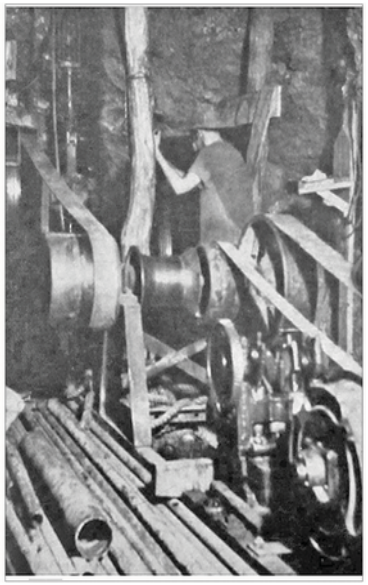
Chapter 5. The Renaissance of El Arteal


EMPRESA
DE INTERES NACIONAL
MINAS DE ALMAGRERA S.A.
Domicilio Social DESENGAÑO, 8 . Madrid
CAPITAL : 32.000.000 DE PESETAS
Representado por 64.000 acciones de 500 pesetas
Acción Nº 044937 de 500 Pesetas
Esta Sociedad reconoce al portador de esta acción, que es indivisible, una participación de Quinientas pesetas completamente liberada en el Capital Social, con derecho a los beneficios en la forma que determinan los Estatutos.
Madrid 8 de Noviembre de 1945

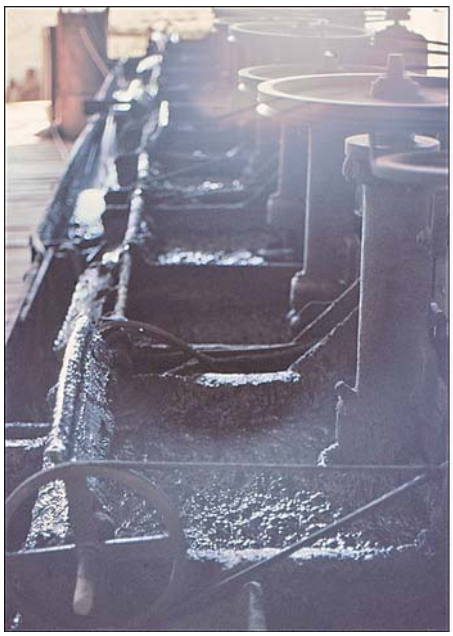
Following the Civil War, one of Franco's initiatives was to recommence mining activities in the Sierra Almagrera and, in 1945, Minas de Almagrera was formed. Franco's aim was to promote a “home grown” industry rather than one reliant on foreign investment for the supply of lead for both the domestic and the export market. So began a second phase of activity at El Arteal far greater than the first, but of which there is virtually no trace.

Minas de Almagrera Share Certificate.

Minas de Almagrera concentrated their attention on the more important mines. (At the time only nine were still active.) They took over the desagüe, the railway, the electricity generating plant and the loading pier in Villaricos. Since 1935 only the superficial water had been drained and the water level in the mines was just 80 metres below sea level. In order to start production, the water would first need to be lowered to at least 160 metres. New pumps were installed in Encarnación capable of lifting 40 litres per second to a height of 250 metres. These began pumping in 1949. Then, in 1952, new plant was installed at a depth of 320 metres. The desagüe was back in business! (The shaft of Encarnación is as deep as the Sierra is high.)



Installing the pumps in Encarnación.
Minas de Almagrera S.A. Sánchez Picón.



New technology was introduced and a modern ore processing plant was constructed. As well as tanks and warehouses for the concentrates, a factory was built to manufacture the sodium ethyl xanthate needed for the new floatation separation process. Water tanks and purifiers were installed.

Froth flotation at El Arteal. *Helios.*

They converted the room which housed the compressor for the cold water drainage pumps, situated below Casualidad, into a “polvorín” or explosives store.

Entrance to the polvorín.

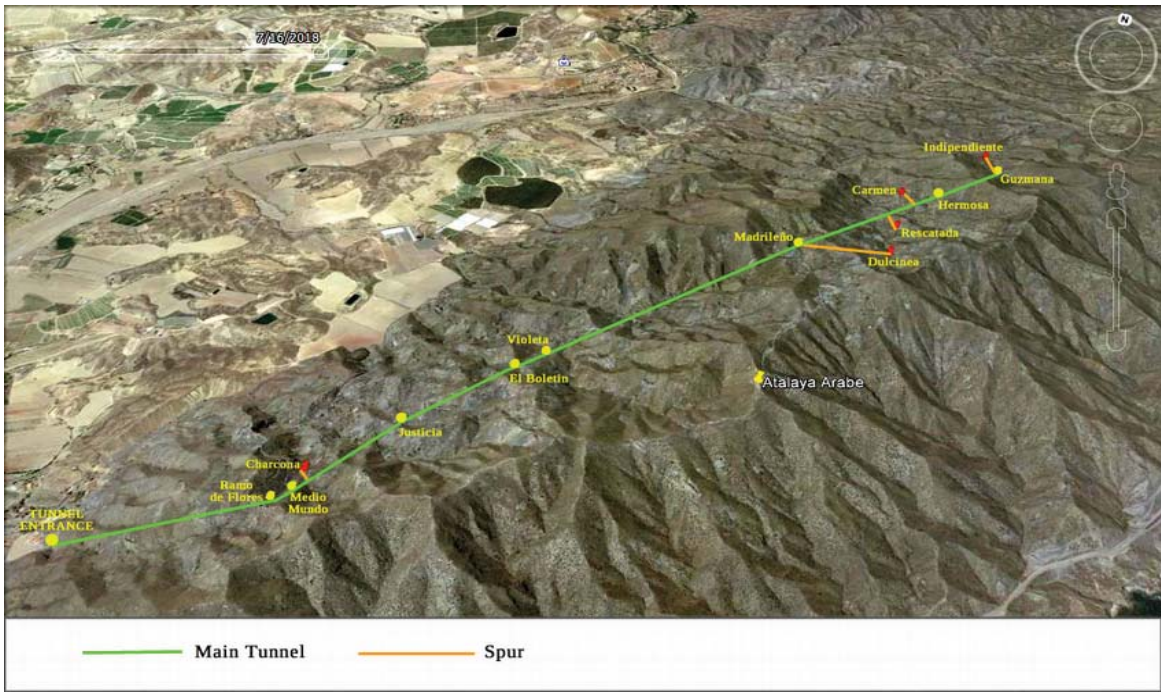
Start of the tunnel leading to the site of the compressors.

Inside the polvorín. *mti blog.*

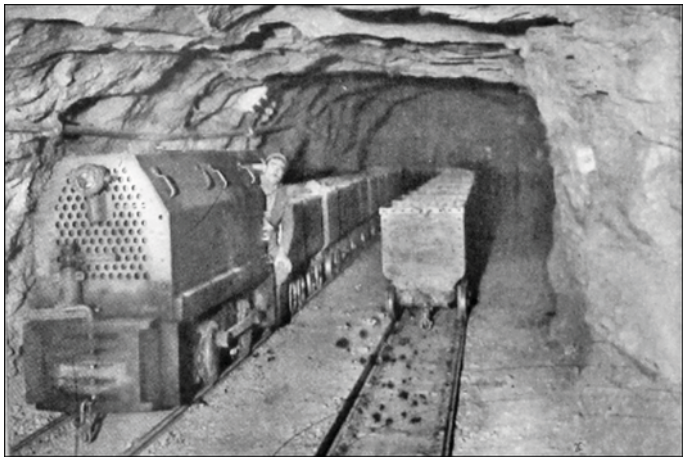
200 apartments for married personnel, and two accommodation blocks for a further 200 workers were constructed, together with bath houses, medical facilities, offices and management buildings. A total of 615 personnel were employed on the site. It is interesting to note that as well as the workers physical well-being MASA was required to look after their spiritual needs.

Above, the married quarters and right, the single quarters. *Minas de Almagrera S.A. Sánchez Picón.*

Minas de Almagrera turned their attention to the small socavón in the Barranco Las Palomas. Rather than access the mines via the donkey tracks up the mountains they decided to access them directly through the mountain. The original tunnel was 700 metres long and 54 metres above sea level. It was widened, lowered and extended to link 99 mines. By 1952 this number had increased to 136.



The tunnel ran to Ramo de Flores, then to Justicia (Casta Diva) via the Medio Mundo with a spur to Chacona. From Justicia it ran to El Boletín and Violeta, then through to the Madrileño. From Madrileño the main tunnel continued to Hermosa with a branch looping round Dulcinea and spurs to Rescatada and Carmen. The last section was from Hermosa to La Guzmana which it circled, with a spur to Independiente. The purpose of this mammoth undertaking was to provide a means of transporting ore from the 136 mines to the washing and recuperation plant at El Arteal. Within the tunnel 4 diesel locomotives and 400 wagons, some of which were adapted to carry personnel, ran on a double track railway.



A diesel locomotive operating inside the tunnel.
Minas de Almagrera S.A.Sánchez Picón.

By 1951 the main tunnel was 4,123 metres long, with a further 1,130 metres of branch line. It was re-christened Santa Barbara, after the patron saint of miners, and was in use until 1958 when MASA's operations ceased at El Arteal.

For the train-spotters. While researching this project I unearthed some details of the diesel locomotives used at El Arteal. They were built in Germany in the Ruhrtaler engineering works by Schwartz & Dyckerhoff.

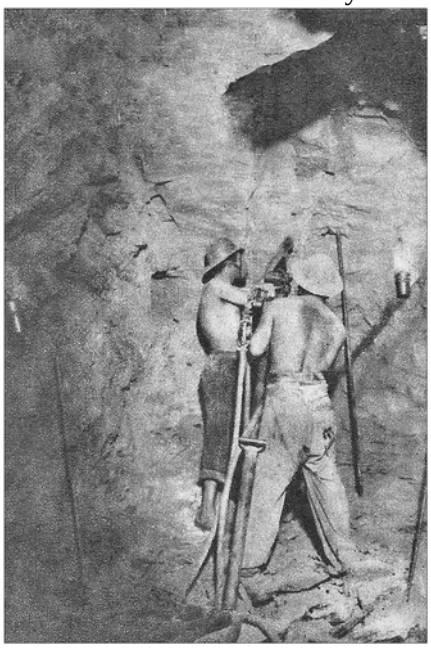
Manufacturer's #	Date	Model.
2907	19/05/1951	G-22
2937	26/10/1951	G-30
2938	26/10/1951	G-30
2939	26/10/1951	G-30

I haven't been able to determine whether they were ever "named".

The grand opening of the Santa Barbara tunnel on 22nd August 1951.
Minas de Almagrera S.A. Sánchez Picón.

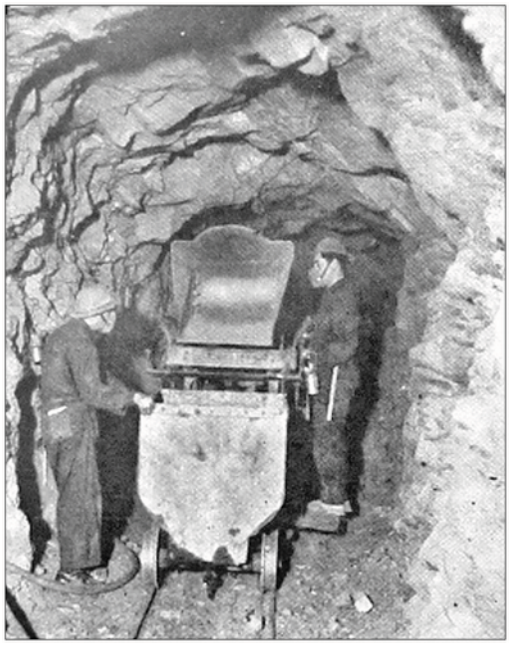
A later photograph of a group of miners at the entrance to the tunnel. (with a nod and a wink to Health & Safety practice!)

In 2011the tunnel collapsed some 400 metres from the entrance and is now impassable. The earthquake in Lorca was in 2011 and the shock waves were certainly felt in El Arteal so it is possible that the collapse was a result of this seismic activity.



Miners working in the Santa Barbara tunnel.

Minas de Almagrera S.A. Sánchez Picón.



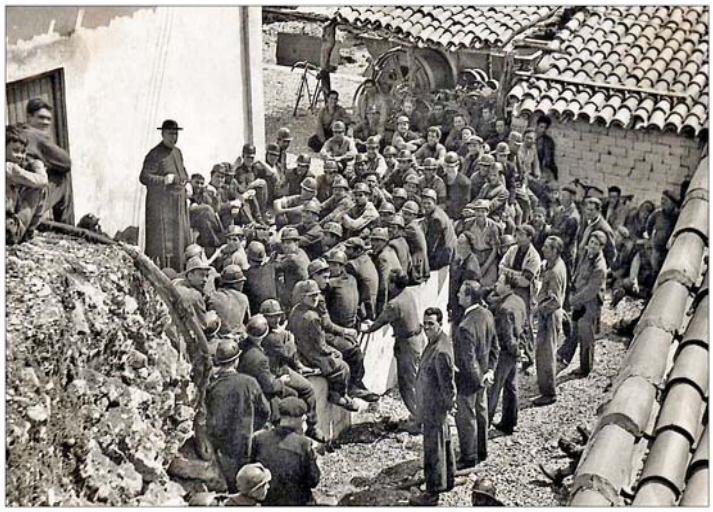
The entrance to the Santa Barbara tunnel.

Just inside the tunnel. *mti blog.*

A collapse within the tunnel.
Photos A G Jódar.

The entrance to the Santa Barbara tunnel from a gallery in the Mina Violeta.

Manpower was a problem for MASA. The single and married miners' quarters were necessary because they had to recruit experienced miners internationally. The local expertise had drained away after massive emigration between 1910 and 1940, due to the closure of the mines and foundries and the effects of the Civil War. The population of Cuevas in 1910 was 26,000 but by 1940 it had dwindled to 10,000. (in 2016 the figure was 13,362). Some of the recruited miners were Welsh. One can only wonder what they, as Presbyterians, thought of the enforced Catholic “pastoral care”.



Pastoral care like this at the Andorrana mine in Aragon was a requirement.

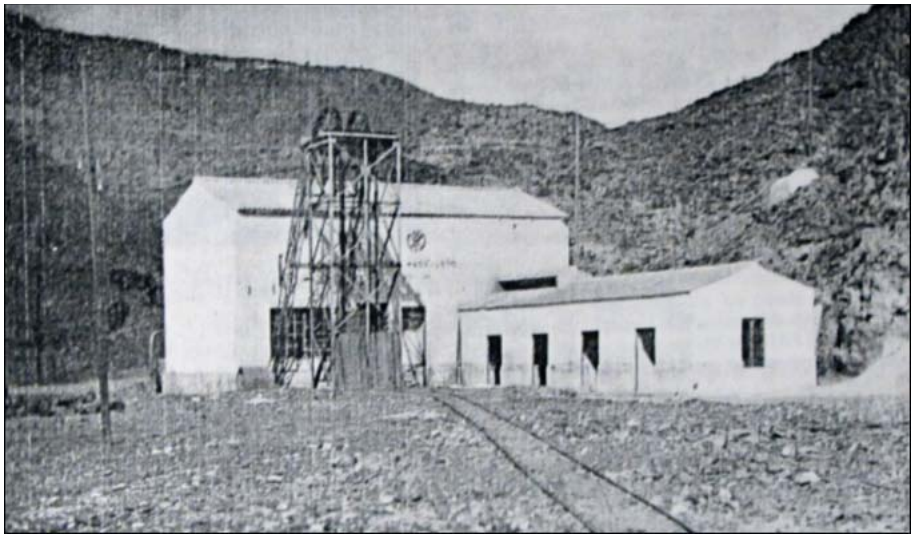
In 1956, manual workers received a 23% pay rise, mandated by the government. In the light of this, MASA carried out a feasibility study on all of the workings covered by the company. With the seams either worked out, or of poor quality, El Arteal was found to be uneconomic. In 1957 mining ceased and work was concentrated on just recuperating ore from the waste of various mines, using the modern techniques.
The price of lead on the international market was declining and the home market was shrinking as safer alternatives to lead were gaining prominence. The cost of energy was crippling. Even with the generating plant at Villaricos with its 1500hp motor and the one at EL Arteal with its 350hp Benz diesel, the process was still reliant on the El Chorro hydroelectric station for additional power.

In 1958 everything was dismantled. El Arteal was dead.

MASA had seriously overestimated the exploitable reserves both in terms of quantity and quality. They had assumed that the ore bearing seams continued below the level of previously drained workings. Unfortunately, they tended to peter out, or, were of poor yield. Most of the production was from the scavenging of spoil heaps. It is possible that the system for this operation was a kind of reverse mining, where material was taken from the tips, down into the mines and then transported to El Arteal via the Santa Barbara tunnel. The main shaft of the principle mines along the tunnel route were updated. Justicia immediately strikes you as being a modernised shaft, whereas externally, Ramo de Flores only shows signs of repair to the mortar of the

castilletes, although a lot work was done below ground. By contrast, Madrileño looks as ruined today as any other mine in the Sierra after its new head frame was dismantled. (It had never had castilletes.)

Above, mina Justicia (Casta Diva). Right, the shaft.



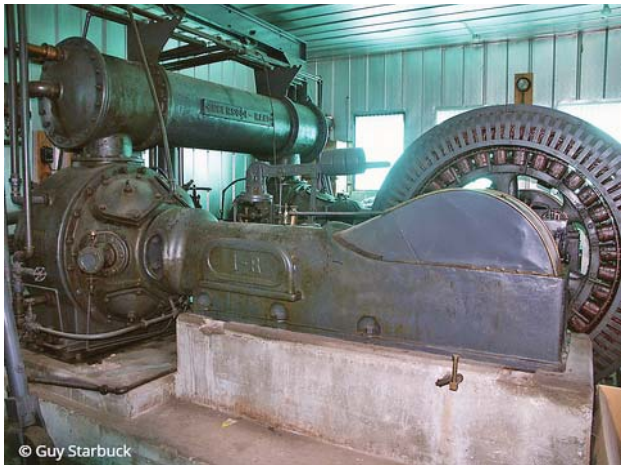
Madrileño in the 1950's
Minas de Almagrera S.A.
Sánchez Picón

Madrileño today.

The arch at Hermosa had fascinated me for a long time. All I knew about it was that it had been constructed by MASA and that it was not a tunnel, nor was there a shaft in it. I had not been able to work out a safe way to reach the entrance and so could only look and wonder. Señor Jódar took pity on me and guided me over the spoil heaps to the door. What a surprise awaited me!

It was the housing for the air compressors used in the Santa Barbara Tunnel. Adjacent to it is the electricity transformer that brought the power to operate them. It stands just two or three metres from the ruins of the first transformer in the Sierra erected in 1903.

Inside Hermosa's arch.



Air compressor similar to those that would have been housed in Hermosa.

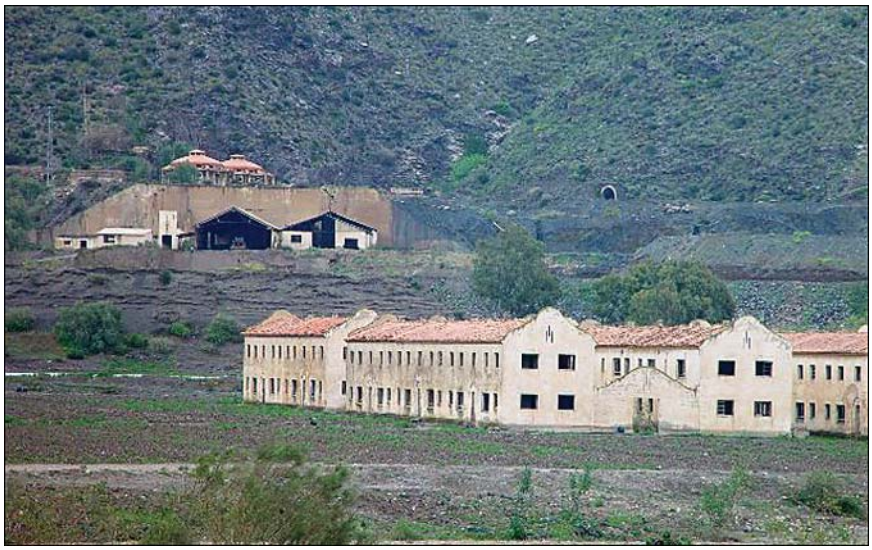
The transformer building.

Archway at the end of the siding from the Santa Barbara tunnel that led into ...

… this arched area.

Next to the entrance to the Santa Barbara Tunnel is what looks like a railway siding that leads to a small archway that, in turn, has an arched exit at 90º to the entrance. I am now wondering if this was also a compressor housing.

In the 1980's, a now defunct Spanish company, Peñarrolla, reopened the Santa Barbara tunnel with a view to extracting Lithium, which is present in significant amounts in the thermal waters. Unfortunately, this initiative came to nothing but, with the rise in value of Lithium, the prospect of reactivation of exploitation of the area should not be dismissed.



View of lavadero below the bathhouses. *Peter Craven.*

The bathhouses are now private apartments and, until a few years ago, the ruins of the miners' quarters were used by the emergency services and the military for training exercises. The old ore processing sheds are used as storehouses. The rest is now put to agricultural use. A sad end for such an important and interesting site. On a more positive note, because the later exploitations were carried out almost entirely from underground, the remains of the mines are still in the mountains and the donkey tracks continue to lead you to them. Ghostly, almost mystical remnants of that bygone age are there for both the casual and the more inquisitive visitor.