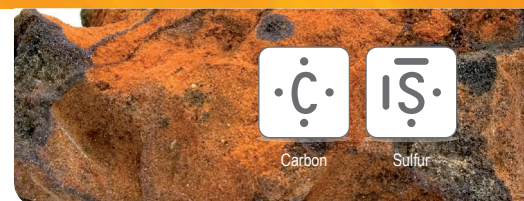


C, S determination in ore samples



Suitable analyzers

- ELEMENTRAC CS-i

Used accessories

- Ceramic crucibles (90149)
- Tungsten (90220)
- High purity iron accelerator (88600-0013)
- Suitable calibration material (NIST or other)



Application Settings

I) General

Sample type:	Dusty sample
Furnace lance time:	2 sec
Furnace purge time:	2 sec
Furnace purge flow:	180 l/h
Drift compensation:	yes

Stabilizing

Stabilize by time:	yes
Stabilize duration:	10 sec

II) Analysis

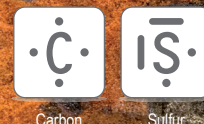
Voltage:	100 %
Power duration:	80 sec
Flow:	180 l/h
Lance flush start:	0 sec

Channel	Enable	Peak max [V]	Max time [sec]	Min time [sec]	Integration delay [sec]	Comp. factor [%]
Low C	Off	-	-	-	-	-
High C	On	8	80	45	7	0.2
Low S	Off	-	-	-	-	-
High S	On	8	80	45	5	0.1

III) Postwaiting

Postwaiting time:	10 sec
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C, S determination in ore samples



Sample preparation

For best results grind the sample down to a particle size of approx. 200 µm.

Dry the sample to constant mass at 105 °C (at least 1 hour).

Pre-heating the crucibles (1 h; 1000 °C) could improve the precision.

Procedure

- Prepare ELEMENTRAC analyzer (e.g. exchange anhydron, sodium hydroxide, catalyst when necessary); clean the combustions tube
- Run three warm up samples (e.g. steel samples (92400-3050) with a minimum weight of 500 mg; add 1.5 g tungsten)
- Calibrate the analyzer with suitable calibration material (NIST or other)
 - (1) Weigh in 150 mg of sample in the ceramic crucibles (90150)
 - (2) Add 0.7 (±0.1) g of iron accelerator (90260) and 1.5 (±0.1) g of tungsten (90220)
 - (3) Place the crucible on the pedestal and start analysis.

Repeat steps (1) – (3) at least three times;

Mark the results and use the calibration function in the software.

-> Now start with the actual analysis.



Typical results		
ELTRA 91900-1001 (LOT 514 A): Ore standard ¹⁾		
Weight (mg)	% C	% S
252.5	1.3665	1.4486
249.0	1.4209	1.4498
255.4	1.3999	1.4469
255.2	1.3774	1.4283
253.8	1.3888	1.4259
256.6	1.3641	1.4424
252.0	1.3632	1.4421
254.8	1.3758	1.4305
257.8	1.3863	1.4342
251.1	1.3595	1.4520
Average values		
	1.3802	1.4401
Deviation / Relative deviation (%)		
	0.0193 / 1.4 %	0.0096 / 0.7 %

¹⁾ certified: % C 1.38 ±0.1 // % S: 1.44 ±0.14