

# ROCKS! ROCK!

EXPLORE  
**10**  
ROCKS  
AND MINERALS  
FOUND IN MICHIGAN



**MICHIGAN**  
CONSTRUCTION

# NATURAL STONE (GRAVEL)

Natural stone is also referred to as “gravel”. Michigan naturally has an abundance of sand and gravel that can be found across the state. The gravel can be found in the deposits left behind by glaciers. Most of the sand and gravel in Michigan is located in areas where the ice was melting rapidly.

WHERE  
IT IS  
FOUND:



**USES:** Natural Stone or Gravel is primarily used in construction. You can use it to build roads by mixing it with cement to produce concrete or with liquid asphalt to pave the roads we use every day. When Natural Stone is mechanically crushed it will have sharp edges and can be used to build roads with improved skid resistance.

**COLOR:** Natural Stone or Gravel can be shades of light red/pink or tan, or even as dark as black.

**FUN FACT!** Did you know? Every American born will use 1.36 million pounds (about the same weight as 115 elephants) of natural stone in their lifetime.



# LIMESTONE

Limestone is a sedimentary rock composed mostly of the mineral calcite and makes up about 15% of the Earth's sedimentary crust. Limestone is formed when the area gets covered with warm, shallow marine water. Many people mine limestone from a quarry.

WHERE  
IT IS  
FOUND:



**USES:** Primarily used in construction projects – for concrete, asphalt, cement, bridges, agriculture and parking lots.

**COLOR:** Limestone is typically grey in color, it can be a light grey or a dark grey.

**FUN FACT!** Did you know? The world's largest limestone quarry is located in northern Michigan, near Rogers City.



# SILICA SAND

WHERE  
IT IS  
MINED:



Silica Sand is quartz that over time has been broken down into tiny granules. In Michigan, Silica Sand is most commonly surface-mined in open pit operations. It is found nearly everywhere across the state, with most of the mining operations focused on the west coast near Lake Michigan.



**USES:** Glassmaking, metal casting/production, ceramics, water filtration, oil and glass drilling and construction. Silica is an industrial sand and is the primary component in a wide variety of building and construction products.

**COLOR:** Silica sand colors range from a white to tan to brown, depending on how much iron is mixed in.

**FUN FACT!** Did you know? Silica sand is made up of quartz. Quartz is the most common mineral in the Earth's crust.



# COAL

Coal is a sedimentary rock formed when dead plant matter decays into peat, and over millions of years the heat and pressure turn the peat into coal. Different types of coal can be formed depending on the amount of heat and pressure that occurred. Miners can dig for coal with excavators and bulldozers if it is less than 200 feet underground. If the coal is located much further underground miners must dig tunnels and build coal mines to get it out.

WHERE  
IT IS  
FOUND:



**USES:** Coal's main use is being burned to create energy or heat.

**COLOR:** Coal is jet-black in color and can make your fingers dirty if you touch it.

**FUN FACT!** Did you know? Coal is the world's most abundant fossil fuel, there is more coal than oil and natural gas.

# GYPSUM

WHERE  
IT IS  
FOUND:



Gypsum is a mineral found in the shape of crystals as well as masses called gypsum rock. It is a very soft sedimentary mineral found in deposits all over the world. In Michigan, it is mainly found in the lower peninsula where it is mined from open quarries and underground mines.



**USES:** Gypsum is used in fertilizer, drywall, sheetrock, cement and plaster of Paris. It is also used in toothpaste and make-up.

**COLOR:** Gypsum can be white, light pink, or have no color at all.

**FUN FACT!** Did you know? Gypsum is used in toothpaste and cosmetics.

# SALT

WHERE  
IT IS  
FOUND:



Salt is a naturally occurring mineral, and is composed of sodium chloride. The mineral name for salt is Halite. Salt can be found in mines.



**USES:** Salt is primarily used as a food additive, water softening agent, for ice control in the winter, in ice cream making and in many other forms of food production.

**COLOR:** Salt is transparent to translucent in color, and can be white, gray, blue, purple, pink or yellow.

**FUN FACT!** Did you know? Have you ever seen a salt truck drive by during winter? They are putting salt down on the roads to prevent ice from forming or to melt ice that has already been formed.

# TACONITE (IRON ORE)



**WHERE  
IT IS  
FOUND:**

Taconite once processed becomes the raw material used to make steel. It is the rock/mineral from which metallic iron can be economically extracted. It was first discovered in Michigan's Upper Peninsula in 1844 where it was taken from iron ore mines.



**USES:** Its main use is in steel, which can be used to build factories, sky scrapers, rail roads, farm machinery and bridges.

**COLOR:** Taconite's color is typically a dirty red/orange/copper color.

**FUN FACT!** Did you know? The cargo of the SS Edmund Fitzgerald, which sank in Lake Superior, consisted of approximately 26,116 long tons of taconite pellets.

# SLAG (BLAST FURNACE OR IRON SLAG)

Slag is the rock left over after a desired metal has been separated from its raw ore. Iron Ore, coke and flux stone are put into a blast furnace and reduced to a molten mass by great heat.

Blast Furnace Slag is produced three ways:

- 1. Air-Cooled Slag** – cooled under atmospheric conditions and accelerated by water sprays.
- 2. Expanded Slag** – cooled with controlled quantities of water to produce a lightweight product.
- 3. Granulated Slag** – chilled quickly to form a glassy granular product.



WHERE IT IS FOUND:



**USES:** Slag is used as an aggregate in road base fill, concrete, asphalt, concrete blocks, cement production, rock wool insulation, commercial roofs, railroad ballast, glass production, agricultural lime and silica fertilizer.

**COLOR:** Slag can be a range of colors depending on how it is produced, but is mainly white or grey. It can also be different shades of green/blue, and have a smooth glassy texture.

**FUN FACT!** Did you know? Many of the runways and taxiways at the Detroit Metro Airport are built on a slag base and slag is used extensively in the concrete pavement.

# RECYCLED CONCRETE



WHERE  
IT IS  
FOUND:

Recycled Concrete is made from demolished concrete. When a new road needs to be paved, the old concrete that is removed from the site gets reused for a future project. Recycling concrete is environmentally friendly and keeps construction costs down.



**USES:** Recycled Concrete is mainly used in the base mixture for roads and to keep areas from eroding.

**COLOR:** You can find this rock in lots of different colors, primarily grey with shades of red, green, blue or yellow.

**FUN FACT!** Did you know? Concrete, before it gets recycled, is the most widely used man-made material on the planet!

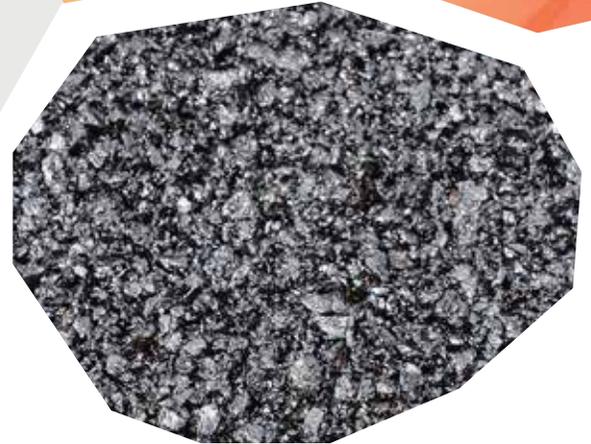


# RECYCLED ASPHALT



WHERE  
IT IS  
FOUND:

Recycled Asphalt is made up of asphalt and aggregates and comes from the roads we drive on. It is made when old asphalt pavements are removed for reconstruction or resurfacing. Recycled Asphalt is dug up, and then re-used in other asphalt jobs.



**USES:** Recycled Asphalt's main uses are in the base of new asphalt mixture for roads and driveways.

**COLOR:** Recycled asphalt's main colors are grey and black.

**FUN FACT!** Did you know? Asphalt is America's most recycled product. It is recycled more than paper, plastics and cardboard.

