



Pb <sup>82</sup>	As <sup>33</sup>	Se <sup>34</sup>
Hg <sup>80</sup>	Cd <sup>48</sup>	



SharpBeam®  
Optimized  
Geometry

XFlash®  
Technology

# S1 TITAN

● Definition of Precision

Handheld XRF

● Applications

# Environmental Clean-up

When faced with the daunting task of a site clean-up, Handheld XRF will provide substantial relief. From the first investigation to the completion of the clean-up, EPA accepted Handheld XRF provides legally defensible data. Using handheld XRF it is possible to make a large number of survey measurements of the heavy metal pollutants in a relatively short period of time. This approach is much faster than removing samples from the field and sending them to a laboratory for exhaustive testing, in addition, it saves substantially on the cost. Thousands of measurements can be made in a short time resulting in much better definition of the problem areas. Instant feedback on the concentration of pollutants allows real-time decision making in the field. The S1 TITAN meets all the requirements of EPA Method 6200 and easily measures the RCRA metals and covers all priority metal pollutants (except Be). The unit may be used either in-situ (e.g. measuring the soil directly) or ex-situ (e.g. measuring bagged or prepared samples) and in the latter case provide results almost equivalent to laboratory measurements. Even better, GPS information can be recorded with the analysis allowing the display of the results in a very easy to read presentation.

**Calibration:**

- Supplied Precalibrated from factory
- >35 elements analyzed
- All RCRA elements
- All Priority Pollutants (except Be)
- Easy site specific calibration adjustment
- 50kV excitation for improved Cd, Sn, Ba detection limits

**Sample Types:**

- Soil
- Sediment
- Run-off
- Cores
- Sludge
- Solid Waste

**Benefits:**

- Light weight
- Rugged analyzer
- Fast analysis
- Low cost analysis
- Real-time information
- PPM detection limits

● Pass/Fail Analysis

- Easy to see Pass/Fail indication
- Green Pass Indication
- Red Fail Indication
- User programmable Pass/Fail limits
- Multiple Limit sets

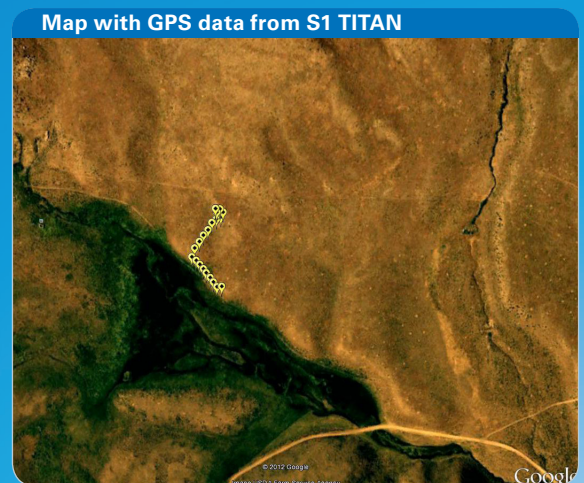
**Example of Pass/Fail screen**

36 Test FAIL  
Time 58.0

EI	PASS	PPM	FAIL	+/-
Cr	700	<b>460K</b>	1300	3533
Pb	700	<b>8658</b>	1300	104
Hg	700	<b>26</b>	1300	23
Se	700	<b>19</b>	1300	9
Ba	700	<b>0</b>	1300	147
Sb	700	<b>0</b>	1300	104
Cd	70	<b>0</b>	130	45

● Mapping

An essential part of exploration and mine analysis is the correlation of the analysis with the exact location of the measurements. When paired with Bluetooth® GPS receiver the S1 TITAN can store the exact latitude, longitude and altitude of each measurement. These coordinates can be downloaded to your PC and imported into a mine mapping program.



## ● Introducing the S1 TITAN



### Features:

- Ultra light: 1.44kg / 3.17 lbs
- Detects Mg, Al and Si
- Bruker X-Flash® SDD
- Rapid analysis
- 50 kV X-ray tube
- Both protected and unprotected data storage

### SharpBeam®<sup>1</sup>

- Optimized detector/tube geometry
- Reduces power requirements
- Reduces weight
- Improves measurement precision
- Increases battery life

## ● Operating Conditions

The S1 TITAN is designed to withstand field operation in humid and dusty environments.

- Sealed against moisture and dust
- Ruggedized with rubber over-molding
- Protected from rain and splashes
- Protected from dirt and windblown dust

## Easy to Use

The S1 TITAN is among the lightest portable tube-based XRF analyzer available on the market today. The user interface has been designed to provide intuitive operation and results presentation. Data management and transfer are exceedingly easy to use. The data can be stored in a protected data format, which cannot be modified, or an unprotected format, which allows simple modification.

- Intuitive user interface
- Requires very little operator training
- Multiple fields for sample identification
- Lightweight – only 1.44kg / 3.17 lbs, including battery
- User selectable protected or unprotected data storage
- Simple data transfer using USB thumb drive
- Data includes GPS position information

### Sealed against moisture and dust



<sup>1</sup> Patent pending

## • Configurations

Configuration	Detector	Elemental Range	Window	Resolution (typical)	Sample Temp. (maximum)	Sample Types (typical)	Analysis Time (typical)
<b>S1 TITAN<sup>LE</sup></b>	SDD	Mg - U	Ultralene®	147eV	150°C	Soil	60 per condition
<b>S1 TITAN<sup>SE</sup></b>	SDD	Ca - U	Kapton®	147eV	500°C	Soil	60 seconds

The **S1 TITAN<sup>LE</sup>** is the premium configuration which is designed using the X-Flash® SDD with a Ultralene® measurement window. The SDD operates at very high count rates and thus provides good precision at short measurement times. In addition the S1 TITAN<sup>LE</sup> will measure light elements such as magnesium, aluminum, silicon and sulfur providing a better understanding of the mineralogy of the sample. This is the most versatile configuration and should be chosen when light element capability is required.

The **S1 TITAN<sup>SE</sup>** is the standard configuration which is designed using the X-Flash® SDD with a rugged aluminized Kapton® measurement window. The SDD operates at very high count rates and thus provides good precision at short measurement times. The lightest element measured by this configuration is calcium. This configuration should be chosen only when extremely rugged measurement conditions are expected or very hot (>150°C) samples need to be measured.

## • Signature Service

Bruker has been in the instrument business for many years and has supplied products and services to companies just like yours. We understand the critical importance of post-sales support to our clients. That's why we design our products with maximum uptime in mind and established our Signature Service program, striving to provide the highest level of service in the industry.

- Guaranteed loaner program<sup>2</sup>
- Extended warranties
- Standard two year warranty<sup>3</sup>
- Service contracts

## • Contact Us

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<sup>3</sup> See Terms and Conditions for details