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INTRODUCTION

This procedure can be used to determine the weight per unit volume of a brine.

SAFETY

Do not drop the hydrometer; it may crack or break on contact with a hard surface.

PROCEDURE

1. Collect a fluid sample.
2. Deaerate the sample.

Note: Sample may be deaerated by using a Fann Deaerator (P/N 14300001EA), or by allowing the sample to stand 3 to 5 minutes while tapping gently on the container.

3. Equilibrate the fluid at 70°F (21°C) or at the desired reference temperature.

Note: It may be necessary to cool the sample in a refrigerator or pack the sample with ice in order to obtain the proper temperature.

4. Fill the hydrometer cylinder with the fluid sample to within 1 to 2 inches of the top by pouring the sample slowly down the side of the cylinder.
5. Inspect the hydrometer to ensure that it is clean and dry.
6. Place the hydrometer carefully in the cylinder, allowing it to gently settle to the proper measurement level.

Caution: Dropping the hydrometer too rapidly can wet the hydrometer above the proper measurement level and cause false readings.

7. Spin the hydrometer and record the reading at which the hydrometer rests.

Note: Read the hydrometer scale at the bottom of the meniscus of the fluid in the cylinder. Because the walls of the glass cylinder are water-wet, the top of the fluid will have a curved surface (the meniscus). The correct hydrometer reading will be the one aligned with the bottom boundary of the meniscus, as viewed from the side of the cylinder.

RESULTS

Multiply the hydrometer reading (specific gravity) by 8.345 to convert it to density, lb/gal.

$$\text{Specific gravity} \times 8.345 = \text{lb/gal}$$

Convert the sample density to the industry-standard reference density at 70°F (21°C).

PARTS LIST

PART NO.	DESCRIPTION
10201	Hydrometer .800 - .910 sg
10202	Hydrometer 1.000 – 1.220 sg
10203	Hydrometer 1.200 – 1.420 sg
10204	Hydrometer 1.400 – 1.620 sg
10205	Hydrometer 1.600 – 1.820 sg
10206	Hydrometer 1.800 – 2.020 sg
10207	Hydrometer 2.000 – 2.200 sg
10208	Hydrometer 2.200 – 2.400 sg
10251	Heavy Glass Cylinder, 250ml
11716	Plastic Cylinder, 250ml, Graduated, 2.0ml divisions
N7903	Thermometer -30°F to 120°F