

**“THE GREEN PROGRAM”**

**A 3TG MINERALS TRACEABILITY  
CERTIFICATION PROGRAM**

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[www.thegreenprogram.org](http://www.thegreenprogram.org)

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## **Background**

The international community has determined that a more comprehensive response to the problem of “conflict minerals” needs to be developed. “Conflict Minerals” are referred to as the 3T & G minerals – Tin, Tantalum, Tungsten and Gold that have been used to fuel the instability and human rights abuses in the eastern part of the Democratic Republic of the Congo (DRC). The United States enacted the “Congo Conflict Minerals Act of 2009” as part of the Dodd-Frank Wall Street Reform Act of 2009 to address the presence of “conflict minerals” in the global 3TG minerals supply chain. The law requires that the 3TG minerals supply chain that stretches from the DRC and the countries that border the DRC, including South Sudan, Uganda, Rwanda, Burundi, Tanzania, Malawi, Zambia, Angola, Republic of the Congo and the Central African Republic to smelters must be able to identify any minerals or products that may contain “conflict minerals”.

The US Securities and Exchange Commission (SEC) has been given the responsibility of implementing the Dodd-Frank legislation and finalized Rules to govern this process. The Rules require that publicly traded U.S. companies identify and publish reports addressing if their supply chain is free of “conflict minerals” and if there is proper mine safety reporting by the suppliers of 3TG minerals. The Green Program was specifically designed by mining sector professionals to address the requirements of both the Dodd-Frank legislation and the SEC Rules. The EU and Canada have also begun the legislative process to require similar regulatory control of companies who operate within their borders.

### **The Securities and Exchange Commission Requirements**

The SEC Rules require companies in the US to disclose whether “conflict minerals” may be or are contained in the products they are manufacturing or selling. The companies must make a “reasonable country of origin determination” if conflict minerals are present in their products. If the companies know or cannot determine if “conflict minerals” are present in the products they manufacture and sell then they will be required to disclose these facts to the public.

The proposed Rules also state that when it becomes feasible, because of improved technology in the 3T minerals supply chain, the companies will be held to a higher standard of “due diligence” in order to comply with the requirements of the proposed Rules

### **Certifications Schemes**

In order to assist governments and industry to comply with the US legislation, 4 main certification schemes and some smaller schemes, sponsored by trade support groups, government entities and other organizations are either already operational or at some stage of implementation. The 3TG minerals and smelter certification initiatives described below involve processes that the organizers and supporters had hoped would give some transparency, security and traceability to the 3TG minerals supply chain. A certification scheme is being developed by the International Conference on the Great Lakes Region (ICGLR) and will be a regional certification program.

The reality of the 3TG minerals supply chain in the Great Lakes region is such that even if a large private company “ring fences” or attempts to develop a “closed loop” supply chain of their 3T mineral, like the industry “Solutions for Hope” process, there is substantial evidence supplied by the UN Group of Experts and others that supplies of “conflict minerals” are easily smuggled into even “closed loop” supply chains at many different points prior to the minerals being smelted. Smuggled conflict minerals that had their country of origin documentation changed at some point after the minerals left the DRC conflict zones and smelters who can easily introduce “conflict mineral” ores during the smelting process are just two examples of how the mineral supply chain continues to be contaminated with large amounts of “conflict minerals”.

### **International Tin Research Institute (ITRI)**

Currently the process that was developed by the International Tin Research Institute (ITRI [www.itri.co.uk](http://www.itri.co.uk)) is the only certification process with widespread acceptance by the 3T mineral supply chain. ITRI is a non-profit trade support group that is primarily owned and administered by the global tin smelters, metals traders and support organizations (such as financiers and logistics companies). ITRI developed another non-profit organization called iTSCi (ITRI Tin Supply Chain Initiative) to administer their “bag and tag” scheme. iTSCi currently has a de facto monopoly over 3TG mineral certification in the DRC and the surrounding countries because it is the only program in operation. From their website the purpose of ITRI is “...to supporting the tin industry and expanding tin use. It is largely funded by tin producers and smelters.” ([www.itri.co.uk](http://www.itri.co.uk)).

The purpose of iTSCi from the ITRI website is:

“iTSCi (ITRI Tin Supply Chain Initiative) is a joint initiative that assists upstream companies (from mine to the smelter) to institute the actions, structures, and processes necessary to conform with the OECD Due Diligence Guidance (DDG) at a very practical level, including small and medium size enterprises, co-operatives and artisanal mine sites.”

Additionally:

“iTSCi offers mineral chain of custody information in keeping with the requirements of the EICC®-GeSI Conflict-Free Smelter Assessment Programme (CFS). Consequently iTSCi will help relevant US companies report on their due diligence efforts to the Securities and Exchange Commission (SEC), as required by the Dodd-Frank Act.”

“Since 2011, iTSCi has been in the implementation phase in Rwanda and the southern DRC province of Katanga. iTSCi may be extended to Burundi and Uganda, if funding is assured, and eventually the entire GLR.”

([http://www.itri.co.uk/index.php?option=com\\_zoo&view=item&Itemid=189](http://www.itri.co.uk/index.php?option=com_zoo&view=item&Itemid=189))

The ITRI plan relies on a verbal and unverifiable declaration by the different suppliers up the mineral supply chain that no conflict minerals are contained in the minerals or shipments of 3T minerals they are supplying. This type of certification effort is referred to as “Bag and Tag”. As the minerals are purchased from different sources, they are placed into a bag and tagged with details of the supplier of the minerals who verbally certifies that the minerals are from a specific location and assigned a unique serial number. In the

case of a large mining operation, the employees of the company verbally certify that the minerals only come from their mining concession. The tagging is not done as the minerals are leaving the mining hole or site and in some cases the minerals are left untagged for several days until the government tagging official is able to return to the mine site. During this time the minerals are left untagged and under the control of the mine site operator, trader or cooperative.

There is no process in place to verify if the minerals at any point of the “upstream” supply chain (from the mine site to the smelter) are the same minerals that were “certified” as coming from the noted mine site. “Conflict minerals” that can currently be purchased at a significant discount, are currently being substituted for the non-conflict minerals according to the UN Group of Experts. Even at large mining sites, there is no motivation for anyone to go to the added expense of ensuring that the minerals that are being tagged, are, in fact, coming from the location that is noted on the tagging paperwork.

The ITRI tagging certification scheme is not able to verify in a more scientific and tamper-proof manner the country of origin of any of the minerals that are tagged, as is required by the SEC Rules and OECD standards of “due diligence”. The current high level of smuggling that occurs throughout the 3TG minerals supply chain results in a situation where it is impossible for the global 3TG minerals supply chain to certify that it is free of “conflict minerals” with the level of confidence and due diligence that is required.

#### **Global e-Sustainability Initiative (GeSI) and the Electronic Industry Citizenship Coalition (EICC)**

The GeSI and EICC organizations have developed a voluntary smelter supply chain certification program that is similar to and exclusively relies on the ITRI verbal certification initiative to certify their own voluntary certification program of smelters and end user suppliers of Tin, Tantalum and Tungsten. Currently even the large specialized smelters of tantalum who have been certified by the GeSI/EICC smelter certification program cannot verify with the necessary level of due diligence that the country of origin of any of the 3TG minerals they are smelting come from the locations that are noted on the shipping documentation. A verifiable, “closed loop” upstream supply chain to include the smelter level in a more scientific, tamper-proof manner each shipment of minerals prior to being smelted is also needed so companies can comply with the US legislation. Currently the GeSI/EICC smelter certification process lacks this ability. The result of this shortcoming is that there are currently too few global tin smelters (less than 3) who have been certified as free of conflict minerals. Currently none of the 3TG smelters can verify to the level of confidence required by the SEC Rules or OECD Guidelines that they are free of conflict minerals from the DRC.

#### **German Federal Institute of Geosciences and Natural Resources (BGR)**

BGR has been developing a Certified Trading Chain (CTC) program that will predominately focus on large mining operations in the Great Lakes region. Mineral samples from some of the mining sites are collected, again on a voluntary basis, and sent by the companies to Germany where the samples are analyzed with an electron

microscope and compared with known samples from the same location. This analytical process is known as “mineral fingerprinting” and is an extremely accurate analysis of all of the very small quantities of trace minerals that are unique to each location, even within the same mine site. These “mineral fingerprints” are compiled into a database that can be used to compare against the “fingerprint” of samples of minerals after they have been shipped if there is a question that the shipment may contain conflict minerals.

The main problems with this fingerprinting scheme are: a) it is only focused on the biggest mine sites; b) none of the samples are “certified” as having come from the sites that the company says is the location of the minerals; c) all of the samples have to be sent to Germany for analysis that can take weeks if not months to complete; d) the cost of each sampling is \$1,000. With the millions of individual minerals transactions that are the major method of mining 3TG minerals in the DRC and surrounding countries, it is unrealistic and impractical to rely on this method of providing traceability and “chain of custody” mineral sampling and testing.

### **The International Conference on the Great Lakes Region**

The ICGLR is developing a regional mineral certification mechanism but has yet to enter an implementation phase; and no timeline has been announced as to when this regional scheme will be introduced. It has always been assumed that any and all of the 3TG minerals certification processes will be incorporated into the regional ICGLR certification mechanism. All of the procedures of the Green Program are in full compliance with the OECD, U.N. Group of Experts guidelines and are in full compliance with the anticipated ICGLR certification mechanism.

## **The Need for a More Dynamic Solution**

The Green Program is based on several US technologically advanced methods of determining and identifying the source of minerals and tracking them to limit the ability of “conflict minerals” from being smuggled undetected into the supply chain. Our identified solutions will continue to undergo development and testing in the mining sector to ensure the solutions fulfill the necessary goal of identifying and excluding “conflict minerals” from the 3TG supply chain. The level of poverty and the willingness of many companies in the mining and minerals process business across the region to increase their incomes by smuggling minerals or corrupting any voluntary certification scheme, make it imperative that any system include a process that includes technology that will allow for scientific, field tested data acquisition, sampling, and reference to known ore data sets. Our dynamic addition to the mineral and smelter certification initiatives has scientific and economical ways to verify and then certify that the 3T minerals are “clean” and our shipments are from certified mine site areas.

Currently, because of the high level of smuggling of conflict minerals and the widespread corruption in all the certification schemes, NONE of the current certification systems can realistically provide a large scale “closed loop” 3TG minerals supply chain. The Green Program is structured to offer large scale traceability of the 3TG minerals to the degree

that is required by the SEC Rules, OECD and UN Group of Experts guidelines. Without the Green Programs' 3TG minerals traceability certification program there will be NO verifiable mechanism to certify the country of origin of ANY of the 3TG minerals in the supply chain.

The Green Program is able to comply with all regulations and guidelines and will utilize a wide variety and combination of sector-known and scientifically based state of the art technology, detailed local and global knowledge of the mining sector, cultural and civic awareness to provide an additional level of due diligence that is required by the U.S. SEC "reasonable country of origin inquiry". None of the current certification systems have been designed or developed by individuals or organizations with field experience in the mining sector in the DRC and the Great Lakes region.

The current ITRI "bag and tag" solution is an example of a solution that is overly rigid by design and as the UN Group of Experts has reported in 2012, has not stopped the flow of conflict and smuggled 3T minerals into the iTSCi and GeSI/EICC certification programs.

The pragmatic reality of the 3TG minerals trade is that unless there is a more scientific and data-centered tamper proof component to the minerals certification process, (that begins at the entry point of the minerals into the supply chain) there cannot be a reliable and data-verifiable solution to the introduction of "conflict minerals" into any of the global 3T minerals supply chain.

The Green Program offers this opportunity and our endeavor is to support the SEC Rules while participating in development and training of practitioners on the local level.

### **The 3T Minerals Traceability Certification Program**

The Green Program is a tamper proof, scientifically based 3TG minerals certification process that indexes and analyzes the minerals as they are being introduced and at all stages of the supply chain prior to being smelted. The Green Program process will use a wide variety of technology, scientific practices and management solutions to provide 3TG Minerals Traceability Certification process that complies with the SEC Rules, OECD and UN Group of Experts guidelines.

The development of The Green Program is supported by more than five years of field work in both the DRC and Rwanda. The data collection portion utilized the XRF-type hand held analyzers to collect mineral data. Analysis and indexing took place over a 2 year period at several concessions in Rwanda and involved an area of over 150,000 hectares and over 3,500 artisanal miners.

The XRF hand held analyzers were able to successfully capture, store and compare known mineral index of all 3T minerals to an acceptable level of sensitivity to comply with the SEC "reasonable country of origin" requirements. The recent testing was carried out during actual field mineral purchasing and mining operations. The sampling involved collecting and comparing several thousand mineral indexing data points. The testing included purchases of just a few kilograms to many tons of production in a week.

The ability to generate reliable mineral assay and indexing data while creating both an electronic and paper record in the field (and to be able to retest at any point of the mineral supply chain) has been the unfulfilled intent of a viable minerals certification process.

The upstream portion of the 3TG mineral supply chain results in a whole series of consolidations or “amalgamations” of the minerals that occur from the time the minerals leave the ground at the mine site until they reach the smelter. The Green Program process will use a variety of technology, scientific practices, and management solutions to provide a robust 3TG Minerals Traceability Certification process.

The Green Program integrates hand held XRF technology and incorporates complementary and more sophisticated technology solutions into the comprehensive package of 3TG minerals traceability certification. Additionally, The Green Program will also gather electronic data to comply with the mineral mapping and mine safety requirements of the Dodd-Frank legislation.

### **Operational Considerations**

The operational methodology includes the deployment of data management teams that will work with government administrative tagging officials in as many locations in the region as required. Specific deployment and process details of the operations will be shared with national, provincial, and local government officials and leaders.

Sufficient operational safeguards that can be varied depending on specific local requirements will be introduced to ensure the safety, integrity, and transparency of the process. The Green Program will be introduced in all countries that are covered by the US Dodd-Frank legislation as soon as official approval is received.

### **Conclusion**

The purpose of The Green Program is to provide 3TG minerals traceability certification, mineral mapping, and mine safety content and resources to assist companies in complying with the U.S. Dodd-Frank legislation, SEC Rules, OECD and UN Group of Experts guidelines. The Green Program will allow US, EU and Canadian companies another option to comply with current and future legislation covering “conflict minerals”.

According to the UN Group of Experts and others the current mineral tagging systems have failed to stop large amounts of conflict minerals from being smuggled into the global 3TG mineral supply chain. The current systems are also not able to expand rapidly enough to put the mining sector back to work at a quick enough pace which has caused increased insecurity and hardships for millions of people across the region. The integrity of the whole 3T minerals supply chain is at risk because there is currently no way to realistically identify the presence of conflict minerals in ANY of the global 3T minerals supply chain.

The reality of poverty, and the history of mineral production in the region, demonstrates that a more robust 3TG minerals traceability certification program is required. The current mineral certification efforts are not able to keep pace with even simple data collection

requirements. They currently require additional, significant, resource allocation to collect the mineral mapping and mine safety elements as required by the current U.S. legislation. The Green Program is designed to address all of these goals with an electronic data collection and analysis process in a secure, cost effective, and transparent manner. Our program adds more dynamic, scientific, and secure solutions that have the support of mining sector practitioners and professionals and have been field tested in the Great Lakes region in the artisanal based mining sector.

The Program is a realistic and practical operation that excludes “conflict minerals” from the supply chain, encourages transparency, is economically feasible, and allows for the opportunity of greater success “on the ground” in a minerals supply chain that stretches from the Great Lakes Region of Africa to the smelters.

The Green Program enables development and growth of the mining industry in some of the poorest regions of the world, while supporting more transparent and safe practices that offer increased livelihood to the hundreds of thousands of the population who rely on the 3TG minerals trade for a better livelihood.