

Set of certified reference materials of agricultural soils AP-AN-ZP01 and AP-AN-ZP02

Art. ID	AP-AN-ZP-SET
Unit	2 x 50 g
Deliverydetails	No Dangerous Good /not restricted

Description

The set of soils consist of two natural agricultural soils differing in elemental composition - Contents of element extractable fractions with aqua regia according to ISO 11466

Text/Information	Analyte/Parameter	CAS number	Concentration/Value	Unit	Method	Source
AP-AN-ZP01: Agricultura I soil - Heavy loam wit h normal analyte levels	Arsenic (As)	[7440-38-2]	16,6 ± 0,9	mg/kg		
AP-AN-ZP01: Agricultura I soil - Heavy loam wit h normal analyte levels	Barium (Ba)	[7440-39-3]	185 ± 7	mg/kg		
AP-AN-ZP01: Agricultura I soil - Heavy loam wit h normal analyte levels	Beryllium (Be)	[7440-41-7]	2,31 ± 0,08	mg/kg		
AP-AN-ZP01: Agricultura I soil - Heavy loam wit h normal analyte levels	Cadmium (Cd)	[7440-43-9]	0,43 ± 0,04	mg/kg		
AP-AN-ZP01: Agricultura I soil - Heavy loam wit h normal analyte levels	Cobalt (Co)	[7440-48-4]	18 ± 0,9	mg/kg		
AP-AN-ZP01: Agricultura I soil - Heavy loam wit h normal analyte levels	Chromium (Cr)	[7440-47-3]	46,2 ± 2,5	mg/kg		
AP-AN-ZP01: Agricultura I soil - Heavy loam wit h normal analyte levels	Copper (Cu)	[7440-50-8]	29,2 ± 1,4	mg/kg		
AP-AN-ZP01: Agricultura I soil - Heavy loam wit h normal analyte levels	Mercury (Hg) extract		~0,085	mg/kg		
AP-AN-ZP01: Agricultura I soil - Heavy loam wit h normal analyte levels	Mercury (Hg) total		0,082 ± 0,01	mg/kg		
AP-AN-ZP01: Agricultura I soil - Heavy loam wit	Manganese (Mn)	[7439-96-5]	649 ± 27	mg/kg		

h normal analyte levels				
AP-AN-ZP01: Agricultura	Molybdenum (Mo)	[7439-98-7]	0,49 ± 0,08	mg/kg
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	Nickel (Ni)	[7440-02-0]	38,3 ± 1,9	mg/kg
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	Lead (Pb)	[7439-92-1]	33,6 ± 1,4	mg/kg
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	Antimony (Sb)	[7440-36-0]	~0,75	mg/kg
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	Tin (Sn)	[7440-31-5]	3 ± 0,38	mg/kg
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	Strontium (Sr)	[7440-24-6]	76,8 ± 4,1	mg/kg
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	Thallium (Tl)	[7440-28-0]	0,73 ± 0,14	mg/kg
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	Vanadium (V)	[7440-62-2]	53,3 ± 2,4	mg/kg
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	Zinc (Zn)	[7440-66-6]	125 ± 5	mg/kg
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	SiO ₂		62,1	%
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	TiO ₂		0,77	%
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	Al ₂ O ₃		12,69	%
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	Fe ₂ O ₃		5,25	%

I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	MgO	[1309-48-4]	1,2	%
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	MnO		0,085	%
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	CaO		1,61	%
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	Li2O		0,008	%
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	Na2O		0,56	%
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	K2O		2,21	%
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	P2O5		0,23	%
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	H2O		4,99	%
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	LOI		8,82	%
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP01: Agricultura	Total nitrogen		0,25	%
I soil - Heavy loam wit				
h normal analyte levels				
AP-AN-ZP02: Agricultura	Arsenic (As)	[7440-38-2]	16 ± 1	mg/kg
I soil - Silty clay loa				
m contaminated with som				
e heavy metals				
AP-AN-ZP02: Agricultura	Barium (Ba)	[7440-39-3]	158 ± 7	mg/kg
I soil - Silty clay loa				

m contaminated with some heavy metals

AP-AN-ZP02: Agricultura Beryllium (Be) [7440-41-7] 0,64 ± 0,05 mg/kg

I soil - Silty clay loam

m contaminated with some heavy metals

AP-AN-ZP02: Agricultura Cadmium (Cd) [7440-43-9] 1,63 ± 0,11 mg/kg

I soil - Silty clay loam

m contaminated with some heavy metals

AP-AN-ZP02: Agricultura Cobalt (Co) [7440-48-4] 27,2 ± 1,1 mg/kg

I soil - Silty clay loam

m contaminated with some heavy metals

AP-AN-ZP02: Agricultura Chromium (Cr) [7440-47-3] 68,1 ± 2,3 mg/kg

I soil - Silty clay loam

m contaminated with some heavy metals

AP-AN-ZP02: Agricultura Copper (Cu) [7440-50-8] 22 ± 1,2 mg/kg

I soil - Silty clay loam

m contaminated with some heavy metals

AP-AN-ZP02: Agricultura Mercury (Hg) extract ~0,149 mg/kg

I soil - Silty clay loam

m contaminated with some heavy metals

AP-AN-ZP02: Agricultura Mercury (Hg) total 0,136 ± 0,01 mg/kg

I soil - Silty clay loam

m contaminated with some heavy metals

AP-AN-ZP02: Agricultura Manganese (Mn) [7439-96-5] 1802 ± 70 mg/kg

I soil - Silty clay loam

m contaminated with some heavy metals

AP-AN-ZP02: Agricultura Molybdenum (Mo) [7439-98-7] 0,75 ± 0,07 mg/kg

I soil - Silty clay loam

m contaminated with some heavy metals

AP-AN-ZP02: Agricultura	Nickel (Ni)	[7440-02-0]	9,75 ± 0,57	mg/kg
I soil - Silty clay loa m contaminated with som e heavy metals				
AP-AN-ZP02: Agricultura	Lead (Pb)	[7439-92-1]	205 ± 8	mg/kg
I soil - Silty clay loa m contaminated with som e heavy metals				
AP-AN-ZP02: Agricultura	Antimony (Sb)	[7440-36-0]	8,03 ± 0,54	mg/kg
I soil - Silty clay loa m contaminated with som e heavy metals				
AP-AN-ZP02: Agricultura	Tin (Sn)	[7440-31-5]	~4,65	mg/kg
I soil - Silty clay loa m contaminated with som e heavy metals				
AP-AN-ZP02: Agricultura	Strontium (Sr)	[7440-24-6]	31,6 ± 1,5	mg/kg
I soil - Silty clay loa m contaminated with som e heavy metals				
AP-AN-ZP02: Agricultura	Vanadium (V)	[7440-62-2]	138 ± 3	mg/kg
I soil - Silty clay loa m contaminated with som e heavy metals				
AP-AN-ZP02: Agricultura	Zinc (Zn)	[7440-66-6]	173 ± 7	mg/kg
I soil - Silty clay loa m contaminated with som e heavy metals				
AP-AN-ZP02: Agricultura	SiO ₂		60,3	%
I soil - Silty clay loa m contaminated with som e heavy metals				
AP-AN-ZP02: Agricultura	TiO ₂		1,56	%
I soil - Silty clay loa m contaminated with som e heavy metals				
AP-AN-ZP02: Agricultura	Al ₂ O ₃		12,92	%
I soil - Silty clay loa				

m contaminated with some heavy metals				
AP-AN-ZP02: Agricultura	Fe ₂ O ₃		8,33	%
I soil - Silty clay loam contaminated with some heavy metals				
AP-AN-ZP02: Agricultura	MgO	[1309-48-4]	1,62	%
I soil - Silty clay loam contaminated with some heavy metals				
AP-AN-ZP02: Agricultura	MnO		0,263	%
I soil - Silty clay loam contaminated with some heavy metals				
AP-AN-ZP02: Agricultura	CaO		2,07	%
I soil - Silty clay loam contaminated with some heavy metals				
AP-AN-ZP02: Agricultura	Li ₂ O		0,006	%
I soil - Silty clay loam contaminated with some heavy metals				
AP-AN-ZP02: Agricultura	Na ₂ O		2,89	%
I soil - Silty clay loam contaminated with some heavy metals				
AP-AN-ZP02: Agricultura	K ₂ O		0,99	%
I soil - Silty clay loam contaminated with some heavy metals				
AP-AN-ZP02: Agricultura	P ₂ O ₅		0,212	%
I soil - Silty clay loam contaminated with some heavy metals				
AP-AN-ZP02: Agricultura	H ₂ O		2,61	%
I soil - Silty clay loam contaminated with some heavy metals				

AP-AN-ZP02: Agricultura	LOI	6,77	%
I soil - Silty clay loa m contaminated with som e heavy metals			
AP-AN-ZP02: Agricultura	Total nitrogen	0,17	%
I soil - Silty clay loa m contaminated with som e heavy metals			