Highlights from
New Flin Flon mining camp map
and
New mapping project in the sub-
Phanerozoic Flin Flon Belt

Manitoba Mines and Minerals Convention 2009

Renée-Luce Simard
Manitoba Geological Survey
Outline

• New Flin Flon map
  – A new map…
  – A new stratigraphy…
  – A new age…

• New sub-Phanerozoic mapping project
  – A new project…
  – A new approach…
A new Flin Flon map…

- Why?
  - VMS and Gold deposits
  - Prospectivity…
  - Provincial border…
A new Flin Flon map...

• Why?
  – VMS and Gold deposits
  – Prospectivity…
  – Provincial border…

(Thomas, 1990-92)
(Bailes and Syme, 1989)
A new Flin Flon map…

- Why?
  - VMS and Gold deposits
  - Prospectivity…
  - Provincial border…

(Stockwell 1960)
A new Flin Flon map…

• How?
  – Collaborations
    • Geological SurveySSS
    • Companies
    • Universities/Researchers /Students
A new Flin Flon map...

• How?
  – Collaborations
    • Geological SurveyS
    • Companies
    • Universities/Researchers /Students
  – One mapping effort
    • One team
    • One camp
A new Flin Flon map...

• Results...
  – One map
    • One litho-stratigraphic legend
    • Outcrops shades
    • Index of contributions with references
    • Geochronology table
A new Flin Flon map...

- Results...
  - One map
    - One litho-stratigraphic legend
    - Outcrops shades
    - Index of contributions with references
    - Geochronology table
  - Geological report
  - Interactive DVD
    - Databases
    - Photo atlas
A new Flin Flon map...

- New stratigraphy...
A new Flin Flon map…

• New stratigraphy…
A new Flin Flon map…

• New stratigraphy…
A new Flin Flon map…

- New stratigraphy…
A new Flin Flon map...

- New stratigraphy...

~1890Ma
A new Flin Flon map…

• New stratigraphy…

Flin Flon Block

Channing – Mandy Road Fault

Hidden fm

Louis/Douglas fm

~1890 Ma
A new Flin Flon map…

• New stratigraphy…
A new Flin Flon map…

- New stratigraphy…

Flin Flon Block

Channing – Mandy Road Fault

Flin Flon fm

Hidden fm

Louis/Douglas fm

Synvolcanic dyke

Footwall

Hanging wall

Hidden fm

~1890 Ma

VMS potential!!!
A new Flin Flon map…

- New stratigraphy…

Silicified basalt

Footwall

Hanging wall

Hanging wall

Hidden fm

Hidden fm

Louis fm

Douglas fm

Flin Flon fm

Flin Flon fm

Hidden fm

Hidden fm

VMS potential!!!

~1890 Ma
A new Flin Flon map…

• New stratigraphy…

~1890Ma
A new Flin Flon map…

- New stratigraphy…
A new Flin Flon map...

- New stratigraphy...

Flin Flon Block

Cliff Lake Fault

Channing – Mandy Road Fault

Footwall

Hanging wall

Hidden fm

Hidden fm

Hidden fm

~1890Ma

Western Hook seq.

~1890Ma

Felsic breccia

Pillowed basalt

Heterolithic breccia

~1889Ma

Altered basalt

~1890Ma

Pillowed basalt

Felsic breccia

Heterolithic breccia
A new Flin Flon map...

- New stratigraphy...

Flin Flon Block

- Cliff Lake Fault
- Channing – Mandy Road Fault

Footwall
- Hidden fm
- Hidden fm
- Hidden fm
- ~1890 Ma
- ~1889 Ma
- ~1882 Ma
- ~1889 Ma

Heterolithic breccia

Hanging wall
- Hook seq.
- Hook seq.

Western Hook seq.
- ~1890 Ma

Eastern Hook seq.
- ~1889 Ma

Trout Lake Mine
A new Flin Flon map…

- New stratigraphy…

Flin Flon Block

- Cliff Lake Fault
- Channing – Mandy Road Fault

~1890Ma

Western Hook seq.

~1889Ma

Eastern Hook seq.

~1882Ma

Trout Lake Mine

Breccia

Felsic breccia
A new Flin Flon map…

• New stratigraphy…

Trout Lake Mine

-1890Ma

-1882Ma

-1899Ma

Hidden fm

Western Hook seq.

~1889Ma

~1882Ma

~1889Ma

~1882Ma

Trout Lake Mine
A new Flin Flon map...

~1890Ma

~1882Ma

~1889Ma

Trout Lake Mine

Hidden fm

Hidden fm

Poster T-20
New sub-Phanerozoic mapping project…

R-L. Simard & C.R. McGregor

- The need for a new map…
  - Why?
New sub-Phanerozoic mapping project …

• Why?
New sub-Phanerozoic mapping project …

• Why?
New sub-Phanerozoic mapping project …

• Why?
Why?
New sub-Phanerozoic mapping project …
New sub-Phanerozoic mapping project ... • Why?
New sub-Phanerozoic mapping project …

• Thanks to…
  – Industry
    • HudBay Minerals
    • VMS Ventures Inc.
    • Rockcliff Resources Inc.
    • International Samuel Exploration Corp.
  – Geological Surveys
    • Geological Survey of Canada
    • Geological Survey of Saskatchewan
New sub-Phanerozoic mapping project ...

- What do we know?
  - Building Databases
    - Geophysics & Drillhole info
New sub-Phanerozoic mapping project …

• What do we know?
  – Building Databases
    • Geophysics & Drillhole info
    • Geochemistry
    • Geochronology
  – Field Work
    • "Ore-bearing" sequences
    • Others…
  – Map making…
New sub-Phanerozoic mapping project …

- What do we know?
  - Building Databases
    - Geophysics & Drillhole info
    - Geochemistry
    - Geochronology
New sub-Phanerozoic mapping project ...

- What do we know?
  - Building Databases
    - Geophysics & Drillhole info
    - Geochemistry
    - Geochronology

![Map of Manitoba with geological data points and features](image-url)
New sub-Phanerozoic mapping project …

- What do we need?
  - Field Work
    - “Ore-bearing” sequences
  - Others…
New sub-Phanerozoic mapping project …

- Map production…
  - In stages…
  - 2011-…

- Final product
  - MB-SK Flin Flon sub-Phanerozoic map & report
Thank you!