

# TerraLeach™ Partial Digest Geochemistry

Intertek Genalysis' TerraLeach™ technology is designed to remove the "mobile ion" component from soil with a view to detecting metal dispersion from a buried ore-body.

Partial digests tend to be efficient for certain element suites and specific element species. As a consequence each partial digest technique has a specific application.

### TerraLeach Digest TL1.

An alkaline cyanide based digest for gold associated pathfinder elements in most soils as the digest is alkaline it is effective at de-sorbing oxy-anions. Some humic acid is also dissolved. This digest is useful for gold and pathfinders in most terrains.

### TerraLeach Digest TL2.

An acidic EDTA digest for copper, lead and zinc in acidic and neutral soils however, it is unsuitable for alkaline soils.

### TerraLeach Digest TL3.

A simple weak acid digest where cations can be removed by simple exchange with hydrogen ions. Suitable for soils where amorphous iron species dominate and hydrogen ions can exchange target elements from adsorption sites. It is unsuitable for alkaline soils.

### TerraLeach Digest TL4.

An acidic EDTA digest designed for copper, lead and zinc for alkaline (carbonate derived) soils. Each sample is individually pH adjusted to guarantee complete dissolution of soil carbonates and associated base metals. Ideal for base metal exploration in alkaline soil terrains such as the Mt Isa in Queensland or the Lennard Shelf in Western Australia.

### TerraLeach Digest TL5.

Utilising a simple salt this digest is effective in soils with high Cation Exchange Capacity. It is very effective for base metals in smectitic or organic rich soils.

### TerraLeach Digest TL6.

Similar to digest TL1 but with only trace amounts of cyanide. It is designed to dissolve predominantly chemical and ultra-fine gold avoiding the major dissolution of coarse particulate gold.

### TerraLeach Digest TL7.

A moderate strength Hydrochloric acid digest it is designed to remove amorphous iron and manganese oxide/hydroxides which host metals. Only chemical gold is recovered.

### TerraLeach Digest TL8.

An alkaline carbonate digest for uranium and associated pathfinders. Refractory uranium species are not recovered. A minor amount of humic acid recovered.

### TerraLeach Digest TL9.

A sodium pyrophosphate digest for the recovery of elements in humic acid. Cyanide is added to enhance recovery of gold but it can be removed on request.

## AAS Package for Base Metals in Alkaline Soils

Element	DL ppb TL4	Element	DL ppb TL4	Element	DL ppb TL4
Cu	10	Pb	50	Zn	10
TerraLeach package / AAS				TL4/AA91	

## ICP-MS & AAS Package

Element	DL ppb				Element	DL ppb				Element	DL ppb				
	TL1	TL6	TL8	TL7		TL1	TL6	TL8	TL7		TL1	TL6	TL8	TL7	
Ag	0.2			2	La	0.5			5	Sn	2			20	
As	2			20	Mo	1			10	Th	0.1			1	
Au	0.05			0.5	Ni	20			200	U	0.1			1	
Bi	0.5			5	Pb	20			200	W	10			100	
Cd	0.5			5	Pd	1			10	Zn	10			100	
Co	2			20	Pt	0.2			2						
Cu	20			200	Sb	1			10						
TerraLeach package / ICP-MS, AAS												TL1, TL6, TL7 or TL8/MA92			

**ICP-OES, ICP-MS & AAS Package**

Element	DL ppb		Element	DL ppb		Element	DL ppb	
	TL1 TL6 TL8	TL7		TL1 TL6 TL8	TL7		TL1 TL6 TL8	TL7
Ag	0.2	2	K	0.2ppm	2ppm	S	2ppm	20ppm
As	2	20	La	0.5	5	Sb	1	10
Au	0.05	0.5	Mg	0.2ppm	2ppm	Sn	2	20
Bi	0.5	5	Mn	0.2ppm	2ppm	Th	0.1	1
Ca	0.2ppm	2ppm	Mo	1	10	U	0.1	1
Cd	0.5	5	Ni	20	200	V	0.2ppm	2ppm
Co	2	20	P	2ppm	20ppm	W	10	100
Cr	0.2ppm	2ppm	Pb	20	200	Zn	10	100
Cu	20	200	Pd	1	10			
Fe	0.2ppm	2ppm	Pt	0.2	2			

TerraLeach package / ICP-MS, ICP-OES, AAS TL1, TL6, TL7 or TL8/OMA93

**Partial Digest Single and Selected Elements**

Element	DL ppb			Element	DL ppb		
	TL1 TL6 TL8	TL7	TL9		TL1 TL6 TL8	TL7	TL9
Ag	0.2	2	4	Nb	0.1	1	2
Al	0.2ppm	2ppm	4ppm	Nd	0.5	5	10
As	2	20	40	Ni	20	200	400
Au	0.05	0.5	1	P	2ppm	20ppm	40ppm
Ba	20	200	400	Pb	20	200	400
Be	2	20	40	Pd	1	10	20
Bi	0.5	5	10	Pr	0.5	5	10
Ca	0.2ppm	2ppm	4ppm	Pt	0.2	2	4
Cd	0.5	5	10	S	2ppm	20ppm	40ppm
Ce	1	10	20	Sb	1	10	20
Co	2	20	40	Sc	0.2ppm	2ppm	4ppm
Cr	0.2ppm	2ppm	4ppm	Se	5	50	100
Cu	20	200	400	Si	1ppm	10ppm	20ppm
Dy	0.5	5	10	Sm	0.5	5	10
Er	0.5	5	10	Sn	2	20	40
Eu	0.5	5	10	Ta	0.1	1	2
Fe	0.2ppm	2ppm	4ppm	Tb	0.05	0.5	1
Ga	0.5	5	10	Te	2	20	40
Ge	1	10	20	Th	0.1	1	2
Hf	0.5	5	10	Ti	0.2ppm	2ppm	4ppm
Ho	0.5	5	10	Tl	0.2	2	4
In	0.1	1	2	Tm	0.5	5	10
K	0.2ppm	2ppm	4ppm	U	0.1	1	2
La	0.5	5	10	V	0.2ppm	2ppm	4ppm
Li	1	10	20	W	10	100	200
Lu	0.5	5	10	Y	1	10	20
Mg	0.2ppm	2ppm	4ppm	Yb	0.1	1	2
Mn	0.2ppm	2ppm	4ppm	Zn	0.2ppm	2ppm	4ppm
Mo	1	10	20	Zn	10	100	200
Na		1ppm		Zr	0.5	5	10

TerraLeach / ICP TL1, TL6, TL7, TL8 or TL9/OM  
TerraLeach / AAS TL4/AA

Legend
ICP-MS
ICP-OES
AAS

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