REOPENING OF THE OLD GRAPHITE MINES OF GUADAMUR WITH RHODIUM AND GOLD FINDS

(Guadamur-Toledo, España)

Study carried out by owner. CERAMICA LAS LOSAS S.L.

Promoted by MINAS LAS LOSAS S.L.

05 October 2023

INTRODUCTION

We are pleased to present an extraordinary mining project: the reopening of the historic graphite mines at Guadamur. These mines, which ceased operating in 1961, still hold valuable minerals, but are currently not being exploited. We are actively seeking companies interested in becoming partners or investors to revitalise these mines and unlock their potential.

The history of these mines goes back decades, when they played a vital role in the region's economy and in the production of high quality graphite. However, over the years, their activity was suspended, leaving behind a legacy and a valuable resource that we hope to bring back into operation.

The rationale behind this initiative is manifold. First, the existing mining concessions provide a solid basis for resuming graphite mining in the region. In addition, the growing demand for graphite in the global market, driven largely by its role in renewable energy and lithium-ion battery technologies, presents a strategic opportunity for the resurgence of these mines.

Our vision is to work hand in hand with committed investors in the development of this project, contributing not only to the economic growth of the Guadamur region, but also to meeting an ever-expanding global demand. The reopening of these mines represents not only a promising business opportunity, but also a significant contribution to the economic and ecological landscape in a world looking for sustainable and energy efficient solutions.

In addition, studies have identified valuable secondary minerals, including Graphite, Rhodium, Titanium, Silver, Tungsten, Platinum and Gold. Of particular interest is rhodium, considered the most expensive and scarce mineral in the world according to the New York Stock Exchange and the London Stock Exchange. This presence of valuable secondary minerals adds an additional component of economic potential and makes this mining project even more attractive and impactful on a global level.

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1. BACKGROUND

1.1 Historical background

In 1629, a permit was granted that would mark the beginning of a long and significant mining history in Guadamur, Spain. This permit was granted to Antonio Ugarte Losada and Pedro Sánchez Mondrego, who sought to exploit a mine that at the time was called an "alcohol mine". It is important to note that, in the context of the time, the name "alcohol" referred to antimony and galena, two minerals that could be confused with graphite. This is because both antimony and graphite were used in cosmetics, especially for shading eyes and eyelashes, which may explain the choice of name.

This early historical record is only the beginning of a long history of exploration and exploitation of graphite in the Guadamur region. A key milestone in this history is the year 1849, when Pascual Madoz's Historical and Statistical Dictionary mentions a graphite mine in Guadamur.

However, one of the most outstanding events related to graphite mining in Guadamur took place in 1923. In that year, an article was published in the Boletín de la Real Sociedad de Historia Natural entitled "El grafito de las cercanías de Guadamur (Toledo)", written by D. Ismael del Pan. This article provided crucial information on the location of the graphite deposits in the area, their geology, origin and the various types of graphite minerals present in the region.

The deposits of graphite in Guadamur had already been known since the beginning of the 20th century, but it was in the 1940s when an important step was taken in the exploitation of this resource. The mines "Number 14" and "Number 15", which later became known as "Mina Osmundo No. 3815", were put into operation. These mines used both underground and open-pit mining to obtain graphite from gneiss and pegmatites with concentrations ranging from 5% to 60%.

The Guadamur mining area became the last graphite deposit to be exploited in Spain before its closure around 1961. This mining site was located next to the Guajaraz stream, near the road from Toledo to Guadamur.

It is important to note that when reference is made to the Guadamur mining reserve, we are actually talking about the area formerly known as 'Número Catorce'. This mining concession, which dates from 15 December 1943, is located in the area known as Arroyo del Muerto, in the municipality of Guadamur. Today, this concession is known as 'Osmundo'.

Throughout its history, this mining area experienced ups and downs in graphite production, influenced by factors such as ore quality, weather conditions and electricity restrictions after World War II. In order to maintain the production required by the national industry, miners had to carry out prospecting studies to find more carbon-rich ores.

After intensive research and exploration work in 1945, operators discovered a graphite-rich zone at the "Número Catorce" mine in Guadamur, with high-grade ores. These efforts led to significant investment in the expansion and improvement of the mining facilities. Annual graphite production peaked in 1951, and during that time, these mines played a crucial role in the supply of graphite in Spain.

However, from 1960 onwards, they faced difficulties in sales, which resulted in a significant decline in production. The exact date of closure is controversial due to the gradual transition of mining activity to the dismantling phase, but it can be understood that production ceased around 1960 or 1961.

These mines played an important role in the supply of graphite in Spain and left a legacy in the mining history of the region to this day.

1.2 1.1 Mining background

1.2.1 Study of graphite samples from the year 1959

The test was carried out by the Spanish Geological and Mining Institute, in its laboratory for the mechanical preparation of minerals, in June 1959, at the request of the company, Comercial Químico Metalúrgica S. A., which at the time was the operator of the Guadamur mining area.

Purpose of the study

As a result of certain anomalies observed in the flotation of the graphite minerals that the company "Comercial Químico Metalúrgica S. A", which exploits the Coto Minero de Guadamur in the province of Toledo, and in view of the difficulty of re-establishing the normal operation of the washery due to the lack of buoyancy of the graphite and the tendency to float of part of the pyrite contained in the mineral, the existence of which was previously unknown, the aforementioned company has commissioned a study of this matter in order to determine the causes of these anomalies and to seek the best solution to correct them.

As it seems that the difficulties have arisen coinciding with the introduction of certain variations in the exploitation system and the start-up of new lamina zones, it is logical to think that these are attributable to the ore, as the operating conditions of the washery have remained the same, and for this reason it has been considered convenient to carry out this study starting with the ore that performs worst in the washery.

The Samples

Two samples were received, of which the first was discarded as it was not considered representative in the opinion of the interested parties.

The second, which was sent to us later and which corresponds to the ore that performs worst in flotation, is the one on which the study has been carried out, the weights and grades of both samples are as follows:

	1ª muestra	2ª muestra
Peso	78 kilos	44 kilos
C (grafítico)	5,20%	1,75%
Fe	6,94%	6,15%
S	2,65%	2,20%

Microscopic study

Microscopic examination of the mineral in the sample shows that the graphite is sometimes in small, well-differentiated flakes, and sometimes in the form of very fine particles that are widely disseminated in the gangue.

Subsequent examination of the flotation concentrates obtained revealed the presence of very fine intercalations of tailings between the graphite flakes. These microscopically thick, lamellar-shaped intercalations are tenaciously bound to the surface of the graphite flakes.

The iron is sometimes in the form of oxide (hematite) and sometimes in the form of sulphide (pyrite), and is widely disseminated, both in the gangue and between the graphite flakes.

Haematite, which is very soft and generally very fine in size, often colloidal, owes its origin to the decomposition of pyrite, as a result of a long process of oxidation of this species, which can be seen in some ore fragments, where transition zones from one species to another can be observed. The presence of chalcopyrite has also been observed, although this species is found in small proportion.

Possible causes of difficulties encountered.

From the above study it can be deduced that the mineral in question comes from areas of the mine where the pyrite oxidation process is being verified, and as this leads to the formation of various salts, mainly ferrous and ferric sulphates, it is most likely that these are the cause of the lack of buoyancy observed in the graphite.

Once the existence of these salts was verified in the laboratory and the pH of the pulp was measured, it was found to be between 6 and 6.5, and this acidity is the cause of the pyrite's buoyancy.

Flotation tests.

In order to practically verify our assumption and to find the most appropriate solution to correct the lack of buoyancy of the graphite and prevent the buoyancy of the pyrite, several tests have been carried out, which we will now deal with. In the first place, and in the first test trials carried out by trying to float the graphite using pine oil as the only reagent, it was possible to verify the poor buoyancy of the graphite and the tendency of the pyrite to float.

In view of this, new tests were carried out, previously alkalinising the pulp to neutralise the dissolved salts and achieve a suitable pH to keep the pyrite depressed.

Based on the fact that lime is the typical pyrite depressant and at the same time an energetic neutraliser, we proceeded to test this reagent, using successively increasing quantities and observing the results.

The tests were carried out by first using a quantity of lime equivalent to two kilograms per tonne and increasing it progressively by two kilograms each time.

The beneficial effect of lime could be seen from the first trials, with an improvement in flotation being noted as the quantity of lime increased, and being optimal when the quantity of lime reached 12 kilograms per tonne.

The pH of the pulp according to the different lime additions has been:

Cal kilogramos por tonelada	pH
2	6,5
4	7,2
6	7,5
8	7,6
10	8,5
12	9,3

Once the beneficial effect of the lime had been verified and the most suitable quantity to be used had been determined, new, more complete flotation tests were carried out in order to establish the most favourable conditions for the process and to determine the results to be obtained.

These tests were carried out using two-kilogram samples and the process consisted of carrying out a first flotation by roughing and regrinding, followed by a second flotation, after subjecting the concentrate obtained to regrinding, by means of two regrinds.

The density (the pulp used was 25 % solids). Lime and domestic pine oil were used as reagents.

The grinding used in the first roughing flotation gives a product with the following particle size.

Tamaños en Mm.	Peso %
0,20	2,00
0,15	3,00
0,10	8,50
0,075	6,50
0,050	11,25
0,050	65,75
	100 Total

The grinding used in the first rough flotation gives a product with the following particle size.

Test results

Essay "A".

Reagents per tonne of all-one.

1st Flotation.

Grinding: Lime.. 12.000 grs

Roughing: Pine Oil............................... 90 grs

1st Rewash: No reagents.

2nd Flotation.

Remolido: Lime... 500 grs

2nd Wash: Pine oil………….............................. 20 grs

3rd Rewash: No reagents.

pH of the 1st flotation.................................. 9,00

pH of the 2nd flotation................................. 9,40

Float times. -Roughing………….............. 6 minutes.

1st Rewashing................. 3 minutes..

2nd Rewashing..................3 minutes.

3rd Rewashing.................2 minutes.

Productos	Peso %	LEY %			RENDIMIENTO %		
		C	S	Fe	C	S	Fe
Concentrado	2,00	40,20	0,23	1,94	59,86	0,21	0,54
Estéril de 3º relavado	1,00	41,60	0,58	4,38	25,51	0,26	0,60
Estéril de 2º relavado	1,50	3,20	1,26	8,18	2,92	0,85	1,69
Estéril de 1º relavado	3,50	2,70	1,88	7,55	5,75	2,96	3,64
Estéril de desbaste	92,00	0,11	2,31	7,38	6,16	95,72	93,53
	100,00	1,64	2,22	7,25	100,00	100,00	100,00

Essay "B".

Reagents per tonne of all-one.

1st Flotation.

Grinding: Lime.. 12.600 grs

Roughing: Pine Oil……................................. 80 grs

1st Rewash: No reagents.

2nd Flotation.

Remolido: Lime.. 500 grs

2nd Wash: Pine oil……….............................20 grs

3º Rewashing: Pine oil.......................... 10 grs

pH of the 1st flotation.................................9,10

pH of the 2nd flotation................................. 9,50

Float times. -Roughing................5 minutos.

1st Rewashing................ 3 minutos.

2nd Rewashing................ 3 minutos.

3rd Rewashing................ 2 minutos.

Productos	Peso %	LEY %			RENDIMIENTO %		
		C	S	Fe	C	S	Fe
Concentrado	1,25	55,60	0,10	1,55	41,10	0,06	0,27
Estéril de 3º relavado	1,13	52,20	0,32	2,55	34,88	0,17	0,40
Estéril de 2º relavado	1,87	5,90	0,94	8,16	6,52	0,83	2,11
Estéril de 1º relavado	3,00	4,30	1,82	7,38	7,63	2,60	3,07
Estéril de desbaste	92,75	0,18	2,18	7,33	9,87	96,34	94,15
	100,00	1,69	2,10	7,22	100,00	100,00	100,00

Test "C".

Reagents per tonne of all-one.

1st Flotation.

Grinding: Lime.. 12.000 grs

Roughing: Pine Oil……................................... 90 grs

1st Rewash: No reagents.

2nd Flotation.

Remolido: Lime...50 grs

Sodium metaphosphate.....................................200 grs

2nd Wash: Pine oil………….............................25 grs

3rd Rewash: No reagents.

pH of the 1st flotation..................................9,00

pH de la 2a flotación 10,20

Float times. -Roughing………….................6 minutos.

1st Rewashing................. 3 minutos.

2nd Re-washing................3 minutos.

3rd Rewashing.................3 minutos.

Productos	Peso %	LEY %			RENDIMIENTO %		
		C	S	Fe	C	S	Fe
Concentrado	1,75	50,80	0,13	2,16	55,03	0,11	0,51
Estéril de 3º relavado	0,88	40,60	0,54	4,38	22,12	0,23	0,52
Estéril de 2º relavado	1,50	4,00	1,51	10,72	3,71	1,09	2,16
Estéril de 1º relavado	3,62	3,70	1,79	7,94	8,29	3,12	3,87
Estéril de desbaste	92,25	0,19	2,15	7,49	10,85	95,45	92,94

In tests "A" and "C" the regrind was carried out for 45 minutes, and in "B" it was extended to 90 minutes, and the beneficial effect of a higher grind in obtaining a higher-grade concentrate could be seen.

The granulometry of the "B" test is as follows:

Tamaños en mm.	Peso en %
0,20	26,67
0,15	8,89
0,10	17,77
0,075	6,67
0,050	8,89
0,050	31,11
	100,00

If high carbon grade concentrates are to be obtained, it will be necessary to use much higher grindings, as only in this way will it be possible to free the graphite particles from the very fine lamellar intercalations of tailings, which, as already mentioned, accompany them.

In test "C", sodium metaphosphate was used as an iron oxide depressant, but as can be seen, it did not give the desired result.

In **conclusion**, the results of the previous historical studies provided valuable information on the composition and characteristics of the deposit. According to these studies, the graphite deposit is formed through a series of medium-volume pockets. These pockets vary in terms of graphite concentration, with variable grades ranging from 3% to 5% in the least concentrated areas, from 5% to 20% in the medium concentrated areas, and from 20% to a staggering 60% in the most graphite-rich areas.

This historical information further reinforces the exceptional quality of the graphite present at Guadamur and confirms that this deposit has been a reliable source of high quality graphite for decades.

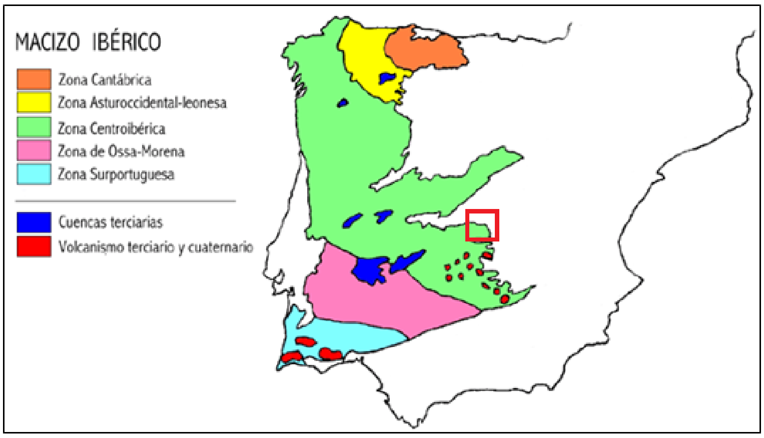
2. GEOLOGY

2.1 Location

The Guadamur graphite mines belonging to Cerámica Las Losas are located about 14 kilometres southwest of the city of Toledo and about 90 kilometres southwest of the city of Madrid. You can access the Coto Minero almost directly from the CM-401 road.

2.2 Geological setting

From a structural point of view, the Hercynian Domain in Castilla-La Mancha forms part of the so-called Central-Iberian Zone of Julivert et al, in the subdivision made by these authors of the Hesperian Massif.



The Osmundo Mine is located in the **Toledo Anatectic Complex,** which comprises rocks of different ages, from Precambrian to Palaeozoic. These rocks have undergone an intense process of metamorphism, which has even led to the partial melting of some materials and granitoid bodies of Hercynian to Late Hercynian age. In this area, we find graphite associated with the transformation of carbon-rich rocks.

Graphite occurs in the form of layers in a type of rock called neis granatiferous. These layers are soft to the touch and crumble easily. When scraped on paper, it leaves a shiny mark, indicating that the graphite is fine-grained and relatively pure.

Often, graphite samples show a noticeable pattern of lamination and striation, similar to what is seen in "fault mirrors", suggesting that the neis experienced pressure. In addition, the neis can vary in structure and mineralogical composition, with layers sometimes containing minerals such as sericite in the form of greenish and whitish whiskers.

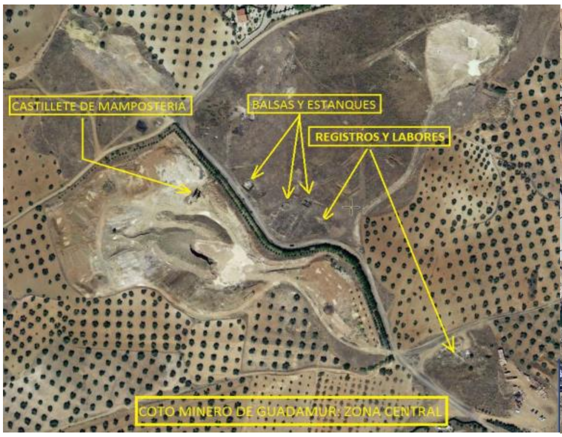
The graphite veins are in line with the main foliated structure of the rocks. These geological characteristics make the Osmundo Mine an interesting place for graphite exploration and mining, due to its unique formation and the particular properties of the mineral.

2.3 Geographical location

Within the geological context of the region, it is crucial to understand the layout and formation history of the structures surrounding the former mining area of Guadamur. Two fundamental areas can be distinguished in this local geology: the central area, rich in remains and where the mining operations were concentrated, and the area of washes.

The central area is divided into two sectors. On the left side, we find the small castle, which was the epicentre of most of the mining activities in the past. Until recently, this area had visible evidence of mining, including excavations and ditches, the most notorious being the one in front of the derrick. At its depth, several small galleries could be identified that appeared to be interconnected. It is important to note that the part of the mine that originally occupied this area remains largely intact today, as our company has focused its operations in a parallel area, where we carry out open pit mining of clays.

The other area of the complex, known as the "washing area", received its name because it used to house the washing facilities. Although these facilities are not preserved today, their former position can be identified through historical plans of the old mining concessions.



What has survived over time are the hoppers, which were used to pour the ore that was then transported by wagons along a railway track. Although this railway has been completely dismantled, including the rails and sleepers, it is still possible to recognise the platform on which it used to run, at least in its initial section, before the current clay mining began.

In the regional geological framework, this location is fundamental to understanding the layout and characteristics of past and present mining operations in the region.

3. ADMINISTRATIVE HISTORY

The administrative background of the mine in the former mining area of Guadamur is essential to understand its current situation and the potential it represents. This mine has two types of mining concessions: exploitation concession No. 3815 and research concession No. 4198, covering a considerable area.

The exploitation concession was granted to S**ondeos Toledo S.L.** on 14 March 2001 for a period of 30 years, extendable twice, and was subsequently transferred to the company **Cerámica Las Losas S.L**. on 22 March 2006, which is the current owner.

Specifically, the exploitation concession covers an area of 120 hectares (4 mining squares), which provides significant space to carry out mineral extraction and exploitation operations. On the other hand, the research concession covers an even larger area, totalling 1,140 hectares (38 mining squares). This provides extensive land for the exploration and study of potential mineral resources.

Importantly, the research concession includes all minerals in section C, which allows for the investigation of all these mineral resources in depth. This is particularly relevant in the context of the search for valuable secondary minerals, such as rhodium, which may be present in this deposit.

TÍTULO DE CONCESIÓN DE EXPLOTACIÓN

ANEXO AL TÍTULO
CONCESIÓN DE EXPLOTACIÓN "OSMUNDO", Nº 3815 (0-1-1)

Titular: SONDEOS TOLEDO, S.L.
Domicilio: Carretera de Navalpino, Km. 10 – Guadamur (Toledo)
Nombre expediente: "OSMUNDO"
Número: 3.815 (0-1-1)
Recursos: Sección C) –arcillas caoliníferas y caolín-.
Fecha otorgamiento: 14-03-2001
Período de vigencia: Treinta años prorrogables por períodos iguales hasta un máximo de noventa.
Superficie: Cuatro cuadrículas mineras (4).
Término municipal: Guadamur (Toledo).
Superficie de explotación autorizada: paraje "Las Minas", parcelas 103 y 229 b, del polígono 8.
Superficie de explotación ampliada: paraje "Las Losas", parcelas 25, 28, 29, 30, 32 y 50 del polígono 9
Condiciones especiales: El cumplimiento con todo rigor de las prescripciones contenidas en la resolución de 6-09-2005, de modificación de las condiciones del otorgamiento de esta concesión de explotación

Los trabajos de explotación se ejecutarán según los proyectos presentados y con sujeción a lo establecido en la Ley 22/1973, de 21 de julio, de Minas; el Reglamento General para el Régimen de la Minería; el Real Decreto 1389/1997, de 5 de septiembre, por el que se aprueban las disposiciones mínimas destinadas a proteger la seguridad y la salud de los trabajadores en las actividades mineras; el Reglamento General de Normas Básicas de Seguridad Minera e Instrucciones Técnicas Complementarias; la Ley 31/1995 de Prevención de Riesgos Laborales; así como las disposiciones en materia de restauración del medio ambiente natural y demás disposiciones legales que le sean de aplicación. La concesión de explotación se regirá por la Ley 22/1973, de 21 de julio, y demás disposiciones legales que le sean de aplicación.

Toledo, 6 de septiembre de 2005
EL DIRECTOR GENERAL DE
INDUSTRIA Y ENERGÍA

Fdo. : José Manuel Martínez García

Junta de Comunidades de
Castilla-La Mancha

Consejería de
Industria y Tecnología

10-04-06

Castilla-La Mancha

Consejería de
Industria y Tecnología

RVM/mcg **A/R**
03.04.06

JUNTA DE COMUNIDADES DE CASTILLA-LA MANCHA
REGISTRO ÚNICO
CONSEJERÍA DE INDUSTRIA Y TECNOLOGÍA
DELEGACIÓN PROVINCIAL DE TOLEDO
- 5 ABR. 2006
SALIDA
227797

CERAMICA LAS LOSAS, S.L.
Crtra. Navalpino, km. 10
45160 GUADAMUR (TOLEDO)

ASUNTO: Resolución por la que se autoriza la transmisión, por compraventa de la Concesión de Explotación "OSMUNDO", nº 3815

Se da traslado de la Resolución del Ilmo. Sr. Director General de Industria y Energía de la Consejería de Industria y Tecnología, de fecha 22.03.2006, por la que se autoriza la transmisión, por compraventa, de la Concesión de Explotación "OSMUNDO", nº 3815 (0-1-1), en la provincia de Toledo, a favor de CERAMICA LAS LOSAS, S.L.

La presente Resolución no pone fin a la vía administrativa y contra la misma podrá interponerse recurso de alzada ante la Excmo. Sr. Consejero de Industria y Tecnología, de acuerdo con el artículo 114 de la Ley 30/92, de 26 de noviembre, del Régimen Jurídico de las Administraciones Públicas y del Procedimiento Administrativo Común, modificada por la Ley 4/1999, de 13 de enero, en el plazo de un mes previsto en el artículo 115 de dicha norma legal.

EL JEFE DE SERVICIO DE MINAS

JUNTA DE COMUNIDADES DE CASTILLA-LA MANCHA — CONSEJERÍA DE INDUSTRIA Y TECNOLOGÍA — DELEGACIÓN PROVINCIAL — TOLEDO

Fdo.: Rafael Villar Moyo

ANEXO: Resolución citada.

Delegación Provincial

Avda. Francia, 2
45071 TOLEDO

4. LEGISLATION

4.1 European Laws

The recent adoption by the European Parliament of the Critical Raw Materials Act marks a significant milestone in the quest for greater autonomy and sustainability in the supply of essential resources to the European Union. This legislation focuses on reducing the EU's dependence on other countries for critical raw materials, including graphite, lithium, nickel, silicon, magnesium, palladium and other elements vital to various industries.

The targets set for 2030 are ambitious and have a direct impact on investment in graphite mines in Spain:

1. EU production: the law states that the EU must be able to produce at least 50 % of its annual consumption of strategic raw materials. This presents a significant opportunity for graphite mines in Spain, as graphite is a critical and essential raw material in numerous industrial applications.

2. Recycling and processing: The EU is expected to source at least 10% of raw materials within its territory and to be able to collect, filter and process at least 45%. This encourages investment in graphite recycling and processing technologies and would boost demand for these local raw materials.

3. Strategic agreements: The EU is seeking strategic agreements with other countries to diversify raw material supplies. This could involve collaboration with countries that are important producers of graphite.

4. Research into alternative materials: The legislation also promotes research into alternative materials and would lead to the exploration of innovative sources of graphite or substitute technologies.

5. Reduction of barriers: The removal of barriers for companies in the raw materials sector is another objective, which can facilitate investment and development of graphite-related projects in Spain.

The EU Critical Raw Materials Law offers a number of opportunities and advantages for graphite mines in Spain. The drive towards local production, recycling and processing, together with the diversification of supply, creates an environment conducive to investment in graphite mining and processing in the country. In addition, the focus on research into alternative materials and the reduction of barriers provide a solid basis for sustainable growth of this industry in Spain.

4.2 Subsidies

The Horizon Europe programme, with its outstanding budget of €95,517 million for the period 2021-2027, offers a significant opportunity for the reopening of former graphite mines in Spain. This programme, committed to scientific excellence and innovation, can play a key role in the development and revitalisation of the mining industry in the country.

One of the key pillars of Horizon Europe is to address global challenges and foster European industrial competitiveness. This means that funding will be granted for research related to sustainability, natural resources and raw materials, which is essential for mining. By focusing on research at the frontier of knowledge and global challenges, the programme can support research and developments that optimise the extraction, processing and use of graphite, promoting more efficient and environmentally friendly mining practices.

The Innovative Europe pillar aims to foster innovation and growth of small and medium-sized enterprises (SMEs). Companies involved in graphite mining in Spain, especially SMEs, can benefit from this support. Incentives and grants available through the European Innovation Council (EIC) can support research and development of more advanced technologies for sustainable graphite mining and utilisation. This can help companies become more competitive in the international market and expand their operations.

In addition, Horizon Europe promotes European collaboration and partnerships in research and innovation. This can open up opportunities for cooperation between mining companies in Spain and other parts of Europe, which could lead to the creation of research consortia and joint projects to address the specific challenges of the graphite industry.

The Horizon Europe programme provides a solid framework to support research and innovation in the graphite mining sector in Spain. Through its substantial funding, collaboration and focus on sustainability, this programme can significantly contribute to the revitalisation of old graphite mines and the strengthening of the industry in the country. Investment in graphite mining not only has the potential to generate significant economic benefits, such as generating up to 11 euros in Gross Domestic Product (GDP) gains for every euro invested but can also contribute to Spain's transition to a more sustainable and prosperous future.

5. CURRENT MINERAL STUDIES

5.1 Clays

ANÁLISIS Y GESTIÓN DEL SUBSUELO, S.L. carried out a geophysical prospecting study on behalf of **Cerámica las Losas, S.L.** in the area near the brick factory in the vicinity of Guadamur, in the province of Toledo. The main objective of this study was to analyse the subsoil, identify its distinctive characteristics and distinguish between different types of materials, with the aim of estimating volumes and spatial distributions of those of greatest relevance.

The main objective of this study was to analyse the subsoil and, more specifically, to assess the characteristics of the clays present in the soils currently used in the brickworks in operation.

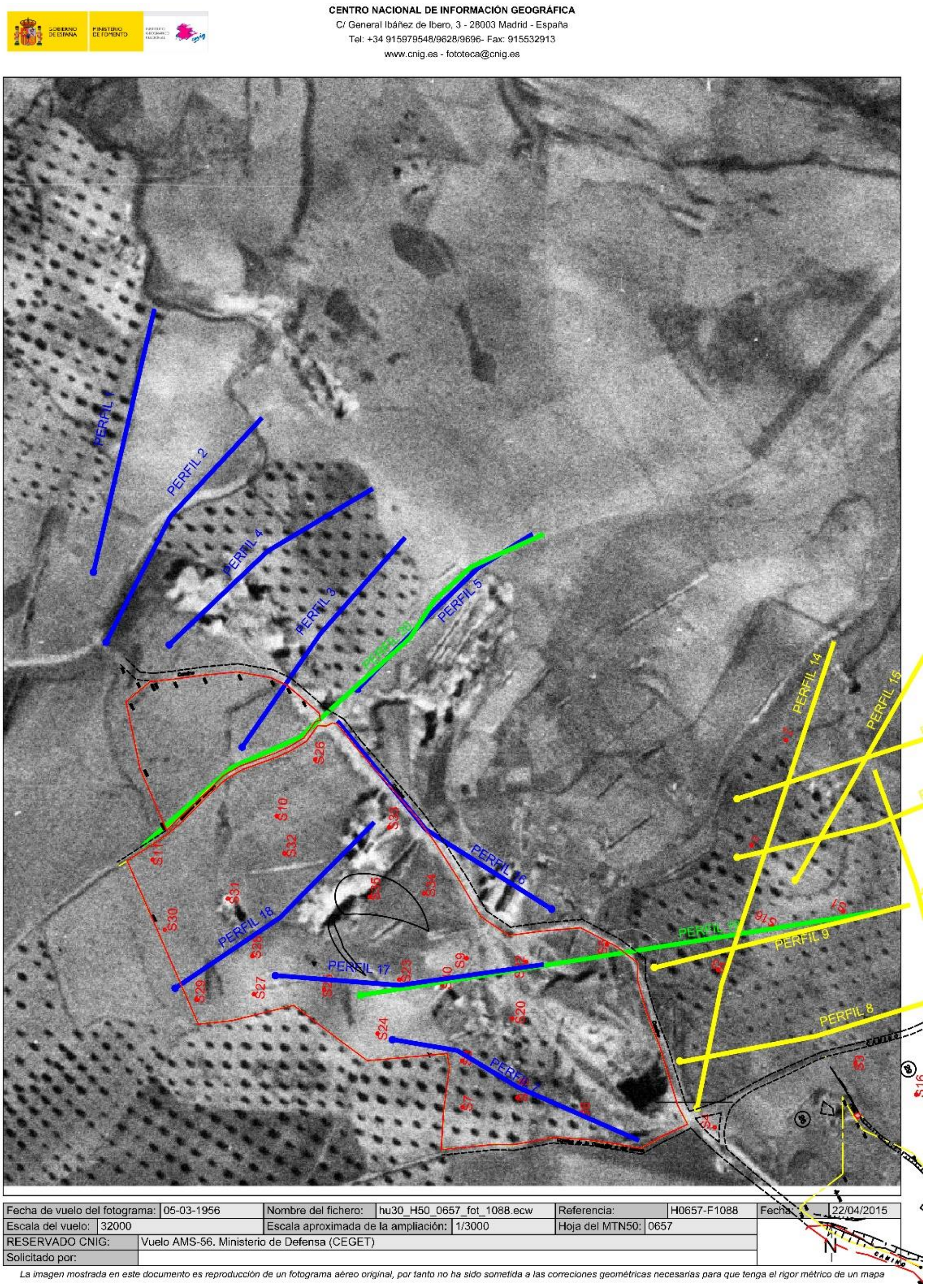
To achieve these objectives, two subsurface survey approaches were applied: electrical tomography profiling and geophysical sounding. This report provides a detailed description of the activities carried out, an explanation of the methodologies employed, and an assessment of the most salient results derived from this comprehensive geophysical survey campaign.

5.1.1 Tomographies

For the evaluation of the soils, **Cerámica Las Losas S.L.** ordered the following **geophysical prospecting study using electrical tomography for lithological control of the subsoil of the P.I. Osmundo, located in the vicinity of the town of Guadamur (Toledo)** on several fronts to locate clays and prior to the drilling of boreholes.

Five (5) electrical tomography profiles have been carried out. These profiles have been named: GUADAMUR-7, GUADAMUR-16, GUADAMUR-17, GUADAMUR-18 and GUADAMUR-19. All of them have been measured with the Schlumberger-Wenner measuring device, as it is the one that best defines the geological contacts between different units.

In the attached image, which is presented below, the profiles resulting from the electrical tomography can be seen. These profiles were used as a guide for the strategic location of the mechanical boreholes, allowing a more accurate correlation between the resistivity values obtained from the CT scans and the actual lithologies encountered for the evaluation of soils and clays.

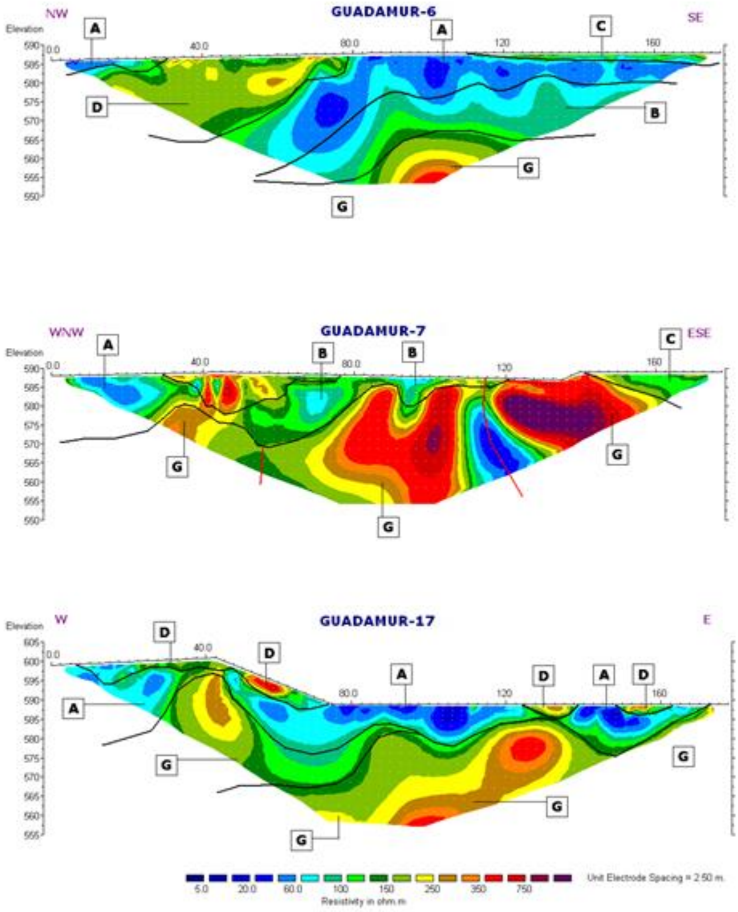


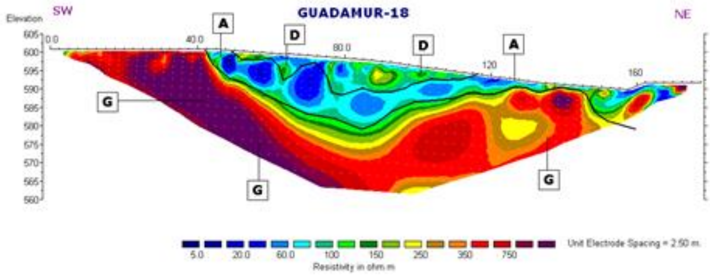
In processing the electrical tomography profiles, several steps were applied:

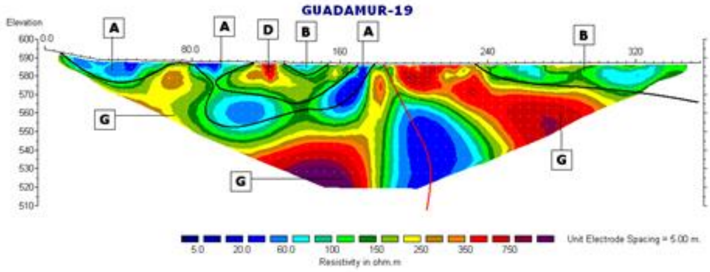
1. Filtering: Extremely low (less than 1 ohm x m) and extremely high (greater than 5,000 ohm x m) resistivity values were removed from the profiles to avoid affecting further analysis.

2. Topography: Topographic data were incorporated into each profile to recalculate resistivities based on the underlying topography.

3. Colour Unification: The profiles were represented with a uniform colour scale, which facilitated the identification of lithological variations in the studied area. You can find these profiles below:







Filtering: The electrical tomography profiles show a distribution of colours that reflect the different resistivity values of the analysed formations. These resistivity values have been filtered. The values that presented a certain error or excessively low values (lower than 1 ohm x m) or excessively high values (higher than 5,000 ohm x m) have been filtered so that the subsequent processing is not affected by these extreme values.

Photo of the electrical scans of the mines

5.1.2 Mechanical soundings

More than 60 boreholes were drilled to depths of up to 40 metres after the electrical tomography, with the aim of validating and enriching the information provided by these studies. These boreholes made it possible to obtain direct data on the composition and lithological characteristics of the subsoil.

Rotopercussive boreholes were drilled in the geophysical investigation area in order to calibrate the resistivity values and assign specific lithologies and textures to them. These boreholes were drilled strategically to gain a more accurate understanding of the subsurface characteristics. Although not all boreholes were run directly on the geophysical profiles, the calibration was carried out in an expert and thorough manner.

This calibration approach, although not performed directly on the geophysical profiles, provides a valuable approach to understanding the characteristics of the subsurface materials. These data are essential for assessing geotechnical potential and making decisions.

Fotografía 1: Materiales tipo A

Fotografía 3: Materiales tipo C

Fotografía 2: Materiales tipo B

Fotografía 4: Materiales tipo D

On the basis of the calibration carried out, correlations have been established between the resistivity values obtained in the electrical tomography profiles and the types of subsurface materials. These materials are divided into categories identified as follows:

1. Type A materials: these materials are characterised by dark blue tones and have resistivities generally between 5 and 50 ohms per metre (ohm x m). They resemble medium brown, fine-grained materials, similar to those observed in the 10 m depth sample from borehole S-65.

2. Type B materials: Identified by light blue tones and resistivities generally between 50 and 75 ohm x m, these materials resemble greyish-brown and grey, fine-grained materials, similar to those observed in the 15 m depth sample from borehole S-65.

3. Type C materials: Characterised by greenish tones and resistivities generally between 100 and 200 ohm x m, these materials are related to dark brown, medium and coarse grained materials, similar to those observed in the 7 metre depth sample from borehole S-100.

4. Type D and G materials: These materials show yellow, orange, red and violet colours, with resistivities generally ranging between 250 and 750 ohm x m. They resemble brown and grey, coarse-grained materials, similar to those observed in the 12 m deep sample from borehole S-100 (Type D materials). They may also correspond to the materials that make up the granitic rock (Type G materials).

These categories of materials provide valuable information for understanding the composition of the subsurface.

Example of one of the surveys.

5.2 Graphite

INNOVARCILLA TECHNOLOGICAL CENTRE has carried out an exhaustive and precise laboratory analysis, using advanced chemical analysis techniques to characterise two clay samples. These analyses were carried out using the Energy Dispersive X-Ray Fluorescence (EDXRF) technique in order to determine the chemical composition of the samples.

Firstly, a chemical analysis of two clay samples was carried out using the EDXRF technique. This technique allows the identification and quantification of chemical elements present in the samples by excitation of the atoms and detection of the emitted X-ray radiation. This process provides detailed information on the elemental composition of the samples, which is essential for understanding their properties and characteristics.

In addition, a further analysis using the same EDXRF technique, with a focus on the quantification of minority elements. This analysis made it possible to detect and measure the presence of elements at low concentrations in the samples, which is essential for assessing their suitability for various industrial and scientific applications.

Finally, the total carbon content of a graphite sample was determined. This process was carried out using specific methods that allow the precise quantification of the amount of carbon present in the sample. The measurement of carbon content is essential, as graphite is widely used in various industrial applications and its quality depends to a large extent on its carbon content.

In each of these analyses, INNOVARCILLA TECHNOLOGICAL CENTRE followed strict quality protocols and complied with the applicable regulations and standards.

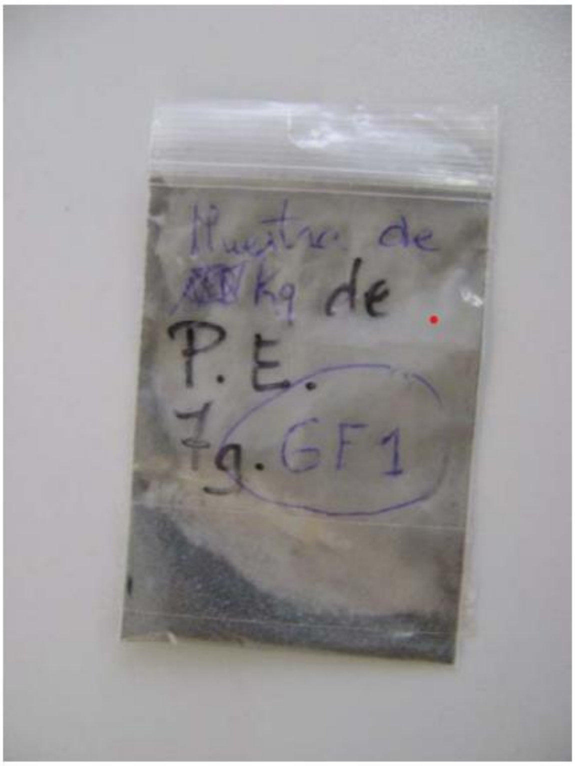


Figura 5. Muestra "Grafito (GF 1)" [Código MP16007].

Chemical analysis of samples was carried out using **the Energy Dispersive X-ray Fluorescence (EDXRF) technique.** First, the samples were dried at 105 ± 5ºC and calcined to estimate their organic matter content. The chemical analysis was performed with an EDXRF spectrometer that uses X-rays and detects the fluorescence generated by the sample. This spectrometer allows the calculation of the concentration of major elements in the samples.

The process involves identifying the signals in the spectrum and calculating the concentrations in the form of oxides. Specific conditions were used, such as a voltage of

30Kv and a diameter of 10 µm. The analysis was performed in standard-less mode, and the formula Formula1 (oxides) was applied.

The determination of the carbon content is based on an elemental analysis technique involving the complete combustion of the sample. This combustion is carried out under optimal conditions, at a temperature of 950 to 1300 °C and in an atmosphere of pure oxygen. During this combustion, the carbon, nitrogen, hydrogen and sulphur present in the sample are converted into simple gases, such as carbon dioxide, nitrogen, water and sulphur dioxide. These gases are separated using various techniques and measured. The data are then processed taking into account the weight of the sample and the information provided by a standard sample. This allows the percentage content of each element in the sample to be calculated.

A Thermo Finnigan flash elemental analyser model EA1112 CHNS-O was used to perform the analysis. This equipment is capable of performing quantitative analysis of nitrogen, carbon, hydrogen, sulphur and oxygen in solid or liquid samples. It can cover a concentration range from 0.01% (100 ppm) to 100% of the total element content in the sample.

The instrument has two channels, one for determining NCHS and one for oxygen. A helium flow acts as a carrier gas in both channels. In either configuration, one of the channels functions as the analytical channel and the other as the reference channel. The analytical channel is connected to a quartz reactor which is filled with a material suitable for each type of analysis and placed in an oven. To separate the resulting gaseous compounds, the equipment is equipped with specific chromatographic columns. These columns are housed in an oven at a temperature of approximately 65 °C and are connected to one of the channels of the thermal conductivity detector.

An automated sampler was used to introduce the analysed sample into the equipment. In addition, a Mettler Toledo MX5 electronic microbalance was used to weigh the samples, which has a weighing range of up to 5.1 grams and an accuracy of +/- 1 µg.

Tabla 4. Análisis elemental de la muestra analizada.

ELEMENTO	CONCENTRACIÓN (%) GRAFITO GF 1 [Código MP16007]
CARBONO (C)	**60,3172**
HIDRÓGENO (H)	0,5979
NITRÓGENO (N)	0,1355
AZUFRE (S)	< 0,0001

The results of chemical analyses carried out on graphite from the Guadamur mines are highly promising and supported by previous studies. These analyses revealed an impressive carbon concentration of 60.3172%, indicating exceptional quality in the graphite found in this deposit.

It is essential to understand that high-purity graphite is highly desirable in today's market, and demand for it continues to rise. In terms of economic value, high purity graphite is trading at significantly higher prices than lower quality graphite. The price varies depending on the purity and the way the graphite is processed, but in general, prices per tonne of high purity graphite are substantially higher than for other types of graphite.

Given that the concentration of carbon in Guadamur graphite is exceptionally high and has been maintained over time, this resource is of immense value. Moreover, its use in high-tech applications ensures a steady demand in the global market. Current results of chemical analysis and historical information confirm that the Guadamur mines possess an exceptionally valuable and high quality graphite resource.

5.3 Minerales secundarios

Análisis de cinco muestras [S-MP-00805-0005-16] CERÁMICA LAS LOSAS, S.L.

Figura 3. Muestra "Escombrera mina arcilla" [Código MP16005].

Figura 4. Muestra "Escombrera mina piedra" [Código MP16006].

Two samples of "mine dump" ores (MP16005 and MP16006) were also analysed to determine the concentration of metallic elements of economic value. A NexION 300D inductively coupled plasma mass spectrometer (ICP-MS) was used.

The ICP-MS process is based on the generation of ions from an inductively coupled plasma system and the detection of ions in their M+ state. A quadrupole mass spectrometer was used to measure the mass spectrum of the ions. The concentration calculation was performed with NexION software (Perkin Elmer).

To carry out this analysis, the samples were pre-treated. Between 0.2 and 0.3 g of each sample was weighed and digested using a microwave digester with an acid mixture. After several attempts, a more aggressive method suggested by the manufacturer was used and was successful. The samples were then diluted, and a known concentration of internal standard was added.

A four-point calibration curve was performed, comprising a calibration blank and three multi-element calibration standards, to which a known concentration of internal standard was added. Seven metals of significant economic value were determined:

titanium, rhodium, silver, tungsten, platinum, gold and lead in both samples.

Tabla 3. Concentración (% masa) de los elementos minoritarios presentes en las dos muestras analizadas.

ANALITO	CONCENTRACIÓN (µg/g)			
	ESCOMBRERA MINA ARCILLA [Código MP16005]		ESCOMBRERA MINA PIEDRA [Código MP16006]	
TITANIO (Ti)	7.500,65 µg/g	(± 0,21%)	14.396,13 µg/g	(± 0,84%)
RODIO (Rh)	15,42 µg/g	(± 1,63%)	48,13 µg/g	(± 1,42%)
PLATA (Ag)	2,54 µg/g	(± 1,35%)	2,49 µg/g	(± 1,38%)
WOLFRAMIO (W)	4,58 µg/g	(± 2,12%)	21,67 µg/g	(± 0,99%)
PLATINO (Pt)	0,08 µg/g	(± 3,43%)	0,07 µg/g	(± 1,80%)
ORO (Au)	0,33 µg/g	(± 3,19%)	0,23 µg/g	(± 6,62%)
PLOMO (Pb)	8,85 µg/g	(± 0,08%)	1,94 µg/g	(± 0,29%)

Se

In order to make an estimated value based on the results of the secondary minerals found in the Guadamur mines, it is important to consider both the quantities found and the market prices of each mineral. An analysis using this information is presented below:

Secondary Minerals Analysis:

1.Titanium (Ti):

- Average quantity: 7500 g/t
- Market price: 0.0048 €/g
- Value per tonne: €36.00

2. Platinum (Pt):

- Average quantity: 2.8 g/t
- Market price: 27.00 €/g
- Value per tonne: €76.00

3. Gold (Au):

- Average quantity: 1.42 g/t

- Market price: 58.00 €/g
- Value per tonne: €83.00

4. Rhodium (Rh)

- Quantity: 31.77g/t
- Market price: 352.00 €/g
- Value per tonne: €11,183.00

5. Graphite(C)

- Quantity in areas of average concentration: 20%.
- Market price: 10.000,00 €/t
- Value per tonne: 2.000,00 €.

Result:

To calculate the total value of the secondary minerals found in the Guadamur mines, we can add up the individual values per tonne of each mineral:

To estimate the daily and annual turnover of a factory processing 1,000 tonnes per day of minerals according to the values provided, we can calculate it as follows:

Total value per tonne = Value of Ti + Value of Pt + Value of Au + Value of Rh + Value of Graphite

Total value per tonne = 36,00 € + 76,00 € + 83,00 € + 11.183,00 € + 2.000,00 €.

Total value per ton = 13.482,00 € per ton

Daily turnover = Total value per tonne * Number of tonnes per day

Daily turnover = 13.482,00 €/tonne * 1000 tonnes/day

Daily turnover = 13.482.000,00 €/day

Annual turnover = Daily turnover * Days per year

Annual turnover = 13.482.000,000,00€/day * 365 days/year

Annual turnover = 4.920.930.000,000,00 €/year

Therefore, if a factory processes 1000 tonnes per day of secondary minerals, rhodium and graphite, the estimated annual turnover would be approximately 4,920,930,000.00 euros per year.

These calculations provide an estimated idea of the total daily and annual production and may be of interest to investors wishing to assess the financial potential of the Guadamur mine development project, considering all the minerals mentioned. It is important to remember that these values are estimates and may vary according to various factors, but they provide an initial perspective of the expected turnover. It is important to clarify that the financial calculations made above are hypothetical with actual data from the results of the analyses and the value of the minerals in the market and are based exclusively on the secondary minerals found in the Guadamur mines.

5.3.1 Rhodium

The Rhodium Market

Rhodium, a rare and valuable metal, has gained significant attention in recent years due to its growing demand in various industries, especially in the technology and energy sector.

Executive Summary:

- Rhodium Price: As of 2021, the price of rhodium stands at around €500,000 per kilogram, making it the most valuable natural metal in the world.

- Price Growth: In the last five years, the price of rhodium has experienced a spectacular increase, multiplying by more than 3,000%.

- Global Demand: Approximately 32 tonnes of rhodium are consumed worldwide each year, while only around 9.5 tonnes are recycled.

- Import Dependence in the European Union: The European Union is highly dependent on rhodium imports, with a dependence exceeding 95% per year due to lack of own production.

- Main Applications: Around 80% of rhodium production goes into the manufacture of catalytic converters and catalytic converters for low-emission vehicles. It is also used in energy efficiency and renewable energy technologies, such as artificial photosynthesis.

Detailed Analysis

Rhodium Price:

Rhodium has seen a phenomenal rise in price in recent years. In 2017, the price per kilogram of rhodium was quoted at €21,500, but reached an all-time high of €822,000 in April 2021. This increase is mainly due to the growing demand for rhodium for technological and environmental applications.

Demand and Supply:

Rhodium demand is steadily growing, driven by its key role in reducing emissions from low-emission vehicles and its use in sustainable technologies, such as artificial photosynthesis. However, the supply of rhodium is limited due to its scarcity in the earth's crust.

European dependence:

The European Union faces a significant dependence on rhodium imports, exceeding 95% annually. This makes rhodium a critical raw material of strategic interest in the region and underlines the importance of sourcing rhodium within Europe.

Key Applications:

- Catalytic Converters: approximately 80% of rhodium production goes into catalytic converters in vehicles, contributing to the reduction of pollutant emissions.

- Energy Efficiency: Rhodium is used in thermal insulation and electrical and electronic components in wind turbines, contributing to energy efficiency.

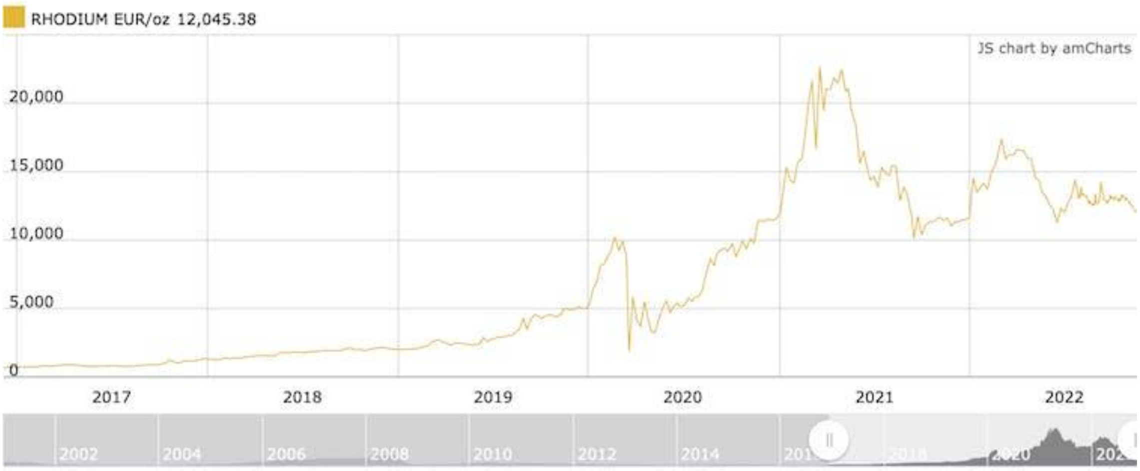
- Renewable Energy Technologies: Rhodium is essential in artificial photosynthesis technology, which converts sunlight, water and carbon into hydrogen, a clean fuel.

Future Prospects:

The growing demand for rhodium in clean technologies and the limited availability of this metal in the earth's crust suggest that its price will continue to rise in the near future. This makes the search for new sources of rhodium, such as the Guadamur mines, a strategic opportunity for investors and companies interested in meeting this growing demand.

Conclusion:

The rhodium market presents a promising outlook with a steadily rising price due to its importance in sustainable technologies. The Guadamur mines, with their impressive concentrations of rhodium, have the potential to become a strategic source of this highly valuable metal. This makes investment in these mines an attractive opportunity for those looking to participate in a growing market and contribute to the transition towards a greener and more sustainable economy.



For interested investors, this rhodium find represents a unique opportunity to participate in a highly profitable and strategic mining project. Given the growing demand for rhodium in sustainable technologies and the scarcity of this metal in the global market, investment in the Guadamur mines has the potential to generate significant long-term returns and contribute to the economic growth of the region.

6. GRAPHITE MARKET STUDY

6.1 Mines in the world

The following is a look at some of the most important companies in the global graphite market along with their annual production in the last year

Jiangxi Zichen Technology Co. Ltd.

Production: Jiangxi Zichen Technology is one of the leading manufacturers of graphite products in China, with annual production exceeding 100,000 metric tons of graphite, including graphite electrodes and speciality graphite materials.

Shanghai Shanshan Technology Co. Ltd

Production: Shanghai Shanshan Technology focuses on the production of graphite anode materials used in lithium-ion batteries, with an annual production capacity reaching 50,000 metric tons.

BTR New Material Group Co., Ltd.

Production: BTR New Material Group is a key player in the production of graphite products, including graphite electrodes used in metallurgy and aluminium production. Its annual production is estimated at more than 80,000 metric tons of graphite.

Shenzhen Xiangfenghua Technology Co. Ltd.

Production: Shenzhen Xiangfenghua Technology specialises in graphite products used in various applications, such as the semiconductor industry and electronic components, with annual production exceeding 30,000 metric tons.

Syrah Resources Limited

Production: Syrah Resources Limited is a major global graphite producer with operations in Mozambique. The company focuses on the production of natural and synthetic graphite for various applications, including lithium-ion batteries, with annual production estimated at over 150,000 metric tonnes.

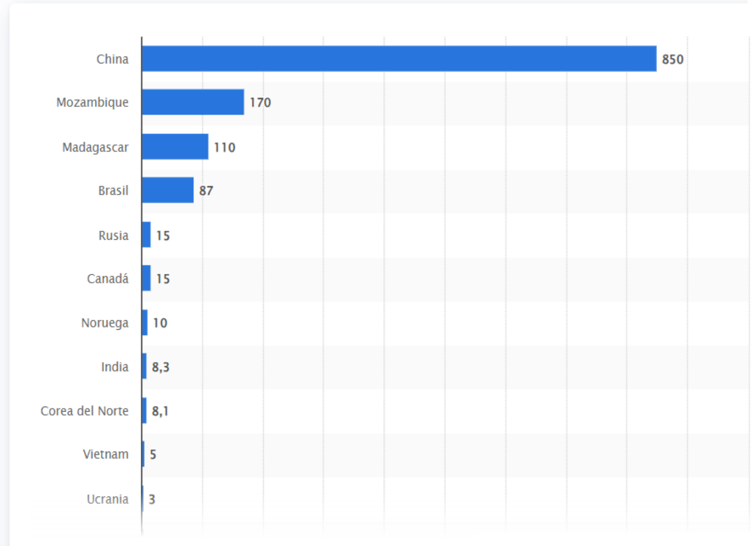
6.2 Supply and demand

Global Graphite Supply:

The global supply of graphite is dominated by several key producing countries. China leads global production, contributing approximately 70-80% of total graphite supply. It is followed by India, Brazil and Mozambique, each contributing a significant share of global production, around 10-15%, 3-5% and 3-5%, respectively.

Ranking de los principales países productores de grafito a nivel mundial en 2022

(en miles de toneladas métricas)



Demand in Europe:

Europe is a major demand centre for graphite, with a growing need driven by several key factors:

Graphite consumption in Europe is significant, mainly due to growing demand from the technology industry and the production of batteries for electric vehicles. While Europe is not a major producer of graphite, it relies heavily on imports to meet its demand. Below is a rough estimate of graphite consumption in Europe:

Annual Consumption: Europe consumes around 150,000 to 200,000 metric tons of graphite per year.

1. Battery industry: One of the main demanders of graphite in Europe is the battery industry. With the transition to electric vehicles and energy storage systems, there has been a significant increase in demand for graphite, which is used in the electrodes of lithium-ion batteries. It is estimated that around 30-40% of the graphite consumed in Europe is used in the manufacture of batteries.

2. Metallurgy: The metallurgical industry in Europe is another important sector using graphite. It is used in smelting and refining processes of non-ferrous metals such as aluminium and steel. This represents a substantial part of the European demand for graphite.

Supply and Demand Balance:

Given Europe's high dependence on graphite imports, the region often faces a challenge in balancing supply and demand. While Europe is not a major producer of graphite itself, it seeks to secure a sustainable and reliable supply as its key industries expand.

The search for alternative sources and local production of graphite are areas of growing interest in Europe as it seeks to reduce its dependence on imports and secure access to raw materials essential to its evolving economy.

This balance between global supply and demand in Europe is essential to ensure a steady supply and to meet the needs of European industry in a world increasingly geared towards sustainability and electric mobility.

6.3 Business opportunities

Detailed Analysis of the Global Graphite Market (2023-2028)

The global graphite market presents a dynamic and growing landscape, with an estimated value of USD 3.45 billion in 2023. This market is projected to reach USD 4.41 billion by 2028, experiencing a compound annual growth rate (CAGR) of 5% during this period.

Impact of the COVID-19 Pandemic

The COVID-19 pandemic created significant challenges in the graphite market by slowing demand from key end-user industries, such as electronics, metallurgy and automotive, due to the restrictions implemented during the crisis. The production of electronic components was affected by logistical disruption and labour shortages worldwide. However, after the lifting of restrictions, the sector has recovered strongly.

Market Drivers

Lithium-ion batteries: Demand for lithium-ion batteries has been steadily increasing, driving the need for graphite in their production. Key projects, such as Tsingshan Holding Group's investment in China to expand lithium battery production capacity, reinforce this trend.

Steel Production: Graphite plays a crucial role in steel production, and sustained growth in global crude steel production, especially in China and India, is driving demand for graphite in metallurgical applications.

Market Constraints

Environmental Regulations: Tighter environmental regulations are a major challenge that could limit the growth of the graphite industry due to the need to address sustainability issues.

Growth Opportunities

Green Technologies: The increasing application of graphite in green technologies, such as renewable energy and electric mobility, is creating long-term growth opportunities in the global market.

Future Outlook and Production Figures

According to the World Steel Association, global crude steel production increased from 1.735 million metric tonnes in 2017 to 1.951 million metric tonnes in 2021.

According to the World Bureau of Metals Statistics, global primary aluminium production increased by 378 kilotons from January to October 2022 compared to the same period in 2021.

These factors will contribute to a continued increase in demand for graphite in the metallurgical end-user industry.

Europe has the opportunity to take advantage of the steady growth and global demand for graphite by investing in the Guadamur graphite mines located in Spain. The following highlights some of the business opportunities that make this investment attractive:

Growing metallurgical industry: Graphite plays a key role in metallurgy, especially in the production of steel and aluminium. With the expansion of steel production in Europe, there is a growing demand for graphite electrodes and related products.

Investment in green technologies: Europe is committed to sustainability and emission reduction. Graphite is used in green technologies such as fuel cells and renewable energy, opening up opportunities for local graphite production and application in these areas.

Reducing dependence on imports: Europe currently relies heavily on graphite imports. By investing in Guadamur's graphite mines, the continent can reduce its dependence on external suppliers and ensure a more stable supply.

Strategic location in Europe: The location of the Guadamur mines in Spain provides a logistical advantage, as they are located in the heart of Europe. This facilitates the efficient transport and distribution of graphite to European markets.

High purity and quality of graphite: The Guadamur mines have a long history of producing high quality graphite. This is essential, especially for critical applications such as the aerospace and semiconductor industries.

Compliance with environmental regulations: Europe has strict environmental regulations, and Guadamur's mines can meet these standards, which is essential for maintaining a sustainable image and attracting environmentally conscious investors and customers.

7. SUSTAINABLE MINING

The reactivation of graphite mines in Spain is an exciting and promising project that, when approached with a sustainable mining approach, can benefit not only the industry and investors, but also the environment and local communities. Here we present a proposal highlighting the key aspects of sustainable mining to convince stakeholders in this project:

Project Vision:

Our vision is to transform graphite mines in Spain into a model of sustainable mining, where the responsible extraction of this vital resource is combined with the conservation of the natural environment and the well-being of local communities. We seek to set a positive example of how the mining industry can operate profitably and ethically in the 21st century.

Commitment to Sustainable Mining:

1. Comprehensive Assessment: Prior to commencing any operation, we will conduct a full environmental assessment to understand the potential impacts on the environment, including biodiversity, water and air quality. This will enable us to implement effective mitigation measures.

2. Energy Efficiency: We will implement state-of-the-art technologies and processes that maximise energy efficiency in our operations. This not only reduces costs, but also lowers our carbon footprint.

3.Waste Management: Our waste management will be based on international best practice. We will implement systems to minimise waste, recycle where possible and treat hazardous waste appropriately.

4. Technological Innovation: We will constantly seek cleaner and safer technologies for the extraction and processing of graphite. This includes exploring more efficient and sustainable extraction methods.

Community Benefits:

1. Local Employment: We will create employment in local communities and prioritise the hiring of local labour wherever possible.

2.Infrastructure Development: We will contribute to the development of local infrastructure, such as roads and utilities, to improve the quality of life in surrounding communities.

3. Investment in Social Development: We will invest in cultural and social development activities that contribute to the improvement of the city.

Commitment to Transparency:

Our commitment to transparency is fundamental. We will provide regular reports on our operations and comply with all applicable environmental regulations and standards. In addition, we will invite stakeholders, including local communities and environmental organisations, to participate in and monitor our activities.

Responsible investment:

We will attract investors who are committed to sustainable mining and share our long-term vision. We value responsible investment that considers not only financial returns, but also social and environmental impact.

Promoting Research:

We will dedicate resources to research and development of cleaner, more sustainable technologies in graphite mining. We will collaborate with academic institutions and experts in the field to drive innovation.

Our graphite mine reactivation project in Spain not only has the potential to be a profitable venture, but can also be a beacon of sustainable mining in Europe. With a careful focus on environmental protection, the well-being of local communities and investment in clean technology, we are confident that this initiative will be a success in both financial and ethical terms.

8. EXPERT JUDGEMENT

- In the archives of the former Instituto Provincial de Investigaciones y Estudios Toledanos **(IPIET),** which was created in September 1962 by the President of the Provincial Council, **Julio San Román Moreno**, we find on page 21 the following text written in 1981:

  "MINES OF GRAPHITE In the municipality of Guadamur, very close to Toledo, S" is an exploitation, today abandoned, of graphite (an element made up of pure carbon and one of the two forms, together with diamond, in which this element is presented). Luis Moreno points out that in the 1960s there were more than a hundred miners working there, the mining company being Comercial Metalúrgica de Bilbao. The mining systems used were of two types: opencast and underground. You can still see a sort of cut, some 25 metres deep, from the bottom of which several galleries lead off in different directions; there are also several ventilation shafts and a master extraction shaft that is said to be more than 30 metres deep."

- **Iván Martín-Méndez, Ester Boixereu and Carlos Villaseca.** of the Spanish Geological and Mining Institute **IGME** write for 2018 in their article on the website of the Official College of Geologists **ICOG** about the mines of Guadamur and their importance in the Spanish economy to eliminate dependence on raw materials and they quote "The mining reserve of Guadamur is located to the NE of the municipality and very close to the town centre. These mines were in operation until 1961 in two periods of time. The first, which lasted just two years, from 1919 to 1920, during which 310 tonnes were extracted, and the second, between 1947 and 1961, when some 4,500 tonnes of ore were extracted". "The grade of the deposit ranged between 3 and 20% graphite, and the ore was then concentrated by flotation in facilities attached to the mine."

- **Javier Elez Villar and Francisco Javier Gonzalo Corral,** 2019. Summary of the world graphite market and outlook for Spanish deposits. **GRUPO SAMCA** postulate in their Boletín Geológico y Minero, 130 (1): 27-46 the following information:

  *"The old graphite mines in the area around Guadamur, exploited from 1946 to **1963 by the company Comercial Químico-Metalúrgica**, developed around a vein (or very vertical fracture zone), embedded in Precambrian meta-sediments and Late Variscan tonalites (Lasheras et al., 1995). This vein, several hundred metres long, was mined to about 100 metres depth by underground mining (Fig. 13) and had an estimated strength of two to three metres. The grades of this mineralisation range between 3 and 20% graphite with a high degree of crystallisation (Martín Méndez et al., 2015, 2017 and 2018). However, previous studies (Lasheras et al., 1995) indicate more modest **values (10% for mined ore and 2% in waste rock).***

This mining achieved concentrates of up to 80 % graphite". Taken from pages 43 and 44 of the document.

9. CONCLUSIONS

After a thorough analysis of the available information, the high demand statistics for graphite and the current market circumstances, the following conclusions emphasise the feasibility and exceptional potential of the project to reopen the graphite mines at Guadamur:

Sustained Demand for Graphite: Graphite continues to be an essential resource in the technology and energy industry, with a steadily growing global demand. This fact underlines the relevance and stability of the graphite market, making it an attractive investment.

Supply Shortages in Europe: Despite its importance, Europe lacks local sources of graphite. The region relies heavily on imports, making it vulnerable to disruptions in global supply. The reopening of the Guadamur mines could address this market gap and reduce Europe's dependence on third countries.

EU support: The European Union recognises the strategic importance of critical raw materials such as graphite and has expressed its intention to boost domestic production. This project is aligned with the EU's objectives of strengthening security of supply and promoting sustainable mining.

Participation in Horizon Europe: The European Union's Horizon Europe programme provides the opportunity to obtain substantial funding for research and development projects related to graphite mining. This can accelerate investment and promote project innovation.

Export Potential: Graphite production at Guadamur can not only satisfy domestic demand in Europe, but also generate export opportunities globally, increasing the competitiveness and economic value of the region.

Rhodium discovery: The discovery of rhodium in the Guadamur mines is an exceptional event. Rhodium is one of the most valuable metals in the world, with a market price that far exceeds gold and platinum. Its scarcity and its applications in clean technologies make it even more valuable.

Price increase: In recent years, the price of rhodium has experienced a significant increase, multiplying by thousands of percent. This is due to the increasing demand for sustainable technologies, where rhodium plays a crucial role.

Import Dependency: The European Union is heavily dependent on rhodium imports, with a dependence exceeding 95%. The presence of rhodium in the Guadamur mines could reduce this dependence and strengthen the region's security of supply.

Profit Potential: At a market price of approximately 352.00 euros per gram of rhodium, and with the estimated quantities in the Guadamur mines, the profit potential is extraordinary.

Contribution to the Economy: The extraction and commercialisation of rhodium would not only benefit investors, but would also have a positive impact on the local and regional economy, generating employment and encouraging investment in clean technologies.

Strategic Importance: Given the importance of rhodium in clean energy technologies and energy efficiency, its local availability in Toledo would contribute to sustainability objectives and alignment with European policies.

Economic Growth and Employment: The reopening of the graphite mines at Guadamur has the potential to create local and regional employment, boosting economic growth in the area and contributing to the sustainable development of the community.

Expected Annual Turnover: The potential annual turnover for a factory processing secondary minerals, including valuable rhodium and graphite, is estimated at around 4,920,930,000.00 euros.

In conclusion, the project to reopen the graphite mines in Guadamur-Toledo presents itself as an exceptional and strategic opportunity in the European context. The high demand for graphite, the absence of mines in Europe and the support of the European Union for internal production make this project highly attractive for investors and interested parties.