Solid Phase Content Analyzer

TYPE: SL-ZNG

Function

Mud solid phase content analyzer is used to measure the water, oil and solid volume content in quantitative drilling mud.

Structure and work principle

The work principle of this instrument is on the base of distillation principle, taking quantitative mud (20mL), steaming it with the high temperature (heating with electricity), then weigh the solid phase, find out the weight of the solid components or volume content percentage.

The instrument is mainly composed of distiller(1), heating bar(2), wire connector(3), condenser(4), measuring cylinder(5), volume measuring block(6). The advantage: the structure is simple , the operation is convenient, laboratory and the spot all applicably.

The operation method and steps

(1) Sampling

Open the distiller, put the mud cup flatwise , pour the mud into the mud cup, cover it with the volume measuring block, let the surplus mud overflow, wipe the overflowed mud, then take off the volume measuring block lightly, scrape the mud adhered to the bottom of the volume measuring block back to mud cup(the volume of the mud in the mud cup is 20±1%mL), drip 2-3 drops of defoamer and screw the distiller, at last screw down the heating bar on the top of the distiller.


(2) Distilling

Put the heating apparatus tubing guide into the hole at the back end of the box and clamp the 20mL measuring cylinder at the nozzle of condenser tubing guide, then switch on power. After 3-5 minutes, time from the first drop of the distillate to the time when all the mud is steamed and the condensed fluid is distilled, then switch off the power.
(3) Cooling
Hitch the top of the distiller with annular shelf, grasp electric wire, take out the distiller and cool it with water. Noticed that don’t sprinkle water on the wire connecter or flow into the distiller.

(4) Weigh
Pull out the wire connecter, open the distiller, clean the solid components on the mud cup, heating bar and the wall of the distiller with a scraper, then weigh the solid components and calculate it’s weight percentage.

Calculate
Take out the 20mL measuring cylinder, read out the content percentage of the water and oil directly. If the interface of the water and oil is not clear, drip in 2-3 drops of demulsifier in order to improve the definition of the interface.
Content percentage of the solid=100%-content percentage of water and oil.

Notice
(1) It should be slightly when take up or down the heating bar, not to strike hard things or drop to the ground in order to prevent the resistance from breaking.
(2) When put the heating bar into the wire pin, notice that prior to adjust the holes of the two pins.
(3) Heat until the mud is dried, not to switch on the power for too long time, generally heat 30-40 minutes.
(4) After used for a period of time, examine the insulated condition of pins, wire, wire pins, heating bar, prevent them from short circuit and open circuit, insure the safety.

Illustrate
(1) Chemical composition of the defoamer: dimethyl silicon oil 200mL+ light kerosene 1000mL.
(2) Chemical composition of the demulsifier: “cp227” 260g+ distilled water 1300g.
(3) Electric iron core of the heating bar is inner heating, 220V, 100W.

Executive Standard: SY/T5382-91
### Packing list

1. Mainframe 1
2. Mud cup components 1
3. Bracket 1
4. Scraper 1
5. Power supply wire 1
6. Heating bar 1
7. 20mL percent measuring cylinder 2
8. Use specification 1
9. Certificate 1