

Base Metals in Saskatchewan

Deposit Types

Saskatchewan has a long history of copper and zinc production, dating back to 1914 when the **Flin Flon deposit** was discovered along the Saskatchewan-Manitoba border. The **62 million tonne** deposit is one of numerous volcanogenic massive sulfide (VMS) deposits in the world-class Flin Flon mining district. These VMS deposits, the most productive base metal deposits in Saskatchewan, are hosted by Paleoproterozoic juvenile island arc volcanic rocks.

Other styles of Copper (Cu)-Zinc (Zn)-Lead (Pb) mineralization known in the Precambrian Shield of Saskatchewan include deposits hosted in clastic sedimentary rocks of the Wollaston Supergroup, in the north-central part of the province, as well as those associated with polymetallic unconformity-associated uranium deposits of the Proterozoic Athabasca Basin.



Foran Mining Corporation

Resources and Production

Over **30 deposits** have been mined in the base metal-rich Paleoproterozoic Flin Flon mining district of Saskatchewan and Manitoba over the past century. The Flin Flon district is among the most prolific Precambrian VMS districts in the world, having **produced more than 170 million tonnes** of base metal ore. Though generally Zn and Cu-rich, some of these deposits, such as the past-producing Hanson Lake mine, also contain considerable Pb.

Strong Potential

While good potential for Cu-Zn-Pb mineralization still exists in key areas of Saskatchewan's exposed Precambrian Shield, a frontier for exploration has emerged in the area southwest of Flin Flon, where these rocks prospective for VMS deposits are buried beneath a shallow cover of Phanerozoic sedimentary rocks. Saskatchewan's most advanced stage base metal project, the **McIlvenna Bay Zn-Cu deposit**, is one of several buried VMS deposits discovered through geophysical exploration in this area.

For more information

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Saskatchewan Mining and Petroleum GeoAtlas

www.saskatchewan.ca/GeoAtlas

Coombe Geoconsultants Ltd. (1991): *Base Metals in Saskatchewan*; Saskatchewan Energy and Mines, Open File Report 91-1.



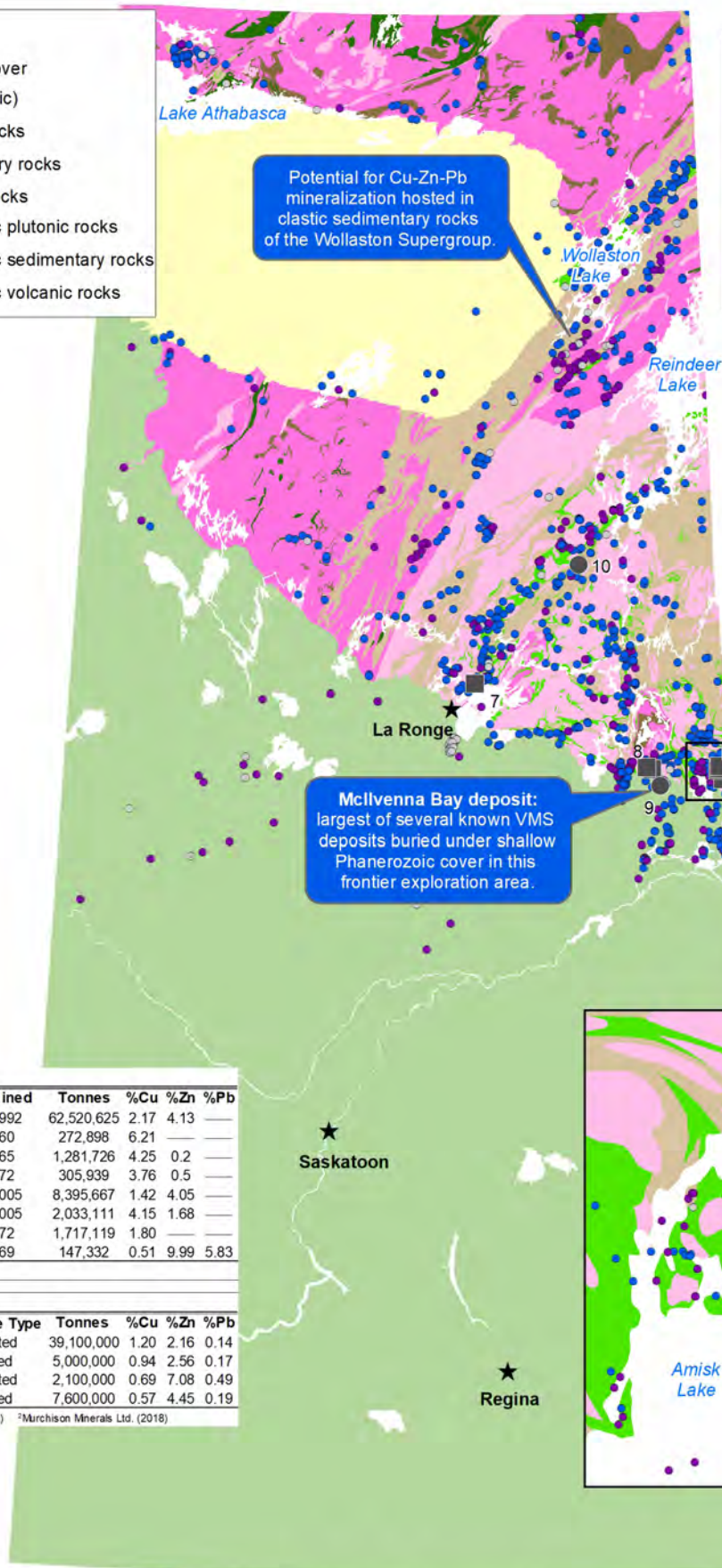
Copper Zinc deposit, Foran Mining Corporation

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Geology

- Phanerozoic sedimentary cover
- Athabasca Basin (Proterozoic)
- Paleoproterozoic plutonic rocks
- Paleoproterozoic sedimentary rocks
- Paleoproterozoic volcanic rocks
- Archean to Paleoproterozoic plutonic rocks
- Archean to Paleoproterozoic sedimentary rocks
- Archean to Paleoproterozoic volcanic rocks

- Past-producing base metal mine (Cu-Zn±Pb)
- Base metal Mineral Resource (Cu-Zn±Pb)
- Cu occurrence
- Zn occurrence
- Pb occurrence



Flin Flon mining district:
Among the most prolific Precambrian VMS districts in the world.

McIlvenna Bay deposit:
largest of several known VMS deposits buried under shallow Phanerozoic cover in this frontier exploration area.

Potential for Cu-Zn-Pb mineralization hosted in clastic sedimentary rocks of the Wollaston Supergroup.

Past Production

Map #	Mine	Years Mined	Tonnes	%Cu	%Zn	%Pb
1	Flin Flon*	1930-1992	62,520,625	2.17	4.13	—
2	Birch Lake	1957-60	272,898	6.21	—	—
3	Coronation	1960-65	1,281,726	4.25	0.2	—
4	Flexar	1969-72	305,939	3.76	0.5	—
5	Callinan*	1989-2005	8,395,667	1.42	4.05	—
6	Konuto	1999-2005	2,033,111	4.15	1.68	—
7	Anglo Rouyn	1966-72	1,717,119	1.80	—	—
8	Hanson Lake	1967-69	147,332	0.51	9.99	5.83

*total production in SK and MB

Mineral Resources

Deposit	Resource Type	Tonnes	%Cu	%Zn	%Pb
9 McIlvenna Bay ¹	Indicated	39,100,000	1.20	2.16	0.14
	Inferred	5,000,000	0.94	2.56	0.17
10 Brabant-McKenzie ²	Indicated	2,100,000	0.69	7.08	0.49
	Inferred	7,600,000	0.57	4.45	0.19

¹Foran Mining Corporation (2021) ²Murchison Minerals Ltd. (2018)

