# REPORT ABOUT THE OCCURRENCES OF TIN, COLTAN, SCANDIUM AND RARE EARTH IN PUERTO CARREÑO, VICHADA STATE, COLOMBIA





## PREPARED BY THE GEOLOGIST MIGUEL JARAMILLO FOR AUXICO RESOURCES

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Realized by Geologist Miguel Jaramillo for AUXICO RESOURCES

Over the last 12 months we have investigated coltan ocurrences on behalf of Auxico resources in the state of Guania and Vichada. We wish to present in this report the results of a sampling program carried out in the most easter part of Colombia in the state of Vichada.

The property is located in close proxity of the Orinoco river which defines the border between Coloimbia and Venezuela. Auxico has also signed a joint venture agreement with Mr. Obregon who owns surfaces and mineral rigths in Venezuela.

The government of Venezuela has conducted extensive explorations for tantalum and niobium over the last 10 years; as a result of this eploration work, an area has been identified which contains commercial values of tantalum in both source rock and in alluvio deposits which are located in the most western parts of venezuela adjoining the orinoco river. Therefore the study of the geology in Venezuela for coltan is extremly important in undestanding the potential and the geology located a few kilometors across the river on the Colombian side. This document will present not only the results of the sampling campaing in Colombia, where economic values of tantalum have been discovered, but also the results from Venezuela only a few kilommters away from the area studied In Colombia which will help the reader understad the real economic potential in the Colombian area.

#### **SUMMARY** Colombia - Vichada Exploration results

As part of the exploratory program of the company AUXICO RESOURCES for coltan and other minerals in Colombia, during the month of May 2019, the areas of coltan and tin occurrences were visited in the vicinity of the city of Puerto Carreño, in the state of Vichada in the east of Colombia on the border with Venezuela.

The occurrence of tin - coltan - Scandium and Rare earth in place is found in some layers of coarse sand from a sedimentary deposit of alluvial plain.

Samples of the material were taken of the sedimentary covert whose thickness was partially exposed in several points of the two visited sites, as well as samples of fragments with characteristics of coltan or tin differentiated by color, density, and other mineralogical characteristics. The places where the material was exploited are now flooded and it is only possible to observe a small window of the lower layers with a larger grain size that benefits the accumulation of particles of high-density elements such as coltan. The shape of the fragments was sub-rounded.

The content of Ta2O5 registered in two samples (sample 12 and 13) of the area previously submitted by the partner of Auxico for this project was above 30% and this is consistent with two of the 13 samples analyzed for this work.

All samples taken for this job had rare earths, four out of 13 samples indicated economic grades of Ta, Sn, Nb, and Sc.

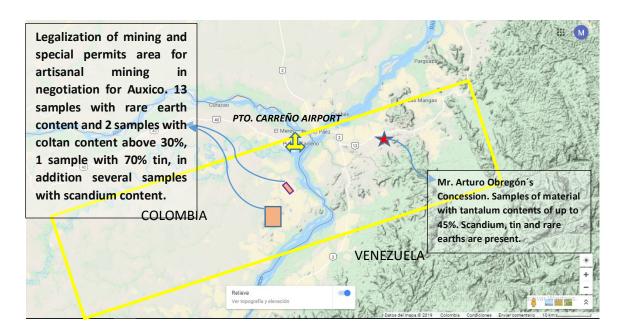
The mineral beneficiation could concentrate the elements of high economic interest by magnetic separation methods to obtain high concentrations of Tantalum, Niobium and other elements of importance like the Scandium and Rare earth that generate a high added value to the project.

The area sampled has a high potential for the exploitation of Niobium, Tantalum, Tin, Scandium and Rare Earths for the following reasons

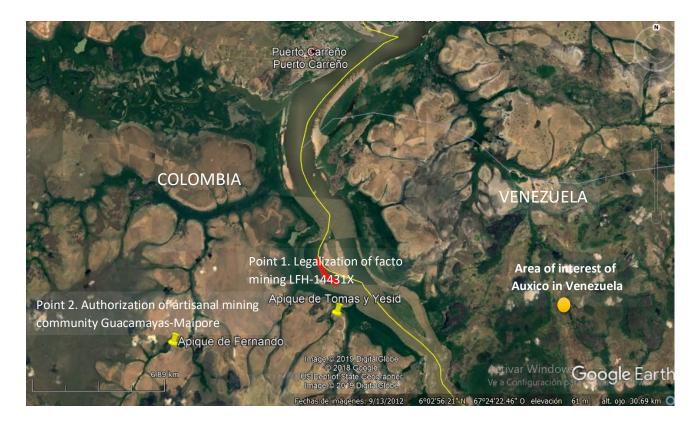
- All samples contain rare earths elements.
- The two Sampled areas were at a distance of 9 km from each other, Sample number
   11 and number 4 were taken 9 km from each other and they both have economic
   levels of Niobium, Tantalum, Tin, Scandium and Rare Earths.
- Artisanal mining has been conducted by natives at the two sites visited.
- The geology of the area visited in Puerto Carreño, Colombia is very similar to the geology of a property under the option of Auxico in Venezuela, on the eastern side of the Orinoco River. The results of the laboratory analysis are coincident. The distance in a straight line between the area of interest in Colombia and the area of interest in Venezuela is 15 km. Thus, we have begun to define an extensive geological terrain between both countries with high potential for open pit mining to produce tin, coltan, scandium and rare earths.

In the area, there is only one legalization of artisanal mining closest to the Orinoco River. On the site to the west, the community of Gucamayas-Maipore natives has permission to carry out artisanal mining. In that second place and with that community, Mr. Juan Guillermo García (partner of Auxico) has an agreement with the community to commercialize the material. The two places visited are on the MINING STRATEGIC AREA OF THE COLOMBIAN STATE, BLOCK 3 (see fig. 7).

The possibilities of establishing a business to extract the material and commercialize it as ARENAS INDUSTRIALES is feasible, while the legalization of mining actually subsists, And in the other place if the validity of the "barequeo" permit is demonstrated the individuals from the community of the Guacamayas - Maipore will be able to extract the material.



**Fig. 1** Properties of interest of Auxico for exploration and exploitation of tin, coltan, scandium and rare earths in Colombia and Venezuela within a wide new geological terrain that contains these materials (yellow box).



**Fig. 2**. Satellite image of the visited area where occurrences of coltan and tin are present in alluvial sediments near to Orinoco River. The geological terrain with high potential for tin, coltan, scandium and rare earth is part of Colombia and Venezuela

#### **LOCATION**

The location of the site is relatively easy to reach. There, you arrive after taking a flight from Bogotá to Puerto Carreño and travel a couple of hours by road or by river to the area where tin - coltan occurrences are found.

The area is located near the border of Colombia and Brazil in the municipality of Puerto Carreño, capital of the state of Vichada and its position in geographic coordinates is 6 09 23 a 6 00 00 north latitude and 67 40 48 a 67 27 41 east longitude The distance in a straight line from Puerto Carreño to the zone of coltan-tin occurrences is 18 km and by road it is 60 km.

The distance by river from Puerto Carreño to the point of disembarkation is 16 km and then you have to walk a 9 km route.

This visit was attended by one of the employees of logistics consultant Carlos Valencia who knows best the way to move the material of the area. According to logistic advice, the best way to move the material from the exploitation area to Puerto Carreño is by air in a helicopter of 500 kg capacity, store it in Carreño and then send it by air cargo to Bogota. In this way flood problems that affect the area are avoided

#### **BACKGROUND**

The National University of Colombia created a research group called GEGEMA that published some articles on the geology of eastern Colombia and coltan sites. The articles concluded that sites with this material were identified in the department of Guainia but it did not indicate their location to avoid a "stampede" of illegal mining or speculation in those areas. Coltan occurrences related to the Mitú complex had been reported in the states of Vichada, Caquetá, Guainia and Vaupes (López & Cramer, 2012).

The company AUXICO RESOURCES has visited several concessions to establish the source of coltan in Colombia. finally, we have found locations where the material came from.

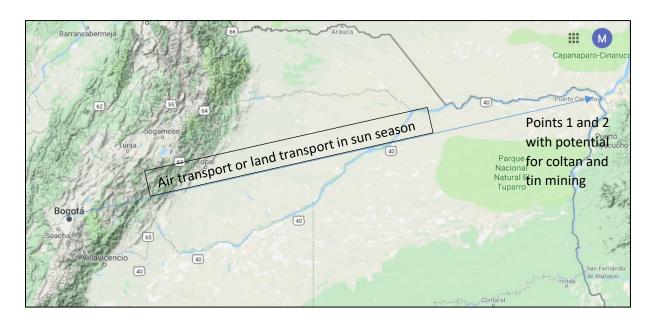
The area of Puerto Carreño is the second locality where we have confirmed coltan- tin occurrences.

In 2013, Mr. Juan Guillermo García managed to move a couple of tons of material with coltan with a content greater than 30% of tantalum, which he commercialized as industrial sands.

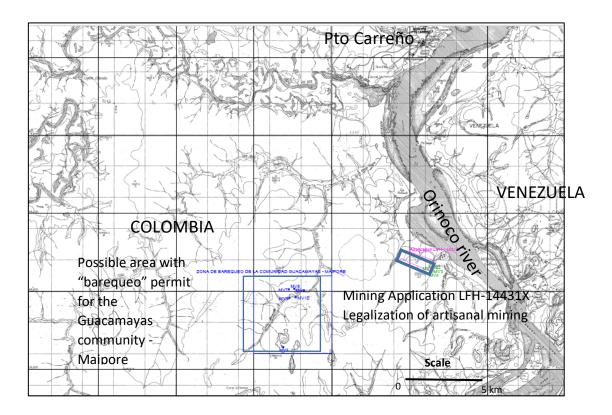
In this document, I present the data, the field observations, the location of samples that contain the material and the possibilities of marketing the mineral from the expedition I made in May 2019 to Puerto Carreño in the department of Vichada, Colombia.

The Guacamayas - Maipore indigenous community is present in the area. According to Mr. Juan Guillermo García, they have a permit for artisanal mining in the community area about 9 km west of the Orinoco River. Mr. Juan Guillermo García (partner of Auxico and guide to the area) has a business with the Guacamayas - Maiporé community to trade the material. In the zone of the application for legalization of mining in fact LFH-14431X Mr. Juan Garcia has the possibility to also negotiate the material coming from there. The owner of the application LFH-14431X is Mr. Climaco Unda who also has indigenous origin.

#### **HOW TO GET TO THE REGION**



**Fig 3**. The area can be reached by commercial flight Bogotá – Puerto Carreño route and terrestrial in sun season.



**Fig 4.** Location of places where ocurrences of coltan and tin was found in alluvial sediments. From Puerto Carreño is possible to arrive to these places by terrestrial (60 km aprox.) or fluvial (18 km aprox) transportation. Because the area is sometimes flooded by heavy rains it is assumed that the best way to move the material is by air.

#### **GEOLOGY**

The whole region is known as the "Amazonian Craton" which is an extensive region with very old rocks that formed the terrestrial crust of Proterozoic age.

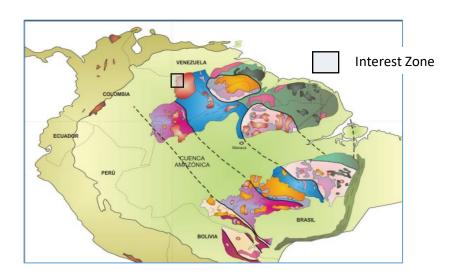
The Amazonian Craton contains several geochronological Provinces that group types of related rocks related to regional tectonic events and whose boundaries are arranged in an SE-NW orientation.

The entire region is located in the geochronological Province called Ventuari – Tapajos, which contains granitoid complexes ranging from 1.95 to 1.8 Ga and extending from southern Brazil to the eastern part of Colombia (see figure 3). Locally, granitoids are found

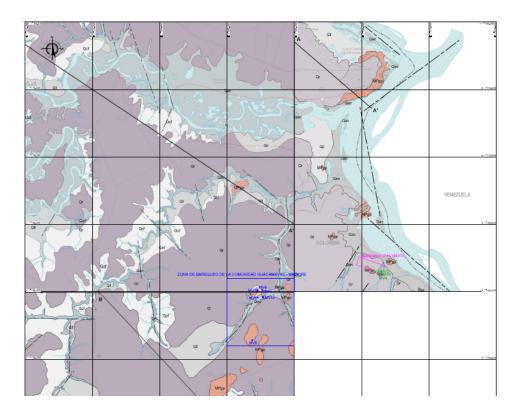
overlying rocks with low-grade metamorphism of a Precambrian sedimentary cover, such as in the region of the Naquen mountain range. In the area of interest, there are granitoids (granite to monzonite and locally pyroxenites) that belong to the so-called Mitú Complex that is formed by different types of high-grade metamorphic rocks and granitoids of diverse compositions and affinities, Galvis et al. (1979).

The Mitú complex in the area of interest is crossed by pegmatitic dikes of quartz, feldspar and Muscovite mica. Overlying the granitoids of the Mitu Complex discordantly are alluvial deposits of sands, gravels and ridges that contain coltan fragments of grain size fine sand to gravels mostly with subangular forms.

The bioclimatic conditions act as weathering agents on the rocks of the place generating mostly sandy soils with a high content of plant material that prevent the good exposure of the rock.



**Fig 5**. Geochronological provinces of the Amazonas Craton and its geological units. Modified from Restrepo-Pace (1995), Tassinari & Macambira (1999, 2004), Santos et al. (2006) and Cordani et al. (2007).



**Fig 6**. The area is covered by a succession of recent alluvial sediments (Qr, Qac, QII). In some sectors, there is an igneous basement exposure of the MPgp unit named Granito de Parguaza. The Parguaza granite has a Precambrian age that is normally related to the metallogenic epoch of the coltan - tin deposits.

According to López & Cramer, 2012, below are the reasons why the geological environment of the area of interest is conducive to the occurrence of tantalum, niobium, lithium, Sn, REE's and gems:

Types of rocks: Granitic pegmatites intruded in granitoids with feldspar megacrystals, granitoids of coarse-grained size and gneisses.

Associated rocks: Alkaline feldspar granite, monzonite quartz, syenite quartz, monzonite and syenite, and quartz-feldespathic gneisses.

Textures: Pegmatitic, in which crystals of very coarse grain size and megacrystals of quartz and feldspars are observed.

Age range: Mesoproterozoic? – Neoproterozoic?

#### **COLOMBIAN MINING CADASTRE**

Below is the image of the Colombian Mining Cadastre managed by the National Mining Agency that shows the mining concessions and existing mining applications as well as the mining strategic areas of the Colombian state.



Figure 7. Image of the Colombian mining registry of the mining concessions (green) applications (brown and blue shading), the Strategic Mining Areas of the Colombian State AEM (yellow points). Desired location in blue dot.

TABLE OF CONCESSIONS, APPLICATIONS AND STRATEGIC MINING AREAS									
CONCESSION	OWNER	CONTRACT DATE	MINERAL						
HD3-083	MARIA CONCEPCION ALVAREZ ROJAS	7/09/2006	Construction materials						
APPLICATION FACTO MINING	APPLICANT	APPLICATION DATE	MINERAL						
LFH-14431X	CLIMACO UNDA	17/06/2010	Tin, gold, tantalium, niobium						
APPLICATION	APPLICANT	APPLICATION DATE	MINERAL						
SDC-08051	FELIPE BLANCO ORTEGA	12/04/2017	Natural and siliceous gravel and sands						
SDA-08091	FELIPE BLANCO ORTEGA	10/04/2017	Natural and siliceous gravel and sands						
MINING STRATEGICAL AREA	OWNER	DATE	MINERAL						
BLOCK 3	COLOMBIAN STATE	7/06/2012	All						

Table 1. Table of concessions, applications, strategic mining areas around the area of interest. The applications that are on the mining strategic area of the Colombian state could be denied and therefore legal assistance is required for this matter.

#### **COORDINATES AND RESULTS OF THE SAMPLES**

Positive results of the presence of coltan have been obtained in 2 samples from the area previously delivered by the partner of Auxico Mr. Juan Guillermo Garcia. As shown in the table below. 2 more samples were delivered to me by Juan Guillermo and together with the 11 samples I took; the 13 samples were sent and analyzed by X-ray fluorescence at the Centre de Technologie minerale et de plasturgie inc (CTMP) in Quebec Canada.

	Ta2O6	Nb2O5	Sc2O3	SnO2
Pin 1549	22.06%	10.62%	0.39%	26.06%
Pin 18666	38.06%	20.42	0.35%	0.70%

During my visit I was able to confirm that tin and coltan minerals were present in the area in sediments extracted from some trenches but that at the time they were flooded. Of the 11 samples collected directly by me, the sample 11 (MV11) of specific fragments with characteristics of being of Sn or Ta-Nb, resulted with important contents of these two elements (SnO2 = 70.1%, Ta2O5 = 7, 7%, Nb2O5 = 4.63%).

Samples 12 and 13 that were delivered by Juan Guillermo García, from material previously exploited and stored in the area, were again high in niobium and tantalum content (Ta2O5>30%);

	Ta2O6	Nb2O5	Sc2O3	SnO2
Sample 12				
(MV12)	30.01%	18.62%	0.38%	0.57%
Sample 13				
(MV13)	36.73%	29.68	0.50%	0.91%

All samples taken for this job had rare earths, two out of 13 samples indicated economic grades of Ta, Sn, Nb and Sc.

The presence of other minerals of high commercial value such as Scandium and some rare earths generate a greater potential for the exploration and exploitation of the area.

It is important to note that the samples of selected grains resulted with contents of columbite, tantalite or tin above 0.5% while the channel samples in the trenches show minor amounts of the minerals of interest. This indicates that the deposit of sediments of alluvial origin in the area visited in Puerto Carreño contains fragments of minerals of interest; coltan, tin, scandium, and rare earths. These elements of interest must be separated from the rest of the material. To establish the real potential of the deposit, it will be necessary to carry out an advanced exploration of the area.

Below are the results of the samples of the visit to the area of interest in Puerto Carreño in May of 2019 with plane coordinates origin Bogota:

М	MV1		М	V2		MV3			M	V4	М	V5	MV6			
.066445E,	, 1161347N	1	1066445E,	1161347N	1.00	66450E,	1161340N	1	.066450E,	1161340N	1056865E, 1156415N		LO:	57281E,	1159575N	
Type: C	hanel in		Type: C	hanel in	T	Type: Ch	nanel in	Ī	Type: S	elected	Type: C		Type:			
tre	nch		tre	nch		trer	nch		gra	ins	tre	nch		Concentrate		
Formula	CONC		Formula	CONC	F	ormula	CONC		Formula	CONC	Formula	CONC	F	ormula	CONC	
SiO2	67,70%															
AI2O3	21,32%	4	Al2O3	16,23%	Fe	e <b>2O3</b>	27,22%	•	SnO2	20,42%	Al2O3	14,04%	Ti	02	1,99%	
Fe2O3	9,41%		Fe2O3	11,48%	Α	1203	13,80%	•	SiO2	8,60%	K2O	2,96%	Fe	e <b>2</b> 03	0,91%	
TiO2	1,03%	ŀ	TiO2	0,97%	Ti	iO2	0,81%	ŀ	TiO2	7,28%	Fe2O3	2,01%	A	1203	0,43%	
P2O5	0,14%	[	ZrO2	0,17%	P:	205	0,15%	4	AI2O3	7,14%	TiO2	0,33%	Zr	rO2	0,32%	
ZrO2	0,12%	l	K2O	0,12%	K	20	0,10%	-	Ta2O5	5,45%	P2O5	0,12%	W	/03	0,28%	
K2O	0,08%		P2O5	0,12%	Zı	rO2	0,09%	ı	Nb2O5	1,45%	ZrO2	0,05%	M	lnO	0,04%	
SO3	0,03%		CeO2	0,03%	C	aO	0,02%	I	P2O5	0,38%	BaO	0,03%	C	оО	0,03%	
CeO2	0,02%		SO3	0,03%	N	1nO	0,01%	ı	PbO	0,36%	CaO	0,03%	CI		0,01%	
WO3	0,02%	I	MnO	0,01%	N	b2O5	56 PPM	Ŀ	K2O	0,33%	Rb2O	0,03%	Ca	aO	0,01%	
La2O3	0,02%	- (	CaO	0,01%	A	s2O3	46 PPM	l	MnO	0,23%	WO3	0,03%	N	b2O5	0,01%	
MnO	0,01%	- (	Cr2O3	0,01%	Cı	r2O3	40 PPM	1	WO3	0,17%	MnO	0,01%	K	20	78 PPM	
CaO	0,01%		WO3	70 PPM	TI	hO2	40 PPM		Sc2O3	0,11%	SO3	100 PPM	Zr	nO	39 PPM	
Nb2O5	97 PPM		Nb2O5	60 PPM	Zı	nO	30 PPM	- 2	ZrO2	0,11%	PbO	79 PPM	Cı	uO	24 PPM	
PbO	65 PPM		As2O3	31 PPM	G	a2O3	30 PPM	l	HfO2	0,05%	ThO2	60 PPM	T	OTAL:	99,93%	
ThO2	52 PPM	- 2	ZnO	31 PPM	I	OTAL:	100,00%	•	Cr2O3	0,03%	Nb2O5	59 PPM				
NiO	44 PPM		NiO	30 PPM					SO3	0,02%	ZnO	46 PPM				
Ga2O3	36 PPM	- (	CuO	20 PPM				:	SrO	0,01%	SrO	44 PPM				
HfO2	30 PPM		Y2O3	20 PPM					TOTAL:	99,99%	NiO	20 PPM				
Ta2O5	30 PPM	_ [	CoO	13 PPM							CuO	20 PPM				
ZnO	29 PPM		Rb2O	10 PPM							CoO	18 PPM				
СоО	27 PPM	_ !	SrO	10 PPM							Y2O3	11 PPM				
CuO	20 PPM		TOTAL:	99,98%							TOTAL:	99,94%				
TOTAL:	99,91%															
	XRF S8 Tig															
Conditio	oudre XRF	-SC	Q-Oxydes	-Prolene 4r	n 7g	-28 mm	-AtmHe-F	ull								
Résu	ıltat norma	lisé	é à 100% é	et corrigé e	n fo	nction d	l'une matr	ice	e de							













M	V7	М	V8	M	V9	MV10			M\	/11	
L057248E,	1160105N	1057598E,	1160151N	.057598E,	1160151N	1057682E, 1159601N			L057682E,	1159601N	
Type: Cl	nanel in	Type: S	elected	Type: Cl	nanel in	Type: Chanel in		Type: Selected		elected	
tre	nch	gra	ins	tre	nch	tre	nch		gra	ins	
Formula	CONC	Formula	CONC	Formula	CONC	Formula	CONC		Formula	CONC	
SiO2	65,00%	Fe2O3	61,04%	SiO2	59,30%	SiO2	94,90%		SnO2	70,10%	
Fe2O3	18,23%	SnO2	15,42%	Fe2O3	28,70%	Al2O3	3,89%		Ta2O5	7,71%	
Al2O3	14,56%	SiO2	13,63%	Al2O3	10,05%	Fe2O3	0,52%		SiO2	6,64%	
TiO2	1,26%	Al2O3	7,48%	TiO2	1,01%	TiO2	0,40%		Nb2O5	4,63%	
K2O	0,46%	TiO2	0,89%	K2O	0,36%	ZrO2	0,07%		Fe2O3	4,28%	
ZrO2	0,17%	P2O5	0,39%	P2O5	0,24%	WO3	0,06%		Al2O3	1,47%	
CaO	0,11%	PbO	0,25%	ZrO2	0,14%	K2O	0,04%		TiO2	1,47%	
P2O5	0,05%	K2O	0,24%	V2O5	0,09%	MgO	0,04%		PbO	1,39%	
V2O5	0,04%	V2O5	0,14%	Cr2O3	0,03%	CaO	0,03%		MnO	0,77%	
SO3	0,03%	Nb2O5	0,13%	CaO	0,02%	SO3	0,01%		WO3	0,67%	
Gd2O3	0,02%	Ta2O5	0,11%	WO3	0,02%	CoO	39 PPM		In2O3	0,22%	
MnO	0,01%	WO3	0,07%	MnO	0,02%	MnO	30 PPM		ZrO2	0,14%	
Cr2O3	0,01%	ZrO2	0,07%	SO3	0,02%	CuO	20 PPM		Sc2O3	0,12%	
WO3	80 PPM	Gd2O3	0,05%	As2O3	64 PPM	NiO	10 PPM		UO2	0,11%	
Nb2O5	49 PPM	MnO	0,03%	Nb2O5	41 PPM	TOTAL:	99,96%		HfO2	0,08%	
SrO	30 PPM	Cr2O3	0,02%	NiO	30 PPM				Yb2O3	0,07%	
Y2O3	30 PPM	CI	0,02%	CuO	30 PPM				CdO	0,06%	
As2O3	25 PPM	SrO	99 PPM	SrO	25 PPM				SrO	0,04%	
ZnO	20 PPM	ZnO	60 PPM	СоО	18 PPM				TOTAL:	99,97%	
Rb2O	10 PPM	TOTAL:	99,98%	ZnO	10 PPM						
TOTAL:	99,95%			Rb2O	10 PPM						
	-			TOTAL:	100,00%						

Appareil XRF S8 Tiger de Bruker

Conditio oudre XRF-SQ-Oxydes-Prolene 4m 7g-28 mm-AtmHe-Full

Résultat normalisé à 100% et corrigé en fonction d'une matrice de











MV12						
1057682E, 1159601N						
Type: sample extracted						
years ago by Juan Garcia						
Formula CONC						
Ta2O5	30,01%					
Nb2O5	18,62%					
Fe2O3	18,26%					
ZrO2	4,56%					
TiO2	3,93%					
CeO2	3,53%					
SiO2	3,10%					
P2O5	2,55%					
WO3	2,24%					
Al2O3	1,56%					
MnO	1,51%					
Yb2O3	1,21%					
ThO2	1,14%					
HfO2	1,06%					
UO2	0,99%					
Nd2O3	0,99%					
PbO	0,91%					
La2O3	<mark>0,86</mark> %					
SnO2	0,57%					
Y2O3	0,40%					
Sc2O3	0,38%					
Er2O3	0,35%					
Dy2O3	0,25%					
K2O	0,20%					
CaO	0,20%					
Sm2O3	0,19%					

MV13					
1057682E, 1159601N					
Type: sample extracted					
years ago by Juan					
Formula	CONC				
Ta2O5	36,73%				
Fe2O3	21,19%				
Nb2O5	20,68%				
TiO2	5,95%				
WO3	2,65%				
ZrO2	2,40%				
SiO2	1,89%				
MnO	1,79%				
Al2O3	0,95%				
SnO2	0,91%				
HfO2	0,86%				
Yb2O3	0,82%				
PbO	0,78%				
UO2	0,58%				
Sc2O3	0,50%				
ThO2	0,38%				
Y2O3_	0,25%				
Er2O3	0,25%				
P2O5	0,24%				
CaO	0,08%				
Rh	0,04%				
Dy2O3	0,04%				
K2O	0,03%				
Rb2O	0,02%				
TOTAL:	100,01%				

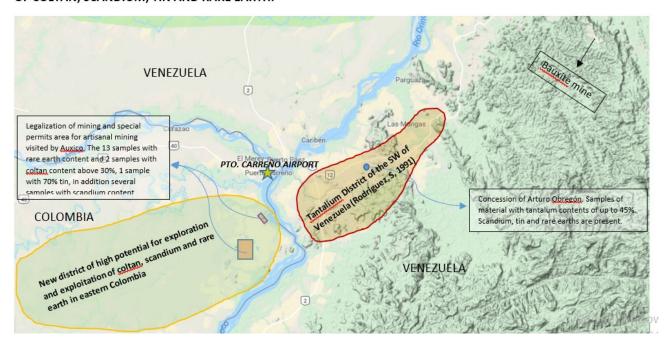




Pr6O11	0,18%
Ho2O3	0,09%

CdO	0,05%					
BaO	0,04%					
Rb2O	0,03%					
Gd2O3	98 PPM					
SrO	60 PPM					
TOTAL:	99,96%					

### GEOLOGICAL TERRAIN IN COLOMBIA AND VENEZUELA WITH HIGH POTENTIAL FOR EXPLORATION AND EXPLOITATION OF COLTAN, SCANDIUM, TIN AND RARE EARTH.



#### GEOLOGICAL INTERPRETATION

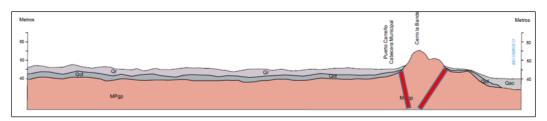


Fig. Schematic profile of the area of interest. The area has an igneous basement dominated by the granite of <a href="Parguaza">Parguaza</a> (MPgp). The basement must be cut by <a href="Parguaza">pegmatitic</a> dikes (red) with primary mineralization of <a href="Parguaza">polical</a>, tin, scandium and rare earths. Both the basement and the dikes have been eroded generating a big placer deposit from the alluvial sediments. There is a high potential for the exploitation of alluvial sediments and the search for dikes with primary mineralization with geophysical methods.



Fig. Sinestral running failures generating zones of possible mineralized fractures in the NW-SE direction using the Riedel model.

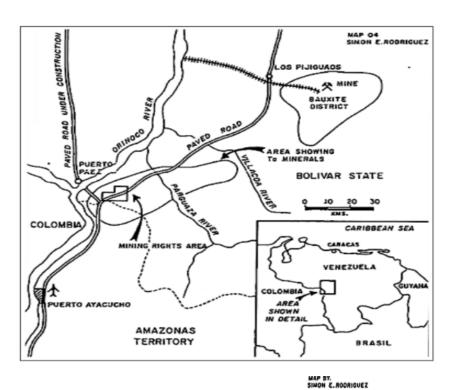
#### **SUMMARY** – Results from the Area of Interest in Venezula

Acordind to the T.I.C Bulletin #173, The Arco Minero del Orinoco or AMO is located south of the Orinoco River, in the northern part of the state of Bolivar. It is said that only 5% of the total area of 111,844 km2 of the AMO will experience exploration and exploitation activities, and just 1.5% will experience mining activity once the exploration stage is completed. Of the four areas showed in the map below, columbite-tantalite minerals are mostly concentrated in Area 1, the most westerly of the four, close to the border with Colombia, but have also been found in Area 3 and Area 4.



The Tantalum-Nioubium International Study Center of Venezuela published Bulletins #52 (November 1987) and #67 (September 1991) Where Dr Simon E. Rodriguez, wrote about a large granitic formation located in the western-most part of Bolivar State, that had shown an important Ta-Sn-Nb mineralization in numerous large complex pegmatites. The geomorphology of this area is characterized by large plains, consisting of savannas and smooth hills. Pegmatites had been found in some hills and in addition secondary eluvial

deposits located near the pegmatite bodies showed high concentrations of Ta-Sn-Nb minerals. Initial tests on the ore of the Parguaza Ta- Sn-Nb district produced a concentrate with a Ta205 content ranging between 25 and 42 per cent. It is worth noting that Dr Rodriguez's map (see below) and OMB Area 1 show a very close approximation.



L E G E N D

DIFFERENT TYPES OF PRECAMBRIAN GRANITES

GOMPLEX PEGMATITES

THICK QUARTZ VEINS

ALLUVIONAL AND ELUVIONAL ZONES RICH IN TO MINERALS

It is worth noting that the studied zones in Venezuela have good roads located near by as well as air links with other Venezuelan cities. In 2010/11 these pegmatites were explored again, this time by a team of geologists from Venezuela's Central and Oriente Universities and state-owned mining group CVG Bauxilum. Of their 39 samples 8 were confirmed to contain columbite and tantalite minerals, including struverite, ferrowodginite, titanwodginite, and ferrocolumbite. Minerals containing rare earths, titanium and tin were also recorded.

Auxico Resources Canada Inc. ("Auxico") has recently signed an agreement with Mr. Arturo Obregon regarding the exploitation of tantalum, niobium and scandium properties located on the extreme west boundary of Venezuela, on the border with Colombia. Recent published results are as follows:

Sample	% Та	% Nb	g/t Sc	% Sn	% Ti
V - M-8355_1	7.97	2.36	3,200	72.08	4.54
V - M-8355_234	26.66	7.70	4,200	5.35	23.32

Mr. Obregon controls the mineral rights as well as the land ownership for the most prospective tantalum resources in Venezuela as documented by Dr. Simon E. Rodriguez, on behalf of the Venezuelan Government

The preliminary exploration work, authorized by the Ministry of Energy and Mines, included detailed sampling, outlining of pegmatite bodies, geological contacts, local tectonic patterns, location of quartz veins and general geological mapping. As a result of this work several important alluvial zones were detected and provisionally outlined the ore zones. These are characterized by levels of tantalite-rich sediments interbedded with clays, laterite material and quartz gravels. The economic zones were located quite near to pegmatite and quartz vein outcrops. Fine sediments located far from those outcrops showed a poor concentration

of Ta-Sn-Nb minerals; only limonite, magnetite and zircon were detected. Paved roads are located quite near the studied zones. The morphological and lithological parameters of those secondary alluvial levels support the application of intensive open pit local mining using conventional mobile concentrating tables in order to produce a final high grade tantalite ore.

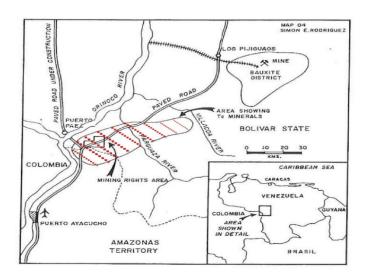


Fig.8: Tantalum district of southwestern Venezuela

Tantalite-Columbite	Sample ATF-9	Sample ATF-11	Sample ATF-2	Sample ATF-20
% Ta2O5	43.30	42.40	35.30	36.10
% Nb2O5	38.40	38.60	42.60	40.70
% Mn0	14.10	9.91	5.66	1.69
% Fe0	2.55	6.11	10.70	12.50
% SnO2	0.23	0.73	0.69	0.13

Table 2: Chemical analysis of primary ore

Figure 8 and Table 2 were taken from the Tantalum-Niobium International Study Center Bulletin n.52 and Bulletin n.67

#### CONCLUSIONS AND RECOMMENDATIONS

- An extensive area of alluvial deposits with an important content of Niobium,
   Tantalum, Tin, Scandium and rare earths has been identified on the two banks of the
   Orinoco River in Colombia and Venezuela.
- Higher concentrations of Tantalum, Niobium and other elements such as Scandium can generate higher added value products from these alluvial deposits.
- The deposition of mineral with high economic potential, which are reported in various tributaries, originated from the basement rocks that have transported the mineral onto sites where they are today. The original source site of the material should be easily identified by geophysical methods.
- We recommend to conduct a geophysical survey over the property in Colombia in order to identify the origins of the coltan that we have recently sampled. Our sampling program was limited by the fact that many of the pits were under water and we recommend a resampling program when the water has subsided

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#### **PHOTOGRAPHIC ANNEX**





Photos 1 and 2. It is noted that the Garmin C60s GPS was used to reference the places.



Photo 3. Panorama of the Orinoco River in the vicinity of Puerto Carreño where there is a permanent presence of the Colombian Military Forces



Photo 4. Panorama of the alluvial plain where some layers of sediments contain fragments of interesting minerals such as coltan, scandium, tin and rare earths.





Photo 5 & 6. Photo and detail of the tricheras in the alluvial plain where coltan and tin material has been extracted. Channels were made to take the samples, even so the best results were presented on selected fragments.



Photo 7. Photo of the trench where the samples with the best results were obtained. In the foreground is Mr. Juan Guillermo Garcíal, Mr. Juan Guillermo García, partner of Auxico for this project.

#### Cordially;

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