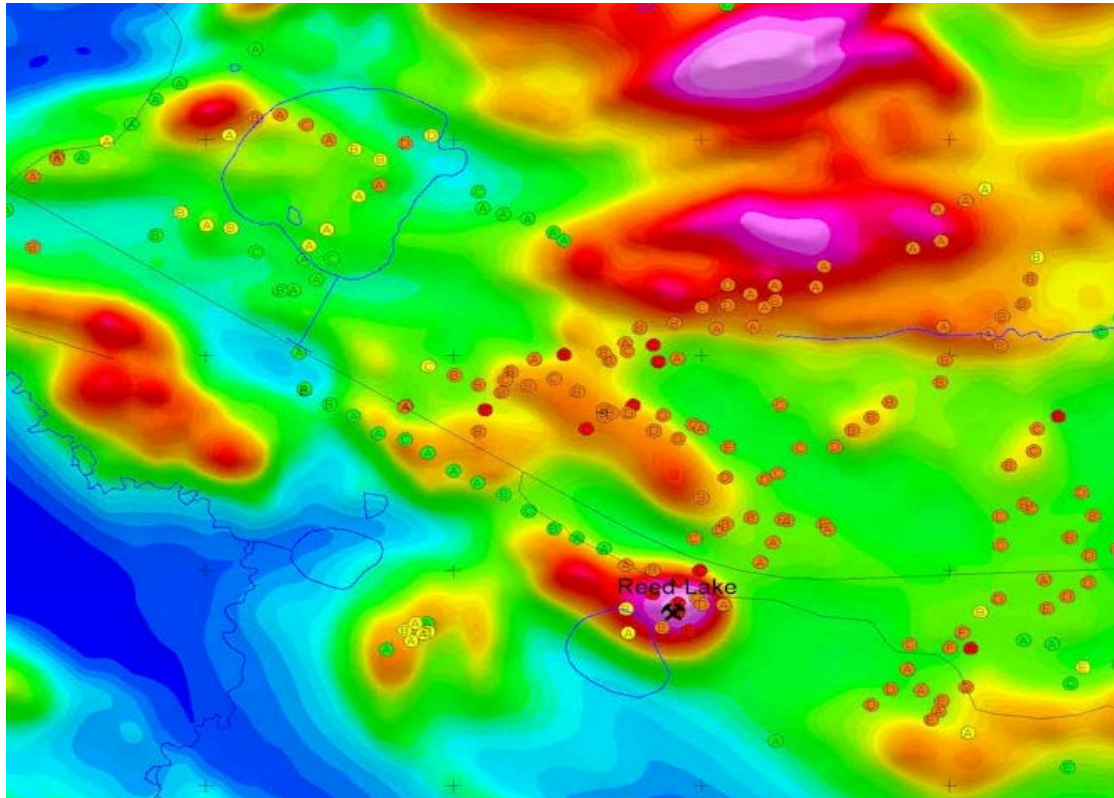
FFGB

New Geophysical Discoveries 2007- present

Company – Zone	Meters	Cu %	Zn %
Exploration Syndicate Inc. – Zang Zone	4.98	5.69	3.22
VMS Ventures – Reed	33.46	10.3	0.11
Halo Resources Ltd. - Lost	4.40	3.0	8.9
Rockcliff Resources – R1 Zone	6.09	3.17	0.15

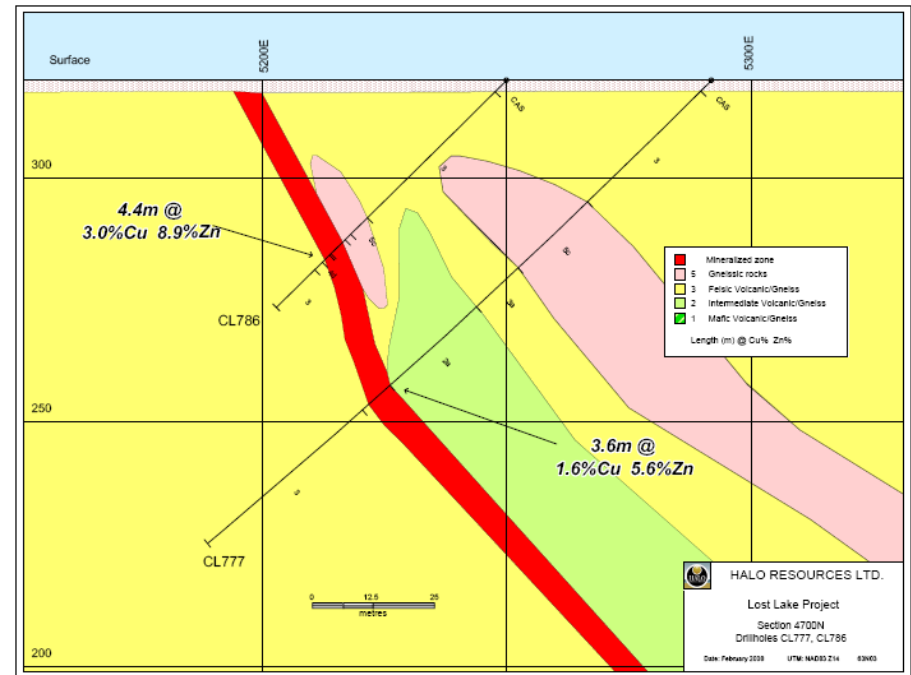
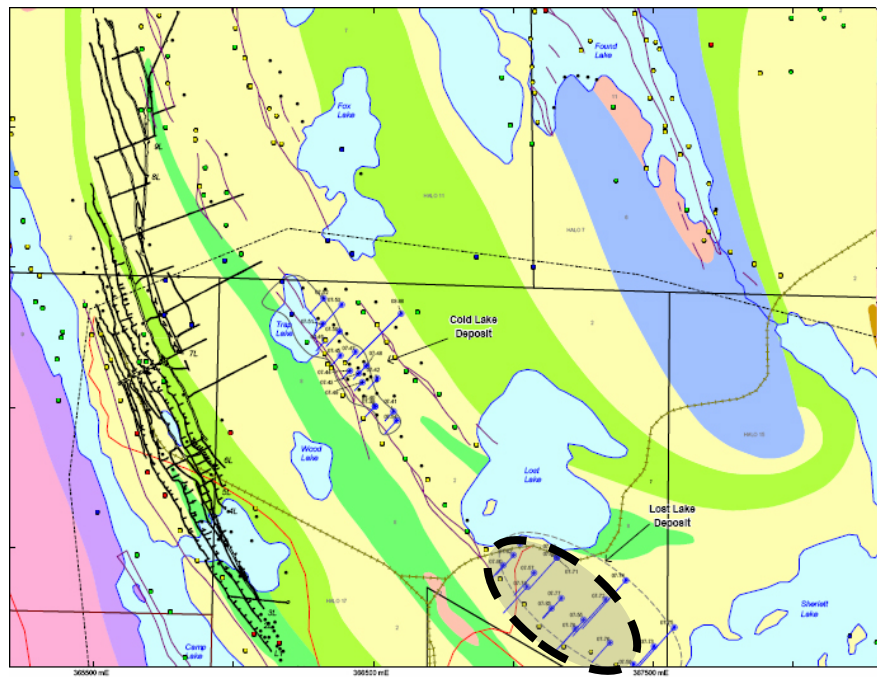


VMS Ventures Reed Copper Discovery – shallow VTEM anomaly



Halo Resources Lost Deposit

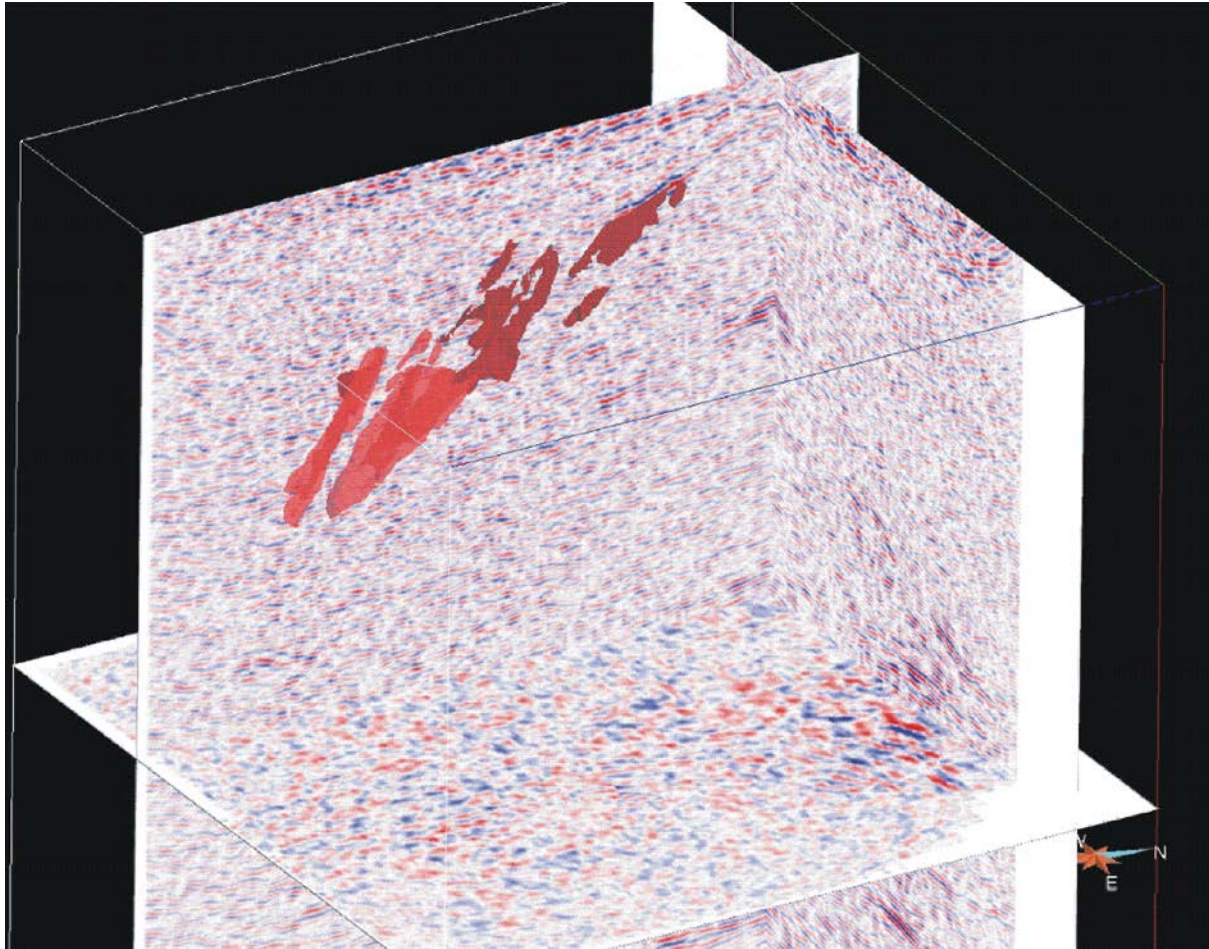
Shallow High Grade Discovery in a mature camp



Summary FFGB

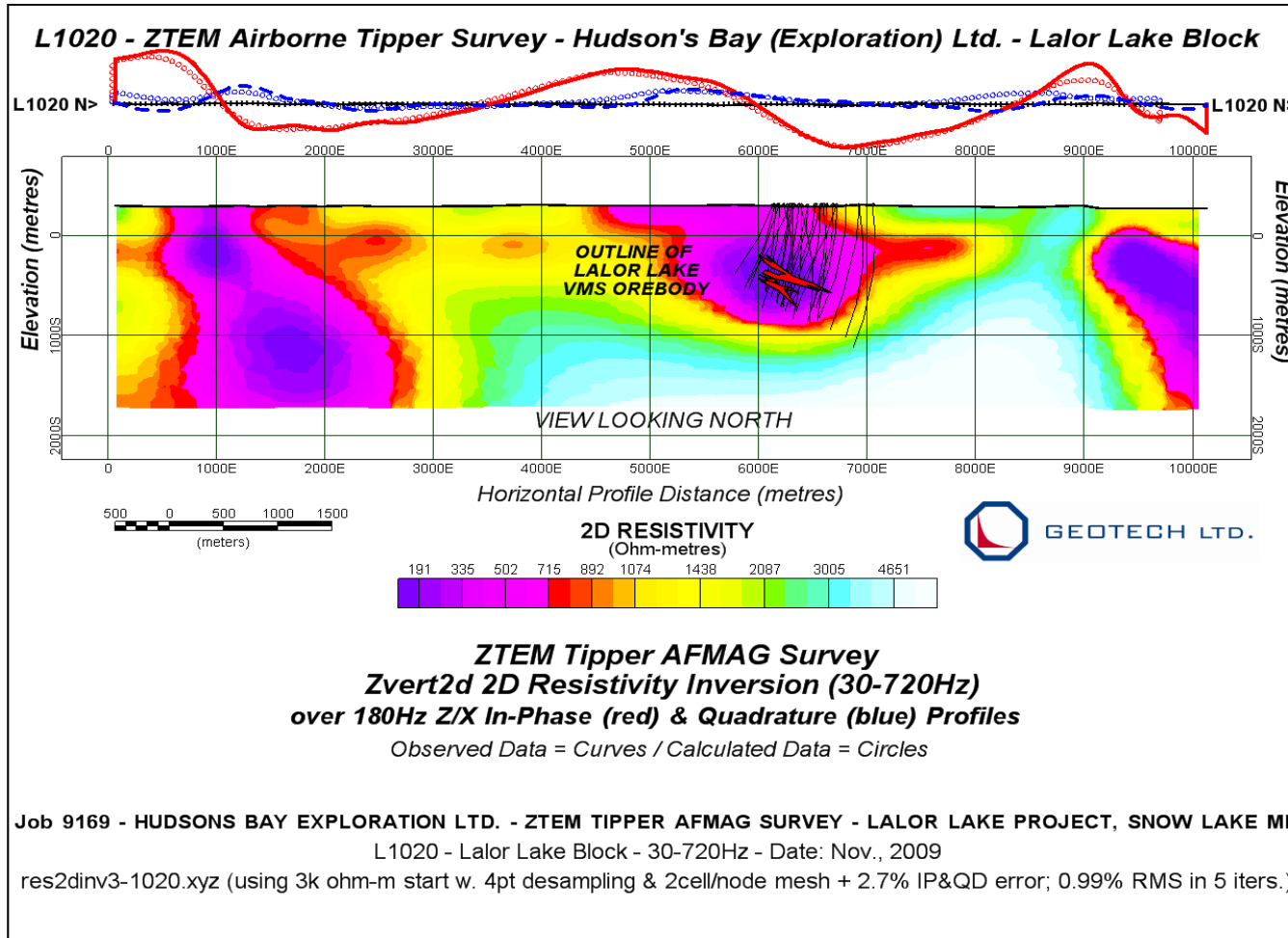
- **Historically sustainable record of new discoveries to maintain or increase the resource base in the FFGB.**
- **Brownfields (near mine) exploration in mature well explored areas continues to be successful.**
 - **at previously unexplored depths - 777 & Lalor**
 - **and at very shallow depths - Halo's Lost Lake deposit and VMS-Hudbay Reed Copper**
- **Greenfields exploration in relatively unexplored parts of the belt has also discovered deposits but they do not have the economic advantage of the near mine discoveries.**
- **Greenfields exploration is almost all under significant cover.**
- **New technology has played a significant role in these discoveries**

New technology – Seismic surveys



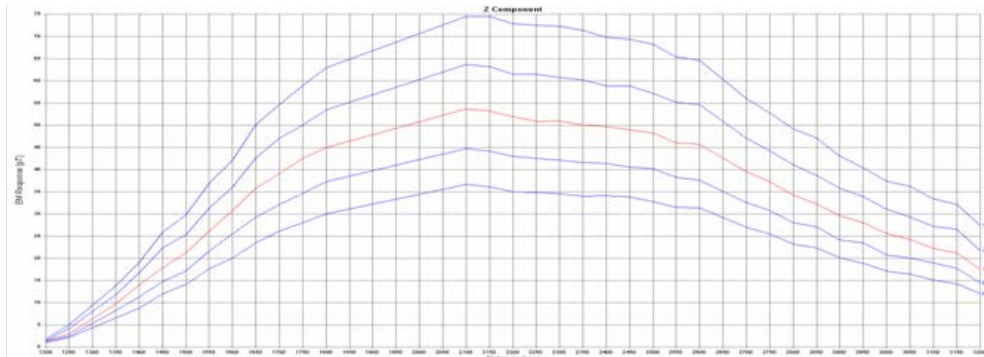
- EM not effective do to cultural noise & depth
- 3D seismic survey designed to target 500m – 3000m depth
- Sulphides are high energy (bright) reflectors

New technology – Airborne EM

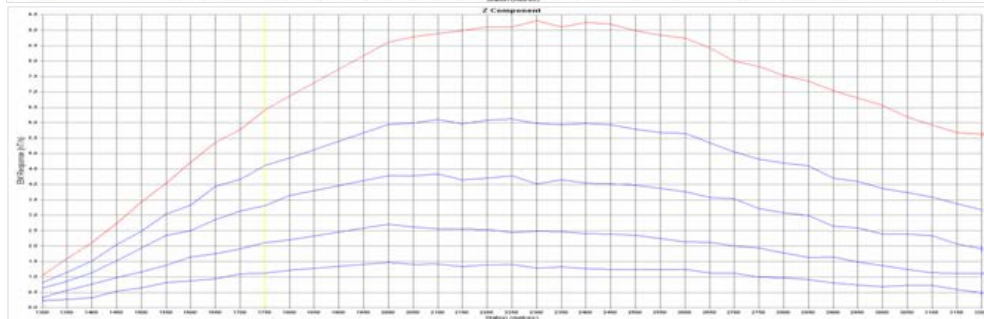


2010

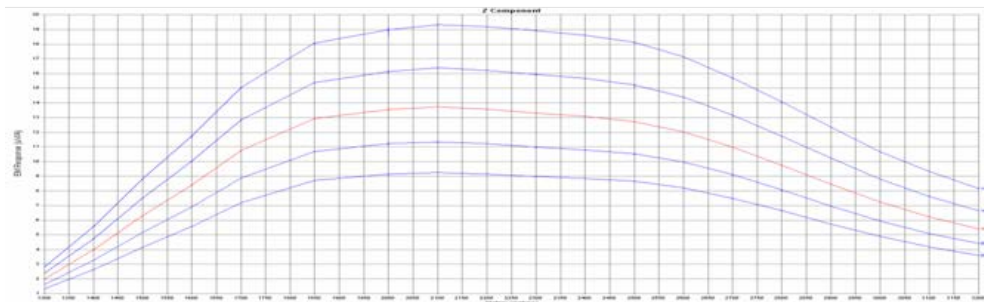
Geotech ZTEM Airborne
Survey Imaging Lalor
Deposit at a Depth of
1000 meters



- Fluxgate MAG Sensor
- 18 kW Transmitter
- Base Freq 1.67 Hz



- Induction Coil
- 4.8 kW Transmitter
- Base Freq 1.67 hz

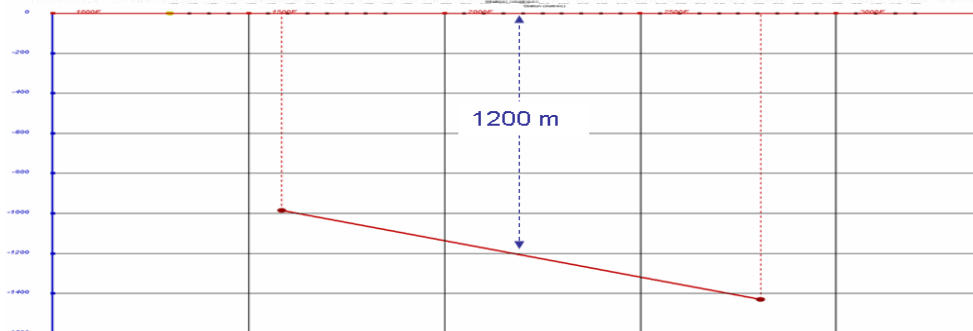


- HT SQUID Sensor
- 20 kW Transmitter
- Base Freq 1.67 hz

Lalor Deposit Geophysical Orientation Surveys

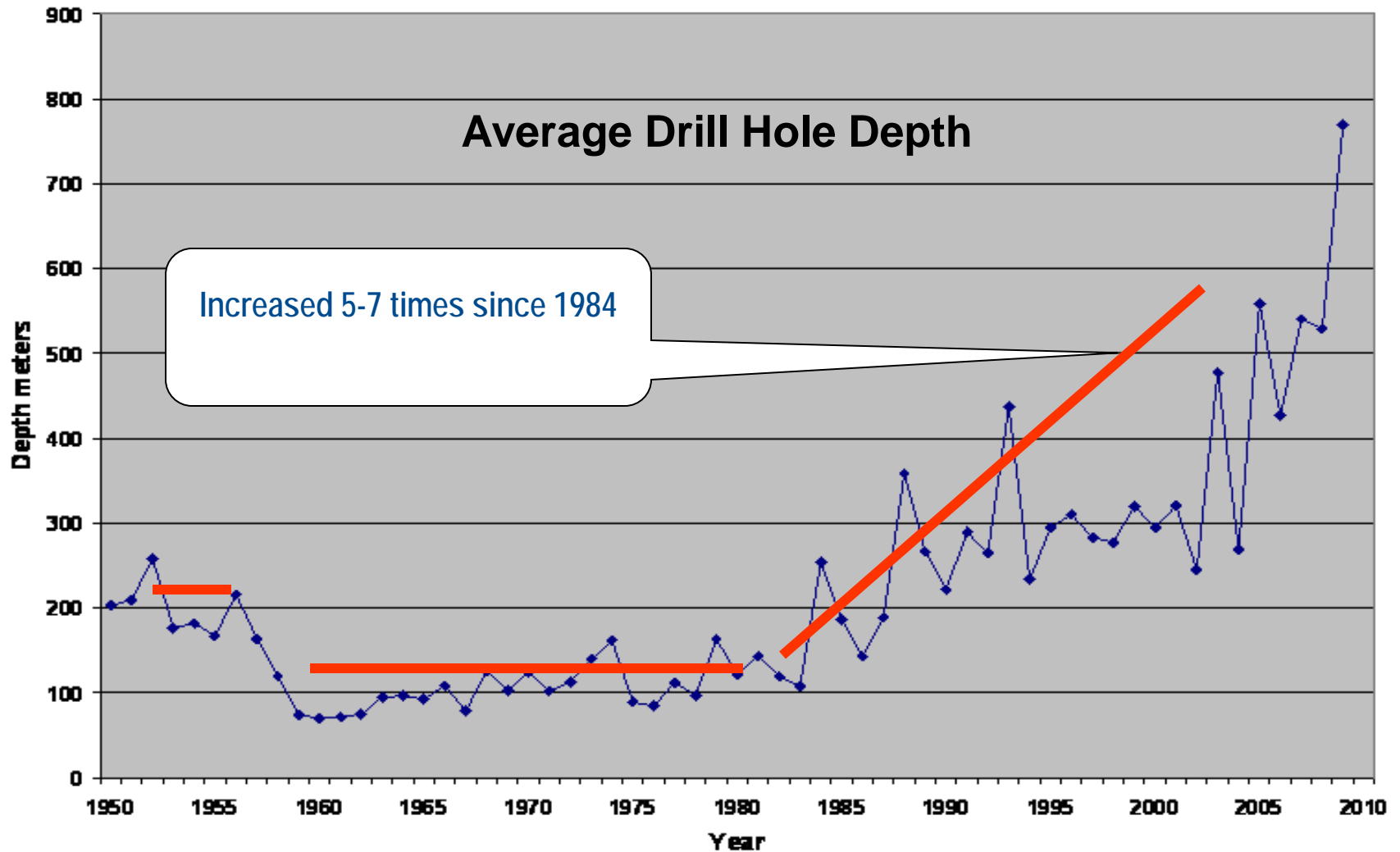
Three Different
Commercial
Time Domain EM
Systems

All detect Lalor at depths
of > 1000 meters

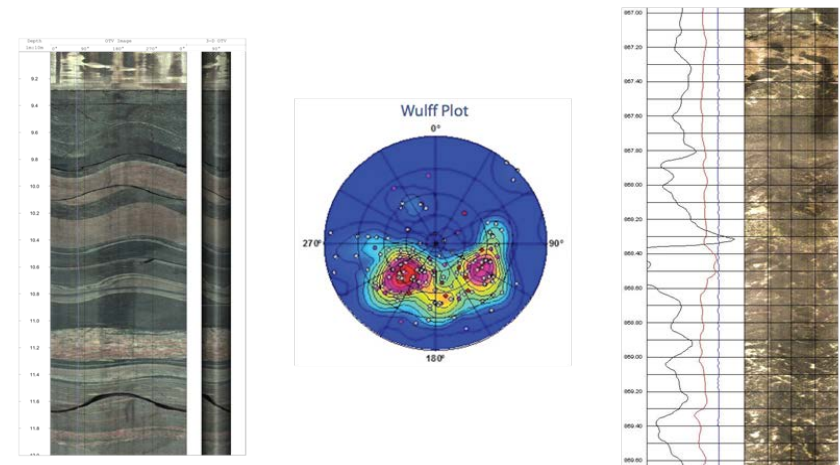
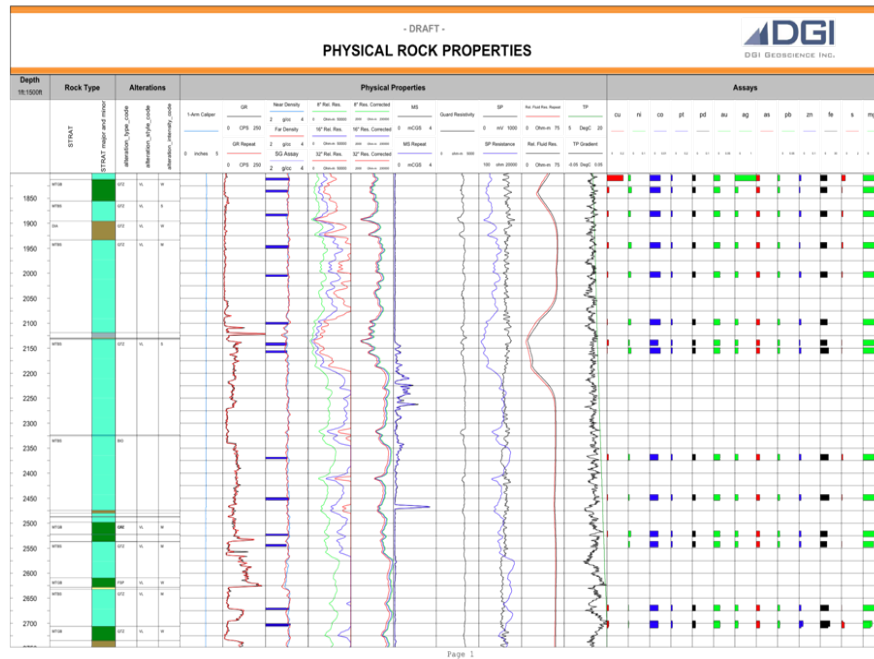


**New technology
Ground EM**

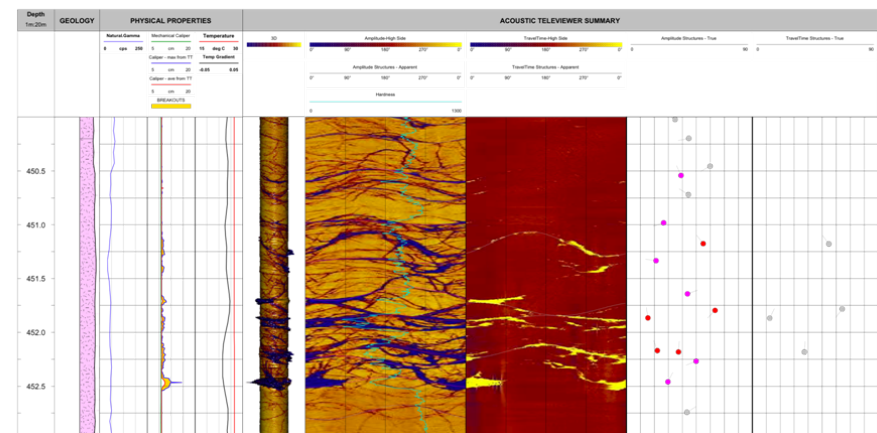
New technology - drill hole depths



Optical Televiewer (OTV)



Acoustic Televiewer (ATV) – Fracture Orientation

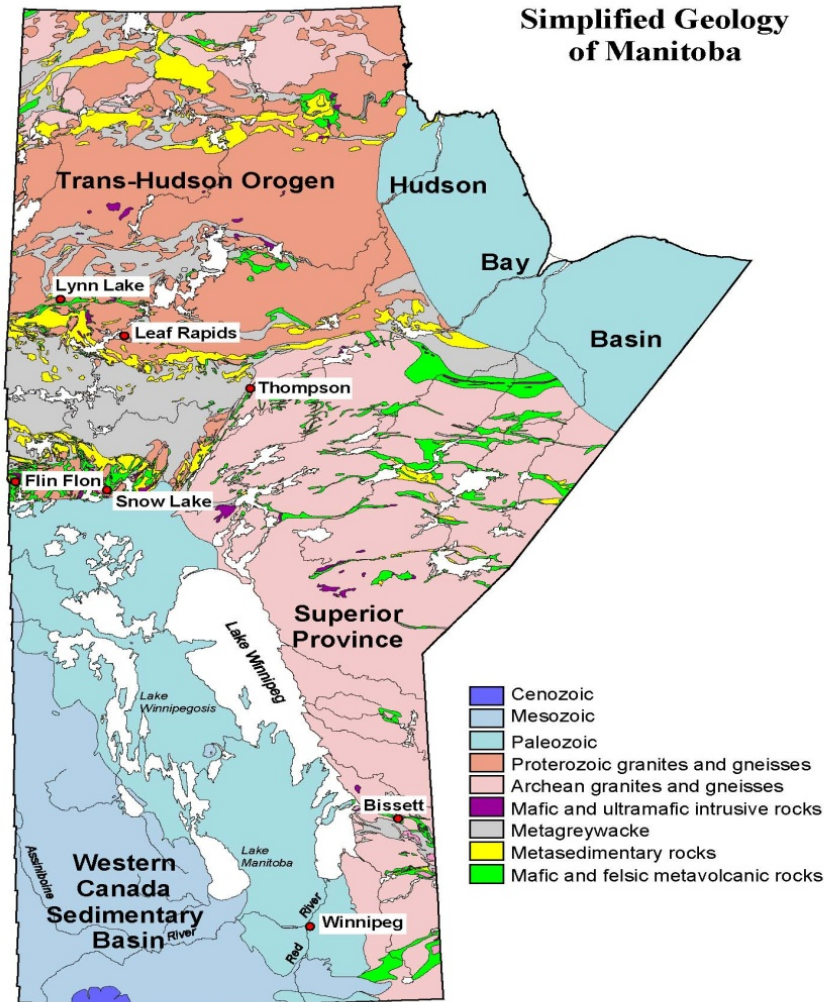


Summary New technology

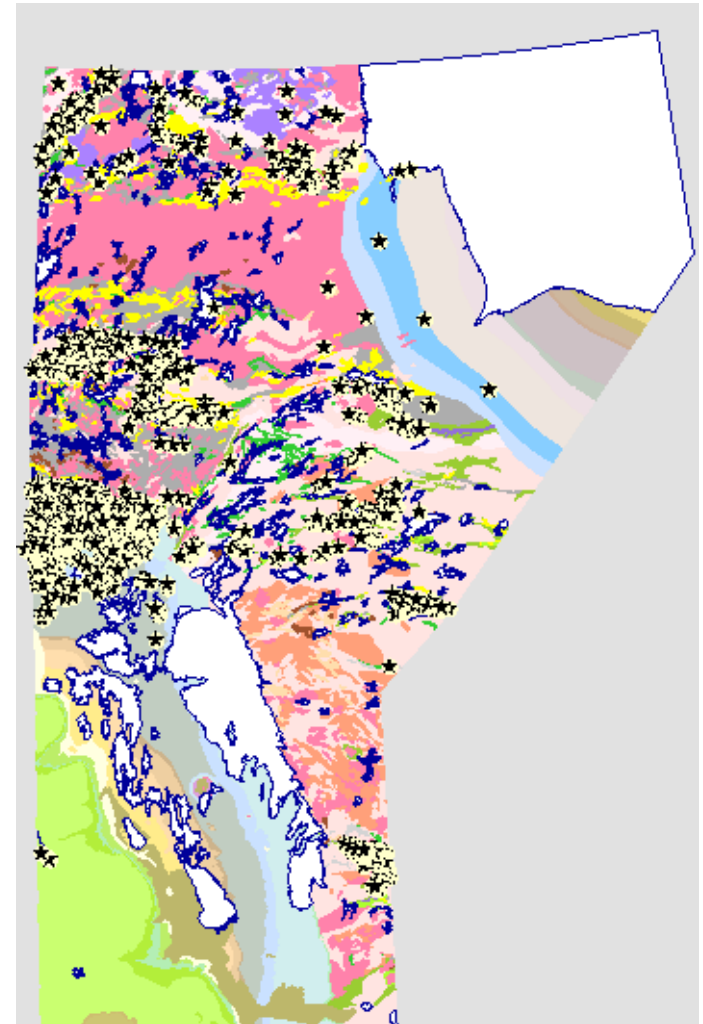
- New geophysical technology has increased:
 - the depth of search
 - the drill hole depths
 - and therefore the cost of follow up.
- New technology has led to additional and exponentially larger data sets.
- Data management technology is still evolving and there is still
 - Duplication in capturing historical data
 - Issues with storage and access protocols
- Increased search depths will expand the areas to search
- Areas already surveyed will be resurveyed.

Regulatory Environment

Known Mineral Occurrences



7



Manitoba's Protected Areas Initiative Areas of Special Interest Map - Edition 5



Working with the Minerals Sector

The Minerals Sector Protected Areas Consultation is a collaborative process among government, industry and other stakeholders committed to the establishment of protected areas in Manitoba. In early 1998, a working group was established to review Areas of Special Interest (ASI) for protection opportunities. To date approximately 3.8 million hectares of land in Manitoba have been reviewed and supported for protected status. The ranking system used on this map is part of the technical review and mineral assessment process developed by Manitoba's Minerals Sector.

Since the last map was produced a number of new protected areas have been created. Part of the Porcupine Provincial Forest was protected as Ball and Steeprock Canyons Protected Area by a Regulation under the Forest Act. Little George Island in Lake Winnipeg was designated as an Ecological Reserve. Rare river bottom forest habitat was protected along the Red River as Jeweller and Tom Shay Ecological Reserve.

Progress continues to be made on parks and park reserves. Manitogagan River Provincial Park and Pembina Valley Provincial Park were created. Rivers Provincial Park was expanded to protect an area of mixed grass prairie, and Caribou River, Trappist Monastery, and Orkney/Vane Homestead Park Reserves became permanent provincial parks. Several park reserve designations were extended a further two years to continue consultations.

New and innovative approaches to address the complexity of land use and private land ownership continue to be developed to increase protected areas in southern Manitoba. A Memorandum of Agreement between Manitoba and the Nature Conservancy of Canada (NCC) added privately-owned lands to Manitoba's network of protected areas for the first time. Also in southern Manitoba, two protected Wildlife Management Areas, the Brandon Hills and Stevie Lake, were enlarged. Since 1990 the area of protected lands has increased from 350,000 hectares to 5.4 million hectares in 2005.

Legend

General Information

- Area of Special Interest (ASI)
- Not Protected
- Protected Area
- Operational Belts and Thompson Nickel Belt
- Mining Claims, Exploration Licenses, Mineral Leases, Quarry Permits & Leases, Patent Claims
- Natural Region Boundary

Minerals Sector Information

- Rank 0 - Sites Pending Assessment
- Rank 1 - Minerals Sector Approved Sites (protection supported)
- Rank 2 - Review in Progress (support likely, pending clarification)
- Rank 3 - Review in Progress (detailed information required for decision)
- Rank 4 - Reviewed (high value commitments, not supported)
- Minerals Sector Non-assessed Land

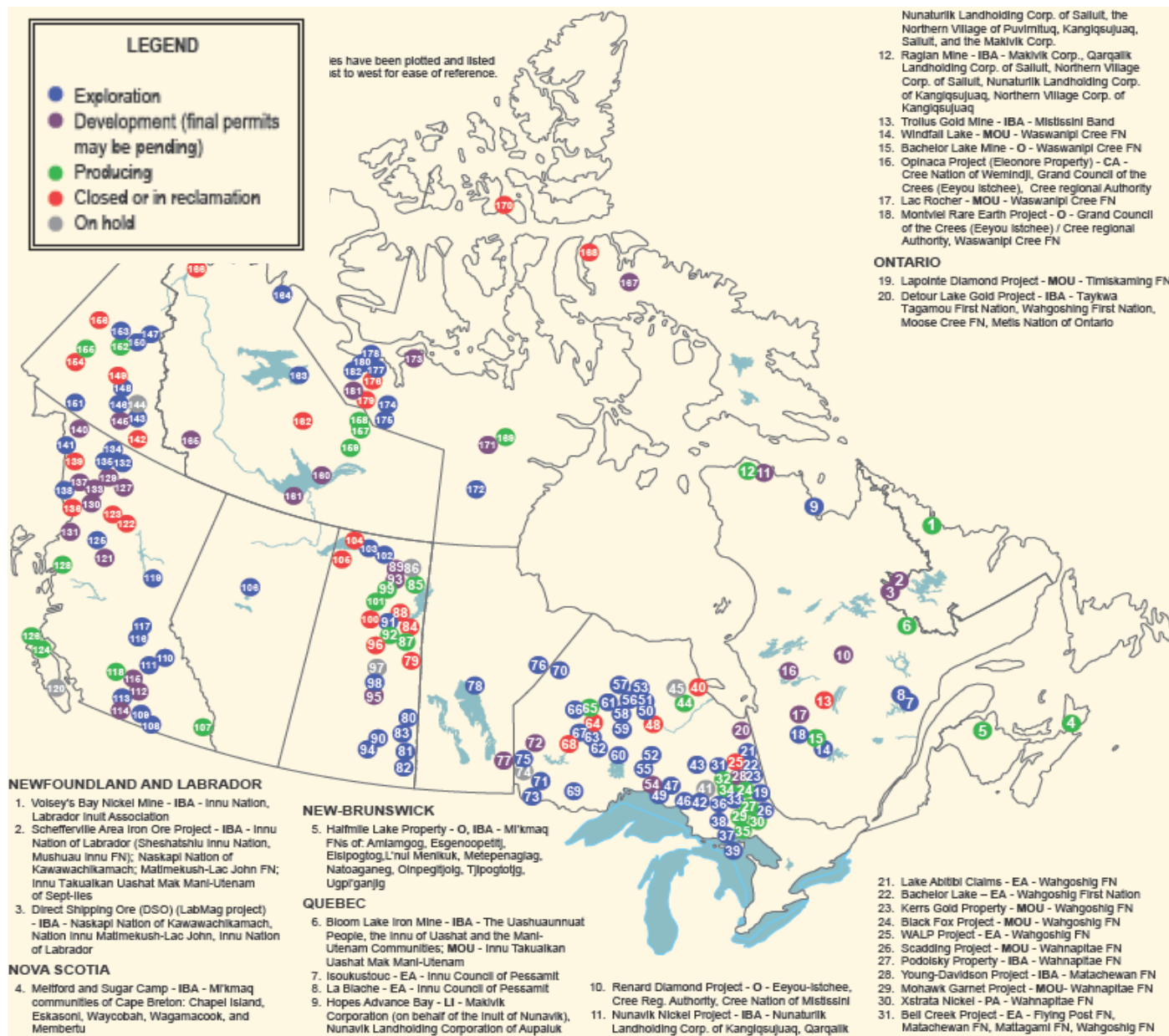
First Nation Information

- Community Interest Zone
- First Nation Reserve Land
- Northern Plains Community Boundary
- Resource Management Area
- First Nation Treaty Land Entitlement (TLE) Selection Sites and Flood Agreement Land Deviation Sites
- First Nation Non-assessed Area
- Buffalo Point First Nation
- Fisher River First Nation
- Kamengwagwan First Nation
- Peguis River First Nation
- Phanageen First Nation
- Little Grand Rapids First Nation
- Pinhook First Nation
- Ojibwa-Chick-Koo-So First Nation
- Manitowish First Nation

Areas of Special Interest by Natural Region

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Regulatory Change – ownership, partnerships and permits



Summary - Exploration

- Exploration has often followed up on Government Surveys
- Recent new discoveries show that established camps will continue to be productive and prolific places to explore for many years to come
- Exploration in mature well explored areas near mines will continue to produce new deposits using new technology
 - At previously unexplored depths – examples 777, Lalor, Nickel Rim South
 - At shallow depths – example Halo's Lost deposit
 - Drilling deep holes will require aggressive well researched programs
- Exploration under cover has and will be productive and will benefit from new technology and knowledge
- The same is true for more remote areas.

Summary - Mining

- Base metal mining camps in Canada have been established around infrastructure and new discoveries within them have a huge economic advantage once this is in place.
- If remote deposits are to be developed they will require substantial investments in infrastructure.
- Recent new discoveries show that established camps will continue to be productive and prolific places to explore for many years to come.
- The regulatory environment in Canada with respect to social – environmental issues has and continues to change.
- The mineral deposits in Canada face strong competition from those in other countries.

Some fun!

An orientation survey – 1999 using a digital camera.

Successfully detected “777”



This is another survey.
Location unknown.

Thank You – questions?