

《工业循环冷却水和锅炉用水中污垢和腐蚀产物中多元素含量的快速测定 X 射线荧光光谱法》行业标准编制说明（征求意见稿）

一、工作简况

（一）任务来源

1 基本信息

根据工信厅科函〔2022〕158号《工业和信息化部办公厅关于印发2022年第二批行业标准制修订和外文版项目计划的通知》要求，制定推荐性行业标准《工业循环冷却水和锅炉用水中污垢和腐蚀产物中多元素含量的快速测定 X射线荧光光谱法》，计划编号为2022-1008T-HG。按照制修订计划，本标准应于2024年7月前完成制定工作。

本标准由、、、共同起草。本标准由全国化学标准化技术委员会水处理剂分技术委员会（SAC/TC 63/SC 5）归口。

2 简要情况

工业循环冷却水系统中污垢和腐蚀产物的产生与系统内水质、水处理药剂性能、操作参数的变化、设备表面状态等因素有密切关系，除此以外，水中菌藻微生物的生长繁殖及它们的新陈代谢产物对此也有一定的影响。因此，为了判定系统中菌藻滋生情况、设备腐蚀结垢情况和物料泄露情况等，需对系统中的污垢和腐蚀产物进行快速分析，以便迅速采取相应的处理措施保证系统正常运行。工业循环冷却水污垢和腐蚀产物的分析对确定如何进行清洗、水质处理、设备维护和运行都有着重要的指导意义。

长期以来，对循环水系统产生的污垢和腐蚀产物的定性及定量分析方法落后，效率低下，成为影响水处理行业系统快速响应和运维效果的一大难题。目前现有的测定方法存在前处理程序多，操作繁杂，工作效率低，对人员要求高，受干扰因素多的问题，分析过程中涉及很多环保上难以处理的药剂，获得的结果不尽如人意。

本标准项目属于基础通用标准，符合《2021年工业和信息化标准工作要点》中开展节能和能效提升，节水和水效提升标准研制的要求。随着现代检测技术发展，X射线荧光光谱仪作为一种新型检测设备，在各行业的无损检测、多元素快速分析等方面应用成熟。XRF已广泛应用于冶金、地质、有色、建材、商检、环保、化工、卫生等领域，可分析固体、粉末、熔珠、液体等各形态样品，分析范围为F到U，具有分析速度快、测量范围宽、干扰小、成本低、效率高的特点。采用该方法对水处理系统中的污垢和腐蚀产物的进行成分分析，操作简便，效率高，重复性好，具有超越目前所有方法的便利性。应用该方法，可以快速测定污垢和腐蚀产物的元素组成及含量，为系统运维提供数据支撑，进而采取有针对性的措施防止系统结垢和被腐蚀，可以极大促进设备的安全节能环保运行。

（二）主要工作过程

1. 起草阶段（2022年6月-2023年3月）

1.1. 起草工作组

由江苏省特检院常州分院、江苏省特检院直属分院、宁波特检院、赛默飞世尔、中海油天津化工研究设计院有限公司（简称“天津院”）等组成。

1.2. 分工情况

天津院主要负责标准制定工作总体协调及资料收集、组织召开标准工作会议、提出试验方案、征集试验样品、试验数据统计与比对、编写标准各阶段草案、编制说明及相关附件等工作。

其他单位主要负责参与试验方案的讨论、开展试验方法验证和数据统计、参加工作会议讨论、对标准过程稿件提出修改意见等。

1.3. 调查研究过程

归口单位接到上级部门下达的制定《工业循环冷却水污垢和腐蚀产物中多元素含量的快速测定 X 射线荧光光谱法》行业标准的计划后，将计划通知发给牵头起草单位常州特检院，并组织常州特检院成立标准研制小组，同时归口单位查阅了国内外标准及有关技术资料，并向相关单位发函，进行调查并广泛征求对标准修订工作的意见。

2023 年 3 月 15 日至 18 日，全国化学标准化技术委员会水处理剂分会在云南省昆明市召开 2023 年水处理剂国家/行业标准审查会及工作方案会，出席会议的有分会秘书处、分会委员、标准起草单位、科研院所、大专院校、标准出版社及生产厂家等共计 81 家单位的 104 位代表。会上，由起草单位详细讨论了标准草案具体内容，讨论了标准制定需做试验的具体内容、目标要求、试验方法等。

2023 年 3 月 27 日，常州特检院根据方案会纪要及意见，召开了内部讨论会议，详细讨论了标准草案具体修改内容，讨论了标准验证试验的方案、具体内容、目标要求、采样和垢样处理、试验方法、完成进度、分工责任及需解决的问题等。与会代表就标准修改的主要内容、技术路线和实验设计等内容进行了深入、细致的讨论，提出了工作方案，并对各项工作任务及工作进度做了详细的安排。会后，各单位按照会议工作任务部署开展了一系列相关试验与研究，并取得了一定进展。

1.4. 验证过程

2023 年 3 月至 2023 年 6 月，由江苏省特检院常州分院、赛默飞世尔、江苏省特检院直属分院、宁波特检院、天津院等单位对以下试验内容进行了验证试验：

- 1) 样品处理方法；
- 2) 方法的检出限；
- 3) 垢样测定的精密度；

验证试验的结果详见“三、主要试验（或验证）的分析”。

1.5. 工作组讨论稿（征求意见稿）的形成

根据前期讨论及试验验证等起草阶段工作情况，起草工作组于 2023 年 6 月提出征求意见稿。

2. 标准征求意见阶段（2023 年 6 月-2023 年 8 月）

2.1. 广泛征求意见

在起草阶段工作基础上，起草小组提出标准草案征求意见稿及编制说明，经归口单位修改后，于 2023 年 6 月向水处理剂分技术委员会的委员、生产、使用及检验机构等单位发送了电子文件征求意见稿及编制说明，并在网上（www.trici.com.cn）公开征求意见。

2.2. 意见的反馈与处理

发送征求意见稿的单位数 XX 个，收到征求意见稿后回函单位数 XX 个，收到征求意见稿后回函并有建议或意见的单位数 XX 个，没有回函的单位数 XX 个。对收到的意见全部进行处理，处理意见详见意见汇总处理表。

3. 标准审查阶段（2023 年 X 月）

4. 报批阶段（2023 年 X 月~2023 年 X 月）

二、标准编制原则、标准体系和确定标准主要内容

（一）标准编制原则

本标准在修订过程中，起草单位遵循规范性、科学性、适用性原则，旨在能提供更为科学准确的试验方法，以达到能完善现有标准的目的。

- 1、规范性原则：根据 GB/T 1.1-2020、GB/T 20000、GB/T 20001 等相关规定进行编写。
- 2、科学性原则：任务下达后，归口单位联合起草单位查阅了相关的国内外资料。由此确定了科学准确的测定方法，并进行了相关验证实验，确保标准试验方法的可行性和可靠性，保障了标准的科学性要求。

3、适用性原则：本标准修订过程中，归口单位、起草单位以及相关检测单位多次相互交换意见及建议，探讨标准内容的可行性，确保标准要求可以有效适用于方法检测的需要。

（二）标准体系

本标准在水处理剂标准体系中的位置：

体系类目名称：水处理剂-方法-循环冷却水及锅炉用水水质分析

体系类目编号：01-063-05-03-02

该体系类目编号下现有国家标准 43 项，行业标准 13 项。

（三）确定标准制定主要内容的论据

X射线荧光光谱仪作为一种新型检测设备，在各行业的无损检测、多元素快速分析等方面应用成熟。XRF已广泛应用于冶金、地质、有色、建材、商检、环保、化工、卫生等领域，可分析固体、粉末、熔珠、液体等各形态样品，分析范围为F到U，具有分析速度快、测量范围宽、干扰小、成本低、效率高的特点。采用该方法对水处理系统中的污垢和腐蚀产物的进行成分分析，操作简便，效率高，重复性好，具有超越目前所有方法的便利性。应用该方法，可以快速测定污垢和腐蚀产物的元素组成及含量，为系统运维提供数据支撑，进而采取有针对性的措施防止系统结垢和被腐蚀，可以极大促进设备的安全经济环保运行。标准中增加了无标定量检测的方法，可以对样品进行快速简单的分析，加大提升了效率，且可以保证分析结果的准确性。

三、主要试验（或验证）的分析、综述报告，技术经济论证，预期的经济效果

1. 对重要步骤过程的分析

1.1 方法的检出限

```
C:\VQED\USER\RhKetV\Job\JOB.230 2023-06-02 22:59:13
TJ01GY 1
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\VQED\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 117efion
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 1.93 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0
mm

Compound m/% StdErr | El
-----
BaO 53.64 0.25 | Ba 48.05 0.22
SO3 36.38 0.25 | Sx 14.57 0.10
SrO 4.36 0.10 | Sr 3.70 0.09
CaO 1.44 0.06 | Ca 1.07 0.04
Na2O 1.42 0.06 | Na 1.01 0.04

Cl 0.203 0.010 | Cl 0.203 0.010
K2O 0.183 0.006 | K 0.152 0.005
MgO 0.165 0.016 | Mg 0.0997 0.0099
Fe2O3 0.102 0.011 | Fe 0.0711 0.0079
I 0.0613 0.0073 | I 0.0613 0.0073

Cr2O3 0.059 0.029 | Cr 0.041 0.020
PtO2 0.010 0.009 | Pt 0.0086 0.0008
Nb2O5 0.0092 0.0004 | Nb 0.0064 0.0003
MoO3 0.0092 0.0005 | Mo 0.0061 0.0003
RuO4 0.0075 0.0004 | Ru 0.0057 0.0003

Ta2O5 0.0060 0.0023 | Ta 0.0049 0.0019

KnownConc= 1.93 LOI REST= 0
Sum Conc's before normalisation to 100% : 101.3 % D/S= 0
Total % stripped Oxygen: 29.015
```

```
C:\VQED\USER\RhKetV\Job\JOB.231 2023-06-02 22:59:14
TJ01GY 2
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\VQED\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 117efion
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 1.93 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0
mm

Compound m/% StdErr | El
-----
BaO 53.79 0.25 | Ba 48.18 0.22
SO3 36.31 0.25 | Sx 14.54 0.10
SrO 4.37 0.10 | Sr 3.70 0.09
CaO 1.42 0.06 | Ca 1.02 0.04
Na2O 1.36 0.06 | Na 1.01 0.04

Cl 0.196 0.010 | Cl 0.196 0.010
K2O 0.174 0.006 | K 0.145 0.005
MgO 0.154 0.017 | Mg 0.093 0.010
Fe2O3 0.102 0.011 | Fe 0.0711 0.0079
I 0.0718 0.0070 | I 0.0718 0.0070

Cr2O3 0.060 0.030 | Cr 0.041 0.020
MoO3 0.0105 0.0005 | Mo 0.0070 0.0003
RuO4 0.0103 0.0005 | Ru 0.0078 0.0004
Nb2O5 0.0099 0.0005 | Nb 0.0069 0.0003
PtO2 0.0094 0.0009 | Pt 0.0081 0.0008

Ta2O5 0.0053 0.0024 | Ta 0.0043 0.0020

KnownConc= 1.93 LOI REST= 0
Sum Conc's before normalisation to 100% : 101.2 % D/S= 0
Total % stripped Oxygen: 29.967
```

```
C:\VQED\USER\RhKetV\Job\JOB.232 2023-06-02 22:59:14
TJ01GY 3
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\VQED\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 117efion
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 1.93 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0
mm

Compound m/% StdErr | El
-----
BaO 53.57 0.25 | Ba 47.98 0.22
SO3 36.46 0.25 | Sx 14.68 0.10
SrO 4.35 0.10 | Sr 3.68 0.09
CaO 1.41 0.06 | Ca 1.01 0.04
Na2O 1.35 0.06 | Na 1.00 0.04

Cl 0.179 0.009 | Cl 0.179 0.009
K2O 0.177 0.006 | K 0.147 0.005
MgO 0.150 0.017 | Mg 0.090 0.010
Fe2O3 0.119 0.013 | Fe 0.0831 0.0092
I 0.0763 0.0067 | I 0.0763 0.0067

Nb2O5 0.0095 0.0004 | Nb 0.0066 0.0003
MoO3 0.0094 0.0005 | Mo 0.0063 0.0003
RuO4 0.0058 0.0004 | Ru 0.0044 0.0003

KnownConc= 1.93 LOI REST= 0
Sum Conc's before normalisation to 100% : 101.2 % D/S= 0
Total % stripped Oxygen: 29.124
```

```
C:\VQED\USER\RhKetV\Job\JOB.233 2023-06-02 22:59:15
TJ01GY 4
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\VQED\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 117efion
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 1.93 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0
mm

Compound m/% StdErr | El
-----
BaO 53.49 0.25 | Ba 47.92 0.22
SO3 36.40 0.25 | Sx 14.65 0.10
SrO 4.35 0.10 | Sr 3.68 0.09
CaO 1.48 0.06 | Ca 1.06 0.04
Na2O 1.32 0.06 | Na 0.983 0.042

K2O 0.205 0.006 | K 0.170 0.005
Cl 0.195 0.010 | Cl 0.195 0.010
MgO 0.163 0.017 | Mg 0.0984 0.0100
Fe2O3 0.109 0.011 | Fe 0.0697 0.0077
I 0.0764 0.0067 | I 0.0764 0.0067

Cr2O3 0.058 0.029 | Cr 0.040 0.020
MoO3 0.0088 0.0005 | Mo 0.0059 0.0004
Nb2O5 0.0082 0.0006 | Nb 0.0057 0.0004
RuO4 0.0057 0.0006 | Ru 0.0043 0.0005

KnownConc= 1.93 LOI REST= 0
Sum Conc's before normalisation to 100% : 101.1 % D/S= 0
Total % stripped Oxygen: 29.114
```

```
C:\VQED\USER\RhKetV\Job\JOB.234 2023-06-02 22:59:16
TJ01GY 5
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\VQED\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 117efion
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 1.93 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0
mm

Compound m/% StdErr | El
-----
BaO 53.51 0.25 | Ba 47.93 0.22
SO3 36.51 0.25 | Sx 14.62 0.10
SrO 4.35 0.10 | Sr 3.68 0.09
CaO 1.50 0.06 | Ca 1.07 0.04
Na2O 1.45 0.06 | Na 1.08 0.04

Cl 0.186 0.009 | Cl 0.186 0.009
K2O 0.183 0.006 | K 0.152 0.005
MgO 0.161 0.017 | Mg 0.097 0.010
Fe2O3 0.104 0.012 | Fe 0.0726 0.0080
I 0.0752 0.0069 | I 0.0752 0.0069

MoO3 0.0096 0.0005 | Mo 0.0064 0.0003
Nb2O5 0.0095 0.0004 | Nb 0.0066 0.0003
RuO4 0.0065 0.0004 | Ru 0.0049 0.0003

KnownConc= 1.93 LOI REST= 0
Sum Conc's before normalisation to 100% : 101.1 % D/S= 0
Total % stripped Oxygen: 29.084
```

```
C:\VQED\USER\RhKetV\Job\JOB.235 2023-06-02 22:59:17
TJ01GY 6
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\VQED\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 117efion
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 1.93 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0
mm

Compound m/% StdErr | El
-----
BaO 53.71 0.25 | Ba 48.11 0.22
SO3 36.49 0.25 | Sx 14.61 0.10
SrO 4.36 0.10 | Sr 3.68 0.09
CaO 1.42 0.06 | Ca 1.02 0.04
Na2O 1.35 0.06 | Na 1.00 0.04

K2O 0.205 0.006 | K 0.171 0.005
Cl 0.167 0.008 | Cl 0.167 0.008
MgO 0.159 0.017 | Mg 0.096 0.010
Fe2O3 0.098 0.011 | Fe 0.0688 0.0076
I 0.0663 0.0068 | I 0.0663 0.0068

MoO3 0.0110 0.0005 | Mo 0.0073 0.0004
Nb2O5 0.0106 0.0005 | Nb 0.0074 0.0003
RuO4 0.0067 0.0004 | Ru 0.0051 0.0003

KnownConc= 1.93 LOI REST= 0
Sum Conc's before normalisation to 100% : 101.0 % D/S= 0
Total % stripped Oxygen: 29.048
```

01#七次检测的结果如下：

C:\UQed\USER\RhKetV\Job\J08.236 2023-06-02 22:59:18
TJ03GY 7
Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 1|Teflon
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 1.93 % LOI
Rest = 0 % Viewed Mass =
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm
Compound m/m% StdErr | El m/m% StdErr

BaO 53.73 0.25 | Ba 48.13 0.22
SO3 36.39 0.25 | Sx 14.97 0.10
SrO 4.36 0.10 | Sr 3.68 0.09
CaO 1.42 0.06 | Ca 1.02 0.04
Na2O 1.37 0.06 | Na 1.01 0.04
Cl 0.195 0.010 | Cl 0.195 0.010
K2O 0.179 0.006 | K 0.148 0.005
MgO 0.169 0.017 | Mg 0.102 0.010
Fe2O3 0.098 0.011 | Fe 0.0688 0.0076
I 0.0758 0.0068 | I 0.0758 0.0068
Cr2O3 0.060 0.029 | Cr 0.041 0.020
Nb2O5 0.0103 0.0005 | Nb 0.0072 0.0003
MoO3 0.0094 0.0005 | Mo 0.0063 0.0003
RuO4 0.0056 0.0003 | Ru 0.0043 0.0003
KnownConc= 1.93 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 100.9 %
Total % stripped Oxygen: 29.007

	SO ₃	Na ₂ O	MgO	CaO	Fe ₂ O ₃	Cr ₂ O ₃	Cl	K ₂ O
TJ-01-1	36.38	1.44	0.165	1.42	0.102	0.059	0.203	0.183
TJ-01-2	36.31	1.36	0.154	1.42	0.102	0.06	0.196	0.174
TJ-01-3	36.66	1.35	0.15	1.41	0.119		0.179	0.177
TJ-01-4	36.6	1.32	0.163	1.48	0.1	0.058	0.195	0.205
TJ-01-5	36.51	1.45	0.161	1.5	0.104		0.186	0.183
TJ-01-6	36.49	1.35	0.159	1.42	0.098		0.167	0.205
TJ-01-7	36.39	1.37	0.169	1.42	0.098	0.06	0.195	0.179
01#SD值	0.12566	0.048892	0.006492	0.03579	0.007274	0.000957	0.012311	0.012985

C:\UQed\USER\RhKetV\Job\J08.125 2023-05-25 23:48:38
TJ03GY-VAC 1
Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4|Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 40.30 % LOI
KnownConc = 0 % Viewed Mass =
Rest = 0 % Sample Height = 15.0 mm
1901.250 mg
Dil/Sample = 0
Compound m/m% StdErr | El m/m% StdErr

CaO 48.14 0.25 | Ca 34.42 0.18
SO3 3.75 0.11 | Sx 1.50 0.04
MgO 3.07 0.09 | Mg 1.85 0.05
SiO2 2.96 0.08 | Si 1.38 0.04
Sc2O3 0.82 0.23 | Sc 0.53 0.15
Fe2O3 0.302 0.033 | Fe 0.211 0.023
Na2O 0.262 0.061 | Na 0.194 0.045
Cl 0.177 0.009 | Cl 0.177 0.009
ZnO 0.0861 0.0037 | Zn 0.0692 0.0030
Al2O3 0.078 0.024 | Al 0.041 0.013
P2O5 0.045 0.014 | Px 0.0197 0.0060
Cr2O3 0.0082 0.0005 | Cr 0.0056 0.0004
NiO 0.0070 0.0006 | Ni 0.0055 0.0004
KnownConc=40.30 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 90.0 %
Total % stripped Oxygen: 19.288

C:\UQed\USER\RhKetV\Job\J08.126 2023-05-25 23:48:39
TJ03GY-VAC 2
Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4|Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 40.30 % LOI
KnownConc = 0 % Viewed Mass =
Rest = 0 % Sample Height = 15.0 mm
1901.250 mg
Dil/Sample = 0
Compound m/m% StdErr | El m/m% StdErr

CaO 48.37 0.25 | Ca 34.58 0.18
SO3 3.81 0.12 | Sx 1.53 0.05
MgO 3.04 0.09 | Mg 1.83 0.05
SiO2 2.91 0.08 | Si 1.36 0.04
Sc2O3 0.87 0.23 | Sc 0.57 0.15
Fe2O3 0.310 0.034 | Fe 0.217 0.024
Cl 0.174 0.009 | Cl 0.174 0.009
ZnO 0.0896 0.0038 | Zn 0.0720 0.0031
Al2O3 0.068 0.024 | Al 0.036 0.013
P2O5 0.044 0.014 | Px 0.0194 0.0059
Cr2O3 0.0098 0.0006 | Cr 0.0067 0.0004
KnownConc=40.30 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 90.6 %
Total % stripped Oxygen: 19.301

C:\UQed\USER\RhKetV\Job\J08.127 2023-05-25 23:48:40
TJ03GY-VAC 3
Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4|Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 40.30 % LOI
KnownConc = 0 % Viewed Mass =
Rest = 0 % Sample Height = 15.0 mm
1901.250 mg
Dil/Sample = 0
Compound m/m% StdErr | El m/m% StdErr

CaO 48.25 0.25 | Ca 34.50 0.18
SO3 3.83 0.11 | Sx 1.53 0.05
MgO 3.12 0.09 | Mg 1.88 0.05
SiO2 2.95 0.08 | Si 1.38 0.04
Sc2O3 0.85 0.23 | Sc 0.55 0.15
Fe2O3 0.308 0.034 | Fe 0.215 0.024
Cl 0.176 0.009 | Cl 0.176 0.009
ZnO 0.0918 0.0039 | Zn 0.0738 0.0032
Al2O3 0.073 0.024 | Al 0.039 0.013
P2O5 0.045 0.014 | Px 0.0196 0.0060
Cr2O3 0.0084 0.0006 | Cr 0.0057 0.0004
NiO 0.0080 0.0006 | Ni 0.0063 0.0005
KnownConc=40.30 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 89.8 %
Total % stripped Oxygen: 19.323

C:\UQed\USER\RhKetV\Job\J08.128 2023-05-25 23:48:41
TJ03GY-VAC 4
Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4|Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 40.30 % LOI
KnownConc = 0 % Viewed Mass =
Rest = 0 % Sample Height = 15.0 mm
1901.250 mg
Dil/Sample = 0
Compound m/m% StdErr | El m/m% StdErr

CaO 48.40 0.25 | Ca 34.61 0.18
SO3 3.69 0.12 | Sx 1.48 0.05
MgO 3.10 0.09 | Mg 1.87 0.05
SiO2 2.92 0.08 | Si 1.37 0.04
Sc2O3 0.89 0.23 | Sc 0.58 0.15
Fe2O3 0.304 0.034 | Fe 0.213 0.024
Cl 0.175 0.009 | Cl 0.175 0.009
ZnO 0.0867 0.0037 | Zn 0.0697 0.0030
Al2O3 0.069 0.024 | Al 0.037 0.013
P2O5 0.045 0.013 | Px 0.0199 0.0058
Cr2O3 0.0084 0.0006 | Cr 0.0057 0.0004
NiO 0.0075 0.0006 | Ni 0.0059 0.0004
KnownConc=40.30 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 90.6 %
Total % stripped Oxygen: 19.274

C:\UQed\USER\RhKetV\Job\J08.129 2023-05-25 23:48:42
TJ03GY-VAC 5
Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4|Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 40.30 % LOI
KnownConc = 0 % Viewed Mass =
Rest = 0 % Sample Height = 15.0 mm
1901.250 mg
Dil/Sample = 0
Compound m/m% StdErr | El m/m% StdErr

CaO 47.94 0.25 | Ca 34.28 0.18
SO3 3.85 0.11 | Sx 1.54 0.05
MgO 3.07 0.09 | Mg 1.85 0.05
SiO2 2.95 0.08 | Si 1.38 0.04
Sc2O3 0.85 0.23 | Sc 0.55 0.15
Na2O 0.353 0.057 | Na 0.262 0.042
Fe2O3 0.303 0.034 | Fe 0.212 0.023
Cl 0.167 0.008 | Cl 0.167 0.008
ZnO 0.0878 0.0038 | Zn 0.0705 0.0030
Al2O3 0.071 0.024 | Al 0.038 0.013
P2O5 0.042 0.014 | Px 0.0184 0.0060
Cr2O3 0.0083 0.0005 | Cr 0.0057 0.0004
NiO 0.0071 0.0006 | Ni 0.0056 0.0004
KnownConc=40.30 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 90.4 %
Total % stripped Oxygen: 19.317

C:\UQed\USER\RhKetV\Job\J08.130 2023-05-25 23:48:43
TJ03GY-VAC 6
Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4|Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 40.30 % LOI
KnownConc = 0 % Viewed Mass =
Rest = 0 % Sample Height = 15.0 mm
1901.250 mg
Dil/Sample = 0
Compound m/m% StdErr | El m/m% StdErr

CaO 48.27 0.25 | Ca 34.52 0.18
SO3 3.90 0.12 | Sx 1.56 0.05
MgO 3.04 0.09 | Mg 1.84 0.05
SiO2 2.90 0.08 | Si 1.36 0.04
Sc2O3 0.88 0.23 | Sc 0.57 0.15
Fe2O3 0.310 0.034 | Fe 0.217 0.024
Cl 0.177 0.009 | Cl 0.177 0.009
ZnO 0.0862 0.0037 | Zn 0.0693 0.0030
Al2O3 0.068 0.024 | Al 0.036 0.013
P2O5 0.042 0.014 | Px 0.0184 0.0060
Cr2O3 0.0080 0.0005 | Cr 0.0055 0.0004
NiO 0.0075 0.0006 | Ni 0.0059 0.0004
KnownConc=40.30 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 90.8 %
Total % stripped Oxygen: 19.326

03#七次检测的结果如下：

C:\UQed\USER\RhKetV\Job\J08.131 2023-05-25 23:48:44
TJ03GY-VAC 7
Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4|Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 40.30 % LOI
KnownConc = 0 % Viewed Mass =
Rest = 0 % Sample Height = 15.0 mm
1901.250 mg
Dil/Sample = 0
Compound m/m% StdErr | El m/m% StdErr

CaO 48.18 0.25 | Ca 34.45 0.18
SO3 3.65 0.12 | Sx 1.46 0.05
MgO 3.05 0.09 | Mg 1.84 0.05
SiO2 2.99 0.08 | Si 1.40 0.04
Sc2O3 0.85 0.23 | Sc 0.55 0.15
Fe2O3 0.304 0.034 | Fe 0.213 0.024
Na2O 0.287 0.061 | Na 0.213 0.046
Cl 0.177 0.009 | Cl 0.177 0.009
ZnO 0.0878 0.0038 | Zn 0.0705 0.0030
Al2O3 0.072 0.024 | Al 0.038 0.013
P2O5 0.046 0.014 | Px 0.0202 0.0060
NiO 0.0077 0.0006 | Ni 0.0061 0.0004
Cr2O3 0.0073 0.0005 | Cr 0.0050 0.0004
KnownConc=40.30 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 90.1 %
Total % stripped Oxygen: 19.262

	SiO ₂	P ₂ O ₅	SO ₃	Na ₂ O	MgO	Al ₂ O ₃	CaO	Fe ₂ O ₃	ZnO	NiO	Cr ₂ O ₃	Cl
TJ-03-1	2.96	0.045	3.75	0.262	3.07	0.078	48.14	0.302	0.0861	0.007	0.0082	0.177
TJ-03-2	2.91	0.044	3.81		3.04	0.068	48.37	0.31	0.0896		0.0098	0.174
TJ-03-3	2.95	0.045	3.83		3.12	0.073	48.25	0.308	0.0918	0.008	0.0084	0.176
TJ-03-4	2.92	0.045	3.69		3.1	0.069	48.4	0.304	0.0867	0.0075	0.0094	0.175
TJ-03-5	2.95	0.042	3.85	0.353	3.07	0.071	47.94	0.303	0.0878	0.0071	0.0083	0.167
TJ-03-6	2.9	0.042	3.9		3.04	0.068	48.27	0.31	0.0862	0.0075	0.008	0.177
TJ-03-7	2.99	0.046	3.65	0.287	3.05	0.072	48.18	0.304	0.0873	0.0077	0.0073	0.177
03#SD值	0.031623	0.001574	0.089947	0.047014	0.030551	0.003546	0.155288	0.003388	0.002066	0.000372	0.000748	0.003592

C:\Qged\USER\RhKetV\Job\JOB.237 2023-06-02 22:59:19
TJ04GY 1
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Qged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 20/T1 Pb
BI
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 11.18 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr
S03 32.79 2.67 | Sx 13.13 1.07
PbO 23.35 0.27 | Pb 21.68 0.25
CaO 15.18 0.18 | Ca 10.86 0.13
SiO2 6.97 0.12 | Si 3.26 0.06
Bi2O3 5.10 0.11 | Bi 4.58 0.10
Sb2O3 3.06 0.06 | Sb 2.55 0.05
As2O3 0.763 0.092 | As 0.578 0.070
MgO 0.49 0.12 | Mg 0.294 0.071
Na2O 0.40 0.16 | Na 0.30 0.12
K2O 0.198 0.004 | K 0.165 0.004
CuO 0.172 0.019 | Cu 0.138 0.015
NiO 0.104 0.004 | Ni 0.0816 0.0035
CdO 0.0895 0.0045 | Cd 0.0783 0.0039
BaO 0.0595 0.0042 | Ba 0.0533 0.0038
PdO 0.0358 0.0018 | Pd 0.0311 0.0016
Fe2O3 0.0313 0.0035 | Fe 0.0219 0.0024
SnO2 0.0132 0.0038 | Sn 0.0088 0.0030
Ag2O 0.0067 0.0011 | Ag 0.0062 0.0010
Rb2O3 0.0055 0.0007 | Rb 0.0045 0.0005
KnownConc=11.18 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 101.3 %
Total % stripped Oxygen: 31.009

C:\Qged\USER\RhKetV\Job\JOB.238 2023-06-02 22:59:20
TJ04GY 2
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Qged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 20/T1 Pb
BI
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 11.18 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr
S03 32.44 2.68 | Sx 12.99 1.07
PbO 23.45 0.27 | Pb 21.77 0.25
CaO 15.11 0.18 | Ca 10.81 0.13
SiO2 7.19 0.13 | Si 3.36 0.06
Bi2O3 5.15 0.11 | Bi 4.62 0.10
Sb2O3 3.07 0.06 | Sb 2.56 0.05
As2O3 0.751 0.093 | As 0.569 0.070
MgO 0.53 0.12 | Mg 0.322 0.070
Na2O 0.43 0.16 | Na 0.32 0.12
K2O 0.202 0.004 | K 0.168 0.004
CuO 0.167 0.019 | Cu 0.133 0.015
NiO 0.0992 0.0043 | Ni 0.0788 0.0033
CdO 0.0852 0.0043 | Cd 0.0746 0.0037
BaO 0.0570 0.0043 | Ba 0.0511 0.0039
PdO 0.0349 0.0017 | Pd 0.0303 0.0015
Fe2O3 0.0296 0.0033 | Fe 0.0207 0.0023
KnownConc=11.18 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 102.1 %
Total % stripped Oxygen: 30.932

C:\Qged\USER\RhKetV\Job\JOB.239 2023-06-02 22:59:21
TJ04GY 3
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Qged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 20/T1 Pb
BI
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 11.18 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr
S03 33.01 2.66 | Sx 13.29 1.07
PbO 23.32 0.27 | Pb 21.65 0.25
CaO 15.21 0.18 | Ca 10.87 0.13
SiO2 6.96 0.12 | Si 3.26 0.06
Bi2O3 4.87 0.11 | Bi 4.37 0.10
Sb2O3 3.06 0.06 | Sb 2.55 0.05
As2O3 0.782 0.090 | As 0.592 0.068
MgO 0.47 0.12 | Mg 0.282 0.073
Na2O 0.43 0.17 | Na 0.32 0.12
K2O 0.212 0.005 | K 0.176 0.004
CuO 0.181 0.020 | Cu 0.145 0.016
NiO 0.105 0.005 | Ni 0.0827 0.0035
CdO 0.0844 0.0042 | Cd 0.0739 0.0037
BaO 0.0561 0.0046 | Ba 0.0502 0.0041
PdO 0.0334 0.0017 | Pd 0.0290 0.0015
Fe2O3 0.0309 0.0034 | Fe 0.0216 0.0024
KnownConc=11.18 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 101.2 %
Total % stripped Oxygen: 31.122

C:\Qged\USER\RhKetV\Job\JOB.240 2023-06-02 22:59:21
TJ04GY 4
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Qged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 20/T1 Pb
BI
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 11.18 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr
S03 32.34 2.70 | Sx 12.95 1.08
PbO 23.57 0.27 | Pb 21.88 0.25
CaO 15.21 0.18 | Ca 10.87 0.13
SiO2 7.02 0.13 | Si 3.28 0.06
Bi2O3 5.19 0.11 | Bi 4.65 0.10
Sb2O3 3.07 0.06 | Sb 2.57 0.05
As2O3 0.772 0.093 | As 0.585 0.070
MgO 0.49 0.12 | Mg 0.298 0.072
Na2O 0.45 0.16 | Na 0.34 0.12
K2O 0.212 0.005 | K 0.176 0.004
CuO 0.172 0.019 | Cu 0.138 0.015
NiO 0.102 0.004 | Ni 0.0800 0.0034
CdO 0.0905 0.0045 | Cd 0.0792 0.0040
BaO 0.0567 0.0043 | Ba 0.0508 0.0038
PdO 0.0368 0.0018 | Pd 0.0320 0.0016
Fe2O3 0.0309 0.0034 | Fe 0.0216 0.0024
Ag2O 0.0061 0.0011 | Ag 0.0057 0.0010
KnownConc=11.18 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 102.1 %
Total % stripped Oxygen: 30.815

C:\Qged\USER\RhKetV\Job\JOB.241 2023-06-02 22:59:22
TJ04GY 5
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Qged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 20/T1 Pb
BI
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 11.18 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr
S03 32.43 2.71 | Sx 12.98 1.09
PbO 23.78 0.27 | Pb 22.08 0.25
CaO 15.24 0.18 | Ca 10.90 0.13
SiO2 6.94 0.12 | Si 3.25 0.06
Bi2O3 4.99 0.11 | Bi 4.48 0.10
Sb2O3 3.11 0.06 | Sb 2.60 0.05
As2O3 0.736 0.092 | As 0.557 0.070
MgO 0.49 0.12 | Mg 0.295 0.070
Na2O 0.40 0.17 | Na 0.30 0.12
K2O 0.204 0.004 | K 0.169 0.004
CuO 0.178 0.020 | Cu 0.142 0.016
NiO 0.101 0.004 | Ni 0.0794 0.0034
CdO 0.0844 0.0042 | Cd 0.0739 0.0037
BaO 0.0559 0.0042 | Ba 0.0501 0.0037
PdO 0.0339 0.0017 | Pd 0.0295 0.0015
Fe2O3 0.0304 0.0034 | Fe 0.0213 0.0024
Ag2O 0.0078 0.0013 | Ag 0.0073 0.0012
KnownConc=11.18 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 101.6 %
Total % stripped Oxygen: 30.812

C:\Qged\USER\RhKetV\Job\JOB.242 2023-06-02 22:59:23
TJ04GY 6
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Qged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4iCa..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 11.18 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr
S03 31.49 2.86 | Sx 12.61 1.14
PbO 24.03 0.27 | Pb 22.31 0.25
CaO 15.16 0.18 | Ca 10.84 0.13
SiO2 7.26 0.13 | Si 3.39 0.06
Bi2O3 5.22 0.11 | Bi 4.68 0.10
Sb2O3 3.14 0.06 | Sb 2.62 0.05
As2O3 0.931 0.077 | As 0.705 0.058
Na2O 0.68 0.14 | Na 0.50 0.10
MgO 0.38 0.13 | Mg 0.229 0.080
CuO 0.173 0.019 | Cu 0.138 0.015
NiO 0.0867 0.0037 | Ni 0.0691 0.0029
CdO 0.0748 0.0037 | Cd 0.0655 0.0033
BaO 0.0608 0.0041 | Ba 0.0545 0.0037
PdO 0.0368 0.0018 | Pd 0.0318 0.0016
Fe2O3 0.0312 0.0035 | Fe 0.0218 0.0024
SnO2 0.0276 0.0016 | Sn 0.0217 0.0013
SrO 0.0154 0.0011 | Sr 0.0130 0.0009
USO8 0.0082 0.0040 | U 0.0070 0.0034
In2O3 0.0079 0.0013 | In 0.0065 0.0011
TeO2 0.0074 0.0014 | Te 0.0059 0.0011
Nb2O5 0.0061 0.0008 | Nb 0.0043 0.0006
KnownConc=11.18 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 102.0 %
Total % stripped Oxygen: 30.491

04#七次检测的结果如下：

C:\Qged\USER\RhKetV\Job\JOB.243 2023-06-02 22:59:24
TJ04GY 7
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Qged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 20/T1 Pb
BI
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 11.18 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr
S03 32.28 2.72 | Sx 12.92 1.09
PbO 23.78 0.27 | Pb 22.07 0.25
CaO 15.20 0.18 | Ca 10.87 0.13
SiO2 6.92 0.12 | Si 3.23 0.06
Bi2O3 5.16 0.11 | Bi 4.63 0.10
Sb2O3 3.11 0.06 | Sb 2.60 0.05
As2O3 0.788 0.092 | As 0.597 0.070
MgO 0.46 0.12 | Mg 0.279 0.073
Na2O 0.44 0.16 | Na 0.33 0.12
K2O 0.189 0.004 | K 0.157 0.004
CuO 0.181 0.020 | Cu 0.144 0.016
NiO 0.103 0.004 | Ni 0.0809 0.0035
CdO 0.0884 0.0044 | Cd 0.0774 0.0039
BaO 0.0596 0.0045 | Ba 0.0534 0.0041
PdO 0.0364 0.0018 | Pd 0.0316 0.0016
Fe2O3 0.0300 0.0033 | Fe 0.0210 0.0023
Ag2O 0.0063 0.0012 | Ag 0.0059 0.0011
KnownConc=11.18 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 101.9 %
Total % stripped Oxygen: 30.725

	SiO ₂	SO ₃	Na ₂ O	MgO	CaO	Fe ₂ O ₃	CuO	NiO	K ₂ O
TJ-04-1	6.97	32.79	0.4	0.49	15.18	0.0313	0.172	0.104	0.198
TJ-04-2	7.19	32.44	0.43	0.53	15.11	0.0296	0.167	0.0992	0.202
TJ-04-3	6.96	33.01	0.43	0.47	15.21	0.0309	0.181	0.105	0.212
TJ-04-4	7.02	32.34	0.45	0.49	15.21	0.0309	0.172	0.102	0.212
TJ-04-5	6.94	32.43	0.4	0.49	15.24	0.0304	0.178	0.101	0.204
TJ-04-6	7.26	31.49	0.68	0.38	15.16	0.0312	0.173	0.0867	
TJ-04-7	6.92	32.28	0.44	0.46	15.2	0.03	0.181	0.103	0.189
04#SD值	0.133506	0.47832	0.098222	0.046445	0.042314	0.000636	0.005273	0.006224	0.008773

C:\Uged\USER\RhKetV\Job\JOB.139 2023-05-25 23:48:51
TJ05GY-VAC 1

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Uged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 26.98 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	30.75	0.23	Ca	21.98	0.16
SiO2	26.75	0.23	Sx	10.71	0.09
MgO	13.14	0.17	Mg	7.92	0.10
SiO2	1.74	0.06	Si	0.814	0.030
Fe2O3	0.291	0.032	Fe	0.204	0.023
Cl	0.235	0.012	Cl	0.235	0.012
ZnO	0.0979	0.0042	Zn	0.0787	0.0034
TiO2	0.0146	0.0014	Ti	0.0088	0.0009
MnO	0.0070	0.0005	Mn	0.0054	0.0004

KnownConc=26.98 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 107.9 %
Total % stripped Oxygen: 31.056

C:\Uged\USER\RhKetV\Job\JOB.140 2023-05-25 23:48:52
TJ05GY-VAC 2

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Uged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 26.98 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	30.97	0.23	Ca	22.05	0.17
SiO2	26.58	0.23	Sx	10.64	0.09
MgO	13.13	0.17	Mg	7.92	0.10
SiO2	1.79	0.06	Si	0.837	0.030
Fe2O3	0.288	0.032	Fe	0.202	0.022
Cl	0.229	0.011	Cl	0.229	0.011
ZnO	0.0981	0.0042	Zn	0.0788	0.0034
TiO2	0.0144	0.0014	Ti	0.0086	0.0008
MnO	0.0066	0.0005	Mn	0.0051	0.0004

KnownConc=26.98 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 108.5 %
Total % stripped Oxygen: 31.018

C:\Uged\USER\RhKetV\Job\JOB.141 2023-05-25 23:48:53
TJ05GY-VAC 3

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Uged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 26.98 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	30.96	0.23	Ca	22.14	0.17
SiO2	26.55	0.23	Sx	10.63	0.09
MgO	13.12	0.17	Mg	7.91	0.10
SiO2	1.77	0.06	Si	0.826	0.030
Fe2O3	0.294	0.033	Fe	0.206	0.023
Cl	0.210	0.010	Cl	0.210	0.010
ZnO	0.0979	0.0042	Zn	0.0787	0.0034
TiO2	0.0149	0.0015	Ti	0.0089	0.0009
MnO	0.0063	0.0005	Mn	0.0049	0.0004

KnownConc=26.98 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 107.4 %
Total % stripped Oxygen: 31.006

C:\Uged\USER\RhKetV\Job\JOB.142 2023-05-25 23:48:54
TJ05GY-VAC 4

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Uged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 26.98 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	31.08	0.23	Ca	22.22	0.17
SiO2	26.53	0.23	Sx	10.62	0.09
MgO	12.98	0.17	Mg	7.83	0.10
SiO2	1.77	0.06	Si	0.826	0.030
Fe2O3	0.296	0.033	Fe	0.207	0.023
Cl	0.240	0.012	Cl	0.240	0.012
ZnO	0.0972	0.0042	Zn	0.0781	0.0034
TiO2	0.0156	0.0015	Ti	0.0094	0.0009
MnO	0.0074	0.0006	Mn	0.0057	0.0004

KnownConc=26.98 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 107.4 %
Total % stripped Oxygen: 30.976

C:\Uged\USER\RhKetV\Job\JOB.143 2023-05-25 23:48:55
TJ05GY-VAC 5

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Uged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 26.98 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	30.97	0.23	Ca	22.05	0.17
SiO2	26.44	0.23	Sx	10.59	0.09
MgO	13.18	0.17	Mg	7.95	0.10
SiO2	1.76	0.06	Si	0.822	0.030
Fe2O3	0.295	0.033	Fe	0.206	0.023
Cl	0.257	0.013	Cl	0.257	0.013
ZnO	0.0997	0.0043	Zn	0.0801	0.0034
TiO2	0.0151	0.0015	Ti	0.0091	0.0009
MnO	0.0065	0.0005	Mn	0.0050	0.0004

KnownConc=26.98 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 107.4 %
Total % stripped Oxygen: 30.962

C:\Uged\USER\RhKetV\Job\JOB.144 2023-05-25 23:48:56
TJ05GY-VAC 6

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Uged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 26.98 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	30.95	0.23	Ca	22.13	0.17
SiO2	26.52	0.23	Sx	10.62	0.09
MgO	13.13	0.17	Mg	7.92	0.10
SiO2	0.0151	0.0015	Ti	0.0091	0.0009
Fe2O3	0.293	0.032	Fe	0.205	0.023
Cl	0.242	0.012	Cl	0.242	0.012
ZnO	0.100	0.004	Zn	0.0805	0.0035
TiO2	0.0151	0.0015	Ti	0.0091	0.0009
MnO	0.0073	0.0006	Mn	0.0057	0.0004

KnownConc=26.98 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 107.4 %
Total % stripped Oxygen: 30.968

05#七次检测的结果如下:

C:\Uged\USER\RhKetV\Job\JOB.145 2023-05-25 23:48:57
TJ05GY-VAC 7

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Uged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 26.98 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	30.74	0.23	Ca	21.98	0.16
SiO2	26.89	0.23	Sx	10.77	0.09
MgO	12.99	0.17	Mg	7.84	0.10
SiO2	1.75	0.06	Si	0.819	0.030
Fe2O3	0.288	0.032	Fe	0.202	0.022
Cl	0.232	0.012	Cl	0.232	0.012
ZnO	0.0974	0.0042	Zn	0.0783	0.0034
TiO2	0.0149	0.0015	Ti	0.0089	0.0009
MnO	0.0069	0.0005	Mn	0.0053	0.0004

KnownConc=26.98 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 108.0 %
Total % stripped Oxygen: 31.090

	SiO ₂	SO ₃	MgO	CaO	Fe ₂ O ₃	ZnO	MnO	Cl
TJ-05-1	1.74	26.75	13.14	30.75	0.291	0.0979	0.007	0.235
TJ-05-2	1.79	26.58	13.13	30.88	0.288	0.0981	0.0066	0.229
TJ-05-3	1.77	26.55	13.12	30.96	0.294	0.0979	0.0063	0.21
TJ-05-4	1.77	26.53	12.98	31.08	0.296	0.0972	0.0074	0.24
TJ-05-5	1.76	26.44	13.18	30.97	0.295	0.0997	0.0065	0.257
TJ-05-6	1.76	26.52	13.13	30.95	0.293	0.1	0.0073	0.242
TJ-05-7	1.75	26.89	12.99	30.74	0.288	0.0974	0.0069	0.232
05#SD值	0.016036	0.15593	0.078072	0.123674	0.003237	0.001098	0.000412	0.014306

C:\Uged\USER\RhKetV\Job\JOB.146 2023-05-25 23:48:58
TJ06GY-VAC 1

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Uged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 16.55 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	29.33	0.23	Ca	20.97	0.16
SiO2	24.15	0.21	Si	11.29	0.10
MgO	11.97	0.16	Mg	7.22	0.10
Fe2O3	10.40	0.34	Fe	7.28	0.24
P2O5	3.08	0.07	Px	1.34	0.03
SO3	1.89	0.09	Sx	0.756	0.034
Na2O	1.53	0.13	Na	1.14	0.10
Al2O3	0.758	0.039	Al	0.401	0.021
MnO	0.127	0.010	Mn	0.0986	0.0075
Co3O4	0.081	0.024	Co	0.060	0.017
NiO	0.0399	0.0017	Ni	0.0314	0.0013
CrO	0.0323	0.0036	Cr	0.0258	0.0029
ZnO	0.0313	0.0013	Zn	0.0251	0.0011
TiO2	0.0184	0.0018	Ti	0.0110	0.0011
Cr2O3	0.0077	0.0006	Cr	0.0053	0.0004

KnownConc=16.55 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 95.6 %
Total % stripped Oxygen: 32.798

C:\Uged\USER\RhKetV\Job\JOB.147 2023-05-25 23:48:59
TJ06GY-VAC 2

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Uged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 16.55 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	28.93	0.23	Ca	20.69	0.16
SiO2	24.32	0.21	Si	11.37	0.10
MgO	12.12	0.16	Mg	7.31	0.10
Fe2O3	10.49	0.34	Fe	7.34	0.24
P2O5	3.08	0.07	Px	1.34	0.03
SO3	1.87	0.09	Sx	0.749	0.034
Na2O	1.51	0.14	Na	1.12	0.10
Al2O3	0.775	0.040	Al	0.410	0.021
MnO	0.135	0.010	Mn	0.105	0.008
Co3O4	0.083	0.024	Co	0.061	0.017
NiO	0.0404	0.0017	Ni	0.0317	0.0014
CrO	0.0326	0.0036	Cr	0.0260	0.0029
ZnO	0.0264	0.0011	Zn	0.0212	0.0009
TiO2	0.0185	0.0018	Ti	0.0111	0.0011
Cr2O3	0.0087	0.0006	Cr	0.0060	0.0004

KnownConc=16.55 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 94.8 %
Total % stripped Oxygen: 32.857

C:\Uged\USER\RhKetV\Job\JOB.148 2023-05-25 23:49:00
TJ06GY-VAC 3

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Uged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 16.55 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	29.33	0.23	Ca	20.97	0.16
SiO2	24.16	0.21	Si	11.29	0.10
MgO	12.01	0.16	Mg	7.24	0.10
Fe2O3	10.40	0.34	Fe	7.27	0.24
P2O5	3.08	0.07	Px	1.34	0.03
SO3	1.88	0.09	Sx	0.751	0.032
Na2O	1.50	0.13	Na	1.11	0.10
Al2O3	0.752	0.039	Al	0.398	0.021
MnO	0.136	0.010	Mn	0.106	0.008
Co3O4	0.081	0.024	Co	0.060	0.017
NiO	0.0464	0.0020	Ni	0.0365	0.0016
CrO	0.0361	0.0040	Cr	0.0288	0.0032
ZnO	0.0257	0.0011	Zn	0.0206	0.0009
TiO2	0.0149	0.0015	Ti	0.0089	0.0009
Cr2O3	0.0072	0.0005	Cr	0.0049	0.0004

KnownConc=16.55 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 95.6 %
Total % stripped Oxygen: 32.799

C:\Qqed\USER\RhKetV\Job\JOB.149 2023-05-25 23:49:01
TJ06GY-VAC 4

Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\Qqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 16.55 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/%	StdErr	El	m/%	StdErr
CaO	28.89	0.23	Ca	20.65	0.16
SiO2	24.51	0.21	Si	11.46	0.10
MgO	11.99	0.16	Mg	7.23	0.10
Fe2O3	10.43	0.34	Fe	7.29	0.24
P2O5	3.11	0.07	Px	1.36	0.03
SO3	1.95	0.08	Sx	0.782	0.033
Na2O	1.54	0.13	Na	1.14	0.10
Al2O3	0.706	0.037	Al	0.374	0.019
MnO	0.109	0.008	Mn	0.0847	0.0064
Co3O4	0.080	0.024	Co	0.059	0.017
NiO	0.0401	0.0017	Ni	0.0315	0.0014
CuO	0.0320	0.0037	Cu	0.0264	0.0029
ZnO	0.0293	0.0013	Zn	0.0235	0.0010
TiO2	0.0172	0.0017	Ti	0.0103	0.0010
Cr2O3	0.0099	0.0007	Cr	0.0068	0.0004

KnownConc=16.55 LOI REST= 0
Sum Conc's before normalisation to 100% : 94.9 % D/S= 0
Total % stripped Oxygen: 32.911

C:\Qqed\USER\RhKetV\Job\JOB.150 2023-05-25 23:49:02
TJ06GY-VAC 5

Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\Qqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 16.55 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/%	StdErr	El	m/%	StdErr
CaO	29.24	0.23	Ca	20.90	0.16
SiO ₂	24.23	0.21	Si	11.33	0.10
MgO	12.10	0.16	Mg	7.30	0.10
Fe ₂ O ₃	10.37	0.34	Fe	7.25	0.24
P ₂ O ₅	3.08	0.07	Px	1.34	0.03
SO ₃	1.81	0.09	Sx	0.724	0.036
Na ₂ O	1.52	0.13	Na	1.13	0.10
Al ₂ O ₃	0.766	0.040	Al	0.406	0.021
MnO	0.132	0.010	Mn	0.103	0.008
Co ₃ O ₄	0.080	0.023	Co	0.059	0.017
NiO	0.0470	0.0020	Ni	0.0369	0.0016
CuO	0.0340	0.0038	Cu	0.0272	0.0030
ZnO	0.0261	0.0011	Zn	0.0210	0.0009
TiO ₂	0.0161	0.0016	Ti	0.0097	0.0009
Cr ₂ O ₃	0.0077	0.0005	Cr	0.0053	0.0004

KnownConc=16.55 LOI REST= 0
Sum Conc's before normalisation to 100% : 95.8 % D/S= 0
Total % stripped Oxygen: 32.807

C:\Qqed\USER\RhKetV\Job\JOB.151 2023-05-25 23:49:04
TJ06GY-VAC 6

Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\Qqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 16.55 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/m%	StdErr	El	m/m%	StdErr
CaO	28.68	0.23	Ca	20.50	0.16
SiO2	24.48	0.21	Si	11.45	0.10
MgO	12.21	0.16	Mg	7.36	0.10
Fe2O3	10.32	0.34	Fe	7.22	0.24
P2O5	3.07	0.07	Px	1.34	0.03
SO3	1.92	0.08	Sx	0.769	0.033
Na2O	1.56	0.13	Na	1.16	0.10
Al2O3	0.870	0.045	Al	0.460	0.024
MnO	0.133	0.010	Mn	0.103	0.008
Co3O4	0.081	0.023	Co	0.060	0.017
NiO	0.0391	0.0017	Ni	0.0307	0.0013
CuO	0.0319	0.0035	Cu	0.0255	0.0028
ZnO	0.0258	0.0011	Zn	0.0208	0.0009
TiO2	0.0184	0.0018	Ti	0.0110	0.0011
Cr2O3	0.0088	0.0006	Cr	0.0060	0.0004

KnownConc=16.55 LOI REST= 0
Sum Conc's before normalisation to 100% : 95.4 % D/S= 0
Total % stripped Oxygen: 32.933

06#七次检测的结果如下:

C:\Qqed\USER\RhKetV\Job\JOB.152 2023-05-25 23:49:05
TJ06GY-VAC 7

Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\Qqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 16.55 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/m%	StdErr	El	m/m%	StdErr
CaO	29.19	0.23	Ca	20.87	0.16
SiO2	24.22	0.21	Si	11.32	0.10
MgO	12.05	0.16	Mg	7.26	0.10
Fe2O3	10.30	0.34	Fe	7.21	0.24
P2O5	3.06	0.07	Px	1.33	0.03
SO3	1.93	0.08	Sx	0.774	0.032
Na2O	1.51	0.13	Na	1.12	0.10
Al2O3	0.858	0.044	Al	0.454	0.024
MnO	0.130	0.010	Mn	0.101	0.008
Co3O4	0.082	0.023	Co	0.060	0.017
NiO	0.0404	0.0017	Ni	0.0317	0.0014
CuO	0.0321	0.0036	Cu	0.0256	0.0028
ZnO	0.0260	0.0011	Zn	0.0209	0.0009
TiO2	0.0152	0.0015	Ti	0.0091	0.0009
Cr2O3	0.0074	0.0005	Cr	0.0051	0.0004

KnownConc=16.55 LOI REST= 0
Sum Conc's before normalisation to 100% : 96.3 % D/S= 0
Total % stripped Oxygen: 32.850

	SiO ₂	P ₂ O ₅	SO ₃	Na ₂ O	MgO	Al ₂ O ₃	CaO	Fe ₂ O ₃	CuO	ZnO	MnO	NiO	Cr ₂ O ₃
TJ-06-1	24.15	3.08	1.89	1.53	11.97	0.758	28.33	10.4	0.0323	0.0313	0.127	0.0399	0.0077
TJ-06-2	24.32	3.08	1.87	1.51	12.12	0.775	28.93	10.49	0.0326	0.0284	0.135	0.0404	0.0087
TJ-06-3	24.16	3.08	1.88	1.5	12.01	0.752	29.33	10.4	0.0361	0.0257	0.136	0.0464	0.0072
TJ-06-4	24.51	3.11	1.95	1.54	11.99	0.706	28.89	10.43	0.033	0.0293	0.109	0.0401	0.0099
TJ-06-5	24.23	3.08	1.81	1.52	12.1	0.766	29.24	10.37	0.034	0.0261	0.132	0.047	0.0077
TJ-06-6	24.48	3.07	1.92	1.56	12.21	0.87	28.68	10.32	0.0319	0.0259	0.133	0.0391	0.0088
TJ-06-7	24.22	3.06	1.93	1.51	12.05	0.858	29.19	10.3	0.0321	0.026	0.13	0.0404	0.0074
06#SPH	0.147293	0.015275	0.046445	0.020702	0.084825	0.039245	0.252049	0.064734	0.00148	0.002177	0.009263	0.00313	0.00097

C:\Qqed\USER\RhKetV\Job\JOB.153 2023-05-25 23:49:06
TJ07GY-VAC 1

Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\Qqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 35.67 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound m/m%	StdErr	El	m/m%	StdErr	
CaO	33.40	0.24	Ca	23.88	0.17
MgO	13.77	0.17	Mg	8.30	0.10
SiO2	9.45	0.14	Si	4.42	0.07
SO3	4.96	0.11	Sx	1.99	0.05
Fe2O3	1.38	0.13	Fe	0.963	0.090
Al2O3	0.676	0.076	Al	0.358	0.040
P2O5	0.289	0.034	Px	0.126	0.015
MnO	0.260	0.020	Mn	0.201	0.015
TiO2	0.0624	0.0061	Ti	0.0374	0.0037
ZnO	0.0460	0.0020	Zn	0.0370	0.0016
K2O	0.0216	0.0067	K	0.0179	0.0056

KnownConc=35.67 LOI REST= 0
Sum Conc's before normalisation to 100% : 98.6 % D/S= 0
Total % stripped Oxygen: 23.987

C:\Qqed\USER\RhKetV\Job\JOB.154 2023-05-25 23:49:07
TJ07GY-VAC 2

Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\Qqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 35.67 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/m%	StdErr	El	m/m%	StdErr
CaO	33.33	0.24	Ca	23.83	0.17
MgO	13.90	0.17	Mg	8.39	0.10
SiO2	9.46	0.14	Si	4.42	0.07
SO3	4.94	0.11	Sx	1.98	0.05
Fe2O3	1.38	0.13	Fe	0.965	0.091
Al2O3	0.683	0.077	Al	0.361	0.041
P2O5	0.292	0.035	Px	0.127	0.015
MnO	0.252	0.019	Mn	0.195	0.015
TiO2	0.0662	0.0065	Ti	0.0397	0.0039
K2O	0.0168	0.0069	K	0.0156	0.0057

KnownConc=35.67 LOI REST= 0
Sum Conc's before normalisation to 100% : 97.8 % D/S= 0
Total % stripped Oxygen: 24.005

C:\Qqed\USER\RhKetV\Job\JOB.155 2023-05-25 23:49:08
TJ07GY-VAC 3

Quant'X No.2028 Rh-tube Ketcac - CAL-Vac
C:\Qqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 35.67 % LOI
Rest = 0 %
1901.250 mg Viewed Mass =
Dil/Sample = 0 Sample Height = 15.0
mm

Compound	m/m%	StdErr	El	m/m%	StdErr
CaO	33.47	0.24	Ca	23.93	0.17
MgO	13.74	0.17	Mg	8.29	0.10
SiO2	9.46	0.14	Si	4.42	0.07
SO3	4.97	0.11	Sx	1.99	0.05
Fe2O3	1.40	0.13	Fe	0.979	0.091
Al2O3	0.677	0.076	Al	0.358	0.040
P2O5	0.288	0.034	Px	0.126	0.015
MnO	0.247	0.019	Mn	0.191	0.015
TiO2	0.0614	0.0060	Ti	0.0368	0.0036
K2O	0.0230	0.0067	K	0.0191	0.0056

KnownConc=35.67 LOI REST= 0
Sum Conc's before normalisation to 100% : 98.5 % D/S= 0
Total % stripped Oxygen: 23.993

C:\UQed\USER\RhKetV\Job\JOB.156 2023-05-25 23:49:09
TJ07GY-VAC 4

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 35.67 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	33.38	0.24	Ca	23.87	0.17
MgO	13.81	0.17	Mg	8.33	0.10
SiO2	9.46	0.14	Si	4.42	0.07
SO3	4.96	0.11	Sx	1.98	0.05
Fe2O3	1.41	0.13	Fe	0.990	0.092
Al2O3	0.685	0.077	Al	0.363	0.041
P2O5	0.292	0.035	Px	0.127	0.015
MnO	0.245	0.019	Mn	0.190	0.014
TiO2	0.0642	0.0063	Ti	0.0385	0.0038
K2O	0.0191	0.0070	K	0.0159	0.0058

KnownConc=35.67 LOI REST= 0
Sum Conc's before normalisation to 100% : 98.0 % D/S= 0
Total % stripped Oxygen: 24.001

C:\UQed\USER\RhKetV\Job\JOB.157 2023-05-25 23:49:10
TJ07GY-VAC 5

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 35.67 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	33.52	0.24	Ca	23.96	0.17
MgO	13.77	0.17	Mg	8.30	0.10
SiO2	9.41	0.14	Si	4.40	0.07
SO3	4.95	0.11	Sx	1.98	0.05
Fe2O3	1.39	0.13	Fe	0.972	0.091
Al2O3	0.678	0.076	Al	0.359	0.040
P2O5	0.287	0.034	Px	0.125	0.015
MnO	0.244	0.019	Mn	0.189	0.014
TiO2	0.0658	0.0065	Ti	0.0394	0.0039
K2O	0.0227	0.0066	K	0.0188	0.0055

KnownConc=35.67 LOI REST= 0
Sum Conc's before normalisation to 100% : 98.4 % D/S= 0
Total % stripped Oxygen: 23.978

C:\UQed\USER\RhKetV\Job\JOB.158 2023-05-25 23:49:11
TJ07GY-VAC 6

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 35.67 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	33.35	0.24	Ca	23.84	0.17
MgO	13.85	0.17	Mg	8.35	0.10
SiO2	9.51	0.14	Si	4.45	0.07
SO3	4.90	0.11	Sx	1.96	0.04
Fe2O3	1.40	0.13	Fe	0.983	0.091
Al2O3	0.684	0.077	Al	0.362	0.041
P2O5	0.294	0.035	Px	0.128	0.015
MnO	0.252	0.019	Mn	0.195	0.015
TiO2	0.0664	0.0065	Ti	0.0398	0.0039
K2O	0.0176	0.0070	K	0.0146	0.0058

KnownConc=35.67 LOI REST= 0
Sum Conc's before normalisation to 100% : 98.0 % D/S= 0
Total % stripped Oxygen: 24.001

07#七次检测的结果如下:

C:\UQed\USER\RhKetV\Job\JOB.159 2023-05-25 23:49:12
TJ07GY-VAC 7

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 35.67 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	33.52	0.24	Ca	23.97	0.17
MgO	13.81	0.17	Mg	8.33	0.10
SiO2	9.40	0.14	Si	4.40	0.07
SO3	4.90	0.11	Sx	1.96	0.04
Fe2O3	1.39	0.13	Fe	0.969	0.091
Al2O3	0.679	0.076	Al	0.359	0.040
P2O5	0.287	0.034	Px	0.125	0.015
MnO	0.250	0.019	Mn	0.194	0.015
TiO2	0.0680	0.0067	Ti	0.0408	0.0040
K2O	0.0227	0.0066	K	0.0188	0.0054

KnownConc=35.67 LOI REST= 0
Sum Conc's before normalisation to 100% : 98.5 % D/S= 0
Total % stripped Oxygen: 23.967

	SiO ₂	P ₂ O ₅	SO ₃	MgO	Al ₂ O ₃	CaO	Fe ₂ O ₃	MnO	K ₂ O
TJ-07-1	9.45	0.289	4.96	13.77	0.676	33.4	1.38	0.26	0.0216
TJ-07-2	9.46	0.292	4.94	13.9	0.683	33.33	1.38	0.252	0.0188
TJ-07-3	9.46	0.288	4.97	13.74	0.677	33.47	1.4	0.247	0.023
TJ-07-4	9.46	0.292	4.96	13.81	0.685	33.38	1.41	0.245	0.0191
TJ-07-5	9.41	0.287	4.95	13.77	0.678	33.52	1.39	0.244	0.0227
TJ-07-6	9.51	0.294	4.9	13.85	0.684	33.35	1.4	0.252	0.0176
TJ-07-7	9.4	0.287	4.9	13.81	0.679	33.52	1.39	0.25	0.0227
07#SD值	0.036515	0.002795	0.028868	0.05438	0.003638	0.078921	0.011127	0.005447	0.00223

C:\UQed\USER\RhKetV\Job\JOB.160 2023-05-25 23:49:13
TJ08GY-VAC 1

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 32.11 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	35.92	0.24	Ca	25.68	0.17
SO3	12.41	0.17	Sx	4.97	0.07
MgO	11.10	0.16	Mg	6.70	0.09
SiO2	5.96	0.12	Si	2.79	0.05
Fe2O3	2.13	0.16	Fe	1.49	0.11
Al2O3	0.281	0.041	Al	0.149	0.022
TiO2	0.0294	0.0029	Ti	0.0176	0.0017
Cl	0.0293	0.0063	Cl	0.0293	0.0063
MnO	0.0221	0.0017	Mn	0.0171	0.0013

KnownConc=32.11 LOI REST= 0
Sum Conc's before normalisation to 100% : 100.5 % D/S= 0
Total % stripped Oxygen: 26.049

C:\UQed\USER\RhKetV\Job\JOB.161 2023-05-25 23:49:14
TJ08GY-VAC 2

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 32.11 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	35.78	0.24	Ca	25.58	0.17
SO3	12.61	0.17	Sx	5.05	0.07
MgO	11.08	0.16	Mg	6.68	0.09
SiO2	5.92	0.12	Si	2.77	0.05
Fe2O3	2.15	0.16	Fe	1.51	0.11
Al2O3	0.274	0.041	Al	0.145	0.022
TiO2	0.0360	0.0035	Ti	0.0216	0.0021
Cl	0.0317	0.0062	Cl	0.0317	0.0062
MnO	0.0213	0.0016	Mn	0.0165	0.0013

KnownConc=32.11 LOI REST= 0
Sum Conc's before normalisation to 100% : 100.7 % D/S= 0
Total % stripped Oxygen: 26.097

C:\UQed\USER\RhKetV\Job\JOB.162 2023-05-25 23:49:15
TJ08GY-VAC 3

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 32.11 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	35.84	0.24	Ca	25.63	0.17
SO3	12.26	0.17	Sx	4.91	0.07
MgO	11.21	0.16	Mg	6.76	0.10
SiO2	5.99	0.12	Si	2.80	0.05
Fe2O3	2.16	0.16	Fe	1.51	0.11
Al2O3	0.278	0.042	Al	0.147	0.022
Cl	0.0976	0.0064	Cl	0.0976	0.0064
TiO2	0.0381	0.0037	Ti	0.0228	0.0022
MnO	0.0214	0.0016	Mn	0.0166	0.0013

KnownConc=32.11 LOI REST= 0
Sum Conc's before normalisation to 100% : 100.1 % D/S= 0
Total % stripped Oxygen: 26.003

C:\UQed\USER\RhKetV\Job\JOB.163 2023-05-25 23:49:16
TJ08GY-VAC 4

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 32.11 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	35.80	0.24	Ca	25.60	0.17
SO3	12.62	0.17	Sx	5.05	0.07
MgO	11.13	0.16	Mg	6.71	0.09
SiO2	5.89	0.12	Si	2.76	0.05
Fe2O3	2.07	0.16	Fe	1.45	0.11
Al2O3	0.278	0.041	Al	0.147	0.022
TiO2	0.0364	0.0036	Ti	0.0218	0.0021
Cl	0.0292	0.0061	Cl	0.0292	0.0061
MnO	0.0205	0.0016	Mn	0.0159	0.0012
Co3O4	0.0110	0.0053	Co	0.0081	0.0039

KnownConc=32.11 LOI REST= 0
Sum Conc's before normalisation to 100% : 101.3 % D/S= 0
Total % stripped Oxygen: 26.101

C:\UQed\USER\RhKetV\Job\JOB.164 2023-05-25 23:49:17
TJ08GY-VAC 5

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 32.11 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	35.81	0.24	Ca	25.60	0.17
SO3	12.41	0.17	Sx	4.97	0.07
MgO	11.09	0.16	Mg	6.69	0.09
SiO2	5.96	0.12	Si	2.79	0.05
Fe2O3	2.14	0.16	Fe	1.50	0.11
Al2O3	0.271	0.041	Al	0.144	0.022
Cl	0.148	0.007	Cl	0.148	0.007
TiO2	0.0377	0.0037	Ti	0.0226	0.0022
MnO	0.0214	0.0016	Mn	0.0166	0.0013

KnownConc=32.11 LOI REST= 0
Sum Conc's before normalisation to 100% : 100.7 % D/S= 0
Total % stripped Oxygen: 26.014

C:\UQed\USER\RhKetV\Job\JOB.165 2023-05-25 23:49:17
TJ08GY-VAC 6

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 32.11 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	35.84	0.24	Ca	25.62	0.17
SO3	12.38	0.17	Sx	4.96	0.07
MgO	11.11	0.16	Mg	6.70	0.09
SiO2	5.95	0.12	Si	2.78	0.05
Fe2O3	2.14	0.16	Fe	1.49	0.11
Al2O3	0.278	0.041	Al	0.147	0.022
Cl	0.139	0.007	Cl	0.139	0.007
TiO2	0.0341	0.0033	Ti	0.0204	0.0020
MnO	0.0215	0.0016	Mn	0.0167	0.0013

KnownConc=32.11 LOI REST= 0
Sum Conc's before normalisation to 100% : 100.6 % D/S= 0
Total % stripped Oxygen: 26.008

08#七次检测的结果如下：

C:\Vqed\USER\RhKetV\Job\JOB.166 2023-05-25 23:49:18
TJ09HY-VAC 7

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Vqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 32.11 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	35.89	0.24	Ca	25.66	0.17
SiO2	12.63	0.17	Si	5.06	0.07
MgO	10.90	0.16	Mg	6.57	0.09
SiO2	5.82	0.11	Si	2.72	0.05
Fe2O3	2.07	0.16	Fe	1.45	0.11
Al2O3	0.274	0.041	Al	0.145	0.021
Cl	0.226	0.011	Cl	0.226	0.011
TiO2	0.0361	0.0035	Ti	0.0216	0.0021
MnO	0.0340	0.0026	Mn	0.0243	0.0020
Co3O4	0.0120	0.0053	Co	0.0088	0.0039

KnownConc=32.11 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 101.8 %
Total % stripped Oxygen: 26.002

	SiO ₂	SO ₃	MgO	Al ₂ O ₃	CaO	Fe ₂ O ₃	MnO	Cl
TJ-08-1	5.96	12.41	11.1	0.281	35.92	2.13	0.0221	0.0293
TJ-08-2	5.92	12.61	11.08	0.274	35.78	2.15	0.0213	0.0317
TJ-08-3	5.99	12.26	11.21	0.278	35.84	2.16	0.0214	0.0976
TJ-08-4	5.89	12.62	11.13	0.278	35.8	2.07	0.0205	0.0292
TJ-08-5	5.96	12.41	11.09	0.271	35.81	2.14	0.0214	0.148
TJ-08-6	5.95	12.38	11.11	0.278	35.84	2.14	0.0215	0.139
TJ-08-7	5.82	12.63	10.9	0.274	35.89	2.07	0.034	0.226
08#SD值	0.057071	0.145471	0.093707	0.003402	0.05	0.037289	0.004798	0.0757

C:\Vqed\USER\RhKetV\Job\JOB.167 2023-05-25 23:49:19
TJ09HY-VAC 1

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Vqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 33.28 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	36.68	0.24	Ca	26.23	0.17
MgO	12.98	0.17	Mg	7.83	0.10
SiO2	11.08	0.15	Si	5.18	0.07
SiO3	2.25	0.09	Si	0.902	0.037
Fe2O3	1.60	0.14	Fe	1.12	0.10
P2O5	1.20	0.05	Px	0.522	0.020
Al2O3	0.661	0.083	Al	0.350	0.044
MnO	0.175	0.013	Mn	0.135	0.010
TiO2	0.0674	0.0066	Ti	0.0404	0.0040
Cl	0.0165	0.0059	Cl	0.0165	0.0059
Co3O4	0.0086	0.0042	Co	0.0063	0.0031

KnownConc=33.28 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 94.2 %
Total % stripped Oxygen: 24.393

C:\Vqed\USER\RhKetV\Job\JOB.168 2023-05-25 23:49:20
TJ09HY-VAC 2

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Vqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 33.28 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	36.99	0.24	Ca	26.45	0.17
MgO	12.93	0.17	Mg	7.80	0.10
SiO2	10.87	0.15	Si	5.08	0.07
SiO3	2.28	0.09	Si	0.913	0.037
Fe2O3	1.57	0.14	Fe	1.10	0.10
P2O5	1.17	0.05	Px	0.510	0.020
Al2O3	0.658	0.084	Al	0.348	0.044
MnO	0.168	0.013	Mn	0.130	0.010
TiO2	0.0628	0.0062	Ti	0.0376	0.0037
Cl	0.0181	0.0060	Cl	0.0181	0.0060
Co3O4	0.0088	0.0041	Co	0.0065	0.0030

KnownConc=33.28 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 94.6 %
Total % stripped Oxygen: 24.333

C:\Vqed\USER\RhKetV\Job\JOB.169 2023-05-25 23:49:21
TJ09HY-VAC 3

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Vqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 33.28 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	37.00	0.24	Ca	26.45	0.17
MgO	13.11	0.17	Mg	7.91	0.10
SiO2	10.61	0.15	Si	4.96	0.07
SiO3	2.30	0.09	Si	0.920	0.038
Fe2O3	1.59	0.14	Fe	1.11	0.10
P2O5	1.23	0.04	Px	0.538	0.019
Al2O3	0.626	0.074	Al	0.331	0.039
MnO	0.167	0.013	Mn	0.130	0.010
TiO2	0.0684	0.0067	Ti	0.0410	0.0040
Cl	0.0171	0.0061	Cl	0.0171	0.0061

KnownConc=33.28 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 94.3 %
Total % stripped Oxygen: 24.309

C:\Vqed\USER\RhKetV\Job\JOB.170 2023-05-25 23:49:22
TJ09HY-VAC 4

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Vqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 33.28 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	36.78	0.24	Ca	26.30	0.17
MgO	13.00	0.17	Mg	7.84	0.10
SiO2	11.03	0.15	Si	5.16	0.07
SiO3	2.25	0.09	Si	0.902	0.037
Fe2O3	1.56	0.14	Fe	1.09	0.10
P2O5	1.19	0.04	Px	0.518	0.020
Al2O3	0.657	0.079	Al	0.348	0.042
MnO	0.166	0.013	Mn	0.128	0.010
TiO2	0.0679	0.0066	Ti	0.0407	0.0040
Cl	0.0190	0.0060	Cl	0.0190	0.0060

KnownConc=33.28 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 94.6 %
Total % stripped Oxygen: 24.379

C:\Vqed\USER\RhKetV\Job\JOB.171 2023-05-25 23:49:23
TJ09HY-VAC 5

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Vqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 33.28 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	36.71	0.24	Ca	26.25	0.17
MgO	13.11	0.17	Mg	7.91	0.10
SiO2	11.00	0.15	Si	5.14	0.07
SiO3	2.17	0.10	Si	0.870	0.040
Fe2O3	1.59	0.14	Fe	1.11	0.10
P2O5	1.19	0.05	Px	0.521	0.020
Al2O3	0.681	0.084	Al	0.360	0.044
MnO	0.168	0.013	Mn	0.131	0.010
TiO2	0.0678	0.0066	Ti	0.0406	0.0040
Cl	0.0159	0.0065	Cl	0.0159	0.0065
Co3O4	0.0085	0.0042	Co	0.0062	0.0031

KnownConc=33.28 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 93.9 %
Total % stripped Oxygen: 24.366

C:\Vqed\USER\RhKetV\Job\JOB.172 2023-05-25 23:49:23
TJ09HY-VAC 6

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Vqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 33.28 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	36.82	0.24	Ca	26.33	0.17
MgO	12.94	0.17	Mg	7.80	0.10
SiO2	10.98	0.15	Si	5.13	0.07
SiO3	2.30	0.09	Si	0.922	0.037
Fe2O3	1.58	0.14	Fe	1.10	0.10
P2O5	1.17	0.05	Px	0.513	0.020
Al2O3	0.661	0.083	Al	0.350	0.044
MnO	0.158	0.012	Mn	0.122	0.009
TiO2	0.0699	0.0068	Ti	0.0419	0.0041
Cl	0.0224	0.0060	Cl	0.0224	0.0060
Co3O4	0.0086	0.0042	Co	0.0063	0.0031

KnownConc=33.28 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 94.6 %
Total % stripped Oxygen: 24.372

09#七次检测的结果如下：

C:\Vqed\USER\RhKetV\Job\JOB.173 2023-05-25 23:49:24
TJ09HY-VAC 7

Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\Vqed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 33.28 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm

Compound	m/m%	StdErr	EL	m/m%	StdErr
CaO	36.97	0.24	Ca	26.43	0.17
MgO	13.17	0.17	Mg	7.94	0.10
SiO2	10.56	0.15	Si	4.94	0.07
SiO3	2.26	0.10	Si	0.904	0.038
Fe2O3	1.61	0.14	Fe	1.13	0.10
P2O5	1.24	0.05	Px	0.540	0.020
Al2O3	0.693	0.078	Al	0.346	0.041
MnO	0.165	0.013	Mn	0.128	0.010
TiO2	0.0698	0.0068	Ti	0.0418	0.0041
Cl	0.0174	0.0062	Cl	0.0174	0.0062

KnownConc=33.28 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 93.5 %
Total % stripped Oxygen: 24.298

	SiO ₂	P ₂ O ₅	SO ₃	MgO	Al ₂ O ₃	CaO	Fe ₂ O ₃	MnO	Cl
TJ-09-1	11.08	1.2	2.25	12.98	0.661	36.68	1.6	0.175	0.0165
TJ-09-2	10.87	1.17	2.28	12.93	0.658	36.99	1.57	0.168	0.0181
TJ-09-3	10.61	1.23	2.3	13.11	0.626	37	1.59	0.167	0.0171
TJ-09-4	11.03	1.19	2.25	13	0.657	36.78	1.56	0.166	0.019
TJ-09-5	11	1.19	2.17	13.11	0.681	36.71	1.59	0.168	0.0159
TJ-09-6	10.98	1.17	2.3	12.94	0.661	36.82	1.58	0.158	0.0224
TJ-09-7	10.56	1.24	2.26	13.17	0.653	36.97	1.61	0.165	0.0174
09#SD值	0.209034	0.027343	0.044508	0.094667	0.016255	0.135892	0.017182	0.005024	0.002167

C:\VQed\USER\RhKetV\Job\JOB.192 2023-06-02 22:58:15
GG-1-Q 1
Quant'K No.2028 Rh-tube Ketcac - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 44.10 % LOI
Rest = 0 %
Viewed Mass =
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm
Compound m/m StdErr | El m/m StdErr
CaO 47.96 0.25 | Ca 34.29 0.18
MgO 3.13 0.09 | Mg 1.89 0.05
SO3 1.20 0.10 | Sx 0.482 0.038
Sc2O3 1.03 0.23 | Sc 0.67 0.15
Na2O 0.671 0.051 | Na 0.498 0.038
P2O5 0.629 0.070 | Fe 0.440 0.049
P2O5 0.408 0.018 | Pk 0.178 0.008
SrO 0.361 0.018 | Sr 0.305 0.015
ZnO 0.320 0.014 | Zn 0.257 0.011
BaO 0.0697 0.0093 | Ba 0.0624 0.0083
SiO2 0.068 0.027 | Si 0.032 0.013
Cr2O3 0.0402 0.0027 | Cr 0.0275 0.0018
NiO 0.0072 0.0006 | Ni 0.0057 0.0004
KnownConc=44.10 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 89.1 %
Total % stripped Oxygen: 16.760

C:\VQed\USER\RhKetV\Job\JOB.193 2023-06-02 22:58:37
GG-1-Q 2
Quant'K No.2028 Rh-tube Ketcac - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 44.10 % LOI
Rest = 0 %
Viewed Mass =
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm
Compound m/m StdErr | El m/m StdErr
CaO 48.29 0.25 | Ca 34.53 0.18
MgO 2.98 0.09 | Mg 1.80 0.05
SO3 1.28 0.09 | Sx 0.514 0.038
Sc2O3 1.07 0.23 | Sc 0.70 0.15
Fe2O3 0.629 0.070 | Fe 0.440 0.049
P2O5 0.406 0.018 | Pk 0.177 0.008
Na2O 0.371 0.050 | Na 0.275 0.037
SrO 0.360 0.018 | Sr 0.305 0.015
ZnO 0.318 0.014 | Zn 0.255 0.011
BaO 0.0695 0.0089 | Ba 0.0623 0.0080
SiO2 0.067 0.027 | Si 0.031 0.012
Cr2O3 0.0478 0.0032 | Cr 0.0327 0.0022
NiO 0.0060 0.0006 | Ni 0.0047 0.0005
KnownConc=44.10 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 89.4 %
Total % stripped Oxygen: 16.778

C:\VQed\USER\RhKetV\Job\JOB.194 2023-06-02 22:58:38
GG-1-Q 3
Quant'K No.2028 Rh-tube Ketcac - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 44.10 % LOI
Rest = 0 %
Viewed Mass =
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm
Compound m/m StdErr | El m/m StdErr
CaO 47.82 0.25 | Ca 34.19 0.18
MgO 3.21 0.09 | Mg 1.93 0.05
SO3 1.21 0.10 | Sx 0.483 0.038
Sc2O3 1.02 0.23 | Sc 0.66 0.15
Na2O 0.793 0.051 | Na 0.588 0.038
P2O5 0.582 0.064 | Fe 0.407 0.045
P2O5 0.415 0.018 | Pk 0.181 0.008
SrO 0.349 0.017 | Sr 0.295 0.015
ZnO 0.319 0.014 | Zn 0.256 0.011
SiO2 0.077 0.026 | Si 0.036 0.012
BaO 0.0625 0.0098 | Ba 0.0560 0.0088
Cr2O3 0.0410 0.0027 | Cr 0.0281 0.0019
NiO 0.0086 0.0006 | Ni 0.0068 0.0005
KnownConc=44.10 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 88.9 %
Total % stripped Oxygen: 16.772

C:\VQed\USER\RhKetV\Job\JOB.195 2023-06-02 22:58:39
GG-1-Q 4
Quant'K No.2028 Rh-tube Ketcac - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 44.10 % LOI
Rest = 0 %
Viewed Mass =
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm
Compound m/m StdErr | El m/m StdErr
CaO 48.27 0.25 | Ca 34.51 0.18
MgO 2.96 0.08 | Mg 1.79 0.05
SO3 1.33 0.09 | Sx 0.532 0.036
Sc2O3 1.10 0.23 | Sc 0.72 0.15
Fe2O3 0.624 0.069 | Fe 0.436 0.048
P2O5 0.404 0.018 | Pk 0.176 0.008
SrO 0.356 0.018 | Sr 0.301 0.015
Na2O 0.335 0.050 | Na 0.248 0.037
ZnO 0.318 0.014 | Zn 0.255 0.011
BaO 0.0703 0.0088 | Ba 0.0630 0.0079
SiO2 0.070 0.027 | Si 0.033 0.012
Cr2O3 0.0459 0.0030 | Cr 0.0314 0.0021
NiO 0.0060 0.0006 | Ni 0.0047 0.0004
P2O5 0.0054 0.0027 | Pt 0.0046 0.0023
KnownConc=44.10 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 89.4 %
Total % stripped Oxygen: 16.793

C:\VQed\USER\RhKetV\Job\JOB.196 2023-06-02 22:58:41
GG-1-Q 5
Quant'K No.2028 Rh-tube Ketcac - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 44.10 % LOI
Rest = 0 %
Viewed Mass =
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm
Compound m/m StdErr | El m/m StdErr
CaO 48.21 0.25 | Ca 34.47 0.18
MgO 3.05 0.09 | Mg 1.84 0.05
SO3 1.24 0.09 | Sx 0.497 0.037
Sc2O3 1.05 0.23 | Sc 0.68 0.15
Fe2O3 0.633 0.070 | Fe 0.443 0.049
P2O5 0.417 0.018 | Pk 0.182 0.008
Na2O 0.414 0.052 | Na 0.307 0.039
SrO 0.363 0.018 | Sr 0.307 0.015
ZnO 0.328 0.014 | Zn 0.264 0.011
SiO2 0.074 0.027 | Si 0.035 0.013
BaO 0.0659 0.0094 | Ba 0.0590 0.0084
Cr2O3 0.0483 0.0032 | Cr 0.0330 0.0022
NiO 0.0087 0.0007 | Ni 0.0068 0.0005
KnownConc=44.10 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 88.6 %
Total % stripped Oxygen: 16.774

C:\VQed\USER\RhKetV\Job\JOB.197 2023-06-02 22:58:42
GG-1-Q 6
Quant'K No.2028 Rh-tube Ketcac - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 44.10 % LOI
Rest = 0 %
Viewed Mass =
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm
Compound m/m StdErr | El m/m StdErr
CaO 48.00 0.25 | Ca 34.54 0.18
MgO 3.01 0.09 | Mg 1.81 0.05
SO3 1.25 0.10 | Sx 0.500 0.039
Sc2O3 1.06 0.23 | Sc 0.69 0.15
Fe2O3 0.619 0.068 | Fe 0.433 0.048
P2O5 0.407 0.018 | Pk 0.177 0.008
Na2O 0.379 0.051 | Na 0.281 0.038
SrO 0.358 0.018 | Sr 0.303 0.015
ZnO 0.323 0.014 | Zn 0.260 0.011
SiO2 0.071 0.027 | Si 0.033 0.013
BaO 0.0650 0.0095 | Ba 0.0582 0.0085
Cr2O3 0.0472 0.0031 | Cr 0.0323 0.0021
NiO 0.0054 0.0006 | Ni 0.0042 0.0005
KnownConc=44.10 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 89.0 %
Total % stripped Oxygen: 16.772

硅坩 1-Q 七次检测的结果如下:

C:\VQed\USER\RhKetV\Job\JOB.198 2023-06-02 22:58:43
GG-1-Q 7
Quant'K No.2028 Rh-tube Ketcac - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 44.10 % LOI
Rest = 0 %
Viewed Mass =
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm
Compound m/m StdErr | El m/m StdErr
CaO 48.32 0.25 | Ca 34.55 0.18
MgO 2.98 0.08 | Mg 1.80 0.05
SO3 1.28 0.09 | Sx 0.514 0.038
Sc2O3 1.09 0.23 | Sc 0.71 0.15
Fe2O3 0.599 0.066 | Fe 0.419 0.046
P2O5 0.407 0.018 | Pk 0.178 0.008
Na2O 0.362 0.051 | Na 0.268 0.038
SrO 0.355 0.018 | Sr 0.300 0.015
ZnO 0.319 0.014 | Zn 0.256 0.011
SiO2 0.071 0.027 | Si 0.033 0.012
BaO 0.0631 0.0095 | Ba 0.0565 0.0085
Cr2O3 0.0413 0.0027 | Cr 0.0283 0.0019
NiO 0.0083 0.0006 | Ni 0.0065 0.0005
KnownConc=44.10 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 89.0 %
Total % stripped Oxygen: 16.782

	SiO ₂	P ₂ O ₅	SO ₃	Na ₂ O	MgO	CaO	Fe ₂ O ₃	ZnO	NiO	Cr ₂ O ₃
硅坩1-Q-1	0.068	0.408	1.2	0.671	3.13	47.96	0.629	0.32	0.0072	0.0402
硅坩1-Q-2	0.067	0.406	1.28	0.371	2.98	48.29	0.629	0.318	0.006	0.0478
硅坩1-Q-3	0.077	0.415	1.21	0.793	3.21	47.82	0.582	0.319	0.0086	0.041
硅坩1-Q-4	0.07	0.404	1.33	0.335	2.96	48.27	0.624	0.318	0.006	0.0459
硅坩1-Q-5	0.074	0.417	1.24	0.414	3.05	48.21	0.633	0.328	0.0087	0.0483
硅坩1-Q-6	0.071	0.407	1.25	0.379	3.01	48.3	0.619	0.323	0.0054	0.0472
硅坩1-Q-7	0.071	0.407	1.28	0.362	2.98	48.32	0.599	0.319	0.0083	0.0413
1-Q-SD值	0.003436	0.00488	0.04504	0.180583	0.092531	0.196614	0.018902	0.003638	0.001386	0.003549

C:\VQed\USER\RhKetV\Job\JOB.199 2023-06-02 22:58:44
GG-2-L 1
Quant'K No.2028 Rh-tube Ketcac - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 43.56 % LOI
Rest = 0 %
Viewed Mass =
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm
Compound m/m StdErr | El m/m StdErr
CaO 50.92 0.25 | Ca 36.41 0.18
MgO 1.67 0.06 | Mg 1.01 0.04
Sc2O3 1.33 0.25 | Sc 0.87 0.16
SO3 1.22 0.09 | Sx 0.487 0.037
Fe2O3 0.787 0.087 | Fe 0.550 0.061
MnO 0.253 0.019 | Mn 0.196 0.015
P2O5 0.218 0.005 | Pk 0.0953 0.0038
SrO 0.0172 0.0009 | Sr 0.0145 0.0007
NiO 0.0152 0.0007 | Ni 0.0119 0.0005
KnownConc=43.56 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 88.2 %
Total % stripped Oxygen: 16.794

C:\VQed\USER\RhKetV\Job\JOB.200 2023-06-02 22:58:45
GG-2-L 2
Quant'K No.2028 Rh-tube Ketcac - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 43.56 % LOI
Rest = 0 %
Viewed Mass =
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm
Compound m/m StdErr | El m/m StdErr
CaO 50.96 0.25 | Ca 36.44 0.18
MgO 1.65 0.06 | Mg 0.995 0.038
Sc2O3 1.36 0.25 | Sc 0.88 0.16
SO3 1.24 0.09 | Sx 0.495 0.037
Fe2O3 0.729 0.081 | Fe 0.510 0.056
MnO 0.258 0.020 | Mn 0.200 0.015
P2O5 0.214 0.009 | Pk 0.0934 0.0037
SrO 0.0165 0.0008 | Sr 0.0140 0.0007
NiO 0.0149 0.0007 | Ni 0.0117 0.0005
KnownConc=43.56 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 88.8 %
Total % stripped Oxygen: 16.797

C:\VQed\USER\RhKetV\Job\JOB.201 2023-06-02 22:58:46
GG-2-L 3
Quant'K No.2028 Rh-tube Ketcac - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFcl) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 43.56 % LOI
Rest = 0 %
Viewed Mass =
1901.250 mg
Dil/Sample = 0
Sample Height = 15.0 mm
Compound m/m StdErr | El m/m StdErr
CaO 50.91 0.25 | Ca 36.40 0.18
MgO 1.68 0.06 | Mg 1.01 0.04
Sc2O3 1.32 0.25 | Sc 0.86 0.16
SO3 1.24 0.09 | Sx 0.495 0.036
Fe2O3 0.784 0.087 | Fe 0.548 0.061
MnO 0.255 0.019 | Mn 0.197 0.015
P2O5 0.217 0.009 | Pk 0.0948 0.0038
SrO 0.0162 0.0008 | Sr 0.0137 0.0007
NiO 0.0151 0.0007 | Ni 0.0119 0.0005
Cr2O3 0.0066 0.0005 | Cr 0.0045 0.0003
KnownConc=43.56 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 88.3 %
Total % stripped Oxygen: 16.799

C:\UQed\USER\RhKetV\Job\J08.202 2023-06-02 22:58:46
GG-2-L 4

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 43.56 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm

Compound	m/m%	StdErr	El	m/m%	StdErr
CaO	50.94	0.25	Ca	36.42	0.18
MgO	1.69	0.06	Mg	1.02	0.04
Sc2O3	1.32	0.25	Sc	0.86	0.16
SO3	1.20	0.09	Sx	0.480	0.037
Fe2O3	0.778	0.086	Fe	0.544	0.060
MnO	0.262	0.020	Mn	0.203	0.015
P2O5	0.218	0.009	Px	0.0953	0.0038
SrO	0.0171	0.0009	Sr	0.0145	0.0007
NiO	0.0110	0.0006	Ni	0.0086	0.0005

KnownConc=43.56 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 88.2 %
Total % stripped Oxygen: 16.788

C:\UQed\USER\RhKetV\Job\J08.203 2023-06-02 22:58:47
GG-2-L 5

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 43.56 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm

Compound	m/m%	StdErr	El	m/m%	StdErr
CaO	50.90	0.25	Ca	36.39	0.18
MgO	1.65	0.06	Mg	0.995	0.038
Sc2O3	1.35	0.25	Sc	0.88	0.16
SO3	1.23	0.09	Sx	0.491	0.037
Fe2O3	0.777	0.086	Fe	0.543	0.060
MnO	0.281	0.021	Mn	0.218	0.017
P2O5	0.214	0.009	Px	0.0935	0.0037
SrO	0.0169	0.0008	Sr	0.0143	0.0007
NiO	0.0146	0.0007	Ni	0.0115	0.0005
Cr2O3	0.0060	0.0005	Cr	0.0041	0.0003

KnownConc=43.56 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 88.8 %
Total % stripped Oxygen: 16.792

C:\UQed\USER\RhKetV\Job\J08.204 2023-06-02 22:58:48
GG-2-L 6

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 43.56 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm

Compound	m/m%	StdErr	El	m/m%	StdErr
CaO	50.93	0.25	Ca	36.42	0.18
MgO	1.68	0.06	Mg	1.01	0.04
Sc2O3	1.31	0.25	Sc	0.85	0.16
SO3	1.21	0.09	Sx	0.485	0.037
Fe2O3	0.797	0.088	Fe	0.558	0.062
MnO	0.255	0.019	Mn	0.198	0.015
P2O5	0.219	0.009	Px	0.0956	0.0038
SrO	0.0172	0.0009	Sr	0.0145	0.0007
NiO	0.0143	0.0007	Ni	0.0112	0.0005

KnownConc=43.56 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 88.2 %
Total % stripped Oxygen: 16.791

钙坩 2-L 七次检测的结果如下:

C:\UQed\USER\RhKetV\Job\J08.205 2023-06-02 22:58:49
GG-2-L 7

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 43.56 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm

Compound	m/m%	StdErr	El	m/m%	StdErr
CaO	50.95	0.25	Ca	36.43	0.18
MgO	1.66	0.06	Mg	1.00	0.04
Sc2O3	1.33	0.25	Sc	0.86	0.16
SO3	1.20	0.09	Sx	0.480	0.037
Fe2O3	0.794	0.088	Fe	0.556	0.061
MnO	0.255	0.019	Mn	0.198	0.015
P2O5	0.218	0.009	Px	0.0950	0.0038
SrO	0.0168	0.0008	Sr	0.0142	0.0007
NiO	0.0118	0.0006	Ni	0.0093	0.0005

KnownConc=43.56 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 88.8 %
Total % stripped Oxygen: 16.787

	P ₂ O ₅	SO ₃	MgO	CaO	Fe ₂ O ₃	MnO	NiO	Cr ₂ O ₃
钙坩2-L-1	0.218	1.22	1.67	50.92	0.787	0.253	0.0152	
钙坩2-L-2	0.214	1.24	1.65	50.96	0.729	0.258	0.0149	
钙坩2-L-3	0.217	1.24	1.68	50.91	0.784	0.255	0.0151	0.0066
钙坩2-L-4	0.218	1.2	1.69	50.94	0.778	0.262	0.011	
钙坩2-L-5	0.214	1.23	1.65	50.9	0.777	0.281	0.0146	0.006
钙坩2-L-6	0.219	1.21	1.68	50.93	0.797	0.255	0.0143	
钙坩2-L-7	0.218	1.2	1.66	50.95	0.794	0.255	0.0118	
2-L-SD值	0.002035	0.017321	0.015736	0.021602	0.022862	0.009771	0.001712	0.000424

C:\UQed\USER\RhKetV\Job\J08.206 2023-06-02 22:58:50
TG-3-L 1

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 23.45 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm

Compound	m/m%	StdErr	El	m/m%	StdErr
Fe2O3	44.20	0.55	Fe	30.91	0.39
CaO	21.36	0.20	Ca	15.27	0.15
Cr2O3	4.16	0.13	Cr	2.84	0.09
SiO2	3.06	0.08	Si	1.43	0.04
MgO	1.68	0.06	Mg	1.01	0.04
SO3	0.736	0.069	Sx	0.295	0.027
P2O5	0.321	0.015	Px	0.140	0.007
K2O	0.316	0.008	K	0.262	0.007
Co3O4	0.23	0.11	Co	0.167	0.079
Al2O3	0.193	0.026	Al	0.102	0.014
Na2O	0.101	0.041	Na	0.075	0.030
ZnO	0.0631	0.0027	Zn	0.0507	0.0022
Re2O7	0.0266	0.0014	Re	0.0205	0.0011
V2O5	0.0237	0.0033	V	0.0133	0.0018
OsO4	0.0164	0.0032	Os	0.0123	0.0024
MoO3	0.0151	0.0007	Mo	0.0101	0.0005
TI2O3	0.0116	0.0006	TI	0.0104	0.0005
TI02	0.0115	0.0021	TI	0.0069	0.0012
NiO	0.0112	0.0010	Ni	0.0088	0.0008
PbO	0.0073	0.0011	Pb	0.0068	0.0010
Sb2O3	0.0066	0.0006	Sb	0.0055	0.0005

KnownConc=23.45 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 99.1 %
Total % stripped Oxygen: 23.885

C:\UQed\USER\RhKetV\Job\J08.207 2023-06-02 22:58:51
TG-3-L 2

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 23.45 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm

Compound	m/m%	StdErr	El	m/m%	StdErr
Fe2O3	44.22	0.55	Fe	30.92	0.39
CaO	21.26	0.20	Ca	15.20	0.15
Cr2O3	4.24	0.13	Cr	2.90	0.09
SiO2	3.09	0.08	Si	1.45	0.04
MgO	1.71	0.06	Mg	1.03	0.04
SO3	0.642	0.067	Sx	0.257	0.027
P2O5	0.324	0.015	Px	0.141	0.007
K2O	0.323	0.007	K	0.268	0.006
Co3O4	0.22	0.11	Co	0.163	0.079
Al2O3	0.189	0.026	Al	0.100	0.014
Na2O	0.111	0.039	Na	0.083	0.029
ZnO	0.0620	0.0027	Zn	0.0498	0.0021
Re2O7	0.0281	0.0014	Re	0.0216	0.0011
V2O5	0.0261	0.0033	V	0.0146	0.0018
OsO4	0.0222	0.0028	Os	0.0166	0.0020
MoO3	0.0146	0.0007	Mo	0.0097	0.0005
NiO	0.0111	0.0010	Ni	0.0087	0.0008
BI2O3	0.0110	0.0005	BI	0.0099	0.0005
TI2O3	0.0091	0.0005	TI	0.0081	0.0004
TI02	0.0086	0.0025	TI	0.0052	0.0015
Sb2O3	0.0077	0.0006	Sb	0.0064	0.0005
PbO	0.0074	0.0012	Pb	0.0069	0.0011

KnownConc=23.45 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 98.2 %
Total % stripped Oxygen: 23.869

C:\UQed\USER\RhKetV\Job\J08.208 2023-06-02 22:58:52
TG-3-L 3

Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 23.45 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm

Compound	m/m%	StdErr	El	m/m%	StdErr
Fe2O3	44.25	0.55	Fe	30.95	0.39
CaO	21.47	0.21	Ca	15.35	0.15
Cr2O3	4.15	0.13	Cr	2.84	0.09
SiO2	3.08	0.08	Si	1.44	0.04
MgO	1.68	0.06	Mg	1.01	0.04
SO3	0.742	0.062	Sx	0.297	0.025
K2O	0.348	0.008	K	0.289	0.006
P2O5	0.321	0.015	Px	0.140	0.007
Co3O4	0.22	0.11	Co	0.159	0.079
Al2O3	0.189	0.027	Al	0.100	0.014
Na2O	0.108	0.038	Na	0.080	0.028
ZnO	0.0599	0.0026	Zn	0.0481	0.0021
Re2O7	0.0295	0.0015	Re	0.0227	0.0011
V2O5	0.0262	0.0030	V	0.0147	0.0017
OsO4	0.0209	0.0030	Os	0.0156	0.0022
MoO3	0.0145	0.0007	Mo	0.0097	0.0005
TI02	0.0134	0.0019	TI	0.0080	0.0011
NiO	0.0133	0.0010	Ni	0.0105	0.0008
TI2O3	0.0091	0.0005	TI	0.0081	0.0004
PbO	0.0083	0.0012	Pb	0.0077	0.0011
Sb2O3	0.0077	0.0006	Sb	0.0064	0.0005

KnownConc=23.45 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 99.0 %
Total % stripped Oxygen: 23.892

C:\VQed\USER\RhKetV\Job\J08.209 2023-06-02 22:58:53
TG-3-L 4
Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known
Eff.Diam. = 13.0 mm Eff.Area = 132.7 mm2
KnownConc = 23.45 % LOI
Rest = 0 % Viewed Mass =
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm
Compound m/m% StdErr | El m/m% StdErr
Fe2O3 44.20 0.55 | Fe 30.91 0.39
CaO 21.18 0.20 | Ca 15.15 0.15
Cr2O3 4.21 0.13 | Cr 2.88 0.09
SiO2 3.15 0.09 | Si 1.47 0.04
MgO 1.80 0.07 | Mg 1.08 0.04
SO3 0.623 0.067 | Sx 0.249 0.027
P2O5 0.331 0.015 | Px 0.144 0.006
K2O 0.322 0.007 | K 0.267 0.006
Co3O4 0.22 0.11 | Co 0.162 0.079
Al2O3 0.190 0.027 | Al 0.101 0.014
Na2O 0.113 0.039 | Na 0.084 0.029
ZnO 0.0584 0.0025 | Zn 0.0469 0.0020
Re2O7 0.0305 0.0015 | Re 0.0235 0.0012
V2O5 0.0235 0.0033 | V 0.0132 0.0018
OsO4 0.0204 0.0031 | Os 0.0153 0.0023
MoO3 0.0148 0.0007 | Mo 0.0099 0.0005
NiO 0.0120 0.0010 | Ni 0.0094 0.0008
TiO2 0.0104 0.0023 | Ti 0.0062 0.0014
Ti2O3 0.0093 0.0005 | Ti 0.0083 0.0004
FbO 0.0087 0.0012 | Fb 0.0081 0.0011
Sb2O3 0.0066 0.0006 | Sb 0.0055 0.0005
KnownConc=23.45 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 98.7 %
Total % stripped Oxygen: 23.889

C:\VQed\USER\RhKetV\Job\J08.210 2023-06-02 22:58:53
TG-3-L 5
Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known
Eff.Diam. = 13.0 mm Eff.Area = 132.7 mm2
KnownConc = 23.45 % LOI
Rest = 0 % Viewed Mass =
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm
Compound m/m% StdErr | El m/m% StdErr
Fe2O3 44.35 0.55 | Fe 31.02 0.39
CaO 21.50 0.21 | Ca 15.38 0.15
Cr2O3 4.17 0.13 | Cr 2.85 0.09
SiO2 3.09 0.08 | Si 1.45 0.04
MgO 1.69 0.06 | Mg 1.02 0.04
K2O 0.343 0.008 | K 0.284 0.006
SO3 0.339 0.065 | Sx 0.136 0.026
P2O5 0.329 0.015 | Px 0.144 0.006
Co3O4 0.22 0.11 | Co 0.161 0.079
Al2O3 0.197 0.026 | Al 0.104 0.014
Na2O 0.111 0.040 | Na 0.082 0.030
ZnO 0.0694 0.0030 | Zn 0.0558 0.0024
Re2O7 0.0247 0.0014 | Re 0.0190 0.0011
V2O5 0.0217 0.0034 | V 0.0122 0.0019
MoO3 0.0143 0.0007 | Mo 0.0095 0.0005
Ti2O3 0.0125 0.0006 | Ti 0.0112 0.0006
NiO 0.0122 0.0010 | Ni 0.0096 0.0008
TiO2 0.0104 0.0023 | Ti 0.0062 0.0014
OsO4 0.0089 0.0035 | Os 0.0067 0.0026
FbO 0.0072 0.0012 | Fb 0.0067 0.0011
Sb2O3 0.0069 0.0006 | Sb 0.0058 0.0005
KnownConc=23.45 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 98.7 %
Total % stripped Oxygen: 23.771

C:\VQed\USER\RhKetV\Job\J08.211 2023-06-02 22:58:54
TG-3-L 6
Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known
Eff.Diam. = 13.0 mm Eff.Area = 132.7 mm2
KnownConc = 23.45 % LOI
Rest = 0 % Viewed Mass =
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm
Compound m/m% StdErr | El m/m% StdErr
Fe2O3 44.22 0.55 | Fe 30.93 0.39
CaO 21.17 0.20 | Ca 15.14 0.15
Cr2O3 4.22 0.13 | Cr 2.89 0.09
SiO2 3.11 0.09 | Si 1.45 0.04
MgO 1.70 0.06 | Mg 1.02 0.04
SO3 0.746 0.066 | Sx 0.299 0.026
P2O5 0.329 0.015 | Px 0.144 0.007
K2O 0.315 0.008 | K 0.262 0.006
Co3O4 0.22 0.11 | Co 0.164 0.079
Al2O3 0.192 0.027 | Al 0.102 0.014
Na2O 0.111 0.039 | Na 0.083 0.029
ZnO 0.0658 0.0028 | Zn 0.0529 0.0023
Re2O7 0.0284 0.0014 | Re 0.0218 0.0011
V2O5 0.0254 0.0032 | V 0.0142 0.0018
MoO3 0.0151 0.0007 | Mo 0.0101 0.0005
OsO4 0.0150 0.0029 | Os 0.0112 0.0022
TiO2 0.0111 0.0052 | Ti 0.0099 0.0005
Ti2O3 0.0092 0.0005 | Ti 0.0082 0.0004
TiO2 0.0091 0.0023 | Ti 0.0055 0.0014
NiO 0.0083 0.0012 | Ni 0.0065 0.0009
FbO 0.0078 0.0012 | Fb 0.0072 0.0011
Sb2O3 0.0070 0.0006 | Sb 0.0058 0.0005
KnownConc=23.45 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 98.6 %
Total % stripped Oxygen: 23.905

铁垢 3-L 七次检测的结果如下:

	SiO ₂	P ₂ O ₅	SO ₃	Na ₂ O	MgO	Al ₂ O ₃	CaO	Fe ₂ O ₃	ZnO	NiO	Cr ₂ O ₃	K ₂ O
铁垢3-L-1	3.06	0.321	0.736	0.101	1.68	0.193	21.36	44.2	0.0631	0.0112	4.16	0.316
铁垢3-L-2	3.09	0.324	0.642	0.111	1.71	0.189	21.26	44.22	0.062	0.0111	4.24	0.323
铁垢3-L-3	3.08	0.321	0.742	0.108	1.68	0.189	21.47	44.25	0.0599	0.0133	4.15	0.348
铁垢3-L-4	3.15	0.331	0.623	0.113	1.8	0.19	21.18	44.2	0.0584	0.012	4.21	0.322
铁垢3-L-5	3.09	0.329	0.339	0.111	1.69	0.197	21.5	44.35	0.0694	0.0122	4.17	0.343
铁垢3-L-6	3.11	0.329	0.746	0.111	1.7	0.192	21.17	44.22	0.0658	0.0083	4.22	0.315
铁垢3-L-7	3.07	0.325	0.821	0.146	1.7	0.189	21.4	43.98	0.0578	0.0114	4.15	0.338
3-L-SD值	0.029841	0.00403	0.158341	0.014467	0.041805	0.002984	0.133648	0.111163	0.004175	0.001546	0.036904	0.013462

C:\VQed\USER\RhKetV\Job\J08.212 2023-06-02 22:58:55
TG-3-L 7
Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known
Eff.Diam. = 13.0 mm Eff.Area = 132.7 mm2
KnownConc = 23.45 % LOI
Rest = 0 % Viewed Mass =
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm
Compound m/m% StdErr | El m/m% StdErr
Fe2O3 43.98 0.55 | Fe 30.76 0.39
CaO 21.40 0.21 | Ca 15.30 0.15
Cr2O3 4.15 0.13 | Cr 2.84 0.09
SiO2 3.07 0.08 | Si 1.44 0.04
MgO 1.70 0.06 | Mg 1.03 0.04
SO3 0.821 0.064 | Sx 0.329 0.026
K2O 0.338 0.007 | K 0.280 0.006
P2O5 0.325 0.015 | Px 0.142 0.007
Co3O4 0.22 0.11 | Co 0.161 0.079
Al2O3 0.189 0.026 | Al 0.100 0.014
Na2O 0.146 0.040 | Na 0.108 0.030
ZnO 0.0578 0.0025 | Zn 0.0464 0.0020
Re2O7 0.0295 0.0015 | Re 0.0227 0.0011
V2O5 0.0270 0.0032 | V 0.0151 0.0018
OsO4 0.0198 0.0031 | Os 0.0148 0.0023
TiO2 0.0153 0.0019 | Ti 0.0092 0.0012
MoO3 0.0144 0.0007 | Mo 0.0096 0.0005
NiO 0.0114 0.0010 | Ni 0.0090 0.0008
Ti2O3 0.0096 0.0005 | Ti 0.0086 0.0004
FbO 0.0074 0.0012 | Fb 0.0069 0.0011
Sb2O3 0.0066 0.0006 | Sb 0.0055 0.0005
KnownConc=23.45 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 99.2 %
Total % stripped Oxygen: 23.912

C:\VQed\USER\RhKetV\Job\J08.214 2023-06-02 22:58:57
XRS5-4-2 2
Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known
Eff.Diam. = 13.0 mm Eff.Area = 132.7 mm2
KnownConc = 43.39 % LOI
Rest = 0 % Viewed Mass =
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm
Compound m/m% StdErr | El m/m% StdErr
CaO 32.37 0.23 | Ca 23.15 0.17
MgO 14.32 0.18 | Mg 8.64 0.11
SiO2 3.33 0.09 | Si 1.96 0.04
Al2O3 1.82 0.07 | Al 0.964 0.037
SO3 1.69 0.08 | Sx 0.678 0.034
P2O5 1.18 0.04 | Px 0.517 0.019
Na2O 0.79 0.11 | Na 0.588 0.085
ZnO 0.439 0.019 | Zn 0.353 0.015
Fe2O3 0.280 0.031 | Fe 0.196 0.022
SeO 0.142 0.007 | Se 0.120 0.006
MoO 0.0890 0.0068 | Mo 0.0689 0.0052
Cl 0.0672 0.0054 | Cl 0.0672 0.0054
TiO2 0.0244 0.0024 | Ti 0.0146 0.0014
K2O 0.0212 0.0062 | K 0.0176 0.0052
BaO 0.0185 0.0058 | Ba 0.0166 0.0052
V2O5 0.0088 0.0009 | V 0.0049 0.0005
KnownConc=43.39 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 98.5 %
Total % stripped Oxygen: 19.661

C:\VQed\USER\RhKetV\Job\J08.215 2023-06-02 22:58:58
XRS5-4-2 3
Quant'X No.2028 Rh-tube Ketec - CAL-Vac
C:\VQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known
Eff.Diam. = 13.0 mm Eff.Area = 132.7 mm2
KnownConc = 43.39 % LOI
Rest = 0 % Viewed Mass =
1901.250 mg
Dil/Sample = 0 Sample Height = 15.0 mm
Compound m/m% StdErr | El m/m% StdErr
CaO 32.63 0.23 | Ca 23.33 0.17
MgO 14.56 0.18 | Mg 8.78 0.11
SiO2 3.18 0.09 | Si 1.49 0.04
Al2O3 1.79 0.07 | Al 0.950 0.037
SO3 1.73 0.08 | Sx 0.692 0.033
P2O5 1.14 0.04 | Px 0.497 0.019
Na2O 0.51 0.11 | Na 0.375 0.083
ZnO 0.430 0.018 | Zn 0.345 0.015
Fe2O3 0.279 0.031 | Fe 0.195 0.022
SeO 0.139 0.007 | Se 0.117 0.006
MoO 0.0876 0.0067 | Mo 0.0678 0.0052
Cl 0.0676 0.0054 | Cl 0.0676 0.0054
TiO2 0.0277 0.0027 | Ti 0.0166 0.0016
K2O 0.0201 0.0061 | K 0.0167 0.0051
BaO 0.0182 0.0057 | Ba 0.0163 0.0051
V2O5 0.0111 0.0008 | V 0.0062 0.0005
KnownConc=43.39 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 99.3 %
Total % stripped Oxygen: 19.653

C:\UQed\USER\RhKetV\Job\JOB.216 2023-06-02 22:58:59
XHS-4-2 4
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 43.39 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr

CaO 32.40 0.23 | Ca 23.16 0.17
MgO 14.79 0.18 | Mg 8.92 0.11
SiO2 3.22 0.09 | Si 1.50 0.04
Al2O3 1.82 0.07 | Al 0.965 0.037
S03 1.60 0.09 | Sx 0.641 0.037
P2O5 1.15 0.04 | Pk 0.500 0.019
Na2O 0.51 0.11 | Na 0.377 0.084
ZnO 0.432 0.019 | Zn 0.347 0.015
Fe2O3 0.285 0.032 | Fe 0.199 0.022
SrO 0.138 0.007 | Sr 0.117 0.006
MnO 0.0871 0.0066 | Mn 0.0675 0.0051
K2O 0.0605 0.0061 | K 0.0502 0.0051
Cl 0.0586 0.0059 | Cl 0.0586 0.0059
TiO2 0.0272 0.0027 | Ti 0.0163 0.0016
BaO 0.0184 0.0037 | Ba 0.0165 0.0051
V2O5 0.0152 0.0009 | V 0.0085 0.0005
KnownConc=43.39 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 98.8 %
Total % stripped Oxygen: 19.655

C:\UQed\USER\RhKetV\Job\JOB.217 2023-06-02 22:59:00
XHS-4-2 5
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 43.39 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr

CaO 32.82 0.23 | Ca 23.47 0.17
MgO 14.17 0.17 | Mg 8.55 0.11
SiO2 3.31 0.09 | Si 1.55 0.04
Al2O3 1.80 0.07 | Al 0.954 0.037
S03 1.72 0.09 | Sx 0.690 0.034
P2O5 1.18 0.04 | Pk 0.517 0.019
Na2O 0.51 0.11 | Na 0.381 0.084
ZnO 0.438 0.019 | Zn 0.352 0.015
Fe2O3 0.284 0.032 | Fe 0.199 0.022
SrO 0.141 0.007 | Sr 0.120 0.006
MnO 0.0913 0.0069 | Mn 0.0707 0.0054
K2O 0.0673 0.0066 | K 0.0673 0.0056
Cl 0.0233 0.0023 | Cl 0.0140 0.0014
TiO2 0.0193 0.0062 | Ti 0.0160 0.0051
BaO 0.0191 0.0057 | Ba 0.0171 0.0051
KnownConc=43.39 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 98.7 %
Total % stripped Oxygen: 19.652

C:\UQed\USER\RhKetV\Job\JOB.218 2023-06-02 22:59:01
XHS-4-2 6
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 43.39 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr

CaO 32.48 0.23 | Ca 23.22 0.17
MgO 14.68 0.18 | Mg 8.85 0.11
SiO2 3.22 0.09 | Si 1.50 0.04
Al2O3 1.83 0.07 | Al 0.967 0.037
S03 1.65 0.09 | Sx 0.662 0.035
P2O5 1.15 0.04 | Pk 0.504 0.019
Na2O 0.52 0.11 | Na 0.384 0.084
ZnO 0.433 0.019 | Zn 0.348 0.015
Fe2O3 0.283 0.031 | Fe 0.198 0.022
SrO 0.141 0.007 | Sr 0.119 0.006
MnO 0.0872 0.0066 | Mn 0.0675 0.0051
K2O 0.0634 0.0057 | K 0.0634 0.0057
Cl 0.0234 0.0023 | Cl 0.0140 0.0014
TiO2 0.0233 0.0054 | Ti 0.0209 0.0049
BaO 0.0233 0.0054 | Ba 0.0209 0.0049
K2O 0.0206 0.0060 | K 0.0171 0.0050

循环水垢 4-Z 七次检测的结果如下：

	SiO ₂	P ₂ O ₅	SO ₃	Na ₂ O	MgO	Al ₂ O ₃	CaO	Fe ₂ O ₃	ZnO	MnO	Cl	K ₂ O
循环水垢-1	3.28	1.16	1.72	0.82	14.17	1.8	32.58	0.276	0.43	0.0914	0.0638	0.0237
循环水垢-2	3.33	1.18	1.69	0.79	14.32	1.82	32.37	0.28	0.439	0.089	0.0672	0.0212
循环水垢-3	3.18	1.14	1.73	0.51	14.56	1.79	32.63	0.279	0.43	0.0876	0.0676	0.0201
循环水垢-4	3.22	1.15	1.6	0.51	14.79	1.82	32.4	0.285	0.432	0.0871	0.0586	0.0605
循环水垢-5	3.31	1.18	1.72	0.51	14.17	1.8	32.82	0.284	0.438	0.0913	0.0673	0.0193
循环水垢-6	3.22	1.15	1.65	0.52	14.68	1.83	32.48	0.283	0.433	0.0872	0.0634	0.0206
循环水垢-7	3.17	1.14	1.73	0.57	14.51	1.8	32.59	0.277	0.429	0.0834	0.0689	0.0198
4-Z-SD值	0.062944	0.017043	0.049473	0.139027	0.244112	0.014639	0.153592	0.003505	0.004	0.002771	0.003573	0.01508

1.2 方法的精密度

C:\UQed\USER\RhKetV\Job\JOB.220 2023-06-02 22:59:02
BYS-2# 1
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 45.58 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr

CaO 31.96 0.23 | Ca 22.85 0.17
MgO 20.49 0.20 | Mg 12.36 0.12
SiO2 1.18 0.05 | Si 0.551 0.025
Fe2O3 0.412 0.046 | Fe 0.288 0.032
Al2O3 0.271 0.014 | Al 0.143 0.007
Cl 0.0291 0.0046 | Cl 0.0291 0.0046
SrO 0.0247 0.0012 | Sr 0.0209 0.0010
P2O5 0.0246 0.0017 | Pk 0.0107 0.0007
TiO2 0.0160 0.0016 | Ti 0.0096 0.0009
KnownConc=45.58 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 95.2 %
Total % stripped Oxygen: 18.148

C:\UQed\USER\RhKetV\Job\JOB.221 2023-06-02 22:59:03
BYS-2# 2
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 45.58 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr

CaO 32.16 0.23 | Ca 22.99 0.17
MgO 20.32 0.20 | Mg 12.25 0.12
SiO2 1.16 0.05 | Si 0.544 0.025
Fe2O3 0.412 0.046 | Fe 0.288 0.032
Al2O3 0.267 0.014 | Al 0.141 0.007
SrO 0.0249 0.0012 | Sr 0.0210 0.0010
Cl 0.0236 0.0049 | Cl 0.0236 0.0049
TiO2 0.0223 0.0022 | Ti 0.0134 0.0013
P2O5 0.0177 0.0016 | Pk 0.0077 0.0007
KnownConc=45.58 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 95.5 %
Total % stripped Oxygen: 18.124

C:\UQed\USER\RhKetV\Job\JOB.222 2023-06-02 22:59:04
BYS-2# 3
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 45.58 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr

CaO 31.95 0.23 | Ca 22.85 0.17
MgO 20.50 0.20 | Mg 12.37 0.12
SiO2 1.18 0.05 | Si 0.551 0.025
Fe2O3 0.415 0.046 | Fe 0.290 0.032
Al2O3 0.271 0.014 | Al 0.143 0.007
SrO 0.0250 0.0012 | Sr 0.0211 0.0011
Cl 0.0213 0.0050 | Cl 0.0213 0.0050
P2O5 0.0209 0.0017 | Pk 0.0091 0.0007
TiO2 0.0201 0.0020 | Ti 0.0120 0.0012
KnownConc=45.58 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 95.2 %
Total % stripped Oxygen: 18.150

C:\UQed\USER\RhKetV\Job\JOB.223 2023-06-02 22:59:05
BYS-2# 4
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 45.58 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr

CaO 32.21 0.23 | Ca 23.03 0.17
MgO 20.30 0.20 | Mg 12.24 0.12
SiO2 1.15 0.05 | Si 0.537 0.024
Fe2O3 0.406 0.045 | Fe 0.284 0.031
Al2O3 0.266 0.014 | Al 0.141 0.007
SrO 0.0247 0.0012 | Sr 0.0209 0.0010
Cl 0.0238 0.0046 | Cl 0.0238 0.0046
TiO2 0.0190 0.0019 | Ti 0.0114 0.0011
P2O5 0.0091 0.0021 | Pk 0.0060 0.0009
KnownConc=45.58 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 95.7 %
Total % stripped Oxygen: 18.116

C:\UQed\USER\RhKetV\Job\JOB.224 2023-06-02 22:59:06
BYS-2# 5
Quant'X No.2028 Rh-tube Ketc - CAL-Vac
C:\UQed\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22
Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca.,
X-ray path = Vacuum Film type = No supporting film
Case number = 0 All known Eff.Area = 132.7 mm2
Eff.Diam. = 13.0 mm
KnownConc = 45.58 % LOI
Rest = 0 %
1901.250 mg
Dil/Sample = 0
mm
Sample Height = 15.0
mm
Compound m/m StdErr | El m/m StdErr

CaO 32.05 0.23 | Ca 22.92 0.17
MgO 20.42 0.20 | Mg 12.31 0.12
SiO2 1.17 0.05 | Si 0.547 0.025
Fe2O3 0.411 0.046 | Fe 0.288 0.032
Al2O3 0.268 0.014 | Al 0.142 0.007
SrO 0.0249 0.0012 | Sr 0.0211 0.0011
Cl 0.0239 0.0048 | Cl 0.0239 0.0048
TiO2 0.0205 0.0020 | Ti 0.0123 0.0012
P2O5 0.0148 0.0017 | Pk 0.0065 0.0007
KnownConc=45.58 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 95.3 %
Total % stripped Oxygen: 18.136

白云石 2#	标准值	VAC-1	VAC-2	VAC-3	VAC-4	VAC-5	极差
CaO	34.82	31.96	32.16	31.95	32.21	32.05	2.87
MgO	17.34	20.49	20.32	20.5	20.3	20.42	3.16
SiO ₂	1.3	1.18	1.16	1.18	1.15	1.17	0.15
Al ₂ O ₃	0.18	0.271	0.267	0.271	0.266	0.268	0.091
Fe ₂ O ₃	0.447	0.412	0.412	0.415	0.406	0.411	0.041
MnO	0.0072						0.0072
S	0.009						0.009
P	0.0057	0.0107	0.0077	0.0091	0.004	0.0065	0.005
K ₂ O	0.027						0.027
Na ₂ O	0.019						0.019
Ti	0.0085	0.0096	0.0134	0.012	0.0114	0.0123	0.0049
Sr	0.021	0.0209	0.021	0.0211	0.0209	0.0211	0.0001

C:\Qged\USER\RhKetV\Job\JOB.2252023-06-02 22:59:07BYS-4# 1

Quant'X No.2028 Rh-tube Ketec - CAL-VacC:\Qged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..X-ray path = Vacuum Film type = No supporting filmCase number = 0 All known Eff.Diam. = 13.0 mm Eff.Area = 132.7 mm2KnownConc = 46.58 % LOI Rest = 0 %1901.250 mg Dil/Sample = 0 mmViewed Mass = Sample Height = 15.0

Compound	m/m%	StdErr	El	m/m%	StdErr
CaO	30.03	0.23	Ca	21.47	0.16
MgO	22.16	0.21	Mg	13.36	0.13
SiO2	0.563	0.028	Si	0.263	0.013
Al2O3	0.351	0.018	Al	0.186	0.010
Fe2O3	0.227	0.025	Fe	0.159	0.018
Cl	0.0302	0.0047	Cl	0.0302	0.0047
MnO	0.0219	0.0017	Mn	0.0170	0.0013
TiO2	0.0215	0.0021	Ti	0.0129	0.0013
SrO	0.0104	0.0005	Sr	0.0088	0.0004

KnownConc=46.58 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 95.2 %
Total % stripped Oxygen: 17.904

C:\Qged\USER\RhKetV\Job\JOB.2262023-06-02 22:59:09BYS-4# 2

Quant'X No.2028 Rh-tube Ketec - CAL-VacC:\Qged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..X-ray path = Vacuum Film type = No supporting filmCase number = 0 All known Eff.Diam. = 13.0 mm Eff.Area = 132.7 mm2KnownConc = 46.58 % LOI Rest = 0 %1901.250 mg Dil/Sample = 0 mmViewed Mass = Sample Height = 15.0

Compound	m/m%	StdErr	El	m/m%	StdErr
CaO	30.10	0.23	Ca	21.52	0.16
MgO	22.10	0.21	Mg	13.33	0.13
SiO2	0.563	0.028	Si	0.263	0.013
Al2O3	0.343	0.018	Al	0.181	0.009
Fe2O3	0.232	0.026	Fe	0.163	0.018
Cl	0.0256	0.0047	Cl	0.0256	0.0047
MnO	0.0248	0.0019	Mn	0.0192	0.0015
TiO2	0.0186	0.0018	Ti	0.0112	0.0011
SrO	0.0103	0.0005	Sr	0.0087	0.0004
P2O5	0.0063	0.0017	Px	0.0027	0.0008

KnownConc=46.58 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 95.4 %
Total % stripped Oxygen: 17.898

C:\Qged\USER\RhKetV\Job\JOB.2272023-06-02 22:59:10BYS-4# 3

Quant'X No.2028 Rh-tube Ketec - CAL-VacC:\Qged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..X-ray path = Vacuum Film type = No supporting filmCase number = 0 All known Eff.Diam. = 13.0 mm Eff.Area = 132.7 mm2KnownConc = 46.58 % LOI Rest = 0 %1901.250 mg Dil/Sample = 0 mmViewed Mass = Sample Height = 15.0

Compound	m/m%	StdErr	El	m/m%	StdErr
CaO	30.03	0.23	Ca	21.47	0.16
MgO	22.16	0.21	Mg	13.36	0.13
SiO2	0.563	0.028	Si	0.263	0.013
Al2O3	0.347	0.018	Al	0.184	0.010
Fe2O3	0.232	0.026	Fe	0.163	0.018
Cl	0.0309	0.0046	Cl	0.0309	0.0046
MnO	0.0234	0.0018	Mn	0.0181	0.0014
TiO2	0.0219	0.0021	Ti	0.0131	0.0013
SrO	0.0105	0.0005	Sr	0.0089	0.0004

KnownConc=46.58 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 95.2 %
Total % stripped Oxygen: 17.902

C:\Qged\USER\RhKetV\Job\JOB.2282023-06-02 22:59:11BYS-4# 4

Quant'X No.2028 Rh-tube Ketec - CAL-VacC:\Qged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..X-ray path = Vacuum Film type = No supporting filmCase number = 0 All known Eff.Diam. = 13.0 mm Eff.Area = 132.7 mm2KnownConc = 46.58 % LOI Rest = 0 %1901.250 mg Dil/Sample = 0 mmViewed Mass = Sample Height = 15.0

Compound	m/m%	StdErr	El	m/m%	StdErr
CaO	30.21	0.23	Ca	21.60	0.16
MgO	22.00	0.21	Mg	13.27	0.12
SiO2	0.560	0.027	Si	0.262	0.013
Al2O3	0.339	0.018	Al	0.179	0.009
Fe2O3	0.229	0.025	Fe	0.160	0.018
Cl	0.0316	0.0044	Cl	0.0316	0.0044
MnO	0.0229	0.0017	Mn	0.0177	0.0013
TiO2	0.0189	0.0019	Ti	0.0113	0.0011
SrO	0.0103	0.0005	Sr	0.0087	0.0004

KnownConc=46.58 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 95.6 %
Total % stripped Oxygen: 17.881

C:\Qged\USER\RhKetV\Job\JOB.2292023-06-02 22:59:12BYS-4# 5

Quant'X No.2028 Rh-tube Ketec - CAL-VacC:\Qged\USER\RhKetV\Appl\AnySampleVac.kap 2020-01-09 17:58:22Calculated as : Oxides Matrix (Shape & ImpFc) : 4(Ca..X-ray path = Vacuum Film type = No supporting filmCase number = 0 All known Eff.Diam. = 13.0 mm Eff.Area = 132.7 mm2KnownConc = 46.58 % LOI Rest = 0 %1901.250 mg Dil/Sample = 0 mmViewed Mass = Sample Height = 15.0

Compound	m/m%	StdErr	El	m/m%	StdErr
CaO	30.02	0.23	Ca	21.46	0.16
MgO	22.17	0.21	Mg	13.37	0.13
SiO2	0.565	0.028	Si	0.264	0.013
Al2O3	0.349	0.018	Al	0.185	0.010
Fe2O3	0.229	0.025	Fe	0.160	0.018
Cl	0.0349	0.0043	Cl	0.0349	0.0043
MnO	0.0223	0.0017	Mn	0.0173	0.0013
TiO2	0.0187	0.0018	Ti	0.0112	0.0011
SrO	0.0104	0.0005	Sr	0.0088	0.0004

KnownConc=46.58 LOI REST= 0 D/S= 0
Sum Conc's before normalisation to 100% : 95.3 %
Total % stripped Oxygen: 17.903

白云石 4#	标准值	VAC-1	VAC-2	VAC-3	VAC-4	VAC-5	极差
CaO	31.96	30.03	30.1	30.03	30.21	30.02	1.94
MgO	19.92	22.16	22.1	22.16	22	22.17	2.25
SiO ₂	0.77	0.563	0.563	0.563	0.56	0.565	0.21
Al ₂ O ₃	0.23	0.351	0.343	0.347	0.339	0.349	0.121
Fe ₂ O ₃	0.269	0.227	0.232	0.232	0.229	0.229	0.042
MnO	0.031	0.0219	0.0248	0.0234	0.0229	0.0223	0.0091
S	0.01						0.01
P	0.0023		0.0027				0.0023
K ₂ O	0.03						0.03

Na ₂ O	0.033						0.033
Ti	0.011	0.0129	0.0112	0.0131	0.0113	0.0112	0.0021
Sr	0.0081	0.0088	0.0087	0.0089	0.087	0.0088	0.0789

2 预期达到的经济效果

本标准的制定主要是为了满足检验检测机构、生产企业和水处理运维企业对于工业循环冷却水和锅炉用水中的污垢和腐蚀产物成分的快速检测需求，以便快速做出方案决策与调整，使水系统平稳运行。本标准可以更加科学地规范工业循环冷却水及锅炉用水中污垢和腐蚀产物中多元素含量的快速测定方法，引导和促进行业健康发展。通过本标准的制定，使检测方法更加规范和有据可依，提高仪器利用率和工作效率，减少检测误差。本标准的实施对提高检测效率，促进水处理技术高质量发展，保障市场秩序，促进社会经济发展，消除贸易技术壁垒，促进国际贸易开展起到积极地推动作用。

四、采用国际标准和国外先进标准的程度，以及与国际、国外同类标准水平的对比情况，或与测试的国外样品、样机的有关数据对比情况

本标准无相关国际标准和国外先进标准。本标准分析方法科学、快速，结果可靠，能够满足水处理剂生产企业、用户、科研机构及第三方检测机构的快速检测需求。对提高水处理剂质量，促进产品向高端领域研发和升级，保障市场秩序，消除贸易技术壁垒，促进国际贸易开展起到积极地推动作用，其综合水平为国内先进水平。

五、与现行相关法律、法规、规章及相关标准，特别是强制性标准的协调性

本标准遵循相关的法律、法规和强制性国家标准的要求，与我国现行相关法律、法规、规章及相关标准无冲突。

六、重大分歧意见的处理经过和依据

本标准在制定过程中无重大分歧意见。

七、标准性质的建议说明

建议将本标准作为推荐性标准使用。

八、贯彻标准的要求和措施建议

建议尽快发布本标准并自发布之日起6个月实施。建议标准实施后组织标准宣贯，使标准应用单位了解标准内容，促进标准实施应用。

九、废止现行有关标准的建议

无。

十、其他应予说明的事项

无。

《工业循环冷却水和锅炉用水中污垢和腐蚀产物中多元素含量的
快速测定 X射线荧光光谱法》标准编制组
2023年6月