

Specific Conductance

AZPDES/
AZPDES/APP Permit Field Method Training
Fall 2016



Approved Methods

- EPA 120.1 (1982)
- SM 2510B (2011), 22nd edition

General Items

- Sample hold time is 28 days
 - If analyze within 15 minutes can be exempt and perform analysis at plant or field.
 - If do not analyze within 15 minutes must use a licensed lab or become licensed



General Items

- Samples and Standard(s)

- Should be between 23 to 27 °C
- Variations in temperature cause greatest error in readings

- Conductivity Cells

- Ensure using correct one for meter type and range
- Not cracked, broken, or scratched
- Long meter lines can affect performance of meter
- Ensure no bubbles on cell when reading samples

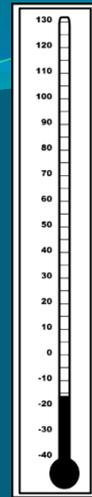


TABLE 2020:II. SUMMARY OF ONGOING QUALITY CONTROL FOR METHODS IN PART 2000

	Section	Calibrate or Standardize	QCS	MB	LFB	Duplicates	LFM
2120B	Color	×	×	-	-	×	-
2120C		×	×	-	-	×	-
2120D		×	×	-	-	×	-
2120E		×	×	-	-	×	-
2120F		×	×	-	-	×	-
2130B		Turbidity	×	×	-	-	-
2150B	Odor	-	-	×	-	-	-
2160B	Taste	-	-	×	-	-	-
2170B	Flavor Profile Analysis	-	-	×	-	×	-
2310B	Acidity	×	×	×	×	×	-
2320B	Alkalinity	×	×	×	×	×	-
2340C	Hardness	×	×	×	×	×	-
2350B	Oxidant Demand/ Requirement	-	-	×	-	-	-
2350C		-	-	×	-	-	-
2350D		-	-	×	-	-	-
2350E		-	-	×	-	-	-
2510B		Conductivity	×	×	-	×	×
2520B	Salinity	×	×	-	×	×	-
2520C		×	×	-	-	×	-
2540B	Solids	-	-	×	-	×	-
2540C		-	-	-	-	×	-
2540D		-	-	×	-	×	-
2540E		-	-	×	-	×	-
2540F		-	-	-	-	×	-
2540G		-	-	×	-	×	-
2550B		Temperature	×	-	-	-	-
2560B	Particle Counting and Size Distribution	×	×	×	×	×	-
2560C		×	×	×	×	×	-
2560D		×	×	×	×	×	-
2560E		×	×	×	×	×	-

SM 2510B or EPA 120.1

• Calibration

- Calibrate according to Manufacturer.
- Calibration Verification/LFB
 - Use potassium chloride as standard to check cell constant and conductivity bridge
 - Minimum one value at 1412 $\mu\text{mhos/cm}$ at 25 °C
 - At or near value of sample
 - Determine control limits per SM 1020B.13 or ADHS will allow default $\pm 10\%$.
- Each day of use



Other Required QC

- QCS: Annual blind sample (PT).
- Duplicates: At least 1 duplicate for each matrix type daily or with each batch of 20 or fewer sample. Control limits 1020B.7 or ADHS will allow within 10%.



HI 70031C

1413 µS/cm EC Solution 20 mL Sachets (25), Certified

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The 1413 µS/cm calibration solution is best suited for general use. This solution is also available in combined kits with HANNA pH 7 buffer for easy calibration of multiparameter instruments.

Order Information:

20 mL sachets pack of 25, with certificate of analysis

Specifications

MSDS

EC Value	@25°C 1413 µS/cm
Size	20 mL
Package	25 sachets
Certificate of Analysis	Yes



SM 2510B or EPA 120.1

• Reporting

- Temperature corrections if sample temperature greater than 0.5 °C difference from 25 °C
 - Some meters have temperature compensators
- Record sample temperature within ± 0.1 °C
- Report as $\mu\text{mhos/cm}$ at 25 °C

Field Video Demonstration



B - conductivity video.wmv