



Some 700 metres below ground, in the southern Spanish province of Huelva, Trafigura's MATSA project is breathing new life into an old industry

Mining returns

Huelva has been home to mining since the Phoenicians first arrived in Spain looking for silver more than 5,000 years ago. But when metal prices tumbled in 1999, the province was deprived of its main economic resource.

Within just a few years, only one mine remained in operation. The infrastructure of the old industry was abandoned and the once-busy highways connecting the Rio Tinto mines were quiet. Miners were forced to leave the region in search of new jobs and mayors were left to govern silent, empty towns.

Road to recovery

"That is not the case any more," says Macarena Valdés as we drive along a busy highway to Trafigura Mining Group's flagship Aguas Teñidas Mine (MATSA). Macarena has worked for MATSA since 2006 – the year in which the local government issued an environmental report supporting the reopening of the mine. The community would have to wait until 2009 before operations were revived but, for many, that year marked the beginning of a new golden age of metals for the region.

Aguas Teñidas means 'tinted waters', and is so-named because the river once ran blue from the rich metals in the rocks – old ladies in the town even used to dye clothes in the waters. The mine is the first of two to reopen since metal prices rose again, and General Manager Alonso Luján says that a major effort is under way to keep it operating for between 20 and 50 years, with a two-year expansion plan that includes the addition of a new treatment plant and a doubling of production. Already, operational efficiencies have seen annual production increase by more than 20 percent in five years.

Copper, zinc and lead are extracted from Aguas Teñidas and then distributed, via the ports at Huelva and Algeciras, among Trafigura's clients in China, Latin America and Europe. The mine is part of the Iberian Pyrite Belt and Trafigura is investing €10 million per year to keep exploring this rich metals zone, with more than 100,000 exploratory wells already completed.

Miners of the future

For the local community, the main hope, of course, is to secure jobs for the long term. For the moment, MATSA has created 1,500 direct jobs and 1,600 indirect ones. This is significant – especially in Andalusia where, according to official figures, the unemployment rate at the end of 2013 was 36.3 percent, which is even higher than the country average of 26.3 percent. Most importantly, these are mainly jobs for local people: some 80 percent are filled by employees from the area and around 97 percent are long-term contracts.

“With this revitalisation of mining, people have new hopes and expectations,” says Manuel Ángel Barroso, mayor of Almonaster la Real, one of the four towns across which Aguas Teñidas spreads. More than 100 of Almonaster’s 1,846 inhabitants work for the mine. But the mayor is already looking far beyond that.

As well as serving as Mayor, Manuel is a teacher in the town’s school, and he dreams of his pupils studying to be the miners of the future. “I want them to become geologists, engineers, topographers,” he says. “We are working together with MATSA and the constituency officers of education and employment in order to shape that future.”

This committee is now in the process of planning nine courses to train mining operators, bulldozer drivers and more. The courses last around 840 hours (35 days) and finish with practical training in the field at MATSA. In total, they will train 190 people, and MATSA has agreed that 60 percent of those will come from the four towns that the mine touches. That means that 110 people can look forward to new jobs.

Long-term expectations

Alonso Luján, Director General of MATSA, says that all the long-term hopes for mining in the south are based on the great potential of the Pyrite Belt, a zone that spreads from Portugal to Huelva and Seville. At the moment, Aguas Teñidas and Cobre las Cruces (Seville) are the only active mines, but there are many others along the belt where progress is being made to reopen them, such as Rio Tinto, Aznalcóllar and Sotiel, which will be the second mine to be operated by MATSA. And during recent explorations, a previously unknown deposit, Mina Magdalena, was discovered.

“When I arrived here four years ago I often read in the specialised magazines that the main deposits had been discovered and were already empty. On top of that, geologists thought that the deposits here were mostly superficial,” says Alonso. “At MATSA, we have been curious as well as persistent, and have been able to find deposits as deep as 1,000 metres. If there are deposits 1,000 metres deep, can you guess how much material we can find in the 250km-long and 50km-wide extension of the Pyrite Belt?”

Cutting-edge technology

Discoveries of this kind owe a great deal to technology. It is by integrating the latest technology into production that MATSA has been able to achieve an annual production from Aguas Teñidas of 2.2 million tonnes. This is anticipated to double following a €300 million investment in a new on-site treatment plant that is due to be completed in 2014/15.

The new deposit, Mina Magdalena, was discovered thanks to pioneering technologies such as Versatile



“WITH THIS REVITALISATION OF MINING, PEOPLE HAVE NEW HOPES AND EXPECTATIONS”

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Core operation: General Manager Alonso Luján briefs colleagues inside Aguas Teñidas. Above: Operations Manager Manuel Martín at the entrance to the mine

Time-Domain Electromagnetic (VTEM). Juan Manuel Pons, MATSA’s Manager of Geology and Explorations, says that VTEM, which uses electromagnetic technology, has been responsible for helping to locate more than half of the world’s big sulphide deposits. It involves a 30-metre antenna suspended underneath a helicopter, which then flies over the area of exploration. As it does so, the antenna takes a series of complex measurements, which are then combined with other data on gravity and magnetic fields to give clues to where sulphides are in the ground. “It is an improvement of a technique that has been used since the 1970s, but it now works very well,” says Juan. “We’ve found a new field as a result.”

Once a discovery has been made, MATSA manages the whole process, from extracting the mineral from the mine, to the separation of the mineral from the rocks and its transportation to ports. It is currently sent in powder form to clients, but that will change with the construction of a major new logistics terminal called Onubaport at the port of Huelva. At 135,000 square metres, it will increase MATSA’s capacity to accumulate stock and carry out blending so that materials can also be sold in solid form.

Another integral part of the process is making sure that waste material generated by the mining activity does not have a negative impact on the surrounding environment. This is imperative. When MATSA decided to restart operations at Aguas Teñidas, environmental sensitivity was crucial to gaining the

confidence of local authorities and the community – especially so because, in 1998, the area had endured the Aznalcóllar Disaster. A leak in a holding dam at the Boliden-owned Los Frailes mine, only a short distance from Aguas Teñidas, sent toxic slurry into rivers and onto farmland, with a disastrous effect on the environment. The leak took several years to clean up and the regional government is still engaged in a legal dispute with Boliden over the €69.6 million needed to repair the damage.

Part of MATSA’s solution to creating an environmentally sustainable operation has been the introduction of an innovative plant that turns waste from the mine into plaster, explains Manuel Martín, Manager of Operations at the mine. “The plaster is used to fill the stopes in the mine, so you avoid having to store the waste on the surface. Remaining waste is processed with concrete so that it solidifies to avoid any kind of leak to the environment, and is then stored in a deposit,” he says.

Return to form

Felix Carnero is one of those workers who has seen first-hand the rise and fall – and recent resurgence – of mining at Huelva. Having first arrived in the region from Madrid 20 years ago to work in mining, he was forced to leave in 2001 to find other work in the construction sector. Now, he is back, working as a mining engineer at Sotiel, the next mine to be operated by MATSA.

“When Aguas Teñidas was about to reopen, I was contacted by people who knew me from before,” he says. “When they told me they wanted to extract 2.2 million tonnes, I thought they were crazy. With the working standards we had in the past, that would

THE ANCIENT HISTORY OF A VERY MODERN MINE

As with the other mines of the Iberian Pyrite Belt, Aguas Teñidas has been exploited throughout history. In the first century AD the Romans used it during their occupation of the Iberian Peninsula; Roman remains, including mining tools and amphorae, were found during excavations of the mine in 2011. And activity had well and truly returned to the mine by the end of the 19th century when it was exploited by French and British companies looking for copper deposits.

have been impossible. But I’ve since realised that it can be done.”

Felix says that the big change that has arrived with MATSA is a different mentality. “They use better resources and have brought modern ideas and clear thinking,” he says. “For example, if the production is bigger, costs are less, so they can resist the fall of prices.”

“We are very lucky to have these mines here, close to great places to live such as Huelva and Seville,” he adds. “When foreign miners come here they are amazed at the location. They are used to typical mines that are located in lost parts of the world, where people work in isolation for weeks without seeing their families.”

Now he has had the opportunity to come back, he can’t see himself going back to Madrid any time soon.

“WE WANT TO HAVE AN IMPORTANT PRESENCE IN THE SPANISH MINING SECTOR”

Q&A with Alonso Luján, General Manager, Aguas Teñidas (MATSA)

Q. In your opinion, what is MATSA’s strategic importance for Trafigura?

A. The mining industry is now a sector with very high profitability. MATSA is participating in delivering Trafigura’s vision for the mining industry.

Our results are getting better and better, in terms of cost and production as well as in the results of our explorations. I think that we are doing a good job at making Trafigura feel comfortable in this sector.

Q. What are MATSA’s plans for the Spanish mining sector?

A. Matsa is developing a long-

term strategic plan. The first step is consolidating the business that we have now. In order to do that, we are looking for the right formula for staying competitive, given that the constant oscillations of metal prices are something we cannot control.

We want to avoid being forced to close if the price of metal drops. Our production is currently at 2.2 million tonnes per year and we are doubling it to 4.4 million, which should allow us to handle those fluctuations.

Q. What about MATSA’s long-term prospects?

A. I’m sure that we can grow – not only at this plant, but beyond: I think it might be possible for us to open another plant in 2020. That will give us an important presence in the Spanish mining sector.



Q. Are you looking for more deposits?

A. Yes – it’s company policy and our obligation. Every year we replace the reserves we consume. If we consume 2.2 million tonnes, then those are the reserves that we should annex to the new resources inventory.

Fortunately, 2013 has been an extraordinary year. Not only have we replaced what we have consumed, but we have largely overtaken that volume. That demonstrates our aim to grow and to remain here for years to come.

Q. What is the best contribution MATSA can make to the rebirth of the mining industry?

A. We are building trust here. Our commitment is to the environment and to the safety of our workers.

The local authorities and the local community have seen the actions we’ve taken to make sure that mining is able to coexist with modern society.

Q. Is that the legacy you want to leave here?

A. Well, our vision is to be here for between 20 and 50 years. So for me it’s not a legacy but a way to work towards our own future.

We want mining to be an important part of the local economy of the province, the region and the whole country.