



**The Future of Gold Exploration in
Canada**

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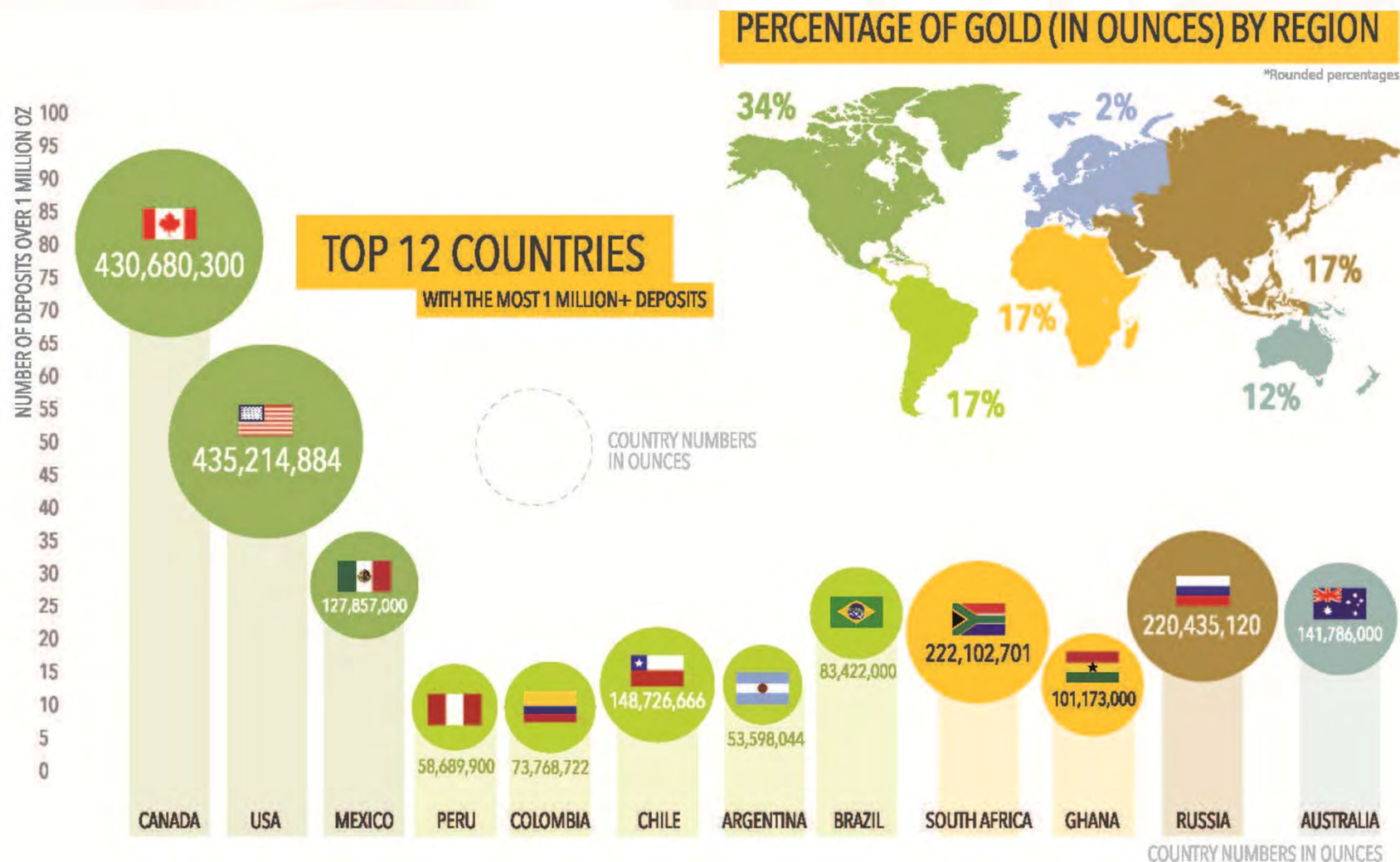
Toronto Geological Discussion Group

November 8, 2012

Presentation Overview

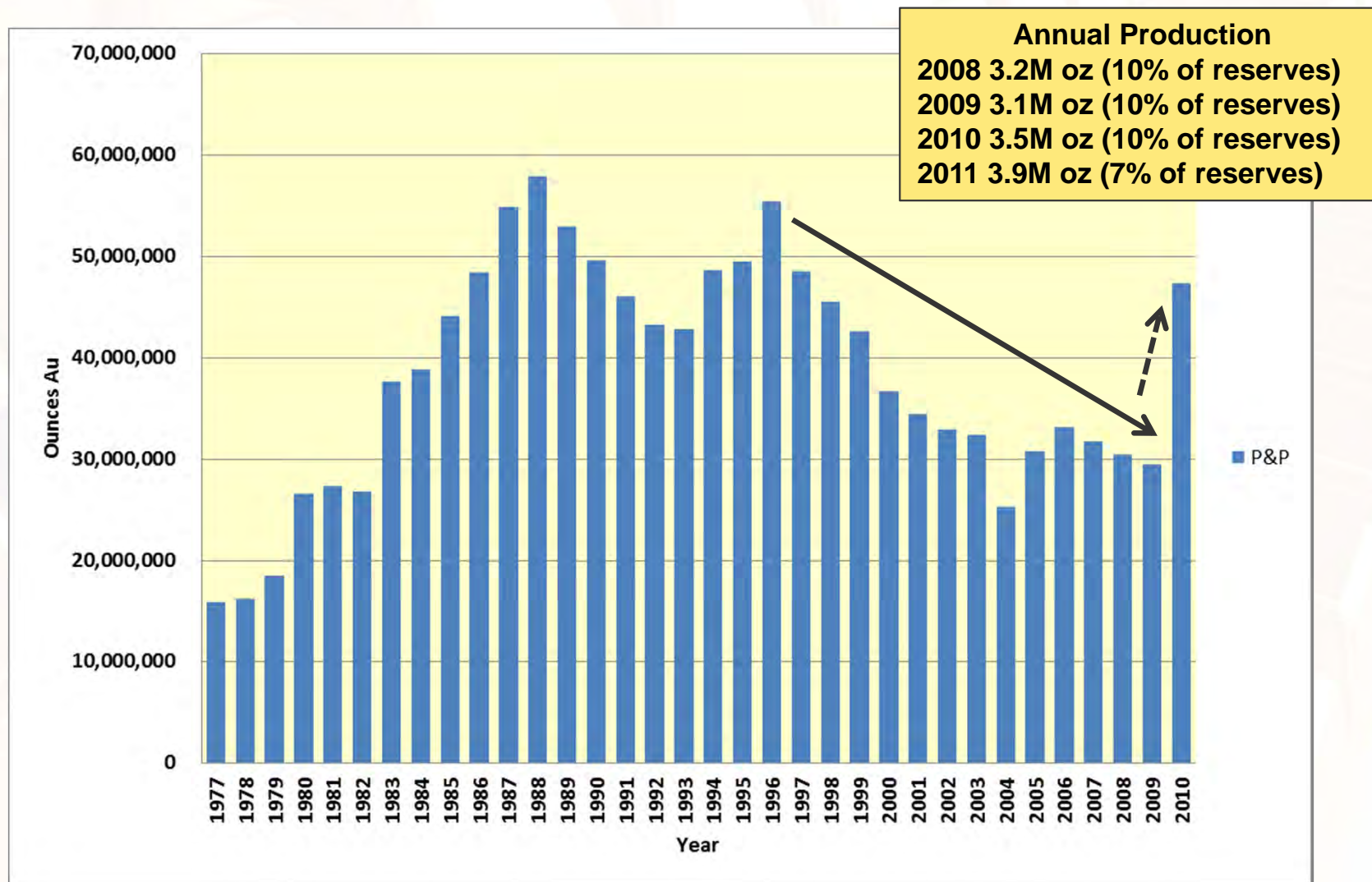
- Canadian gold exploration trends
- Importance of junior explorers in discovery process
- Challenges facing gold exploration in Canada
- Possible future trends & opportunities

Canada - A Premier Destination for Gold Explorers



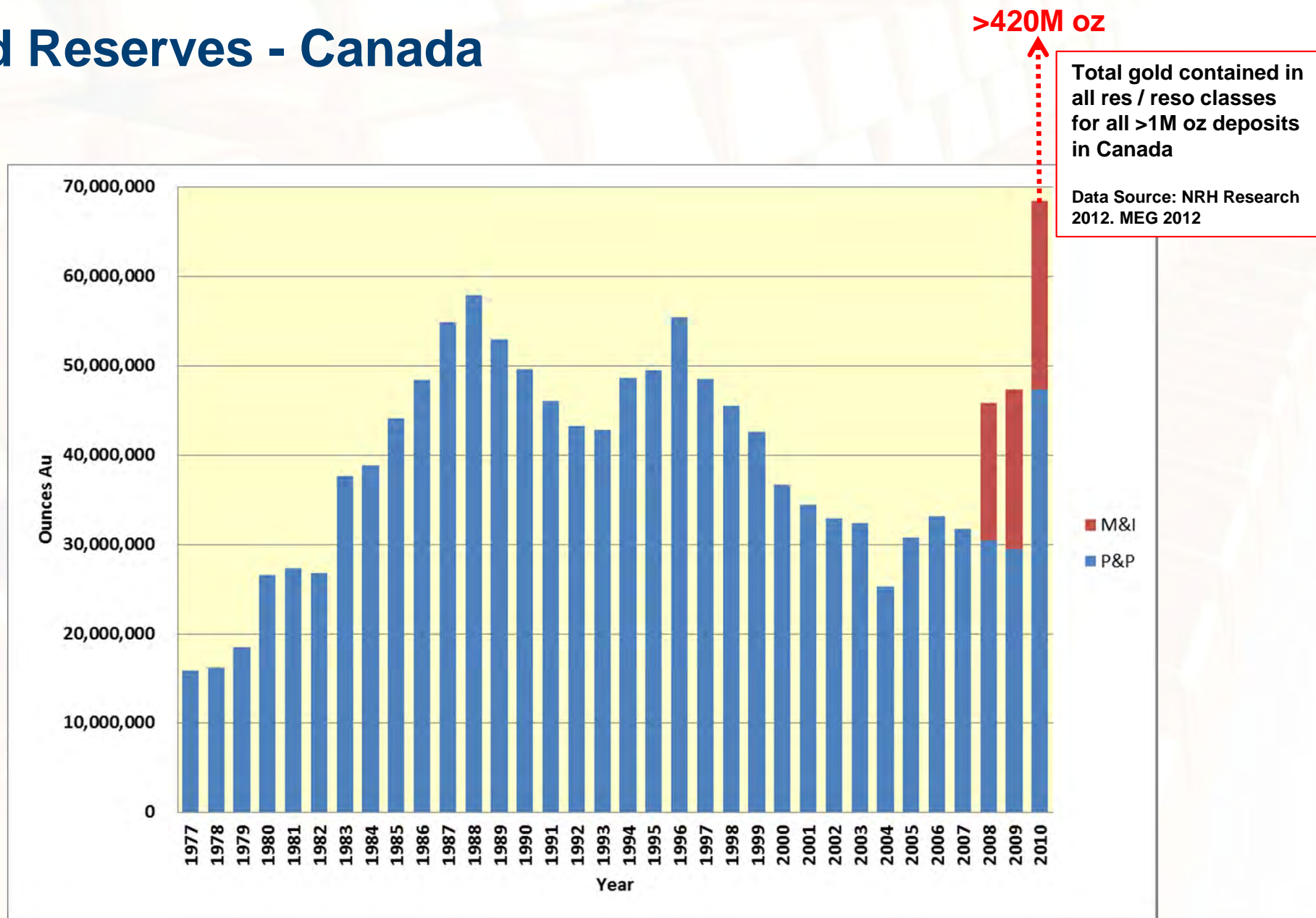
Source: NRH Research, 2012

Gold Reserves - Canada



Metal Contained in P&P Mineable Ore in Operating Mines and Deposits Committed to Production
 Data Source: Natural Resources Canada

Gold Reserves - Canada

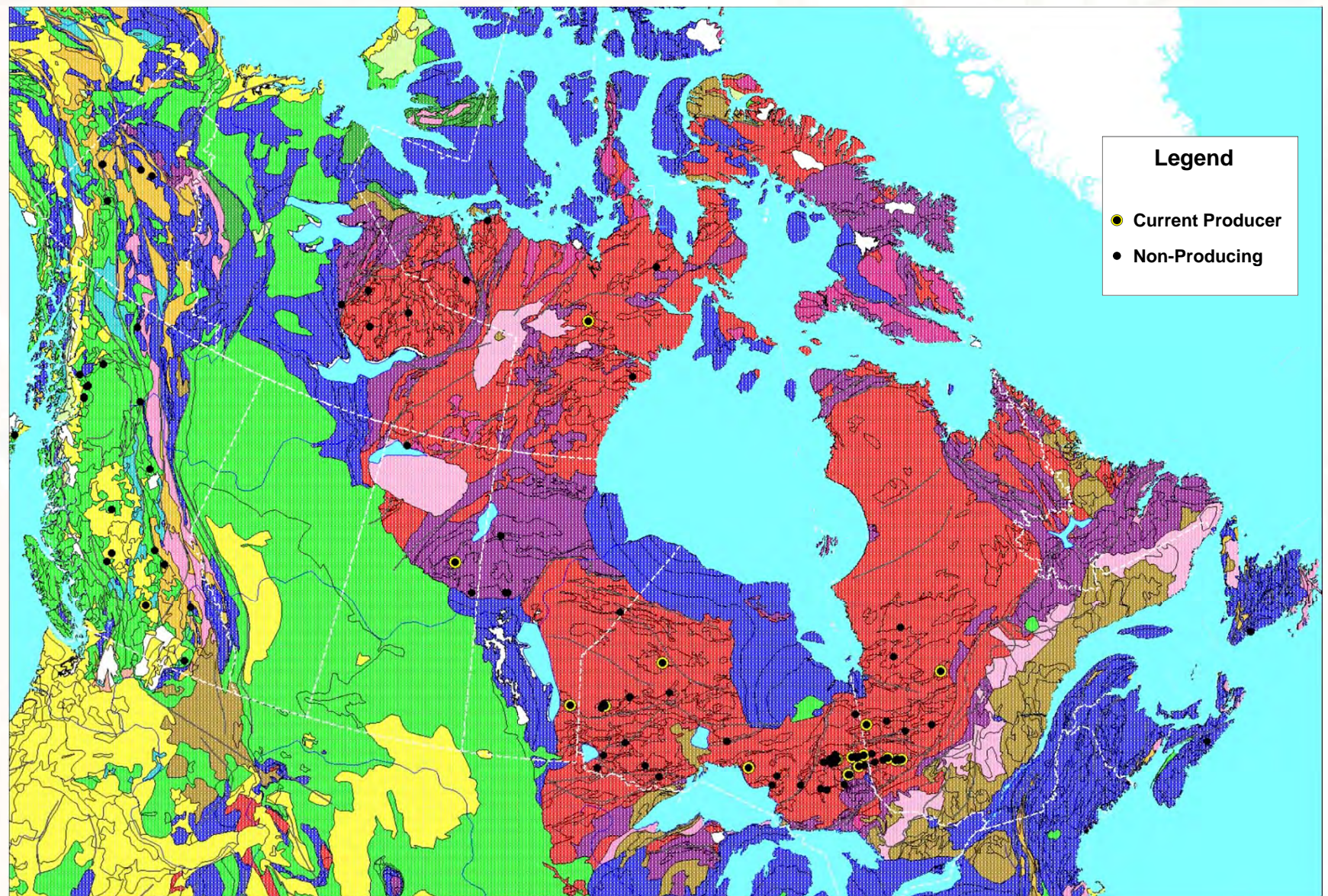


Gold contained in P&P mineable ore in operating mines and deposits committed to production.

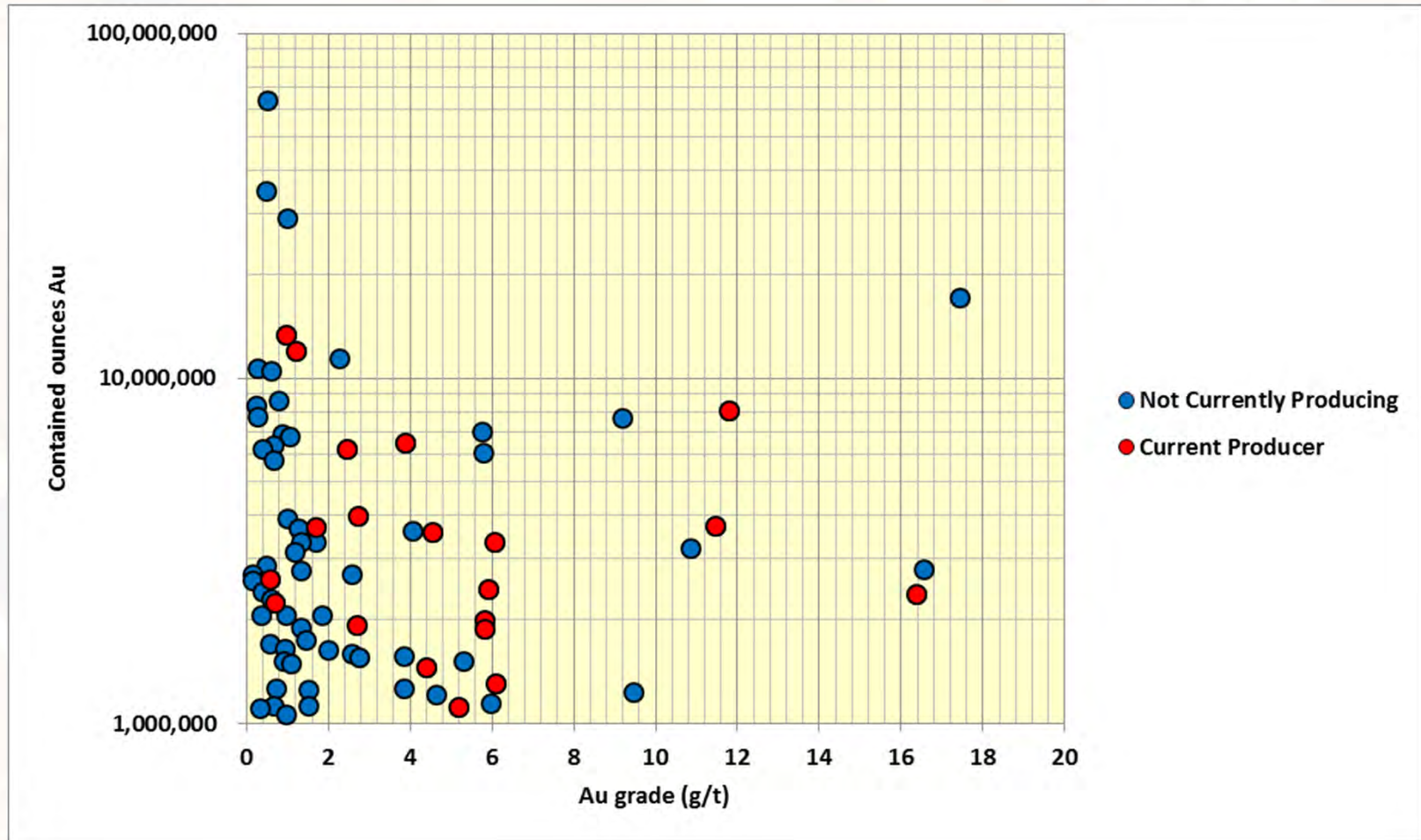
Gold contained in M&I shown for years 2008 – 2010 only.

Data Source: Natural Resources Canada

Distribution of >1M oz Gold Deposits in Canada



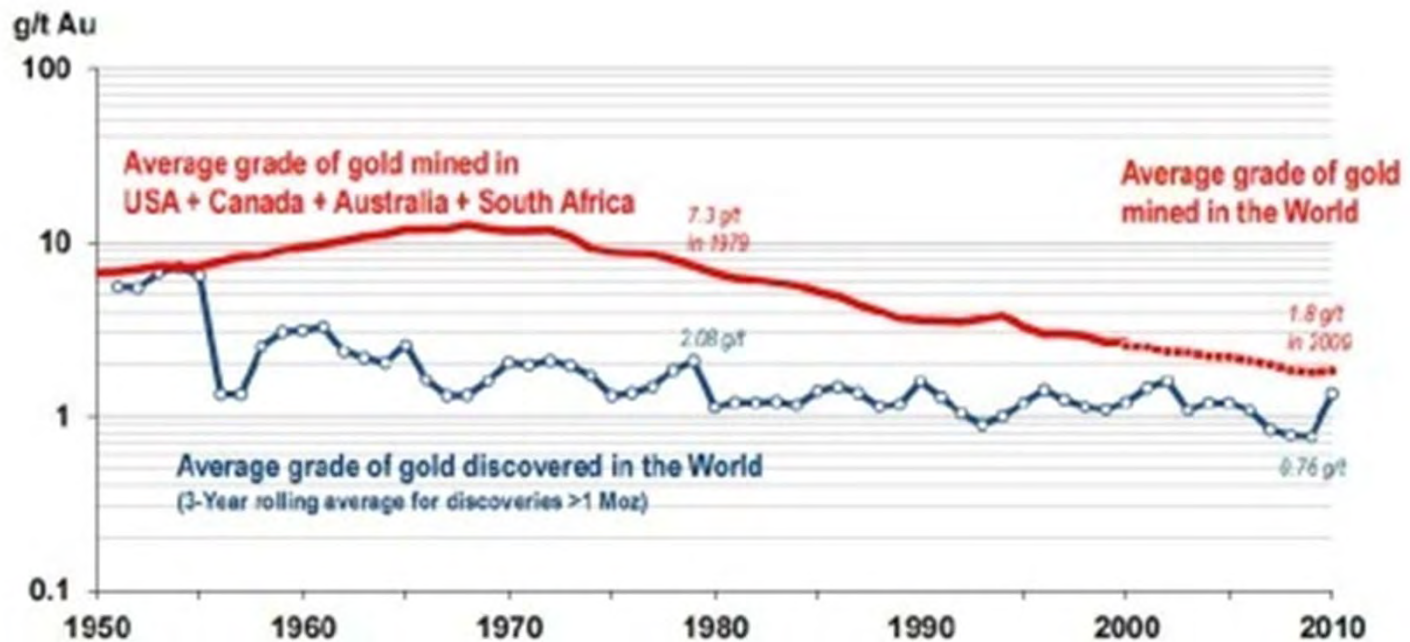
Size & Grade of Existing >1Moz Canadian Gold Deposits



- Average Canadian >1M oz producing gold deposit 5.03 g/t (weighted 4.35 g/t)
- Average Canadian >1M oz non-producing gold deposit 2.60 g/t (weighted 2.40 g/t)
- Global average >1M oz producing gold deposit is 1.06 g/t
- Global average >1M oz non-producing gold deposit is 0.66 g/t
- Global average >1M oz combined producer and non-producer is 0.82 g/t

Data Source: NRH Research 2012

World Gold Production & Discovery Grade Trends

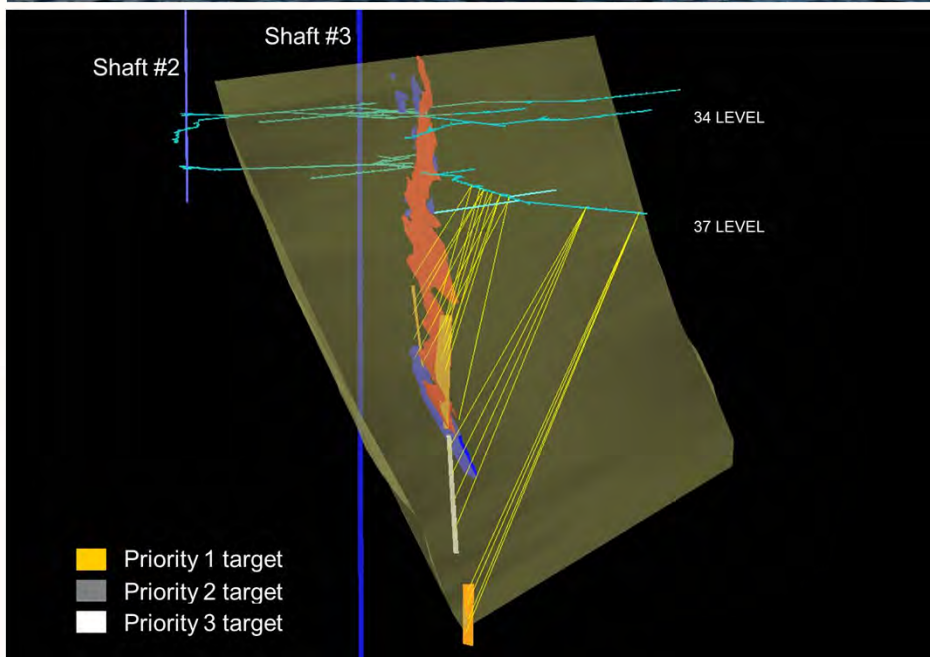


Source: MinEx Consulting 2011

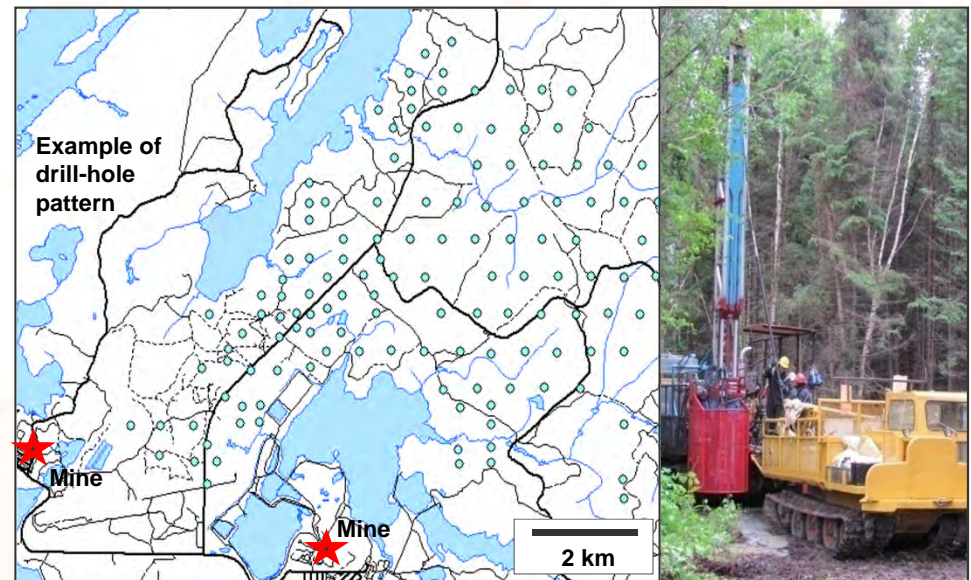
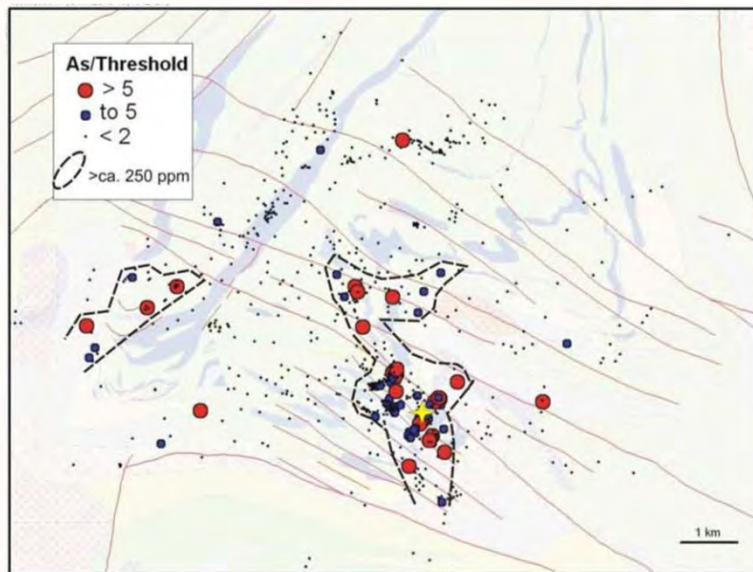
Senior Gold Company Exploration Activity



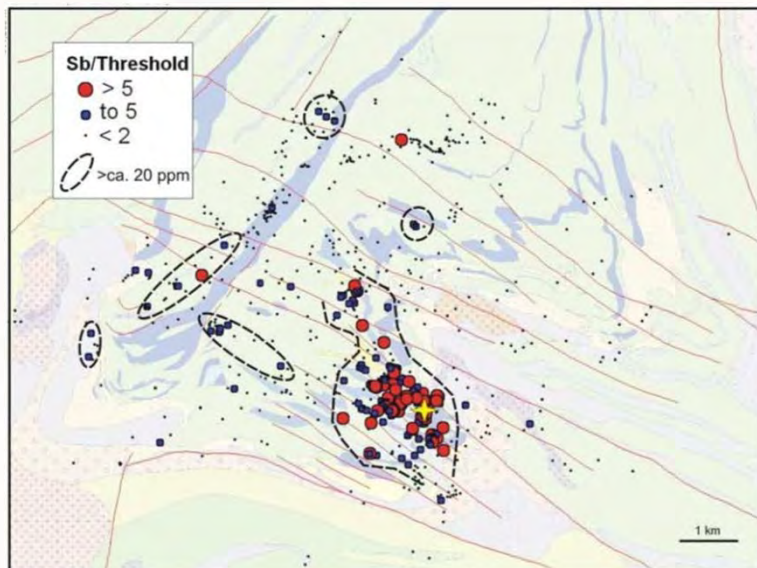
- Replacing & growing reserves / resources at operations and advanced projects
- Deposit expansion at depth or laterally (satellite ore-bodies)
- Chasing trends
- Relatively high cost exploration (directional, barge, deep hole)
- Costs too prohibitive to drill off geology
- Alternate methods required to outline geology / structure



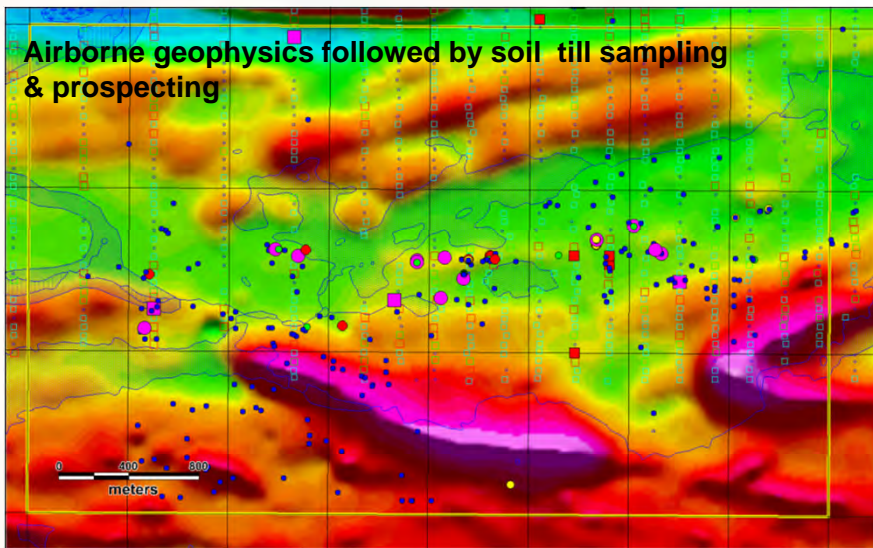
Senior Gold Company Exploration Activity



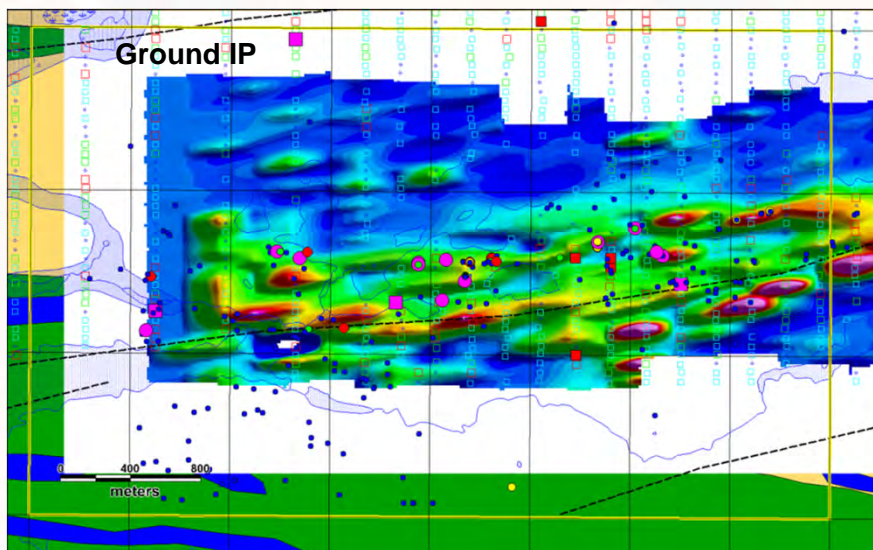
- Identify deposit footprint
- Grid drilling / vectoring anomalies
- Mapping with drill (integrate with regional geophysics)
- Relatively low cost brown fields & grass roots exploration



Junior Gold Company Exploration Activity



- Basic exploration “recipe” working well for regional exploration
- New discoveries Quebec & Yukon
- Effectiveness limited by depth of overburden



Junior Gold Company Exploration Activity

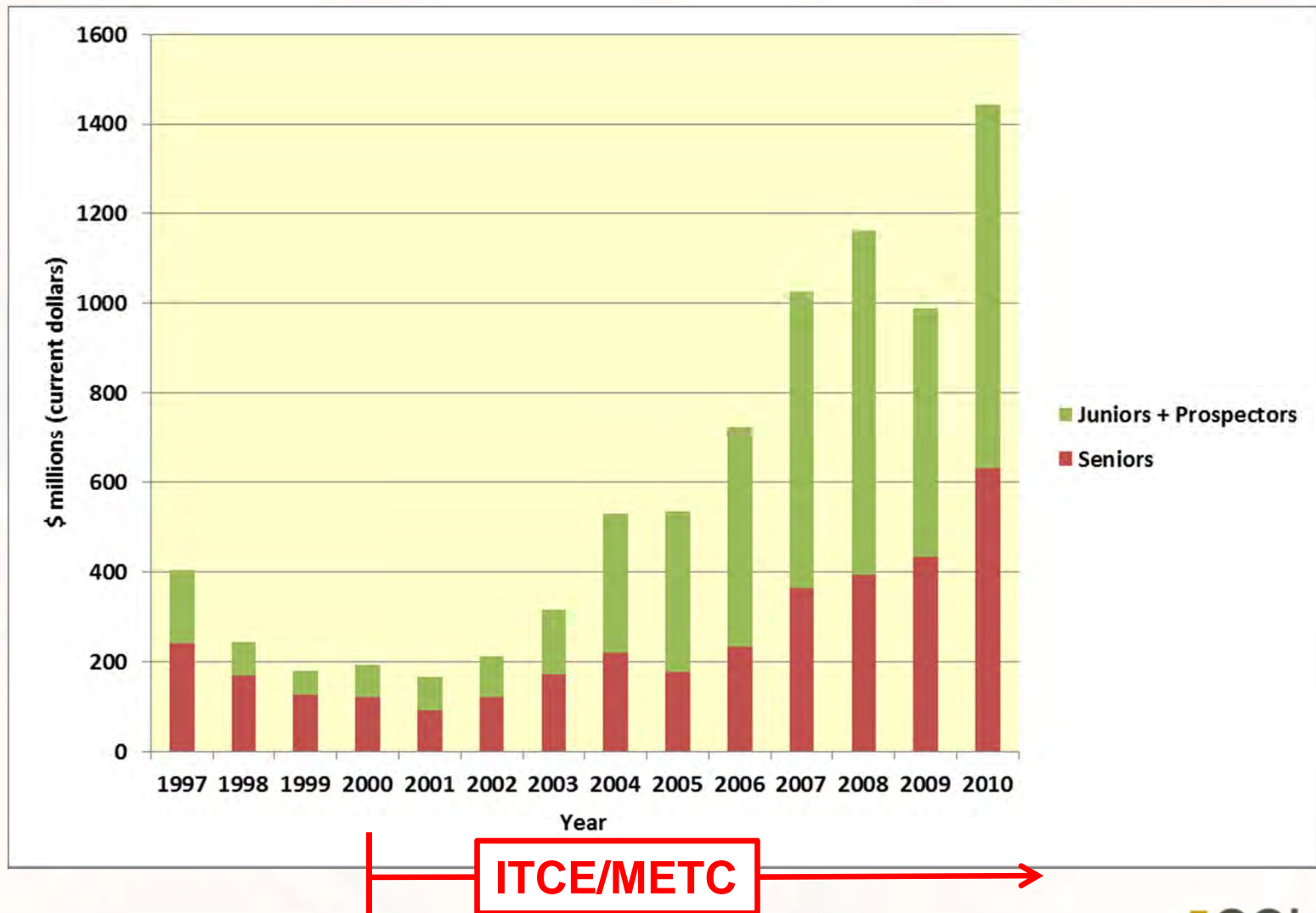


- Re-discovering old mining camps
- Re-evaluating shelved or dormant projects
- Area plays near producers & advanced projects
- JV / Option with seniors



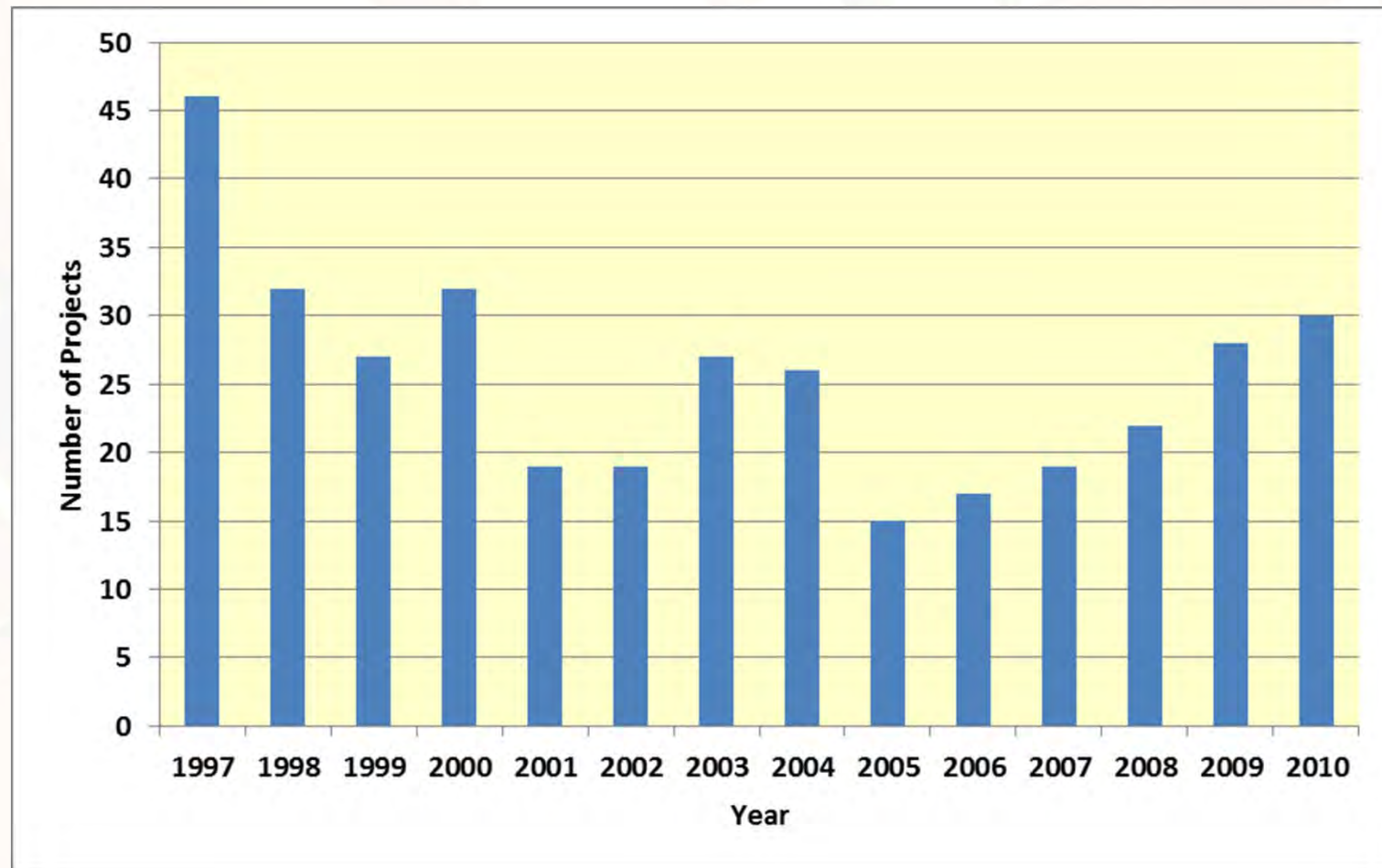
Junior Company Exploration in Gold Sector

Precious Metals Exploration Expenditures in Canada by Type of Company



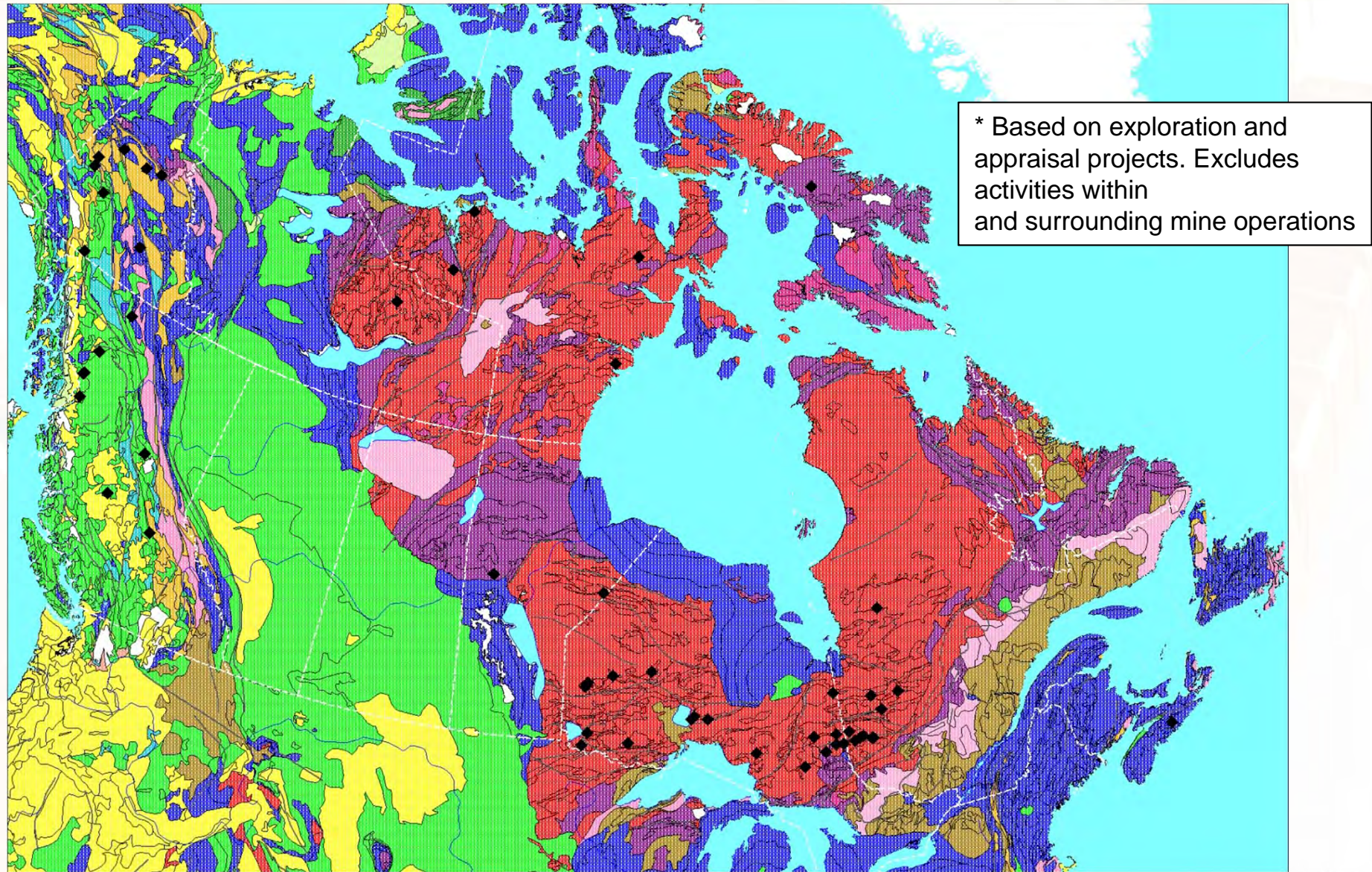
Junior Company Exploration in Gold Sector

NUMBER OF PRECIOUS METALS PROJECTS IN THE OFF-MINE-SITE DEPOSIT APPRAISAL STAGE, CANADA 1997-2010



Source: Natural Resources Canada

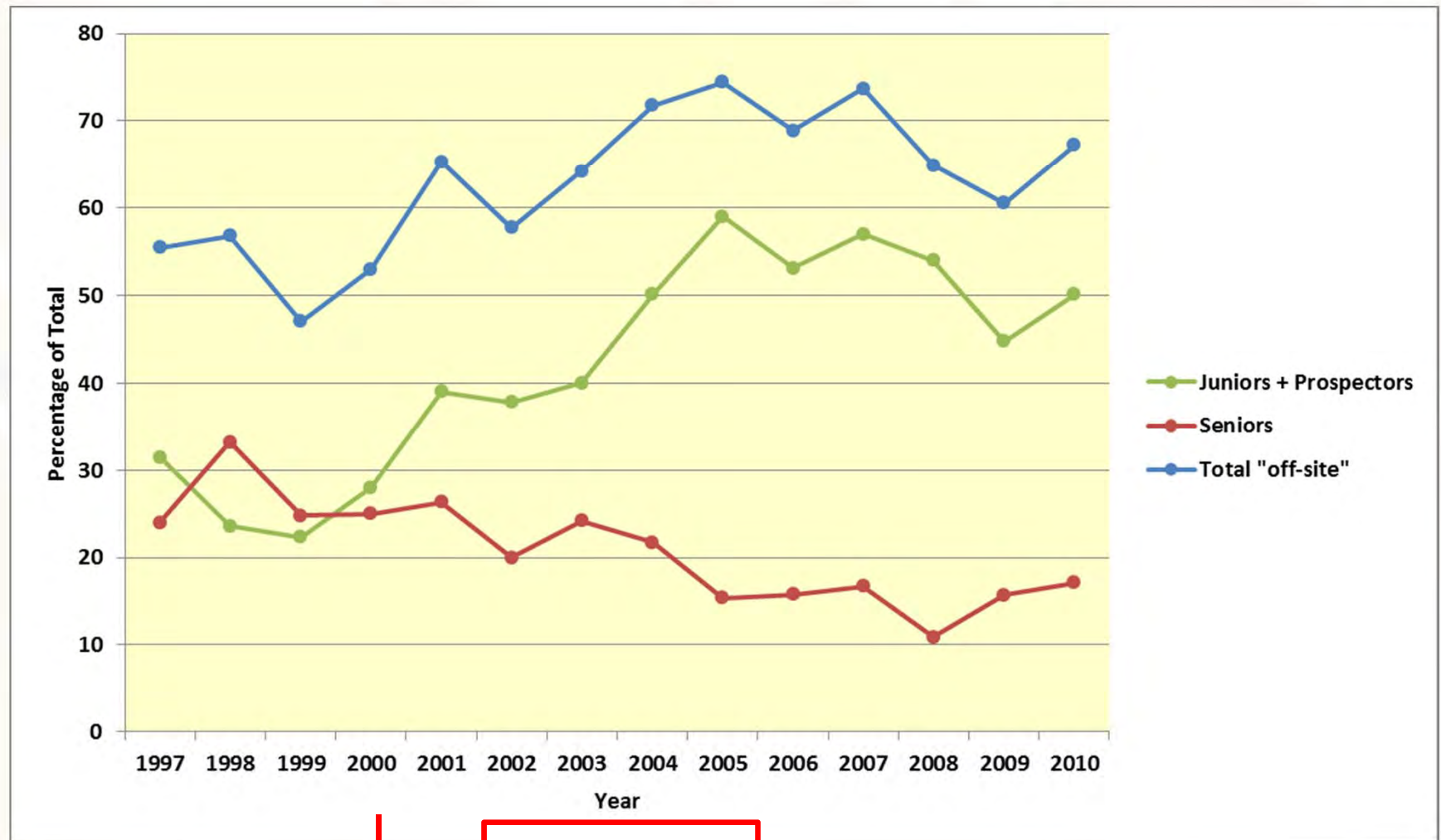
Distribution of Top Gold Exploration Deposits in Canada Based on Expenditures* (2009 -2010)



Data Source: Natural Resources Canada

Junior Company Exploration in Gold Sector

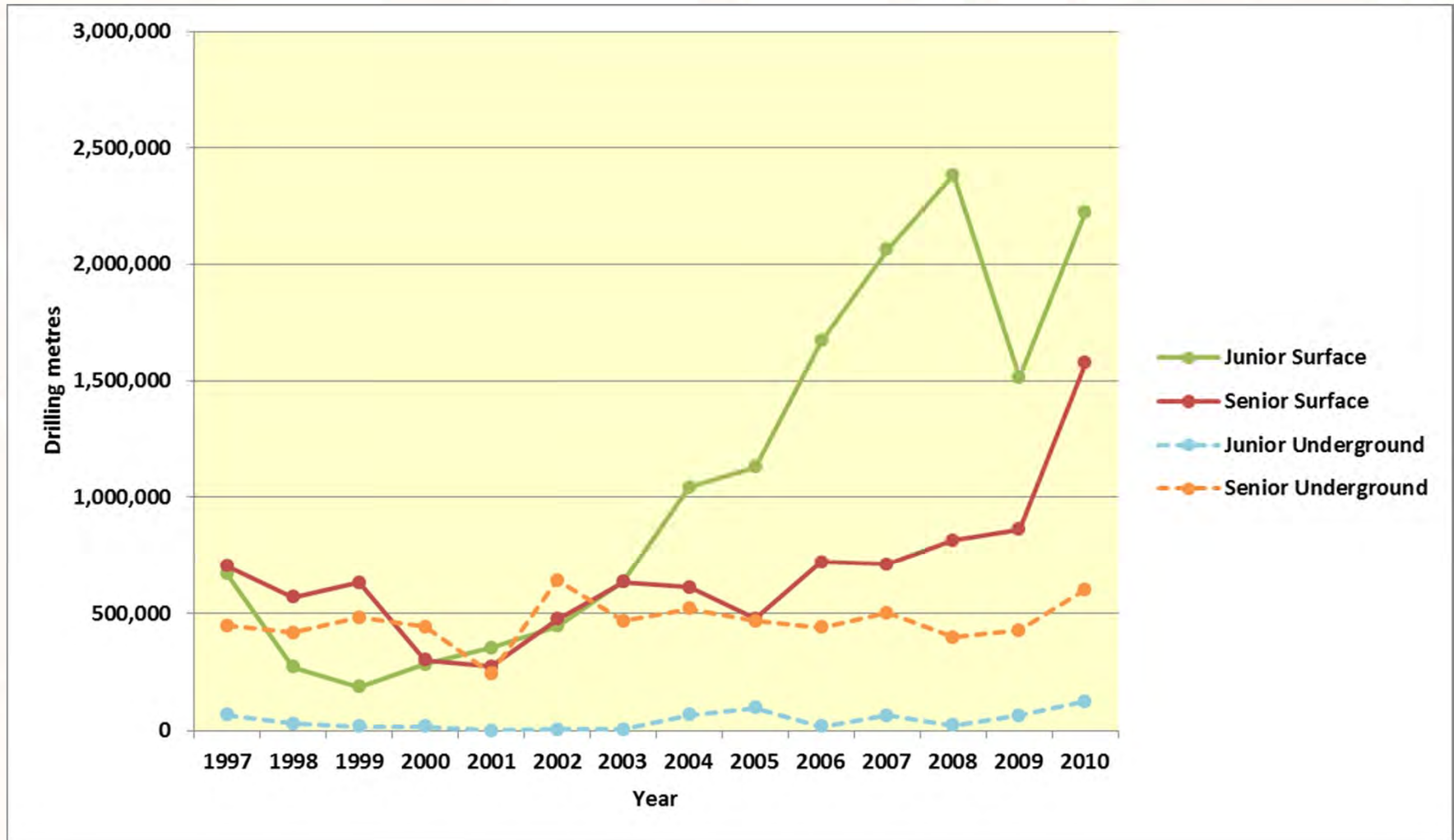
Proportion of Precious Metals Exploration Expenditures in Canada Directed to “Off-Site” Exploration as Percentage of Total and by Type of Company



ITCE/METC

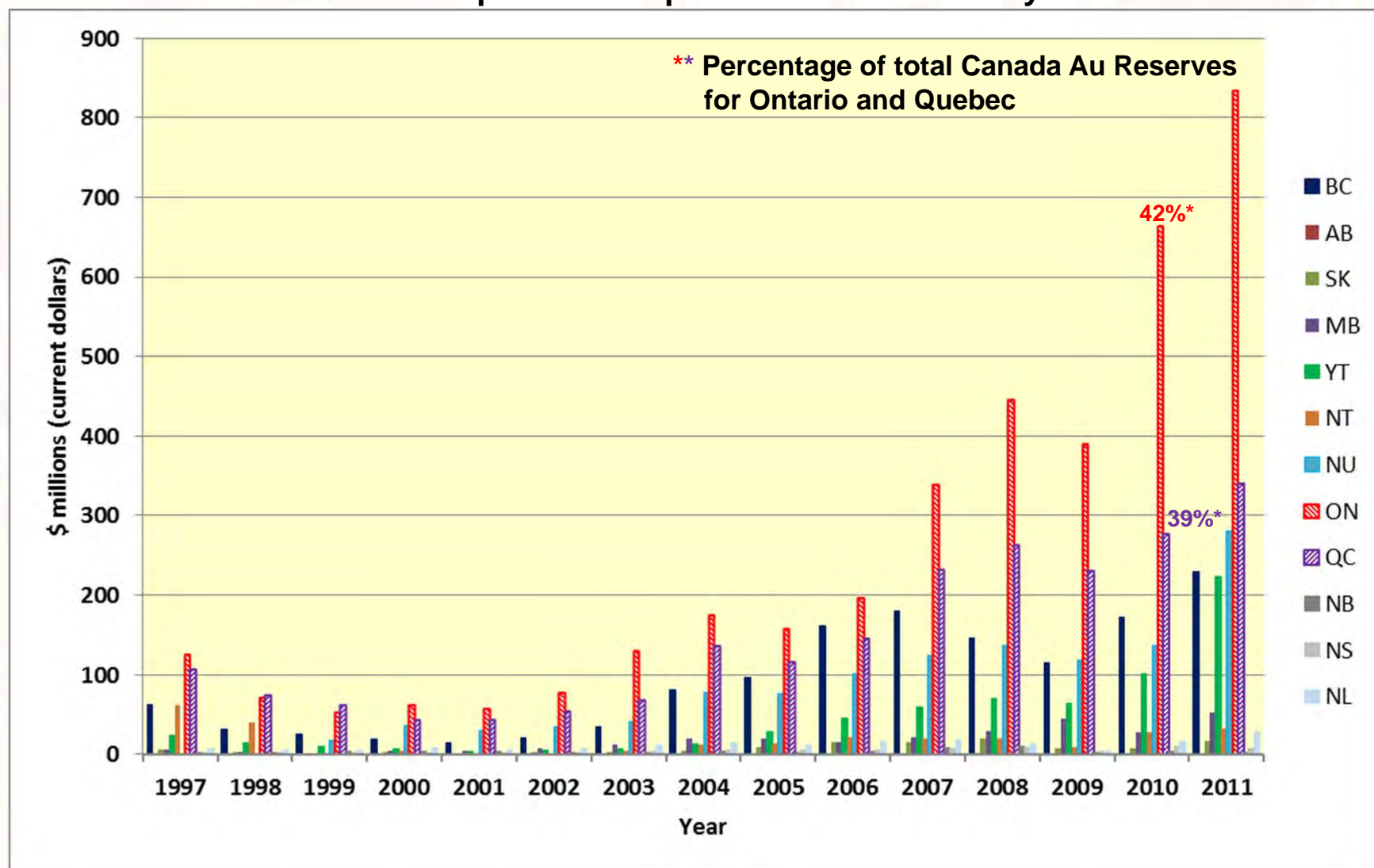
Junior Company Exploration in Gold Sector

Drilling Focus by Type of Company – Precious Metals Exploration



Challenges – Changes in Exploration Regulations

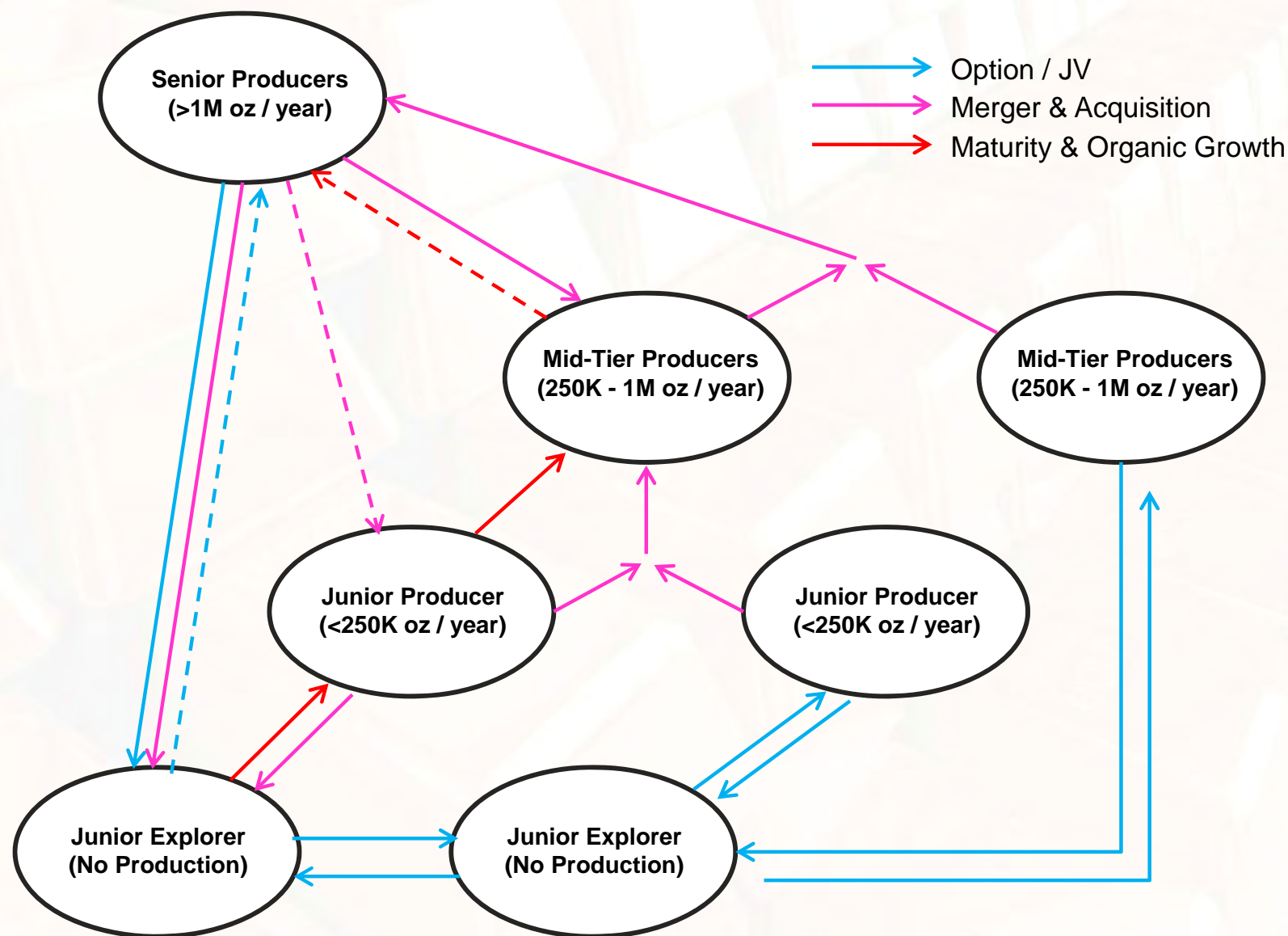
Precious Metals Exploration Expenditures in Canada by Province



Challenges – Changes in Exploration Regulations

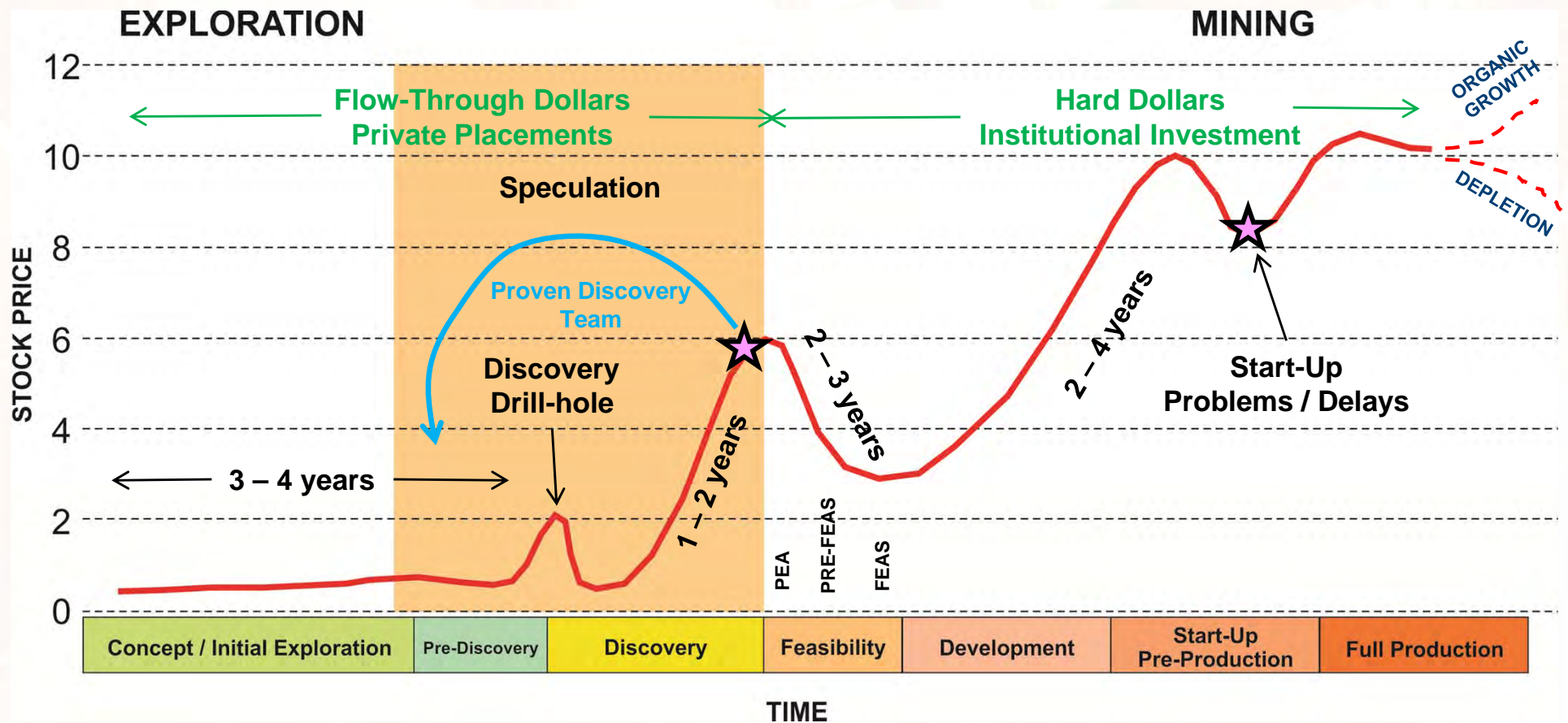
- Changes in exploration regulations in Canada's leading gold production and exploration provinces creating uncertainties for juniors
 - Uncertainty of title
 - Filing of exploration plans, review & approval process, receiving permits
 - Roles of government & industry in community consultation
 - Loss of prospective land for exploration
 - Changes in staking methods / requirements
- This may lead to delays in deposit discovery / project development pipeline
 - Largest impact for juniors
 - Increased overhead cost / time delays
 - Availability to raise & use risk capital with current tax benefit scheme
- Ultimately may affect project delivery rates to seniors

Challenges – Changes in Exploration Regulations



Challenges – Changes in Exploration Regulations

Share Price Trend – Exploration to Mining

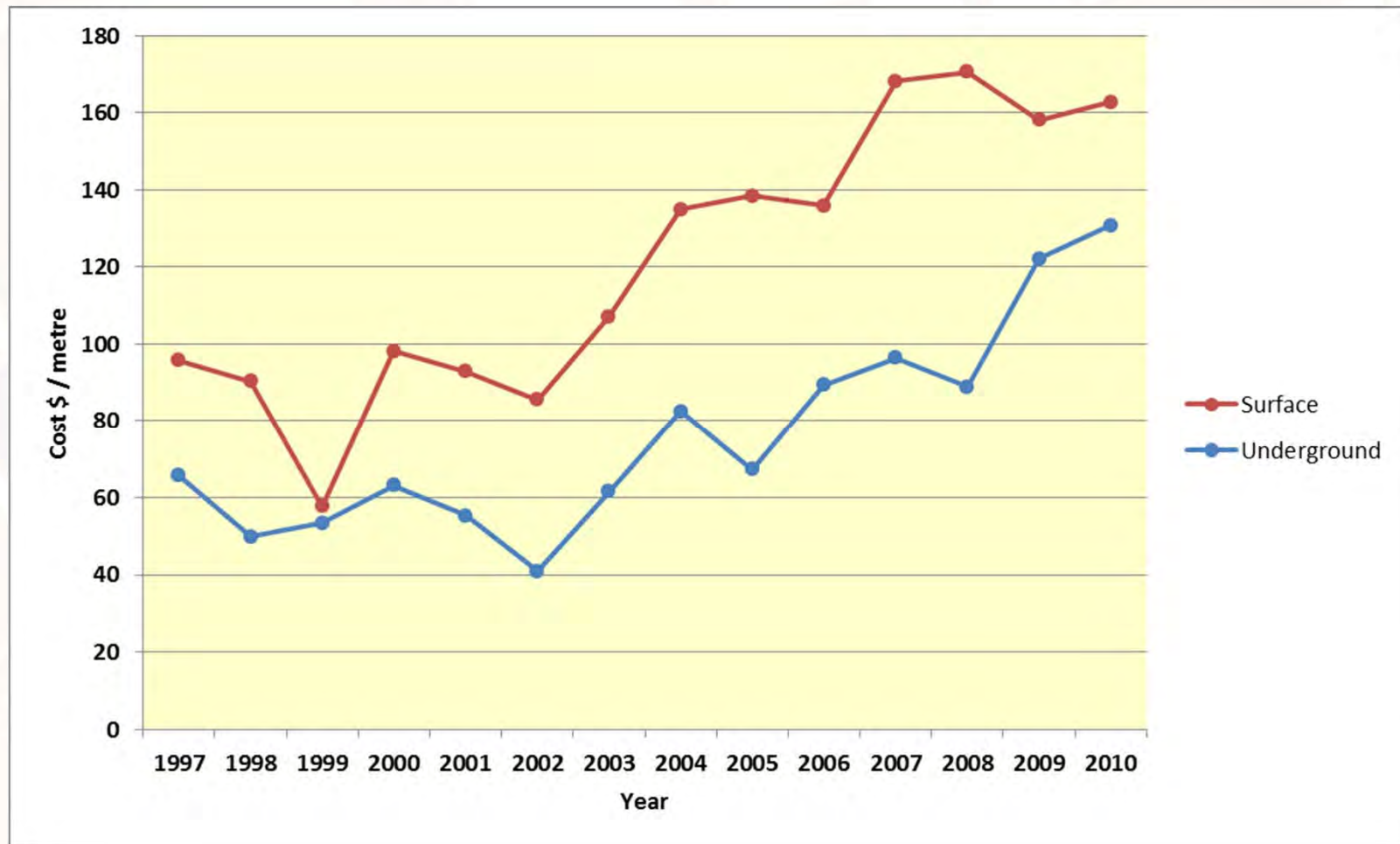


Note: this is a highly idealized path for junior company exploration based on the discovery of a single significant discovery and its path to development & production

★ Typical Point of Acquisition

Challenges – Rising Exploration Costs

Drilling Costs for Precious Metal Exploration in Canada

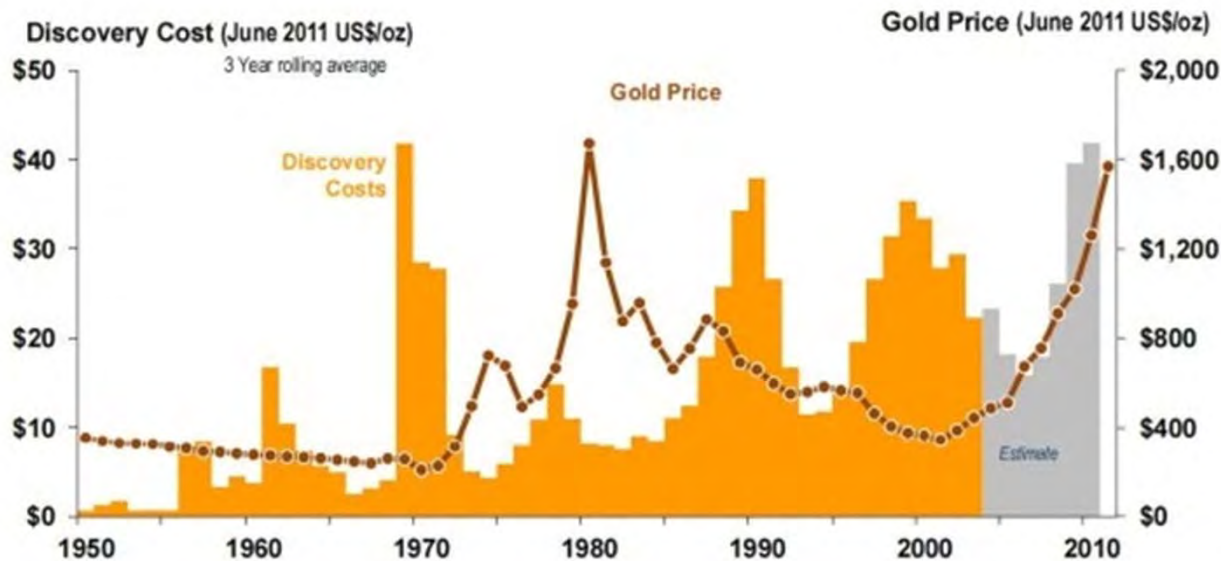


Note: costs vary by region and depth to target

Data Source: Natural Resources Canada

Gold Exploration Discovery Cost

	Ounces Found (Moz)			Exploration Expenditures (June 2011 US\$B)				Discovery Cost (June 2011 US\$/oz)		
	Greenfield	Brownfield	Total	Grassroots	LS+Feas	Mine Site	Total	Greenfield	Brownfield	Total
Canada	139	153	292	2	3	1	6	35	6	20
USA	46	33	79	1	1	1	3	50	29	42
Australia	41	34	75	2	1	1	5	76	41	60
Latin America	259	69	327	3	3	2	8	22	25	23
Africa	145	148	293	2	2	1	5	23	9	16
Pac/SEA	38	3	41	1	1	1	2	34	162	44
Europe	23	3	26	0	0	0	1	34	42	35
EE+FSU+China	94	24	118	1	1	1	4	27	46	31
ROW	6	-	6	0	0	-	0	46	17	45
Western World	697	443	1,140	11	11	7	29	31	16	25
World	791	467	1,257	12	12	8	32	31	17	26



- Current cost of discovery (global) is about \$30 - \$40 / oz (\$31 /oz greenfields vs \$17 / oz brownfields)

Source: MinEx Consulting 2011

Explore or Acquire?

Estimated price paid per ounce of gold resource (global) Table Source: IBK Capital Corp.

	2012 YTD	2011	2010	2009	2008	2007	2006
Producing Assets	\$ 341	\$ 202	\$ 207	\$ 89	\$ 115	\$ 94	\$ 74
Exploration Assets	\$ 40	\$ 90	\$ 71	\$ 29	\$ 31	\$ 28	\$ 54

**Recent Acquisitions
In Canada
(exploration assets)**

\$52 (5%) 6 LG
\$89 (86%) 6 LG

\$56 (100%) 6 LG
\$88 (36%) 1 MG
\$132 (100%) 5 HG

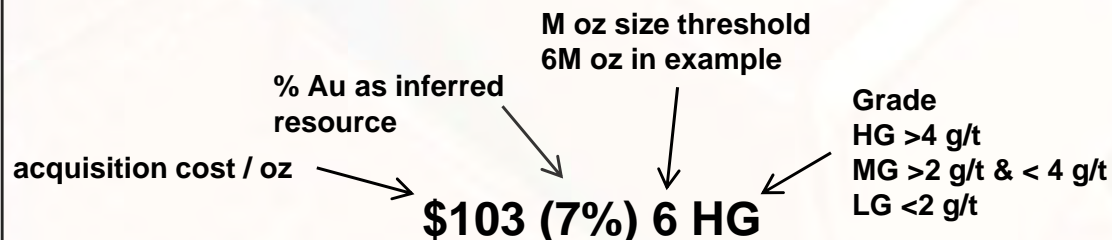
\$144 / \$75 (30%) 3 LG
\$63 (28%) 1 LG

\$103 (7%) 6 HG

Table Source: Metals Economics Group

2008	Transactions	US\$/oz Au	US\$/oz Aueq
Canada	5*	\$ 203.27	\$ 203.27
USA	3	\$ 137.70	\$ 14.90
Australia	3	\$ 136.04	\$ 116.64
Latin America	9	\$ 79.84	\$ 56.56
Africa	4	\$ 29.71	\$ 29.71
Pac/SEA	3	\$ 55.92	\$ 24.43
Europe	1	\$ 105.83	\$ 102.30
Asia	4	\$ 118.11	\$ 118.11
World		\$ 70.07	\$ 56.67

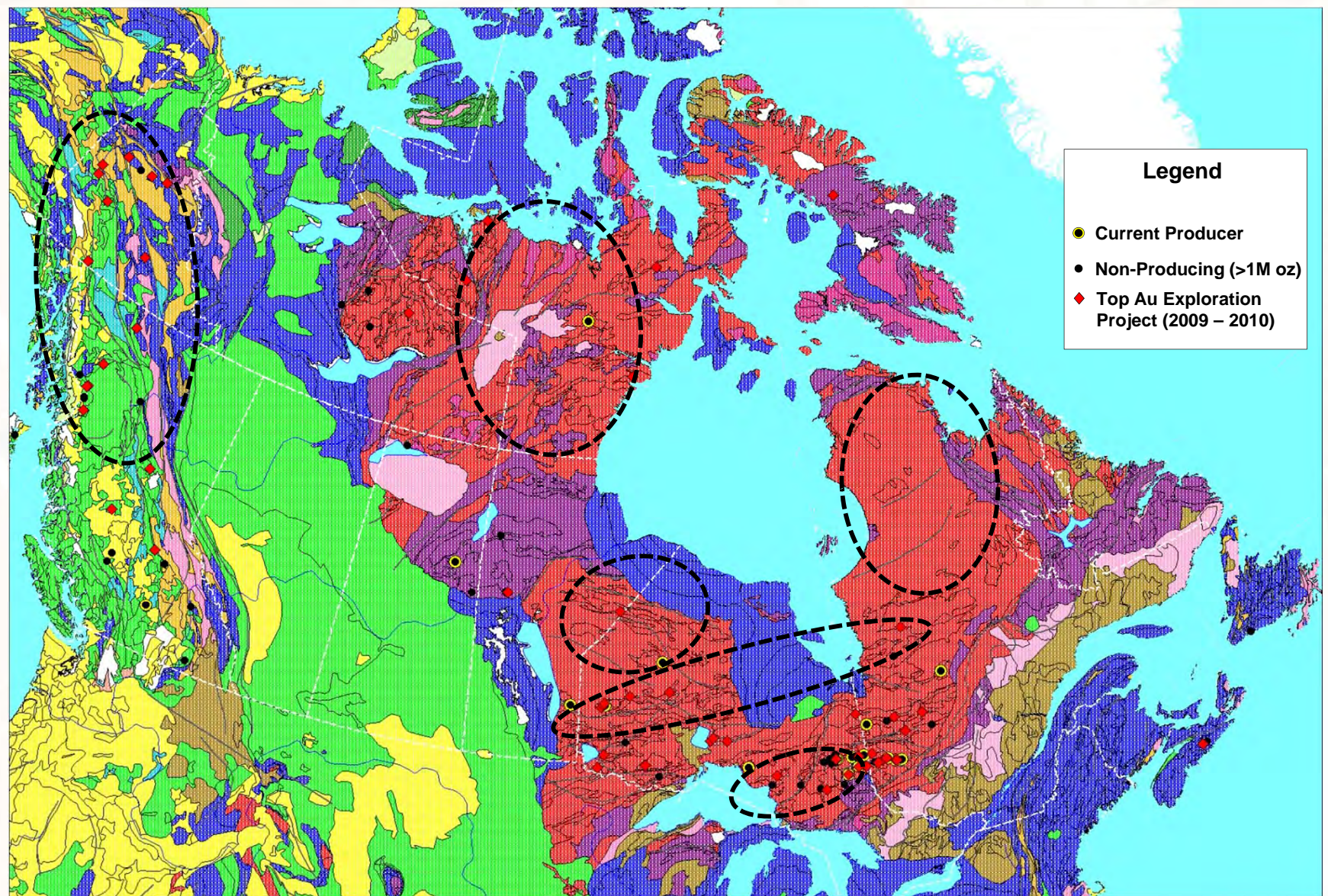
Explanation



Future Outlook / Trends

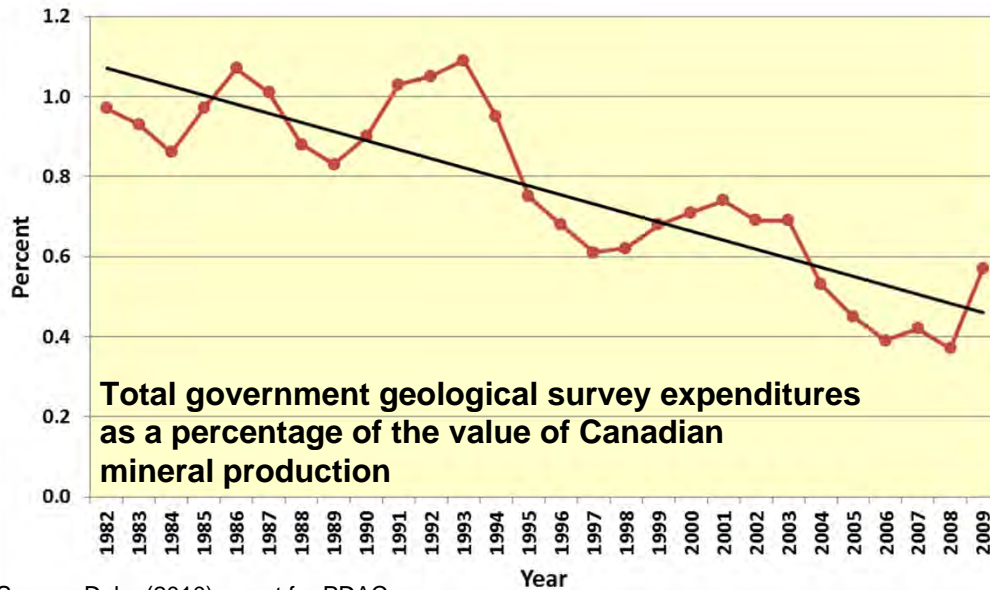
- Consolidation / acquisitions
 - Market cap / oz for >1Moz & >4 g/t approx. **\$108/oz** (range \$45 - \$153 depending on location)
 - Market cap / oz for >1Moz & <4 g/t approx. **\$57/oz** (range \$10 - \$57 depending on location)
- Premium paid for grade & location (% inferred not sig. factor)
- Because of geographical restrictions, preservation of margins (rising costs), construction costs, lower environmental footprint, acceptance by communities & permitting the demand for projects & focus for exploration will be towards:
 - Higher grade deposits (>5 g/t)... but possibly resulting in smaller initial discovery size

Where to Explore in the Future?

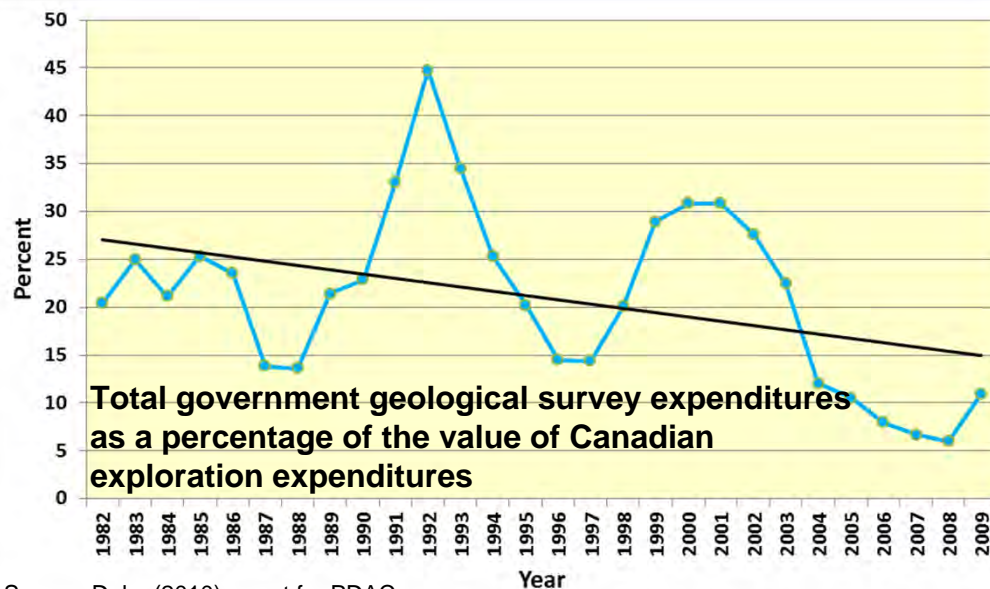


Role of Government Geoscience as a Stimulus for Exploration Activity & Efficiency

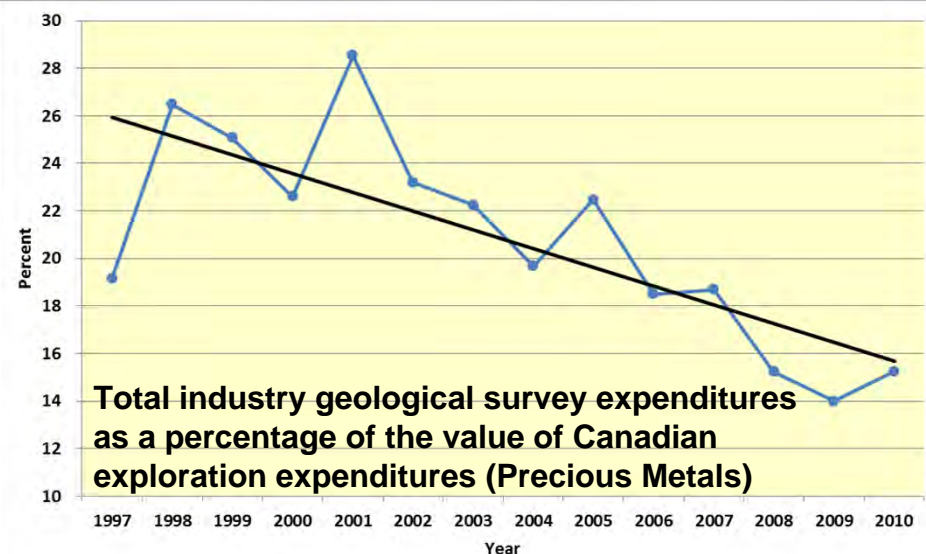
- It is quoted that \$1M of government geoscience expenditure stimulates \$5M industry exploration expenditure
- Promotes exploration efficiency / reduces risk
- Industry consolidation impact



Source: Duke (2010) report for PDAC



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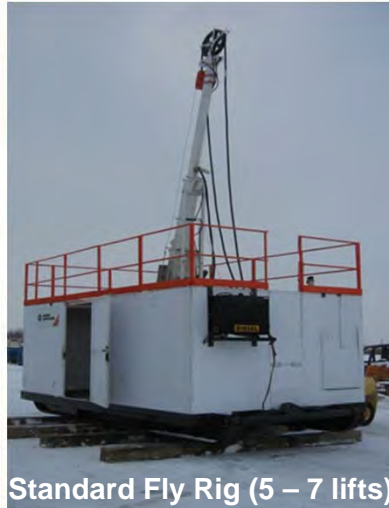


Source: Natural Resources Canada

Opportunities / Future Trends



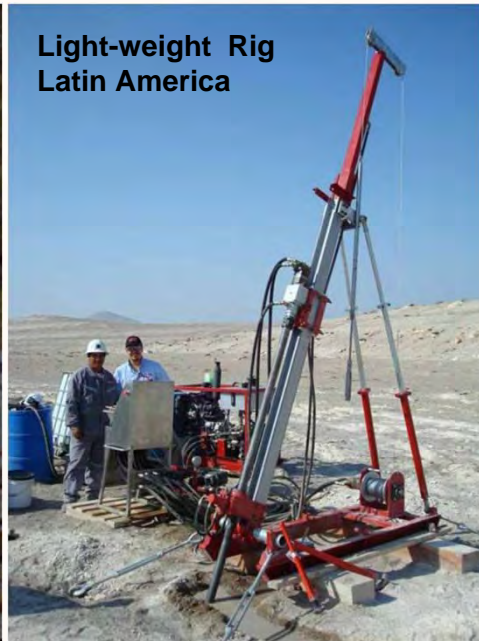
Marooka Mounted Drill
(Self Mobile)



Standard Fly Rig (5 – 7 lifts)



Man Portable Rig
Latin America



Light-weight Rig
Latin America

Development of drilling innovation to explore under shallow cover

- Drill through cover rocks & glacial material
- Test host target bedrock to a depth of few metres
- Retain basal till sample?
- Safe, low cost & efficient
- Minimal environmental footprint
- Simultaneous use of down-hole probes

Opportunities / Future Trends

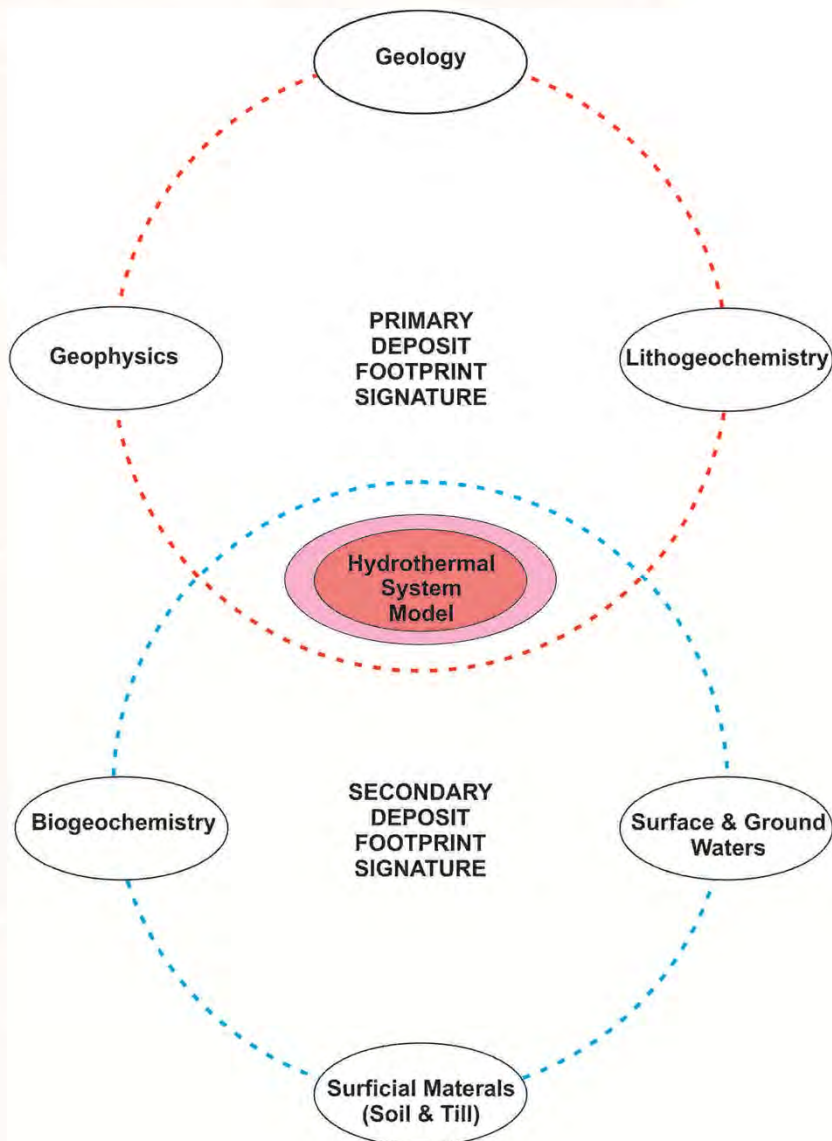


Gold Deposits discovered in new terranes & new target models

- Exploration in higher grade metamorphic terranes
- Different & overlooked host rocks
- More discoveries in sedimentary rocks
- Recognition of metamorphosed alteration & relevance
- Rethinking exploration models (i.e. porphyry models in Archean?)

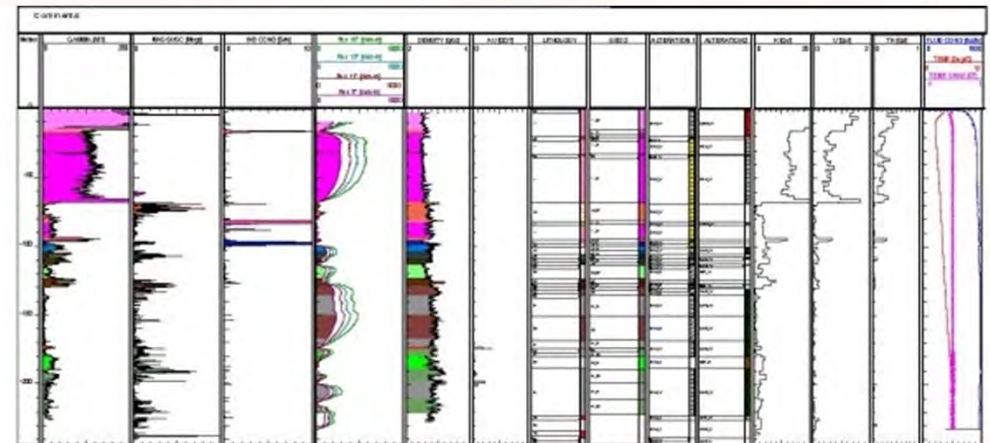


Opportunities / Future Trends



Integration of geosciences disciplines leading to new innovation

- Development of geological models
- Identification of largest detectable feature of hydrothermal system
- Discrimination between fertile vs barren systems
- Multi-parameter tools (physical properties)
- Secondary dispersion (indicator minerals, ground and surface waters, vegetation)
- Tools for visualization & interpretation
- Real-time analytical tools (field & lab)
- Focus of CMIC EIC initiative



Multi-parameter log vs alteration

Opportunities / Future Trends

- Closer partnerships between senior and junior gold companies
 - Junior company = exploration arm for seniors
 - More agreeable terms for business partnerships (if access to market risk capital is difficult)... seniors may fund more exploration
 - Juniors are best in initial grass-roots discovery process & early stage program execution
 - Senior can help in the role of community relations, partnerships & consultation (has tangible value)

Opportunities / Future Trends



Collaboration with First Nations Communities

- Communication
- Prospecting / Geo Assistant Training
- Partnerships
- Capacity Building
- Stimulate New Infrastructure / Improved Logistics
- Education & opportunities for youth

Summary & Closing Remarks

- Junior companies are important in gold exploration discovery process
 - Require access to risk capital (market or seniors)
 - New exploration regulations
 - Continuation of current tax incentives
 - Continued access to prospective lands (availability to explore & infrastructure improvements)
- Merger & acquisition activity likely to continue (seniors likely not to increase role in grass-roots exploration)
- Better collaboration required between junior & senior explorers
- Transformational change required from drilling innovation & geoscience
- Partnerships with First Nations Communities necessary & mutually beneficial

Thank You - Merci - ᐅᓚᓂᓂ

