COBRE LAS CRUCES

15th May, 2017
Agenda

- CLC Management Introductions
- Safety Video
- Technical Presentation
- Questions
- Tour of Operations
- Lunch & Close Out
CLC Management Introduction

✓ Sean Whittome – Managing Director
✓ Mark Roebert – Mining Director
✓ Enrique Delgado – Metallurgical & Environmental Director
✓ Luis Vega – Facultative Director
✓ Carlos Frias – Technology Director
✓ Stuart Tevendale – CFO
Technical Presentation

- Operational Overview
- Mining Operations
- Plant Operations
- Managing Water
- Looking Ahead
- Questions
Project Location

LOCALIZACIÓN DEL PROYECTO

FRANJA PIRÍTICA IBERICA
- Cobertura terciaria
- Cobertura paleozoica (Culm)
- Sulfuros masivos (m), rocas volcanicas, sedimentarias e intrusiones

OTRAS FORMACIONES GEOLÓGICAS
- Palaeozoico a mesozoico

Principales yacimientos metales

PROYECTO
LAS CRUCES

PORTUGAL
ESPAÑA
ANDALUCIA
OCEANO
ATLANTICO

60 Km
0

8
20

10 Km
0

Madrid

STрафка
LAS CRUCES

Cobre Las Cruces Timeline

1992  Rio Tinto exploration commences
1994  Deposit discovered
1996-2000  Feasibility study & EIA
2001-2005  Permit, land acquisition, funding
2006-2008  Construction
June 3rd 2009  Initial Production
2010  Inmet 100% acquisition
March 2013  FIRST QUANTUM 100% acquisition
2016  Production record 73,643 tonnes
Project Information

Investment: ~ €1 billion euros to date

Project KPIs:
- Annual Production: 72 000 t cathodes
- Production Life: 12 years (to 2020)

First Cathode: June 2009

LOM Mining Contract:

Other Resources:
- Primary Sulphides
- Gossan material

Employment:
- Direct: 280 contractors
- Induced: ≈ 4 000
Ore Reserves – Dec 2016

The Ore Body – Copper Reserves

Reserves of 6 million tonnes grading 5.0% Cu
Indicates LOM to 2020
Options to continue with Primary ore

Additional Resources

Gossan
2.9 million tonnes@ 2.5 gpt Au, 75 gpt Ag, 3.2 % Pb
Primary Sulphides + Stockwork
36 million tonnes @ 1.1% Cu, 1.3% Pb, 2.6% Zn, 29 ppm Ag
Pit Cutback Sequencing

Flat Lying orebody

Key Dimensions:
1,578 x 1,000 x 215 m
Surface: 127 hectares

Key Statistics:
Waste: 22.3 Million m³
Ore: 6 Mt @ 5 %Cu
Plant Feed Preparation

Direction of tipping and reclaiming are perpendicular
Tipping and reclaiming widths are narrow

Loading delivers a homogeneous blend of all materials to achieve consistent Plant feed. Critical in stabilizing the Plant.
Hydrometallurgical Plant

Innovative and sustainable technology:
Atmospheric ferric leaching

Design capacity exceeded
Product – Grade A cathodes
Plant Flowsheet

- Ore Haulage (blending)
- Jaw Crusher and Cones
- Grinding Mill
- Solvent Extraction
- Electrowinning
- Atmospheric Leaching
- Filtering
- Copper Cathodes
- Tailings
Lengthy process to achieve design capacity

‘Stable’ operations since April 2012

Key challenge is maintaining output at reducing grades
Substantial debottlenecking completed in advance of lower grades
Further opportunities limited – large capital required
Focus will continue on OEE, reliability & overall recovery
Major breakthroughs identified and implemented in 2011
Further opportunities addressed in 2012, 2013
Replacement of vacuum filters – addresses losses post leaching
3 new pressure filters and 2 pulp coolers were installed to improve recoveries; commissioned and operational 2015-2016

Significant reduction in copper losses post leaching
Unit Cost of Production

Clearly linked to production outcomes

Consistent performance since April 2012 – even with lower grade

Ongoing focus on cost reductions / throughput & recovery
Perimeter wells to reduce pit inflows

Treatment and reinjection of drained water

Compensation needed for water ‘lost’ from the aquifer
Water Treatment Plants

Water treatment and drainage/reinjection (PPTA-DRS)
- Treatment capacity: 576 m³/h, 3 RO lines
- Reduced reject: 2.5 - 8%
- Very good quality permeate

Water treatment – contact (PPTA-CW + HW)
- Treatment capacity: 264 m³/h, 3 RO lines
- Reduced reject: 10 - 15%
- Very good quality permeate
Looking Ahead

Corporate Responsibility – leadership, safety, community

Managing Water – eliminate as an operational constraint

Operating Discipline – stability, cost & continuous improvement

LOM Opportunities – optimized mining, primary ore processing
LOM Opportunities

Optimizing LOM Schedule – grade across future years is variable; we are reviewing a staged design to evaluate treatment of lower grade material

Treatment of Gossan / Primary ore – study underway to review atmospheric leaching of primary sulphides resource

Can use existing facilities (with modifications and expansion) to extend the life of the mine and recovering valuable metals such as copper, zinc, lead and silver
Poly Metallurgical Refinery - PMR

- Pilot Plant constructed and operated over 12 months to test processing of Primary and Gossan ore.
- Developing proprietary technology in close cooperation with technology suppliers, e.g. Outotec
- Positive results to date; efficient recovery of metals: Cu, Zn, Pb, Ag.; investigating recovery of gold
- Full scale plant could extend the mine life beyond 2030
- Significant investment required; positive returns
PMR Project – Pilot Plant

- Pilot Plant results will feed into full scale plant design
PMR Project - Underground Ramp

- **Objectives:**
  - To increase the Primary Ore reserves, upgrade resources and access new drilling targets.
  - To improve UG mine design & planning.
  - Advancing development of future UG mine.
  - Permitting test for UG mine.

- **Other opportunities:**
  - Improve geotechnical knowledge of future mine development areas.
  - Access to fresh ore (additional bulk sampling for Pilot Plant).
  - To test the mining method (trial stope).
Questions
Thank you