

# 1.0 SCOPE

This Test Method covers the determination of ironstone particles in aggregate.

## 2.0 REFERENCE STANDARDS

ASTM Standards

- C702 Standard Practice for Reducing Samples of Aggregate to Testing Size
- E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

#### MEB Standards

P047 Sampling Aggregate Materials for Laboratory Testing

#### 3.0 APPARATUS

*Balance*: of sufficient capacity and accurate to within 0.1 g of the test load at any point within the range of use.

Sieves: conforming to requirements of ASTM E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves.

*Splitter*: splitter conforming to requirements of *ASTM C702 Standard Practice for Reducing Samples of Aggregate to Testing Size.* 

*Oven*: sufficient size capable of maintaining a uniform temperature of  $110^{\circ}C \pm 5^{\circ}C$ .

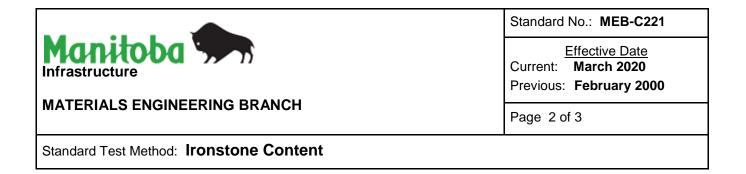
Containers: suitable for reducing the size of the sample and for holding the portion being tested.

Spatula: or similar tool to aid in sorting aggregate particles.

#### 4.0 PROCEDURE

#### 4.1 Sample Preparation

The mass of the test sample shall be at least large enough so that the largest particle is not more than 1.0% of the sample mass; or the test sample shall be at least as large as indicated below, whichever is smaller:



| Nominal Maximum Size |      | Minimum Test Sample Mass, g |
|----------------------|------|-----------------------------|
| mm                   | inch |                             |
| 9.5                  | 3/8" | 200                         |
| 12.5                 | 1/2" | 500                         |
| 19.0                 | 3/4" | 1500                        |
| 25.0                 | 1"   | 3000                        |

## 4.2 Test Method

The sample is shaken over a 4.75 mm sieve to retain the 4.75 mm material.

The retained material is wet-sieved over a 4.75 mm sieve to eliminate clay balls and material passing the 4.75 mm sieve. This process is repeated until the water appears clear.

The sample is then oven dried at  $110^{\circ}C \pm 5^{\circ}C$  and allowed to cool to room temperature. The dry mass of the sample is recorded to the nearest 0.1 g.

Place the sample on a flat surface where the ironstone particles are hand-picked and removed by visual inspection. Figure 1 can be used as a reference to identify ironstone.

Weigh the ironstone particles from the sample to the nearest 0.1 g.

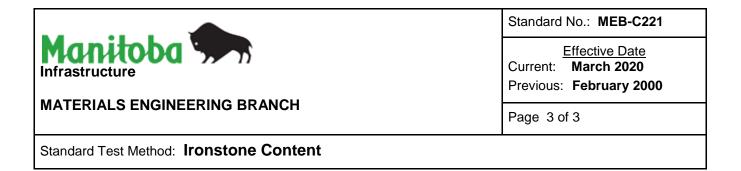




Figure 1- Reference photo to help identify ironstone

# 5.0 CALCULATIONS

Calculate the percentage of ironstone particles (to one decimal place) as follows:

% Ironstone = 
$$\left(\frac{Mass of Ironstone Particles(g)}{Total Mass of Test Sample(g)}\right) * 100$$

## 6.0 REPORT

Report the percentage of ironstone particles to nearest 0.1 percent.