

# NITON® XLt 700 Series Instruments

## Elemental Limits of Detection in Soils, mg/kg (ppm)

NITON's XLt 700 Series analyzer provides the user with the speed and efficiency of X ray tube excitation, while greatly reducing the regulatory demands typically encountered with an isotope based unit. Various excitation options, including the revolutionary miniature X ray tube with PERFECT (Programmable Excitation by Regulation of Filters, Energy, Current and Time) technology, are available to meet your particular analytical requirements. The following chart details the sensitivity (LOD) of our XLt 792Y analyzer. These LOD's are specified for typical soil matrices represented by NIST Standard Reference Materials (SRM). The SRM matrix represents the closest matrix to what would be considered a "real world" soil sample. NITON specifies detection limits following the EPA protocol of 99.7% confidence level. Individual LOD's improve as a function of the square root of the testing time.

### XLt 700 Series Analyzer — X ray Tube Excitation

#### Sand Matrix

#### SRM Matrix

	60 Seconds	120 Seconds	60 Seconds	120 Seconds
<b>K</b>	500	350	750	525
<b>Ca</b>	450	275	750	525
<b>Sc</b>	75	50	250	175
<b>Ti</b>	100	80	250	175
<b>V</b>	15	12	250	175
<b>Cr</b>	55	40	60	45

**XRF limits of detection (LOD's) are dependent on the following factors:**

- 1) Testing time
- 2) Soil matrix
- 3) Level of statistical confidence
- 4) Excitation Source

#### **\*Please Note\***

Ongoing research and advancements in our XLt Series analyzers will lead to continual improvement in many of the values detailed in this chart. Please contact NITON or your local NITON representative for the latest performance specifications.

#### 60 Seconds      120 Seconds      60 Seconds      120 Seconds

<b>Mn</b>	130	80	250	175
<b>Fe</b>	100	75	250	175
<b>Co</b>	75	50	200	150
<b>Ni</b>	75	50	120	90
<b>Cu</b>	75	50	100	60
<b>Zn</b>	40	25	55	40
<b>As</b>	10	8	20	15
<b>Se</b>	5	3	20	15
<b>Pb</b>	15	12	25	20
<b>Hg</b>	10	8	20	12
<b>Rb</b>	6	4	20	15
<b>Sr</b>	35	20	50	30
<b>Cd</b>	60	45	75	65
<b>Ag</b>	45	35	70	50
<b>Sn</b>	125	100	200	150
<b>Sb</b>	200	150	250	175

❖ The XLt 700 offers advantages in long-term cost-of-ownership and in regulatory requirements over those of other configurations. Please contact NITON or your local NITON representative to discuss which analyzer configuration will best fit your application and analytical needs.

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