

# TPV 2018 Conflict Minerals Report

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## 1. Conflict Mineral Definition

Conflict minerals: In Congo-kinshasa and the surrounding countries, the mining of tin, tantalum, tungsten and gold (known as “3TG” conflict mineral), cobalt and other rare earth elements has caused a serious human rights and environmental issues. Most of the mining activities in these areas associated with armed groups of conflict (funding), leading to long-term instability in the region.

Various parties, including the Congress of United States, have concerns over the exploitation and trade of conflict minerals by armed groups is helping to finance conflict in the DRC region and is contributing to an emergency humanitarian crisis.

Following the conflict mineral will focus on 3TG and Cobalt which are widely used in electric products.

## 2. Conflict Mineral Management Policy

To support the global prohibition of conflict mineral, TPV has built an internal conflict mineral management protocol to ensure that TPV and its suppliers will avoid the procurement of conflict minerals. TPV itself and suppliers, neither direct nor indirect, finance armed groups in conflict-affected regions. TPV itself and suppliers neither tolerate nor contribute to human rights abuses that include forced labor, child labor and environmental degradation.

## 3. TPV Due Diligence Program

Based on the second edition of the *Organization for Economic Co-operation and Development Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas* (including its supplements on 3TG, referred to in this report as “OECD Guidance”), TPV support an industry initiative that uses an independent third-party audit to identify smelters and refiners that have systems in place to assure sourcing of only conflict-free materials. That industry initiative is RMI (Responsible Mineral Initiative) and known as CFSI (*Conflict-Free Sourcing Initiative*). TPV Technology Limited has been a member of the RMI since 2015.

Based on the OECD’s five-step framework for due diligence in the mineral supply chain, TPV has built its own program:

### Step 1: Establish strong company management system

- 1) TPV has published this conflict mineral report on [www.tpv-tech.com](http://www.tpv-tech.com) which lists out the requirement of suppliers conflict mineral management;
- 2) TPV is committed not to purchase raw materials, subassemblies, or supplies which we know contain conflict minerals that directly or indirectly finance or benefit armed groups in the DRC or an adjoining country;
- 3) TPV requires suppliers to complete the Conflict Minerals Reporting Templates (CMRT) on a yearly basis; and
- 4) TPV requires the high/low risk suppliers to sign the guarantee letter of no use of conflict minerals.

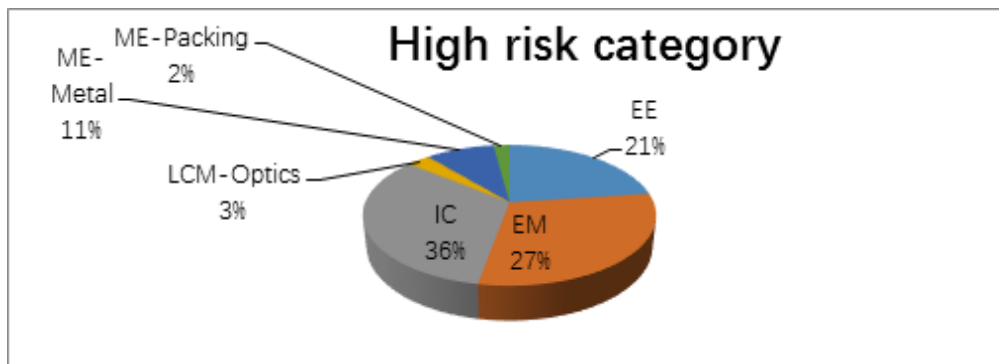
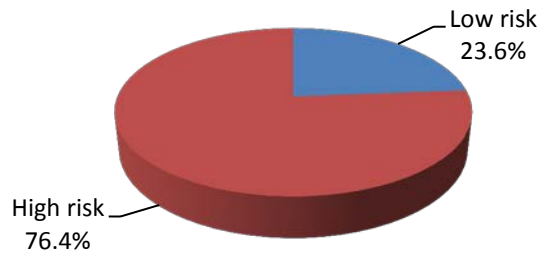
### Step 2: Identify and assess risks in the supply chain

- 1) Establish a risk review methodology for responsible mineral source as <Conflict mineral risk assessment form> to identify risks in the supply chain. To identify the metal parts as high risk if they have either of tin, tantalum, tungsten, gold and Cobalt. To identify the metal parts as low risk if they has no anyone of tin, tantalum, tungsten, gold and Cobalt. To identify the parts as no Risk

if they are not metal parts;

- 2) According to the above risk identification, TPV addresses high and low risk suppliers for due diligence investigation: a) requires high and low risk suppliers to sign the guarantee letter that not directly or indirectly to finance or benefit armed groups in the DRC or an adjoining country, neither to tolerate nor contribute to human rights abuses that include forced labor, child labor and environmental degradation.

**2018 TPV High/Low risk ratio**



- 3) Evaluate the smelters identified in the supplier CMRTs based on the information available and to confirm using the RMAP (Responsible Mineral Assurance Process) compliant smelter list. TPV relies on industry programs such as the RMAP to carry out smelter assessments, and also rely on the RMAP compliant smelter list to determine whether smelters performed due diligence.

**Step 3: Design and implement a strategy to respond to identified risks**

- 1) Identify non-RMAP compliant smelters as high risks. For non-conformities identified, we have an obligation to promote suppliers' understanding of using conflict-free minerals is an important term in our procurement scoring program. If there is an alternative, TPV prefers to select a reliable supply chain. In 2019, TPV will focus on promoting the establishment of conflict-free minerals management methods in the supply chain, and will continue to conduct random checks on high-risk suppliers through e-mail, phone or other electrical communication tools, and provide feedback on how to improve policies when necessary;
- 2) Cross check the latest RMAP smelter list released by RMI and double confirm whether the changes would affect TPV's smelter list. If the smelter is removed from the RMAP system, TPV will repeat the procedure in Step 3 item 1 listed above

**Step 4: Plan an independent third-party audit of the smelter or refiner's due diligence**

TPV relies on information provided by the RMAP for this step, and uses the RMI RCOI report to identify the minerals country of origin and conflict-free status of smelters.

**Step 5: Report annually on supply chain due diligence**

Since 2017 TPV reports annually on supply chain due diligence and will continue to update the smelter list.

**4. Due Diligence Practice in the Supply Chain**

In 2018, TPV initiated a high-risk supplier survey, the response rate shall be achieved 100% according to TPV's strictly demand, the survey also requested the proportion of RMAP certified smelters and refiners shall be more than 90%. In summary, until March 1, 2019, there were 222 3TG smelters or refineries in TPV supply chain, and 222 (100%) of them have participated and passed the RMAP certification.

Since 2016, TPV has issued targeted communications to help our suppliers improve their reports and due diligence. At the launch of the supplier survey, we distributed information to help suppliers return complete and accurate CMRTs. As suppliers returned CMRTs, we reviewed their responses against our internally-developed framework for reasonableness and risk. We also offered guidance to suppliers who did not understand how to determine whether 3TG and Cobalt originated in the covered countries, or how to determine whose conflict minerals policies indicated that they did not intend to source from the Covered Countries. In 2018 we maintained our expectations for suppliers to source from RMAP-compliant smelters and refiners and to take steps to address risks in the conflict mineral supply chain.

Despite what TPV achieves we all know researching the source of minerals through the supply chain is a complex task. As the final assemblies TPV does not purchase materials directly from mines, smelters or refiners. At this stage, it is impossible to trace the use of mineral materials at each downstream supplier of each material. Instead of that, TPV relies on the suppliers' reports to do conflict minerals survey. Therefore, the complete and correct supplier reports and the suppliers' procurement contracts will reduce the risk of purchasing components with mineral-containing materials.

**5. Further Due Diligence Plan**

From 2019 TPV plans to have the CMRT investigation of Cobalt together with 3TG. TPV continues our engagement with industry programs like RMI, to actively attend its seminar, summit to have the latest information and pass to the priority suppliers. And continue to reach out to smelters that are not yet RMAP compliant, to keep at least 90% RMAP compliant smelters. And continue our work with priority suppliers to help them understand and satisfy TPV conflict mineral management system.

## **6. Addressing Concerns**

TPV actively encourages its employees and other parties to report concerns either directly to the company or through TPV's ethics hotline, training course and other reasonable channels. Employees, customers or suppliers of the company can accuse violations of TPV's ethical behavior or potential violations by specific channel: (Lisali@tpv-tech.com), or by phone (0591-85285555). TPV accepts any positive opinions to minimize procurement risks and increase responsibility to the international community's actions about conflict-free minerals.

~End~

**Appendix: 2018 Smelter List**

item	Metal (*)	Smelter Look-up (*)	Smelter Country (*)
1	Tin	Metallo Spain S.L.U.	SPAIN
2	Tin	Metallo Belgium N.V.	BELGIUM
3	Gold	Italpreziosi	ITALY
4	Gold	L'Orfebre S.A.	ANDORRA
5	Gold	SAAMP	FRANCE
6	Tungsten	Unecha Refractory metals plant	RUSSIAN FEDERATION
7	Tantalum	Resind Industria e Comercio Ltda.	BRAZIL
8	Tin	Resind Industria e Comercio Ltda.	BRAZIL
9	Tungsten	Hydrometallurg, JSC	RUSSIAN FEDERATION
10	Tungsten	Ganzhou Haichuang Tungsten Co., Ltd.	CHINA
11	Gold	Marsam Metals	BRAZIL
12	Gold	Korea Zinc Co., Ltd.	KOREA, REPUBLIC OF
13	Tin	CV Tiga Sekawan	INDONESIA
14	Tin	CV Dua Sekawan	INDONESIA
15	Tungsten	Niagara Refining LLC	UNITED STATES OF AMERICA
16	Gold	Remondis Argentia B.V.	NETHERLANDS
17	Gold	T.C.A S.p.A	ITALY
18	Tungsten	Hunan Chuangda Vanadium Tungsten Co., Ltd. Wuji	CHINA
19	Tin	CV Ayi Jaya	INDONESIA
20	Tantalum	KEMET Blue Powder	UNITED STATES OF AMERICA
21	Gold	Emirates Gold DMCC	UNITED ARAB EMIRATES
22	Gold	Al Etihad Gold LLC	UNITED ARAB EMIRATES
23	Tantalum	Global Advanced Metals Aizu	JAPAN
24	Tantalum	Global Advanced Metals Boyertown	UNITED STATES OF AMERICA
25	Tungsten	Jiangwu H.C. Starck Tungsten Products Co., Ltd.	CHINA
26	Tantalum	H.C. Starck Smelting GmbH & Co. KG	GERMANY
27	Tantalum	H.C. Starck Ltd.	JAPAN
28	Tantalum	H.C. Starck Inc.	UNITED STATES OF AMERICA
29	Tantalum	H.C. Starck Hermsdorf GmbH	GERMANY
30	Tantalum	H.C. Starck Tantalum and Niobium GmbH	GERMANY
31	Tantalum	H.C. Starck Co., Ltd.	THAILAND
32	Tungsten	Nui Phao H.C. Starck Tungsten Chemicals Manufacturing LLC	VIET NAM

33	Tungsten	H.C. Starck Smelting GmbH & Co. KG	GERMANY
34	Tungsten	H.C. Starck Tungsten GmbH	GERMANY
35	Tantalum	KEMET Blue Metals	MEXICO
36	Tin	PT Inti Stania Prima	INDONESIA
37	Tin	O.M. Manufacturing Philippines, Inc.	PHILIPPINES
38	Gold	Singway Technology Co., Ltd.	TAIWAN, PROVINCE OF CHINA
39	Tungsten	Chenzhou Diamond Tungsten Products Co., Ltd.	CHINA
40	Tantalum	Jiangxi Dinghai Tantalum & Niobium Co., Ltd.	CHINA
41	Gold	MMTC-PAMP India Pvt., Ltd.	INDIA
42	Tantalum	XinXing HaoRong Electronic Material Co., Ltd.	CHINA
43	Tantalum	Jiujiang Zhongao Tantalum & Niobium Co., Ltd.	CHINA
44	Tantalum	FIR Metals & Resource Ltd.	CHINA
45	Tantalum	D Block Metals, LLC	UNITED STATES OF AMERICA
46	Tin	PT ATD Makmur Mandiri Jaya	INDONESIA
47	Tin	Melt Metais e Ligas S.A.	BRAZIL
48	Tungsten	Ganzhou Seadragon W & Mo Co., Ltd.	CHINA
49	Tantalum	Hengyang King Xing Lifeng New Materials Co., Ltd.	CHINA
50	Tin	Magnu's Minerai's Metais e Ligas Ltda.	BRAZIL
51	Gold	Geib Refining Corporation	UNITED STATES OF AMERICA
52	Tin	CV Venus Inti Perkasa	INDONESIA
53	Tungsten	Jiangxi Gan Bei Tungsten Co., Ltd.	CHINA
54	Tungsten	Xiamen Tungsten (H.C.) Co., Ltd.	CHINA
55	Tungsten	Malipo Haiyu Tungsten Co., Ltd.	CHINA
56	Tungsten	Jiangxi Tonggu Non-ferrous Metallurgical & Chemical Co., Ltd.	CHINA
57	Tungsten	Jiangxi Xinsheng Tungsten Industry Co., Ltd.	CHINA
58	Tungsten	Jiangxi Yaosheng Tungsten Co., Ltd.	CHINA
59	Tungsten	Ganzhou Jiangwu Ferrotungsten Co., Ltd.	CHINA
60	Gold	Umicore Precious Metals Thailand	THAILAND
61	Gold	Gold Refinery of Zijin Mining Group Co., Ltd.	CHINA
62	Gold	Zhongyuan Gold Smelter of Zhongjin Gold Corporation	CHINA
63	Tin	Yunnan Tin Company Limited	CHINA
64	Tin	Yunnan Chengfeng Non-ferrous Metals Co., Ltd.	CHINA
65	Gold	Yokohama Metal Co., Ltd.	JAPAN
66	Gold	Yamakin Co., Ltd.	JAPAN
67	Tungsten	Xinhai Rendan Shaoguan Tungsten Co., Ltd.	CHINA
68	Tungsten	Xiamen Tungsten Co., Ltd.	CHINA
69	Tungsten	Wolfram Bergbau und Hutten AG	AUSTRIA
70	Tin	White Solder Metalurgia e Mineracao Ltda.	BRAZIL

71	Gold	Western Australian Mint (T/a The Perth Mint)	AUSTRALIA
72	Gold	Valcambi S.A.	SWITZERLAND
73	Gold	United Precious Metal Refining, Inc.	UNITED STATES OF AMERICA
74	Gold	Umicore S.A. Business Unit Precious Metals Refining	BELGIUM
75	Gold	Umicore Brasil Ltda.	BRAZIL
76	Tantalum	Ulba Metallurgical Plant JSC	KAZAKHSTAN
77	Gold	Torecom	KOREA, REPUBLIC OF
78	Gold	Tokuriki Honten Co., Ltd.	JAPAN
79	Gold	The Refinery of Shandong Gold Mining Co., Ltd.	CHINA
80	Tin	Gejiu Yunxin Nonferrous Electrolysis Co., Ltd.	CHINA
81	Tin	Thaisarco	THAILAND
82	Tantalum	Telex Metals	UNITED STATES OF AMERICA
83	Tungsten	Tejing (Vietnam) Tungsten Co., Ltd.	VIET NAM
84	Gold	Tanaka Kikinzoku Kogyo K.K.	JAPAN
85	Tantalum	Taki Chemical Co., Ltd.	JAPAN
86	Gold	Sumitomo Metal Mining Co., Ltd.	JAPAN
87	Tantalum	Solikamsk Magnesium Works OAO	RUSSIAN FEDERATION
88	Gold	Solar Applied Materials Technology Corp.	TAIWAN, PROVINCE OF CHINA
89	Tin	Soft Metais Ltda.	BRAZIL
90	Gold	SOE Shyolkovsky Factory of Secondary Precious Metals	RUSSIAN FEDERATION
91	Gold	Sichuan Tianze Precious Metals Co., Ltd.	CHINA
92	Gold	Shandong Zhaojin Gold & Silver Refinery Co., Ltd.	CHINA
93	Gold	SEMPSA Joyeria Plateria S.A.	SPAIN
94	Gold	Samduck Precious Metals	KOREA, REPUBLIC OF
95	Tin	Rui Da Hung	TAIWAN, PROVINCE OF CHINA
96	Gold	Royal Canadian Mint	CANADA
97	Tantalum	RFH Tantalum Smeltery Co., Ltd./Yanling Jincheng Tantalum & Niobium Co., Ltd.	CHINA
98	Gold	Rand Refinery (Pty) Ltd.	SOUTH AFRICA
99	Tantalum	QuantumClean	UNITED STATES OF AMERICA
100	Gold	PX Precinox S.A.	SWITZERLAND
101	Tin	PT Tommy Utama	INDONESIA
102	Tin	PT Tinindo Inter Nusa	INDONESIA
103	Tin	PT Timah (Persero) Tbk Mentok	INDONESIA



104	Tin	PT Timah (Persero) Tbk Kundur	INDONESIA
105	Tin	PT Sumber Jaya Indah	INDONESIA
106	Tin	PT Stanindo Inti Perkasa	INDONESIA
107	Tin	PT Sariwiguna Binasentosa	INDONESIA
108	Tin	PT Refined Bangka Tin	INDONESIA
109	Tin	PT Prima Timah Utama	INDONESIA
110	Tin	PT Panca Mega Persada	INDONESIA
111	Tin	PT Mitra Stania Prima	INDONESIA
112	Tin	PT Karimun Mining	INDONESIA
113	Tin	PT DS Jaya Abadi	INDONESIA
114	Tin	PT Bukit Timah	INDONESIA
115	Tin	PT Belitung Industri Sejahtera	INDONESIA
116	Tin	PT Bangka Tin Industry	INDONESIA
117	Tin	PT Babel Inti Perkasa	INDONESIA
118	Tin	PT Artha Cipta Langgeng	INDONESIA
119	Gold	PT Aneka Tambang (Persero) Tbk	INDONESIA
120	Gold	Prioksky Plant of Non-Ferrous Metals	RUSSIAN FEDERATION
121	Gold	PAMP S.A.	SWITZERLAND
122	Tin	Operaciones Metalurgical S.A.	BOLIVIA (PLURINATIONAL STATE OF)
123	Gold	OJSC "The Gulidov Krasnoyarsk Non-Ferrous Metals Plant" (OJSC Krastsvetmet)	RUSSIAN FEDERATION
124	Gold	Ohura Precious Metal Industry Co., Ltd.	JAPAN
125	Tin	O.M. Manufacturing (Thailand) Co., Ltd.	THAILAND
126	Tantalum	Ningxia Orient Tantalum Industry Co., Ltd.	CHINA
127	Gold	Nihon Material Co., Ltd.	JAPAN
128	Tin	Jiangxi New Nanshan Technology Ltd.	CHINA
129	Gold	Nadir Metal Rafineri San. Ve Tic. A.S.	TURKEY
130	Gold	Moscow Special Alloys Processing Plant	RUSSIAN FEDERATION
131	Tantalum	NPM Silmet AS	ESTONIA
132	Gold	Mitsui Mining and Smelting Co., Ltd.	JAPAN
133	Tantalum	Mitsui Mining and Smelting Co., Ltd.	JAPAN
134	Tin	Mitsubishi Materials Corporation	JAPAN
135	Gold	Mitsubishi Materials Corporation	JAPAN
136	Tin	Minsur	PERU
137	Tantalum	Mineracao Taboca S.A.	BRAZIL
138	Tin	Mineracao Taboca S.A.	BRAZIL
139	Tantalum	Metallurgical Products India Pvt., Ltd.	INDIA
140	Gold	Metalurgica Met-Mex Penoles S.A. De C.V.	MEXICO
141	Gold	Metalor USA Refining Corporation	UNITED STATES OF AMERICA
142	Gold	Metalor Technologies S.A.	SWITZERLAND

143	Gold	Metalor Technologies (Singapore) Pte., Ltd.	SINGAPORE
144	Gold	Metalor Technologies (Hong Kong) Ltd.	CHINA
145	Gold	Metalor Technologies (Suzhou) Ltd.	CHINA
146	Tin	Metallic Resources, Inc.	UNITED STATES OF AMERICA
147	Gold	Matsuda Sangyo Co., Ltd.	JAPAN
148	Gold	Materion	UNITED STATES OF AMERICA
149	Tin	Malaysia Smelting Corporation (MSC)	MALAYSIA
150	Gold	LS-NIKKO Copper Inc.	KOREA, REPUBLIC OF
151	Tantalum	LSM Brasil S.A.	BRAZIL
152	Tin	China Tin Group Co., Ltd.	CHINA
153	Gold	Kyrgyzaltyn JSC	KYRGYZSTAN
154	Gold	Kojima Chemicals Co., Ltd.	JAPAN
155	Gold	Kennecott Utah Copper LLC	UNITED STATES OF AMERICA
156	Tungsten	Kennametal Fallon	UNITED STATES OF AMERICA
157	Gold	Kazzinc	KAZAKHSTAN
158	Tin	Gejiu Kai Meng Industry and Trade LLC	CHINA
159	Gold	JX Nippon Mining & Metals Co., Ltd.	JAPAN
160	Gold	JSC Uralelectromed	RUSSIAN FEDERATION
161	Gold	Asahi Refining Canada Ltd.	CANADA
162	Gold	Asahi Refining USA Inc.	UNITED STATES OF AMERICA
163	Tantalum	Jiujiang Tanbre Co., Ltd.	CHINA
164	Tantalum	JiuJiang JinXin Nonferrous Metals Co., Ltd.	CHINA
165	Tungsten	Ganzhou Huaxing Tungsten Products Co., Ltd.	CHINA
166	Gold	Jiangxi Copper Co., Ltd.	CHINA
167	Tungsten	Japan New Metals Co., Ltd.	JAPAN
168	Gold	Japan Mint	JAPAN
169	Gold	Istanbul Gold Refinery	TURKEY
170	Gold	Ishifuku Metal Industry Co., Ltd.	JAPAN
171	Gold	Inner Mongolia Qiankun Gold and Silver Refinery Share Co., Ltd.	CHINA
172	Tungsten	Hunan Chunchang Nonferrous Metals Co., Ltd.	CHINA
173	Tungsten	Hunan Chenzhou Mining Co., Ltd.	CHINA
174	Tin	Huichang Jinshunda Tin Co., Ltd.	CHINA
175	Gold	Heraeus Precious Metals GmbH & Co. KG	GERMANY
176	Gold	Heraeus Metals Hong Kong Ltd.	CHINA
177	Gold	Heimerle + Meule GmbH	GERMANY
178	Gold	HeeSung Metal Ltd.	KOREA, REPUBLIC OF

179	Tantalum	Guangdong Zhiyuan New Material Co., Ltd.	CHINA
180	Tungsten	Global Tungsten & Powders Corp.	UNITED STATES OF AMERICA
181	Tin	Gejiu Zili Mining And Metallurgy Co., Ltd.	CHINA
182	Tin	Gejiu Non-Ferrous Metal Processing Co., Ltd.	CHINA
183	Tungsten	Fujian Jinxin Tungsten Co., Ltd.	CHINA
184	Gold	OJSC Novosibirsk Refinery	RUSSIAN FEDERATION
185	Tin	Fenix Metals	POLAND
186	Tantalum	F&X Electro-Materials Ltd.	CHINA
187	Tantalum	Exotech Inc.	UNITED STATES OF AMERICA
188	Tin	EM Vinto	BOLIVIA (PLURINATIONAL STATE OF)
189	Gold	Eco-System Recycling Co., Ltd.	JAPAN
190	Tin	Dowa	JAPAN
191	Gold	Dowa	JAPAN
192	Gold	DODUCO Contacts and Refining GmbH	GERMANY
193	Gold	DSC (Do Sung Corporation)	KOREA, REPUBLIC OF
194	Gold	Daejin Indus Co., Ltd.	KOREA, REPUBLIC OF
195	Tin	CV United Smelting	INDONESIA
196	Tin	PT Premium Tin Indonesia	INDONESIA
197	Tin	PT Aries Kencana Sejahtera	INDONESIA
198	Tin	CV Gita Pesona	INDONESIA
199	Tin	Alpha	UNITED STATES OF AMERICA
200	Tantalum	Guangdong Rising Rare Metals-EO Materials Ltd.	CHINA
201	Tungsten	Chongyi Zhangyuan Tungsten Co., Ltd.	CHINA
202	Gold	Chimet S.p.A.	ITALY
203	Tin	Chenzhou Yunxiang Mining and Metallurgy Co., Ltd.	CHINA
204	Tungsten	Guangdong Xianglu Tungsten Co., Ltd.	CHINA
205	Tantalum	Changsha South Tantalum Niobium Co., Ltd.	CHINA
206	Gold	Cendres + Metaux S.A.	SWITZERLAND
207	Gold	CCR Refinery - Glencore Canada Corporation	CANADA
208	Gold	C. Hafner GmbH + Co. KG	GERMANY
209	Gold	Boliden AB	SWEDEN
210	Gold	Bangko Sentral ng Pilipinas (Central Bank of the Philippines)	PHILIPPINES
211	Gold	Aurubis AG	GERMANY

212	Tungsten	Kennametal Huntsville	UNITED STATES OF AMERICA
213	Tantalum	Asaka Riken Co., Ltd.	JAPAN
214	Gold	Asaka Riken Co., Ltd.	JAPAN
215	Gold	Asahi Pretec Corp.	JAPAN
216	Gold	Argor-Heraeus S.A.	SWITZERLAND
217	Gold	AngloGold Ashanti Corrego do Sitio Mineracao	BRAZIL
218	Gold	Almalyk Mining and Metallurgical Complex (AMMC)	UZBEKISTAN
219	Gold	Allgemeine Gold-und Silberscheideanstalt A.G.	GERMANY
220	Gold	Aida Chemical Industries Co., Ltd.	JAPAN
221	Gold	Advanced Chemical Company	UNITED STATES OF AMERICA
222	Tungsten	A.L.M.T. TUNGSTEN Corp.	JAPAN