

01/20/2016

## Report on XRF Fluorine Measurements

The following results were obtained using the Fluorine-PX8 Application on the AXIOS<sup>Max</sup> Panalytical Instrument as described in VSL-1810-10 page 12

Sample name	Meas. date/time	F, %
ANL-LRM	1/19/2016 21:52	0.875
Pb-F CUBE	1/19/2016 22:17	13.09
ANL-LRM	1/19/2016 22:35	0.886

The error can be significant, the concentration is more than an order of magnitude larger than our single glass standard. A sample of pure PbF<sub>2</sub> would be helpful.

F - 13%  
Pb - 87% (by difference)

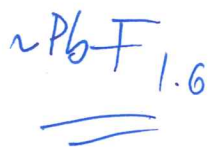
$$\frac{13}{19} = 0.68$$

$$\frac{87}{207} = 0.42$$

$$\left. \begin{array}{l} 0.68 \\ 0.42 \end{array} \right\} = 0.618$$

(golden ratio  
( $\phi$ ))

$\Rightarrow$



**Quantification of sample PBF CUBE**

<b>R.M.S.:</b>	5.089
<b>Result status:</b>	
<b>Sum before normalization:</b>	105.3 %
<b>Normalised to:</b>	100.0 %
<b>Sample type:</b>	Solid
<b>Correction applied for medium:</b>	No
<b>Correction applied for film:</b>	No
<b>Used Compound list:</b>	OxidesVSL
<b>Results database:</b>	omnian 27mm
<b>Results database in:</b>	c:\panalytical\superq\userdata

	<b>Element</b>	<b>Conc. (%)</b>
1	Al	0.009
2	B	0.000
3	Br	0.023
4	Ca	0.000
5	Cl	1.270
6	Co	0.083
7	Cr	0.017
8	F	5.643
9	Hg	0.047
10	K	0.033
11	Li	0.000
12	Mg	0.019
13	Na	0.109
14	Ni	0.028
15	O	6.800
16	P	0.027
17	Pb	85.879
18	S	0.012
19	Si	0.000

Oxygen is calculated based on the corresponding oxides.