

KGHM Polska Miedz: Sierra Gorda Project

STRENGTH IN NUMBERS





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As the Sierra Gorda Project enters an exciting new phase of its life, Senior Vice President of the project, Joseph Tis reflects on how the collective efforts and achievements of its workforce made 2013 such an important year

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Secondary
crusher & HPGR

As Joseph Tis, Senior Vice President, explains, 2013 was an important year for the Sierra Gorda open pit copper mine project. “In February of last year the project budget, valued at \$4,000 million was updated. In the months that followed the project went on to complete a consolidated advance of 52.9 percent, reaching 91.2 percent in February 2014.”

Located within Northern Chile’s Atacama Desert, the Sierra Gorda Project is a joint venture between KGHM International Ltd., Sumitomo Metal Mining and Sumitomo Corporation, and possesses deposits that total up to 2.2 billion tonnes of measured and indicated resources, and reserves amounting to some 1.3 billion tonnes.

In addition to completing detailed

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.....

engineering and locking down the purchasing of equipment, 2013 also saw Sierra Gorda benefit from the completion of infrastructure works designed to supply the site with electricity and water. Both 110kV and 220kV electricity lines are now positioned on site, with the 110kV line going live during March of this year and the 220kV being brought into action the following month. In addition

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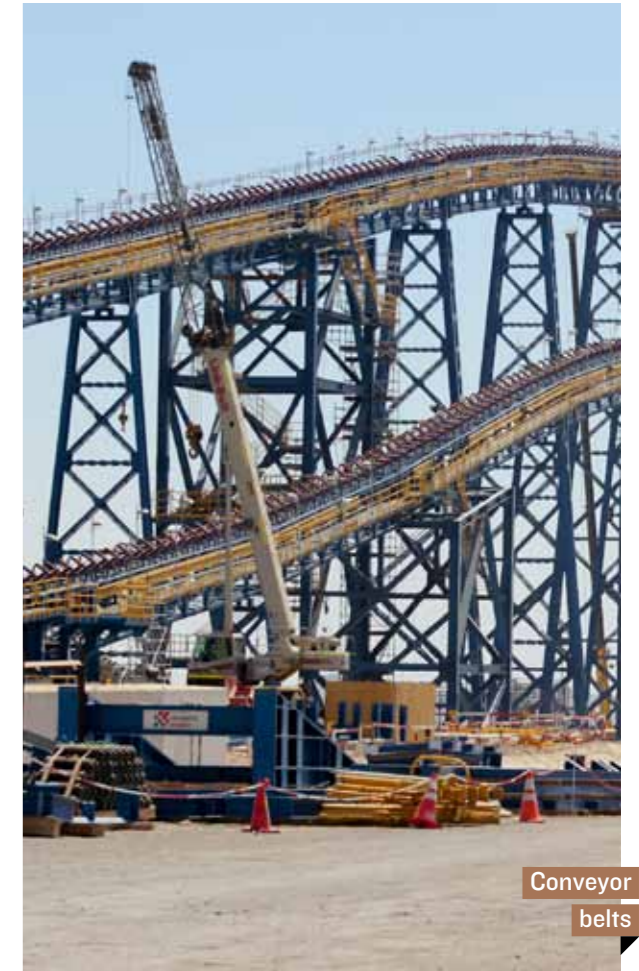
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“Particular milestones achieved during 2013 included the delivery of the Truck Shop to operations”

to the completion of these power lines, the assembly and welding of the project’s sea water aqueduct has also been finished.

A particularly striking example of the progress made at Sierra Gorda over the last 12-18 months comes in the form of the project’s processing plant. “We have made a number of great advances in the construction plant over the last year or more,” Tis agrees, “going from eight to twelve percentage points during the months between August and December 2013 alone. Particular milestones achieved during 2013 included the delivery of the Truck Shop to operations, delivery of shovels 4 and 5, and the delivery of 17 haul trucks for use in Prestripping extraction operations.



Conveyor belts

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to make a difference and obtain a good position in the local market as one of the few companies able to offer integral solutions for fluid handling with valves. Scancontrols represents in Chile top brands such as SOMAS (Sweden), RF VALVES (USA) and Ringo Válvulas (Spain), which added to our Help Desk, Maintenance and Repair Team, leads to excellence and guaranteed results.

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What makes that a certain company has been selected as a support in the development of a great mining project in Chile?



SCM Sierra Gorda has chosen Ingeniería de Transportes Javier Cortés S.A. as his support for the transport of all their necessary supplies for the construction and start up of the SIERRA GORDA project located in the Antofagasta region.

No doubt this is a great recognition for Ingeniería de Transportes Javier Cortés S.A. a company of a large and historical trajectory in the movement of oversize and overweight transport in the Chilean mining.

The history of the company is certainly confusing with the growth of the Chilean mining after it started as a transport company for general cargo it is now specialized in the transport and operation of special cargo according to the development of the Chilean mining beyond of the 70's.

Ingeniería de Transportes Javier Cortés S.A., with more than 50 years in this business, has been stand out to transport the most heaviest and difficult cargoes in Chile, and that the transport on off-road trails to locations at 5,000 m.o.s.l. hasn't been an obstacle to his successful career.

For the construction of the Sierra Gorda project it was necessary to perform more than 5.000 voyages with import cargoes and domestic supplies.

In order to address adequately this project, Ingeniería de Transportes Javier Cortés S.A. increased its fleet of modular equipments and trucks in order to fully meet the expectations of the client.

With the result of this project we are very optimistic to keep and strengthen a long-term relationship with Sierra Gorda in order to participate in their upcoming projects in Chile.

We take this opportunity to wish Sierra Gorda the best of success in the start up of the mine.

Ingeniería de Transportes Javier Cortés S.A. is also actively involved in the development of wind farm, photovoltaic, thermoelectric, hydroelectric, cellulose, refineries and others projects as well in the consulting prior to project implementation phases.



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Sea water pond

“As of January 2014, we have calculated that more than 44,000 people have directly contributed to the construction of the project and its various elements”

Furthermore, 2013 saw the installation of all critical plant equipment.”

Tis is keen to add that all of the achievements already mentioned have been as a result of the tireless work of the project's workforce performed in the field. During the month of October, 2013, employment activity on site reached a peak of 9500 workers, while 2013 as a whole saw a total of 11,236,934 man hours earned.

“As of January 2014, we have calculated that more than 44,000 people have directly

contributed to the construction of the project and its various elements,” Tis states. “Each and every one of these people have at all times remained committed to our “Zero Harm” ethos, our most fundamental value which enforces our commitment to the health and safety of our employees and the communities in which we operate, and in doing so have not only met, but often exceeded expectations.”

As a company KGHM has long been proud of the fact that it acts as a major contributor towards employment generation, regardless



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of where it is based. This is very much the case with the Sierra Gorda Project, what with a great many of the 44,000 people who have contributed to its development coming from regions surrounding it. The largest contributor to date has been the VIII Biobío Region, from which the project has employed some 9,557 people, or 21.6 percent of the 44,000. Other major contributors have been the II Antofagasta Region, the Santiago Metropolitan Region XIII and the V Valparaíso Region, with 7,505, 7,085 and 6,306 residents employed on the project respectively. On top of these figures, no fewer than eleven other regions, from the XV Region of Arica and Parinacota, through to the XII Region of Magallanes have also contributed employees to the project.

In addition to the creation of jobs, the Sierra Gorda Project has also contributed in



Stock pile

“In addition to the creation of jobs, the Sierra Gorda Project has also contributed in other vital ways to the local and national economies of Chile”

HATCH

Hatch supporting Sierra Gorda from the beginning Sierra Gorda retained Hatch since mid 2012 to develop the detail engineering of their Molybdenum plant. The project has been a success from the engineering and procurement stand point and is currently well under way in construction. Hatch has not only done detail engineering to the Sierra Gorda Molybdenum plant but has supported Sierra Gorda as a key client and continued helping Sierra Gorda with the Moly plant Field Engineering Services, Pre-Commissioning & Commissioning support services for the entire Copper-Moly Concentrator,

procurement support services and has as well reviewed the Basic Engineering of their concentrator future expansion. For Hatch, Sierra Gorda has been an excellent client, and one very good example of client engagement and commitment of our core values, all required to create and enhance a long term relationship adding the best possible value to our clients. The multidiscipline capabilities available at Hatch and the global availability of our experts have given us the strength to commit with Sierra Gorda in one of the largest mining projects of the continent. www.hatch.cl

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▶ “Instruvalve”, a Chilean Company with ten years of experience when it comes to the control of fluids and automation, supplied a package of electric actuators from Limatorque USA to the Sierra Gorda Mine project. The Limatorque actuators are used to operate ball and gate valves in the raw water sea pumping stations of the mine’s plant. Instruvalve also assisted in the implementation of the system. Instruvalve is grateful and thankful for the confidence shown by Sierra Gorda and is

proud of be a technological partner of the mine, wishing it great success in its future operations. In its portfolio of products, “Instruvalve” also offer hydraulic/electric actuators, valve positioners, field instrumentation and heat exchangers.

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Primary crusher

“The existence of this project has not only helped strengthen the local mining industry, but also will contribute to the increased supply of copper on a national and international scale”

other vital ways to the local and national economies of Chile. “The existence of this project has not only helped strengthen the local mining industry, but also will contribute to the increased supply of copper on a national and international scale,” Tis says. “In doing so we have also played our part in ensuring that the country remains a leading global player when it comes to the production of copper, and in showcasing

the professional quality and expertise of workforce, taking a massive development project from start to finish, we have helped send out a message to investors that Chile is a country worth taking notice of.” Giving back to the community is a trait that in many ways has characterised the project since its inception. To this day it arguable remains best reflected in the development, construction and



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“In the short term our efforts are very much focused on completing the construction and pre-commissioning phases of the processing plant”



Process plant

Did you know?

Progress on construction
(at 31 December 2013)

Project will be completed on time, planned completion of construction and commissioning in **mid-2014**

Total project progress is **86%** complete

Construction of sea water pipeline **94%** complete, final hydraulic testing in progress

Construction of tailings pond approx. **86%** complete and processing plant approx. **80%** complete

Pre-stripping at **81%** of the amount required before commissioning

Around **96%** of the CAPEX committed

Around **USD 3.4B** of the committed amount has been incurred



Tailings thickener

implementation of numerous infrastructure projects that have helped improve quality of life within the region. Such projects include the construction of a wastewater treatment plant, the expansion of security checkpoints and the installation of CCTV to provide a safer environment, and the implementation of programmes designed to protect native flora and fauna.

While 2013 was certainly an important year for the Sierra Gorda, 2014 could prove to be an even greater milestone, what with production at its processing plant due to commence this year, thus ushering in a new phase for the project. “In the short term our efforts are very much focused on completing the construction and pre-commissioning phases

of the processing plant, and subsequently bringing it online, all the while fulfilling our Zero Harm commitments” Tis concludes. “Throughout the remainder of the year we will be bringing several other projects online and by December 2014 we expect to have completed the ramping up of production to bring it up to 110,000 tonnes per day.” **BE**

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