

# AIG conference November 2009

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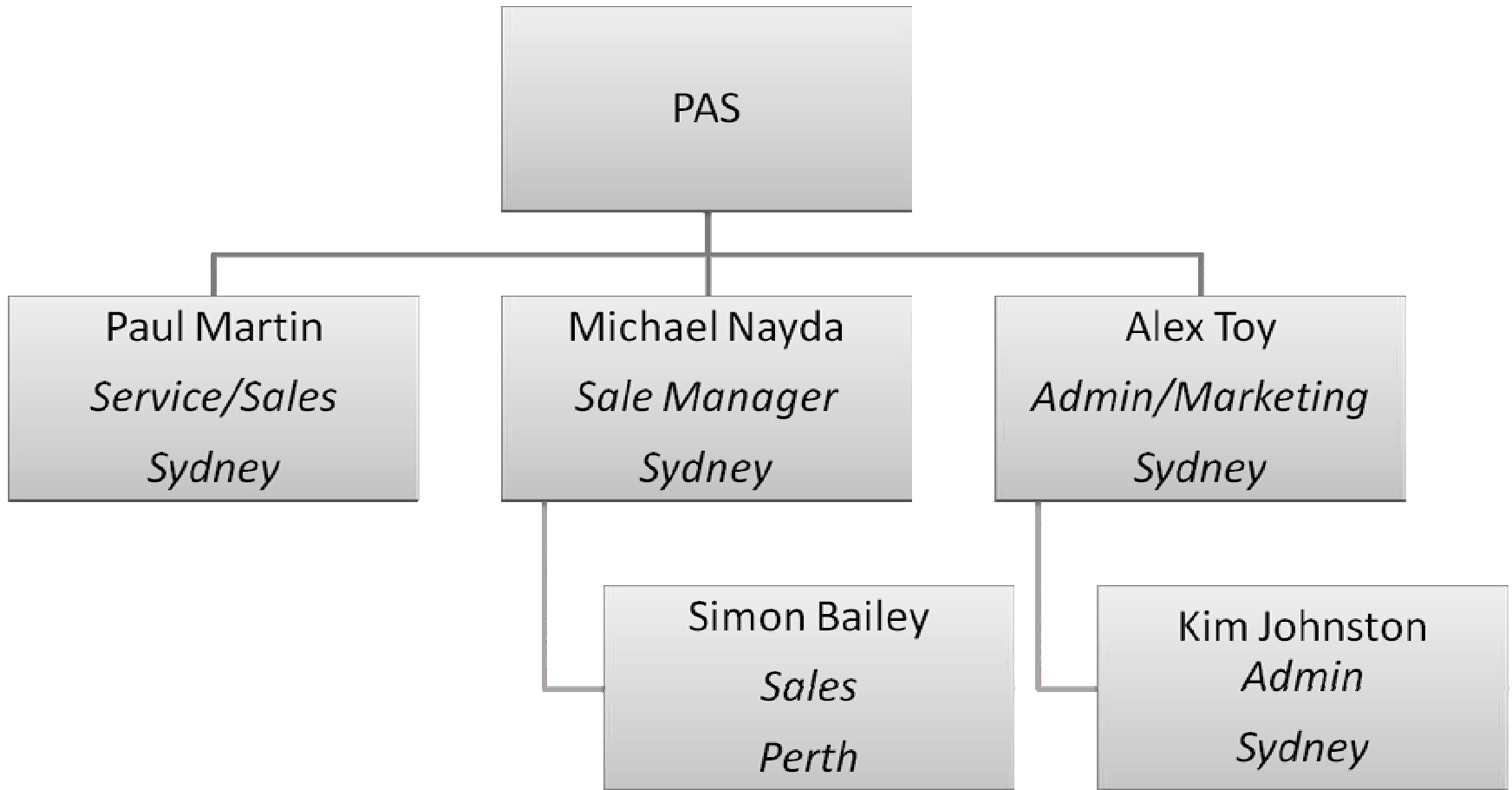
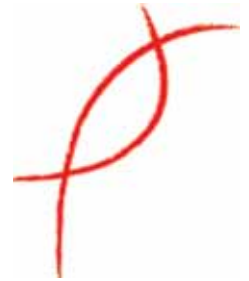
Portable Analytical Solutions Pty Ltd

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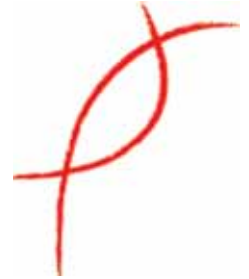
ACN 136 663 735



# PAS - Organisation Chart

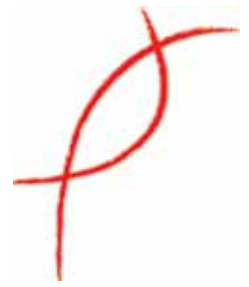


# Thermo Niton



- Thermo Fisher Niton Analysers currently have over 20,000 units globally
- There have been over 2,000 Niton's sold globally into the mining industry
- More than 160 Niton's have been supplied into the Australian mining sector

# Niton Product Range



**XL2**



**New**

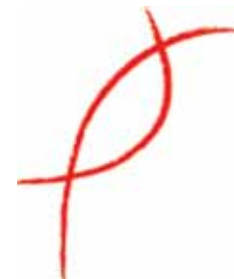
**XL3**



**XL3 SDD**



# Product



## Niton XL2

45kV Ag/Au tube, 40uA, 2W  
Si Pin Detector  
2 filters

### Performance

- Comparable to Niton XL3
- Fixed Screen
- Sealed, color

### Applications

- Base and ferrous metals (Cu, Pb, Zn, Fe, Ti, V, Cr)
- Mining Grade Control and processing

### Target Market

- Base and Ferrous metal miners, mineral sands, chromite
- Small miners, ore traders, large mines

## Niton XL3

50kV Ag/Au tube, 40uA, 2W  
Si Pin Detector  
6 filters

### Performance

- Camera, small spot
- Variable tilt screen
- Upgradable to SDD

### Applications

- Better performance on some elements
- Small spot for individual mineral grains

### Target Market

- Specialized apps with camera, small spot
- Companies desiring upgradability

## Niton XL3 GOLDD

50kV Ag/Au tube, 40uA, 2W  
25 mm<sup>2</sup> Silicon Drift Detector  
6 filters

### Performance

- Light elements
- Best sensitivity
- Bench top quality

### Applications

- High-end exploration
- New markets: oil, coal, cement, Fe-ore, bauxite

### Target Market

- Exploration majors (Au, U)
- Coal, Fe-ore, cement, bauxite explorers/producers

# Filters and configurations



| Model    | Filter | Elements  |
|----------|--------|---|
| XL3t SDD | Light  | Mg Al Si P S Cl K Ca  |
| XL3      | Low    | Ti V Cr   |
| XL3      | Main   | Ti V Cr Mn Fe Co Ni Cu Zn Pb As Se Bi Rb Sr Zr Nb Mo Ag Pd Cd Sn Sb W Hg Th U Au (Hf Ta Re) |
| XL3      | High   | Ag Pd Cd Sn Ba  |



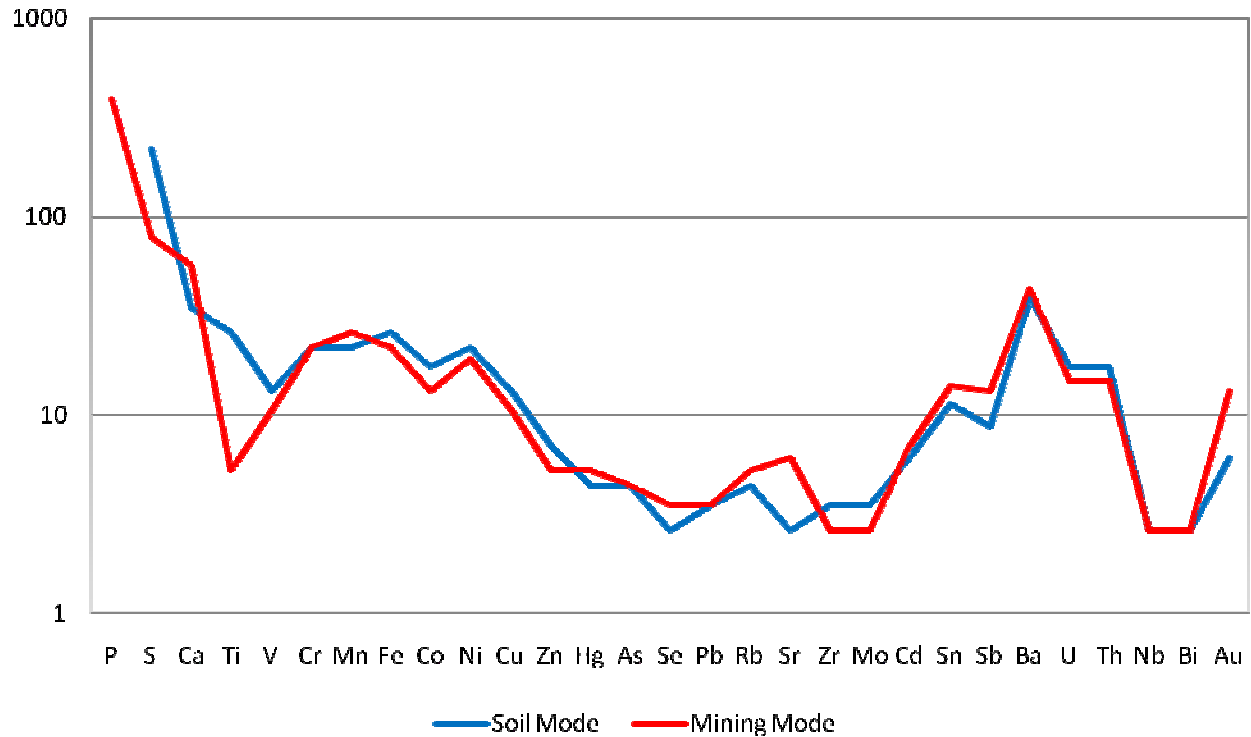
|     |      |   |
|-----|------|---|
| XL2 | Low  | S K Ca Ti V Cr  |
| XL2 | Main | Ti V Cr Mn Fe Co Ni Cu Zn As Se Rb Sr Zr Nb Mo Pd Ag Cd Sn Sb Ba W Hg Pb Bi Au (Hf Ta Re) |

# Achievable Performance

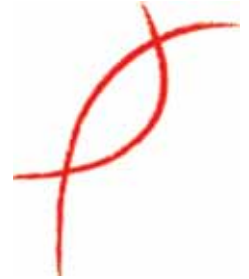


- Performance of Mining Mode (FP) is now comparable to Soil Mode (CE)
- Mining Mode (FP) will analyse to 100%
- Mining Mode required to analyse Mg, Si, Al

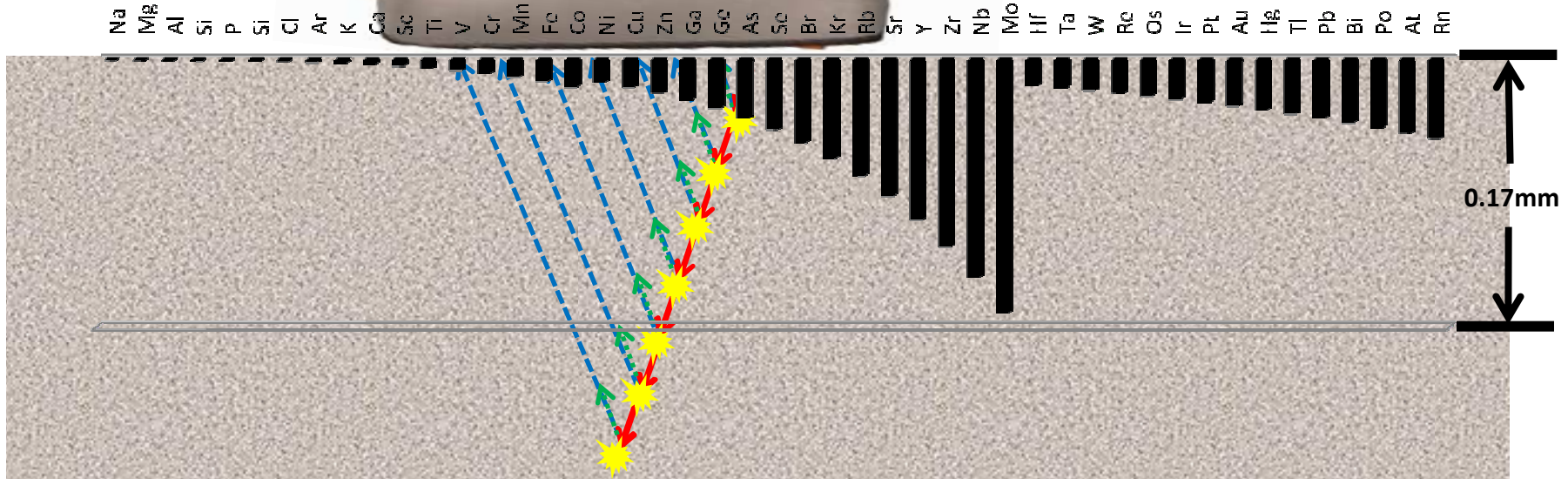
## Guaranteed - Limits of Detection



# Sample Penetration

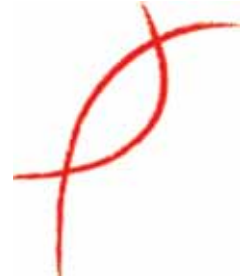


- Primary Beam
- High Z Elements
- Low Z elements



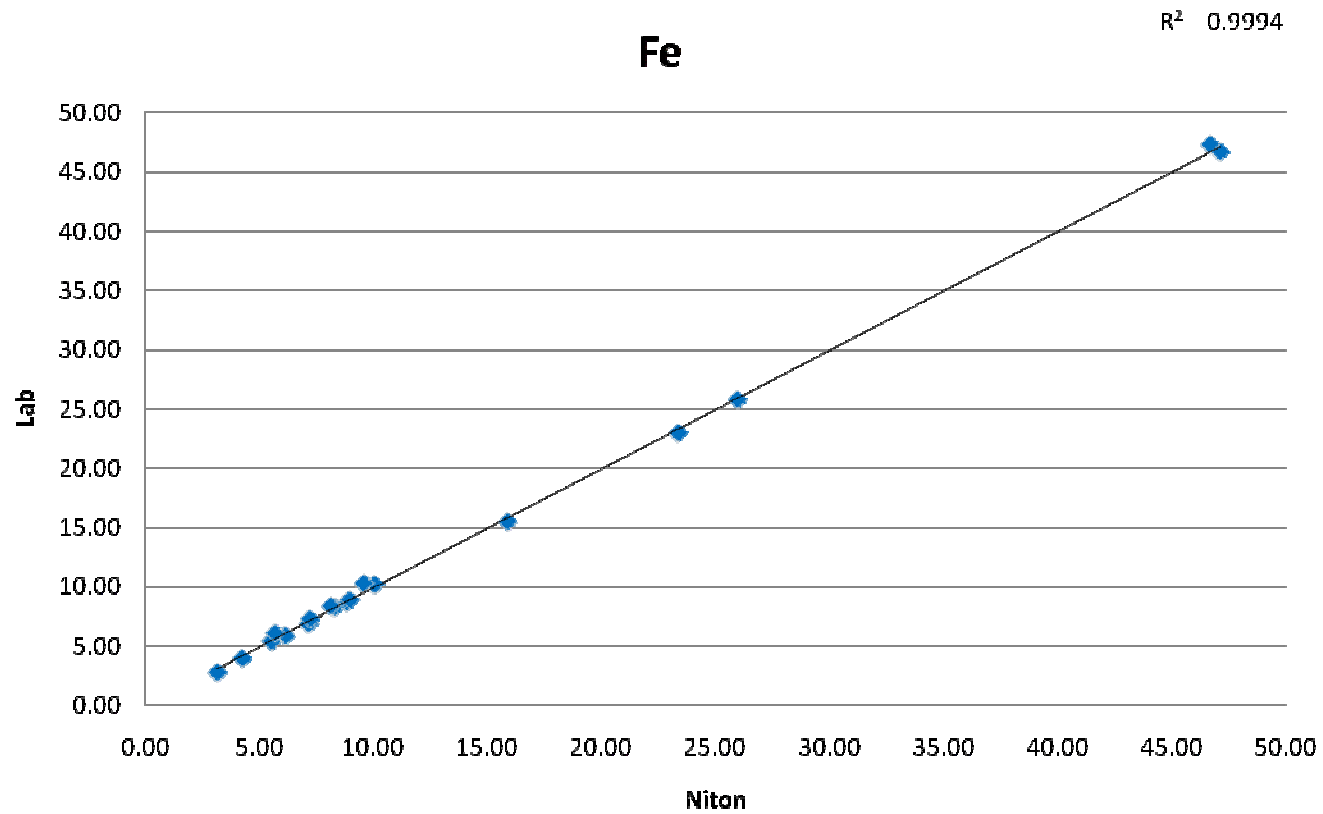
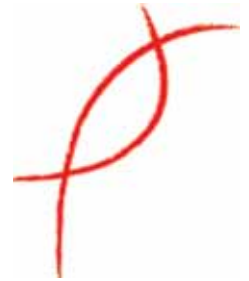


# Effects of self Absorption

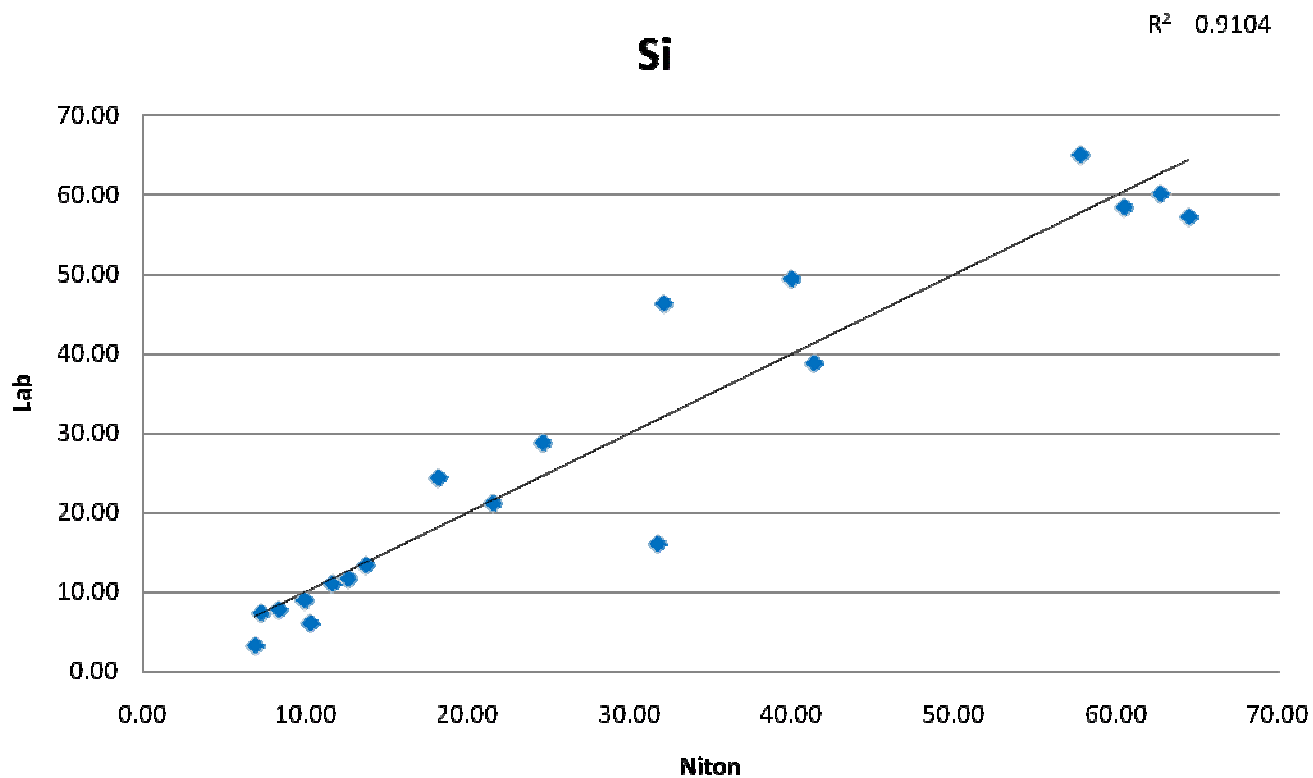


| Element | Atom # | Distance um |
|---------|--------|-------------|
| Na      | 11     | 0.98        |
| Mg      | 12     | 1.59        |
| Al      | 13     | 2.52        |
| Si      | 14     | 2.87        |
| P       | 15     | 2.01        |
| S       | 16     | 2.79        |

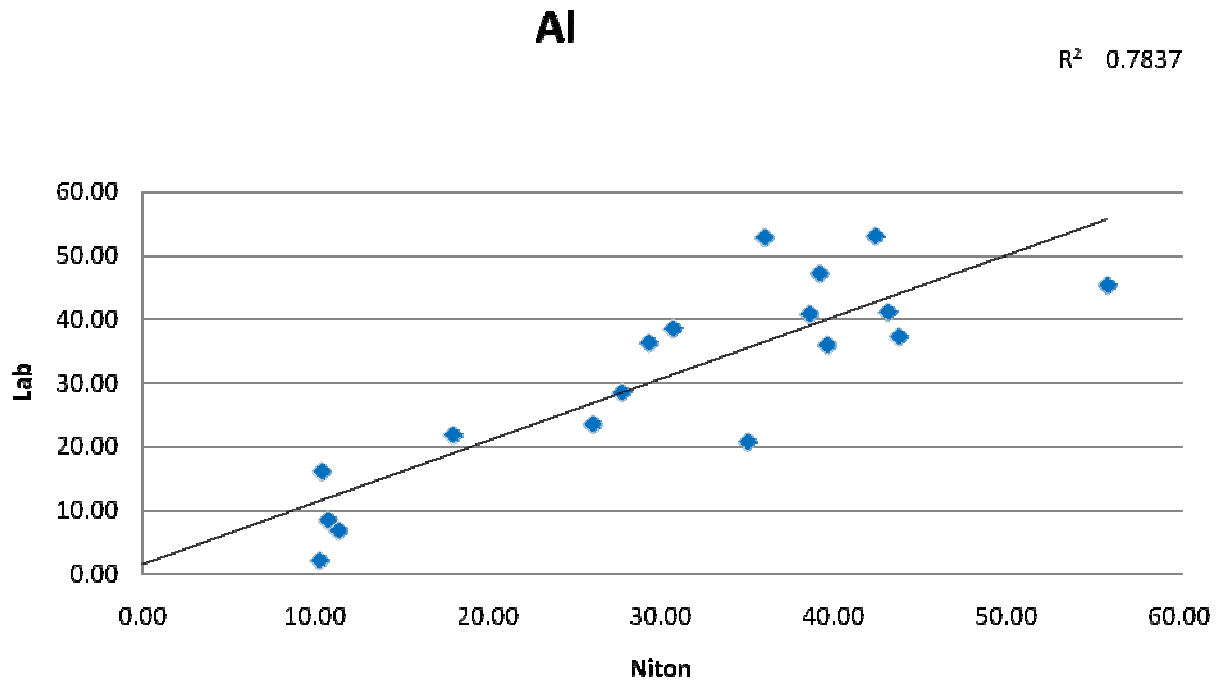
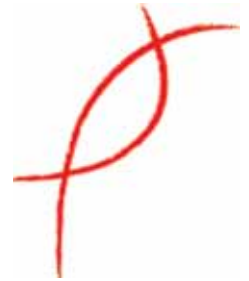
# Bauxite



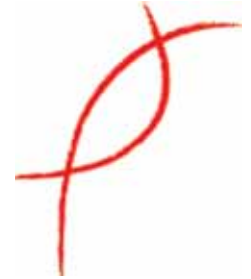
# Bauxite



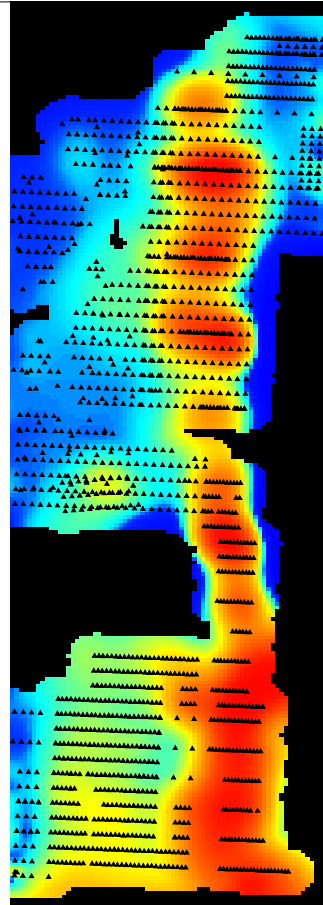
# Bauxite



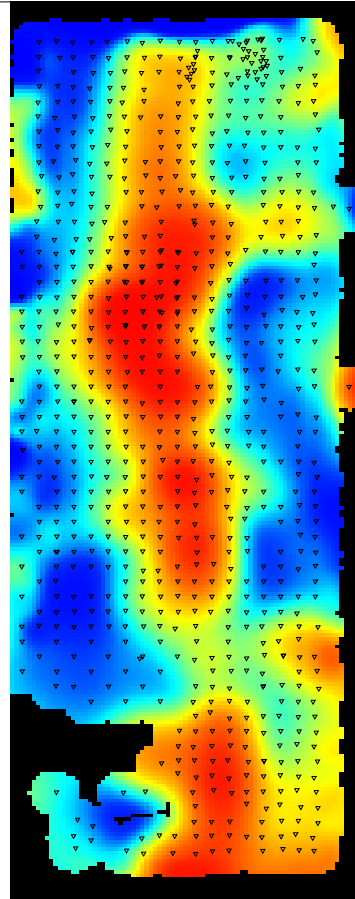
# Termite Mound analysis Copper



Soil survey  
(assayed)



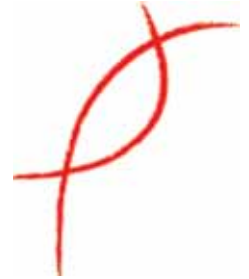
Termite mound survey  
(Niton XRF)



0 250 500  
metres

Scale 1:25,000

# Accessories



- Extend-a-pole
- Portable test Stand
- Mobile test stand
- Standard kits
- GIS-GPS integration



# New accessories design by client

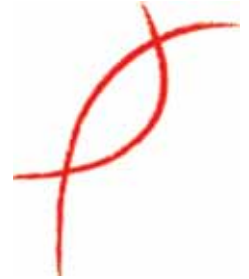


Portable  
Robust  
Dust free surface  
Low Cost  
Light weight

Minimizes bending  
by operator!!



# Thank You



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