



**Certificate of Analysis**  
**Work Order : VC182083**  
**[Report File No.: 0000030234]**

**Date:** July 20, 2018

**To: Jack Milton**  
**FIREWEED ZINC LTD**  
#1020-800 WEST PENDER ST  
VANCOUVER BC V6C 2V6

**P.O. No.:** FWZ18-SGS-001 / 307 samples  
**Project No.:** -  
**Samples:** 49  
**Received:** Jun 27, 2018  
**Pages:** Page 1 to 15  
(Inclusive of Cover Sheet)


**Methods Summary**

<u>No. Of Samples</u>	<u>Method Code</u>	<u>Description</u>
48	G_LOG02	Pre-preparation processing, sorting, logging, boxing
48	GE_MMI_M	Mobile Metal ION standard package/ICP-MS
48	GE_ISE15V	pH (soils/sediments)

**Storage: Pulp & Reject**

REJECT STORAGE : PAID STORE AFTER 90 DAYS

Certified By :

  
John Chiang  
QC Chemist

*SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at <http://www.scc.ca/en/search/palcan/sgs>*

Report Footer:

L.N.R.	= Listed not received	I.S.	= Insufficient Sample
n.a.	= Not applicable	--	= No result
*INF	= Composition of this sample makes detection impossible by this method		
M	after a result denotes ppb to ppm conversion, % denotes ppm to % conversion		
Methods marked with an asterisk (e.g. *NAA08V) were subcontracted			
Elements marked with the @ symbol (e.g. @Cu) denote assays performed using accredited test methods			

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

Element Method Det.Lim. Units	Ag GE_MMI_M 0.5 ppb	Al GE_MMI_M 1 ppm	As GE_MMI_M 10 ppb	Au GE_MMI_M 0.1 ppb	Ba GE_MMI_M 10 ppb	Bi GE_MMI_M 0.5 ppb	Ca GE_MMI_M 2 ppm	Cd GE_MMI_M 1 ppb
C00049848	3.5	136	280	0.2	2370	2.3	3	7
C00049849	2.7	84	840	0.4	3880	5.0	39	27
C00049850	3.1	107	270	0.6	3540	1.3	34	31
C00049851	5.1	84	370	0.6	3500	2.2	42	125
C00049852	3.9	116	480	1.2	5270	2.9	145	33
C00049853	4.2	140	830	0.8	6500	5.2	124	182
C00049854	3.5	41	100	0.3	2090	<0.5	238	237
C00049855	1.1	47	140	0.4	2420	<0.5	188	164
C00049856	2.5	39	180	0.2	2640	<0.5	156	99
C00049857	8.6	59	140	0.5	5040	<0.5	128	650
C00049858	10.6	175	630	0.7	5090	2.9	6	99
C00049859	15.7	166	550	1.2	3010	2.3	3	44
C00049860	18.2	115	280	0.5	1500	1.4	7	6
C00049861	24.9	124	260	0.6	1510	1.5	3	7
C00049862	87.0	127	520	0.5	3550	1.8	57	71
C00049863	25.0	109	350	0.4	3380	2.1	14	30
C00049864	13.3	223	890	0.6	9000	3.6	30	66
C00049865	63.2	158	740	0.3	4450	1.8	11	7
C00049866	92.1	226	710	0.5	5790	2.9	5	9
C00049867	126	365	1050	0.4	8680	4.1	5	9
C00049868	182	72	210	0.4	4980	<0.5	151	131
C00049869	127	235	970	0.3	4620	3.3	9	14
C00049870	51.0	85	200	0.2	2200	0.9	<2	3
C00049871	17.2	101	130	0.5	2220	1.2	<2	4
C00049872	53.3	242	5190	0.4	2130	1.5	<2	61
C00049873	50.4	158	1020	0.4	3130	2.9	6	19
C00049874	39.5	216	770	0.2	3280	5.8	4	11
C00049875	7.3	80	360	0.6	4620	2.3	65	118
C00049876	101	215	1270	0.9	4430	3.4	<2	14
C00049877	18.6	110	170	0.4	2530	0.9	<2	47
C00049878	19.6	153	390	0.2	5160	2.6	7	393
C00049879	15.3	122	1140	0.2	3890	1.9	<2	244
C00049880	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C00049881	50.2	242	460	0.2	3890	2.0	<2	34
C00049882	126	151	160	0.7	2090	<0.5	99	193
C00049883	61.7	153	460	0.5	5130	1.1	92	231
C00049884	36.4	179	330	1.9	3700	1.3	15	10
C00049885	7.6	76	240	0.7	4270	0.9	13	61
C00049886	5.5	145	90	0.7	5070	1.0	7	213
C00049887	8.6	71	150	0.7	6000	0.8	72	119

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

Element Method Det.Lim. Units	Ag	Al	As	Au	Ba	Bi	Ca	Cd
	GE_MMI_M	GE_MMI_M	GE_MMI_M	GE_MMI_M	GE_MMI_M	GE_MMI_M	GE_MMI_M	GE_MMI_M
	0.5	1	10	0.1	10	0.5	2	1
	ppb	ppm	ppb	ppb	ppb	ppb	ppm	ppb
C00049888	2.0	108	70	<0.1	2890	0.7	16	73
C00049889	7.2	216	1140	0.7	6820	6.5	41	62
C00049890	8.7	109	1210	0.6	7280	8.6	80	63
C00049891	23.7	79	160	1.0	5190	0.8	34	135
C00049892	2.9	42	800	0.4	2290	3.2	35	6
C00049893	13.3	196	110	<0.1	3460	1.0	9	17
C00049894	121	150	180	0.4	7030	1.4	10	171
C00049895	153	154	280	0.3	3380	2.0	28	33
C00049896	15.1	108	20	0.5	1200	<0.5	65	59
*Rep C00049866	79.9	199	610	0.4	5100	2.6	4	8
*Rep C00049887	7.0	73	130	0.5	5950	0.9	63	113
*Rep C00049891	27.5	105	170	0.9	5470	0.9	38	111
*Std MMISRM19	25.9	19	<10	5.1	1290	<0.5	698	34
*Blk BLANK	<0.5	<1	<10	<0.1	<10	<0.5	<2	<1
*Blk BLANK	<0.5	<1	<10	<0.1	<10	<0.5	<2	<1
*Std MMISRM19	26.9	24	<10	5.1	1490	<0.5	724	38

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

Element Method Det.Lim. Units	Ce GE_MMI_M 2 ppb	Co GE_MMI_M 1 ppb	Cr GE_MMI_M 100 ppb	Cs GE_MMI_M 0.2 ppb	Cu GE_MMI_M 10 ppb	Dy GE_MMI_M 0.5 ppb	Er GE_MMI_M 0.2 ppb	Eu GE_MMI_M 0.2 ppb
C00049848	56	100	<100	6.1	920	9.0	4.4	2.9
C00049849	34	409	<100	8.7	2080	6.2	3.1	2.1
C00049850	33	729	<100	8.0	3030	6.7	3.3	2.5
C00049851	25	771	<100	7.8	5930	8.1	4.5	2.2
C00049852	50	667	<100	11.9	2430	16.2	8.1	4.8
C00049853	97	1020	<100	17.7	6060	32.9	17.0	8.8
C00049854	20	879	<100	4.0	3340	8.2	4.5	2.2
C00049855	10	109	<100	2.4	3730	4.1	2.5	1.3
C00049856	10	263	<100	2.1	2400	2.9	1.9	1.1
C00049857	14	311	<100	4.3	9300	9.6	5.9	2.7
C00049858	79	1060	<100	11.5	7380	29.3	14.7	7.2
C00049859	95	1180	<100	5.6	7460	44.4	19.3	9.1
C00049860	27	36	<100	5.7	5870	8.7	4.4	2.2
C00049861	28	35	<100	5.4	4900	9.1	4.9	2.2
C00049862	223	185	<100	8.1	3780	84.4	40.9	23.5
C00049863	34	133	<100	4.9	1040	9.5	4.6	2.5
C00049864	102	198	200	23.2	2110	36.2	18.6	10.0
C00049865	56	57	200	14.1	1170	14.6	6.6	3.8
C00049866	125	80	<100	11.6	1510	32.0	13.3	8.6
C00049867	166	78	200	30.4	2120	34.5	12.9	9.3
C00049868	89	163	<100	6.6	2200	40.0	20.9	12.1
C00049869	160	137	200	13.5	1050	44.8	16.9	12.6
C00049870	21	41	<100	6.7	1800	2.4	1.5	0.8
C00049871	38	19	<100	3.7	1540	7.5	3.7	2.2
C00049872	117	260	<100	6.4	1090	55.6	29.1	14.5
C00049873	110	65	100	8.1	790	35.3	12.9	11.1
C00049874	91	38	<100	10.0	540	9.4	4.5	3.6
C00049875	23	576	<100	11.3	4040	7.5	3.4	2.7
C00049876	94	358	200	18.1	2970	18.6	7.3	5.7
C00049877	47	743	<100	7.4	2920	20.0	8.5	5.6
C00049878	63	400	<100	26.2	3350	49.0	28.0	12.0
C00049879	97	1260	<100	23.1	1300	71.9	43.9	16.1
C00049880	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C00049881	100	403	<100	7.5	1850	30.7	16.2	7.1
C00049882	31	108	<100	6.1	3110	31.2	19.8	5.7
C00049883	119	161	<100	9.8	1540	35.4	18.6	10.2
C00049884	84	289	<100	9.1	4100	27.0	12.0	7.1
C00049885	22	817	<100	4.8	6640	7.5	4.7	2.2
C00049886	62	339	<100	3.9	8910	22.8	12.3	6.1
C00049887	14	123	<100	4.5	11600	4.3	2.4	1.7

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

Element Method Det.Lim. Units	Ce GE_MMI_M 2 ppb	Co GE_MMI_M 1 ppb	Cr GE_MMI_M 100 ppb	Cs GE_MMI_M 0.2 ppb	Cu GE_MMI_M 10 ppb	Dy GE_MMI_M 0.5 ppb	Er GE_MMI_M 0.2 ppb	Eu GE_MMI_M 0.2 ppb
C00049888	48	95	<100	2.7	740	19.5	9.4	4.8
C00049889	129	3110	200	26.6	3540	32.9	14.0	8.8
C00049890	170	1470	<100	11.4	4540	39.1	20.9	12.0
C00049891	21	1140	<100	4.1	4060	19.1	11.0	2.2
C00049892	30	83	<100	1.9	950	4.8	2.2	1.5
C00049893	54	82	<100	4.5	550	8.6	4.4	2.5
C00049894	544	115	<100	5.8	1160	164	71.6	44.1
C00049895	423	230	<100	8.6	1010	115	51.4	34.7
C00049896	15	170	<100	4.6	2920	16.3	8.8	3.5
*Rep C00049886	104	72	<100	10.6	1370	26.5	10.5	6.6
*Rep C00049887	16	145	<100	4.2	10600	4.7	3.0	1.8
*Rep C00049891	31	1180	<100	4.8	3310	22.2	12.3	3.3
*Std MMISRM19	16	275	<100	4.1	1910	10.0	5.8	2.1
*Blk BLANK	<2	<1	<100	<0.2	<10	<0.5	<0.2	<0.2
*Blk BLANK	<2	<1	<100	<0.2	<10	<0.5	<0.2	<0.2
*Std MMISRM19	16	417	<100	4.5	2030	13.8	8.2	2.6

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

Element Method Det.Lim. Units	Fe GE_MMI_M 1 ppm	Ga GE_MMI_M 0.5 ppb	Gd GE_MMI_M 0.5 ppb	Hg GE_MMI_M 1 ppb	In GE_MMI_M 0.1 ppb	K GE_MMI_M 0.5 ppm	La GE_MMI_M 1 ppb	Li GE_MMI_M 1 ppb
C00049848	440	12.6	10.9	<1	0.2	30.4	28	20
C00049849	548	15.3	7.4	1	0.1	43.3	19	34
C00049850	448	13.5	7.6	<1	0.1	34.4	17	28
C00049851	394	10.4	9.2	<1	0.1	36.2	13	24
C00049852	395	18.4	20.1	2	0.3	42.6	24	33
C00049853	521	25.3	37.9	3	0.4	44.1	44	52
C00049854	87	4.1	9.9	<1	<0.1	24.8	8	36
C00049855	216	2.7	4.0	<1	<0.1	43.6	5	25
C00049856	215	3.8	3.5	<1	<0.1	48.5	4	15
C00049857	261	2.8	9.3	<1	<0.1	28.1	7	17
C00049858	558	18.2	33.3	1	0.3	35.7	36	31
C00049859	420	11.2	44.0	3	0.3	28.3	41	14
C00049860	411	8.2	9.9	<1	0.1	43.9	16	20
C00049861	398	8.2	10.3	<1	0.1	41.4	17	21
C00049862	374	9.5	108	3	0.3	16.4	89	10
C00049863	527	10.2	10.0	1	0.2	26.0	19	13
C00049864	570	37.7	41.4	3	0.5	49.9	53	54
C00049865	721	18.4	13.5	5	0.3	38.4	34	28
C00049866	447	19.4	34.2	3	0.3	33.2	66	26
C00049867	568	41.0	34.8	3	0.5	57.6	90	65
C00049868	88	3.3	49.8	1	<0.1	17.9	33	5
C00049869	458	28.3	53.1	2	0.4	32.9	76	30
C00049870	458	12.0	2.8	<1	<0.1	24.3	13	17
C00049871	384	11.6	7.8	<1	0.1	27.1	19	11
C00049872	1040	17.7	64.0	1	0.4	15.3	43	8
C00049873	483	16.5	45.1	2	0.4	25.5	53	19
C00049874	283	41.4	11.1	<1	0.3	24.7	49	18
C00049875	391	11.3	9.5	1	0.1	35.5	14	31
C00049876	656	28.2	23.6	2	0.7	33.5	51	28
C00049877	486	11.6	24.5	2	0.1	33.7	24	14
C00049878	525	13.5	53.8	4	0.4	49.5	39	25
C00049879	721	15.3	73.5	7	0.2	26.0	56	13
C00049880	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C00049881	382	16.9	29.0	2	0.4	26.8	49	19
C00049882	85	5.1	27.6	<1	<0.1	25.8	17	15
C00049883	195	9.2	44.2	1	0.1	23.7	56	12
C00049884	357	8.0	30.8	4	0.2	25.8	37	11
C00049885	395	4.1	9.1	<1	<0.1	24.0	11	9
C00049886	233	6.2	28.1	2	0.1	28.2	32	10
C00049887	337	5.8	4.4	1	<0.1	14.4	8	15

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

Element Method Det.Lim. Units	Fe GE_MMI_M 1 ppm	Ga GE_MMI_M 0.5 ppb	Gd GE_MMI_M 0.5 ppb	Hg GE_MMI_M 1 ppb	In GE_MMI_M 0.1 ppb	K GE_MMI_M 0.5 ppm	La GE_MMI_M 1 ppb	Li GE_MMI_M 1 ppb
C00049888	249	12.2	21.3	<1	0.3	39.3	22	9
C00049889	639	32.8	37.0	3	0.6	48.3	56	50
C00049890	528	17.1	47.3	4	0.4	41.0	63	26
C00049891	326	5.6	19.9	1	0.1	19.1	11	13
C00049892	588	4.6	6.3	<1	0.1	18.6	16	9
C00049893	303	14.1	9.4	<1	0.1	13.4	29	6
C00049894	162	5.9	195	9	0.2	9.2	299	6
C00049895	146	10.3	164	5	0.2	13.5	174	7
C00049896	107	3.4	16.2	2	<0.1	11.3	9	16
*Rep C00049866	414	16.9	25.9	3	0.2	31.0	55	22
*Rep C00049887	348	5.1	4.6	<1	<0.1	13.0	9	13
*Rep C00049891	252	6.8	24.3	1	0.2	18.5	15	13
*Std MMISRM19	8	<0.5	11.5	2	<0.1	85.2	3	1
*Blk BLANK	<1	<0.5	<0.5	<1	<0.1	<0.5	<1	<1
*Blk BLANK	<1	<0.5	<0.5	<1	<0.1	<0.5	<1	<1
*Std MMISRM19	7	0.6	14.0	2	<0.1	89.7	1	1

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

Element Method Det.Lim. Units	Mg GE_MMI_M 0.5 ppm	Mn GE_MMI_M 100 ppb	Mo GE_MMI_M 2 ppb	Nb GE_MMI_M 0.5 ppb	Nd GE_MMI_M 1 ppb	Ni GE_MMI_M 5 ppb	P GE_MMI_M 0.1 ppm	Pb GE_MMI_M 5 ppb
C00049848	3.1	2100	27	4.9	31	305	14.0	156
C00049849	7.5	4300	60	5.3	21	1390	8.4	183
C00049850	5.1	7200	29	2.1	19	1620	5.8	121
C00049851	7.5	14100	36	1.4	18	2550	3.2	122
C00049852	34.1	19700	97	1.8	42	1360	6.8	259
C00049853	17.2	20600	115	4.0	75	5870	7.3	388
C00049854	54.3	66400	120	<0.5	18	10300	1.0	40
C00049855	36.1	18200	49	<0.5	8	6520	0.8	24
C00049856	28.2	11000	39	0.7	8	5820	1.2	28
C00049857	31.2	15900	30	<0.5	14	8860	0.9	25
C00049858	4.6	13700	55	3.3	62	1080	19.1	232
C00049859	2.4	14700	45	2.3	72	622	19.0	235
C00049860	4.2	1000	24	1.7	21	296	15.0	115
C00049861	3.8	700	25	1.8	21	302	18.2	127
C00049862	5.5	5700	50	1.7	229	1060	13.3	309
C00049863	4.5	1100	45	3.3	26	578	22.2	236
C00049864	8.6	2700	71	5.5	88	1160	35.0	650
C00049865	4.9	700	76	3.0	35	461	47.8	244
C00049866	3.9	600	42	3.1	79	481	29.7	329
C00049867	7.1	800	99	5.6	101	631	32.2	521
C00049868	9.5	3500	23	<0.5	117	4180	4.4	66
C00049869	3.9	2600	77	4.9	135	486	46.3	745
C00049870	2.0	100	54	3.8	10	519	17.7	87
C00049871	2.1	<100	21	2.9	25	145	13.2	88
C00049872	1.3	17700	62	3.3	131	558	24.9	210
C00049873	3.2	900	40	4.3	93	476	39.7	617
C00049874	3.1	1300	56	18.4	44	188	32.8	717
C00049875	10.5	7800	49	2.3	18	2510	5.1	272
C00049876	3.5	5900	92	6.8	53	472	38.5	413
C00049877	3.5	12100	16	3.6	43	1200	22.4	96
C00049878	3.7	16300	42	2.4	75	3800	16.4	253
C00049879	2.5	117000	46	1.8	135	3080	19.6	148
C00049880	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C00049881	2.4	4600	49	5.9	68	491	28.7	324
C00049882	9.1	6900	30	0.6	43	6250	2.6	50
C00049883	4.0	7400	35	1.9	105	2370	11.4	120
C00049884	2.3	2200	31	1.6	67	1240	14.4	137
C00049885	2.6	4800	24	0.8	18	3750	2.7	102
C00049886	2.1	6100	15	2.8	54	2680	5.4	66
C00049887	8.7	2400	14	0.7	11	3530	2.1	45

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .



Element Method Det.Lim. Units	Mg GE_MMI_M 0.5 ppm	Mn GE_MMI_M 100 ppb	Mo GE_MMI_M 2 ppb	Nb GE_MMI_M 0.5 ppb	Nd GE_MMI_M 1 ppb	Ni GE_MMI_M 5 ppb	P GE_MMI_M 0.1 ppm	Pb GE_MMI_M 5 ppb
C00049888	3.9	600	18	3.1	40	633	34.1	224
C00049889	14.8	51200	96	4.1	81	1620	17.2	562
C00049890	11.9	35000	122	2.3	121	1580	10.5	566
C00049891	4.2	30800	14	<0.5	44	2090	3.5	170
C00049892	14.4	1000	36	2.4	18	625	4.8	289
C00049893	1.5	800	19	6.5	28	319	18.2	290
C00049894	0.8	5100	44	1.6	461	467	7.6	20700
C00049895	2.5	7000	48	2.6	403	466	9.2	1320
C00049896	16.2	27700	6	<0.5	22	5180	1.1	21
*Rep C00049866	3.6	500	36	2.7	69	430	26.2	278
*Rep C00049887	7.6	2600	16	0.7	12	4280	2.0	54
*Rep C00049891	3.8	31100	15	<0.5	53	2200	4.5	209
*Std MMISRM19	180	4000	8	<0.5	15	1950	0.4	769
*Blk BLANK	<0.5	<100	<2	<0.5	<1	<5	<0.1	<5
*Blk BLANK	<0.5	<100	<2	<0.5	<1	<5	<0.1	<5
*Std MMISRM19	192	7100	7	<0.5	13	2030	0.3	1150

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

Element Method Det.Lim. Units	Pd GE_MMI_M 1 ppb	Pr GE_MMI_M 0.5 ppb	Pt GE_MMI_M 0.1 ppb	Rb GE_MMI_M 1 ppb	Sb GE_MMI_M 0.5 ppb	Sc GE_MMI_M 5 ppb	Sm GE_MMI_M 1 ppb	Sn GE_MMI_M 1 ppb
C00049848	<1	7.2	<0.1	55	10.1	52	9	2
C00049849	<1	4.9	<0.1	84	16.6	55	6	2
C00049850	<1	4.5	<0.1	77	10.7	44	5	1
C00049851	<1	4.0	<0.1	96	11.5	41	6	1
C00049852	<1	7.6	<0.1	130	23.1	73	13	2
C00049853	<1	14.3	<0.1	151	37.4	135	26	2
C00049854	<1	3.1	<0.1	65	6.1	15	6	<1
C00049855	<1	1.6	<0.1	63	6.1	17	3	<1
C00049856	<1	1.6	<0.1	41	4.6	17	2	<1
C00049857	<1	2.7	<0.1	102	4.3	22	6	<1
C00049858	<1	11.9	<0.1	86	23.1	94	21	3
C00049859	<1	14.3	0.1	51	21.5	71	27	1
C00049860	<1	4.2	<0.1	39	11.5	30	6	<1
C00049861	<1	4.4	<0.1	41	11.0	31	7	<1
C00049862	<1	42.8	0.1	100	20.3	107	77	<1
C00049863	<1	5.1	<0.1	46	15.1	32	8	2
C00049864	<1	16.8	<0.1	174	39.7	126	28	5
C00049865	<1	7.8	<0.1	125	34.4	91	12	3
C00049866	<1	18.1	0.1	116	23.7	76	26	3
C00049867	<1	22.5	<0.1	331	56.1	159	29	6
C00049868	1	20.0	<0.1	132	8.8	18	39	<1
C00049869	<1	27.1	<0.1	153	35.6	86	44	3
C00049870	<1	2.6	<0.1	68	14.7	33	2	2
C00049871	<1	5.7	<0.1	56	7.5	29	7	<1
C00049872	<1	20.8	<0.1	67	151	57	47	1
C00049873	<1	18.4	<0.1	105	28.9	47	33	2
C00049874	<1	10.6	<0.1	114	19.0	52	11	5
C00049875	<1	4.1	<0.1	63	15.3	40	7	1
C00049876	<1	11.6	<0.1	230	58.5	101	17	3
C00049877	<1	8.2	<0.1	43	8.5	78	17	1
C00049878	<1	13.7	<0.1	120	25.3	119	32	2
C00049879	<1	23.2	<0.1	102	32.2	100	51	2
C00049880	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C00049881	<1	14.4	<0.1	116	20.9	56	23	2
C00049882	1	7.5	<0.1	157	6.5	26	17	<1
C00049883	<1	21.6	<0.1	160	15.2	34	34	1
C00049884	<1	13.7	<0.1	133	11.5	37	23	1
C00049885	<1	3.8	<0.1	113	6.2	13	6	<1
C00049886	<1	10.9	<0.1	79	4.6	36	17	<1
C00049887	<1	2.4	<0.1	71	6.4	19	3	<1

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

Element Method Det.Lim. Units	Pd GE_MMI_M 1 ppb	Pr GE_MMI_M 0.5 ppb	Pt GE_MMI_M 0.1 ppb	Rb GE_MMI_M 1 ppb	Sb GE_MMI_M 0.5 ppb	Sc GE_MMI_M 5 ppb	Sm GE_MMI_M 1 ppb	Sn GE_MMI_M 1 ppb
C00049888	<1	8.0	<0.1	36	2.1	46	14	1
C00049889	<1	16.8	<0.1	236	48.0	126	26	4
C00049890	<1	23.0	<0.1	108	44.6	90	35	2
C00049891	<1	3.4	<0.1	107	5.6	40	6	<1
C00049892	<1	4.3	<0.1	20	17.0	18	6	<1
C00049893	<1	6.8	<0.1	59	5.9	21	8	<1
C00049894	<1	98.5	<0.1	84	44.8	94	164	<1
C00049895	<1	77.4	<0.1	161	21.0	58	134	1
C00049896	<1	4.0	<0.1	56	2.6	24	10	<1
*Rep C00049866	<1	14.5	<0.1	101	20.0	64	22	2
*Rep C00049887	<1	2.4	<0.1	72	7.2	17	4	<1
*Rep C00049891	<1	5.5	<0.1	110	6.4	54	10	<1
*Std MMISRM19	<1	2.3	<0.1	179	0.7	11	7	<1
*Blk BLANK	<1	<0.5	<0.1	<1	<0.5	<5	<1	<1
*Blk BLANK	<1	<0.5	<0.1	<1	<0.5	<5	<1	<1
*Std MMISRM19	<1	1.6	<0.1	191	0.7	12	7	<1

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

Element Method Det.Lim. Units	Sr GE_MMI_M 10 ppb	Ta GE_MMI_M 1 ppb	Tb GE_MMI_M 0.1 ppb	Te GE_MMI_M 10 ppb	Th GE_MMI_M 0.5 ppb	Ti GE_MMI_M 10 ppb	Tl GE_MMI_M 0.1 ppb	U GE_MMI_M 0.5 ppb
C00049848	90	<1	1.6	<10	50.6	670	0.8	57.2
C00049849	380	<1	1.1	<10	44.7	900	1.3	42.0
C00049850	440	<1	1.2	<10	42.5	450	1.1	41.2
C00049851	440	<1	1.4	<10	29.9	420	1.3	63.1
C00049852	710	<1	3.1	<10	77.1	450	1.5	91.3
C00049853	910	<1	5.8	<10	113	910	2.3	206
C00049854	1080	<1	1.5	<10	23.0	70	1.5	63.5
C00049855	1060	<1	0.7	<10	14.7	90	0.8	53.8
C00049856	820	<1	0.5	<10	11.3	120	0.5	34.7
C00049857	750	<1	1.4	<10	15.2	90	1.6	89.8
C00049858	190	<1	5.2	<10	78.5	690	1.8	101
C00049859	120	<1	7.3	<10	117	500	1.3	129
C00049860	100	<1	1.5	<10	30.6	350	1.1	28.8
C00049861	90	<1	1.6	<10	37.6	360	0.9	35.8
C00049862	230	<1	15.6	<10	117	410	2.2	134
C00049863	180	<1	1.7	<10	44.9	530	1.2	30.7
C00049864	320	<1	6.3	<10	87.7	1280	3.5	70.9
C00049865	190	<1	2.3	<10	103	800	2.7	104
C00049866	150	<1	5.5	<10	98.1	730	2.7	60.1
C00049867	310	<1	5.9	<10	159	1460	6.0	85.4
C00049868	550	<1	7.0	<10	35.2	110	2.4	98.7
C00049869	210	<1	8.3	<10	105	1230	3.0	83.2
C00049870	80	<1	0.5	<10	14.9	690	1.2	14.6
C00049871	120	<1	1.2	<10	15.1	720	1.2	33.1
C00049872	100	<1	9.3	<10	53.5	790	1.7	71.1
C00049873	160	<1	6.4	<10	76.0	820	2.0	65.7
C00049874	240	1	1.8	<10	43.3	3450	2.0	25.8
C00049875	660	<1	1.5	<10	16.9	530	1.9	52.1
C00049876	230	<1	3.6	<10	100	1300	4.0	104
C00049877	100	<1	3.6	<10	33.2	710	2.1	73.1
C00049878	280	<1	7.9	<10	89.2	530	2.8	167
C00049879	100	<1	11.4	<10	78.2	500	5.9	141
C00049880	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C00049881	140	<1	4.9	<10	94.8	860	2.0	98.9
C00049882	370	<1	4.7	<10	24.8	180	2.8	110
C00049883	300	<1	6.1	<10	62.6	410	1.9	57.4
C00049884	200	<1	4.7	<10	62.3	330	1.8	93.3
C00049885	190	<1	1.3	<10	20.7	150	1.4	42.7
C00049886	120	<1	4.0	20	40.4	370	1.0	61.2
C00049887	580	<1	0.7	<10	15.6	210	0.8	48.0

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

Element Method Det.Lim. Units	Sr GE_MMI_M 10 ppb	Ta GE_MMI_M 1 ppb	Tb GE_MMI_M 0.1 ppb	Te GE_MMI_M 10 ppb	Th GE_MMI_M 0.5 ppb	Ti GE_MMI_M 10 ppb	Tl GE_MMI_M 0.1 ppb	U GE_MMI_M 0.5 ppb
C00049888	180	<1	3.5	<10	46.0	940	0.4	37.1
C00049889	420	<1	5.7	<10	174	960	3.7	135
C00049890	360	<1	6.8	<10	154	550	2.0	140
C00049891	290	<1	3.2	<10	33.4	180	1.2	87.2
C00049892	230	<1	0.9	<10	22.9	440	0.4	31.1
C00049893	90	<1	1.5	<10	22.9	1090	0.9	26.2
C00049894	50	<1	29.3	<10	92.1	280	1.9	129
C00049895	110	<1	22.1	<10	59.0	530	1.8	108
C00049896	430	<1	2.7	<10	10.9	90	1.2	89.9
*Rep C00049866	130	<1	4.6	<10	83.8	620	2.5	53.5
*Rep C00049887	490	<1	0.8	<10	18.7	210	0.7	54.0
*Rep C00049891	280	<1	3.7	<10	43.0	200	1.3	104
*Std MMISRM19	3160	<1	1.6	<10	14.6	<10	0.9	57.4
*Blk BLANK	<10	<1	<0.1	<10	<0.5	<10	<0.1	<0.5
*Blk BLANK	<10	<1	<0.1	<10	<0.5	<10	<0.1	<0.5
*Std MMISRM19	3690	<1	2.2	<10	18.8	<10	0.8	59.6

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

Element Method Det.Lim. Units	W GE_MMI_M 0.5 ppb	Y GE_MMI_M 1 ppb	Yb GE_MMI_M 0.2 ppb	Zn GE_MMI_M 10 ppb	Zr GE_MMI_M 2 ppb	pH GE_ISE15V 0 pH-unit
C00049848	1.3	42	3.3	510	171	4.33
C00049849	2.0	29	3.1	1290	237	4.31
C00049850	1.1	27	2.8	1210	170	4.89
C00049851	1.1	39	3.5	3120	112	4.54
C00049852	1.9	82	6.7	4990	256	5.80
C00049853	2.5	169	15.3	8620	469	5.30
C00049854	0.5	56	4.7	10900	57	6.23
C00049855	<0.5	27	2.5	22300	50	5.88
C00049856	0.7	20	2.2	22900	43	5.72
C00049857	<0.5	62	5.7	39100	53	5.68
C00049858	2.3	161	12.6	7520	240	4.33
C00049859	1.3	181	12.5	3560	347	4.52
C00049860	1.0	48	3.5	1960	131	4.26
C00049861	0.9	50	3.6	2610	143	4.27
C00049862	8.2	476	31.5	28700	373	5.78
C00049863	1.9	48	3.7	3890	198	4.68
C00049864	3.3	205	13.8	11500	369	5.18
C00049865	1.9	51	5.5	3320	406	4.58
C00049866	2.1	123	7.8	4590	252	4.46
C00049867	3.7	134	8.9	7250	608	4.41
C00049868	0.6	247	15.4	97900	100	6.60
C00049869	2.5	209	9.6	4590	379	4.92
C00049870	1.4	13	1.4	550	129	4.36
C00049871	1.0	35	3.3	170	116	4.13
C00049872	1.6	312	25.3	3650	228	4.87
C00049873	1.8	144	6.8	1020	237	4.09
C00049874	3.7	40	3.2	630	370	3.84
C00049875	1.0	33	3.2	2150	84	5.33
C00049876	2.8	62	5.3	1330	482	4.42
C00049877	1.0	84	6.7	870	174	4.72
C00049878	1.9	272	26.0	11100	265	4.71
C00049879	1.6	556	38.6	9300	267	5.05
C00049880	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C00049881	1.7	150	12.3	11600	397	4.07
C00049882	0.6	272	16.6	128000	100	5.84
C00049883	4.5	224	14.9	102000	284	5.52
C00049884	0.9	128	8.2	20800	187	4.90
C00049885	0.7	51	4.2	14900	92	5.45
C00049886	0.6	127	10.9	12100	218	5.05
C00049887	0.7	25	2.5	4090	77	5.34

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

Element Method Det.Lim. Units	W GE_MMI_M 0.5 ppb	Y GE_MMI_M 1 ppb	Yb GE_MMI_M 0.2 ppb	Zn GE_MMI_M 10 ppb	Zr GE_MMI_M 2 ppb	pH GE_ISE15V 0 pH-unit
C00049888	0.8	93	7.6	4880	106	3.88
C00049889	3.1	137	11.9	6050	578	5.07
C00049890	2.5	211	17.1	4710	434	5.52
C00049891	<0.5	104	10.2	3710	104	5.33
C00049892	0.9	18	1.4	230	97	5.19
C00049893	1.0	37	3.3	540	159	4.59
C00049894	0.8	903	40.4	1960	208	5.61
C00049895	1.2	635	32.1	890	190	5.26
C00049896	<0.5	81	7.4	13600	54	5.52
*Rep C00049863						4.97
*Rep C00049879						5.03
*Rep C00049893						4.82
*Std AMIS0267						8.01
*Std OREAS251						7.67
*Std AMIS0267						7.82
*Blk BLANK						7.01
*Blk BLANK						6.90
*Rep C00049866	1.9	103	6.8	3950	211	
*Rep C00049887	0.6	27	2.9	3870	86	
*Rep C00049891	<0.5	113	10.7	3440	133	
*Std MMISRM19	<0.5	52	4.1	1930	12	
*Blk BLANK	<0.5	<1	<0.2	<10	<2	
*Blk BLANK	<0.5	<1	<0.2	<10	<2	
*Std MMISRM19	<0.5	70	6.4	2480	14	

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

**WARNING:** The sample(s) to which the findings recorded herein (the "Findings") relate was (were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativity of the goods and strictly relate to the sample (s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .