GOLD UNDER THE

MICROSCOPE:

MORE THAN 200 TONS

OF BRAZILIAN GOLD

ARE POTENTIALLY ILLEGAL





OVER THE LAST SIX YEARS, 229 TONS OF GOLD WITH EVIDENCE OF ILLEGALITY WERE TRADED IN BRAZIL, WHICH IS EQUIVALENT TO NEARLY HALF OF DOMESTIC PRODUCTION. JUST FIVE SECURITIES COMPANIES WERE RESPONSIBLE FOR ONE-THIRD OF THIS VOLUME, PURCHASING GOLD FROM WILDCAT MINES IN THE AMAZON REGION AND TARNISHING THE INTERNATIONAL GOLD MARKET.

EVIDENCE OF ILLEGALITY IN THE GOLD SUPPLY CHAIN IN BRAZIL

Between 2015 and 2020, Brazil traded 229 tons of gold with evidence of illegality. This means that almost half of the gold produced and exported by the country was of dubious origin.

This is one of the key findings of this study carried out by Instituto Escolhas based on the analysis of more than 40,000 records of gold transactions and satellite images of mining operations.

Trade of gold with evidence of illegality (kg and %)

Year	2015	2016	2017	2018	2019	2020	Total
Estimated domestic gold production (kg)	79,213	86,670	75,918	71,752	82,083	91,953	487,588
Gold with evidence of illegality (kg)	32,853	44,063	34,400	33,743	41,537	42,395	228,991
Gold from mining titles overlapping with indigenous lands or protected areas ¹	2,201	2,731	1,713	152	528	1,843	9,169
Indigenous lands	2.201	2.431	733	14	-	26	5,406
Protected areas	-	300	980	138	528	1.817	3,763
Gold from "shell titles" (without evidence of extraction)	14,161	14,544	11,579	16,862	16,703	18,948	92,796
Gold from mining titles with evidence of extraction outside the designated mining area	1,045	4,150	156	9,200	13,064	14,687	42,302
Gold without information on titles of origin ²	15,446	22,638	20,952	3,467	-	485	62,988
Exported gold without official production records ³	-	-	-	4,061	11,241	6,433	21,736
% of gold with evidence of illegality	41%	51%	45%	47%	51%	46%	47%

Source: data from Brazil's National Mining Agency (NMA) and the Mapbiomas project. Note: gold production was estimated based on the collection of CFEM (acronym in Portuguese for Financial Compensation for the Exploration of Mineral Resources) by the Brazilian government, as detailed in the methodology section at the end of this report. Overlaps with protected areas include only areas in which mining activity is prohibited.

¹We identified 11 titles (including mining concessions, wildcat mining permits, and research permits) overlapping indigenous lands or protected areas in which mining is prohibited that traded gold during the study period. Eight of these were "shell titles" (without evidence of extraction), indicating that they may be used to "launder" gold. Another two titles also showed evidence of extraction outside the designated mining area. The volume of gold traded by these 10 titles was subtracted from the volume traded from the other two categories to avoid double counting.

² Information on mining titles of origin not available on the NMA CFEM database.

³ In order to provide a conservative estimate, the study only included gold exports registered under code SH4 7108, which includes gold unwrought or in semi-manufactured forms, or in powder form. Further details can be found in the methodology section at the end of this report.



The evidence of illegality identified by this study appears in five types of situations: (i) trade in gold from mining titles overlapping with indigenous lands (ILs) or protected areas (PAs) in which mining is prohibited; (ii) trade in gold from "shell titles", where there is no evidence of extraction, indicating potential "gold laundering"; (iii) trade in gold from titles where there is evidence of extraction outside the designated mining area; (iv) trade in gold without mandatory information on titles of origin, meaning that the gold is of dubious origin;

and (v) exported gold without official production records.

More than half (54%) of the gold with evidence of illegality came from the Amazon region, primarily from the states of Mato Grosso (26%) and Pará (24%). Cases involving protected areas included the Sararé IL (MT) and Kayabi IL (MT/PA), and the Amazon (PA), Mapinguari (AM/RO), Acari (AM) and Mountains of Tumucumaque (AP/PA) national parks.*

THE 4 BIGGEST BUYERS OF GOLD FROM GARIMPOS** IN THE AMAZON REGION

Among the companies involved in the trade of gold with evidence of illegality are Brazil's four leading securities firms – F.D'Gold, *OM* (*Ourominas*), *Parmetal* and *Carol*⁴ – which buy gold from garimpos in the Amazon region⁴.

Between 2015 and 2020, these companies traded **one third of all gold with evidence of illegality** identified by this study, equivalent to 79 tons. This means that **87% of their operations are dubious.**

Three of the firms – F.D'Gold, *Carol* and *Ourominas* – are currently involved in legal actions brought by the federal prosecution service ordering the suspension of illegal gold trading activities in the state of Pará⁵.

During the study period, the four companies traded a total of 90 tons of gold. Our findings show that 50 tons of this gold did not have information on the mining titles of origin, 13.5 tons were from 352 titles without evidence of extraction — or "shell titles" — 14 tons were purchased from 167 titles with evidence of extraction outside the designated mining area, and 1.5 tons came from 4 titles overlapping with protected areas in which mining is prohibited.

^{*}This paragraph contains some Brazilian state abbreviations, which are mentioned several times across the text: Mato Grosso (MT), Pará (PA), Amazonas (AM), Rondônia (RO), Amapá (AP).

^{**}Garimpo and garimpeiro are the terms used in Portuguese to refer to wildcat mining/mines and miners.

⁴ Based on gold operations registered by the NMA in 2020. In 2021, Fênix DTVM also joined the ranks of the country's largest gold traders.

⁵ "FPS requests suspension of financial institutions that purchased illegal gold in Pará". Available at: <Link>. Last accessed on 4/2/22.

⁶ These titles overlap with the Amazon National Park (PA) and Mapinguari National Park (AM).



Gold traded by the securities companies analyzed by this study (2015-2020) (kg and %)

	F.D'Gold	OM (Ourominas)	Parmetal	Carol	Total
Total amount traded	35,444	26,218	16,558	11,755	89,975
Total traded with evidence of illegality	29,788	23,354	14,861	10,585	78,588
% of total amount traded	84%	89%	90%	90%	87%
	6.002	2.005	1,000	2.012	12.515
From "shell" titles (without evidence of extraction)	6,803	2,805	1,096	2,812	13,515
% of total amount traded	19%	11%	7%	24%	15%
From titles overlapping protected areas	965	-	541	30	1,535
% of total amount traded	3%	0%	3%	0,3%	2%
From titles with evidence of extraction outside the designated mining area	5,965	2,351	3,028	2,367	13,711
% of total amount traded	17%	9%	18%	20%	15%
Without information on titles of origin	16,056	18,198	10,196	5,377	49,827
% of total amount traded	45%	69%	62%	46%	55%

Source: data from the NMA and Mapbiomas project. Note: Overlaps with protected areas include only areas in which mining activity is prohibited.

Securities companies*, gold laundering and shell titles

All gold from *garimpos* must be sold to securities companies accredited by the Central Bank⁷. Due to lack of controls, *garimpeiros* can make false claims of the orign of gold by simply registering the number of a valid mining title. In this way, gold is "laundered" and enters the market as if it were legal. When the number used is that of a valid title over an area with no minining activity, the title is called a "shell title".

Our findings also show that the four securities companies mentioned above - each with headquarters in São Paulo and branches in the Amazon region - have links to every stage of the gold supply chain - from gold

extraction to refining and exportation - and strong political connections. The owners of these companies also have mutual family and business ties, showing that the links in the gold supply chain are more intimately interwoven than previously imagined.

^{*} The name given to securities companies in Brazil is *Distribuidora deTítulos e Valores Mobiliários*, hence the acronym DTVM. ⁷ Law 12844, 19 July 2013.



F.D'Gold

F.D'Gold is the country's largest gold trader⁸. One of the company's owners, Dirceu Frederico Sobrinho, has links to every stage of the gold supply chain, including extraction, refining and air companies, a holding company, and brokerage and equity firms.

Este Our findings show that Dirceu owns 32 *garimpos*⁹ in Itaituba and Jacareacanga (PA), none of which registered trade in gold during the study period. He also submitted 137 applications for wildcat mining permits in Itaituba¹⁰.

Dirceu was replacement for the Senate candidate for the state of Pará, Flexa Ribeiro, in the 2018 elections¹¹, and is president of the National Gold Association (ANORO), which represents the gold industry. Other members of ANORO include the securities companies *Carol, Parmetal* and *Coluna*, a company belonging to *Fênix DTVM*, a *garimpeiro* cooperative, a cash-in-transit company, the gold refining firm *Marsam Refinadora*, and the precious metals export company BP Trading.

BP Trading previously had ties with companies belonging to Dirceu, and the company president, Francisco Carlos Ferreira Junior, had links to *Marsam Refinadora*¹². However, *Marsam Refinadora* recently changed ownership and the company is now registered in the name of Sarah Janaina Almeida Frederico Westphal, Dirceu's daughter¹³.

Dirceu's web of business connections also includes Pedro Augusto Almeida Frederico, co-owner of *Mineração Vila Porto Rico* and a real estate development company. Almeida Frederico is the owner of 5 garimpos in Itaituba, two of which sold 8.6 kg of gold to F.D'Gold between 2019 and 2020. He has also registered 35 applications for wildcat mining permits in Itaituba and has ties with security, air charter and cash-in-transit companies.

 $^{^{8}\,\}textsc{Based}$ on gold operations registered by the NMA in 2020.

⁹ For the purposes of this study, garimpo refers to areas with wildcat mining permits.

¹⁰ We also identified 4 applications made by Dirceu for research permits.

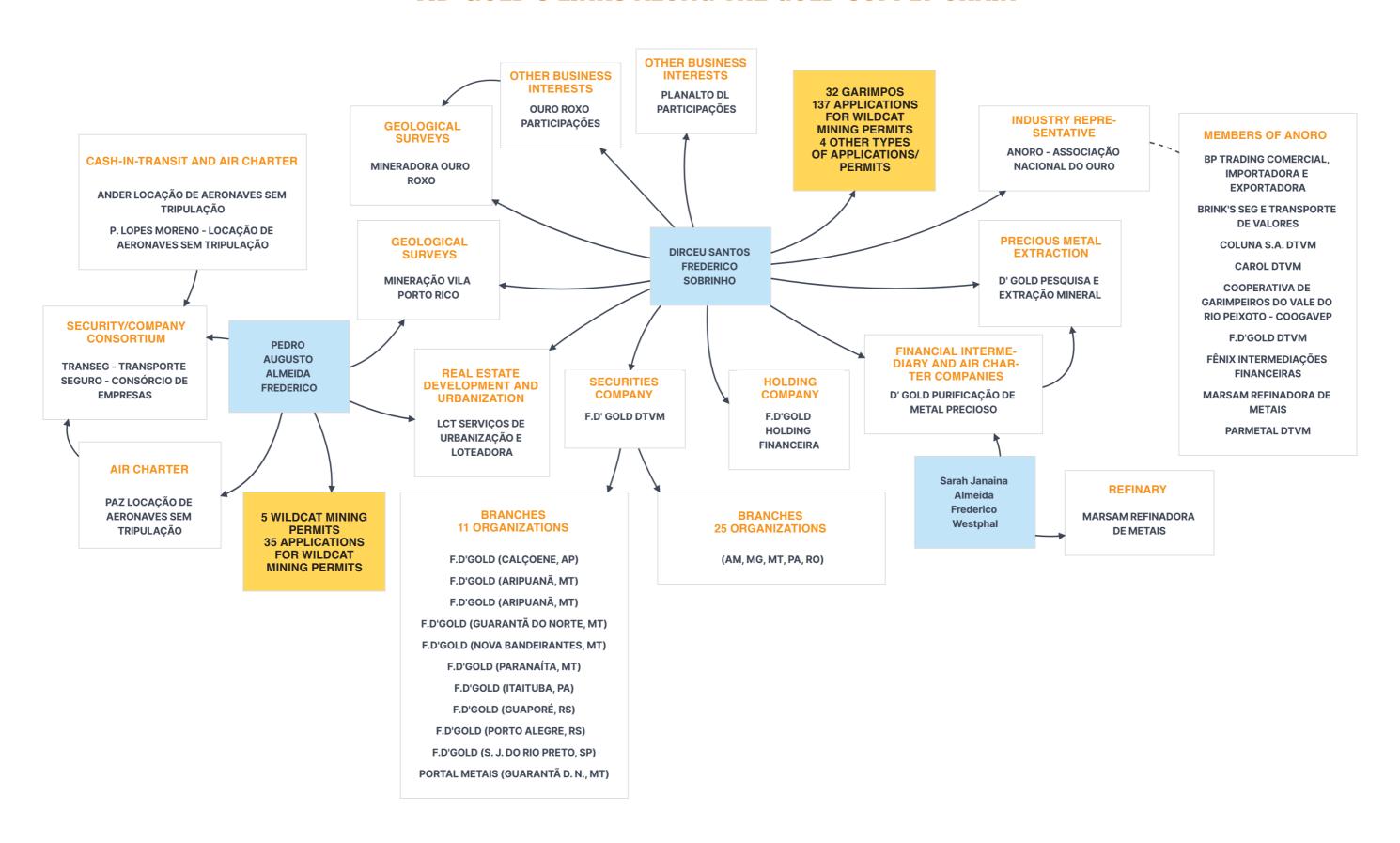
¹¹ Further information on Dirceu's candidacy can be found at <Link>. Last accessed on 4/2/22.

¹² Based on publicly available data related to corporate tax ID numbers available at <Link>. Last accessed on 4/2/22.

¹³ "With a revenue of R\$1.4 billion, largest exporter of gold from garimpos has chain tarnished by illegal metal". Available at **<Link>**. Last accessed on 4/2/22.



F.D'GOLD'S LINKS ALONG THE GOLD SUPPLY CHAIN



This study is by no means exhaustive and therefore does not necessarily include all links.



OM (Ourominas)

Ourominas is the country's second largest gold trader¹⁴. Co-owner, Juarez de Oliveira e Silva Filho, has a web of business and personal connections encompassing every link of the gold supply chain, including a holding company in Dubai and close ties with the media and politics in the state of Mato Grosso.

Ele He currently has 6 applications for wildcat mining permits for areas in Mazagão (AM) and Cuiabá and Vila Bela da Santíssima Trindade (MT)¹⁵. He also owns *Heureka Mineração*, which has 5 *garimpos* in Nossa Senhora do Livramento (MT), none of which traded gold during the study period. The company has 1 application for a wildcat mining permit in the same municipality.

Juarez is also co-owner of *TV Ourominas*, based in Matupá (MT), alongside Antônio da Cunha Barbosa Neto, nephew of the former governor of Mato Grosso, Silval Barbosa¹⁶.

Antônio da Cunha Barbosa Neto also has a mining and transport company and owns TV and radio stations in Mato Grosso. He co-owns one of his radio stations, *Rádio A Voz do Oeste*, with his father, Antônio da Cunha Barbosa Filho, brother of the former governor, who also has 27 applications for wildcat mining permits in Nossa Senhora do Livramento (MT)¹⁷.

Juarez de Oliveira e Silva Filho is co-owner of holding firms, such as *Leilito Partici- pações*, with his brother¹⁸ Roselito Soares da Silva Filho, who was mayor of Itaituba in the state of Pará between 2004 and 2008¹⁹.

Roselito also has a branch of *Ourominas DTVM* office in Itaituba, owns a holding company in São Paulo, and is representative of a holding company in Dubai called *Maison Prime*. He also has links to precious metal export companies, Omex and *Ourominas Joias*. According to the Ministry of Economy²⁰, these two companies are active and exporting. Omex co-owner, Mauricio Gaioti da Silva, is also president of *North Star Refino*, which is currently building a gold refinery in Belém in the state of Pará with an annual refining capacity of 24 tons²¹.

 $^{^{14}\,\}textsc{Based}$ on gold operations registered by the NMA in 2020.

 $^{^{\}rm 15}\,\mbox{He}$ also has 4 applications for research permits.

¹⁶ "Family members of the former governor Silval Barbosa remain affiliated with MDB (Brazilian Democratic Movement Party)". Available at <Link>. Last accessed on 4/2/22.

¹⁷ He also has 2 applications for research permits.

¹⁸ The family ties mentioned above were identified using publically available information collected from the following online sources: (i) lawsuit and ruling available at **<Link>**; (ii) information on proceeding number 1003071-57.2021.8.11.0007, Alta Floresta district available at **<Link>**; (iii) Electoral Court certificate, available at **<Link>**; (iv) session minutes of the State Legislative Assembly of the State of Mato Grosso available at **<Link>**; (v) Wikipedia article available at **<Link>**. Last accessed on 4/2/22.

¹⁹ Information available at **<Link>** and **<Link>**. Last accessed on 4/2/22.

²⁰ Despite the nature of these companies, official records do not show what products were exported or the destination.

²¹ "State officials visit the construction site of Pará's first gold refinery". Available at <Link>. Last accessed on 4/2/22.



Roselito was also co-owner of two deactivated precious metal smelting and processing companies — *Papibaquigrafo and Ourominas Análise de Metais* — with two other brothers, Roberto Soares da Silva and Rogério Lucio Soares da Silva²².

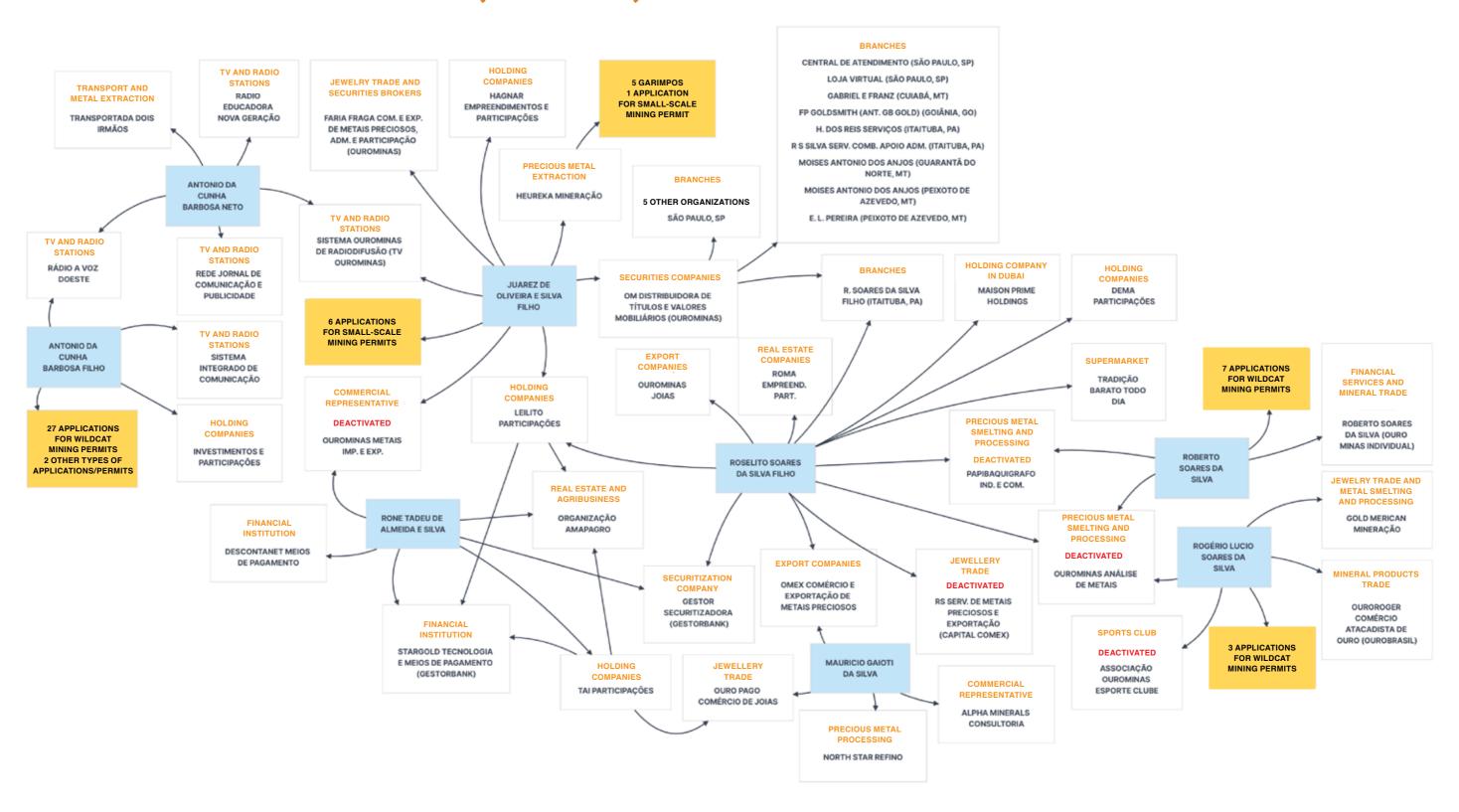
Rogério Lucio was elected as Mato Grosso representative in 1994 and 2002²³. He has 3 applications for wildcat mining permits in Maués (AM) and is co-owner of the jewelry and precious metal company *Ouroroger* and precious metal smelting and processing company *Gold Merican Mineração*.

²² Based on sources mentioned in footnote 18.

²³ Information available at **<Link>**. Last accessed on 4/2/22.



OM DTMV'S (OUROMINAS) LINKS ALONG THE GOLD SUPPLY CHAIN





Parmetal

Parmetal is the country's third largest gold trader²⁴. One of the company owners is Valdemir de Melo, who also owns two holding companies.

Valdemir de Melo was arrested in 2012 in a federal police operation to dismantle illegal gold mining operations on indigenous lands in the Amazon region. He was identified as one of the masterminds behind the operations and *Parmetal DTVM* was among the companies that sold the illegal gold²⁵.

His son, Valdemir de Melo Junior, is co-owner of various *Parmetal DTVM* branches under the company *Real Brasil Metais*, which is part-owned by the precious metals smelting and processing company RBM.

De Melo Junior also owns 9 garimpos in Itaituba (PA), eight of which officially sold 62.8 kg of gold between 2018 and 2020 to his company *Real Brasil Metais* and to *Parmetal DTVM*. Our findings show there is no evidence of extraction in these garimpos and the titles are therefore considered "shell titles".

In 2019, Valdemir de Melo Junior was also arrested in another federal police operation investigating the purchase of illegal gold from Venezuela and Roraima for sale in São Paulo. His personal assets and those of the companies RBM and Voll Holding were blocked²⁶.

Parmetal DTVM also has links with other major securities companies with operations in the gold supply chain. The company *Ouro Brasil Representações*, based in Alta Floresta (MT), is among Parmetal's 17 branches, belonging to Robson Luiz Soares da Silva, one of the brothers of Juarez de Oliveira e Silva Filho²⁷, owner of *Ourominas DTVM*.

Robson was mayor of Alta Floresta between 1993 and 1996 and Mato Grosso House representative replacement in 2002²⁸. He also has one research permit in the municipality.

Other Parmetal DTVM branches are held by companies linked to *Fênix DTVM*, another securities company that trades gold with evidence of irregularities.

One of these companies is *Sandro S. G. da Silva e Cia*, based in Poconé (MT). The company belongs to Sandro Sebastião Gomes da Silva, co-owner of *Fênix DTVM*, and José Lúcio do Amaral, mentioned below in the section on *Fênix DTVM*. Another branch belongs to the company *Fênix Metais*, headquartered in Pontes e Lacerda (MT).

²⁴ Based on gold operations registered by the NMA in 2020.

²⁵ "Businessman and his son detained by the federal police with 23 kg of gold". Available at <Link>. Last accessed on 4/2/22.

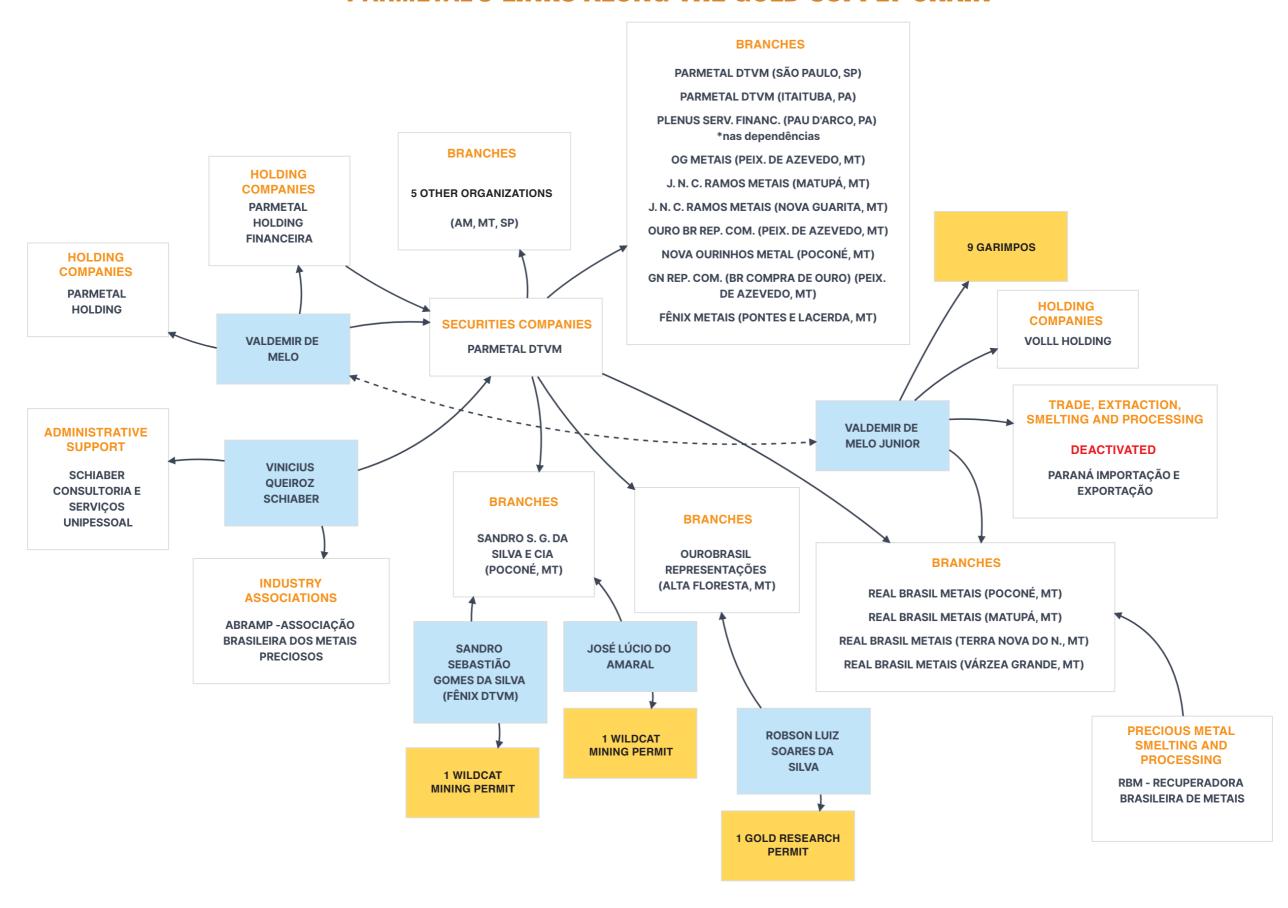
²⁶ "Justice Department discloses names of people arrested in federal police operation". Available at <Link>. Last accessed on 4/2/22.

²⁷ Based on the sources mentioned in note 18.

²⁸ Information available at <Link>. Last accessed on 4/2/22.



PARMETAL'S LINKS ALONG THE GOLD SUPPLY CHAIN





Carol

Carol is the country's fourth largest gold trader²⁹. In the past, its owners also held gold refining and export companies, such as *Purificação de Metais Carol* and *Comex Metals*, which are now deactivated.

Two of Carol DTVM's 10 branches have links to garimpeiro cooperatives. One of these, based in Itaituba (PA), belongs to Fernando Lucas Tavares da Silva, director of UNIOURO Cooperativa de Garimpeiros e Comerciantes de Metais Preciosos. This cooperative submitted 3 applications for permits for wildcat mining in Itaituba in 2021.

The other is based in Peixoto de Azevedo (MT) and belongs to Claudio Andre Loesia, director of the *Cooperativa dos Garimpeiros do Vale do Rio Peixoto* (Coogavepe). The cooperative has 147 *garimpos*, three of which in Pará and the rest in Mato Grosso³⁰.

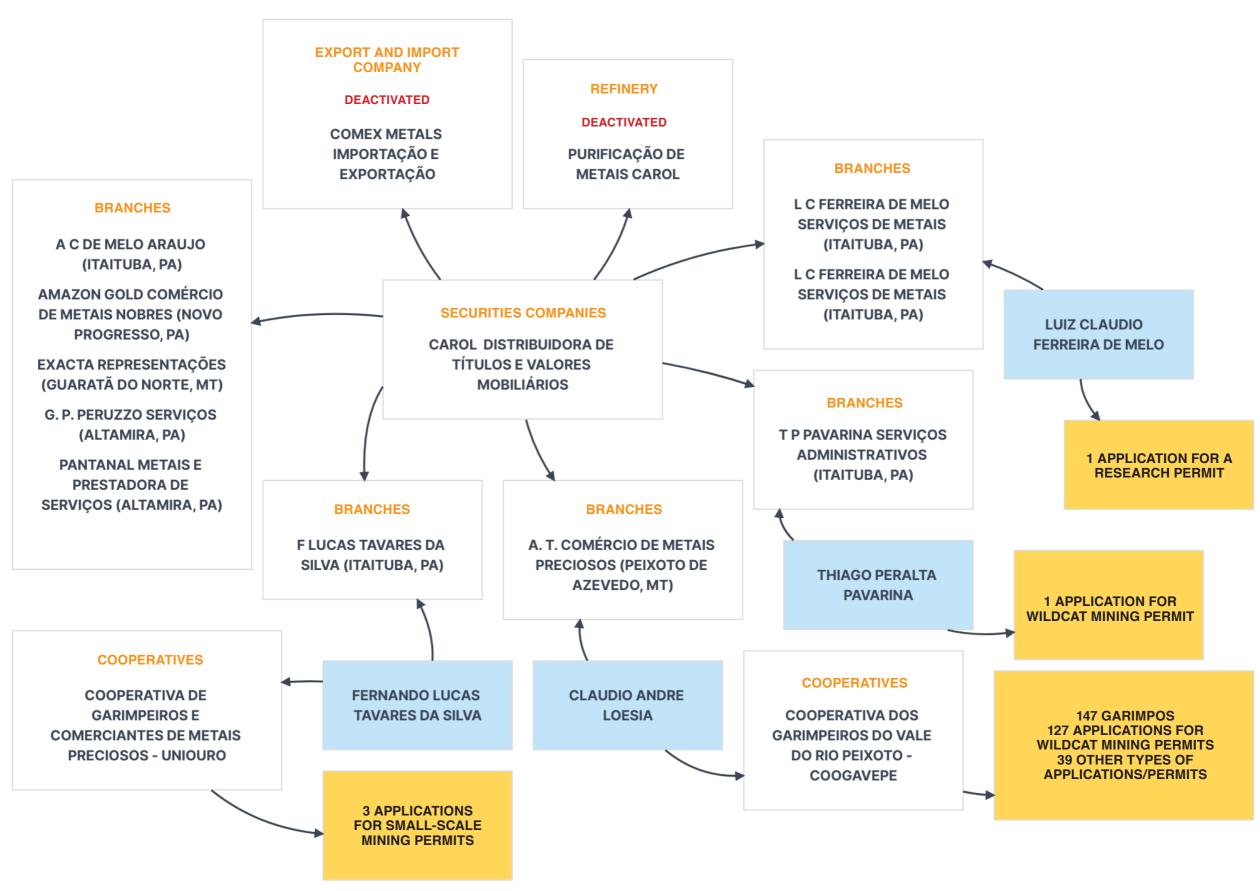
Between 2018 and 2020, the cooperative sold 13,126 kg of gold from 109 *garimpos*. Six of these *garimpos* (which sold 121 kg of gold) did not show any evidence of extraction, while 63 (which sold 10,792 kg of gold) showed evidence of extraction outside the designated mining area.

²⁹ Based on gold operations registered by the NMA in 2020. In 2021, *Fênix DTVM* overtook *Carol* in the ranking of the country's biggest gold traders.

³⁰ Coogavepe also has 127 applications for wildcat mining permits, 38 applications for research permits and 1 area availability request.



CAROL DTVM'S LINKS ALONG THE GOLD SUPPLY CHAIN





FÊNIX GAINING MOMENTUM IN THE GOLD RUSH AND EXPORTING TO INDIA

Brazil's four largest gold traders in 2020 were F.D'Gold, *Ourominas*, *Parmetal*, and *Carol*. However, a new company — *Fê-nix DTVM*, created in September 2020 — joined the top ranks in 2021, becoming the country's third largest gold trader³¹.

This is yet another case illustrating the involvement of financial institutions in the trade of gold with evidence of irregularities. In 2020, *Fênix* purchased 78 kg of gold from 38 *garimpos* in the Amazon region, 48 kg of which (62%) came from potentially illegal mines.

Nine kg were purchased from 3 garimpos without evidence of extraction, or areas with so-called "shell titles", suggesting that these titles are being used to "launder" gold so that it can be sold on the legal market. These garimpos are located in Santa Maria das Barreiras (PA) and Nossa Senhora do Livramento and Poconé (MT).

The remaining 39 kg came from 19 garimpos with evidence of extraction outside the designated mining area. Two of these mines are located in Itaituba and Ourilândia do Norte (PA), one in Nossa Senhora do Livramento (MT) and the rest in Poconé (MT).

Gold traded by Fênix DTVM (2020) (kg and %)

	Fênix
Total amount traded	78
Amount with evidence of illegality	48
% of total amount traded	62%
Amount from shell titles (without evidence of extraction)	9
% of total amount traded	12%
Amount from titles with evidence of extraction outside the designated mining area	39
% of total amount traded	50%

Source: data from the NMA and Mapbiomas project.

 $^{\rm 31}\,\textsc{Based}$ in CFEM data obtained from the NMA.



In 2020, companies with links to $F\hat{e}nix\,DTVM$ also sold gold to India, the sixth largest purchaser of Brazilian gold³².

The companies *FNX Comércio de Metais*³³ and *Fênix Metais do Brasil*³⁴ made 5 gold shipments to India from Guarulhos airport in São Paulo. The gold was shipped to a gold refinery in Telangana operated by Yash Oro India Private Ltd, which manufactures gold coins and bars.

Gold shipments to India made by Fênix Metais (2020)					
Date of arrival	Origin	Destination	Amount (Kg)		
14/12/2020	Guarulhos airport (SP)	Yash Oro India Private Ltd	40.88		
08/12/2020	Guarulhos airport (SP)	Yash Oro India Private Ltd	25.47		
14/08/2020	Guarulhos airport (SP)	Yash Oro India Private Ltd	51.52		
08/08/2020	Guarulhos airport (SP)	Yash Oro India Private Ltd	35.47		
30/07/2020	Guarulhos airport (SP)	Yash Oro India Private Ltd	20.64		
		Total	173.98		

Source: data obtained from a business data collection company. The amounts (kg) may be subject to typing errors in the customs documents.

³² According to data produced by Comex Stat, in 2020 India imported 4.6 tons of gold from Brazil valued at U\$234 million.

³³ FNX Comércio de Metais is registered by the Ministry of Economy as an export company.

³⁴ Fênix Metais do Brasil appears as the registered sender of gold exports to India.



Fênix DTVM was founded in Cuiabá. One of its owners, Sandro Sebastião Gomes da Silva, owns a garimpo in Poconé³⁵, an arms and ammunition trading company, and one of Fênix DTVM's 20 branches.

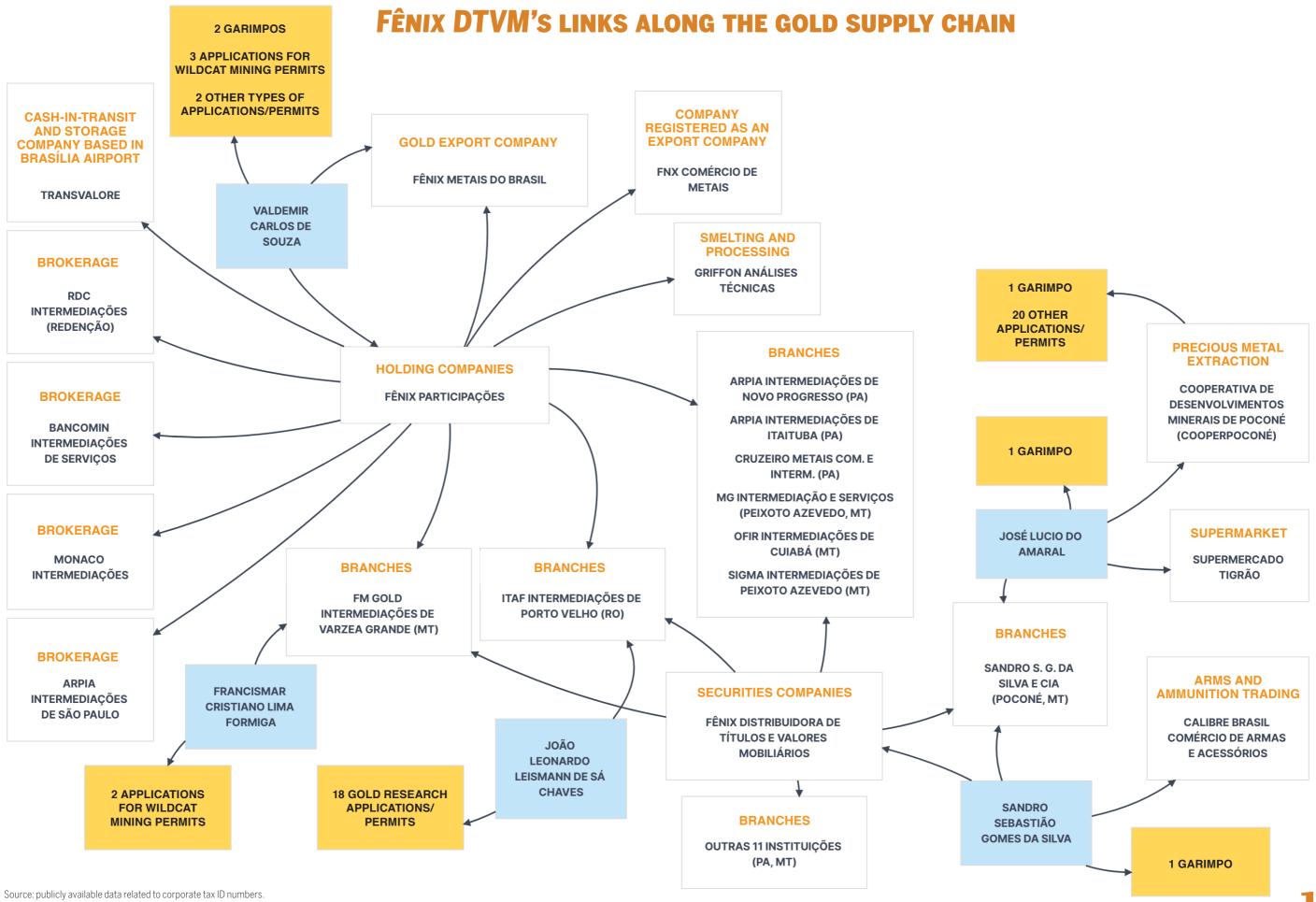
The co-owner of this branch is José Lucio do Amaral, who also owns a *garimpo* in Poconé that sold 43 kg of gold between 2019 and 2020 to F.D'Gold, *Parmetal* and *Fênix*, and to *Real Brasil Metais*. This area showed evidence of extraction outside the designated mining area, indicating that the gold is potentially illegal.

Other owners of Fênix DTVM are also part of the holding company Fênix Participações, which is part-owner of the gold trading and export companies FNX Comércio de Metais and Fênix Metais do Brasil. Fênix Participações also has links to a precious metals smelting and processing firm, a cash-in-transit and storage company based in Brasília airport, four financial intermediary companies, and eight Fênix DTVM branches.

One of the owners of the holding company, Valdemir Carlos de Souza, has 2 *garimpos*, one in Poconé and another in Nossa Senhora do Livramento. The latter sold 270 kg of gold between 2018 and 2020. De Souza also has 3 applications for permits for wildcat mining and 2 for research in Poconé.

¹⁶





Note: the flow diagram only shows individuals identified as having made mining applications or those illustrating links between companies. This study is by no means exhaustive and therefore does not necessarily include all links..



LACK OF EFFECTIVE CONTROLS ALLOWS ILLEGAL GOLD TO TAKE HOLD OF THE MARKET

Gold with compelling evidence of illegality circulating the Brazilian market accounts for almost half of national production, tarnishing international markets. Other countries besides India that buy Brazilian gold, such as Canada, Switzerland and the United Kingdom, remain exposed to this risk.

Given its scale, putting an end to this problem and the grave environmental and social impacts associated with illegal gold is a complex task. However, it is possible to make progress in this direction through the adoption of a set of measures by the key actors involved in the gold supply chain.

Government agencies such as the Ministry of Mines and Energy, National Mining Agency and Central Bank need to overhaul regulations to establish a **system to trace origin and assess compliance with environmental legislation and social standards along the supply chain.** There is also an urgent need for investment in oversight, combating crimes and efforts to do away with mining on indigenous lands and protected areas.

National Congress has an important role to play in strengthening control over the gold supply chain. Já tramita no Senado o Bill 836/2021³⁶, currently under consideration by the Senate, proposes a framework for a metal tracing system. This bill needs to be supported, approved and put into place.

Furthermore, a comprehensive review of the legal framework governing the minerals sector is necessary to create adequate controls and effective oversight, and recognize the impacts of gold mining, which is an unsustainable activity in any context.

Garimpos are one of the biggest threats to the Amazon rainforest and its peoples, and are far from artisanal and rudimentary, operating on a truly industrial scale. The current distinction between industrial mining and garimpo should therefore be ended. **The** wildcat mining permit regime should be phased out.

Law 12844/2013, which addresses, among other issues, transport and trade in gold from garimpos, facilitates "gold laundering" and hampers oversight and accountability. It exempts securities companies from accountability for irregularities, ensuring that gold purchases may be made based on the presumption of good faith, as long as the garimpeiro provides a self-issued certificate of origin. This rule needs to be phased out.

Our findings reveal that a huge volume of gold with strong evidence of irregularities is circulating around the country, demonstrating that the presumption of good faith is not reasonable. At the same time, the owners of securities companies can hold mining tiles or maintain links to mining and other stages along the gold supply chain, generating conflicts of interest between those who should be concerned with compliance with the legal



requirements for gold purchases (securities companies) and those who provide information on the origin of gold. Traders and producers can be the same people or have mutual business and family ties, preventing adequate control, which cannot be guaranteed by the presumption of good faith.

The import markets for Brazilian gold should take concrete steps and make joint efforts to tackle illegal gold and demand controls over the origin of gold and monitoring of suppliers. In this regard, for example, importers could classify Brazil as a conflict-affected and high-risk area for imports.

Despite **regulations** under European Union legislation providing for this type of classification, Brazil has yet to be included on the list of high-risk countries. Steps should be taken to implement this classification system and ensure its adoption by other countries. This would enable importing businesses to require proof that the gold is not extracted from indigenous lands or protected areas, which is only possible with the implementation of an effective traceability system.



METHODOLOGY

This study is based on the compilation and crosschecking of datasets detailing mining authorizations, trade data, evidence of extraction, exports, and the companies involved in operations.

Gold mining authorizations, such as mining concessions, wildcat mining permits, and other mining-related applications were analyzed using data produced by the National Mining Agency (NMA) made available through the **SIGMINE** (acronym in Portuguese for the Mining Geographic Information System) and received in response to requests for information made in June 2021 under the Access to Information Act.

We analyzed gold traded between 2015 and 2020 based on CFEM collection data made available by the <u>ANM</u>. The volume of traded gold in kilograms was estimated using the same methodology adopted by <u>Manzolli et al 2021</u> to correct for possible errors in the raw data.

Evidence of gold extraction between 2015 and 2020 was assessed using spatial data produced by the **Mapbiomas** project.

Data on gold exports were extracted from Comex Stat, he official government website providing international trade data. In order to provide a conservative estimate, the study only included gold exports registered under code SH4 7108, which includes gold unwrought or in semi-manufactured forms, or in powder form. However, total exports of Brazilian gold are pooled under code CUCI subgroup 9710, which also encompasses codes SH4 7109, 7112 and 7118, which include base metals clad with gold, waste and scrap and coins. These codes were not included in the analysis to avoid

any possibility of overestimates of export volumes based on CFEM collection data made available by the NMA.

Data on gold exports to India were obtained from a business data collection company.

The analysis of the companies and individuals involved was performed using publically available data provided by Brazil's inland revenue service and information from online sources. The analysis is by no means exhaustive and therefore does not necessarily include all business and personal ties. We only mention individuals identified as owning titles/having submitted mining applications or those illustrating the links between companies.

Study conducted by Instituto Escolhas

General coordination: Larissa Rodrigues and Sergio Leitão (Instituto Escolhas)

Technical assistance: Carolina Passos (Mapping Lab) and Rebeca Lins (Instituto Escolhas)

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