

# [A report on experiment (mud density test)](https://assignbuster.com/a-report-on-experiment-mud-density-test/)

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## Introduction

The density or weight of a given volume of mud is determined by using a mud balance.

The mud balance consists of a constant volume sample cup with a lid connected to the balance arm. A level bubble which is built into the beam indicates when the system is balanced. The scale ranges of the 4-scale metal mud balance are;

* 6. 5 – 23. 0 lbs/gal (ppg)
* 0. 79 – 2. 72 specific gravity (s. g.)
* 49 – 179 lbs/ft3
* 340 – 1190 psi/1000ft

## Apparatus

* 4 Scale mud balance
* Mixer
* Weigh balance
* Beaker
* Measuring cylinder
* 10ml of Syringe
* Bentonite
* Barite

## Procedures

Sample 1:

* With a measuring cylinder, I measured 350ml of water.
* With a weighing balance, I measured 35g of Bentonite
* Then I added 35g of Bentonite to the measured 350ml of water. I mixed a mixer to get a homogenous mixture
* I poured the mixture into the mud balance until it was filled.
* I placed the lid on the cup to get rid of excess fluid and any trapped air.
* I covered the hole in the lid with a finger and gently cleaned all the mud from the outside of the cup and arm. Then I dried the balance entirely.
* I adjusted the balance until it was balanced and took the reading immediately
* I took the readings in ppg, S. G, lb/ft3, psi/100ft for M1.

Sample 2:

* Using the weigh balance, I measured 10g of barite.
* I added 10g of barite to the 35g of bentonite and 350ml of water
* I put it into mixer to mixed to get a homogenous mixture.
* I poured homogenous sample 2 into the cup until it was full.
* I replaced the lid on the cup and dried the mud on the lid
* I adjusted the balance until it was balanced and took the readings immediately.
* I took readings in ppg, S. G, lb/ft3, psi/100ft for M2.

## Results

Readings

S. G

PPG

Lb/ft3

Psi/1000ft

Sample 1 (M1)

1. 48. 7 65. 05 450. 05 Sample 2 (M2) 1. 55 8. 8 65. 1

450

## Precaution and Maintainance

### Precaution

* I ensured the fans in the lab were switched off to prevent it from altering the weight of the mud
* I ensured my cup was properly clean before measuring a different mixture and also to prevent mixture on the cup to add extra weight.
* I ensured that the 4 scale mud balance was calibrated before I commenced measuring.

### Maintainance

Clean and dry thoroughly after each use.

## Conclusion and Recommendation

* The density of the different sample were determined in ppg, lb/ft3, S. G, psi/100ft.
* This was gotten using a 4 scale mud balance.

## Recommendation

The density of mud must not be high so that it does not affect drilling rate.