WE TEST MAGNETITE MAGNETIC PROPERTIES

HAVING ISSUES WITH MAGNETITE LOSSES OR MEDIA DENSITY CONTROL?

Send IMS a small sample to find out if your magnetite is too magnetic or not magnetic enough.

Non-magnetic magnetite is lost. Too magnetic magnetite flocculates.

CONTACT US FOR A SAMPLE KIT

MAGNETIC PROPERTIES OF INTEREST ARE

1. Relative ease to get magnetised.
2. Saturation magnetism.
3. Force needed to demagnetise.
4. Residual magnetism after magnetisation

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**PROCEDURE**

We test Magnetite by using Magnetic Curve analysis on the sample. The result is a complete magnetic data on the material.

This tells us how easy the material is to magnetise and hence capture magnetically. It also tells us how much magnetism remains with it encouraging it to coagulate and hence flocculate affecting the media density control.

**WHAT WE KNOW**

We have found that the magnetic characteristics of the magnetite differ with differing ore bodies. They also differ at different stages of the process. For example magnetite at the pit is different to the magnetite concentrate recovered at the magnetic separators and the magnetite lost in tailings.

**BACKGROUND**

Any ferric material that can conduct a magnetic field will become magnetised when exposed to a magnetic field. The amount the material becomes magnetised depends on the strength of the magnetic field and the Br (Remanence). The H (Coercivity) influences how difficult it is to magnetise and demagnetise. See below to view magnetic characteristics.

Magnetite BH properties vary depending on the original ore they come from and the way they are processed. Particle size also has an influence.

Magnetic Separators are basically high magnetic fields designed to best capture magnetite from the media. In doing the magnetic capture they tend to magnetise the magnetite. The magnetite stays magnetised to a level depending on its BH properties.

When magnetised the magnetite sticks to itself forming bigger particles which tend to fall out of suspension (flocculate) easier hence it becomes difficult to maintain the correct media density.

The main problem is that the worst magnetite is the most magnetic and easiest to capture with wet drums.

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**SATURATION LOOP**

**DEMAGNETISATION CHART**

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