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| **STANDARD OPERATION PROCEDURE** | | | |
| **LAB NAME:** | Drilling Fluids and Cementing | **LAB NUMBER:** | 104 |
| **EQUIPMENT NAME:** | Mud Balance | **PREPARED BY:** | Mobeen Murtaza |

1. **EQUIPMENT SPECIFICATION**

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| **Model** | **Electrical** | **Specifications** | **Temp-Press** | Mud Balance, 4 Scale, Metal |
| **115-00** | NA | 6.5 - 23.0 lbs/gal 0.79 - 2.72 specific gravity 49 - 172 lbs/ft3 340 - 1190 psi/1000 ft | Temperature 200°F (93°C), Atm. Pressure |

**Definition:** Mud balance is used to measure the density of drilling fluids in different units such lbs/gal, lbs/ft3 and specific gravity etc.

1. **WORK PROCEDURE**

Before the start of experiment, clean the mud balance properly using soap and dry it very well.

Calibrate the mud balance using water which has density of 8.33 lbs/gal.

Fill the cup with fresh water at around 70°F (21°C), and set the rider on 8.3 pounds per gallon or 1.0 specific gravity. Add or remove steel shot from the shot well until the instrument is in balance.

1. Place the mud balance base (preferably in carrying case) on a flat level surface.

2. Measure the temperature of the fluid and record on the appropriate mud report form.

3. Fill the clean, dry cup to the top with the freshly obtained mud sample to be weighed.

4. Place the lid on the cup and set it with a gentle twisting motion. Be sure that some mud is expelled through the hole in the cap as this will ensure the cup is full and will free any trapped air or gas.

5. Cover the hole in the lid with a finger and wash all mud from the outside of the cup and arm. Then thoroughly dry the entire balance.

6. Place the balance on the knife edge and move the rider along the outside of the arm until the cup and arm are balanced as indicated by the bubble.

7. Read mud weight at the edge of the rider toward the mud cup. 8. Clean and dry the mud balance after each use.

1. **RISKS INVOLVED USING THE EQUIPMENT**

* There are no such electrical risks or other risk involved in this equipment.
* The physical touch of chemical based drilling fluids can be hazardous.

1. **SAFETY PRECAUTIONS**

* Wear the proper hand protection.
* Use proper gloves and lab coat while working on equipment.
* Clean the spill properly