S1 TITAN 600-800
GeoChem Calibration (P/N: 730.0088)

GEOCHEM TRACE (PHASE1 and 2)	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Rb	Sr	Y	Zr
LOD (ppm) on pure SiO2	<7000	960	500	90	80	135	41	37	20	8	19	18	13	5	5	5	3	3	3	3	4	4	3
Upper Range (wt %)	45%	100%	100%	14.50%	15%	2.50%	5%	32%	2.50%	0.20%	1.60%	3.20%	28%	0.30%	1.20%	3.20%	0.80%	2.30%	0.01%	0.055%	0.50%	0.25%	1.50%
Default Reporting as	OX	OX	OX	OX	EL	EL	OX	OX	OX	EL	EL	OX	OX	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL
Conversion factor OX --> EL	0.603	0.529	0.467	0.436	-	-	0.83	0.714	0.599	-	-	0.77	0.699	-	-	-	-	-	-	-	-	-	-

GEOCHEM TRACE (PHASE1 and 2)	Nb	Mo	Rh	Pd	Ag	Cd	Sn	Sb	Ba(K,L)	La (K,L)	Ce (LB)	Hf	Ta	W	Pt	Au	Hg	Tl	Pb	Bi	Th	U
LOD (ppm) on pure SiO2	2	6	15	29	10	19	20	30	188,4	166,53	35	6	4	6	6.8	6.6	6	5	11	12	17	53
Upper Range (wt %)	1%	0.60%	0.06%	0.14%	0.05%	0.65%	1.65%	53%	0.40%	0.40%	4.80%	1.10%	82%	54%	0.35%	0.10%	86%	0.02%	2.10%	0.15%	0.10%	0.15%
Default Reporting as	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL

GEOCHEM GENERAL (PHASE1 and 2)	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Rb	Sr	Y	Zr
LOD (ppm) on pure SiO2	<1000	800	494	140	132	111	40	38	25	5	12	24	12	15	4	4	1	10	3	1	4	4	9
Upper Range (wt %)	30%	100%	100%	14.50%	30%	3.00%	14%	33%	60%	58%	69%	80%	70%	79%	80%	85%	85%	80%	55%	40%	1.00%	0.25%	74%
Default Reporting as	OX	OX	OX	OX	EL	EL	OX	OX	OX	EL	EL	OX	OX	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL
Conversion factor OX --> EL	0.603	0.529	0.467	0.436	-	-	0.83	0.714	0.599	-	-	0.77	0.699	-	-	-	-	-	-	-	-	-	-

GEOCHEM GENERAL (PHASE1 and 2)	Nb	Mo	Rh	Pd	Ag	Cd	Sn	Sb	Ba(K,L)	La (K,L)	Ce (LB)	Hf	Ta	W	Pt	Au	Hg	Tl	Pb	Bi	Th	U
LOD (ppm) on puer SiO2	7	3	10	27	50	14	108	34	160,4	341,54	85	25	74	53	23	7	40	5	3	5	25	10
Upper Range (wt %)	70%	69%	0.06%	0.14%	0.05%	0.8%	89%	56%	0.40%	0.40%	5%	1.10%	82%	80%	0.35%	0.10%	86%	0.02%	94%	92%	0.20%	0.15%
Default Reporting as	EL	EL	EL	EL	EL	EL		EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL	EL

NOTE: Actual real world samples (soil or rocks) may contain interfering elements that the hardware settings or selection of analyte lines does not correct for; therefore the actual working (and displayed) LOD's for these samples may be HIGHER than those determined with the interference free standards

Sample Prep: All calibration samples were prepared as dry sample powders and measured with a 4 micron foil

LOD = Limit of Detection. The smallest concentration which can be detected in a non-interfering matrix.

a) In this document LOD is specified for SiO2 matrix in three sigma 99.7% confidence level (3 sigma) and 120 second analysis time in Dual mode

b) For Dual parameter methods, 120 sec measurement (60 sec phase 1 and 60 sec phase 2) is used for both measurement conditions.

c) Individual elemental LOD's improve as a function of the square root of the analysis time. Multiply with 0.75 for 120 sec single phase comparison

d) Detection limits are specified for SiO2 matrix samples where only few elements are present in a sample. For samples which contain significant amount of other overlapping elements, LOD for specific element can be significantly higher than reported.

e) Limit of Detection is dependent on several factors, such as: Matrix Interferences, Overlapping elements, Level of statistical confidence and Testing time.

f) Convert the Oxide displayed value with the coefficient listed to get elemental concentration

Calibration range: Is based on available reference materials and is extrapolated up to 10% (relative) over highest value

Geochem Trace LOD for Ag, As, Cd, U, and Pb: Geochem Trace has higher LOD for Ag, As, Cd, U, and Pb than GeoChem General due to the use of classical compton ratio as recommended per EPA 6200

S1 TITAN 600-800 GeoChem Calibration
P/N: 730.0088

H																	He
Li	Be											B	C	N	O	F	Ne
Na	Mg											Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Fr	Ra	Ac															

Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr

Phase 1: 45 kV, TiAl filter

Phase 2: 15 kV, no filter