

Introduction:

It is desirable to know the sand content of drilling muds because excessive sand may result in the deposition of a thick filter cake on the wall of the hole, or may settle in the hole about the tool when circulation is stopped, thus interfering with successful operation of drilling tools or setting of casings. High sand content also may cause excessive abrasion of pump parts and pipe connections.

This sand content kit determines the volume percent of sand-sized particles in the drilling fluid. API defines sand-sized particles as any material larger than 74 microns (200 mesh) in size. The test can be performed on low solids fluids as well as on weighted fluids.

Components:

#153-31 Wash Bottle 500mL

#167-00 Basic Sand Content Kit

#167-10 Sieve, 200 Mesh (75 μ m). 2.5" Diameter

#167-20 Funnel, Plastic

#167-30 Graduated Tube, Glass 0-20%

Case:

#167-01 Carrying Case

Optional:

#167-00-C-SP Spare Parts for One Year's Operation

Procedure:

1. Fill the sand content tube to the indicated mark with mud. Use the wash bottle to add water (or diesel oil for oil based drilling fluids) to the next mark. Close the mouth of the tube and shake vigorously.
2. Pour the mixture onto the clean screen. Discard the liquid passing through the screen. Add more fluid from the wash bottle to the tube, shake, and again pour onto the screen. Repeat until all the drilling fluid has been washed out of the tube.
3. Flush the screen with fluid from the wash bottle to free the sand remaining on the screen of any remaining mud.
4. Fit the funnel upside down over the top of the screen. Slowly invert the assembly and insert the top of the funnel into the mouth of the glass measuring tube. Wash the sand into the tube by spraying a fine spray of fluid from the water bottle through the screen (tapping on the side of the screen with a spatula handle may facilitate the process). Allow the sand to settle.
5. Using the scale on the graduated tube, read the volume percent of sand. Report this along with the source of the mud sample (above shaker, suction, pit, etc.). Coarse solids other than sand (lost circulation material, coarse barite, coarse lignite, etc.) may be retained on the screen. The presence of such solids should also be noted.

Maintenance:

1. Thoroughly wash any sand or drilling fluid from the screen, funnel and tube after each use. Dry all equipment.
2. Refill the wash bottle.