



Method 1.14 - Official Methods: clarifier mud Brix

1. Rationale

This method is applicable to clarifier mud samples and is used to obtain data for cane payment purposes.

2. Principle

The well-mixed clarifier mud is filtered with the help of a filter aid and used to determine the Brix of the solution.

3. Apparatus

- 3.1 Precision refractometer
- 3.2 Filter paper, Whatman No. 6 or equivalent (150 mm ϕ)
- 3.3 Stemless funnel (100 mm ϕ)
- 3.4 Squat beaker (100 mm³)
- 3.5 Watch glass (100 mm ϕ)

4. Reagents

- 4.1 Filter aid - Celite 577 or equivalent

Celite is an inert powder and inhalation may cause asbestosis of the lungs. Wear a dust mask during use.

5. Procedure

Place a fluted filter paper in the stemless funnel. Place the filter funnel in the mouth of the clean dry beaker so that the funnel is supported by the rim of the beaker.

Place approximately 2 g of filter aid in the filter paper.

Shake the bottle of mud sample prepared in Method 1.12 and transfer a portion in one operation to the filter paper. Cover the funnel with the watch glass to minimise evaporation.

Discard the first 10 cm³ of filtrate.

Collect sufficient filtrate to measure the refractometer Brix.

The refractometer reading must be taken at $20.0 \pm 0.1^\circ\text{C}$.

The Brix reading obtained must be multiplied by 0.01 (200 – insoluble solids % mud) to give the Brix % clarifier mud. (For insoluble solids % mud see note below).

Note: see calculation of insoluble solids % mud which is applicable in circumstances where there is total and continuous re-routing of clarifier muds. For partial/intermittent

re-routing, clarifier muds must be analysed for insoluble solids as described in Method 1.15.

6. Expression of Results

Report Brix in °Bx to two decimal places.

7. Precision

The tolerance associated with the Brix analysis is $\pm 0.05^\circ\text{Bx}$.

8. References

Brokensha, MA, (2000). *Official Methods for the massing, sampling, analysis and calculation for clarifier mud returned to diffuser/milling tandems*. SASA Council, ADM620/MAB/cp.