A work crew from the FARC’s Tiger Hill mine drags a boat past rapids on the Inirida River in Colombia’s Amazon.
TUNGSTEN’S TAINTED TRAIL

Metals mined illegally by Colombian guerrillas help fund a decades-old war and take a twisted journey through supply lines for cars, smartphones and computers.

By Michael Smith
Photographs by Carlos Villalon
a sweltering day in March, and Javier Garcia slogs though the dense undergrowth in a remote stretch of the Amazon jungle in southeastern Colombia. He and a friend have hiked all day toward their goal, a mining site 100 kilometers from the nearest town.

As the men hack through the thorny brush with machetes, following a narrow, muddy path, Garcia stops in his tracks. Centimeters away, a venomous snake called four-noses coils up, poised to attack. Garcia says he will be dead within an hour if the pit viper strikes. His friend grabs a long stick and carefully flips the snake into the jungle. They move on.

Garcia, a Puinawai Indian, is exhausted. He has been traveling seven hours by boat and foot from Chorro Boccon, his village on the Inirida River. Finally, he and his friend arrive at a small clearing pocked with shallow holes gouged into the sandy, red ground.

A torrential rain starts to fall. Garcia, 30, squats by a stream, takes a shovel out of his pack and scoops dirt into a sifter made from a rusty screen. Like gold prospectors, the men swish watery red mud around a flat wooden pan until pebbles containing a metal called tantalum appear. “It’s hard work but worth it,” Garcia says.

Amazon Indians like Garcia, who inhabit a Denmark-sized region along the borders with Venezuela and Brazil, have for decades made a living exploring the rain forest for valuable rocks that contain tantalum and tungsten, both of which are used to manufacture smartphones and other mobile devices. While the Indians do the digging, they rely on another, more powerful group to get the ore to market: the Revolutionary Armed Forces of Colombia, known as the FARC. The rebel army uses the cash it makes from selling metals to help finance one of the world’s longest-running guerrilla wars, the Colombian National Police say. Garcia says he’s mined metals during the past year for the FARC. “People all over the world seem to want these little stones,” he says.

He’s got that right. Tungsten, in particular, is in high demand. The dark, heat-resistant and superhard metal is inside the engines of some of the most popular cars in the world. It’s used for screens of computers, phones, tablets and televisions. It helps mobile phones vibrate when they ring. Semiconductor makers use the metal to provide insulation between microscopic layers of circuitry.

The FARC, in addition to charging Indians like Garcia for the right to mine, operates its own tungsten mine known as Cerro Tigre, or Tiger Hill. Garcia says he and a friend worked there in 2012, earning enough in a week to last several months at home. Tiger Hill rises above the rain forest in an area ruled by armed FARC fighters more than 220 kilometers (137 miles) from the nearest road, town or police station. On top is the mine, where hundreds of people toil in 6 hectares (15 acres) of muddy pits, according to the National Police.

The mine is illegal in three ways: It’s inside a forest preserve, it’s banned by Colombian law because it’s on an Indian reservation, and it’s run by the FARC, which is classified by Colombia, the U.S. and the European Union as a terrorist organization. “It’s completely illegal, but we haven’t been able to stop it yet,” says Colonel Luis Montenegro, the National Police commander in Guainia province, where the mine is located. “We don’t control any territory out there; FARC controls it,” says Montenegro, who has studied aerial
surveillance photos of Tiger Hill. The mine can produce 15 metric tons of wolframite, a rock containing tungsten, in a week, police say. That's enough to make tungsten parts for hundreds of thousands of liquid-crystal-display screens, smartphones and semiconductors, car parts and pens, according to the International Tungsten Industry Association.

While Tiger Hill is illegal, it's the only known tungsten mine in Colombia, according to the police and Environment Ministry officials responsible for regulating mining. And that metal is finding its way onto world markets. Colombia, the third-largest economy in South America, supplied less than 1 percent of the world's tungsten in 2012, U.S. Geological Survey data show. Although China produces the most tungsten—about 85 percent of global output—authorities there impose tight controls on the metal to assure domestic manufacturers have enough. That's forcing companies to scour the globe for mines elsewhere, the USGS says.

One company that buys and processes Colombian wolframite, or tungsten ore, supplies some of the world's leading multinational corporations—including the makers of BMWs, Ferraris, Porsches and Volkswagens as well as Siemens AG and the producer of BIC pens, these companies say. Apple Inc., Hewlett-Packard Co. and Samsung Electronics Co. purchase parts from a firm that buys from the company that imports tungsten ore from Colombia, company records show.

Since 2008, there have been 40 shipments of tungsten ore from Colombia by 14 companies, according to government export documents. Although none of the records from these shipments say the tungsten ore comes from FARC-run Tiger Hill, Colombian authorities are convinced that it does. Cesar Melendez, the Environment Ministry's director whose jurisdiction includes much of Colombia's Amazon region, says the shippers are hiding the tungsten ore's true origins. “They falsify the source of illegal metals,” Melendez says. “This is how they launder tungsten.”

Buyers negotiate with FARC guards to purchase loads of the ore, according to national and regional police commanders, government officials who oversee mining and interviews with people involved with those transactions. Workers then transport the ore in boats in a weeklong journey—braving treacherous rapids and police patrols—from the mine to muddy river landings near San Jose del Guaviare, a city on the edge of the Amazon. Once near San Jose, smugglers load sacks of the rocks on trucks headed for Bogota and later for the Caribbean port of Santa Marta in northern Colombia.

One of the biggest buyers of Colombian tungsten ore has been a U.S. unit of Plansee SE, a Reutte, Austria–based metals processor, according to export records filed with Colombia's tax agency. In 2012, two Colombian minerals companies, Geo Copper SAS and Minerak SAS, sold seven loads of tungsten ore totaling 93.2 metric tons to Plansee's U.S. subsidiary, Global Tungsten & Powders Corp., export records show. The filings say the Colombian companies shipped the tungsten ore—valued at $1.8 million—to Global Tungsten's plant in Towanda, Pennsylvania, which makes refined powder, wires and chemicals.

On July 2, five days after a BLOOMBERG MARKETS reporter questioned Plansee about the FARC origins of its...
Colombian tungsten ore, Global Tungsten & Powders issued a news release saying it would stop buying tungsten ore from Colombia. “The tungsten minerals from Colombia may have been mined illegally,” the statement said. The company said it hadn’t been aware of that possibility until it had been provided information “by a reliable source.” The release said, “Armed groups may be exerting influence over the tungsten mining sites and/or transportation routes.”

Multinational companies that buy parts from a supply chain tainted by Colombian tungsten ore have publicly sworn off the purchase of minerals from another conflict-ridden country, the Democratic Republic of Congo, in Central Africa. For the past 15 years, rebel groups in that country have sold metals to help fund a war against the government, the United Nations says. As part of the 2010 Dodd-Frank law, the U.S. Securities and Exchange Commission will require publicly traded companies to follow UN guidelines and disclose by May 31, 2014, whether they’re buying gold, tin, tungsten or tantalum from mines that finance war in Central Africa.

There are no such rules for minerals that fund the conflict in Colombia. The FARC is a Marxist group that has taken
control of remote mountainous and jungle regions of Colombia and wants to overthrow the elected government. The rebels say they seek to impose a Cuban-style communist state, break up rural land holdings and expropriate private industry. The FARC has waged a 50-year war, funding itself with cocaine trafficking, extortion, kidnapping and mining, the National Police say. The war has killed 257,000 people and, according to the UN, displaced 3.7 million.

As international groups have been monitoring whether companies are buying so-called conflict minerals from Central Africa, there have been no alerts about metals from Colombia, says Sophia Pickles, an investigator for London-based nonprofit group Global Witness. “It’s alarming this is happening in Colombia,” she says. Pickles has spent five years documenting the role of minerals in financing war in Central Africa. “Conflict scenarios anywhere in the world should raise alarm bells. It’s a very basic principle.”

Companies that have bought parts from a supply chain that included tungsten ore from Colombia say they had been unaware of any possible links to the FARC before they were contacted by Bloomberg News. Apple, BIC, BMW, Ferrari, Samsung and Volkswagen say they’re opening investigations to secure their supply lines. “Apple is committed to using conflict-free minerals, and we are one of the first electronics companies to map our supply chain for conflict minerals,” spokeswoman Kristin Huguet says.

Mining revenue has helped ease the FARC’s loss of control over much of the cocaine trade in Colombia since a U.S.-backed military offensive began in 2002. That effort has cut the FARC’s strength to about 8,000 troops from 18,000, the Colombian government says. The FARC has been routed from some cocaine-producing regions, depriving it of funds, Colombian President Juan Manuel Santos says. “They finance themselves more and more with illegal mining,” Santos told Bloomberg News in a December interview in Bogota.

Santos, 62, a Harvard University- and London School of Economics-trained economist, took advantage of the FARC’s military defeats to start peace talks in October 2012, two years into his presidency. Government officials and FARC commanders negotiating in Havana, Cuba, have six major items on their agenda, including land use in FARC territory.

Despite government efforts to end the violence, FARC guerrillas ambushed and killed 15 Colombian soldiers who were guarding oil pipelines on July 20, the Santos administration says. On that same day, 750 kilometers southwest of that attack, FARC rebels killed four other Colombian officers who were on patrol.

The FARC’s mining shows how illegal forces continue to wield economic power in one of the most attractive destinations for investors in the developing world. Foreign investment and natural resource exports have helped Colombia’s gross domestic product almost quadruple from 2002 through the end of 2012 to $366 billion, according to the International Monetary Fund.

In May, the Colombian National Prosecutor’s environmental crimes unit opened an investigation into companies that may be buying tungsten ore from Tiger Hill after learning about Bloomberg Markets’ reporting. Although police and prosecutors have long been aware the FARC is illegally mining, there have been no previous probes into the companies that buy ore from Tiger Hill. “We are taking this very, very seriously,” says Gloria Arias, the prosecutor who runs the division that probes illegal mining. “This clearly seems to suggest how a terrorist group can launder minerals.”

One Colombian company that has exported tungsten ore is Cali-based Geo Copper, export records show. Geo Copper Chief Executive Officer Edgar Rengifo, who describes himself as a self-taught mining entrepreneur, helped

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Heavily armed troops patrol the Guaviare River, where metals traders smuggle tungsten ore out of the jungle.
create the company in August 2010. Minerak, the other Global Tungsten & Powders supplier in Colombia, was 50 percent owned by Geo Copper when it was started in 2011. Rengifo says the tungsten ore the two companies export comes not from Tiger Hill, but from a licensed mine that Geo Copper co-owns, called Caney de los Cristales, located about 150 kilometers west of Tiger Hill. “Caney is the only mine where you can export in this country,” Rengifo says. “The only legal title.”

The Caney mine is licensed by the National Mining Agency and Environment Ministry to produce black sands, which are defined as materials that can contain minerals such as tantalum, titanium iron oxide and tungsten, according to licensing documents filed in Bogota.

Although Caney is licensed to produce tungsten ore, no exports are coming from the site—according to Colombian officials. The National Police, the army and the Environment Ministry say Geo Copper’s tungsten ore actually comes from the FARC’s mine. “All of that came from Tiger Hill because there is nowhere else producing that metal,” environmental official Melendez says. “And all of it is illegal.”

In late January 2010, Rafael Alberto Rodriguez, the primary owner of the Caney mine, invited National University of Colombia professor Thomas Cramer to evaluate its potential. Cramer sent three geology students to the Caney mine site to collect rock samples. They analyzed the rocks in university laboratories and published their findings in June 2012. “We didn’t find any sign of tungsten there,” Cramer says. The underlying rock in the area is called gabbro, which doesn’t contain tungsten, Cramer says. The survey shows the site contains rocks with small amounts of titanium iron oxide and sandstone rock formations.

Colonel Javier Alvarez, the National Police commander in Vichada province, where Caney is located, says aerial photographs and investigations show no signs of a major mining operation there. “I can tell you there’s nothing there,” Alvarez says.

The FARC, founded in 1964, is one of the world’s longest-surviving guerrilla forces. By the early 2000s, the FARC had taken control of swaths of Colombia’s lower Andes Mountains, jungles and central plains. In 2002, a FARC unit launched a mortar attack on the presidential palace in Bogota as Alvaro Uribe was being sworn in as president. At least 14 people were killed, police say. FARC spokesman Jesus Emilio Carvajalino didn’t return repeated requests to comment for this story. Since 2002, the military has pushed the bulk of the FARC’s forces to remote jungles of eastern and southern Colombia, where there are few roads, airstrips, towns or military bases.

One such FARC stronghold is Guainia, the province where Tiger Hill is located. Montenegro, the National Police commander in Guainia, says the government hasn’t been able to stop illegal mining because Tiger Hill is in such a dangerous and difficult-to-traverse region of the jungle. The mine is guarded by 170 elite FARC troops, Montenegro says. He says police are also worried that local Indians who mine for the FARC would be harmed in an assault on Tiger Hill. “We want to mount an operation there, but it is very, very complicated because it’s on Indian land,” Montenegro says. The police have been limited to monitoring Tiger Hill by air and gathering information from miners and FARC deserters. Since 2010, the police have seized 29.7 tons of minerals suspected of coming from Tiger Hill, Environment Ministry records show.

Andres Lopez, an evangelical Christian minister who lives in Zamuro, a Curripaco Indian village, says he has been to Tiger Hill before. He says he had to abide by the FARC’s work rules, including giving the group a cut
of every kilogram of tungsten ore he mined. “The guerrillas are in charge of everything, even on our land,” Lopez, 55, says. “They try to show us respect on our ancestral land, but you still have to do what they say.”

Two hours downriver from Lopez’s village on a steamy day in mid-March, Sergio Varon, a leader of a miner’s association, and three other men heave an 8-meter (26-foot) boat along the rocky shore of the Inirida River. They’re headed to Tiger Hill. Drenched in sweat, the men drag the heavy motorboat along the shore, next to rapids where swells crash on huge rocks, creating whirlpools big enough to engulf their craft. After getting past that danger, they push the boat into calm waters upstream. Varon, 26, says the men will have to haul the boat and everything in it—fuel, food and a 65-kilogram (143-pound) outboard motor—around six more patches of rough water before they get to Tiger Hill.

On the fourth day of the journey, the crew meets a group of workers heading in the other direction, pushing a boat on the shoreline to avoid rapids. Members of that group say they’re returning from Tiger Hill.

The next day, an Indian leader warns a BLOOMBERG MARKETS reporter and a photographer that he’d just spotted an armed, seven-man FARC combat patrol in a cove about 20 minutes upriver. The commander of that unit had sent word to the Indians that the journalists would be violating a military order if they continued to Tiger Hill. “That makes you a target, so it would be very, very dangerous for you to go,” the Indian leader says. The journalists and miners turn back.

Varon says he has been to Tiger Hill before—at the behest of a man working for Geo Copper, the exporter that says it has made no purchases from the FARC-controlled mine. In 2011, Raul Linares, then working for Geo Copper CEO Rengifo, sent Varon on a trip to buy tungsten ore, Linares says. Varon and three other men got to Tiger Hill on April 4, 2011, Varon says. Photos from the trip show denuded jungle and miners sitting in gaping, water-filled holes, panning for metals. Linares says they negotiated a deal with the FARC soldiers overseeing the mine. Linares says he agreed to pay 6,000 pesos ($3.14) per kilogram of tungsten ore to the miners who FARC had authorized to sell. Receipts from April 2011 chronicle 30 separate ore purchases, totaling 52.3 million pesos.

After buying the tungsten ore, the men had to find a way to smuggle it out of the jungle. “We wanted a new route because police were seizing lots of minerals along the river,” Linares says. Once the miners made it out of the jungle with the ore, another crew took the rocks by boat and truck to a Geo Copper warehouse in Bogota, 1,000 kilometers away from the jungle, Linares says.

Rengifo says he didn’t hire Linares to buy tungsten ore from the FARC. Linares’s job was to negotiate with Indian leaders to set up a tin mine on their reservation, Rengifo says.

Linares says Rengifo did ask him to help establish a tin mine. He says his job also was to buy tungsten ore for Geo Copper at Tiger Hill. “Of course it comes from the FARC mine,” says Linares, 53, speaking at his home in Puerto Inirida, the city closest to Tiger Hill. Bags of tungsten ore are piled in the corner, and a fan rattles away, scattering moldy papers that document work Linares did for Rengifo’s companies. “I know because it was my job to help them get tungsten.” Regarding the tin mine plan, Linares says, “I quit when I figured out what they really wanted. They wanted to rob the Indian communities.”

Rengifo, 46, says his company buys tungsten ore only from the non-FARC Caney mine, which Geo Copper co-owns, he says. Sitting in his office in
Plansee, the Austrian company that buys tungsten ore from Geo Copper, supplies leading European automakers. Bayerische Motoren Werke AG, Ferrari SpA, Porsche AG and Volkswagen AG say they buy engine crankshaft parts made of tungsten from Plansee. Siemens, Europe’s largest engineering firm, says it buys tungsten parts used in X-ray machines called stationary anodes and focal tracks from Plansee. Munich-based Siemens spokesman Matthias Kraemer declined to comment, other than confirming his company buys these tungsten parts from Plansee.

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Plansee told AUO in a June 27 letter that it sells the Taiwanese company products made with molybdenum, which isn’t a conflict mineral, instead of tungsten. Plansee wrote the letter on the same day Bloomberg Markets asked the company about its Colombian ore purchases.

AUO spokeswoman Katie Chen says the company trusts that Plansee sold it no parts made with tungsten. “We have declared to our suppliers that we do not accept illegally mined minerals from conflict regions and will continue to do so,” Chen says.

AUO’s supply chain is tainted because it does business with a company that buys minerals from a conflict zone,
says Peter Rosenblum, a human rights and international law professor at Bard College in Annandale-on-Hudson, New York. AUO should be concerned even if it isn’t buying the specific metal sold by the FARC, says Rosenblum, who formerly directed human rights programs at Columbia University and Harvard University. He studies the use of conflict minerals. “A company’s supply chain is contaminated when it is profiting from conflict minerals,” he says. “You wouldn’t do business with a company that is known to be engaged in corrupt practices somewhere in the world.”

Cupertino, California—based Apple started an investigation after being informed of BLOOMBERG MARKETS’ findings and before Global Tungsten & Powders announced it would stop buying from Colombia, spokeswoman Huget says.

Samsung has opened its own investigation of its supply chain, spokeswoman Eunhee Lee says. “Samsung strongly supports the ban on conflict minerals,” Lee says. “We are urgently looking into this matter and will take appropriate measures.” AUO’s annual report lists Samsung Electronics as one of its five biggest customers.

In the past year, Palo Alto, California—based Hewlett-Packard bought screens from AUO for its All-In-One Business PC, according to HP’s website. “HP continues to work closely with its suppliers to improve their social and environmental performance,” company spokeswoman Kelli Schlegel says.

Sixty-one hundred kilometers away from the glistening buildings of Silicon Valley, miners in Colombia’s Guainia province dig for tungsten ore on FARC-controlled land. The minerals they extract from the red earth help feed the world’s voracious appetite for luxury cars, smartphones and computers. Neither the Colombian government nor the world’s most powerful corporations have been able to stop a trade that’s helped fund a half-century-long war. Raul Linares, who has been a miner in the Colombian Amazon jungle for most of his adult life, says illegal activity thrives because no one outside the nation has bothered to notice. “The FARC and these companies have built an incredibly profitable business,” Linares says. “And the world is buying it.”