


Las Cruces

	Location	Spain
	Ownership	70%
	Type of mine	open pit
	Primary metal	■ copper
	End product	copper cathode
	Expected mine life	2009-2023
	Average reserve grades	copper – 6.2%
	Infrastructure	well maintained all-weather paved roads provide excellent access to the site
	Employees	215
	Contractors	1,076

Business structure

On August 22, 2005, Inmet acquired a 70 percent indirect interest in Cobre Las Cruces from MK Resources. Leucadia National Corporation, through MK Resources, retained the other 30 percent.

The Las Cruces deposit was originally discovered by a subsidiary of Rio Tinto plc in 1994. It sold the project in 1999 to MK Resources, who established Las Cruces as its local Spanish subsidiary. They completed a second feasibility study in 2003 and carried out environmental studies and permitting work.

The project is subject to a royalty of 1.5 percent of the copper price greater than or equal to US \$0.80 per pound.

About the property

Las Cruces is located in the Sevilla Province of southern Spain, about 20 kilometres northwest of the city of Seville in the region known as Andalucia.

Las Cruces has been granted mining rights for subsurface minerals through Mining Concession No. 7532, granted by the Regional Ministry for Employment and Technological Development of the Province of Andalucia. The Mining Concession was granted in August 2003, after a positive Declaration of Environmental Impact was issued by the Andalucian Regional Ministry of the Environment in May 2002.

Las Cruces has purchased the surface rights to the land above the deposit and to the adjacent lands needed for infrastructure and has finalized all of the rights of ways that are necessary to construct and develop the project.

The project also covers land in the public domain that requires permits that have already been obtained.

This excellent location provides access to all necessary infrastructure to develop a state-of-the-art mining project adhering to the highest environmental standards:

- well maintained, paved roads
- rail service in Seville
- international airport in Seville with connections throughout Europe
- port facilities available in Huelva, approximately 80 kilometres to the southwest.

Las Cruces will be mined using conventional open pit mining methods, based upon hydraulic shovels and trucks, with drilling and blasting in the lower marls and ore zones. The project has a relatively high stripping ratio supported by the high grade ore. Las Cruces has been successfully using contract miners for the pre-stripping and plans to continue doing so for mine production.

Physical characteristics of the deposit

The massive sulphide is hosted by late Devonian to early Carboniferous Period volcanic and sedimentary rocks:

- deposited in a submarine setting within a narrow and relatively shallow intra-continental sea
- characterized by bimodal volcanism and sedimentation.

Post depositional secondary copper enrichment occurred in the upper part of the massive sulphide deposit, forming the mineralization of interest. The deposit was subsequently buried under 100 to 150 metres of sandstone and calcareous mudstone, called marl.

Geology

The Las Cruces deposit occurs near the eastern end of the Iberian Pyrite Belt, a 250 kilometre long and 40 kilometre wide geologic belt that extends eastward from southern Portugal into southern Spain. The belt is host to more than 100 mineral deposits, some of which were exploited for metals as long ago as pre-Roman times. Mineralization consists of syngenetic massive sulphides containing polymetallic mineralization, similar to most other Iberian Pyrite Belt deposits.

Las Cruces is a blind deposit with no outcroppings because of the 100 to 150 metres of marl on top of the deposit. No other deposits have been found in the immediate area but exploration is difficult because of the thickness of the overburden.

The nearest deposits are Aznalcollar and Los Frailes, both approximately 10 kilometres to the west in the area where the host rock assemblage outcrops at the surface. The Aznalcollar and Los Frailes deposits consist of zinc lead massive sulphides that were in production over the last 10 to 20 years.

Environmental

Las Cruces is required to comply with commitments under the Declaration of Environmental Impact, European Union Integrated Pollution Prevention and Control environmental regime framework and other licences. Based on its current closure plan, reclamation costs are estimated at \$95 million, of which \$31 million has been secured with bonds.

PROJECT UPDATE

Construction

Plant construction at Las Cruces began in early 2007, when 55 percent of detailed engineering was complete and the plant site had been prepared.

We revised the capital cost estimate for the project to €463 million in the second quarter of 2007, a 22 percent increase from the basic engineering estimate of €380 million. In October 2008, this was revised again to €504 million. The cost revisions were the result of escalating costs in several areas, the significantly enhanced water handling and treatment concepts introduced during construction, and the extended construction schedule.

The construction schedule shift was the result of continued delays with the engineering drawings and difficulties in finding skilled workers such as welders.

By December 31, Las Cruces had completed the following:

- 100 percent of detailed engineering and procurement
- 99 percent of construction
- 99 percent of total physical progress.

In February 2009 construction of the process plant was complete and commissioning well underway.

Permits

The project has all major federal, provincial and municipal construction permits required for the mine, plant and infrastructure.

In May, 2008, the authority responsible for the dewatering and reinjection system (DRS) suspended Las Cruces' authorization to operate it other than to ensure preservation of the mine pit walls. The practical impact of the suspension was the continuation of water extraction from the aquifer, the continuation of reinjection in all but one of the eight sectors surrounding the pit and the suspension of mining at the bottom of the pit. We were able, however, to continue future mine development activities.

On June 13, 2008 Las Cruces submitted a "Global Plan" to the water authority that responded to the concerns that led to the suspension of the DRS authorization. The proposal included two primary actions:

- (1) Purifying water extracted from the aquifer through a highly efficient reverse osmosis purification process prior to reinjection into the aquifer. Las Cruces took delivery of three reverse osmosis purification units in July and began partial water purification. By the end of July, we were successfully purifying water to drinking water standards. In October, we installed additional water purification units to increase capacity for all water extracted from the aquifer. We also began the design of a long-term, water purification facility.
- (2) Relocating certain DRS extraction wells from above the mineralized zone to locations outside of the mineralized zones and to add additional wells to increase dewatering capacity.

In December, the water authority received a final report from the Spanish Geological Survey (IGME) of its assessment of the technical aspects of the Global Plan. The IGME report viewed the Global Plan positively and recommended lifting the suspension of the DRS authorization.

Also in December, legal authorities provided consent to reinject purified water into one sector of the aquifer. We later received approval from the water authority for the same sector.

In a letter dated January 22, 2009, the water authority stated that the measures set out in the Las Cruces action plan had been validated and successfully implemented and recommended that the provincial mining authority allow Las Cruces to resume mining.

The recommendation stipulates that Las Cruces must reduce the level of the contact water in the holding ponds, to make sure there is enough buffer capacity to support a sudden influx of contact water from the pit. All water from the holding ponds is treated by reverse osmosis or lime neutralization before discharge.

Las Cruces has started emptying the holding ponds after which mining at the bottom of the pit should begin. First production of cathode is expected in the second quarter.

Because the original authorization did not contemplate long-term water purification, the permit to operate the DRS has to be amended through a public review process. The relevant authorities have agreed that Las Cruces can resume mining and start up the hydrometallurgical plant during this process, which should be initiated in March.

We expect the public review process to proceed without complication, that Las Cruces will receive an amended DRS permit in due course, and that there will not be any adverse impact on copper production in the interim.

Mining progress and direct ore shipping

We removed 10.7 million bench cubic metres (bcms) of waste from the pit in 2008, bringing the total to 38.5 million bcms for the project to December 31, 2008. Much of this material was phase 2 stripping because mining in the bottom of the pit was suspended in May of 2008 (see *Permits* above). When mining was suspended, we returned 0.1 million bcms of waste to the pit bottom to prevent water entering from the aquifer. We will remove this as soon as the suspension is lifted. Mining costs to the end of 2008 are 12 percent below budget because blasting and haulage have been more efficient than planned.

Because of the mining suspension, we were not able to ship ore directly to selected smelters, as planned. Approximately 130,000 tonnes of early time ore averaging 14 percent copper remains available for direct shipping after the suspension is lifted.

Once mining in the bottom of the pit resumes, ore will be stockpiled in preparation for the plant start-up. Building a stockpile will allow us to blend the ore to ensure optimal feed for start-up.

The east wall of the partially constructed process residue storage facility shifted in July of 2008. There were no environmental consequences and no one was hurt. After thorough investigation, we changed the design of all structures on the property that have been constructed from marl to make sure an event like this does not happen again. The storage facility has since been repaired and is ready to receive dried residue once the plant starts up.

Operating costs

Most cost estimates of consumables are now supported by firm price quotations and contract values. We expect the life-of-mine operating costs for Las Cruces to be approximately €0.48 per pound of copper produced. On an annual basis they should range from €0.63 per pound in the early years, to as low as €0.40 per pound in later years when the mine's strip ratio decreases.

Project management and staff

Las Cruces is fully staffed and ready to move into the operating phase. Plant management is actively involved in commissioning and start-up and has taken advantage of construction delays to enhance staff training. 38 percent of the staff of Las Cruces (81 positions) come from the local area.

Environment

Las Cruces continued to build environmental awareness with its workforce, including the many construction contractors whose ranks peaked at more than 1,500. It also continued its progressive reclamation activities, and to date has fully reclaimed 50 hectares of disturbed land and placed top soil on an additional 144 hectares. Las Cruces' environmental management system is certified under ISO 14001.

Safety and health

Las Cruces had a dramatic improvement in its safety performance, despite a 73 percent increase in work hours and at a time when the contractor work tasks were of significantly higher risk. The lost-time injury frequency decreased 57 percent and disabling injury frequency was lower by 46 percent. This is a significant accomplishment for Las Cruces, and an excellent foundation to build on as operations begin.

Community relations

Las Cruces continues to build its community relationships, which were tested during 2008 because of negative publicity surrounding the DRS authorization suspension. Our key stakeholders have been very supportive while the issues surrounding water purification were resolved. Public sentiment and press coverage began to turn more positive as the scope and depth of Las Cruces' commitment to addressing the regulator's concerns became clear. During the year, Las Cruces hosted many groups from local schools and other organizations for tours of the site and descriptions of our commitment to corporate responsibility.

A local non-governmental group has initiated several legal proceedings claiming that various government approvals for the project were not granted according to regulatory requirements.

We believe these claims are without merit and are vigorously defending against them. Two of these proceedings were dismissed in 2006. Two other proceedings are still outstanding.

Material contracts

In December 2005, Las Cruces entered into a credit agreement with a syndicate of Canadian and international lenders to finance development of the project. It completed an initial drawdown under the facility in June 2006 and by December 2008 had drawn down all the remaining funds. See *Investor Information, Material contracts – Las Cruces credit agreement* on page A35 for more information.

The European Union through the central and regional governments in Spain has agreed to provide subsidies of approximately €53 million in total. By December 31, 2008, we received payments of €8 million and we expect to receive the balance during the first half of 2009 once construction is complete and Las Cruces has fulfilled all conditions related to investment and job creation.

Inmet Mining and Leucadia are responsible for the remaining funding for the project, which is estimated at €72 million. Inmet's share is 70 percent and Leucadia's is 30 percent. The funding was advanced on a pro rata basis over the construction period.

PLANNING FOR THE FUTURE

Las Cruces construction is complete. Commissioning has begun and copper production should begin in the second quarter. To date, €448 million has been spent on construction of the project and €31 million committed. We expect to spend the balance in the first quarter of 2009.

The following table shows total spending for the project to the end of 2008 and our 2009 capital objective:

	Up to December 31, 2008	Objective 2009	Total project estimate at December 31, 2009
(millions)			
Construction capital	€ 448	€ 56	€ 504
Mine development	6	19	25
Sustaining capital	–	22	22
Capitalized interest	18	5	23
Pre-operating costs capitalized, net of sales	–	8	8
Value added tax	25	(25)	–
Other	5	4	9
Capital expenditures	€ 502	€ 89	€ 591

The following table shows expected production for 100 percent of Las Cruces.

	2009 target	Life of mine
Tonnes of ore processed (thousands)	479	17,492
Strip ratio	23	12.5
Copper grades (percent)	8.8	6.2
Copper production (tonnes)	54,600	997,200
Cost per tonne of ore processed (C \$)	\$ 167	\$ 87

Copper production for 2009 includes 37,200 tonnes of copper cathode and 17,400 tonnes of copper in ore that, depending on market conditions, we plan to ship directly to smelters. If market conditions change and smelters refuse to accept the ore, we will stockpile the ore and process it in the hydrometallurgical plant. In that situation, the Las Cruces production target for 2009 would be reduced to 37,200 tonnes of copper.