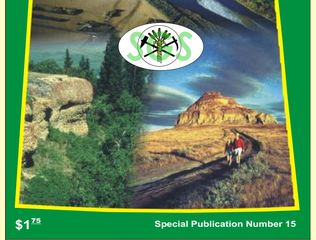
GEOLOGICAL HIGHWAY MAP OF SASKATCHEWAN



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Saskatchewan Energy and Mines
Saskatchewan Highways and Transportation
Tourism Saskatchewan
SRC technology is our business
Saskatchewan Northern Affairs
Saskatchewan Municipal Affairs and Housing

How to use this map

What is the Geological Highway Map of Saskatchewan?
This map shows the road systems of Saskatchewan and, by use of colours, the types of bedrock, sediment and landforms that exist at the surface throughout the province. Many of the features are illustrated and explained by means of photographs and block diagrams.

What are the purposes of this map?
It will help you understand the fascinating origins of the many geological and geomorphological features that you see from your car or airplane window as you travel through or over Saskatchewan. It will also help explain why mines, quarries and pump jacks are located in certain places and are absent from others.

How is the map arranged?
For ease of use it has been divided into two, with the north part of the province on one side of the map sheet and the south part of the province on the other. Northern Saskatchewan is made up mainly of the Precambrian Shield and the Athabasca Basin. It contains numerous lakes, and bedrock is commonly exposed at the surface. Glacial landforms such as eskers, drumlins and dune fields are present. In contrast, southern Saskatchewan has little exposed bedrock except in a few locations such as the Cypress Hills. Much of the ground is made of glacial tills, hummocky moraines, and lake and river sediments deposited during and immediately following the last glaciation some 8,000 to 18,000 years ago.

How do you use the map?
Colour Code: If you are driving along Highway 1 between Regina and Moose Jaw, and want to know what underlies the exceptionally flat wheat fields that go on for kilometre after kilometre, first note the colour shown on the map (light purple) and the lettering code (Qlp), then match colour and code with the corresponding box in the Geological Legend alongside the map. You will find that the area is a plain underlain by glacial lake clays.

Numbered Photographs: If you want to find the location of a particularly interesting feature illustrated by one of the photographs, match its number with the same number on the map and vice versa. Symbols in black circles are used to indicate general areas in which a particular feature (e.g. pump jacks) occurs in abundance. **Technical terms** explained in the glossary are in bold type.

Exploring: If you stop to visit any of the sites marked, please adhere to **The Countryside Code** and follow the regulations and suggestions concerning Fossil and Mineral Collecting (see top left corner on South Sheet). Mines are private property accessible to the public only with prior permission. Mining companies do not generally offer tours to individuals, but under certain circumstances mine owners may offer guided tours to specific groups (e.g. teachers, schools). Further enquiries regarding tours should be directed to the Saskatchewan Mining Association at (306) 757-9505, E-mail saskmining@sk.sympatico.ca; Fax (306) 569-1085.

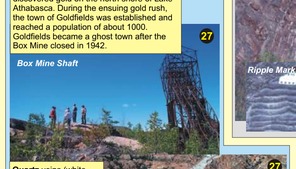
More questions?
If you have questions left unanswered by the map or if you would like to receive extra copies (also available unfolded), contact the Saskatchewan Geological Society (Box 234, Regina, SK, S4P 2Z6) or Saskatchewan Energy and Mines Communications Branch at (306) 787-2526. Alternatively, you can visit their Website at www.gov.sk.ca/enermine.

Need more travel information?
Contact Tourism Saskatchewan. Phone toll free 1-877-237-2273 or visit the Website at www.sasktourism.com.

Gold Rush!

The head frame of the Box Mine serves as a reminder of a gold rush in northern Saskatchewan. In 1934, prospectors discovered gold on the north shore of Lake Athabasca. During the ensuing gold rush, the town of Goldfields was established and reached a population of about 1000. Goldfields became a ghost town after the Box Mine closed in 1942.

27 **Box Mine Shaft**



Quartz veins (white bands in the picture) in a pink **granitic** rock, containing as little as 2 parts per million (0.0002%) of gold, represent the **ore** that was taken out of the ground at the Box Mine. It is rare to find visible gold in this ore.

27 **Box Mine Granite**

Early Life

28 **Martin Group Sandstone**

Ripple marks, rain drops, and mud cracks are evidence for shallow water and dryland conditions in the 1800 million year old Martin Group sandstones and mudstones. The red colour indicates oxygen was present in the Precambrian atmosphere. *Stromatolites* (Saskatchewan's oldest fossils) are layered, cabbage-like structures built by blue-green algae (cyanobacteria). Their remains are found in the Martin Group.

Ripple Marks

Stromatolite

29 **Sedimentary Breccia**

This **breccia** contains angular blocks of an older quartzite in a sandy matrix. It is one of the oldest rocks of the roughly 1700 million year old Athabasca Basin.

Saskatchewan Uranium: World's Biggest And Best

30 **Dellmann Open Pit - Key Lake**

Uranium mining in the province has a long history, which began shortly after World War II in the Uranium City area. After the demise of Uranium City, which at its peak in the late 1950s had some 4000 inhabitants, exploration for uranium shifted to the eastern edge of the Athabasca Basin and the Carswell meteorite impact crater (#33).

The uranium oxide concentrate, "yellowcake", is shipped to Port Hope, Ontario, to be refined into fuel pellets for nuclear reactors around the world. About 17% of the world's electricity comes from nuclear power. Saskatchewan supplies about one-third of the world's uranium.

Transporting Uranium Ore to the Key Lake Mill

Cold Desert

The Athabasca sand dunes, only accessible by boat or plane, cover an area of some 500 square kilometres. Large sandy deltas formed 8000-9000 years ago on the south shore of glacial Lake Athabasca. As lake levels fell, prevailing northwesterly winds formed the sand dunes. On the gravel-rich north shore of Lake Athabasca, raised cobble beaches mark the higher lake levels of glacial Lake Athabasca.

31 ***Athabasca Sand Dunes***

Ventifacts, found in dune areas, are produced when wind-blown sand etches and polishes the surfaces of boulders and cobbles. They commonly end up with two to three flat surfaces.

32 ***Raised Beaches***

Out Of This World

Meteorites have helped shape and change the face of the Earth. Large impacts in the past, such as Chicxulub in Mexico, may have been responsible for mass extinctions, such as that of the dinosaurs at the end of the Cretaceous Period. The dynamic nature of the Earth's processes rarely permit impact structures to be preserved (unlike on the Moon).

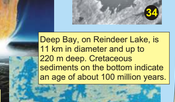
There are three exposed craters (Carswell, Gow Lake and Deep Bay) in the northern Precambrian Shield and two (Viewfield and Maple Creek) buried beneath younger rocks in southern Saskatchewan.

The valley that Hwy 955 crosses marks the rim of the Carswell meteorite impact crater (#33). With a diameter of 35 km, it is Saskatchewan's largest. It formed about 478 million years ago, when a 0.5 to 1 km diameter meteor struck Earth.

33 ***Douglas River Valley (Hwy 955)***

Gow Lake, 5 km in diameter, is one of the smallest impact structures in Canada to have a central uplift. It is believed to be 210 million years old.

Deep Bay, on Reindeer Lake, is 11 km in diameter and up to 220 m deep. Cretaceous sediments on the bottom indicate an age of about 100 million years.



Churchill And Beyond

36 ***Bedded Metasedimentary Rocks (Hwy 102, at km 136)***

These 1850 million year old rocks were laid down along the shore of a shallow Precambrian sea, then uplifted and incorporated into a mountain range. The beds of sediment were originally horizontal, but during mountain building were folded into a near vertical position.

37 ***Folded Rusty Rocks***

Nipekamew Sandcliffs (Hwy 165, at km 50)

A 23 m high cliff of Lower Cretaceous (120 million years) silica sandstone stands tall above the Nipekamew River. Subject to rain and snow, the poorly compacted sandstone has been eroded to form giant, hoodoo-like pillars.

Rusty rocks can be observed along many road cuts in the north. The rust is caused by minor amounts of iron-bearing minerals, such as pyrite or pyrrhotite. This rusty rock near Waddy Lake is also layered and folded.

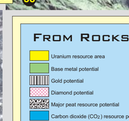
39 ***Metavolcanic Rock - Mullock Lake (Hwy 102, km 63)***

This 1870 million year old **metavolcanic** rock contains large white *crystals* of the feldspar mineral **plagioclase** that appear to float in a fine-grained matrix. **Textures** like this are called **porphyritic**.

Otter Rapids on the Churchill River 40

Here, the Churchill River flows over 1840 million year old **metamorphosed** pink sandstones. The pink colour of these rocks is caused by an abundance of the **feldspar** mineral **microcline**.

From Rocks to Riches...



Saskatchewan's Mineral and Energy Resources

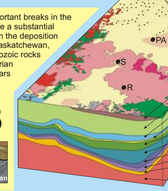
Saskatchewan's mineral and energy resources account for about 40% in value of the province's exports - about the same as agricultural products. Oil and gas, coal, potash, and sodium sulphate are produced in the south, while uranium, copper, zinc, and gold are mined in the north.

A Slice of the Crust...

Northern Saskatchewan is part of the Canadian Shield, a region made of crystalline rocks 1700 to 3200 million years old. In the south, these Precambrian rocks are covered by largely flat-lying, younger sedimentary rocks, deposited between 544 million years ago and

Unconformities are important breaks in the geological record, where a substantial time gap exists between the deposition of two rock layers. In Saskatchewan, near-horizontal Phanerozoic rocks overlie folded Precambrian rocks >1,100 million years older. The edge of the Precambrian Shield represents the two-dimensional expression of this major unconformity.

41



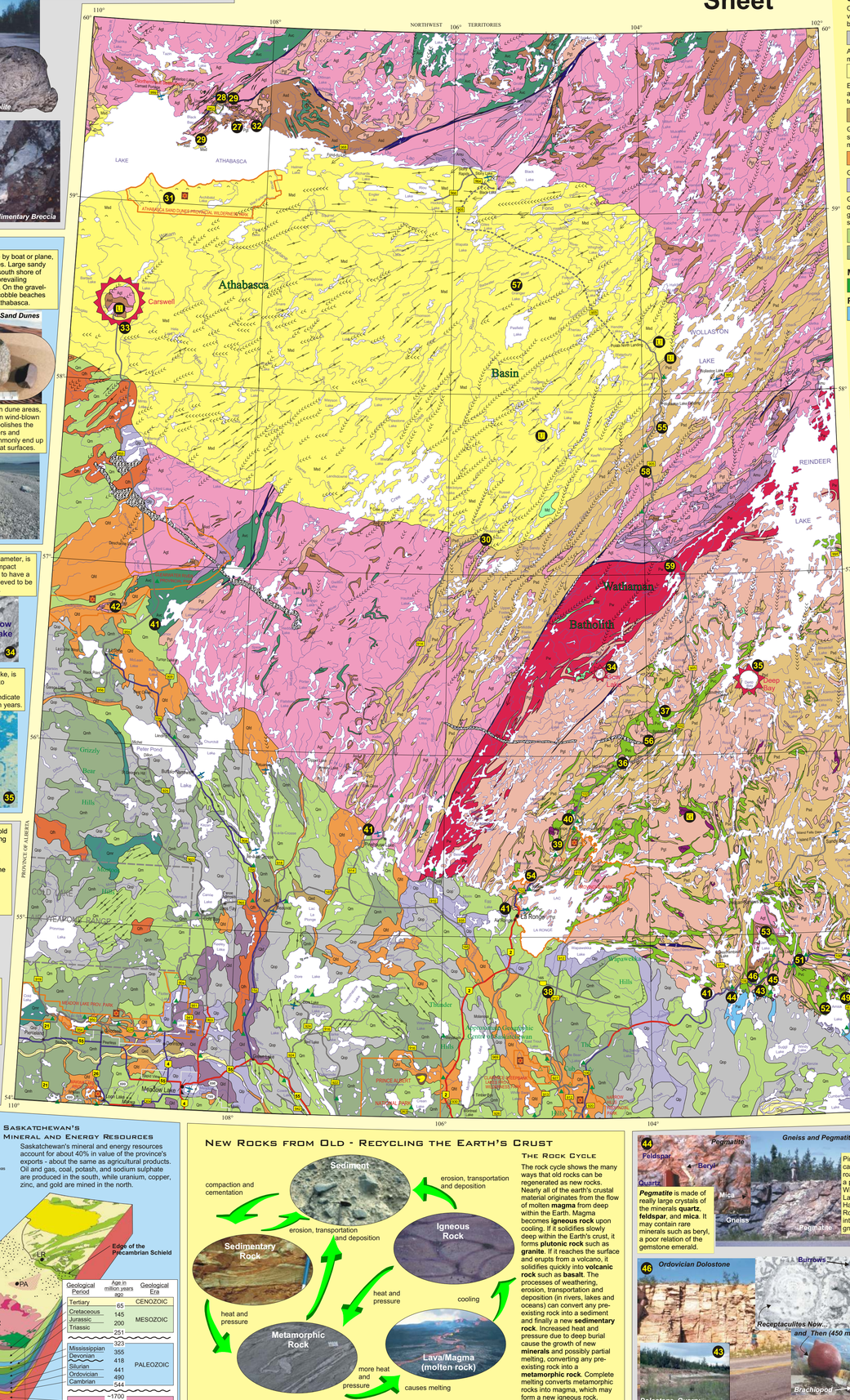
Geological Period	Age in million years ago	Geological Era
Tertiary	65	CENOZOIC
Cretaceous	145	MESOZOIC
Jurassic	200	
Triassic	251	
Mississippian	323	PALEOZOIC
Devonian	355	
Silurian	418	
Ordovician	441	
Cambrian	490	
	544	
	~1700	PRECAMBRIAN

Scale

25 0 25 50 75 100 125 150 175 200 Kilometres

10 0 10 20 30 40 50 60 70 80 90 100 Miles

North Sheet



Geological Legend (ages in million years ago, mya)

PHANEROZOIC

CENOZOIC (65 mya-present)

Quaternary

ORGANIC DEPOSITS: Decomposed and undecomposed vegetation in saturated or poorly drained areas; present in bogs, fens and swamps

Qop Organic plain

ALLUVIAL DEPOSITS: Gravel, sand, silt, clay and slump material, on floodplains and terraces of modern streams

Qap Alluvial plain

EOLIAN DEPOSITS: Fine- and medium-grained sand and silt reworked by wind to form undulating and rolling topography

Qed Eolian deposits

GLACIAL RIVER (and RIVER) DEPOSITS: Gravel, sand and silt transported and deposited by glacial meltwater

Qfd Outwash/proglacial

Qfh Ice-contact

GLACIAL LAKE DEPOSITS: Sand, silt and clay

Qlp Plain

Qld Delta

GLACIAL DEPOSITS: Till consisting of unsorted mixtures of boulders, gravel, sand, silt and clay; deposited from glacial ice during periods of advance, retreat and stagnation

Qm Moraine deposits

Cree Lake Moraine

Qmh Stagnant ice moraine; undulating to hummocky

Qmr Ridged moraine

MESOZOIC (251-65 mya)

Mes Shale and sandstone, minor limestone

PALEOZOIC (544-251 mya)

Pal Dolostone, minor mudstone, shale

PRECAMBRIAN

PALEOPROTEROZOIC (2500-1600 mya)

(unmetamorphosed)

Md Mackenzie diabase dykes and sills (1280-1100 mya)

Msd Athabasca Group: sandstones (1750-1700 mya)

(variably metamorphosed)

Pgt Granitic gneisses and granite intrusions (1920-1770 mya)

Pw Wathaman Batholith: granitic rocks (1860 mya)

Pmt Anorthosites, intermediate to ultramafic gneisses and intrusions (1900-1800 mya)

Psd Metasedimentary rock (2080-1830 mya)

Pvc Metavolcanic rocks (1920-1870 mya)

ARCHEAN (~4500-2500 mya)±Paleoproterozoic

(variably metamorphosed)

Amu Mafic to ultramafic gneisses and intrusions (2600 mya)

Agt Granitic gneisses and granite intrusions (3200-2500 mya)

Asd Metasedimentary rocks (largely >2500 mya)

Avc Metavolcanic rocks (may include rocks of plutonic origin) (largely >2500 mya)

UNDATED

Z Mylonite

Glossary of Geological Terms

Alluvium: a general term for clay, silt, sand, and gravel deposited recently (in geological terms) by a stream or other body of running water (also referred to as alluvial deposits).
Basalt: a dark-coloured, fine-grained mafic volcanic rock.
Bedrock: a general term for the rock that underlies soil or other unconsolidated material.
Bentonite: a soft, porous, light-coloured rock composed of clay minerals. Generally produced during the weathering of volcanic ash or tuff. It can absorb large quantities of water resulting in an eightfold increase in volume.
Biotite: an important rock-forming mineral of the mica group. It is generally black and flaky in form, and can be found in igneous, metamorphic and sedimentary rocks.
Breccia: a coarse-grained clastic rock composed of angular broken rock fragments.
Diamond: a mineral composed of carbon that formed under extreme pressures and temperatures within Earth's upper mantle (>100 km depth) and brought to surface in volcanic pipes. Diamond is the hardest natural substance known.
Dolostone: a carbonate sedimentary rock composed of the minerals dolomite and calcite.
Eolian deposits: a general term for deposits of wind-blown silt (loess), wind-drifted sand (dunes).
Extrusive rock: see volcanic rock.
Feldspar: the most widespread of any rock-forming mineral group; feldspars make up 60% of the earth's crust and are common in most rock types.
Felsic: used to describe igneous rocks that are composed mostly of light-coloured minerals, such as quartz, feldspars, feldspathoids or muscovite.
Gneiss: a rock formed by regional metamorphism in which bands of granular minerals alternate with bands of flaky minerals.
Granite: a light-coloured, coarse-grained plutonic rock with feldspar, quartz and mica.
Hummock: a rounded or conical knoll, mound or other small elevation.
Igneous rock: a rock that has solidified from hot molten material (magma).
Intrusive rock: see plutonic rock.
Mafic: used to describe igneous rocks that are composed mostly of dark-coloured (iron and magnesium-bearing) minerals, such as biotite, amphibole or pyroxene.
Magma: naturally occurring molten and mobile rock material, generated within the Earth and capable of intrusion or extrusion. When magma hardens, igneous rocks are formed.
Metamorphic rock: any rock derived from pre-existing rocks by mineralogical, chemical and structural changes in response to changes in pressure and temperature. The process is referred to as metamorphism and the rock undergoing it, has been metamorphosed
Meta-: a prefix for rocks that have undergone metamorphism..
Mica: a group of common minerals, including muscovite (silvery) and biotite (brown to black), that can be easily split into elastic flaky plates. Mica is very common in igneous and metamorphic rocks.
Microcline: a variously coloured (often pink to red) mineral of the feldspar group. One of the main constituents of granite and rhyolite, but it also occurs in metamorphic and sedimentary rocks.
Mineral: a naturally occurring inorganic element or compound having an orderly internal structure and characteristic chemical composition, crystal form and physical properties.
Misfit stream: a stream that is either too large (overfit) or too small (underfit) to have eroded the valley in which it flows.
Mylonite: a streaky or banded rock, produced by intense plastic deformation during shearing.
Ore: a naturally occurring material from which minerals (generally metalliferous) of economic value can be extracted.
Outwash plain: a flat or gently sloping sheet of stratified sand and gravel deposited by meltwater streams in front of or beyond a glacier.
Parabolic dune: a sand dune with a scoop-shaped form, with its two 'horns' pointing upwind.
Pegmatite: Very coarse-grained igneous rock.
Plagioclase: variously coloured (often white), common rock-forming minerals of the feldspar group. One of the main constituents of granodiorite and gabbro, but it also occurs in metamorphic and sedimentary rocks.
Plutonic rock: a medium- to coarse-grained igneous rock formed at considerable depth by crystallization of magma; syn: intrusive rock.
Porphyritic: the texture of an igneous rock in which larger crystals (phenocrysts) are set in a fine-grained groundmass.
Quartz: next to feldspar, the most common rock-forming mineral (SiO2). It is transparent, harder than feldspar and widespread in igneous, metamorphic and sedimentary rocks.
Refractory clay: also known as fireclay; a siliceous clay, rich in hydrous aluminium silicates and capable of withstanding high temperatures. Useful for the manufacture of ceramic products such as firebrick.
Sedimentary rock: a rock resulting from the consolidation of loose sediment that has accumulated in layers. Clastic, chemical and organic sedimentary rocks are distinguished.
Texture: the general physical appearance or character of a rock.
Till: an unsorted and unstratified mixture of clay, sand, gravel and boulders deposited beneath a glacier.
Volcanic rock: a fine-grained igneous rock formed when magma reaches Earth's surface and hardens (crystallizes); syn: extrusive rock.

Highway Legend

Route Markers

Provincial Routes

Trans-Canada

Provincial Highways and Other Roads

Provincial Highway

Provincial Road

Municipal Road

Road Classification

Divided (Paved)

Paved

Thin Membrane Surface (No Shoulder)

Gravel

Gravel (Municipal Roads)

Gravel (Winter Access Only)

Symbols

Provincial Parks

Provincial Historic Parks

National Parks

National Historic Sites

Regional Parks

Provincial or Federal Campgrounds

Provincial or Federal Picnicgrounds

Public Airport

Northern Provincial Airport

Border Community Visitor Information Centre

Population Symbols

0 to 249

250 to 499

500 to 999

1000 to 4999

Over 5,000

Symbols

Ridged moraine (ridges perpendicular to ice flow)

Striae (ice-flow direction indicators)

Drumlin/fluting

Esker

Beach ridge (strandline)

Meltwater channel (minor)

Sand dunes

Meteorite impact structure

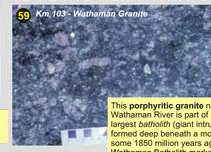
Area with base metal mine

Area with gold mine

Area with uranium mine and/or mill

To Points North (Hwy 905)

59 ***Km 103 - Wathaman Granite***



This **porphyritic granite** near the Wathaman River is part of North America's largest *batholith* (giant intrusion), which formed deep beneath a mountain chain some 1850 million years ago. The Wathaman Batholith marks the site of a subduction zone that existed at a time when a huge ocean separated northwestern Saskatchewan from eastern Manitoba (see *Plate Tectonics* below).

Quartzite, a **metamorphic rock**, is made up almost entirely of the **mineral quartz**.

58 ***Km 172 - Quartzite near Wollaston Lake***

59 ***Km 103 - Wathaman River Bridge***

The Last Ice Age

Over the last 20,000 years, the Earth has experienced a natural warming trend that resulted in the retreat of the glaciers overlying Saskatchewan. An increasing rate of warming over the last 100 years is likely due to human activities. Yet, scientists believe that we now live in an *interglacial* period and that the next ice age could be just around the corner. Northern Saskatchewan is full of evidence of the advance and retreat of the last continental glacier. This includes erosional and depositional features at both large and small scales that indicate the direction of ice flow (arrows on photos).

54 ***Glacial striae*** are scratch marks caused by stones and boulders embedded at the bottom of an ice sheet that moved over the rock surface. The scratches are always parallel to the direction in which the ice moved.

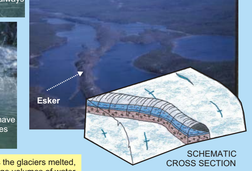
53 ***Roche Moutonnée***

Roches Moutonnées are rock outcrops that have been sculptured by glacial ice. Their steep sides point in the direction of ice movement.

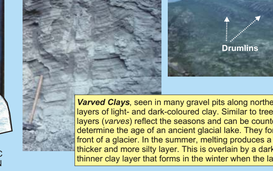
52 ***Cavetto at Amisk Lake***

As the glaciers melted, large volumes of water and sediment eroded underlying surfaces creating a variety of features including this cavetto, a channel-like feature carved into the **bedrock.**

55 ***Eskers*** - ridges of sand and gravel, once the beds of streams that flowed under the melting ice sheet.



56 ***Varved Clays near Brabant (km 165)***



Varved Clays, seen in many gravel pits along northern roads, are layers of light- and dark-coloured clay. Similar to tree rings, the layers (varves) reflect the seasons and can be counted to determine the age of an ancient glacial lake. They form in lakes in front of a glacier. In the summer, melting produces a light-coloured thicker and more silty layer. This is overlain by a dark-coloured thinner clay layer that forms in the winter when the lake freezes.

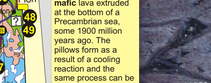
57 ***Drumlins*** - egg-shaped hills of glacial till formed under the ice sheet.

Hanson Lake Road (Hwy 106)

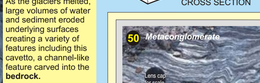
49 ***Metamorphosed Pillow Basalt***

This pillow **basalt** formed when hot **mafic** lava extruded at the bottom of a Precambrian sea, some 1900 million years ago. The pillows form as a result of a cooling reaction and the same process can be observed along mid-ocean ridges today.

48 ***Flin Flon Mine (viewed from Creighton)***

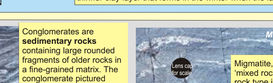


50 ***Metaconglomerate***



Conglomerates are **sedimentary rocks** containing large rounded fragments of older rocks in a fine-grained matrix. The conglomerate pictured here was deposited about 1850 million years ago. Later, the large rock fragments in it were flattened and folded as the rock was **metamorphosed** during mountain building.

51 ***Migmatite***



Migmatite, meaning 'mixed rock', is a common rock type in northern Saskatchewan. Migmatite is a **metamorphic rock** that forms when rocks are buried so deeply in the Earth's crust that they begin to melt (light coloured bands). Such a rock may also be referred to as a **gneiss.**

A Look Inside

We are able to model the interior of the Earth by interpreting a wide variety of evidence: earthquake waves, the planet's magnetic and gravity fields, meteorites and the history of the rocks that make up the Earth's surface.

At the centre of the Earth is a solid *inner core* of iron-nickel surrounded by an *outer core* of liquid iron-sulphur. A 3000 km thick *mantle* of semi-molten silicates of iron and magnesium envelops the core. These three layers are enclosed by an outer rigid skin, only 6 to 60 km thick, called the *crust*.

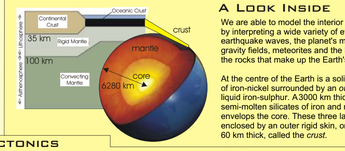
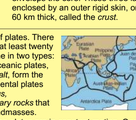


Plate Tectonics

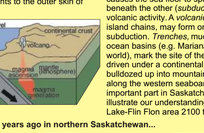
Why are mountain ranges nearly always along the edges of continents? Why are volcanoes and earthquakes concentrated around the perimeter of the Pacific Ocean, or along the centre of the Atlantic Ocean? And why are the deepest parts of the oceans at the edges rather than in the middle?

The answers lie in the modern *Theory of Plate Tectonics*. A vast accumulation of geological observations gathered over the past forty years points to the outer skin of the Earth being a mosaic of plates. There are seven large plates and at least twenty smaller ones, and they come in two types: *continental* and *oceanic*. Oceanic plates, made mostly of dense *basalt*, form the floors of the oceans. Continental plates carry the less dense *igneous, metamorphic and sedimentary rocks* that make up the continental landmasses.

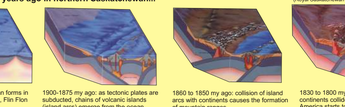
Far from being stationary, the plates are in constant motion. Oceanic plates form in pairs along *mid-ocean ridges*, where upwelling of basaltic *magma* causes the sea floor to spread apart. Where plates collide, one is forced beneath the other (*subducted*), and destroyed, resulting in earthquakes and volcanic activity. A *volcanic island arcs*, such as the Indonesian or Japanese island chains, may form on the over-riding plate parallel to the zone of subduction. *Trenches*, much deeper than other parts of the neighbouring ocean basins (e.g. Marianas Trench, the deepest spot in any ocean of the world), mark the site of the down-going plate. Where an oceanic plate is driven under a continental plate, sediments from the continental margin are bulldozed up into mountain ranges such as the Andes and the Cordillera along the western seaboard of the Americas. Plate tectonics played an important part in Saskatchewan's distant past. The four panels below illustrate our understanding of mountain building in the La Ronge-Reindeer Lake-Flin Flon area 2100 to 1800 million years ago.



Subduction



Some 2000 million years ago in northern Saskatchewan...



2100-2000 my ago: an ocean forms in the area between La Ronge, Flin Flon and Reindeer Lake.

1900-1875 my ago: as tectonic plates are subducted, chains of volcanic islands (island arcs) emerge from the ocean.

1860 to 1850 my ago: collision of island arcs with continents causes the formation of mountain ranges.

1830 to 1800 my ago: two ancient continents collide; ancestral North America starts to assemble.

(Royal Saskatchewan Museum illustrations)

New Rocks from Old - Recycling the Earth's Crust

The Rock Cycle

The rock cycle shows the many ways that old rocks can be regenerated as new rocks. Nearly all of the earth's crustal material originates from the flow of molten **magma** from deep within the Earth. Magma becomes **igneous rock** upon cooling. If it solidifies slowly deep within the Earth's crust, it forms **plutonic rock** such as **granite**. If it reaches the surface and erupts from a volcano, it solidifies quickly into **volcanic rock** such as **basalt**. The processes of weathering, erosion, transportation and deposition (in rivers, lakes and oceans) can convert any pre-existing rock into a **sediment** and finally a new **sedimentary rock**. Increased heat and pressure due to deep burial cause the growth of new **minerals** and possibly partial melting, converting any pre-existing rock into a **metamorphic rock**. Complete melting converts metamorphic rocks into magma, which may form a new igneous rock.

44 ***Pegmatite***

Pegmatite is made of really large crystals of the minerals **quartz**, **feldspar**, and **mica**. It may contain rare minerals such as beryl, a poor relation of the gemstone emerald.

45 ***Gneiss and Pegmatite***

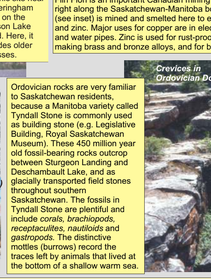
Pink pegmatite can be seen in roadcuts and at a picnic site near Winteringham Lake on the Hanson Lake Road. Here, it intrudes older gneisses.

46 ***Ordovician Dolostone***

43 ***Dolostone Quarry***

Ordovician rocks are very familiar to Saskatchewan residents, because a Manitoba variety called Tyndall Stone is commonly used as building stone (e.g. Legislative Building, Royal Saskatchewan Museum). These 450 million year old fossil-bearing rocks outcrop between Sturgeon Landing and Deschambault Lake, and as glacially transported field stones throughout southern Saskatchewan. The fossils in Tyndall Stone are plentiful and include *corals, brachiopods, receptaculites, nautiloids* and *gastropods*. The distinctive mottles (burrows) record the traces left by animals that lived at the bottom of a shallow warm sea.

47 ***Crevices in Ordovician Dolostone***



Churchill River Valley