

# Zinc Mineralization, Exploration and Mining in Ontario

Zinc has been produced in Ontario for the past 100 years. Large base metal deposits have helped develop and diversify Ontario's economy. Historically, the province has produced over 10 million tonnes of zinc. In 2009, Ontario produced approximately 106 000 tonnes of zinc worth \$195 million, representing 5% of Ontario's metal production.

Ontario hosts several different styles of zinc mineralization. The most productive are volcanic-hosted massive sulphide (VHMS) deposits, which form lenses or horizons associated with felsic to mafic volcanic rocks and/or related sedimentary rocks. They are commonly found in clusters in specific stratigraphic intervals, and may also contain significant quantities of copper, lead, silver and gold. Examples include the Mattabi area in northwestern Ontario, where four deposits within a 20 km<sup>2</sup> area produced over 18 million tonnes of ore. VHMS deposits also occur as rare, giant sulphide bodies such as the Kidd Creek deposit. To date the Kidd Creek Mine has produced 140.4 million tonnes of ore @ 2.29% Cu, 6.15% Zn, 0.22% Pb and 86.2 g/t Ag. It is one of the largest and richest volcanogenic massive sulphide deposits in the world. Ore is smelted and refined at the Kidd Metallurgical Complex but that plant is scheduled for closure in May of 2010.

There has also been minor zinc production from small, high-grade deposits in Grenville Province rocks in southeastern Ontario. The potential for non-sulphide zinc deposits in the province has yet to be evaluated.

Major Ontario zinc producers, past producers and resources are listed below. Current reserves, where known, are also listed. In addition these deposits, 15 Zn +/- Cu-Pb-Ag-Au deposits of 100 000 to 500 000 tonnes are known in the province. Unexplored areas around the deposits listed below may host additional Zn +/- Cu-Pb-Ag-Au reserves and warrant further exploration.

Map No.	Status	Name	Tonnes (Mt)	% Zn	% Pb	% Cu	Ag (opt)	Au (opt)
1	P	Kidd Creek (2009)	140.4	6.15	0.22	2.29	2.55	-
1	R*	Kidd Creek (2007)	20.7	5.4	0.17	1.90	1.60	-
2	PP	Berens River	0.51	1.45	-	4.94	10.30	0.28
2	R*	Berens River (No.3)	0.89	1.12	0.77	-	4.80	0.26
3	DNBM	Arseno Lake	1.00	8.70			1.50	-
4	PP	South Bay Mine	1.48	14.50	-	2.30	3.50	-
5	PP	Mattabi Mines	12.55	8.28	0.85	0.74	3.31	-
6	PP	Sturgeon Mines	2.28	9.17	1.21	2.55	5.22	-
6	R*	Sturgeon Mines	0.60	8.98	1.30	2.34	5.17	0.018
7	PP	Lyon Lake-Creek Zone	3.17	8.67	0.99	1.26	4.50	-
7	R*	Creek Zone	0.70	10.34	1.62	0.75	5.96	-
8	DNBM	Marshall Lake	2.21	4.20	-	1.22	2.45	0.012
9	PP	Winston Lake	3.27	14.32	-	1.02	0.10	0.10
9	R*	Winston Lake (Pick)	0.60	21.20	-	1.00	-	-
10	PP	Manitouwadge	71.70	3.70	0.12	1.12	1.17	-
10a	R*	Manitouwadge (Geco)	1.05	2.60	-	2.00	1.31	-
10b	R*	Manitouwadge (Willroy, Willecho)	0.76	4.42	-	0.28	1.47	-
11	DNBM	Big Nama	0.83	3.25	-	0.79	0.75	-
12	DNBM	Errington & Vermilion (1)	4.40	4.00	1.00	1.33	-	-
12	DNBM	Errington & Vermilion (2)	9.00	3.80	1.00	1.14	-	-
13	DNBM	Stralak	0.80	4.00	0.50	0.30	2.00	-
14	PP	Kam Kotia	6.60	1.17	-	1.10	0.10	-
15	PP	Canadian Jamieson	0.82	4.22	-	2.44	-	-
16	PP	Jameland	0.51	0.88	-	0.99	-	-
17	PP	Central Hill	0.60	1.67	-	2.05	-	-
18	DNBM	Renprior-Cadieux	0.99	10.40	1.10	-	-	-
19	PP	Kingdon	0.90	0.03	3.32	-	0.05	-
20	DNBM	Salemo Lake	1.10	5.80	-	-	-	-

Notes: P – Producer; R – Reserves; PP – Past Producer; DNBM – Deposit Not Being Mined  
\* Reserves cited are from published sources, and may not be NI43-101 compliant.

## Ontario Zinc

Producers, Past Producers and Deposits Not Being Mined

- 1 Kidd Creek
- 2 Berens River
- 3 Arseno Lake
- 4 South Bay Mine
- 5 Matabi Mines
- 6 Sturgeon Mines
- 7 Lyon Lake-Creek Zone
- 8 Marshall Lake
- 9 Winston Lake
- 10 Manitouwadge (Geco, Willroy, Willecho)
- 11 Big Nama
- 12 Errington & Vermillion
- 13 Stralak
- 14 Kam Kotia
- 15 Canadian Jamieson
- 16 Jameland
- 17 Central Hill
- 18 Remprior-Cadieux
- 19 Kingdon
- 20 Salerno Lake

