

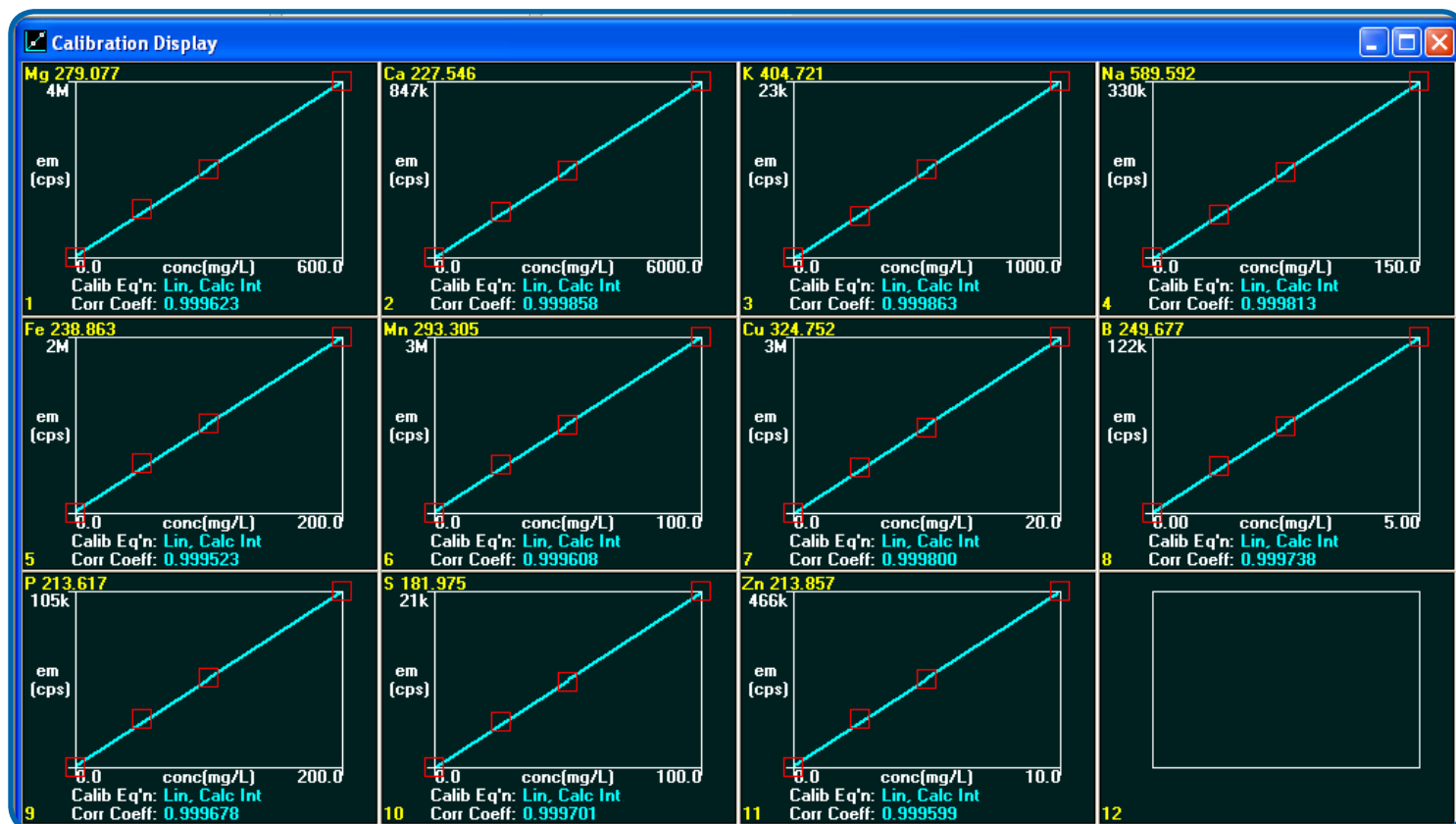
soilFAST 7 Second Mehlich - 3 Soil Analysis High-Speed SC-FAST Optima 5300 ICPAES

Introduction

The SC-FAST system for soil sample analysis combines a high speed autosampler with Teflon injection valve. Soil samples are vacuum loaded into a Teflon loop in less than 1 second then injected into the nebulizer and micro-spray chamber. Twelve elements in a rack of 90 Mehlich-3 soil extract samples are determined in less than 11 minutes.

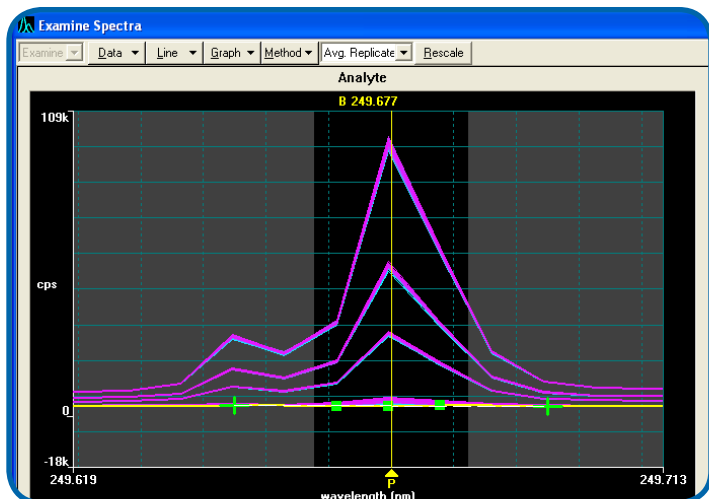


soilFAST system - SC-4 DX with FAST valve



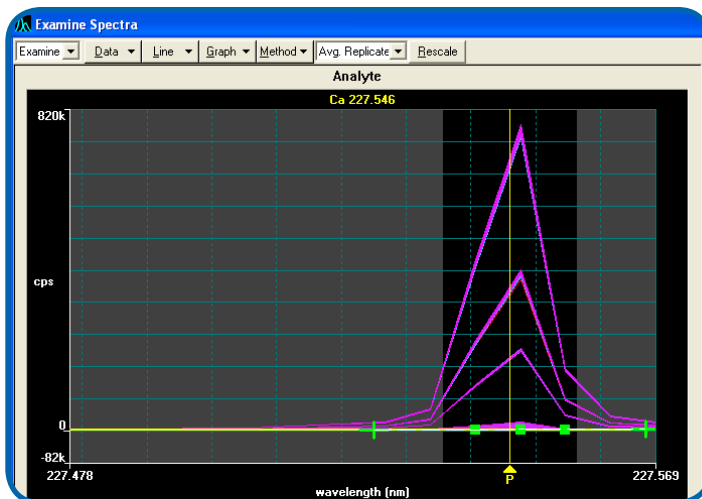
Calibration SC-FAST Optima 5300, 11 Elements in 7 Seconds

Boron Reproducibility



244 boron spectral overlays. The blank, 1.25 ppm, 2.5 ppm, and 5 ppm boron standards are each analyzed 61 times.

Calcium Reproducibility



244 calcium spectral overlays. The blank, 1000 ppm, 3000 ppm, and 6000 ppm calcium standards are each analyzed 61 times.

Recovery

Element	Conc. (ppm)	Recovery	% Recovery
Mg	600	590	98
Ca	6000	5934	99
K	1000	968	97
Na	150	153	102
Fe	200	197	98
Mn	100	99	99
Cu	20	19.8	99
B	5	5.0	100
P	200	200	100
S	100	99	99
Zn	10	9.8	98



FAST Valve, 0.1 mL sample loop and Mini Quartz Cyclonic Spray Chamber

Operating Parameters	
Sample Loop	0.1 mL
Fill Time	0.5 sec
ICP Read Delay	1 sec
Integration Parameters	Manual, 2 ms, 100 reps
ICP Power	1500 W
Nebulizer Gas Flow Rate	0.5 L/min

Instrumentation	
ICP	Optima 5200 PerkinElmer
Autosampler	High speed SC-4, soils configuration
Introduction	FAST System with 100µL sample loop
Nebulizer	PFA-ST
Spray Chamber	Micro-Cyclonic

Ordering Information	
SC-8102-1106-57	SC-2 FAST Autosampler for Soil Analysis
SC-8104-1106-57	SC-4 FAST Autosampler for Soil Analysis
SC-8108-1106-57	SC-8 FAST Autosampler for Soil Analysis
SC-8114-1106-57	SC-14 FAST Autosampler for Soil Analysis