

# AzuRe179



**Descrição:** Azulejo do século XVIII-XIX (1790-1820);

Origem: Lisboa.

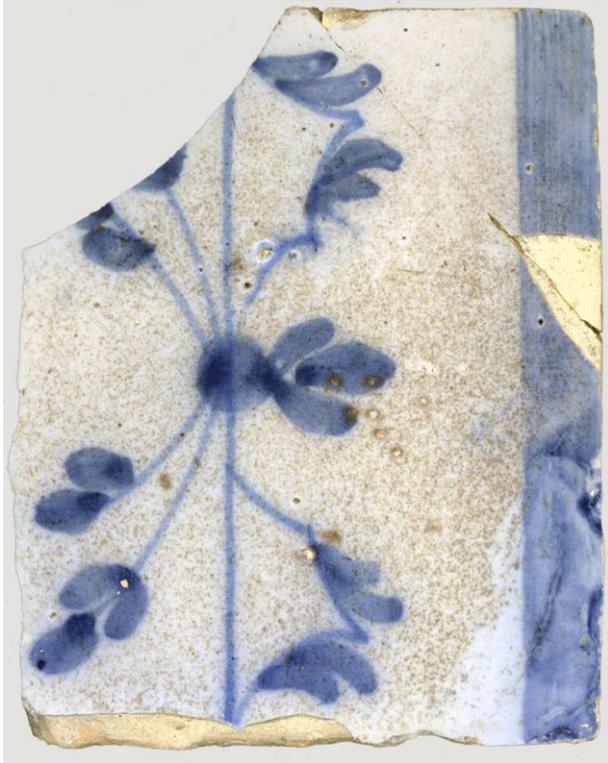
**Amostras:** Fragmentos e uma secção semi-polida em depósito no *Museu Nacional do Azulejo* em Lisboa.

# Índice

AzuRe179

- **Caracterização Morfológica**
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  - ✓ Análise por XRD
  - ✓ Análise Térmica por TGA/DTA





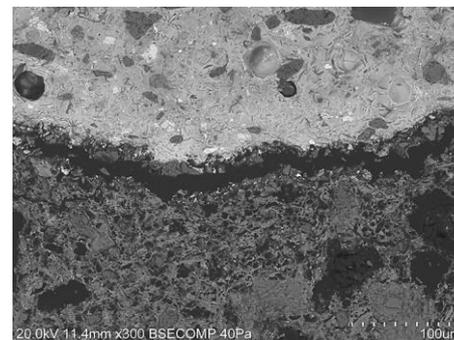
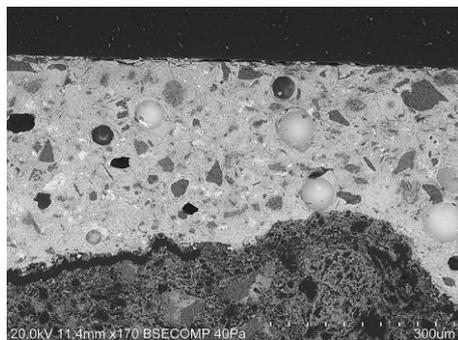
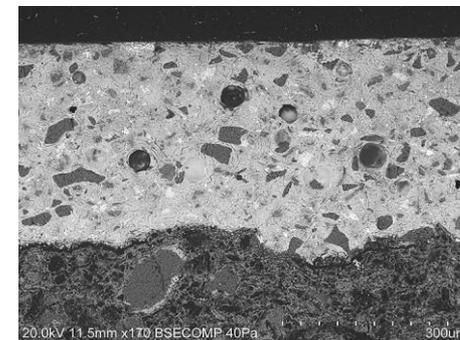
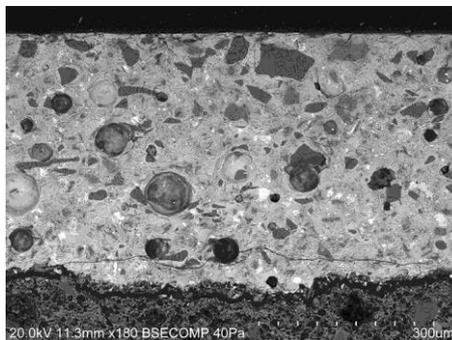
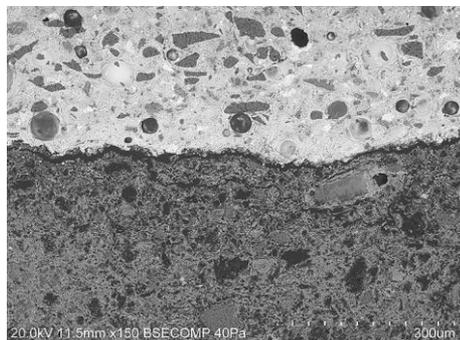
Azulejo com vidrado com pigmentação acastanhada e algumas falhas de vidrado a partir das arestas.



- Espessura do Azulejo = 12 mm



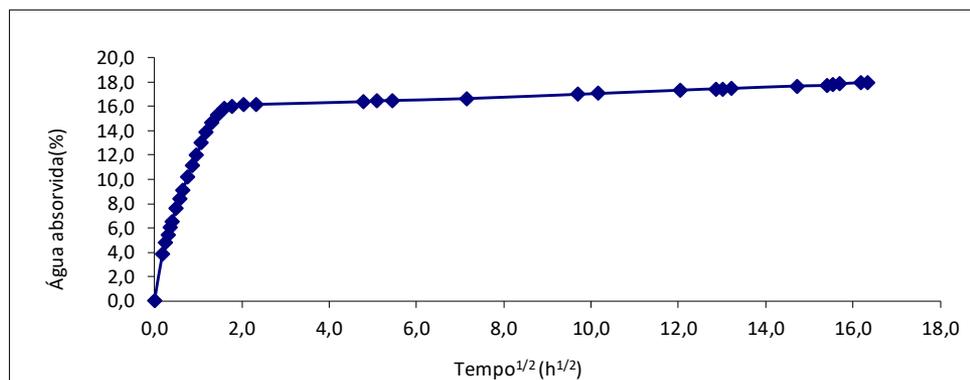
Chacota bege com grandes poros alongados e circulares; vazios alongados; areias.



- Observa-se craquelé.
- Espessura do Vidrado = 400-405  $\mu\text{m}$

**Equipamento:** Microscópio eletrónico de varrimento HITACHI 3700N acoplado a um espectrómetro de energia dispersiva de raios-X Bruker Xflash 5010.

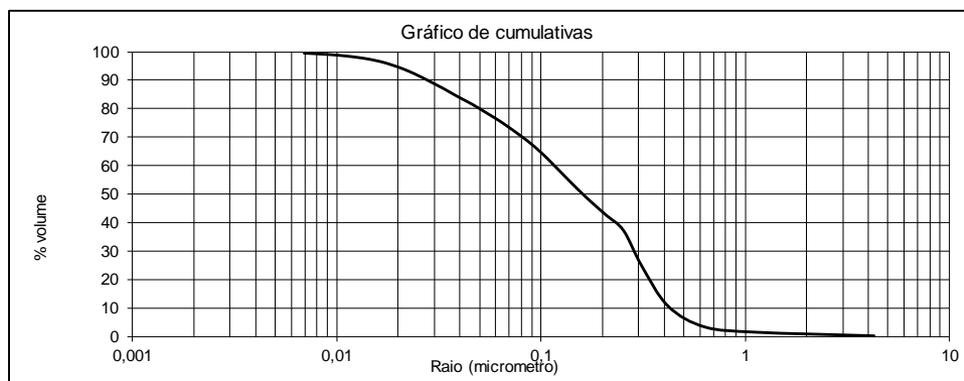
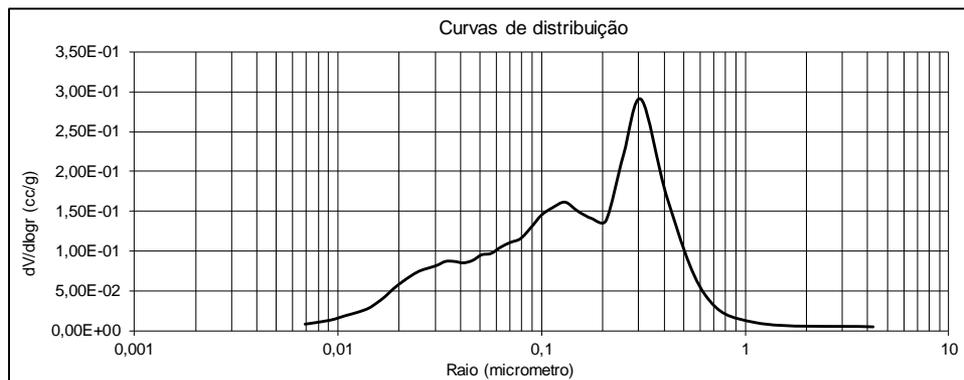
Curva de Absorção de Água (Chacota)



<b>Massa volúmica real (kg/m<sup>3</sup>)</b>	2748
<b>Massa volúmica aparente (kg/m<sup>3</sup>)</b>	1721
<b>Porosidade aberta (vol %)</b>	38,8
<b>Coefficiente de capilaridade (kg/m<sup>2</sup>/h<sup>1/2</sup>)</b>	2,2
<b>Teor máximo de água (%)</b>	23

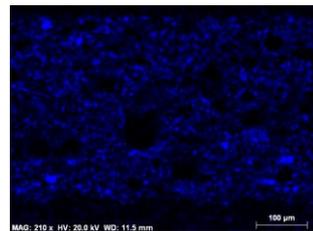
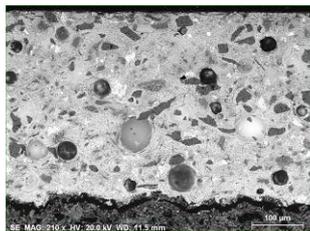
Procedimento: baseado na norma NP EN-13755.

## Curvas de Porosimetria (Chacota)

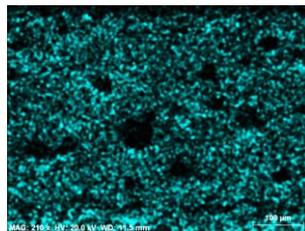


Procedimento: baseado na norma ASTM D4404-84.

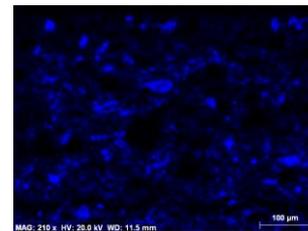
Equipamento: Porosímetro Quantachrome Autoscan



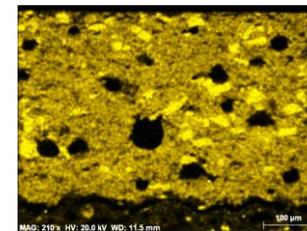
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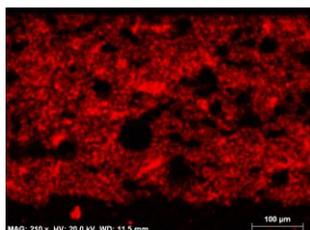
Mg



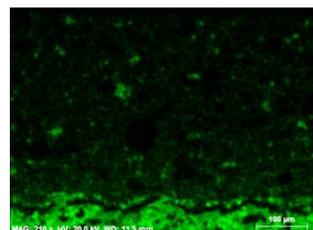
Al



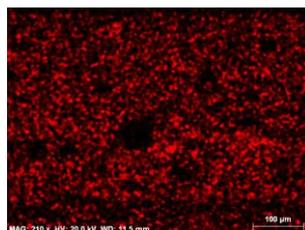
Si



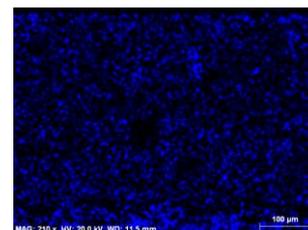
K



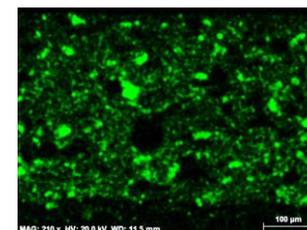
Ca



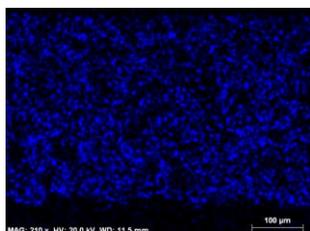
Ti



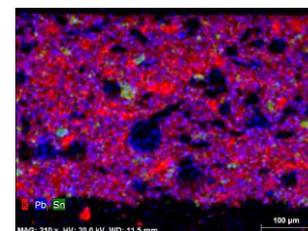
Fe



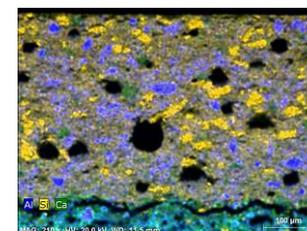
Sn



Pb



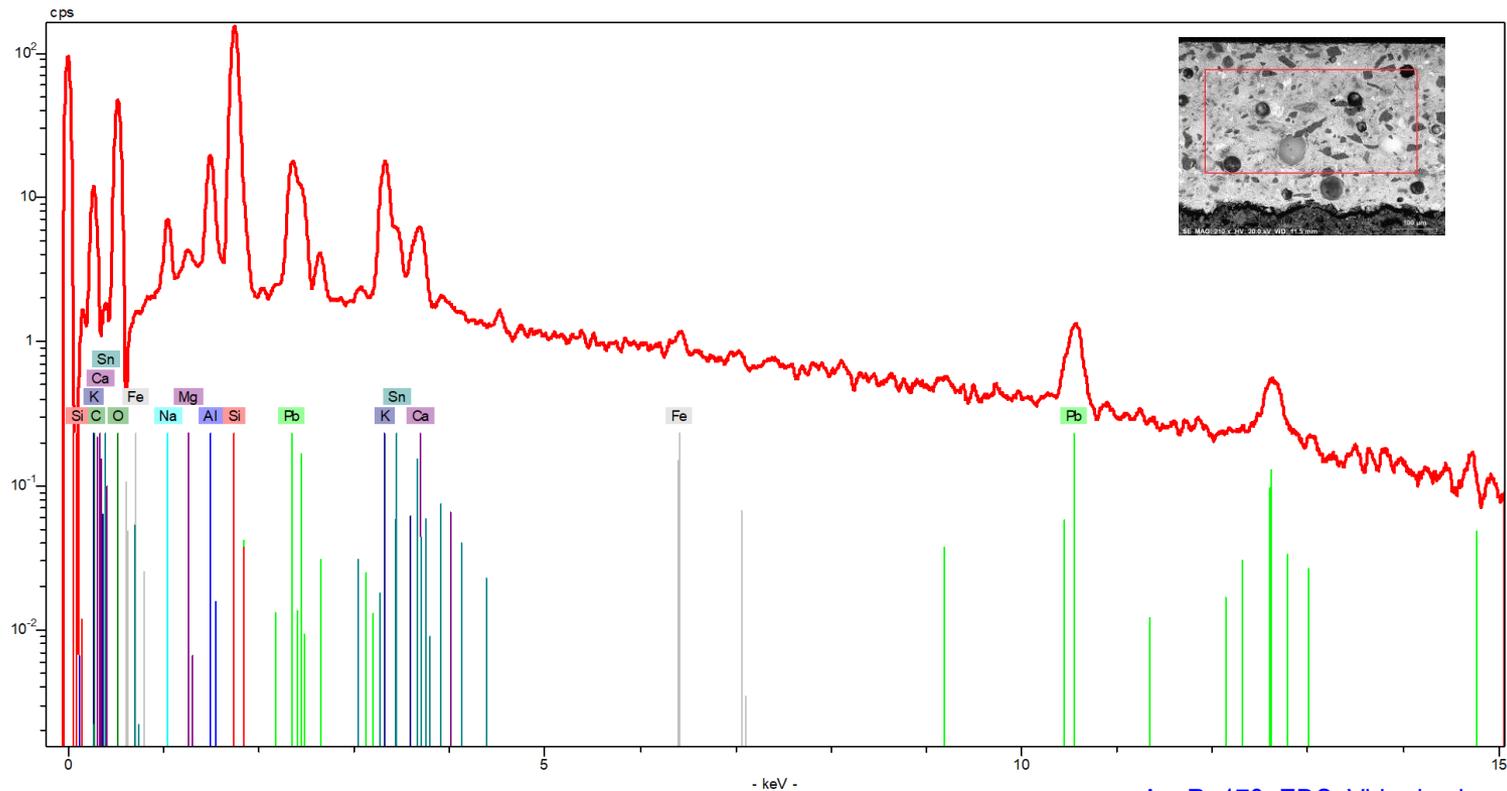
Combinação  
K\_Pb\_Sn



Combinação  
Al\_Si\_Ca

**Equipamento:** Microscópio eletrónico de varrimento HITACHI 3700N acoplado a um espectrómetro de energia dispersiva de raios-X Bruker Xflash 5010.

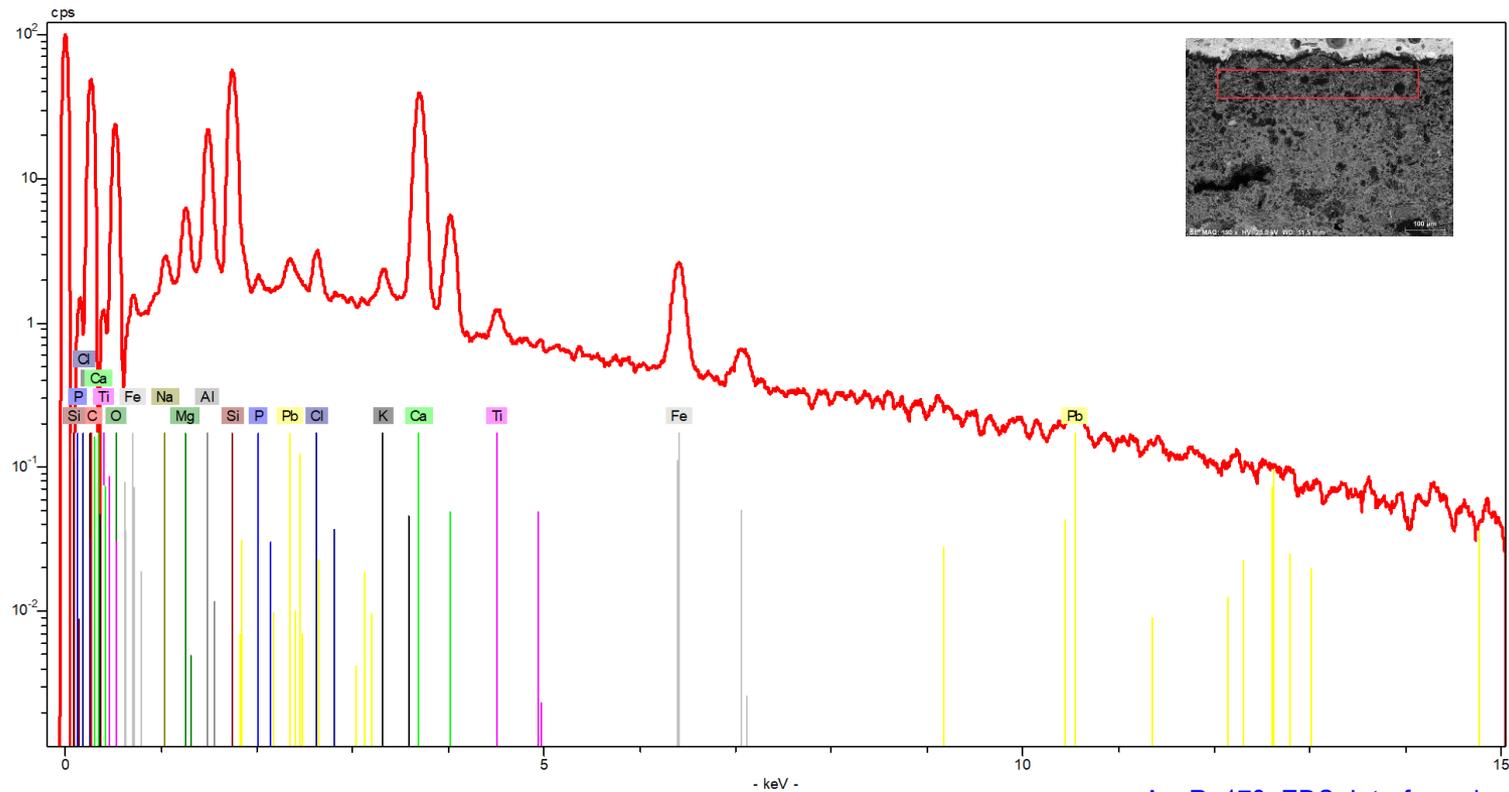
## VIDRADO BRANCO



[Azure179 EDS Vidrado.xls](#)

**Equipamento:** Microscópio eletrónico de varrimento HITACHI 3700N acoplado a um espectrómetro de energia dispersiva de raios-X Bruker Xflash 5010.

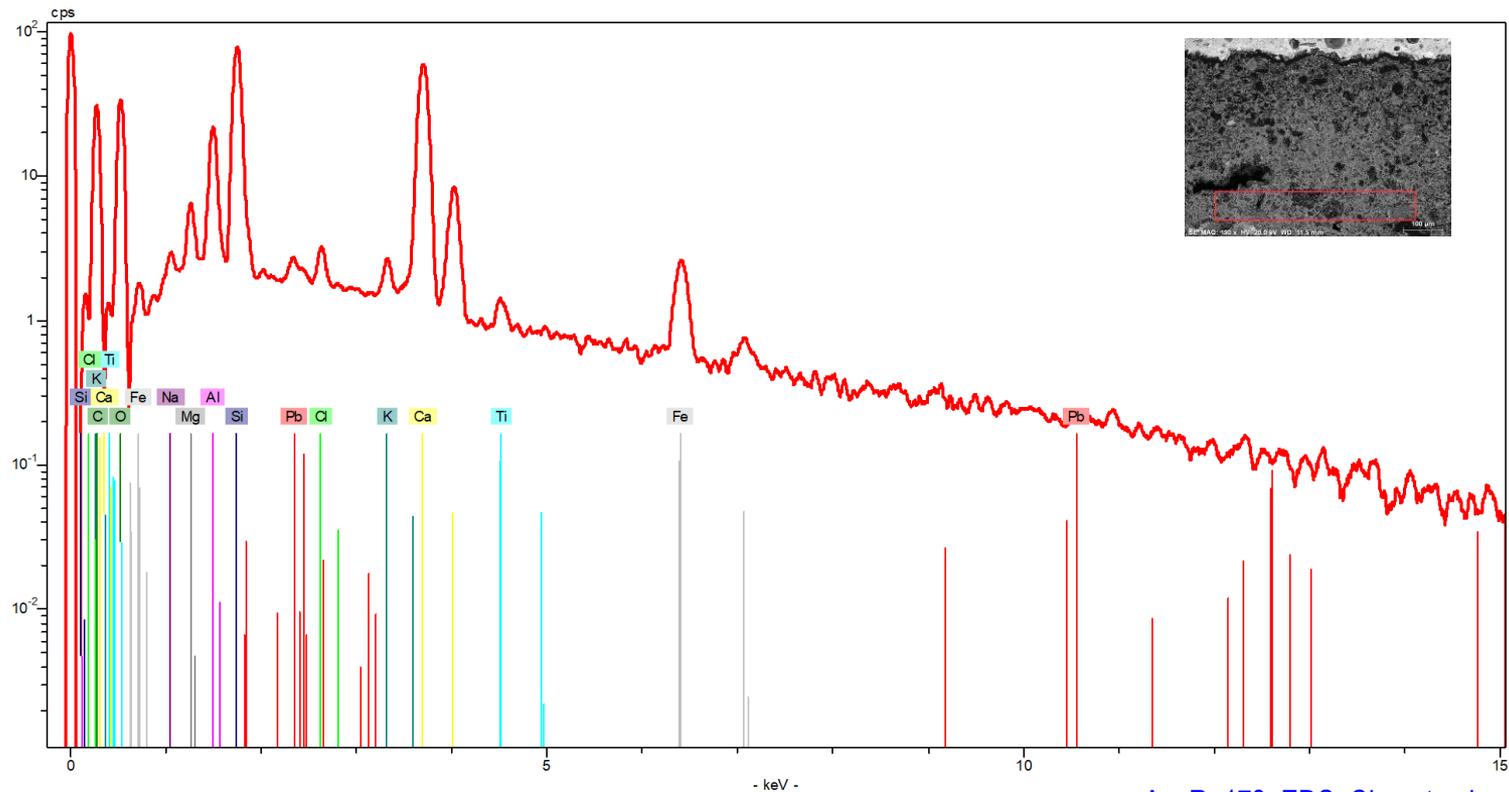
## INTERFACE



[AzuRe179 EDS Interface.xls](#)

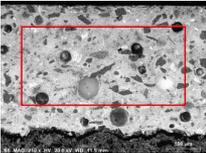
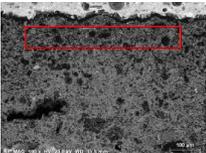
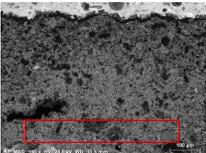
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CHACOTA

[Azure179\\_EDS\\_Chacota.xls](#)

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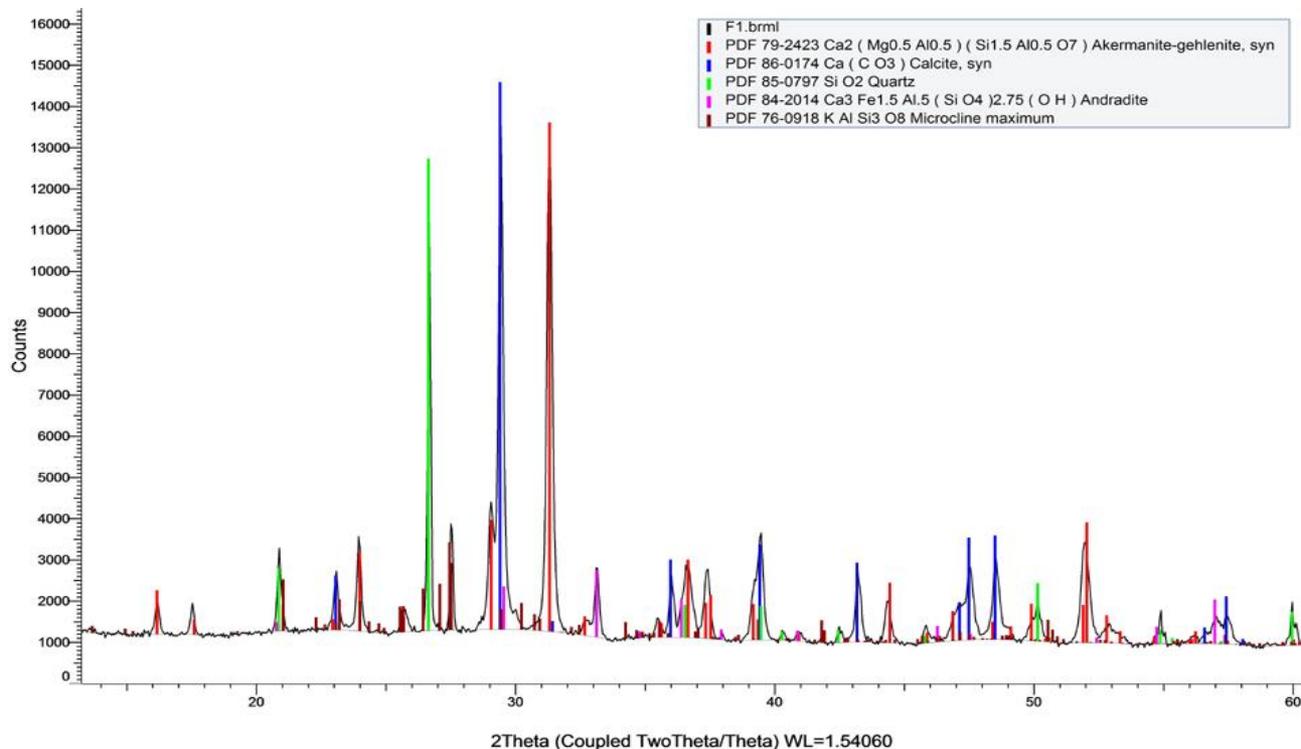
## Composição química (% m/m)\*

Área Analisada	Na	Mg	Al	Si	P	Cl	K	Ca	Ti	Fe	Sn	Pb
 vidrado branco	2,49	0,63	5,54	42,58	--	--	10,38	2,04	--	0,51	8,02	27,80
 chacota (próximo interface)	1,50	3,06	11,59	27,74	0,64	1,41	1,03	42,79	1,00	6,48	--	2,74
 chacota	1,04	2,34	8,80	29,47	--	0,93	0,68	50,20	0,81	5,00	--	0,73

\* - Os valores apresentados na tabela correspondem às percentagens mássicas dos elementos detetados na amostra, não considerando o teor de oxigénio e normalizados a 100% ([ver aviso](#)).

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## CHACOTA

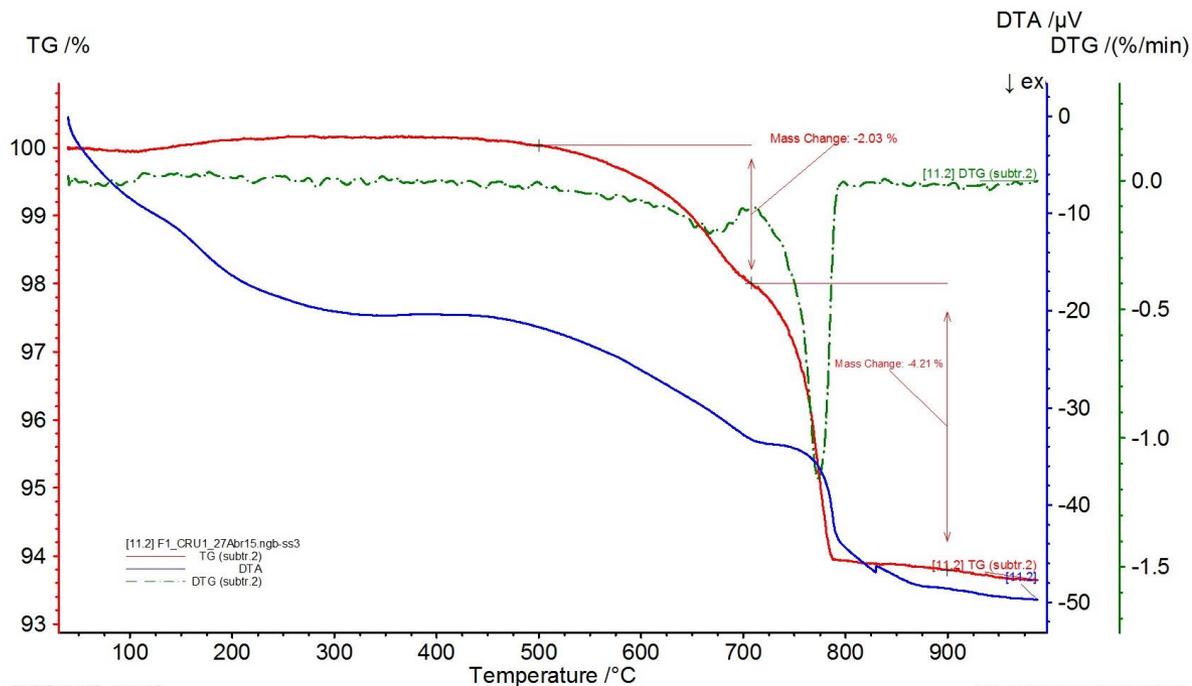


## Composição mineralógica semi-quantitativa (% m/m)

Quartzo	Calcite	Andradite	Microclina	Akermanite-gelenite
SiO <sub>2</sub>	CaCO <sub>3</sub>	Ca <sub>3</sub> Fe <sub>2</sub> (SiO <sub>4</sub> ) <sub>3</sub>	KAlSi <sub>3</sub> O <sub>8</sub>	Ca <sub>2</sub> Mg(Si <sub>2</sub> O <sub>7</sub> )Ca <sub>2</sub> Al(AlSiO <sub>7</sub> )
20,37	24,21	4,87	20,88	29,67

Equipamento: Difrátometro de raio-X Bruker AXS-D8 Discover

## CHACOTA



Perda de massa (%)	Teor de carbonatos (%)
6,24	14

F1 2015-07-03 12:37 User: W7

total com brancosLurdes esteves.ngb-iaa

Equipamento: Analisador térmico TGA/DTA Netzsch STA 449 F3 Jupiter.