

# Field Test for Iron Content in Brines Instruction

## Sheet <sup>®</sup>

### INTRODUCTION

This procedure can be used to determine an approximation of the iron ( $\text{Fe}^{++}$ ) content of brines.

### SAFETY

Chemicals in this kit may cause hazards to the user's health by direct contact, inhalation, ingestion, explosion or fire. Read all warnings, precautions and hazard classifications (fire, health and reactivity) on the container label. For in depth information on handling, reactivity with other substances, storage and other safety information refer to the "Material Safety Data Sheet (MSDS) for each chemical. If personal contact or an environmental accident occur use the counteractive measures outlined on the label and on the MSDS sheet.

### PROCEDURE

1. Using a 1 ml volumetric pipette, put 1 ml of brine in a 25 ml volumetric flask.
2. Add 1 ml of 1 N Nitric Acid or 1 N Hydrochloric Acid into the 25 ml volumetric flask; maintaining the zinc and iron in a soluble condition.
3. Add 10 to 15 mls of deionized water to this mixture, stopper the volumetric flask and shake.
4. Using the 0.1g scoop, add two level scoops of ascorbic acid to the brine dilution in the 25 ml volumetric flask.
5. Again stopper and shake the flask thoroughly.
6. Finish filling the 25 ml volumetric flask with deionized water to the scribe line only.
7. Again stopper and shake the flask thoroughly, allow 5 minutes for conversion of all the iron contaminant to a ferrous state.
8. Insert the E. M. Quant Strip into the brine preparation for 1 (one) second, withdraw the strip, shake off excess fluid and allow the indicator band to develop for 10 (ten) seconds.

## RESULTS

Compare the color of the exposed strip to the color chart on the E. M. Quant Strip tube label; use the number associated with the color that best matches that of the developed strip. Calculate the approximate iron content of the brine with the following formula:

$$\text{iron content, ppm} = \text{color chart no.} \times 25$$

## STORAGE

The E.M. Quant Strips should be stored cool (15-25°C) and dry. Reclose the container immediately after removing the test strips required.

## PARTS LIST

PART NO.	DESCRIPTION
52402	1N Nitric Acid, 8oz
52435	Ascorbic Acid - 10gm bottle
52912	Deionized water, 8oz
64083	Iron Test Strips, Qty 100
83111	0.1 Gram Scoop
B1016	Plastic Case
N3000	25 ml Graduated Cylinder
N4545	25 ml Volumetric Flask with glass stopper
N5291	1 ml Volumetric Pipette

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